APPENDIX 1.

PALYNOLOGICAL ANALYSIS OF KINGFISH-9 GIPPSLAND BASIN

by

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INTERPRETED DATA

INTRODUCTION

SUMMARY OF RESULTS

GEOLOGICAL COMMENTS

BIOSTRATIGRAPHY

REFERENCES

TABLE-1: INTERPRETED DATA

CONFIDENCE RATINGS

INTRODUCTION

Eleven sidewall cores in Kingfish-9 were examined, cleaned and split by author and then forwarded to Laola Pty Ltd in Perth for processing to extract organic microfossils (palynomorphs). All samples were examined by author for their contained spores, pollen and microplankton to derive the data and interpretations in this report.

Between 8 to 12 grams (average 9.9g) of each sidewall core was processed for palynological analysis. High residue yields were recovered from most samples in the Latrobe Group coarse clastic section, very low yields from the overlying Gurnard Formation and variable low to high yields from the basal Lakes Entrance Formation. Palynomorph concentrations in general was directly proportional to yield. Spore-pollen diversity averaged 18+ species per sample. Microplankton were very rare and of very low diversity in the Latrobe coarse clastics section but occurred in abundance and of moderate diversity in the overlying Gurnard and Lakes Entrance Formations. From the latter units diversity averaged 11+ species per sample. Preservation varied from poor to good but overall was fair. Some degrading of the preservation was caused by the use of polyvinyl alcohol (PVA) and EUKITT mounting medium.

The palynological preparation by Laola Pty Ltd were overall better than in the Kingfish-8 well, drilled immediately preceding Kingfish-9. This reflects increasing experience in processing Gippsland Basin samples.

Lithological units and palynological zones from the base of the Lakes Entrance Formation to Total Depth are given in the following summary. The interpretative data with zone identification and Old and New Confidence Ratings are recorded in Table-1 and basic data on residue yields, preservation and diversity are recorded on Tables-2 and 3. All species which have been identified with binomial names are tabulated on the accompanying range charts. Relinquishment lists for palynological slides and residues from samples analysed in Kingfish-9 are provided at the end of the report.

2. The Gurnard Formation in Kingfish-9 is identified between 2304.0m to 2309.0m. It is characterised on the gamma ray log by high values raising from a background of below 80 gapi to two discrete peaks of 180 gapi at 2305m and 128 gapi at 2307.5m. Both peaks were sampled by sidewall cores which were subsequently analysed for palynology. There is also a characteristic wide separation of the Bulk Density and Neutron Porosity logs. The lithologies of the two sidewall cores taken in this interval are, however, somewhat atypical as they contained only minor glauconite. The shallowest sample at 2305m identified as a mottled siltstone, which upon cleaning for the palynological analysis was found to contain burrows up to 1cm in diameter distinguished by a change in colour of the siltstone from green to grey. The deeper sample at 2307.5m was a firm homogeneous dark grey-green to almost black claystone which apparently contained only minor amounts of glauconite. Both samples could be confidently assigned to the Lower *N. asperus* and *A. australicum* Zones based on very low yielding but obviously highly diverse assemblages. The occurrence of the *A. australicum* Zone and associated acritarchs species *Tritonites pandus* and *T. tricornus* indicate that only the lower part of the Gurnard Formation is to be found in Kingfish-9. As was recorded in Kingfish-8 (Partridge, 1992) the absence of an interval in Kingfish-9 containing *T. tricornus* before the FAD (First Appearance Datum) of *T. pandus* suggests that part of the early Middle Eocene (approx. 44-48 Ma) is missing at the base of the Gurnard Formation in Kingfish-9 (see fig.5 in Marshall & Partridge 1988).

   Additional palynological age dating of the Gurnard Formation is still possible by processing samples from the 1.6 metres recovered from core-1 cut between 2307m to 2309m.

3. All samples from the Lakes Entrance Formation are dominated by open marine dinoflagellate assemblages. The rare but consistent presence of the spore *Cyatheacidites annulatus* associated with *Foveotriletes lacunosus* the index species for the Middle subzone of the *P. tuberculatus* Zone suggests that the very basal part of Lakes Entrance Formation is probably missing. The length of the hiatus is also extended by apparent absence of both the Upper and Middle *N. asperus* Zones from the underlying Gurnard Formation.

by moderate diversity microplankton assemblages with key zone species. The most significantly spore-pollen identified are *Conbaculites apiculatus* ms and *Proteacidites asperopolus* both identified on single specimens from the deeper sample and *Proteacidites pachypolus* recorded as a single specimen from the shallower sample.

