



FORAMINIFERAL SEQUENCE IN WEST SEAHORSE # 2.

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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 -

	Approx				
SWC	E-log Unit				
Depth (m)	Boundary_	Age		Zone*	Paleoenvironment¶
1325.0		Early	,	н-1	Mid Shelf (40-100m)
to		MIOCE	NE	to	• • • • • • • • • • • • • • • • • • •
1343.1				?H-2	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	M 1351.5 MM				
1351.5					
to		Early		J	Fluctuating-Estuarine
1363.5		OLIGO	CENE		(<10m)
to					
?1368.5					
	1377.5				
1379.0		late	EOCENE	к	as above
	?		- ?	- ?	?
1395.0			?	No forams found	Deltaic/lagoonal
bas	e 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

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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/PIL permit.

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ВА	S I	N :	GIPF	SLAND				ELEVA	ATION: KB	: <u>9</u> .	6 GL:	48.0	<u>0</u>
WELL NAME: WEST SEAHORSE # 2					TOTAL DEPTH:								
HIGHEST							DATA LOWEST DATA						
A	GE	FO. ZON	RAM. ULES	Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time	Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time
PLEIS-		A 1											
		A_2											
		A 3											
UI O-		^A 4											
		^B 1											
	ATE	^B 2					1						
	1	С											
	ធ	D ₁				·	1						
l z	Г D	D_2					1						
ш	D	E ₁					1						
0	ΗW	E2					1						
н		F											
	ЯĽУ	G											
	EAI	H ₁		1325 0	1				1333.9	1			
	61	н 2		1343 1	2				1343.1	2			
ш	н Н	I ₁		1343.1	-								
CEN	A												
DDI'		J ₁		1351.5	2	·							
D	ARI	J ₂	<del>,,</del>						1363.5	2			
1.0	1 <u> </u>	ĸ	<u> </u>	1379.0	1				1379.0	1			
EOC		Pre	-К				1						
CO1	MMEN	ITS: Di ir fc	isconf n SWC pramin	formity bef at 1351.5 ifera werg	as to	n top J an well as E- und in SWC	id ba 109	se H wa charact	s apparent ers, althc	on ough	lithology no plankt	onic	· · · · · · · · · · · · · · · · · · ·
									<u></u>				

CONFIDENCE

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RATING:

0:

1:

2:

3:

4:

- SWC or Core Complete assemblage (very high confidence). SWC or Core - Almost complete assemblage (high confidence). SWC or Core - Close to zonule change but able to interpret (low confidence).
- Cuttings - Complete assemblage (low confidence). 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.

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SIDEWALL CORE Depth in metre	G'ina linapert G'ina angiporc G'alia gemma G'alia munda G'ina brevis G'ina woodi wc G'ina woodi wc G'ina continu G'alia bella G'alia bella G'alia pella G'alia nana	ZONE	SWC Depth at Base	AGE		
1325.0→ 1333.9→	x x ° ° ° ° • • • •	H-1	1333.9	ÈARLY MIOCENE		
1343.1.→	x x	H-2	1343.1	LATEST OLIGOCENE		
1351.5→	No planktonics seen	$\sim\sim\sim$	*	$\dots$		
1363.5→	x ° ° ? x °	Ј	1363,5	EARLY		
1368.5→	No planktonics seen	?	* .	OLIGOCENE		
1379.0→	°×°	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.

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TABLE 1: PLANKTONIC FORAMINIFERAL DISTRIBUTION - WEST SEAHORSE # 2 PALTECH REPORT 1982/08

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	BENTHONIC FORAMS in ENVIRONMENTAL GROUPS RESIDUE LITHOLOGY				ENVIRON- MENT				
	ESTUARINE SHELF SHELF	MAJOR COMPONENTS	MINOR COMPONENTS	FORAM DATA					
5	des ina rudis — — foratus ea voralis colligera	:	te s r pyr. frags. r rootlets es		NAL ARINE RANCE <10m .0-40m .100m	NGE	PLANK FORAMI ASSEM	TONIC NIFERAL BLAGE	
Sidewall Core Depth in metre	Haplophragmoi Ammosphaeroid Reophar Ammolscus Bathysiphon Bathysiphon Pseudoisculi Nodosarids Cibicides peri Anomalina pro Cibicides brei Cibicides prei Cibicides med Cibicides med	f = foraminifera q = f.ang.qtz. m = marl flakes G = glauc pellets P = biogenic pyrite	m-c ang. qtz. biogenic pyrii f. ang. qtz. Glauc. pelleti limonite afte limonite afte py. burrows o fish. frags. gastropods echinoid spin ostrea frags.	Count • planktonics	DELTAIC/LAGOO LAGOONAL/ESTU ESTUARINE ENT INNER SHELF 1 MID SHELF 40-	MAJOR E-LOG CHARACTER CHA	ZONE	SWC Depth at Base	AGE
1325.0→ 1333.9→	• x ° x ° x * x *	f nunununununununununun ff nanunununununun ffffff nununununun ffffffffff	<b>YY Y Y</b>	200 <b>30</b> 1000 15			H-1	1333.9	EARLY MIOCENE
1343.1.	R ° ° x x x °	fffffffffffffmunumm fffffffff fffffff ffffff ffffff ffffff	с	1000 2		1251.5	₽-2	1343.1	LATEST OLIGOCENE
1351.5. 1363.5.	x °x °x ° °	PPPPPPPPPPP fff ffffffff ffffffff ffffff	r r A7 r r C r A rrrr	10 11	And a	1221.2	 J	1363.5	EARLY
1368.5.	D • • •	GGGGG fffff ppf GGGGGGGGGGGGG GGGGGGGGGG	ААА А	100 nil	É,	1377.5	?	*	OLIGOCENE
1379.0 ¶ 1395.0→	no forams found	bb CCCC ddddddddd CCCCC ddddddddd CCCCCCCC	rr C r A	50 20 nil nil			К - <mark></mark>	1379.0	LATE EOCENE ?

KEY: ° <20 specimens x >20 specimens D >60% of total count R reworked

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r rare C common <20 grains A abundant - 1%-5% total grains ? origin doubtful

¶ no return for SWC at 1389.5
* see E-log picks

TABLE 2: SIGNIFICANT BENTHONIC FORAMINIFERAL DISTRIBUTION, RESIDUE LITHOLOGY & PALEOENVIRONMENTAL ASSESSMENT - WEST SEAHORSE # 2 PALTECH REPORT 1982/08

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