PALYNOLOGY OF 17 SUBSURFACE AND OUTCROP SAMPLES, FOR THE VICTORIAN GEOLOGICAL SURVEY

ROGER MORGAN

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REF:.OTW.RP17CROP

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CONTENTS **PAGE**

I SUMMARY

Analysis of the samples submitted is compiete as below

Cobboboonee-2
CORE 15 (829-833.5m) : indeterminate : this sample is barren of recognisable palynomorphs but contains abundant inertinite, consistent with deep weathering, unfavourable lithologies or post maturity.

CORE 16 (886.9-891.2m) : upper *diversus* Zone : Early Eocene : marginally marine.

Dartmoor-25
CORE (57-61.4m) : middle *diversus* Zone : Early Eocene : non-marine.

Devondale Road Quarry : 5719600E : indeterminate : only trace inertinite seen.

Glenelg-1
CORE (302m) : *asperopolus* Zone : late Early to early Middle Eocene : marginally marine.

CORE (390m) : upper *diversus* Zone : Early Eocene : marginally marine.

Lavers Hill (south of Sandpit Road) : indeterminate : only trace inertinite seen.

Narrawaturk-6
CORE 10 (630-639.7m) : lower *asperus* Zone (*heterophlycta* dinocyst Zone) : Middle Eocene : very nearshore marine.

CORE (633.2-639.7m) : lower *asperus* Zone (*heterophlycta* dinocyst Zone) : Middle Eocene : marginally marine.

Narrawong-13
CORE 10 (574-580m) : *asperopolus* Zone : late Early to early Middle Eocene : marginally marine.

CORE 12 (686-692m) : *asperopolus* Zone : late Early to early Middle Eocene : marginally marine.

Wanwin-1

CORE 4 (168.9-174.3m) : *asperopolus* Zone : late Early to early Middle Eocene : marginally marine.

Warrain 7

CORE 3 (215.5-222.75m) : indeterminate . this sample is barren of recognisable palynomorphs but contains abundant inertinite. This is consistent with deep weathering, unfavourable lithologies (eg clean sandstones or volcanics) or post maturity (eg local thermal metamorphism from lava flows).

CORE 4 (252.3-258.35m) : *asperopolus* Zone (*thompsonae* dinocyst Zone) : late Early to early Middle Eocene : nearshore marine.

CORE 7 (343.8-348.15m) : upper *diversus* Zone : Early Eocene : marginally marine.

CORE 8 (398.9m-404.48m) : upper *diversus* Zone : Early Eocene : marginally marine.

Wye River : Beach : indeterminate : abundant fungal debris seen.

The lower *asperus* Zone samples are consistent with the lower Nirranda Sub Group. The *asperopolus* and upper *diversus* Zone samples are consistent with the Burrungule Member and the immediately underlying Dilwyn Formation. The middle *diversus* Zone sample is consistent with the Dilwyn Formation underlying the Burrungule Member.

II INTRODUCTION

Greg Parker, geologist with the Basin Studies Group, submitted seventeen samples for palynology. These were related to two projects. Fourteen were from subsurface Otway Basin sections checking subsurface mapping by Charles Abele, focussing particularly on the Eocene Burrungule Member. Three were from outcrop locations to check age dating.

Palynomorph occurrence data are included as Appendix I and justify the zonal assignments. The Tertiary spore-pollen zonation is essentially as summarised by Partridge (1976), drawing on the work of Stover and Evans (1973) and Stover and Partridge (1973) and is summarised in Figure 1.

All samples are immature for hydrocarbons.

5(a)

