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COMMONWEALTH OF AUSTRALIA

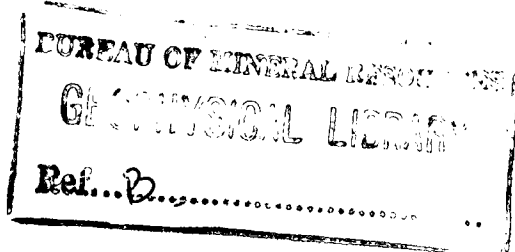
DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

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RECORD No. 1963/17



COMBARNGO NO. 1 (AAO) WELL LOGGING, QUEENSLAND 1961

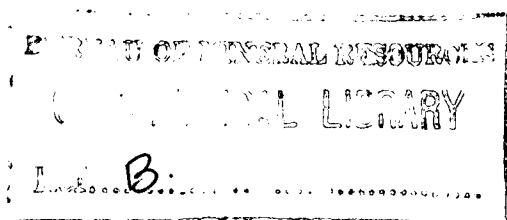
by

A. Radeski and F. Jewell

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Plate 1. Locality map	(Drawing No. G55/B6-12)
Plate 2. Gamma-ray log of Combarngo No. 1 showing lithology and stratigraphy.	(G55/B6-10)

SUMMARY

The gamma-ray log of Combarngo No. 1 well, drilled for Associated Australian Oilfields N.L., is compared with the stratigraphic sequence deduced by Mines Administration Pty Ltd from a study of electric logs and other data.

Some of the formations can be recognised on the logs. The Roma Formation shows more uniform radioactivity than the underlying Blythesdale Group, and the top of the Walloon Coal Measures beneath the Blythesdale Group corresponds to a rise in radioactivity. The formations below the Walloon Coal Measures are not well defined, but the lettered divisions introduced by the IFP Sedimentary Basins Study Group can be distinguished a little more easily.

1. INTRODUCTION

Combarngo No. 1 well was drilled near Roma at latitude 26°51'S. longitude 149°09'E by Mines Administration Pty Ltd for Associated Australian Oilfields N.L. The total depth was 5985 ft, comprising 5086 ft of Mesozoic sediments, 542 ft of Permian sediments, and 357 ft of volcanics.

Small quantities of oil with salt water were produced from the Showground Sandstone, 5078 to 5086 ft.

A gamma-ray log was made to 4800-ft depth on 11th June 1961, by A. Radeski of the Bureau of Mineral Resources, Geology and Geophysics. Electric and other logs were made by Schlumberger.

2. GEOLOGY

The stratigraphic sequence in this area is known from several wells in the Roma district.

Cretaceous	Roma Formation	(Transition Beds
	Blythesdale Group	(
		(Mooga Sandstone
		(
		(Fossil Wood Beds
		(
		(Gubberamunda Sandstone
Jurassic	Walloon Coal Measures	
Triassic	Bundamba Group	
	Moolayember Shale	
	Pickanjinnie Formation	
Permian	Latemore Formation	

The upper extremities of the formations, as interpreted by Mines Administration Pty Ltd, are marked on the gamma-ray log (Plate 2). The log did not reach the depth of the Showground Sandstone, which is near the bottom of the Moolayember Shale.

3. INTERPRETATION OF GAMMA-RAY LOG

The base of the Roma Formation and the several sub-divisions of the Blythesdale Group were interpreted by Mines Administration Pty Ltd from a study of the electric logs. The shales of the Roma Formation are underlain by the arenaceous Transition Beds and Mooga Sandstone, which constitute the upper part of the Blythesdale Group.

On the gamma-ray log, the monotonous nature of the Roma Formation contrasts with the variable radioactivity of the interbedded shales and sandstones of the Blythesdale Group. However, of the formation within the Blythesdale Group, only the Mooga Sandstone, with its low radioactivity, can be distinguished as a unit. The interbedded shales in the Transition Beds result in a log of very variable radioactivity. The Gubberamunda Sandstone also gives a variable log, in spite of the lithologic log showing only sandstone.

Below the Gubberamunda Sandstone, the top of the Walloon Coal Measures corresponds to an increase in radioactivity. The remainder of this formation includes many sandstone beds and the radioactivity is low, rising again at the base of the formation. The log of Latemore No. 1 well, about 18 miles north-north-west, follows the same pattern (Tissot, 1962).

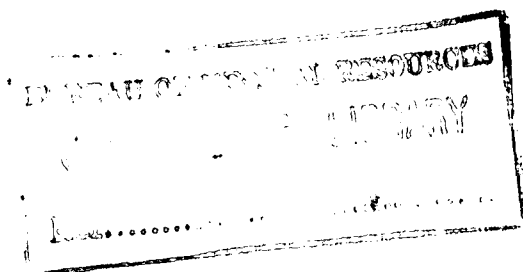
The boundary between the Walloon Coal Measures and the Bundamba Group cannot be distinguished on the gamma-ray log, nor can the base of the Bundamba Group be distinguished because the interbedded shales at the base of the Bundamba Group merge into the Moolayember Shale. The lettered subdivisions introduced by Tissot (1962) are depicted a little better, notably Unit 'A'. This unit includes the Hospital Hill Sandstone and is shown to be a zone of low radioactivity (Plate 2). Unit 'B' which shows generally more radioactivity than Unit 'C', includes the base of the Bundamba Group.

