

6.5 Palynology

PE990144

6.5.1 Introduction

Some 15 sidewall cores were prepared for palynological examination. The s.w.c. at 5,500 ft. was rich in sporomorphs, whilst at 5,739 ft. the sample was virtually barren. All others contained a low ratio of sporomorphs. All residues except s.w.c. 5,500 ft. contained an excess of dense black carbonaceous material.

Age determinations were mostly based on the zonation established by Dettmann and Playford 1969.

6.5.2 S.W.C. 4478 ft. L224Sporomorphs

Aequitriradites spinulosus C & D.
 Baculatisporites comaumensis Pot.
 Ceratosporites equalis C & D.
 Deltoidospora minor Miner
 Ginkgocycadophytus sp.
 Geicheniidites cf. G. cercinidites Ckn.
 ?Kraeuselisporites majus Dtmn.
 ?Leptolepidites major Couper
 Lycopodiumsporites austroclavatidites Pot.
 ?Osmundacidites wellmanii Couper
 ?Pilososporites parvisphinosus Dtmn.
 Proteacidites spp.
 Tricolporites sp.

Microplankton

Hystrichosphaeridium sp.
 Spiniferites furcata

Age

Sporomorphs and microplankton present are all long ranging.
 Not younger than Paleocene.

6.5.3 S.W.C. 5029 ft. L225Sporomorphs

Ceratosporites equalis C & D.
 Deltoidospora minor Miner
 Foraminisporis wonthaggiensis Dtmn.
 Ginkgocycadophytus nitidus de J.
 Geicheniidites cf. G. cercinidites Ckn.
 Klukisporites sp.
 Lycopodiumsporites sp.
 Proteacidites sp.
 Stereisorites antiquasporites Dtmn.

Microplankton

Deflandrea porifera
 Hystrichosphaeridium cf. simplex
 Micrhystridium sp.
 Odontochitina porifera

Age

Probably Turonian, certainly no younger than Maastrichtian.

6.5.4 S.W.C. 5065 ft. L226

Sporomorphs

Deltoidospora minor Miner
Gleicheniidites cf. G. cercinidites Ckn.
Klukisporites sp.
?Laevigatosporites ovatus W & W.
Microcachyridites antarcticus Ckn.
Reticulatisporites pudens Balme
Stereisporites antiquasporites Dtmn.
Triorites sp.

Age

No indication of age can be inferred from the sporomorphs present.

6.5.5 S.W.C. 5080 ft. L227

Sporomorphs

Cicatricosisporites sp.
Deltoidospora minor Miner
Gleicheniidites cf. G. cercinidites Ckn.
?Osmundacidites wellmanii Couper
Stereisporites antiquasporites Dtmn.

Age

Coniacian - Albian.

6.5.6 S.W.C. 5268 ft. L228

Sporomorphs

?Baculatisporites comaumensis Pot.
Cicatricosisporites australiensis Pot.
Deltoidospora minor Miner
Gleicheniidites cf. G. cercinidites Ckn.
Inaperturopollenites australis Pocock
Lycopodiumsporites austroclavatidites Pot.
Stereisporites antiquasporites Dtmn.

Age

Not younger than Coniacian.

6.5.7 S.W.C. 5291 ft. L229

Sporomorphs

Baculatisporites comaumensis Pot.
Contignisporites cooksonii Dtmn.
Deltoidospora australis Miner
D. minor Miner
Foraminisporis asymmetricus Dtmn.
Ginkgocycadophytus nitidus de J.
Gleicheniidites cf. G. cercinidites Ckn.
Klukisporites scaberis Dtmn.
?Kraeuselisporites majus Dtmn.
Lycopodiumsporites austroclavatidites Pot.
Microcachyridites antarcticus Ckn.
Osmundacidites wellmanii Couper
Podocarpidites cf. ellipticus Ckn.
Stereisporites antiquasporites Dtmn.

6.5.3 S.W.C. 5307 ft. L230

Sporomorphs

Alisporites similis Dtmn.
?Ceratosporites equalis C & D.
Deltoidospora australis Miner
D. minor Miner
Ginkgocycadophytus nitidus de J.
Gleicheniidites cf. G. cercinidites Ckn.
Lycopodiumsporites austroclavatidites Pot.
Stereisporites antiquasporites Dtmn.

Age

Probably not younger than Albian.

6.5.9 S.W.C. 5328 ft. L233

Sporomorphs

Alisporites similis Dtmn.
Baculatisporites comaumensis Pot.
?Cingutriletes clavus Dtmn.
Deltoidospora australis Miner
D. minor Miner
Ginkgocycadophytus nitidus de J.
Gleicheniidites cf. G. cercinidites Ckn.
Laevigatosporites ovatus W & W.
Lycopodiacidites asperatus Dtmn.
Lycopodiumsporites austroclavatidites Pot.
Microcachyridites antarcticus Ckn.
Podocarpidites cf. ellipticus Ckn.

Microplankton

Baltisphaeridium pseudodinium
Callaiosphaeridium asymmetricum
Muderongia cf. mcwhaei

Age

Barremian - Hauterivian.

6.5.10 S.W.C. 5346 ft. L234

Sporomorphs

Aequitriradites sp. 1
" sp. 2
Alisporites similis Dtmn.
Baculatisporites comaumensis Pot.
Cicatricosisporites australiensis Pot.
C. pseudotripartitus Dtmn.
Cingutriletes clavus Dtmn.
Deltoidospora minor Miner
Disaccites sp.
Gleicheniidites cf. G. cercinidites Ckn.
Inaperturopollenites australia Pocock
Lycopodiumsporites austroclavatidites Pot.
Mattesisporites tumulosus Dor.
Microcachyridites antarcticus Ckn.
?Neoraistrickia truncatus Pot.
Proteacidites sp.
Stereisporites antiquasporites Dtmn.
Todisporites sp.

