



APPENDIX 4

PALYNOLOGY REPORT ON KINGFISH-6,

GIPPSLAND BASIN.

by

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SUMMARY

Unfortunately only one sample from the Latrobe Group gave a datable assemblage. This was from SWC-1 at 8312 feet * and it is referable to the Lower *L. balmei* Spore-Pollen Zone and the *Eisenackia crassitabulata* Dinoflagellate Zone. The next datable sample above this was from above the top of Latrobe unconformity at 7603' and referable to the *P. tuberculatus* Zone. This leaves an undatable interval of 700 feet.

The 'coal' fraction, which was separated from the clastic fraction by flotation in carbon tetrachloride from cuttings at 7410-20 feet and 8160-80 feet contained only North American type Tertiary spore - pollen and is thus interpreted as exclusively drilling mud contamination. This interpretation probably applies to all the 'coal' identified in the cutting descriptions.

ANALYSES

1. Lower *L. balmei* Zone

SWC-1 at 8312 feet contains the only fossils extracted from the Latrobe Group in this well and these can be referred to the Lower *L. balmei* Zone and given a confidence rating of one. The sample also contained dinoflagellates referable to the *E. crassitabulata* Dinoflagellate Zone or marine incursion. The assemblage from this sample is listed below:

Spore-Pollen

Australopollis obscurus
Dilwynites australis
Ericipites scabratus
Gleicheniidites circinidites
Ilexpollenites anguloclauidites
Integricorpus antipodus
Lygistepollenites balmei
Lygistepollenites florinii
Nothofagidites brachyspinulosus
Periporopollenites polyoratus
Phyllocladidites mawsonii
Stereisporites antiquisporites
Ttricolpites gillii

Dinoflagellates

Deflandrea dilwynensis
Eisenackia crassitabulata
Epicephalopyxis identata
Spiniferites ramosus

2. Barren Interval

The eleven sidewall cores processed in the interval 7603 to 8312 feet were either barren or contained only black angular pieces of solid organic matter which is known as mineral charcoal. The only exception was SWC 21 at 7607 feet. This SWC at or very close to the actual unconformity contained two lithologies. It was half "greesand" and half calcareous shale and on preparation yielded fairly large fragments of translucent amorphous kerogen but no fossils.

* All depths used in this report are corrected sidewall core depths.

3. P. tuberculatus Zone

Three sidewall cores processed from the Lakes Entrance Formation were referable to this zone. They contained good assemblages including the important indicator species *Cyatheacidites annulatus*. The species identified in these samples are listed below.

<u>Spores & Pollen</u>	<u>SWC 24</u> <u>7595'</u>	<u>SWC 23</u> <u>7599'</u>	<u>SWC 22</u> <u>7603'</u>
<i>Araucariacites australis</i>	x	x	x
<i>Cyatheacidites annulatus</i>	x	x	x
<i>Dilwynites granulatus</i>	x		
<i>Foreotriletes lucunosus</i>			x
<i>Foreotriletes palaequetrus</i>	x		
<i>Haloragacidites harrisii</i>	x	x	x
<i>Herkosporites elliottii</i>			x
<i>Ischyosporites irregularis</i>	x	x	x
<i>Lygistepollenites florinii</i>	x	x	x
<i>Myrtacidites parvus</i>			x
<i>Nothofagidites brachyspinulosus</i>	x		
<i>Nothofagidites emarcidus</i>	x	x	x
<i>Nothofagidites falcatus</i>			x
' <i>Phyllocladus</i> ' <i>palaeogenicus</i>	x		
<i>Phyllocladidites mawsonii</i>	x		x
<i>Stereisporites antiquisporites</i>	x		
 <u>Dinoflagellates</u>			
<i>Hystriochokolpoma rigaudae</i>		x	x
<i>Lingulodinium machaerophorum</i>	x	x	
<i>Nematosphaeropsis sp.1</i>	x	x	x
<i>Operculodinium centrocarpum</i>	x	x	x
<i>Operculodinium spp.</i>	x	x	x
<i>Polysphaeridium fibrosum</i>	x		
<i>Spiniferites spp.</i>	x	x	x

LIST OF SAMPLES PROCESSED

<u>Sample</u>	<u>Depth in feet</u>		<u>Zone</u>
	<u>Corrected</u>	<u>(Uncorrected)</u>	
SWC 24	7595	(7576)	<u>P. tuberculatus</u> Zone
SWC 23	7599	(7580)	"
SWC 22	7603	(7584)	"
SWC 21	7607	(7588)	Unidentifiable Kerogen
SWC 20	7609	(7590)	Barren
SWC 17	7619	(7600)	Barren
SWC 14	7633	(7614)	Barren
SWC 13	7640	(7621)	Barren
SWC 8	7838	(7818)	Barren
SWC 7	7902	(7882)	Barren
SWC 6	7976	(7956)	Mineral charcoal only
SWC 5	8017	(7997)	Barren
SWC 4	8096	(8076)	Mineral charcoal only
SWC 2	8281	(8260)	Mineral charcoal only
SWC 1	8312	(8292)	Lower <u>L. balmei</u> Zone

"Coal" fraction extracted from cuttings

at: 7410-20 feet Mud. Contamination
 8160-80 feet " "

BASIN GIPPSLAND

DATE _____

WELL NAME KINGFISH-6

ELEVATION K.B. + 30 feet

AGE	PALYNOLOGIC ZONES	HIGHEST DATA				LOWEST DATA					
		Preferred Depth	Rtg.	Alternate Depth	Rtg.	2 way time	Preferred Depth	Rtg.	Alternate Depth	Rtg.	2 way time
Eocene	<u>P. tuberculatus</u>	7595	0				7603	0			
	<u>U. N. asperus</u>										
	<u>M. N. asperus</u>										
	<u>L. N. asperus</u>										
	<u>P. asperopolus</u>										
	<u>U. M. diversus</u>										
	<u>M. M. diversus</u>										
	<u>L. M. diversus</u>										
Paleocene	<u>U. L. balmei</u>										
	<u>L. L. balmei</u>	8312	0				8312	0			
	<u>T. longus</u>										
Late Cretaceous	<u>T. lilliei</u>										
	<u>N. senectus</u>										
	<u>C. trip./T.pach.</u>										
	<u>C. distocarin.</u>										
	<u>T. pannosus</u>										
EARLY CRETACEOUS											
PRE-CRETACEOUS											

COMMENTS: Eisenackia crassitabulata Dinoflagellate Zone is present at 8312'; rating (1)

All depths are corrected SWC depths.

- RATINGS: 0; SWC or CORE, EXCELLENT CONFIDENCE, assemblage with zone species of spores, pollen and microplankton.
 1; SWC or CORE, GOOD CONFIDENCE, assemblage with zone species of spores and pollen or microplankton.
 2; SWC or CORE, POOR CONFIDENCE, assemblage with non-diagnostic spores, pollen and/or microplankton.
 3; CUTTINGS, FAIR CONFIDENCE, assemblage with zone species of either spore and pollen or microplankton, or both.
 4; CUTTINGS, NO CONFIDENCE, assemblage with non-diagnostic spores, pollen and/or microplankton.

NOTE: If a sample cannot be assigned to one particular zone, then no entry should be made. Also, if an entry is given a 3 or 4 confidence rating, an alternate depth with a better confidence rating should be entered, if possible.

DATA RECORDED BY: Alan Partridge DATE 28. Feb. 1975.

DATA REVISED BY: _____ DATE _____