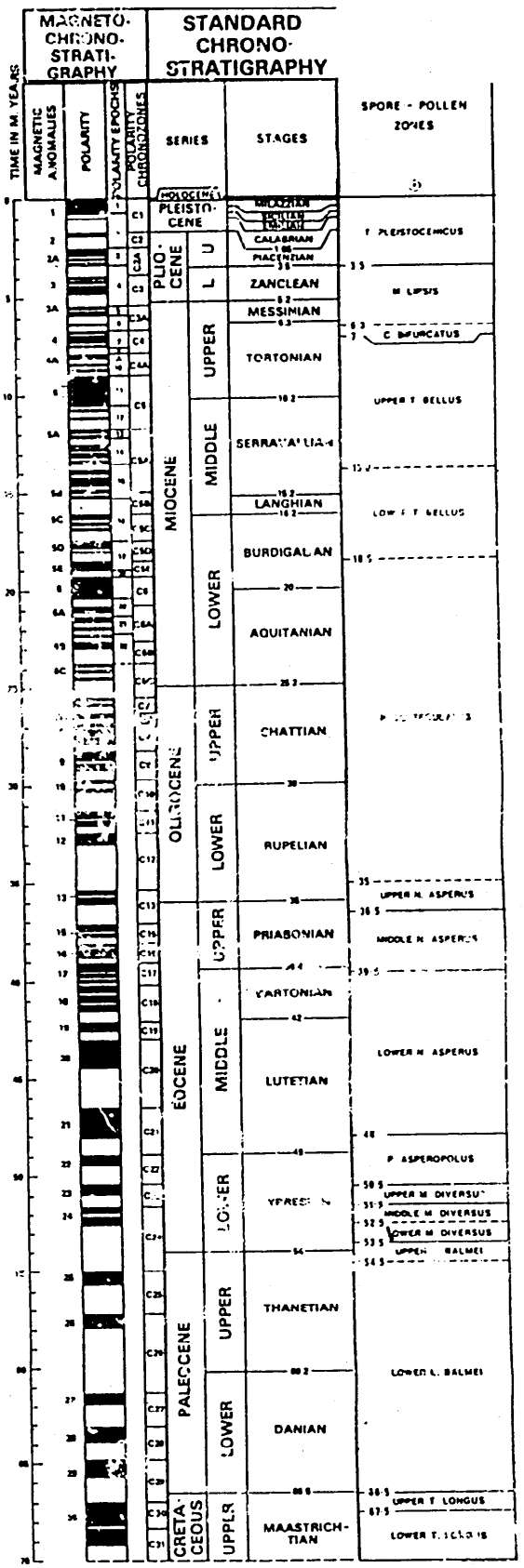

FIGURE 1 ZONAL FRAMEWORK

III PALYNOSTRATIGRAPHY

A Cobboboonee-2

1 : CORE 15 (829-833.5m)
This sample is barren of recognizable palynomorphs, but contains abundant inertinite. This is consistent with deep weathering destroying the palynomorphs, unfavourable lithologies sorting or oxidising out the palynomorphs, or post maturity caused by proximity to lava flows.

2 : CORE 16 (886.9-891.2m) : upper *diversus* Zone
Assignment to the upper *Malvacipollis diversus* Zone of Early Eocene age is indicated at the top by the absence of younger indicators and at the base by oldest *Proteacidites pachypolus*. Oldest *Triorites ambiguus*, *Anacolosidites acutullus* and youngest *Intratriporopollenites notabilis*, *Proteacidites ornatus* and *Spinozonocolpites prominatus* are consistent. *Haloragacidites harrisii* is common and *Malvacipollis subtilis* and *Proteacidites* spp are frequent.

Amongst the rare dinoflagellates, *Homotriblium tasmaniense* is consistent as it is restricted to the upper *diversus* to lower *asperopolus* spore-pollen zones.

Environments are very nearshore marine as shown by the abundant cuticle, totally dominant and diverse spore-pollen, and low content and diversity dinoflagellates.

This assemblage usually occurs in the lower Burrungule Member and immediately underlying Dilwyn Formation.

B Dartmoor-25

CORE (57-61.4m) : middle *diversus* Zone
Assignment to the middle *M. diversus* Zone of Early Eocene age is indicated at the top by the absence of younger indicators and at the base by oldest *Proteacidites kopiensis*, *P. tuberculiformis* and *P. ornatus*. Frequent taxa include *Cyathidites*, *Ericipites scabratus*, *H. harrisii* and *Proteacidites*. Minor Cretaceous reworking was noted.

Abundant and diverse spore-pollen, abundant cuticle and the total absence of dinoflagellates indicate non-marine environments.

This assemblage usually occurs in the Dilwyn Formation underlying the Burrungule Member.