Microplankton

Baltisphaeridium armatum
Cyclonephalium distinctum

Age

Lower Cretaceous (not younger than Albian).

6.5.11 S.W.C. 5361 ft. L231

Sporomorphs

Baculatisporites comaumensis Pot.
Cicatricosisporites australiensis Pot.
Cingutritetes clavus Dtmn.
Classopollis cf. classoides Dtmn.
Deltoidospora australis Miner
D. minor Miner
Ginkgocycadophytus nitidus de J.
Laevigatosporites ovatus W & W.
Matthesisporites tumulosus Dor.
Microcachyridites antarcticus Ckn.
Osmundacidites wellmanii Couper
Stereisporites antiquasporites Dtmn.

Age

Lower Cretaceous (not younger than Albian).

6.5.12 S.W.C. 5500 ft. L192

Sporomorphs

?Acanthotritetes levidensis Balme
Alisporites grandis Dtmn.
Baculatisporites comaumensis Pot.
?Ceratosporites equalis C & D.
Cicatricosisporites australiensis Pot.
Cingutritetes clavus Dtmn.
?Cycadopites carpentieri Del. & Spr.
cf. Cycadopites sp.
?Deltoidospora australis Miner
D. minor Miner
Dictyotosporites speciosus C & D.
Disaccites sp.
Foraminisporis asymmetricus Dtmn.
?Fwonthaggiensis Dtmn.
Ginkgocycadophytus nitidus de J.
Gleicheniidites cf. G. cercinidites Ckn.
Inaperturopollenites australis Pocock
?Laevigatosporites ovatus W & W
?Lycopodiacidites asperatus Dtmn.
Lycopodiumsporites austroclavatidites Pot.
Microcachyridites antarcticus Ckn.
?Podocarpidites cf. ellipticus Ckn.
Podosporites microsaccatus Dtmn.
?Proteacidites sp.
?Schizosporis parvus C & D.
aff. Sestrosporites pseudoalveolatus Dtmn.
Spheripollenites psilatus Couper
Stereisporites antiquasporites Dtmn.
?Tricolpites pachyexinus Couper
?T. pannosus D & P.
T. sp.
Trilobosporites sp.

Age

Lower Cretaceous.

6.5.13 S.W.C. 5549 ft. L193

Sporomorphs

Baculatisporites comaumensis Pot.
?Ceratosporites equalis C & D.
Cicatricosisporites australiensis Pot.
?Cingutriletes clavus Dtmn.
Contignisporites sp.
Cycadopites sp.
Deltoidospora minor Miner
Dictyotosporites filiosus Dtmn.
Speciosus C & D.
Foraminisporis wonthaggiensis
Inaperturopollenites australis Pocock
?Krauseliasporites majus Dtmn.
Lydopodiumsporites austroclavatidites Pot.
Microcachyridites antarcticus Ckn.
Podocarpidites cf. ellipticus Ckn.
Stereisporites antiquasporites Dtmn.

Age

Lower Cretaceous.

6.5.14 S.W.C. 5680 ft. L194

Sporomorphs

Baculatisporites comaumensis Pot.
?Camarozonosporites bullatus Harris
Cingutriletes clavus Dtmn.
Deltoidospora australis Miner
D. minor Miner
Dictyotosporites speciosus C & D.
Foraminisporis wonthaggiensis Dtmn.
Ginkgocycadophytus nitidus de J.
Gleicheniidites cf. G. cercinidites Ckn.
Inaperturopollenites australis Pocock
?Leptolepidites verrucatus Couper
Cycopodiumsporites austroclavatidites Pot.
Microcachyridites antarcticus Ckn.
Podocarpidites cf. ellipticus Ckn.
Reticulatisporites pudens Balme
Stereisporites antiquasporites Dtmn.

Age

Lower Cretaceous.

6.5.15 S.W.C. 5739 ft. L195

Sporomorph

Gleicheniidites cf. G. cercinidites Ckn.

Age

Sample virtually barren - no indication of age possible.

Sporomorphs

Alisporites grandis Dtmn.
Ceratosporites equalis C & D.
Classopollis cf. classoides Dtmn.
cf. Coronatispora telata Dtmn.
Deltoidospora minor Miner
Foraminisporis wonthaggiensis Dtmn.
Ginkgocycadophytus nitidus de J.
Gleicheniidites cf. G. cercinidites Ckn.
Inaperturopollenites australis Pocock
Lycopodiumsporites austroclavatidites Pot.
Microcachyridites antarcticus Ckn.
?Podocarpidites cf. ellipticus Ckn.
Reticulatisporites pudens Balme
Tsugaepollenites sp.

Age

Lower Cretaceous.

6.5.17 Conclusion

As it has only been possible to examine the limited number of sidewall cores, no general age conclusions can be made.

Age determinations made support accepted ages for the stratigraphic units sampled by sidewall cores.

6.5.18 Reference

Dettmann, M.E. and Playford, G. 1969: Palynology of the Australian Cretaceous - a review. IN: Stratigraphy and palaeontology, Essays in honour of Dorothy Hill (K.S.W. Campbell, Ed.); Chapter 9, 174-210. Aust. Nat. Uni. Press, Canberra.