The index dinoflagellate species *Areosphaeridium australicum* ms is abundant in both samples assigned to the zone. Other key dinoflagellate species are *Achilleodinium biformoides* (2307.5m), *Deflandrea flounderensis* (2307.5m) and *Deflandrea truncata* (2305.0m). Associates of the dinoflagellates are the frequent occurrence in both samples of the key acritarch species *Tritonites pandus* and *T. tricornus*. Anomalous dinoflagellate species occurring in the deeper of the two samples are *Areosphaeridium* sp. cf. *A. capricornum* which was poorly preserved and may be misidentified and *Homotryblium tasmaniense* which is considered to be reworked.

Proteacidites tuberculatus Zone: 2290.0-2300.5 metres Oligocene.

Four sidewall core samples are assigned to the *P. tuberculatus* Zone on the occurrence of the key spore *Cyatheacidites annulatus* which is present in the highest three sidewall cores and represented by a corroded (ghosted) specimen in the deepest sidewall core at 2300.5m. Other indicator spores present in these samples are *Foveotriletes crater* at 2291.5m and *Foveotriletes lacunosus* at 2297.0m. The latter spore is regarded as the key indicator species for the Middle subzone of the *P. tuberculatus* Zone by Stover & Partridge (1973). The associated microplankton assemblages contain typical Lakes Entrance Formation index dinoflagellate species including *Protoellipsodinium simplex* ms (common in all samples), *P. mamilatus* ms and *Tectactodinium scabroellipticus* ms. Overall the samples are dominated by the dinoflagellates *Spiniferites ramosus* s.l., *Operculodinium centrocarpum*, *Dapsilidinium pseudocolligerum* and *Nematosphaeropsis* spp. Most samples also contain microforaminiferal liners and scolecodonts.

TABLE 1: Interpretative Palynological Data Kingfish-9, Gippsland Basin.

SAMPLE TYPE	DEPTH (M)	SPORE-POLLEN ZONES	*CR OLD	*CR NEW	DINOFLAGELLATE ZONE (OR ASSOCIATION)	*CR OLD	*CR NEW	COMMENTS
SWC 20	2290.0	*P. tuberculatus*	0	B2	(*Operculodinium* spp.)	1	B2	*Cyatheacidites annulatus* present.
SWC 19	2291.5	*P. tuberculatus*	0	B2	(*Operculodinium* spp.)	1	B2	*C. annulatus* present.
SWC 18	2297.0	*P. tuberculatus*	0	B2	(*Operculodinium* spp.)	1	B3	Frequent *C. annulatus.*
SWC 17	2300.5	*P. tuberculatus*	2	B5	(*Operculodinium* spp.)	1	B3	Corroded specimen of *C. annulatus* present.
SWC 16	2305.0	Lower *N. asperus*	2	B5	*A. australicum*	1	B4	*Tritonites pandus* and *T. tricornus* present.
SWC 15	2307.5	Lower *N. asperus*	0	B1	*A. australicum*	0	B2	*T. pandus* and *T. tricornus* present.
SWC 8	2328.5	Indeterminate						Virtually barren.
SWC 7	2357.5	Lower *M. diversus*	1	B2				Common *Proteacidites grandis.*
SWC 6	2358.5	Lower *M. diversus*	1	B2				
SWC 5	2364.0	Lower *M. diversus*	1	B2				Common *P. grandis.*
SWC 4	2365.5	Lower *M. diversus*	1	B2				Frequent *P. grandis.*