C Devondale Road Quarry 5719600E : indeterminate

This sample was almost totally barren with only a trace of inertinite seen. This is consistent with deep weathering.

D Glenelg-1

1 : CORE (302m.) : *asperopolus* Zone
Assignment to the *Proteacidites asperopolus* Zone of late Early to early Middle Eocene age is indicated at the top by youngest *Myrtaceidites tenuis*, *I. notabilis* and *P. ornatus*, and at the base by oldest *Proteacidites asperopolus*. The most common taxon is *Proteacidites*, with *M. subtilis* and *H. harrisii* frequent. Rare but consistent are *P. asperopolus* and *P. pachypolus*. The very rare dinoflagellates are not age significant.

Marginally marine environments are indicated by the abundant and diverse spores and pollen and extremely rare low diversity dinoflagellates.

This assemblage is consistent with the Burrungule Member of the Dilwyn Formation.

2 : CORE (390m) : upper *diversus* Zone
Assignment to the upper *M. diversus* Zone of Early Eocene age is indicated at the top by the absence of younger markers and at the base by oldest *P. pachypolus* and *M. tenuis*. Other species consistent with this assignment include *A. acutullus*, *Polycolpites esobalteus*, *P. ornatus* and *P. tuberculiformis*.

Amongst the rare dinoflagellates, *H. tasmaniense* is consistent as it is usually restricted to the upper *diversus* and lower *asperopolus* spore-pollen zones. *Deflandrea obliquipes* and *D. pachyceros* are also present and Early Eocene restricted.

Marginal marine environments are indicated by the common and diverse spores and pollen, abundant cuticle, and rare low diversity dinoflagellates.

This assemblage usually occurs in the lower Burrungule Member and the underlying Dilwyn Formation.

E Lavers Hill (south of Sandpit Road) : indeterminate

This sample was almost totally barren with only a trace of inertinite seen. This is consistent with deep weathering.

F Narrawaturk-6

CORE : 10 (630-639.7m) and CORE (633.2-639.7m) : lower *asperus* Zone
Assignment to the lower *Nothofagidites asperus* Zone is indicated at the base by oldest *Nothofagidites* spp especially *N. deminutus* and *N. falcatus*, and confirmed by the dinoflagellates. At the top, the absence of younger indicators plus very rare *Proteacidites reticulatus* indicates the assignment, and is confirmed by the dinoflagellates. Youngest *P. leightoni*, *P. pachypolus* and *T. ambiguus* confirm a middle *asperus* or older zone.

Amongst the dinoflagellates, the presence of *Deflandrea heterophlycta*, *Achilleodinium biformoides* and *Areosphaeridium australicum* indicates assignment to the *heterophlycta* dinoflagellate zone, correlative of the lower *asperus* spore-pollen zone.

Marginally marine environments are indicated by the abundant and diverse spores and pollen, abundant cuticle and very rare low diversity dinoflagellates.

These features are consistent with the Mepunga Formation.

G Narrawong-13

CORE : 10 (574-580m) and CORE 12 (686-692m) : *asperopolus* Zone
Assignment to the *P. asperopolus* Zone of late Early to early Middle Eocene age is indicated at the top on youngest *M. tenuis*, *I. notabilis* and *P. ornatus* and at the base on oldest *P. asperopolus*. The most common taxon is *H. harrisii* with frequent *M. subtilis* and *Proteacidites* and consistent *P. pachypolus*. The extremely rare dinoflagellates include *D. obliquipes* and *D. pachyceros*, indicating Early Eocene ages. Rare Permian reworking was noted.

Marginally marine environments are indicated by the abundant and diverse spores and pollen and extremely rare very low diversity dinoflagellates.

This assemblage is consistent with the Burrungule Member of the Dilwyn Formation.

H Wanwin-1

CORE 4 (168.9-174.3m) : *asperopolus* Zone
Assignment to the *P. asperopolus* Zone of latest Early to early Middle Eocene age is indicated by oldest *P. asperopolus* at the base and youngest *M. tenuis*, *I. notabilis* and *P. ornatus* at the top. Other significant taxa include *Kuylisporites waterbolkii*, *P. tuberculiformis*, *S. cainozoicus* and *T. ambiguus*.

