FORAMINIFERAL SEQUENCE

IN SPERM WHALE # 1

For:- HUDBAY OIL (AUSTRALIA) LTD.

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PALTECH PTY LTD

MARINE MICROPALEONTOLOGISTS
SYDNEY NEW SOUTH WALES
MIDLAND WESTERN AUSTRALIA

THE FORAMINIFERAL SEQUENCE
in SPERM WHALE # 1

Forty three sidewall cores from SPERM WHALE # 1 were examined for foraminiferal content. On the basis of that examination, the following breakdown of the sequence was noted.

Sidewall Cores Depth (m)	Approx E-log Unit Boundary	Age	Zone*	Paleoenvironment¶
217.0 to 384.0		Pliocene	A-3 to A-4	Inner shelf (∿40m) Mid shelf canyon (40-100m)
	?			
405.0 to 638.0		Early Pliocene to Late Miocene	B-1	Inner shelf (∿40m) Outer shelf canyon (100-200m)
	?			
662.0 to 712.0		Mid Miocene	C	Shelf/slope break (∿200m)
	713			
727.0 to 799.0		Mid to Early Miocene	D-2 to G	Mid shelf canyon (40-100m) to inner shelf (10-40m)
	801			
803.9		Late Eocene	K	Estuarine (<10m)
806.0		?	N.F.F.	Deltaic

* Planktonic foraminiferal zonation after Taylor (in prep.).
¶ Paleobathymetric range in parentheses.

A list of sidewall cores studied is shown on Tables 1 & 2. The deepest sidewall core from 806.0m contained no foraminifera; otherwise all samples contained both planktonic and benthonic foraminifera, although poor preservation, due to carbonate diagenesis, made identification difficult in some samples.

Tables 1 & 2 (herein) detail the record summarised on page 1. These tables are compilations of both planktonic and benthonic foraminiferal distribution, as well as the lithological characteristics of the residue grains. The micro-paleontological data sheet shows the interpreted reliability of the planktonic zone determinations.

COMMENT ON CANYON-FILL SEQUENCE IN SPERM WHALE # 1.

The sequence demonstrates fluctuations in both canyon cutting and filling from early Miocene to Pliocene. Two disconformities are recognised; one in the mid Miocene between Zones D-2 and C (at ∿713m) and the other in late Miocene between Zones C and B-1. The first event at 713m is evidenced by a disjunct environmental sequence from mid canyon fill at top of D-2 and shelf/slope deposition of the Zone C sample immediately above the biostratigraphic break.

A report correlating the foraminiferal sequences in wells drilled in the eastern portion of Vic/P11 is being prepared. However, a brief comment is warranted here, in that the SPERM WHALE canyon fill sequence appears to represent part of a major anastomosing sequence intersected in sections further seaward, rather than being related to the BALEEN, WHALE and FLATHEAD Miocene canyon system.

MICROPALEONTOLOGICAL DATA SHEET

BASIN: GIPPSLAND ELEVATION: KB: 9.6m GL: -54.6m

WELL NAME: SPERM WHALE # 1 TOTAL DEPTH:

AGE		FORAM. ZONULES	HIGHEST DATA					LOWEST DATA				
			Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time	Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time
PLEISTOCENE		A_1										
		A_2										
PLIOCENE		A_3						217	1			
		A_4	237	2				384	1			
MIOCENE	LATE	B_1	405	2				638	1			
		B_2										
		C	662	1				712	1			
	MIDDLE	D_1										
		D_2	727	2				750	0			
		E_1	768	0				768	0			
		E_2	773	2				773	2			
	EARLY	F	782	2				787	1			
		G	799	1				799	1			
		H_1										
OLIGOCENE	LATE	H_2										
		I_1										
		I_2										
	EARLY	J_1										
		J_2										
EOCENE		K	803.9	1				803.9	1			
		Pre-K										

COMMENTS: Disconformity between D-2 and C at ≈713m marked by frequent reworked D-2 planktonic faunas in basal C assemblage; as well as displaced benthonic elements. Probable disconformity between C and B-1 on biostratigraphic disjunction.