*CR = Confidence Ratings OLD & NEW

BASIC DATA

TABLE 2: Basic Sample Data

TABLE 3: Basic Palynomorph Data

RANGE CHARTS

RELINQUISHMENT LISTS

RELINQUISHMENT LIST - PALYNOLOGICAL SLIDES

WELL NAME & NO: KINGFISH-9
PREPARED BY: A.D. PARTRIDGE
DATE: July 1992

SAMPLE TYPE	DEPTH (M)	CATALOGUE NUMBER	DESCRIPTION
SWC 20	2290.0	P195984	Kerogen slide sieved/unsieved fractions
SWC 20	2290.0	P195985	Kerogen slide unsieved fraction
SWC 20	2290.0	P195986	Oxidized slide 2 (1/2 cover slip)
SWC 20	2290.0	P195987	Oxidized slide 3 (1/2 cover slip)
SWC 19	2291.5	P195988	Kerogen slide sieved/unsieved fractions
SWC 19	2291.5	P195989	Kerogen slide unsieved fraction
SWC 19	2291.5	P195990	Oxidized slide 2
SWC 19	2291.5	P195991	Oxidized slide 3
SWC 18	2297.0	P195992	Kerogen slide sieved/unsieved fractions
SWC 18	2297.0	P195993	Kerogen slide unsieved fraction
SWC 18	2297.0	P195994	Oxidized slide 2
SWC 18	2297.0	P195995	Oxidized slide 3 (1/2 cover slip)
SWC 17	2300.5	P195996	Kerogen slide sieved/unsieved fractions
SWC 17	2300.5	P195997	Kerogen slide unsieved fraction
SWC 17	2300.5	P195998	Oxidized slide 2 (1/2 cover slip)
SWC 16	2305.0	P195999	Kerogen slide sieved/unsieved fractions
SWC 16	2305.0	P196000	Kerogen slide unsieved fraction
SWC 16	2305.0	P196001	Oxidized slide 2 (1/4 cover slip)
SWC 15	2307.5	P196002	Kerogen slide sieved/unsieved fractions
SWC 15	2307.5	P196003	Kerogen slide unsieved fraction
SWC 15	2307.5	P196004	Oxidized slide 2 (1/2 cover slip)
SWC 8	2328.5	P196005	Kerogen slide unsieved fraction
SWC 7	2357.5	P196006	Kerogen slide sieved/unsieved fractions
SWC 7	2357.5	P196007	Oxidized slide 2
SWC 7	2357.5	P196008	Oxidized slide 3 (1/2 cover slip)
SWC 6	2358.5	P196009	Kerogen slide sieved/unsieved fractions
SWC 6	2358.5	P196010	Kerogen slide unsieved fraction
SWC 6	2358.5	P196011	Oxidized slide 2
SWC 6	2358.5	P196012	Oxidized slide 3
SWC 5	2364.0	P196013	Kerogen slide sieved/unsieved fractions
SWC 5	2364.0	P196014	Kerogen slide unsieved fraction
SWC 5	2364.0	P196015	Oxidized slide 2
SWC 5	2364.0	P196016	Oxidized slide 3
SWC 4	2365.5	P196017	Kerogen slide sieved/unsieved fractions
SWC 4	2365.5	P196018	Kerogen slide unsieved
SWC 4	2365.5	P196019	Oxidized slide 2
SWC 4	2365.5	P196020	Oxidized slide 3

MICROPLANKTON RANGE CHART KINGFISH-9, GIPPSLAND BASIN.