Amongst the very rare dinoflagellates, *H. tasmaniense* is consistent, being restricted to the upper *diversus* and lower *asperopolus* spore-pollen zones. *A. biformoides* is also present.

Marginally marine environments are indicated by the abundant and diverse spores and pollen, abundant cuticle and extremely rare low diversity dinoflagellates.

These features are consistent with the Burrungule Member of the Dilwyn Formation.

I Warrain 7

1 : CORE 3 (215.5-222.75m) : indeterminate
This sample was almost totally barren with only a trace of inertinite seen. This is consistent with deep weathering, unfavourable lithofacies (eg clean sandstones or volcanics), or high maturity (eg local metamorphism due to nearby lava flows).

2 : CORE 4 (252.3-258.35m) : *asperopolus* Zone
Assignment to the *P. asperopolus* Zone of Late Early to early Mid Eocene age is indicated at the top by youngest *I. notabilis*, *S. prominatus* and *P. ornatus* and at the base by oldest *P. asperopolus*. *H harrisii* is common with frequent *Dilwynites granulatus*, *M. subtilis* and *Proteacidites*. Other significant taxa include *A. acutullus*, *P. tuberculiformis* and *T. ambiguus*.

Amongst the dinoflagellates, the presence of *Kisselovia thompsonae* indicates the *K. thompsonae* dinoflagellate zone, correlative with the basal *asperopolus* spore-pollen zone. The common presence of *H. tasmaniense* and the rare presence of *D. obliquipes* and *D. pachyceros* are consistent with this assignment.

A nearshore marine environment is indicated by the common and diverse spores and pollen mixed with common (20%) dinoflagellates of moderate diversity.

These features are consistent with the Burrungule Member of the Dilwyn Formation.

3 : CORE 7 (343.8-348.15m) and CORE 8 (398.9-404.48m) : upper *diversus* Zone

Assignment to the upper *M. diversus* Zone of Early Eocene age is indicated at the top by the absence of younger markers and at the base by oldest *M. tenuis* and *P. pachypolus*. Other significant taxa include *A. acutullus*, *I. notabilis*, *P. ornatus* and *T. ambiguus*. *H harrisii* is common, with *Proteacidites* frequent.

Amongst the dinoflagellates, *D. pachyceros* occurs at 343.8-348.15m and indicates a general Early Eocene age.

Marginally marine environments are indicated by the abundant and diverse spore-pollen and rare (1%) low diversity dinoflagellates.

These features are consistent with the lower Burrungule Member and the underlying Dilwyn Formation.

J Wye River

Beach : indeterminate

This sample yielded well, but contained only abundant fungal debris suggesting Recent weathering and fungal growth in the sediment. Age diagnostic taxa were not seen.

V REFERENCES

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Stover LE and Evans PR (1974) Upper Cretaceous Eocene spore-pollen zonation, offshore Gippsland Basin, Australia **Spec Publs Geol Soc Aust 4** 55-72 (imprint 1973)

Stover LE and Partridge AD (1973) Tertiary and Late Cretaceous spores and pollen from the Gippsland Basin, Southeastern Australia **Proc R Soc Vict 85**, 237-286

11(a)

VICTORIAN GEOLOGICAL SURVEY SAMPLES

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C L I E N T: VICTORIAN GEOLOGICAL SURVEY (GREG PARKER)
W E L L: VARIOUS LOCATIONS
F I E L D / A R E A:

A N A L Y S T: ROGER MORGAN D A T E : AUGUST 1993

N O T E S: ALL DEPTHS IN METRES ... "?" = questionably present

"C" = common.....11 - 30%
"F" = frequent... 4 - 10%
"R" = rare..... 1 - 3%
"X" = very rare..<1%

RANGE CHART OF OCCURRENCES BY ALPHBETICAL - within group -

11(b)

COBBOONEE#2
829-833.5CR15
886.9-891.2CR
DARTMOOR#25
57-61.4CORE
DEVONDALE RD
5719600E
GLENELG#1
302.0CORE
390.0CORE
LAVERS HILL
SANDPIT ROAD
NARRAWONG#13
574-580 CR10
686-692 CR12
NARRAWATURK#6
630-639.7CORE
633.2-639.7CR
WARRAIN#7
215.5-222.75
252.3-258.35
343.8-348.15
398.9-404.48
WANWIN#1
168.9-174.3
WYE RIVER
BEACH

