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Sample Sample Number Depth Preparation Number	Palynostratigraphic Unit Palynofacies <i>Index Species</i>	Inferred Lithostratigraphic Unit <i>(Log interpreted Unit)</i>	Inferred Depositional Environment	Palynomorph			Remarks
				Preservation	Yield <i>(Organic yield)</i>	Diversity	
SWC 48 449.2m P18659	APK4 - APK5 probably APK4 <i>Pilosisorites - Cyathidites</i> Palynofacies <i>[C. striatus, C. hughesii, P. parvispinosus, P. notensis D. speciosus, F. asymmetricus]</i>	mid Eumeralla Formation <i>(mid Eumeralla Formation)</i>	Fluvial, coastal plain. lagoonal.	Fair	High	High	A rich palynoflora with a dominance of ferns (<i>Cyathidites</i> , <i>Ruffordiaspora</i> and <i>Osmundacidites</i> prominent); liverworts notable and diverse (<i>Foraminisporis</i> and <i>Aequitriradites</i>); conifers prominent (mostly Podocarps). Algal forms conspicuous and moderately diverse (leiospheres and <i>Sigmopollis</i> notable). [The co occurrence <i>C. hughesii</i> and <i>C. striatus</i> is not regarded as being typical of the Otway Basin but occurs in the Eromanga Basin]
	Sample Gap						
SWC 47 735.6m P18660	APK3 - APK4 probably APK4 <i>Ruffordiaspora - Cyathidites</i> Palynofacies <i>[P. notensis, P. 'microbaculata', C. hughesii, C. striatus, C. berberiolides]</i>	mid Eumeralla Formation <i>(mid Eumeralla Formation)</i>	Fluvial; coastal plain.	Poor corroded, some thin	Low	Moderate	Palynoflora dominated by ferns (mostly <i>Cyathidites</i> ; <i>Ruffordiaspora</i> notable <i>Pilosisorites</i> scarce and restricted diversity); lycopods prominent (<i>Retitriteles</i> conspicuous, <i>Dictyotosporites</i> notable and diverse); Conifers sparse. Few algae (mostly <i>Sigmopollis</i> and leiospheres). [There is a slight possibility that <i>C. striatus</i> is contamination as its preservation is a little better (fresher) than most of the other palynoflora elements; however, this taxon does take up stain differently to other spore taxa].
	Sample Gap						
SWC 43 1096.8m P18661	APK31 - APK321 probably upper APK321 <i>Pilosisorites - Conifer</i> Palynofacies <i>[F. asymmetricus, F. wonthaggiensis "lunaris" P. notensis, ?P. parvispinosus, C. variabilis, M. evansii (notable)]</i>	lower Eumeralla Formation <i>(lower Eumeralla Formation)</i>	Fluvial; coastal plain.	Poor corroded, some thin	Low	Moderate	Palynoflora dominated by saccate and inaperturate (Conifer) pollen remnants; <i>Corollina</i> notable. Spores prominent; mostly ferns (<i>Cyathidites</i> and <i>Osmundacidites</i>); <i>Pilosisorites</i> scarce and restricted in diversity. <i>Ruffordiaspora</i> present. Lycopods and bryophytes subordinate but relatively diverse. Few leiospheres; <i>Microfaster evansii</i> notable.
	Base <i>Pilosisorites parvispinosus</i> , <i>F. asymmetricus</i> & <i>F. wonthaggiensis "lunaris"</i>						
	Sample Gap						



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Palynostratigraphic Data

Digby #1 (reinterpreted from Price, 1995)

