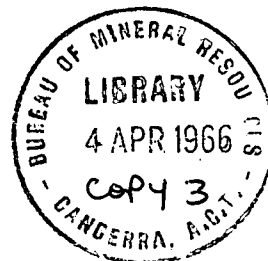


COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

RECORD No. 1966/29



**PICOLA NO. 1 AND JEPARIT NO. 2
GAMMA-RAY LOGGING, MURRAY BASIN.**

VICTORIA 1965

by

A. RADESKI and C.L. COOKSON

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ILLUSTRATIONS

Plate 1. Locality map
Plate 2. Gamma-ray logs

(Drawing No. V/B6-1)
(J54/B6-2)

SUMMARY

Gamma-ray logs are presented for two widely separated, shallow boreholes in the Victorian portion of the Murray Basin. Both bores penetrate the Knight Group of rocks (?Eocene), but gamma-ray correlations are doubtful. Otherwise, the stratigraphies are unrelated.

1. INTRODUCTION

At the request of the Department of Mines, Victoria, the cased, shallow bores at Picola No. 1 and Jeparit No. 2 (see Plate 1) were logged for gamma radiation from the 24th to 25th February 1965.

The bore at Picola was put down to seek water suitable for domestic purposes. None was found, and the bore was terminated at a depth of 660 feet.

The bore at Jeparit was drilled for stratigraphic information. Good water was encountered at several levels, which was to be expected as both the Wimmera River and Lake Hindmarsh are close by. The bore terminated at a depth of 880 feet.

Both bores were drilled by Hydromaster 1500 percussion rigs. The bores were cased; hence, until the casing was pulled out, only radiation logging could be appropriate.

2. GEOLOGY

Both bores are in the Murray Basin. Jeparit No. 2 penetrates mid-Tertiary marine sediments. At Picola No. 1, in the Riverina Plain, the Tertiary marine sediments are absent, only continental-type sediments of uncertain age being encountered. Both bores penetrate the Knight Group of rocks, which are believed to be Eocene.

3. METHOD AND EQUIPMENT

The bores were logged downhole in order to check the equipment and the subsequent uphole log. A 'Widco' 2000-ft logger was used with a hand-driven winch and a single-conductor cable attached to a scintillation-type sonde. The overall detector-recorder sensitivity was checked before and after logging each bore. The effect of statistical variation at the bottom of each bore was recorded. The recorder paper was driven by a mechanical linkage to the calibrated sheave on the winch.

4. RESULTS AND CORRELATIONS

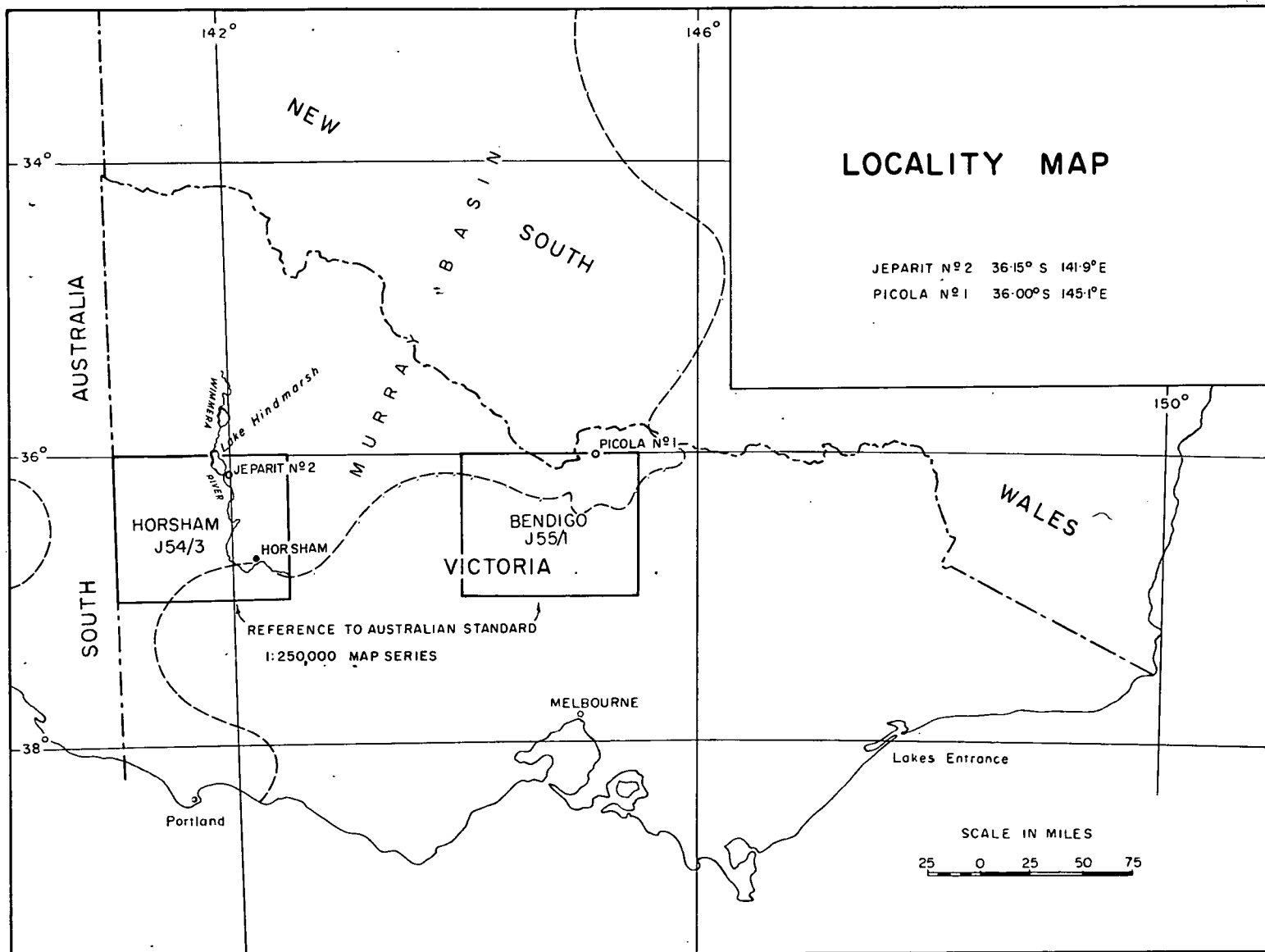
The logs obtained are reproduced in Plate 2. Neither log exhibits very large sudden changes in activity that could define useful marker beds. However, there are several features on each log, which, together with stratigraphic and lithological information, could provide useful data for future correlations.