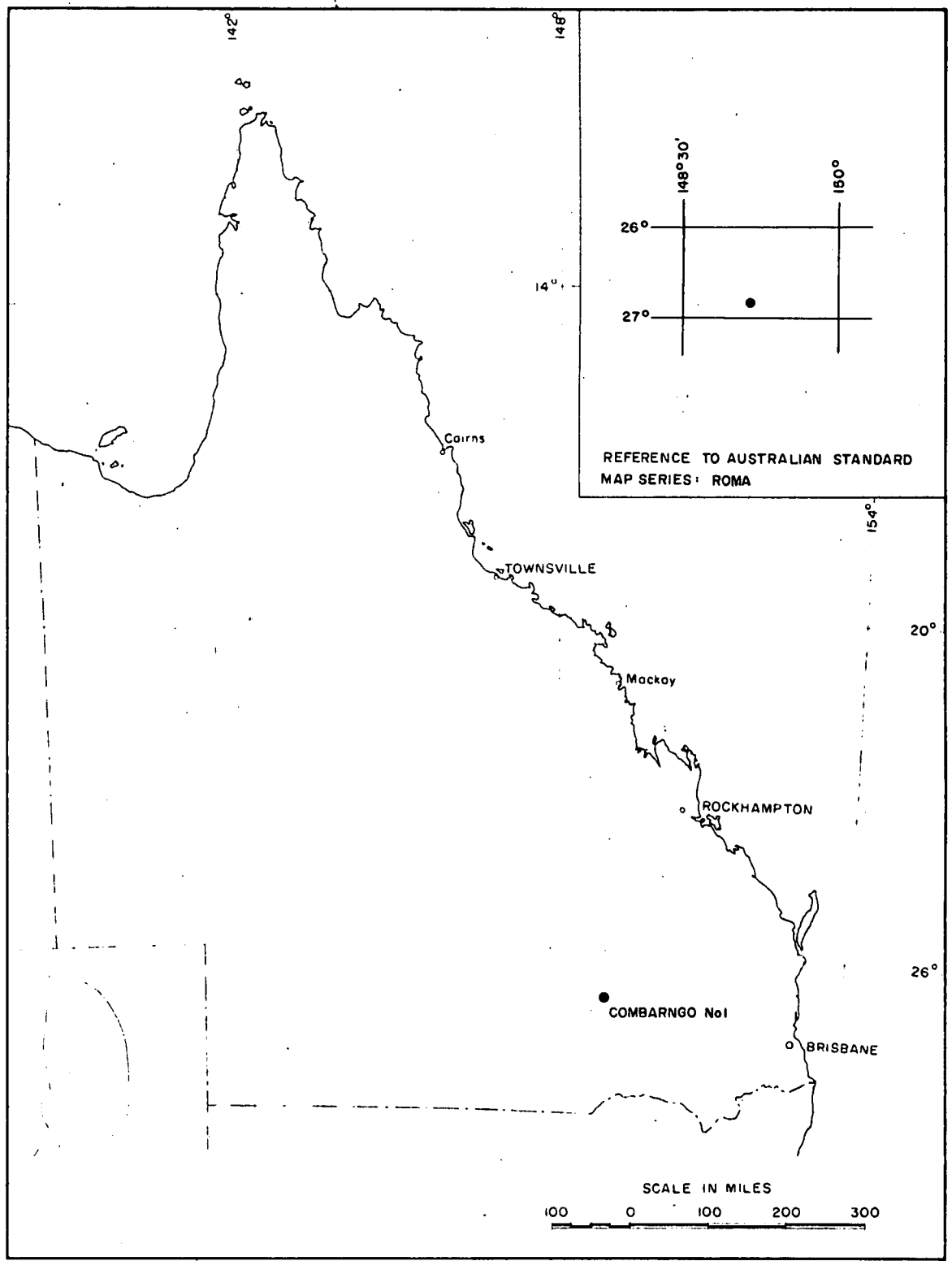
4. CONCLUSIONS

The formations are not generally well defined by the gamma-ray log, apart from the top of the Walloon Coal Measures and, rather roughly, the base of the Roma Formation. In future logging it might be desirable for the sensitivity of the equipment to be reduced and the time constant increased, to cut down the violent fluctuations caused by the numerous thin beds of shale within the sandstones.

5. REFERENCE

- | | | |
|------------|------|--|
| TISSOT, B. | 1962 | Correlation of recent bores in the Roma area. <u>Institut Francais du Petrole. Bureau des Etudes Geologiquies, Mission in Australia. Sedimentary Basins Study Group Progress Report No. 3.</u> |
|------------|------|--|





COMBARNGO No 1 (AAO) WELL LOGGING
QUEENSLAND 1961
LOCALITY MAP

Combarngo No 1 (AOG)

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

GREAT ARTESIAN BASIN, S.W. QUEENSLAND.
EXPERIMENTAL BORE LOGGING PROGRAMME 1961

A A O COMBARNGO No.1

IWSC REGISTERED No.:

OWNER: A A O

DRILLED: 1961

DEPTH DRILLED: 5985'

BORE CONDITION: STANDING, MUD

LOGGING EQUIPMENT: FAILING LOGMASTER.

COORDINATES: 26° 51'S

149° 09'E

ELEVATION: GROUND 918 ft

REF. LEVEL 930 ft

LOGGED BY: A RADESKI

LITHOLOGY BY: MINES ADMIN. PTY LTD

RUN	DUMMY	TEMPERATURE	GAMMA-RAY	
DATE			11-6-61	
FIRST READING			4800'	
LAST READING			30'	
FOOTAGE LOGGED			4770	

REMARKS. DEPTHS CORRECTED FOR CABLE STRETCH.

STRATIGRAPHY BY MINES ADMINISTRATION PTY LTD