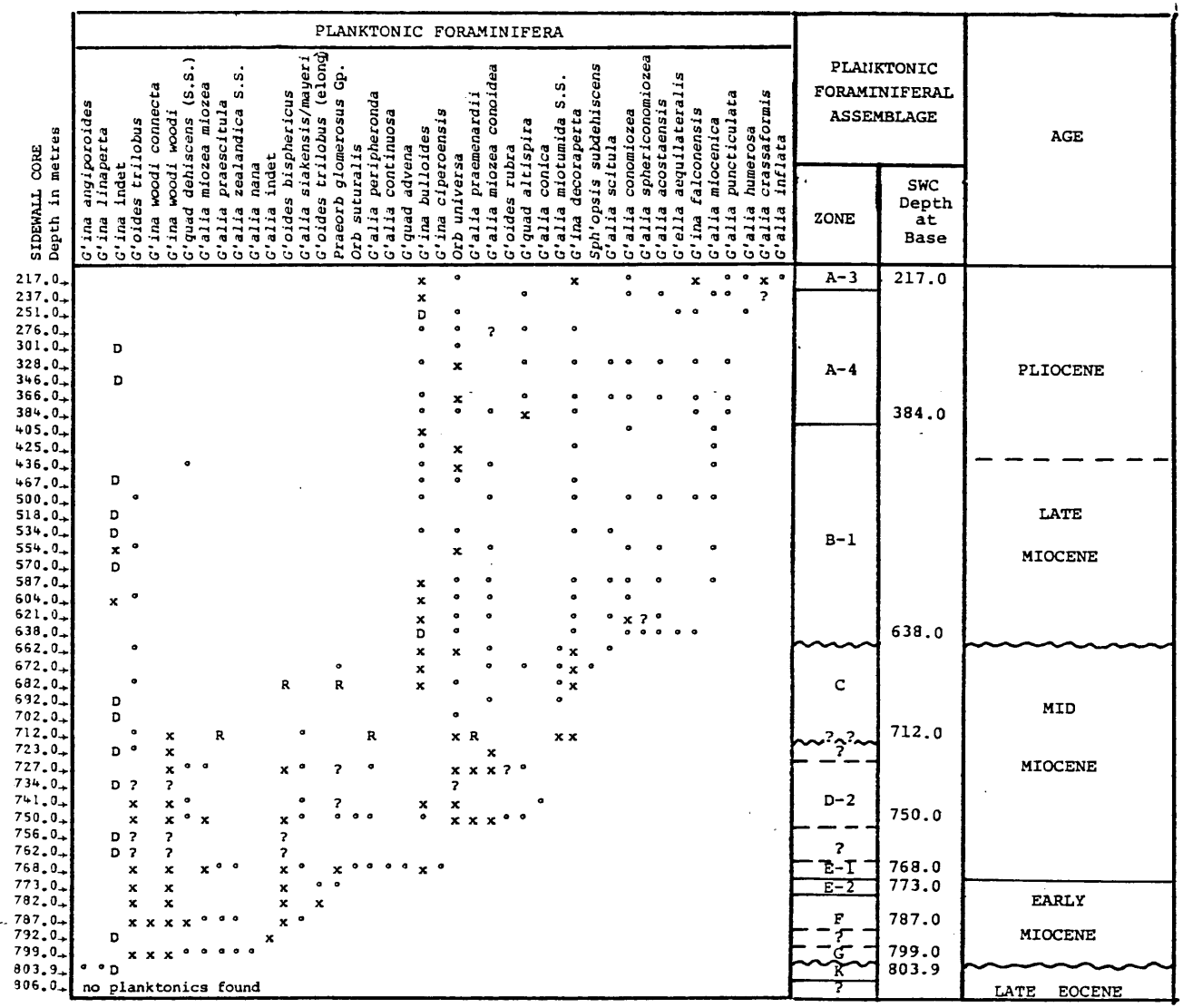
CONFIDENCE RATING:

- 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 1st, 1982.

