Northern Territory Government

InfoCentre

NT Minerals and Energy

Petroleum Exploration Reports

This file contains scanned images of reports submitted to the Northern Territory Government under Petroleum Legislation.

Bringing Forward Discovery

This information is made available to assist future petroleum explorers and may be distributed freely.

InfoCentre

Call:	+61 8 8999 6443
Click:	geoscience.info@nt.gov.au www.minerals.nt.gov.au
Visit:	3rd floor Centrepoint Building Smith Street Mall Darwin Northern Territory 0800

A09-093.indd

PALYNOLOGICAL REPORT FOR PANCONTINENTAL PETROLEUM LIMITED ON CORE AND CUTTINGS FROM EIGHT WELLS IN THE AMADEUS BASIN, NORTHERN TERRITORY

PALYNOLOGICAL REPORT FOR PANCONTINENTAL PETROLEUM LIMITED ON CORE AND CUTTINGS FROM EIGHT WELLS IN THE AMADEUS BASIN, NORTHERN TERRITORY

by

J.A. Owen & M.V. Glikson

1981

(Compiled by J.D. Gorter)

PANCONTINENTAL PETROLEUM LIMITED
Report No. 41.

INTRODUCTION

A palynological and source rock maturation study has been carried out on samples collected from the Bureau of Mineral Resources Core and Cuttings Laboratory. All the wells sampled are from the Amadeus Basin in the southern part of the Northern Territory.

The aim of the investigation was to examine Devonian formations to determine:-

1. age of the formations;

2. presence and type of organic material;

3. degree of organic maturation by use of the Thermal Alteration Index (TAI).

All the samples were processed using standard palynological maceration techniques, although the recovered organic matter was not stained so as to allow determination of TAIs.

The results for each of the eight wells are tabulated below.

Palynology Samples - Amadeus Basin

West Waterhouse-1		
	2440'-50'	some organic matter, mainly amorphous, TAI 3⁻
	3080'-3110'	barren
Orange-1		
	550'-560'	barren
	1470'-1480'	amorphous matter mainly, a few simple trilete spores observed; TAI 3⁻ of amorphous matter, 2⁻ of spore
Tyler-1		
	6700'-6850'	barren
	6850'-7200'	amorphous matter, TAI 2+,3-,3+
	8360'-8420'	barren
	9610'-9720'	barren
	10150'-10160'	amorphous matter, TAI 3+
	10600'-10700'	barren
West Mereenie-1		
	300'-400'	barren
	950'-1050'	barren
	1150'-1200'	very little organic matter, a few simple trilete spores, TAI 2-
Mereenie-1		
	500'-520'	some Botryococcus, little else, TAI 2-
	680'-710'	amorphous organic matter, yellow to pale brown, TAI 2- 3-
	1130'-1150'	amorphous organic matter, TAI 2- to 3-
	1550'-1600'	sparse organic matter, TAI 2-
East Mereenie-2		
	200'-250'	amorphous organic matter, TAI 2-
	550'-600'	amorphous organic matter, TAI 3-, Contignisporites fornicatus Dettmann (orange brown) present (probably a contaminant)
	650'-700'	some organic matter, TAI 2-
	2100'-2150'	sparse organic matter, some algal remains, TAI 2-
Palm Valley-3		
	1690'-1700'	amorphous organic matter only, some highly altered, TAI 3- 3+ 4-
	1870'-1880'	amorphous organic matter, dark yellow to medium brown, TAI 2+ to 3+
	2620'-2640'	very little organic matter, mostly amorphous, TAI 3- to 3+

Palynology Samples - Amadeus Basin - 2

Palm Valley-1	core 1 698'9"	mainly biodegraded amorphous kerogen of the type attributed to algal origin; a few simple trilete spores; TAI 3- to 3+ for amorphous matter, 2- for spores
	700'-710'	abundant amorphous organic matter, TAI 3-
	960'-970'	mainly amorphous organic matter biodegraded, light brown, some plant cuticle present; TAI 3- (amorphous matter), 2- (cuticle)
	1970'-1980'	amorphous organic matter only, TAI 3-
	2980'-3010'	very poor; some amorphous matter and some wood, TAI 3+