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## F A C S I M I L E

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24 April 1995

Our reference: PR95/36

To: Steve Ryan  
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## PROVISIONAL PALYNOLOGICAL REPORT No. 2

The following are initial age datings on the last 7 samples supplied on 20 March 1995.

Sample	Depth Metres	Spore-Pollen Zone (Microplankton Zone)	Comments and Key Species Present
<b>WINDERMERE-1</b>			
Cuttings	720-725	Upper <i>L. balmei</i>	>60% of assemblage interpreted as caved from Oligocene-Miocene. Zone assigned based on presence of <i>Lygistepollenites balmei</i> and <i>Cyathidites gigantis</i> . Possible Pember Mudstone equivalent.
Cuttings	740-745	Indeterminate	Extremely low yield. Presence of <i>Glaphrocysta reticulata</i> , <i>Deflandrea delineata</i> and <i>D. spectosus/medcaffi</i> suggest Pebble Point equivalent.
Cuttings	760-765	<i>L. balmei</i> ( <i>E. crassitabulata</i> )	>75% of assemblage interpreted as caved. Rare dinoflagellates are consistent with Pebble Point Formation.
Cuttings	770-775	( <i>M. druggii</i> )	Low yield assemblage which is mainly caved. Interpreted as top of Cretaceous based on common <i>Manumiella conorata</i> and <i>M. druggii</i> . Spore-pollen not diagnostic.
<b>CASTERTON-2</b>			
Core	1413 (4704'-4706'6")	<i>C. hughesti</i>	Abundant spore-pollen assemblage recovered with only rare algal cysts present (<2%). Zone pick based on frequent presence of <i>Ptilosporites notensis</i> .
Core	1414 (4709'-4711'6")	<i>C. hughesti</i>	Abundant spore-pollen with rare <i>P. notensis</i> .
Core	1416 (4714'-4716'6")	<i>C. hughesti</i>	Abundant spore-pollen rare algal cysts (<2%) with rare <i>P. notensis</i> .

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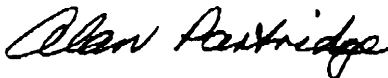
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### PROVISIONAL PALYNOLOGICAL REPORT No. 2

**Discussion:** The cuttings samples from Windermere-1 are difficult to interpret as they are all dominated by caved palynomorphs. The samples seem to show a sequence from probable Pember Mudstone at 720-25m through Pebble Point to probable K/T boundary shale at 770-75m. The results however conflict with original analysis of Windermere-1 by Morgan (1987) which places top of Cretaceous and *M. druggii* Zone assemblage as high as 719m in a sidewall core. If these new results on cuttings are accepted the sidewall core data has to be rejected.

The three core samples from Casterton-2 all gave Aptian *C. hughesti* Zone ages which is consistent with the lower Eumeralla Formation. The zone base is picked on occurrence of *Pilosporites notensis* following recent reports of Roger Morgan.



Alan D. Partridge