5. CONCLUSIONS

In the absence of very many existing boreholes (such as are to be found in parts of the Great Artesian Basin), accumulation of radio-metric information from the Murray Basin formations will have to be built up by logging holes as they become available.

6. ACKNOWLEDGEMENT

The geological information included in this record was supplied by the Department of Mines, Victoria.



COMPANY VICTORIAN MINES DEPARTMENT

AREA PICOLA

WELL PICOLA No.1

STATE VICTORIA

COORDINATES: See "Remarks"

N

S

ELEVATION

N.F.

K.B.

G.L. 372 ft approx.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	24/2/65	24/2/65	Nature		
First Reading	3	2	Density		
Last Reading	659	660	Viscosity	⊙ *F	⊙ *F
Footage Logged	656	658	Resistivity	⊙ *F	⊙ *F
Bottom (Driller)	652	652	Res. BHT	⊙ *F	⊙ *F
Casing (From Log)			pH		
Casing (Driller)	652	652	Circ. Temp		
Casing Size	6" to 652'	6" to 652'	B.H. Temp		
	8" to 502'	8" to 502'			
	10" to 310'	10" to 310'			
			Logged by	A. RADESKI	
			Witnessed by	L. COOKSON	

REMARKS

R.A.S.C. 4 MILE TO 1 INCH MAP "BENDIGO"

PARISH NAROIKA

72FT NORTH, 22 FT EAST OF SOUTH-WEST CORNER OF ALLOTMENT 43

COMPANY VICTORIAN MINES DEPARTMENT

AREA JEPARIT

WELL JEPARIT No.2

STATE VICTORIA

COORDINATES: See "Remarks"

N

S

ELEVATION

N.F.

K.B.

G.L. 176 ft

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	25/2/65	26/2/65	Nature		
First Reading	2	0	Density		
Last Reading	880	879	Viscosity	⊙ *F	⊙ *F
Footage Logged	880	879	Resistivity	⊙ *F	⊙ *F
Bottom (Driller)	900	900	Res. BHT	⊙ *F	⊙ *F
Casing (From Log)			pH		
Casing (Driller)	900	900	Circ. Temp		
Casing Size	6" to 900'	6" to 900'	B.H. Temp		
	8" to 354'	8" to 354'			
BN Size					
			Logged by	A. RADESKI	
			Witnessed by	L. COOKSON	

REMARKS

R.A.S.C. 4 MILE TO 1 INCH MAP "HORSHAM"

PARISH BABATCHIO

133FT NORTH, 33FT WEST OF SOUTH-EAST CORNER OF ALLOTMENT 8A

