

# **VITRINITE REFLECTANCE DATA**

## **Dondu - 1 and Pipipa – 1**

**AMDEL, Amoco Australia Petroleum Company**

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19 March 1985

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Attention: C W Waring

REPORT: F6177/85

YOUR REFERENCE:	Letter 27/2/85. PO No. 0107
TITLE:	Vitrinite Reflectance Data, DONDU-1 and PIPIPA-1.
MATERIAL:	Cuttings.
LOCALITY:	DONDU-1, PIPIPA-1
DATE RECEIVED:	18 March 1985
WORK REQUIRED:	Vitrinite Reflectance Determinations.

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## 1. INTRODUCTION

Cuttings samples from DONDU-1 (3 samples) and PIPPA-1 (1 sample) were received for vitrinite reflectance determinations. This report presents the results of this study.

## 2. ANALYTICAL PROCEDURE

Representative portions of each sample (crushed to -14+35 BSS mesh) were obtained with a sample splitter and then mounted in cold setting Glasscraft resin using a 2.5 cm diameter mould. Each block was ground flat using diamond impregnated laps and carborundum paper. The surface was then polished with aluminium oxide and finally, magnesium oxide.

Reflectance measurements were made with a Leitz MPV1.1 microphotometer fitted to a Leitz Ortholux microscope and calibrated against synthetic standards. All measurements were taken using oil immersion ( $n=1.518$ ) and incident monochromatic light (wavelength 546 nm) at a temperature of  $23\pm 1^\circ\text{C}$ .

## 3. RESULTS

The vitrinite reflectance data are summarized in Table 1. Histogram plots of these data are presented in Appendix 1. A vitrinite reflectance verses depth plot is provided for DONDU-1 (Figure 1).

Distinct oxidation rims are present in all samples except DONDU-1 9090-9100 ft. These oxidation rims are generally caused when the samples are subjected to temperatures  $>60^\circ\text{C}$  during drying transport or storage. Reflectance measurements were taken on unoxidised vitrinite (towards the centre of the cuttings fragments) and are therefore unlikely to have been affected by this oxidation.

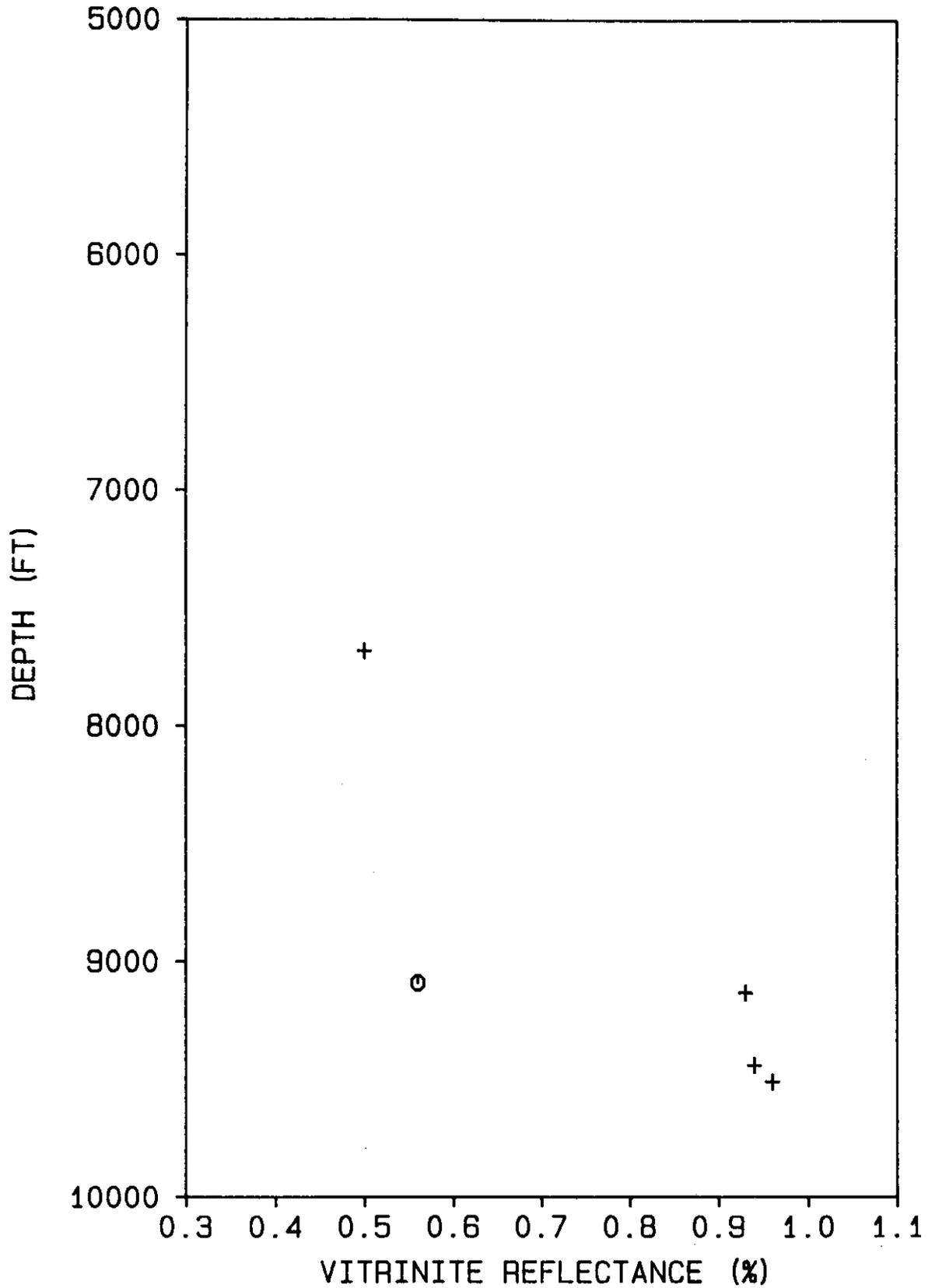
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TABLE 1: SUMMARY OF VITRINITE REFLECTANCE MEASUREMENTS,  
BASS BASIN