Depth	Sample	1 PARALECANIELLA INDENTATA	2 APECTODINIUM SP.	3 APECTODINIUM HOMOMORPHUM	4 ACHILLEODINIUM BIFORMOIDES	5 AREOSPHAERIDIUM AUSTRALICUM MS	6 AREOSPHAERIDIUM CAPRICORNUM	7 CLEISTOSPHAEIDIUM EPACRUM MS	8 DEFLANDREA FLOUNDERENSIS	9 DEFLANDREA SPP.	10 HOMOTRYBLIUM TASMANIENSE	11 HOROLOGINELLA INCURVATA	12 IMPAGIDINIUM CRASSIMURATUM	13 LINGULODINIUM MACHAEROPHORUM	14 OPERCULODINIUM CENTROCARPUM	15 SPINIFERITES RAMOSA S.L.	16 TRITONITES PANDUS	17 TRITONITES SPINOSUS	18 scolecodont	19 DEFLANDREA TRUNCATA	20 NEMATOSPHAEROPSIS RHIZOMA MS	21 PHTHANOPERIDINIUM DELICATUM MS	22 SPINIDINIUM SPP.	23 TECTATODINIUM MARLUM MS	24 CRASSOSPHAERA CONCINNIA	25 DAPSILIDINIUM PSEUDOCOLLIGERUM	26 HYSTRICHOKOLPOMA RIGAUDIAE	27 PROTOELLIPSODINIUM SIMPLEX MS	28 botryococcus	29 microforaminiferal liner	30 HYSTRICHOKOLPOMA SP.	31 LINGULODINIUM SOLARUM	32 TECTATODINIUM SCABROELLIPTICUS MS	33 APTEODINIUM AUSTRALIENSE	34 CYCLOPSIELLA VIETA	35 NEMATOSPHAEROPSIS N.SP. 2	36 PENTADINIUM LATICINCTUM	37 PYXIDINOPSIS PONTUS MS	38 PROTOELLIPSODINIUM MAMILATUS MS	Depth	Sample
2290.0 M	SWC-20	.	.	.	.	.	.	.	.	.	.	.	.	R	F	C	.	.	R	.	F	.	.	.	R	C	.	C	.	R	.	R	R	.	.	R	.	R	F	2290.0 M	SWC-20
2291.5 M	SWC-19	.	.	.	.	.	.	.	.	.	.	.	.	R	R	A	.	.	R	.	C	.	.	.	.	R	.	C	.	R	C	R	F	R	R	R	R	R	.	2291.5 M	SWC-19
2297.0 M	SWC-18	.	.	.	.	.	.	.	.	.	.	.	.	.	C	C	.	.	R	.	C	.	.	.	.	.	.	C	.	F	C	R	F	.	.	.	.	.	.	2297.0 M	SWC-18
2300.5 M	SWC-17	.	.	.	.	.	.	.	.	.	.	.	.	C	C	R	.	.	.	.	R	.	.	.	R	R	R	R	R	F	.	.	.	.	.	.	.	.	.	2300.5 M	SWC-17
2305.0 M	SWC-16	R	.	.	.	A	.	.	.	R	.	.	.	.	R	R	F	F	.	R	R	R	C	R	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2305.0 M	SWC-16
2307.5 M	SWC-15	R	.	.	R	A	?	F	R	C	W	R	R	R	R	R	F	F	R	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2307.5 M	SWC-15
2328.5 M	SWC- 8	.	.	R	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2328.5 M	SWC- 8
2357.5 M	SWC- 7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2357.5 M	SWC- 7
2358.5 M	SWC- 6	.	R	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2358.5 M	SWC- 6
2364.0 M	SWC- 5	R	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2364.0 M	SWC- 5
2365.5 M	SWC- 4	R	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2365.5 M	SWC- 4

Format: Relative Abundance By Lowest Appearance

Key to Symbols

- W = REWORKING
- D = CONTAMINATION
- X = PRESENT
- R = RARE
- F = FREQUENT
- C = COMMON
- A = ABUNDANT
- ? = Questionably Present
- . = Not Present

SPECIES LOCATION INDEX

CHART COLUMN	SPECIES
4	ACHILLEODINIUM BIFORMOIDES
3	APECTODINIUM HOMOMORPHUM
2	APECTODINIUM SP.
33	APTEODINIUM AUSTRALIENSE
5	AREOSPHAERIDIUM AUSTRALICUM MS
6	AREOSPHAERIDIUM CAPRICORNUM
7	CLEISTOSPHAEIDIUM EPACRUM MS
24	CRASSOSPHAERA CONCINNIA
34	CYCLOPSIELLA VIETA
25	DAPSILIDINIUM PSEUDOCOLLIGERUM
8	DEFLANDREA FLOUNDERENSIS
9	DEFLANDREA SPP.
19	DEFLANDREA TRUNCATA
10	HOMOTRYBLIUM TASMANIENSE
11	HOROLOGINELLA INCURVATA
26	HYSTRICHOKOLPOMA RIGAUDIAE
30	HYSTRICHOKOLPOMA SP.
12	IMPAGIDINIUM CRASSIMURATUM
13	LINGULODINIUM MACHAEROPHORUM
31	LINGULODINIUM SOLARUM
35	NEMATOSPHAEROPSIS N.SP. 2
20	NEMATOSPHAEROPSIS RHIZOMA MS
14	OPERCULODINIUM CENTROCARPUM
1	PARALECANIELLA INDENTATA
36	PENTADINIUM LATICINCTUM
21	PHTHANOPERIDINIUM DELICATUM MS
38	PROTOELLIPSODINIUM MAMILATUS MS
27	PROTOELLIPSODINIUM SIMPLEX MS
37	PYXIDINOPSIS PONTUS MS
22	SPINIDINIUM SPP.
15	SPINIFERITES RAMOSA S.L.
23	TECTATODINIUM MARLUM MS
32	TECTATODINIUM SCABROELLIPTICUS MS
16	TRITONITES PANDUS
17	TRITONITES TRICORNUS
28	botryococcus
29	microforaminiferal liner
18	scolecodont