1 BOTRYOCOCCUS
2 ACHILLEODINIUM BIFORMOIDES
3 ACHOMOSPHAERA ALCICORNU
4 ACHOMOSPHAERA RAMULIFERA
5 ADNATOSPHAERIDIUM RETICULENSE
6 APECTODINIUM HOMOMORPHA
7 AREOSPHAERIDIUM AUSTRALICUM
8 AREOSPHAERIDIUM MULTISPINOSUM
9 BALTISPHAERIDIUMNANUM
10 CASSIDIUM FRAGILE
11 CEREBROCYSTA SP
12 CHIROPTERIDIUM ASPINATUM
13 CLEISTOSPHAERIDIUM SP
14 CORDOSPHAERIDIUM INODES
15 CYCLOPSIELLA VIETA
16 DEFLANDREA HETEROPHLYCTA
17 DEFLANDREA OBLIQUIPES
18 DEFLANDREA PACHYCEROS
19 DEFLANDREA TRUNCATA
20 FIBROCYSTA SP
21 FIBROCYSTA VECTENSE
22 GLAPHYROCYSTA SP
23 GLAPHYROCYSTA VICINUM
24 HAFNIASPHAERA SEPTATA
25 HAFNIASPHAERA SP
26 HEMICYSTODINIUM ZOHARYI
27 HOMOTRYBLIUM ABEREVIATUM
28 HOMOTRYBLIUM TASMANIENSE
29 HYSTRICHOKOLPOMA EISENACKI
30 HYSTRICHOSPHAERIDIUM TUBIFERUM
31 IMPAGIDINIUM SP
32 IMPAGIDINIUM VICTORIANUM
33 KISSELOVIA SP
34 KISSELOVIA THOMPSONAE
35 LINGULODINIUM MACHAEROPHORUM
36 OPERCULODINIUM CENTROCARPUM
37 OPERCULODINIUM SP
38 PTEROSPERMELLA AUSTRALIENSIS
39 SPINIDINIUM ESSOI
40 SPINIFERITES RAMOSUS
41 SYSTEMATOPHORA PLACACANTHA
42 TECTATODINIUM SF
43 TRICHODINIUM HIRSUTUM
44 WETZELIELLA ARTICULATA
45 AEQUITRIRADITES SPINULOSUS
46 AMACOLOSIDITES ACUTULLUS
47 ARAUCARIACITES AUSTRALIS
48 AUSTRALOPOLLIS OBSCURUS
49 BEAUPREAIDITES TRIGONALIS
50 BEAUPREAIDITES VERRUCOSUS
51 CICATRICOSISPORITES AUSTRALIENSIS
52 CINGUTRILETES CLAVUS
53 CLAVIFERA TRIPLEX
54 COPTOSPORA PARADOXA
55 CUPANIEIDITES ORTHOTEICHUS
56 CYATHIDITES
57 CYATHIDITES GIGANTIS
58 CYATHIDITES SPP

11(c)