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Sample Sample Number Depth Preparation Number	Palynostratigraphic Unit Palynofacies <i>Index Species</i>	Inferred Lithostratigraphic Unit <i>(Log interpreted Unit)</i>	Inferred Depositional Environment	Palynomorph			Remarks
				Preservation	Yield <i>(Organic yield)</i>	Diversity	
SWC 42 1220.8m P18662	APK22 - APK321 tentatively APK321 <i>Osmundacidites - Retitriletes</i> Palynofacies [<i>C. variabilis</i> , <i>P. notensis</i> , ? <i>P. "rotundus"</i> , <i>T. reticulatus</i> , <i>M. evansii</i>]	basal Eumeralla Formation <i>(Eumeralla Formation)</i>	Fluvial; coastal plain.	Very poor corroded, some thin fragmented	Low	Low	Palynoflora restricted in diversity. Fern dominated (mostly <i>Osmundacidites</i>) palynoflora. <i>Ruffordiaspora</i> and <i>Pilosisorites</i> present but scarce. Lycopods and Bryophytes scarce but moderately diverse. Conifer pollen scarce; mostly inaperturate pollen. Algae notable; mostly <i>Sigmopollis</i> and leiospheres together with an isolated small spinose acritarch and <i>M. evansii</i> . [There are a couple of <i>Pilosisorites</i> specimens; given that they seem scarce in the overlying section in Digby and there is no other evidence of contamination they are considered endemic. Apart from this, there is little to distinguish this from a Middle APK21 palynoflora. Its tentative assignment to APK321 is mostly on log correlation]
	Base <i>Pilosisorites notensis</i>						
	Windermere Sandstone Member 1304m						
SWC 41 1318.1m P18663	Middle APK21 - APK31 tentatively APK22 - APK31 <i>Osmundacidites - Retitriletes</i> Palynofacies [<i>T. reticulatus</i> , <i>F. wonthaggiensis</i> , <i>M. evansii</i>]	basal Eumeralla Formation <i>(basal Eumeralla Formation)</i>	Fluvial; coastal plain.	Poor	Moderate	Low	Fern dominated (mostly <i>Osmundacidites</i>) palynoflora; <i>Ruffordiaspora</i> present but scarce. Lycopods scarce but moderately diverse. Bryophyte spores sparse. Conifer pollen scarce; mostly inaperturate pollen. Few algae; mostly <i>Sigmopollis</i> and leiospheres together with an isolated spinose acritarch and few <i>M. evansii</i> . The assignment of this association to APK22 - APK31 reflects its position on log correlation to similar associations from Mocamboro #11 that have been placed into APK22 because of the deepest <i>P. notensis</i> in Mocamboro 11 (SWC965m); apart from this <i>P. notensis</i> , these assemblages in both Digby and Mocamboro 11 have more in common with Middle APK21 associations from the Otway region (eg that at SWC53 1275m in Gordon #1 assigned to APP21).
	Base <i>Triporoletes reticulatus</i>						
SWC 39 1364.4m P18664	Middle APK21 - APK31 tentatively APK22 - APK31 <i>Cyathidites</i> Palynofacies [<i>C. hughesii</i> , <i>D. speciosus</i> , <i>R. australiensis</i> , <i>R. ludbrookiae</i> , <i>F. wonthaggiensis</i>]	basal Eumeralla Formation <i>(basal Eumeralla Formation)</i>	Fluvial, overbank.	Fair	High	Low	Palynoflora dominated by a single fern species (<i>Cyathidites mino</i>); <i>Osmundacidites</i> conspicuous; <i>Ruffordiaspora</i> present but scarce; few other fern spores represented. Lycopods notable and diverse. Few Bryophytes, conifers or aquatic forms. [The association is reminiscent of the <i>Ruffordiaspora - Cyathidites</i> Palynofacies of Gordon and Mocamboro #11 but the <i>Ruffordiaspora</i> are very scarce perhaps being overwhelmed by <i>Cyathidites</i> . Its assignment to APK22 - APK31 reflects the log correlation to the APK22 associations in Mocamboro 11 SWC 965]