SPORE-POLLEN RANGE CHART FOR KINGFISH-9, GIPPSLAND BASIN.

Format: Relative Abundance By Lowest Appearance

Key to Symbols

W = REWORKING
D = CONTAMINATION
X = PRESENT
R = RARE
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	2290.0 M	2291.5 M	2297.0 M	2300.5 M	2305.0 M	2307.5 M	2328.5 M	2357.5 M	2358.5 M	2364.0 M	2365.5 M	
	SWC-20	SWC-19	SWC-18	SWC-17	SWC-16	SWC-15	SWC- 8	SWC- 7	SWC- 6	SWC- 5	SWC- 4	
1	R	R	.	.	.	R	.	.	.	R	R	BACULATISPORITES SPP.
2	.	.	.	.	.	.	.	.	.	R	R	BASOPOLLIS OTWAYENSIS MS
3	R	R	.	R	.	.	.	.	.	R	R	CLAVIFERA TRIPLEX
4	R	R	R	R	.	R	.	.	.	.	F	CYATHEA PALEOSPORA
5	.	.	.	.	.	.	.	.	.	.	R	CYATHIDITES SPLENDENS
6	R	.	.	.	.	.	.	.	.	.	R	DICOTETRADITES CLAVATUS
7	.	.	.	.	R	F	F	F	R	R	R	DILWYNITES GRANULATUS
8	.	.	.	.	.	R	.	.	.	.	R	DILWYNITES TUBERCULATUS
9	.	.	.	.	.	.	R	.	R	R	C	DRYPTOPOLLENITES SEMILUNATUS
10	R	.	.	.	R	.	R	C	C	A	C	GLEICHENIIDITES CIRCINIDITES
11	F	R	F	R	.	R	.	C	C	F	R	HALORAGACIDITES HARRISII
12	R	R	.	.	.	.	.	.	.	.	R	LAEVIGATOSPORITES MAJOR
13	C	F	R	.	R	.	.	R	.	.	R	LAEVIGATOSPORITES OVATUS
14	.	.	.	.	.	.	.	.	.	.	R	LATROBOSPORITES CRASSUS
15	R	.	.	.	R	.	.	.	.	R	R	LYGISTEPOLLENITES FLORINII
16	.	.	.	.	.	R	.	R	.	F	F	MALVACIPOLLIS SUBTILIS
17	C	F	C	F	R	R	.	.	.	.	R	NOTHOFAGIDITES EMARCIDUS/HETERUS
18	R	R	R	.	.	R	R	.	.	.	R	NOTHOFAGIDITES FLEMINGII
19	R	R	R	R	R	R	R	R	R	R	F	PODOCARPIDITES SPP.
20	.	.	.	.	.	R	R	.	.	.	R	PROTEACIDITES ADENANTHOIDES
21	.	.	.	.	.	R	R	.	.	.	R	PROTEACIDITES ANNULARIS
22	.	.	.	.	.	.	F	F	C	C	R	PROTEACIDITES GRANDIS
23	.	.	.	.	.	.	.	.	.	.	R	PROTEACIDITES INCURVATUS
24	.	.	.	.	.	.	.	.	.	.	R	PROTEACIDITES OBSCURUS
25	.	.	.	.	.	.	.	.	.	.	R	PROTEACIDITES RECTUS
26	R	.	.	.	.	R	.	F	C	A	C	PROTEACIDITES SPP.
27	.	.	.	R	C	F	.	.	.	R	F	RUGULATISPORITES MALLATUS
28	R	R	R	R	R	R	.	F	R	R	F	STEREISPORITES ANTIQUISPORITES
29	.	.	.	.	.	R	R	.	.	R	R	TRICOLPORITES ADELAIDENSIS
30	.	.	.	.	.	.	.	F	C	C	R	VERRUCOSISPORITES KOPUKUENSIS
31	.	.	.	.	.	.	.	.	.	.	R	ILEXPOLLENITES SPP.
32	R	R	R	R	.	.	R	F	.	C	F	ISCHYOSPORITES IRREGULARIS MS
33	.	.	.	.	.	.	.	.	W	W	R	LYGISTEPOLLENITES BALMEI