No.	Species	COBBOONEE#2	829-833.5CR15	886.9-891.2CR	DARTMOOR#25	57-61.4CORE	DEVONDALE RD	5719600E	GLENELG#1	302.0CORE	390.0CORE	LAVERS HILL	SANDPIT ROAD	NARRAWONG#13	574-580 CR10	686-692 CR12	NARRAWATURK#6	630-639.7CORE	633.2-639.7CR	WARRAIN#7	215.5-222.75	252.3-258.35	343.8-348.15	398.9-404.48	WANWIN#1	168.9-174.3	WYE RIVER	BEACH
59	DACRYCARPITES AUSTRALIENSIS	.	.		.		.		.	.	X	.		.	.	X	.	X		.	.	.	.		.		.	
60	DILWYNITES GRANULATUS	.	.	X	.	X	.		.	X	X	.		.	.	X	.	X		.	.	F	F	X	.	X	.	
61	DILWYNITES TUBERCULATUS	.	.	X	.		.		.	.		.		.	.	X	.	X		.	.	X	F	X	.	X	.	
62	DRYPTOPOLLENITES SEMILUNATUS	.	.	X	.		.		.	.		.		.	.		.	.		.	.	X	.		.	X	.	
63	ERICIPITES SCABRATUS	.	.	X	.	F	.		.	X	X	.		.	X	X	.	X		.	.	X	X	X	.	X	.	
64	FOVEOTRILETES BAILYI	.	.	X	.		.		.	.		.		.	.		.	.		.	.	.	X		.		.	
65	FOVEOTRILETES SIMILIS	.	.	X	.	X	.		.	.		.		.	.	X	.	X		.	.	X	X	X	.	X	.	
66	GEPHRAPOLLENITES CRANWELLAE	.	.	.	.	X	.		.	.		.		.	.		.	.		.	.	.	.		.		.	
67	GLEICHENIIDITES CIRCINIDITES	.	.	X	.	X	.		.	X	X	.		.	.	X	.	X	F	.	.	X	X	X	.	C	.	
68	HALORAGACIDITES HARRISII	.	.	C	.	F	.		.	F	F	.		.	C	C	.	C	X	.	.	C	C	C	.		.	
69	INTRATRIPOROPOLLENITES NOTABILIS	.	.	X	.	X	.		.	X	X	.		.	.	X	.	.		.	.	X	X	X	.	X	.	
70	INTRATRIPOROPOLLENITES cf NOTABILIS	.	.		.		.		.	.		.		.	X		.	.		.	.	.	.		.		.	
71	KUYLISPORITES WATERBOLKII	.	.		.		.		.	.		.		.	.		.	.	X	.	.	.	.		.	X	.	
72	LAEVIGATOSPORITES OVATUS	.	.	X	.		.		.	X		.		.	.	X	.	X	X	.	.	X	X	X	.	X	.	
73	LYGISTEPOLLENITES FLORINII	.	.	X	.	X	.		.	X	X	.		.	X	X	.	R		.	.	.	X	X	.	X	.	
74	MALVACIPOLLIS DIVERSUS	.	.	X	.	X	.		.	X	X	.		.	X	X	.	.		.	.	X	X		.	X	.	
75	MALVACIPOLLIS GRANDIS	.	.		.		.		.	.		.		.	.		.	.	X	.	.	.	.		.		.	
76	MALVACIPOLLIS PARVUS/MESONESUS	.	.		.		.		.	.		.		.	.		.	.	X	.	.	.	.		.		.	
77	MALVACIPOLLIS SUBTILIS	.	.	F	.	X	.		.	F	F	.		.	F	X	.	R	X	.	.	F	X	X	.	R	.	
78	MICROCACHRYIDITES ANTARCTICUS	.	.		.		.		.	.		.		.	.	X	.	X		.	.	.	X	X	.		.	
79	MYRTACEIDITES TENUIS cf	.	.	X	.		.		.	.		.		.	.		.	.		.	.	.	.		.		.	
80	MYTRACEIDITES PARVUS/MENSONENSIS	.	.		.		.		.	X		.		.	.		.	X	X	.	.	X	X	X	.	X	.	
81	MYTRACEIDITES TENUIS	.	.		.		.		.	X	X	.		.	X	X	.	.		.	.	.	X	X	.	X	.	
82	NOTHOFAGIDITES ASPERUS	.	.		.		.		.	.		.		.	.		.	.	X	.	.	.	.		.		.	
83	NOTHOFAGIDITES BRACHYSPINULOSUS	.	.	X	.		.		.	X		.		.	X	X	.	.	X	.	.	.	X	X	.	X	.	
84	NOTHOFAGIDITES DEMINUTUS	.	.		.		.		.	.		.		.	.		.	X	X	.	.	.	.	X	.		.	
85	NOTHOFAGIDITES EMARCIDUS/HETERUS	.	.	X	.		.		.	X	X	.		.	X	X	.	F	C	.	.	.	X	X	.	X	.	