DATA REVISED BY: DATE:



KEY: ° <20 specimens R recycled early/mid Miocene specimens
x >20 specimens ? identification doubtful due to preservation.
D Dominant >60% of assemblage

TABLE 1:- PLANKTONIC FORAMINIFERAL DISTRIBUTION - SPERM WHALE # 1

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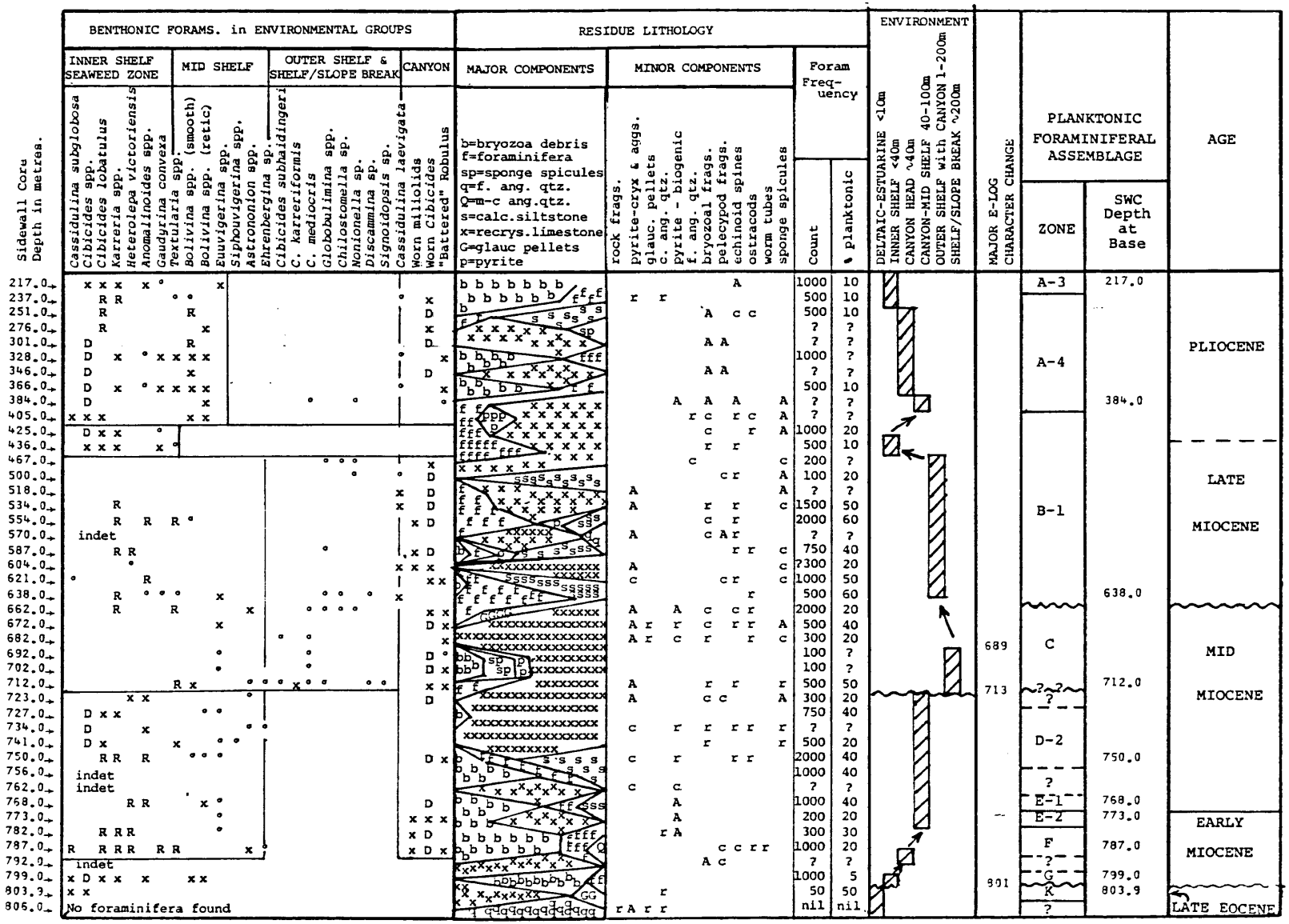

KEY: ° <20 specimens
x >20 specimens
D Dominant >60% of assemblage
R recycled or displaced
indet indeterminate due to preservation.

TABLE 2:- SIGNIFICANT BENTHONIC FORAMINIFERAL DISTRIBUTION, RESIDUE LITHOLOGY & PALEOENVIRONMENTAL ASSESSMENT - SPERM WHALE # 1

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