34	R	.	.	R	R	.	.	.	.	.	R	MYRTACEIDITES PARVUS/MESONESUS
35	R	R	.	R	.	.	.	.	R	R	R	NOTHOFAGIDITES BRACHYSPINULOSUS
36	R	R	.	R	R	.	.	.	R	R	R	PODOSPORITES MICROSACCATUS
37	R	.	.	.	R	.	.	.	.	.	F	STEREISPORITES (TRIPUNCTISPORIS) SP.
38	.	.	.	.	.	.	.	.	.	.	R	TETRACOLPORITES MULTISTRIXUS MS
39	R	.	.	.	.	.	.	.	.	.	R	TRICOLPORITES MOULTONII MS
40	R	R	F	R	.	R	.	.	.	.	.	ARAUCARIACITES AUSTRALIS
41	.	.	.	.	.	.	.	.	R	R	.	PARVISACCITES CATASTUS
42	.	.	.	.	.	.	.	.	R	R	.	PEROMONOLITES BOWENII
43	R	R	R	R	.	R	R	.	.	.	.	PHYLLOCLADIDITES MAWSONII
44	R	R	R	R	.	R	.	.	.	.	.	RETITRILETES SPP.
45	.	.	.	.	.	R	.	.	.	.	.	BANKSIEAEIDITES ELONGATUS
46	.	.	.	.	.	R	.	.	.	.	.	CONBACULITES APICULATUS MS
47	.	.	.	.	.	R	.	.	.	.	.	CUPANIENIDITES ORTHOTEICHUS
48	R	R	.	.	.	R	.	.	.	.	.	ISCHYOSPORITES GREMIUS
49	.	.	.	.	.	R	.	.	.	.	.	MALVACIPOLLIS DIVERSUS
50	.	.	.	.	.	R	.	.	.	.	.	MICROCACHRYIDITES ANTARCTICUS
51	.	.	.	.	.	R	.	.	.	.	.	NOTHOFAGIDITES GONIATUS
52	.	.	.	.	.	R	.	.	.	.	.	PERIPOROPOLLENITES DEMARCATUS
53	.	.	.	.	.	R	.	.	.	.	.	PROTEACIDITES ASPEROPOLUS
54	.	.	.	.	.	R	.	.	.	.	.	PROTEACIDITES CRASSUS
55	.	.	.	.	.	R	.	.	.	.	.	PROTEACIDITES PSEUDOMOIDES
56	.	.	.	.	.	R	.	.	.	.	.	SANTALUMIDITES CAINOZOICUS
57	.	.	.	.	.	R	.	.	.	.	.	SAPOTACEOIDAEPOLLENITES ROTUNDUS
58	.	.	.	.	.	R	.	.	.	.	.	VERRUCATOSPORITES ALIENUS
59	.	.	.	.	R	.	R	.	.	.	.	MALVACIPOLLIS ROBUSTUS MS
60	.	.	R	.	R	R	.	.	.	.	.	NOTHOFAGIDITES VANSTEENISII
61	.	.	.	.	.	R	.	.	.	.	.	PROTEACIDITES PACHYPOLUS
62	.	.	R	R	?	.	.	.	.	.	.	CYATHEACIDITES ANNULATUS
63	.	.	R	F	R	.	.	.	.	.	.	NOTHOFAGIDITES FALCATUS
64	.	.	.	R	.	.	.	.	.	.	.	ERICIPITES SCABRATUS
65	.	.	.	R	.	.	.	.	.	.	.	FOVEOTRILETES LACUNOSUS
66	.	R	R	.	.	.	.	.	.	.	.	FOVEOTRILETES CRATER
67	.	.	.	.	.	.	.	.	.	.	.	HERKOSPORITES ELLIOTTII
68	R	R	.	.	.	.	.	.	.	.	.	MATONISPORITES ORNAMENTALIS
69	R	.	.	.	.	.	.	.	.	.	.	NOTHOFAGIDITES DEMINUTUS
	2290.0 M	2291.5 M	2297.0 M	2300.5 M	2305.0 M	2307.5 M	2328.5 M	2357.5 M	2358.5 M	2364.0 M	2365.5 M	
	SWC-20	SWC-19	SWC-18	SWC-17	SWC-16	SWC-15	SWC- 8	SWC- 7	SWC- 6	SWC- 5	SWC- 4	

