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PALYNOLOGICAL REPORT ON SAMPLES FROM THE ANGAHOOK 85, BOONAH 12 & BOONAH 13 BORES, VICTORIA

by

V Archer

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CONTENTS

ABSTRACT

The samples studied are from the Angahook 85, Boonah 12 & Boonah 13 bores. These onshore bores are located on the Torquay Embayment at the eastern end of the Otway Basin, Victoria.

One sample from each bore was examined for Palynological dating. The sample from Boonah 12 at 5.05 - 5.1m and Boonah 13 at 14.90m lie within the Eastern View Coal Measures. The spore pollen assemblages for these samples indicate an age of Late Paleocene (Upper L. balmei Zone). The Angahook 85 sample at 20.36 - 20.4m, from the Demon's Bluff Formation, contains a spore pollen assemblage of Late Eocene - early Oligocene (Upper N. asperus Zone).

The samples were submitted by A M Cooney of the Engineering Geology Section, Geological Survey.

RESULTS

SAMPLE	TYPE	DEPTH(m)	CONFIDENCE RATING	SPORE-POLLEN ZONE (STOVER & PARTRIDGE '73)	AGE
Angahook 85	core	20.36-20.4	1	Upper N. asperus Zone	Late Eocene - Early Oligocene
Boonah 12	core	5.05 - 5.1	1	Upper L. balmei Zone	Late Paleocene
Boonah 13	core	14.9	1	Upper L. balmei Zone	Late Paleocene

COMMENTS

Microplankton are of rare occurrence in the Angahook 85 sample and suggest a restricted marine environment. Based on an absence of index species for the Middle N. asperus Zone and the P. tuberculatus Zone, and on the presence of Proteacidites rectomarginus (relatively common), P. stipplatus and S. barungensis, and age of Upper N. asperus Zone (Late Eocene - Early Oligocene) is indicated.

The samples from Boonah 12 and Boonah 13 contain spore pollen assemblages of Upper L. balmei Zone (Late Paleocene age). (Species include) Lygistepollenites balmei, Proteacidites grandis, P. leightonii, P. annularis, Malvacipollis subtilis, Gambierina rudata and G. edwardsii.

Reworked Cretaceous species are present in the Boonah 12 and Boonah 13 samples, and the Permian species Parasaccites gondwanensis occurs in the Boonah 12 sample.

The zonation scheme used is that of Stover and Partridge 1973 in Proc. R. Soc. Vic., Vol. 85 Pt 2 : pp 237 - 286.

CONFIDENCE RATINGS - DEFINITIONS

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.

SPECIES LIST. 1983/75

Well Name: Angahook 85 / Boonah 12 / Boonah 13 — Basin: ______ — Sheet No. ___ of ___

PALYNOMORPHS / DEPTHS (m)	Angahook 85 2036-2044	Boonah 12 5.05-5.1	Boonah 13 14.90
SAMPLE TYPE *			
A. myriosporites			
A. qualumis	/		
A. arctus			
A. australis			
A. genialis			
B. disconformis			
B. arcuatus			
B. elongatus			
B. minimus			
B. elegansiformis			
B. trigonalis			
B. verrucosus			
B. emarciatus			
C. bastornensis			
C. chenopodiaceoides			
C. orthoteichus	/		
C. paleospora			
C. porospora			
C. annulata			
C. splendens		/	
C. subtilis			
Cyperaceae sp.			
D. australiensis	/		
D. simplex			
D. granulatus		/	
D. tuberculatus			
D. largellus			
D. tholus			
E. notensis			
E. crassiexinus			
E. scabratus			
F. balteus			
F. crater	cf		
F. lacunosus			
F. palaequetrus			
G. calathus			
G. major			
G. bassensis			
G. nebulosus			
Gueltardidites sp.			
H. angulosus			
H. haloragoides			
H. harrisii	/	/	
H. elliottii			
I. anguloclavatus	/		
I. irregularis			
K. waterbolkii			
L. crassus			
L. florinii	/		
M. grandis			
M. subtilis			/
M. robustus			
M. spinysporis			
M. antarcticus		/	/
M. homeopunctatus	/		
M. hypolaenoides			
Monoporites sp.			
M. uvatus			
M. waitakiensis			
M. eucalyptoides convexus			
M. eucalyptoides orthos			
N. parvus/mesonesus	/		
N. verrucosus			
N. asperus	/		
N. brachyspinulosus			
N. deminuta	/		
N. emarcidus/heterus	/	/	
N. falcatus	/		
N. flemingii	/		
N. senectus	/		

*C = core; S = sidewall core; T = cuttings

Well Name ______ Basin ______ Sheet No. ___ of ___

SAMPLE TYPE * / DEPTHS / PALYNOMORPHS			
N. vansteenisii			
P. ochesis			
P. catastus			
P. polyoratus		/	
P. vesicus			/
P. densus			
P. velosus	/		
P. mawsonii			/
P. palaeogenicus			/
P. nanus	/	/	/
P. ostentatus			
P. microsaccatus			/
P. esobalteus			
P. simplex			
P. tumulatus			
P. adenanthoides (Prot.)			
P. annularis	/	/	/
P. crassus			
P. obscurus		/	
P. pleemelus			
P. pseudomoides	/		
P. recavus			
P. rectomarginis	/		
P. reflexus			
P. stipplatus	/		
P. tenuiexinus			
P. truncatus			
P. tuberculatus			
P. micus			
R. escharus			
R. minisporus			
R. mallatus			
R. micraulaxus	/		
S. cainozoicus			
S. rotundus			
S. oblatus			
S. (Tripunct.) punctatus			/
S. austelius			
T. palyinus			
T. phillipsii (C3)			
T. simatus			
T. thomasii			
T. adelaidensis	/		
T. geranioides			
T. leuros	/		
T. paucistriatus			
T. retequetrus			
T. scabratus			
T. sphaerica	/		
T. magnificus (P3)			
T. renaceomuricedes			
T. ambiguus			
T. bellus			
T. chnosus			
T. scabratus			
T. antipodica			
V. alienus			
V. attinatus			
V. cristatus			
V. kopukuensis	/		
M. ornamentalis	/		
P. demarcatus	/		
Quintinia sp			
P. cumulus	cf		
B. braunii	?	/	
L. austroclavatidites			
C. gigantis		/	
D. complex		/	
C. cicatricosites		/	
S. antiquasporites		/	/

* C= core; S= sidewall core, T= cuttings

Well Name ______ Basin ______ Sheet No. ___ of ___

SAMPLE TYPE* / DEPTHS / PALYNOMORPHS			
P. leightonii		/	
A. similis		R/W	
I. gremius		/	
C. ohaensis		/	
G. rudata		/	/
C. triplex		/	
P. grandis		/	
T. gillis		/	
L. balmei		/	/
C. australis		R/W	
C. bullatus		/	/
P. langstonii		/	
P. angulatus		cf.	
Phyll. verrucosus		/	/
P. reticuloscabratus		/	
Polypod. obscurus		/	
P. minimum		CF	CA
P. gondwanensis		R/W	
L. crassus			/
B. spectabilis			R/W
R. radiatus			/
C. ludbrooki			R/W
D. wellmanii			/
S. meridianus			/
G. edwardsii			/
P. amplosexinus			cf
A. obscurus			/
C. equalis			/
P. latrobensis			/
Microplankton			
Cleistosphaeridium sp.	/		
Cyclonephelium sp.	/		

*C = core; S = sidewall core; T = cuttings