

FORAMINIFERAL SEQUENCE
IN
WEST SEAHORSE # 2.

For:- HUBBAY OIL (AUSTRALIA) LTD.
March 16th, 1982.

Paltech Report 1982/08



PALTECH PTY
LTD
MARINE MICROPALAEONTOLOGISTS
SYDNEY NEW SOUTH WALES
MIDLAND WESTERN AUSTRALIA

THE FORAMINIFERAL SEQUENCE

IN

WEST SEAHORSE # 2.

Eight sidewall cores from WEST SEAHORSE # 2 were examined for foraminiferal content. A ninth sidewall core jar, labelled 1389.5-"MT" contained no material. The following sequence was interpreted -

SWC Depth (m)	Approx E-log Unit Boundary	Age	Zone*	Paleoenvironment†
1325.0 to 1343.1		Early MIOCENE	H-1 to ?H-2	Mid Shelf (40-100m)
~~~~~ 1351.5 ~~~~~				
1351.5 to 1363.5 to ?1368.5		Early OLIGOCENE	J	Fluctuating-Estuarine (<10m)
----- 1377.5 -----				
1379.0	?	late EOCENE	K	as above
1395.0		?	No forams found	Deltaic/lagoonal
----- base of sequence examined -----				

*Planktonic foraminiferal zones after Taylor (in prep.).

†Paleobathymetric range in parentheses.

A list of sidewall cores studied is shown on Tables 1 & 2 (herein) which details the record summarised above. A micro-paleontological data sheet is included, showing interpreted reliability of the planktonic foraminiferal zonal determinations.

No foraminifera were found in the lowest sample at 1395. Percentage planktonic foraminifera in the next four samples fluctuated from 20% total fauna at 1379.0 and 1363.5, to complete absence of planktonics at 1368.5 and 1351.5. These fluctuations no doubt reflected changes in sea level and access by oceanic currents in an estuarine environment. On Table 2, these fluctuations are shown relatively with designations of *estuarine* (= dominant arenaceous

benthonic fauna, barren of planktonics) and *estuarine entrance* (= planktonic associated with more diverse benthonic fauna).

The late Eocene and early Oligocene (Zones K and J) estuarine sequence is much better demonstrated in West Seahorse # 2 than in West Seahorse # 1, but this may be purely an artifact of the sidewall coring programs when the two wells are compared. However, during the late Eocene/early Oligocene period, marine influence was more apparent in the Esso Seahorse # 1 sequence, where the paleoenvironmental data indicates shallow, inner continental shelf deposition, compared with the more shoreward, estuarine sedimentation in West Seahorse # 2. A similar length Oligocene hiatus is evident in all three wells in the Seahorse region.

More detailed comparisons of these wells will be made in a report on correlation of wells in the western portion of the VIC/P11 permit.

M I C R C O A L E O N T O L O G I C A L D A T A S H E E T

B A S I N : GIPPSLAND

ELEVATION: KB: 9.6 GL: 48.0

WELL NAME: WEST SEAHORSE # 2

TOTAL DEPTH: _____

A G E	FORAM. ZONULES	H I G H E S T D A T A					L O W E S T D A T A				
		Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time	Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time
PLEIS- TOCENE	A ₁										
	A ₂										
PLIO- CENE	A ₃										
	A ₄										
M I O C E N E	L A T E	B ₁									
		B ₂									
		C									
	M I D D L E	D ₁									
		D ₂									
		E ₁									
		E ₂									
	E A R L Y	F									
		G									
		H ₁	1325.0	1				1333.9	1		
		H ₂	1343.1	2				1343.1	2		
	O L I G O C E N E	L A T E	I ₁								
			I ₂								
			J ₁	1351.5	2						
E A R L Y		J ₂						1363.5	2		
		K	1379.0	1				1379.0	1		
		Pre-K									



COMMENTS: Disconformity between top J and base H was apparent on lithology  
in SWC at 1351.5 as well as E-log characters, although no planktonic  
foraminifera were found in SWC 1351.5.

- CONFIDENCE RATING:
- 0: SWC or Core - Complete assemblage (very high confidence).
  - 1: SWC or Core - Almost complete assemblage (high confidence).
  - 2: SWC or Core - Close to zonule change but able to interpret (low confidence).
  - 3: Cuttings - Complete assemblage (low confidence).
  - 4: Cuttings - Incomplete assemblage, next to uninterpretable or SWC with depth suspicion (very low confidence).

NOTE: If an entry is given a 3 or 4 confidence rating, an alternative depth with a better confidence rating should be entered, if possible. If a sample cannot be assigned to one particular zone, then no entry should be made, unless a range of zones is given where the highest possible limit will appear in one zone and the lowest possible limit in another.

DATA RECORDED BY: Paltech Pty. Ltd.

DATE: March 11th, 1982.

SIDEWALL CORE Depth in metres	PLANKTONIC FORAMINIFERA	PLANKTONIC FORAMINIFERAL ASSEMBLAGE		AGE
		ZONE	SWC Depth at Base	
1325.0 →	G'ina linaperta G'ina angiporoides G'alia gemma G'alia munda G'ina brevis G'ina praebulloides G'quad tripartita G'ina woodi woodi G'ina woodi connecta G'alia continuosa G'alia bella G'alia zealandica G'alia nana			
1333.9 →		H-1	1333.9	EARLY MIOCENE
1343.1 →		H-2	1343.1	LATEST OLIGOCENE
1351.5 →	No planktonics seen		*	
1363.5 →	x ° ° ? x °	J	1363.5	EARLY OLIGOCENE
1368.5 →	No planktonics seen	?		
1379.0 →	° x °	K	1379.0	LATE EOCENE
† 1395.0 →	No foraminifera found	?		?

KEY: ° <20 specimens  
x >20 specimens  
? identification doubtful

† nil return at 1389.5

* see Table 2.

TABLE 1: PLANKTONIC FORAMINIFERAL DISTRIBUTION - WEST SEAHORSE # 2  
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