Depth (ft)	Mean Maximum Reflectance(%)	Standard Deviation	Range	No. of Dets.
<u>DONDU-1</u>				
9090-9100	0.56*	0.12	0.39-0.77	29
9440-9450	0.94	0.08	0.76-1.18	29
9510-9520	0.96	0.06	0.83-1.08	30
<u>PIPIPA-1</u>				
6447-6464	1.41	0.06	1.29-1.52	27

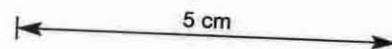
\* cavings

VITRINITE REFLECTANCE PROFILE, DONDU #1



5 cm

APPENDIX 1: HISTOGRAM PLOT OF  
REFLECTANCE MEASUREMENTS



## DONDU-1

9090-9100 FT

## SORTED LIST

.39 .44 .44 .44 .46 .46 .46 .46 .47 .48  
 .48 .5 .5 .51 .52 .52 .53 .56 .58 .61  
 .62 .68 .71 .72 .72 .75 .76 .76 .77

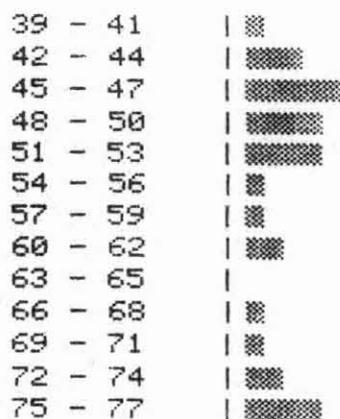
Number of values= 29

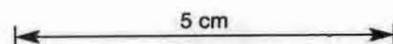
MEAN OF VALUES .562

STD DEVIATION .118

## HISTOGRAM OF RESULTS

Values are reflectance multiplied by 100





## DONDU-1

9440-9450 FT

## SORTED LIST

.76 .82 .85 .87 .88 .88 .89 .91 .91 .92  
 .93 .93 .93 .93 .94 .94 .94 .95 .95 .96  
 .96 .97 .98 .99 1 1.01 1.01 1.12 1.18

Number of values= 29

MEAN OF VALUES .942

STD DEVIATION .079

## HISTOGRAM OF RESULTS

Values are reflectance multiplied by 100

76 - 80	█
81 - 85	█
86 - 90	█
91 - 95	█
96 - 100	█
101 - 105	█
106 - 110	
111 - 115	█
116 - 120	█

## DONDU-1

9510-9520 FT

## SORTED LIST

.83 .86 .89 .89 .9 .9 .92 .92 .92 .93  
 .95 .95 .96 .96 .96 .96 .96 .97 .98 .98  
 .98 .98 .99 .99 1 1 1 1.04 1.07 1.08

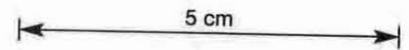
Number of values= 30

MEAN OF VALUES .957  
 STD DEVIATION .055

## HISTOGRAM OF RESULTS

Values are reflectance multiplied by 100

83 - 87		■
88 - 92		■■■■■■■■
93 - 97		■■■■■■■■■■■■
98 - 102		■■■■■■■■■■■■■■■■
103 - 107		■■■■
108 - 112		■



## PIPIA-1

1965-1970 m

## SORTED LIST

1.29 1.31 1.34 1.36 1.36 1.36 1.36 1.36 1.4 1.4  
 1.41 1.41 1.42 1.42 1.42 1.43 1.43 1.44 1.44 1.45  
 1.45 1.46 1.47 1.47 1.49 1.49 1.52

Number of values= 27

MEAN OF VALUES 1.413  
 STD DEVIATION .055

## HISTOGRAM OF RESULTS

Values are reflectance multiplied by 100

129 - 133		█
134 - 138		██
139 - 143		███
144 - 148		███
149 - 153		██