86	NOTHOFAGIDITES FALCATUS	.	.		.		.		.	.		.		.	.		.	X	F	.	.	.	.		.		.	
87	NOTHOFAGIDITES FLEMINGII	.	.	X	.	X	.		.	X	X	.		.	X	X	.	X	X	.	.	.	X	X	.		.	
88	OSMUNDACIDITES WELLMANII	.	.	X	.	X	.		.	.		.		.	.		.	.		.	.	.	.	X	.	X	.	
89	PERIPOROPOLLENITES DEMARCATUS	.	.	X	.	X	.		.	X	X	.		.	X	X	.	.		.	.	X	X	X	.	X	.	
90	PERIPOROPOLLENITES POLYGRATUS	.	.		.	X	.		.	X		.		.	.	X	.	.	X	.	.	.	.	X	.		.	
91	PERIPOROPOLLENITES VESICUS	.	.		.		.		.	.		.		.	.		.	X		.	.	.	.		.		.	
92	PHYLLOCLADIDITES MAWSONII	.	.		.	X	.		.	.		.		.	.	X	.	R	X	.	.	X	.	X	.	X	.	
93	PILOSISPORITES GRANDIS	.	.		.	X	.		.	.		.		.	.		.	.		.	.	.	.		.		.	
94	PILOSISPORITES NOTENSIS	.	.		.		.		.	.		.		.	X		.	.		.	.	.	.		.		.	
95	PODOSPORITES MICROSACCATUS	.	.		.	X	.		.	.		.		.	X	X	.	X		.	.	.	.	X	.		.	
96	POLYCOLPITES ESOBALTEUS	.	.		.		.		.	.	X	.		.	X		.	.		.	.	.	.		.		.	
97	POLYPODIISPORITES USMENSUS	.	.		.	X	.		.	.		.		.	X		.	.		.	.	.	.		.		.	
98	PROTEACIDITES	.	.	F	.		.		.	.		.		.	F	F	.	.		.	.	F	F		.	F	.	
99	PROTEACIDITES ADENANTHOIDES	.	.		.		.		.	.		.		.	.		.	.	X	.	.	.	X		.		.	
100	PROTEACIDITES ANNULARIS	.	.	X	.		.		.	X	X	.		.	X	X	.	X	X	.	.	X	.		.		.	
101	PROTEACIDITES ASPEROPOLUS	.	.		.		.		.	R		.		.	X	X	.	X		.	.	X	.		.	X	.	
102	PROTEACIDITES ASPEROPOLUS RETIC	.	.	?	.		.		.	.	X	.		.	X	X	.	.		.	.	X	.	[illegible]	.		.	
103	PROTEACIDITES BUN GRANDIS	.	.	X	.	X	.		.	X	X	.		.	.		.	.		.	.	.	.	X	.	X	.	
104	PROTEACIDITES GRANDIS	.	.	X	.	X	.		.	X	X	.		.	X	X	.	.		.	.	X	X	X	.	X	.	
105	PROTEACIDITES INCURVATUS	.	.	X	.	X	.		.	.	X	.		.	X	X	.	X		.	.	X	X	X	.		.	
106	PROTEACIDITES KOPIENSIS	.	.	X	.	X	.		.	X	X	.		.	X	X	.	.		.	.	X	.	[illegible]	.	X	.	
107	PROTEACIDITES LEIGHTONII	.	.		.		.		.	.		.		.	.		.	.	X	.	.	.	X		.		.	
108	PROTEACIDITES OBESOLABRUS	.	.		.		.		.	X		.		.	.		.	.		.	.	.	.		.		.	
109	PROTEACIDITES ORNATUS	.	.	X	.	X	.		.	X	X	.		.	X	X	.	.		.	.	X	X	X	.	X	.	
110	PROTEACIDITES PACHYPOLUS	.	.	X	.		.		.	R	X	.		.	R	X	.	R	X	.	.	X	X	X	.	R	.	
111	PROTEACIDITES PALISADUS	.	.		.		.		.	.		.		.	.		.	.		.	.	.	.		.	X	.	
112	PROTEACIDITES RECAVUS	.	.		.		.		.	X		.		.	.		.	X		.	.	.	.		.		.	
113	PROTEACIDITES RETICULATUS	.	.		.		.		.	.		.		.	.		.	X	X	.	.	.	.		.		.	
114	PROTEACIDITES SCABORATUS	.	.		.		.		.	X		.		.	.		.	.		.	.	.	X		.		.	
115	PROTEACIDITES SPP	.	.		.	F	.		.	C	C	.		.	.		.	F	F	.	.	.	.		.		.	
116	PROTEACIDITES SYMPHEONOMOIDES	.	.		.		.		.	X		.		.	.		.	.		.	.	.	.		.		.	