SPECIES LOCATION INDEX

CHART
COLUMN SPECIES

40	ARAUCARIACITES AUSTRALIS
1	BACULATISPORITES SPP.
45	BANKSIEAEIDITES ELONGATUS
2	BASOPOLLIS OTWAYENSIS MS
3	CLAVIFERA TRIPLEX
46	CONBACULITES APICULATUS MS
47	CUPANIENIDITES ORTHOTEICHUS
4	CYATHEA PALEOSPORA
62	CYATHEACIDITES ANNULATUS
5	CYATHIDITES SPLENDENS
6	DICOTETRADITES CLAVATUS
7	DILWYNITES GRANULATUS
8	DILWYNITES TUBERCULATUS
9	DRYPTOPOLLENITES SEMILUNATUS
64	ERICIPITES SCABRATUS
66	FOVEOTRILETES CRATER
65	FOVEOTRILETES LACUNOSUS
10	GLEICHENIIDITES CIRCINIDITES
11	HALORAGACIDITES HARRISII
67	HERKOSPORITES ELLIOTTII
31	ILEXPOLLENITES SPP.
48	ISCHYOSPORITES GREMIUS
32	ISCHYOSPORITES IRREGULARIS MS
12	LAEVIGATOSPORITES MAJOR
13	LAEVIGATOSPORITES OVATUS
14	LATROBOSPORITES CRASSUS
33	LYGISTEPOLLENITES BALMEI
15	LYGISTEPOLLENITES FLORINII
49	MALVACIPOLLIS DIVERSUS
59	MALVACIPOLLIS ROBUSTUS MS
16	MALVACIPOLLIS SUBTILIS
68	MATONISPORITES ORNAMENTALIS
50	MICROCACHRYIDITES ANTARCTICUS
34	MYRTACEIDITES PARVUS/MESONESUS
35	NOTHOFAGIDITES BRACHYSPINULOSUS
69	NOTHOFAGIDITES DEMINUTUS
17	NOTHOFAGIDITES EMARCIDUS/HETERUS
63	NOTHOFAGIDITES FALCATUS
18	NOTHOFAGIDITES FLEMINGII
51	NOTHOFAGIDITES GONIATUS
60	NOTHOFAGIDITES VANSTEENISII
41	PARVISACCITES CATASTUS
52	PERIPOROPOLLENITES DEMARCATUS
42	PEROMONOLITES BOWENII
43	PHYLLOCLADIDITES MAWSONII
19	PODOCARPIDITES SPP.
36	PODOSPORITES MICROSACCATUS
20	PROTEACIDITES ADENANTHOIDES
21	PROTEACIDITES ANNULARIS
53	PROTEACIDITES ASPEROPOLUS
54	PROTEACIDITES CRASSUS
22	PROTEACIDITES GRANDIS
23	PROTEACIDITES INCURVATUS
24	PROTEACIDITES OBSCURUS
61	PROTEACIDITES PACHYPOLUS
55	PROTEACIDITES PSEUDOMOIDES
25	PROTEACIDITES RECTUS
26	PROTEACIDITES SPP.
44	RETITRILETES SPP.
27	RUGULATISPORITES MALLATUS
56	SANTALUMIDITES CAINOZOICUS
57	SAPOTACEOIDAEPOLLENITES ROTUNDUS
37	STEREISPORITES (TRIPUNCTISPORIS) SP.
28	STEREISPORITES ANTIQUISPORITES
38	TETRACOLPORITES MULTISTRIXUS MS
29	TRICOLPORITES ADELAIDENSIS
39	TRICOLPORITES MOULTONII MS
58	VERRUCATOSPORITES ALIENUS
30	VERRUCOSISPORITES KOPUKUENSIS