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TARWIN MEADOWS-1

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27 October 1981

Mr. D.J.French,
Bell, Cochrane & Associates Pty Ltd,
44 Chetwynd Street,
WEST MELBOURNE VIC 3003

Dear Mr French,

Please find enclosed my report on the six samples submitted for palynological examination and age determination early this month (no covering letter).

In comparison with the previous batch this set has yielded relatively good results. Even the outcrop sample, HH-7, contained a well preserved, although not very diverse microflora.

I have not included species lists for each sample, but am keeping in my laboratory permanent slides of each preparation and a record of the locations thereon of specimens and species sighted which are available for further study or comparisons as necessary.

Yours sincerely,

P.R. Evans

TABLE 1

AGE		DETTMANN (1963)	EVANS (1966)	BURGER (1973, 1980)
ALB		C.paradoxa	K2	C.paradoxa
APT		D.speciosus C.striatus	Kld	C.striatus
		C.hughesi	Klb-c	O.dubius
NEOCOM		C.stylosus	Kla	M.florida F.assymetricus / F.wonthaggiensis / C.australiensis
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NOTE

Although the relative positions of the zonal scales are well defined, the relationship of the zones to the time scale are not so accurately fixed. The Aptian/Albian boundary is satisfactorily fixed by information from the marine of the Great Artesian Basin. Subdivisions of the Neocomian (which represents a major time interval) have not yet been satisfactorily assigned to the micro-floral scales.

PALYNOLOGICAL REPORT ON SIX SAMPLES FROM THE STREZELECKI GROUP, GIPPSLAND BASIN

GENERAL

Six samples of core, cuttings and outcrop from the Strezelecki Group, Gippsland Basin were received early in October from Bell, Cochrane & Associates Pty Ltd for palynological age determination.

RESULTS

All six samples proved to contain relatively abundant and well preserved microfloras, the nature of which permits assignment of the samples to the following Early Cretaceous zones.

SAMPLE			ZONE
(Tarwin Meadows No 1)			
TM-1	Core	1600'	*?Dictyotosporites speciosus*
"	"	2565'	*Foraminisporis assymetricus*
"	"	2574'	" "
"	Cutt.	2930-34'	" "
"	"	3400-30'	" "
HH-7 (Harmers Haven)	Outcrop		*Crybelosporites stylosus* or *Cyclosporites hughesi*

The relative ages of these zones are expressed in the attached table.

COMMENT

No standard zonation of the Australian Lower Cretaceous based on microfloral content has yet come into being. Two basic schemes are used.

The scheme that has been widely applied to the Lower Cretaceous of Victoria is that established by Dettmann (1963) and Playford & Dettmann (1969) in which three zones, the *stylosus*, *speciosus* and *paradoxa* were recognized. The *speciosus* Zone was divided into two subzones, *C. hughesi* and *C. striatus*. Douglas further

...2

divided the *C. hughesi* Subzone into three units (Douglas, 1976).

The second major scheme was instituted by Evans (1966) and elaborated by Burger (1973, 1980), who, from studies of the Surat Basin, identified the *M. florida* and *O. dubius* Zones below the *C. striatus* Zone. Burger divided the *M. florida* Zone into the *C. australiensis*, *F. wonthaggiensis* and *F. assymetricus* Subzones.

Allocation of a sample to one of these divisions depends on the content of the component assemblage. Hence the varied designations applied to the samples examined.

The yield from TM-1 core 1600' was insufficiently diverse to be dated more precisely than Early Cretaceous ?*D. speciosus* Zone and hence does little to place a precise upper limit on the age of the well sequence.

The yields from TM-1 core 2565' and 2574' were definitive in that rare specimens of key species were identified.

For TM-1 cuttings 2930' and 3400' the assigned age of the *F. assymetricus* Zone must be regarded as their upper limit; the sa'ples could be older. None of the few critical species which could define an older zone in cuttings were observed.

The outcrop sample HH-7 was very coaly. Unlike the batch of samples previously examined (Report 21 Sep 81), HH-7 withstood considerable oxidation and yielded a remarkably well preserved, although not diverse assemblage.

...3

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P.R. Evans
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