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No.	Taxon	COBBOONEE#2	829-833.5CR15	886.9-891.2CR	DARTMOOR#25	57-61.4CORE	DEVONDALE RD	5719600E	GLENELG#1	302.0CORE	390.0CORE	LAVERS HILL	SANDPIT ROAD	NARRAWONG#13	574-580 CR10	686-692 CR12	NARRAWATURK#6	630-639.7CORE	633.2-639.7CR	WARRAIN#7	215.5-222.75	252.3-258.35	343.8-348.15	398.9-404.48	WANWIN#1	168.9-174.3	WYE RIVER	BEACH
117	PROTEACIDITES TUBERCULATUS cf	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.
118	PROTEACIDITES TUBERCULIFORMIS	.	.	X	.	X	.	.	.	.	X	.	.	.	X	X	.	.	.	.	.	X	X	.	.	X	.	.
119	RETITRILETES AUSTROCLAVATIDITES	.	.	X	.	.	.	.	.	X	.	.	.	.	X	X	.	.	.	.	.	.	X	X	.	X	.	.
120	SANTALUMIDITES CAINOZOICUS	.	.	.	.	.	.	.	.	X	.	.	.	.	X	.	.	.	X	.	.	.	.	.	.	X	.	.
121	SCHIZOCOLPUS SP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	X	.	.	.	.
122	SPINIZONOCOLPITES PROMINATUS	.	.	X	.	.	.	.	.	.	.	.	.	.	X	.	.	.	.	.	.	X	X	.	.	.	.	.
123	STEREISPORITES ANTIQUISPORITES	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	X	X	.	.	X	X	X	.	.	.	.
124	TETRACOLPORITES OAMARUENSIS	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
125	TRICOLPITES GILLII	.	.	.	.	.	.	.	.	.	.	.	.	.	X	.	.	.	.	.	.	.	.	X	.	.	.	.
126	TRICOLPITES RENMARKENSIS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	?	.	.	.	.	.	.	.	.	.	.
127	TRICOLPITES SIMATUS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	X	.	.	.	.	.	.	.	.	.
128	TRICOLPORITES	.	.	.	.	.	.	.	.	X	X	.	.	.	.	X	.	X	.	.	.	.	X	.	.	X	.	.
129	TRICOLPORITES SP	.	.	.	.	X	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
130	TRILETES TUBERCULIFORMIS	.	.	X	.	.	.	.	.	.	X	.	.	.	.	X	.	.	X	.	.	X	.	X	.	X	.	.
131	TRIPOROLETES RETICULATUS	.	.	.	.	.	.	.	.	.	.	.	.	.	X	.	.	X	.	.	.	.	.	.	.	.	.	.
132	TRIPOROPOLLENITES AMBIGUUS	.	.	X	.	.	.	.	.	X	.	.	.	.	.	.	.	X	.	.	.	X	X	.	.	X	.	.
133	TRIPUNCTISPORIS PUNCTATUS	.	.	X	.	.	.	.	.	X	.	.	.	.	.	.	.	X	.	.	.	.	X	X	.	X	.	.
134	VERRUCOSISPORITES KOPUKUENSIS	.	.	X	.	.	.	.	.	X	.	.	.	.	X	X	.	X	X	.	.	X	.	X	.	X	.	.

COBBOONEE#2 829-833.5CR15 886.9-891.2CR DARTMOOR#25 57-61.4CORE DEVONDALE RD 5719600E GLENELG#1 302.0CORE 390.0CORE LAVERS HILL SANDPIT ROAD NARRAWONG#13 574-580 CR10 686-692 CR12 NARRAWATURK#6 630-639.7CORE 633.2-639.7CR WARRAIN#7 215.5-222.75 252.3-258.35 343.8-348.15 398.9-404.48 WANWIN#1 168.9-174.3 WYE RIVER BEACH