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				Preservation	Yield <i>(Organic yield)</i>	Diversity	
SWC 37 1445.2m P18665	APK12 - APK31 <i>Osmundacidites - Retitriletes</i> Palynofacies <i>[C. hughesii, C. stylosus, M. evansii]</i>	Otway Super Group <i>(Basal Eumeralla Formation)</i>	Fluvial; coastal plain.	Very poor	Low	Low	A sparse fern dominated (mostly <i>Osmundacidites</i> and <i>Cyathidites</i>) palynoflora. Lycopods scarce but moderately diverse. Bryophyte spores sparse. Conifer pollen scarce. Few algae; mostly <i>Sigmopollis</i> and leiospheres together with an isolated spinose acritarch and <i>M. evansii</i> . Some contamination evident.
SWC 36 1457.5m P18666	APK2 very tentatively APK22 <i>Osmundacidites - Retitriletes</i> Palynofacies <i>[F. wonthaggiensis, D. speciosus, R. australiensis, M. florida, M. evansii (notable)]</i>	basal Eumeralla Formation <i>(basal Eumeralla Formation)</i>	Fluvial; coastal plain.	Fair [?carbonised]	High	Moderate	A balanced palynoflora with a dominance and diversity of cryptogams, prominent gymnosperm pollen and a subordinate but relatively diverse fresh to brackish water algal association. Spores dominated by ferns (<i>Cyathidites</i> and <i>Osmundacidites</i>); lycopods <i>Retitriletes</i> , <i>Kekryphalospora</i> and <i>Dictyosporites</i> prominent and diverse; liverworts notable but relatively diverse. Gymnosperms dominated by Podocarps with Cheirlepidiacean forms notable. Algal association dominated by leiospheres with <i>Microfista evansii</i> notable. The association is typical of Lower APK21 and Middle APK21 palynofloras; Its assignment to APK22 - APK31 reflects the log correlation to the APK22 associations in Mocamboro 11 SWC 965
	Crayfish Group (Laira Shale) 1500m						
SWC 30 1506.2m P18667	Upper APK122 - Middle APK2 probably Lower APK2 - Middle APK21 Conifer Palynofacies <i>[A. spinulosus, D. speciosus]</i>	Laira Formation <i>(Laira Formation)</i>	Fluvial; coastal plain.	Fair - poor	Very low	Low	A sparse but relatively diverse palynoflora. Saccate and inaperturate pollen remnants dominant. Spores prominent and moderately diverse; Ferns (<i>Cyathidites</i>) lycopods (<i>Retitriletes</i>) and liverworts (<i>Aequitriradites</i> , <i>Januasporites</i>) notable. A very sparse leiosphere - algal association.
SWC 29 1536.4m P18668	Lower APK21 - Middle APK21 <i>Osmundacidites</i> Palynofacies <i>[F. wonthaggiensis, D. speciosus, M. florida, M. evansii]</i>	Laira Formation <i>(Laira Formation)</i>	Fluvial, coastal plain.	Fair	Moderate	Moderate	Diverse spore dominated assemblage. <i>Osmundacidites</i> dominate; <i>Cyathidites</i> and bisaccate pollen prominent; Lycopod spores (<i>Retitriletes</i> , <i>Kekryphalospora</i> and <i>Dictyosporites</i>) prominent and diverse. Bryophytes notable; mostly <i>Aequitriradites</i> . Sparse leiosphere - algal association; <i>M. evansii</i> present.
	Base <i>Foraminisporis wonthaggiensis</i>						



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				Preservation	Yield <i>(Organic yield)</i>	Diversity	
SWC 27 1591m P18669	APK121 - APK21 <i>Osmundacidites - Retitriteles</i> Palynofacies <i>[C. equalis, C. hughesii]</i>	Crayfish Group <i>(Laira Formation)</i>	Fluvial, overbank.	Fair - poor carbonised	Low	Very low	Spore dominated palynoflora including a prominence of relative few taxa; <i>Cyathidites</i> , <i>Osmundacidites</i> , <i>Neoraistrickia coalita</i> <i>Ceratosporites equalis</i> and <i>Retitriteles nodosus</i> common. Bryophytes very scarce; Bryophyte spores become very scarce from this level and down to TD. Bisaccate pollen prominent but very restricted in diversity; mostly <i>Alisporites lowoodensis</i> . Isolated leiospheres present. Some contamination noted
Sample Gap Pretty Hill Formation 1598m							
SWC 24 1837.0m P18670	APJ62 - APK3 tentatively APK1 <i>[C. equalis]</i>	Indeterminate	Peat Bog or Dystrophic Swamp.	Fair	Almost nil	Almost nil	An extremely scant palynoflora comprising mud borne contamination.
SWC 22 1903.2m P18671	APJ62 - APK4 tentatively APK1 "Casterton" lagoonal palynofacies <i>[C. equalis, R. watherooensis, M. antarcticus]</i>	Crayfish Group <i>(Pretty Hill Formation)</i>	Coastal lagoon or lacustrine.	Very poor	Low	Very low	Sparse palynoflora of mostly poorly preserved ?leiosphere and inaperturate pollen remnants. Few recognisable spores; <i>Osmundacidites</i> , <i>Cyathidites</i> and <i>Ceratosporites equalis</i> notable. Common diffuse tissue (?algal or inaperturate pollen remnants).
SWC 21 1914.2m P18672	APJ62 - APK4 tentatively APK1 "Casterton" lagoonal palynofacies <i>[C. equalis, M. antarcticus]</i>	Crayfish Group <i>(Pretty Hill Formation)</i>	Coastal lagoon or lacustrine.	Leiospheres fair. Spore-Pollen Very poor	High	Extremely low	Leiospheres abundant but are almost the only recognisable palynomorph. Inaperturate and saccate pollen notable and may have been more abundant but few could be positively identified. Spores scarce; <i>Osmundacidites</i> and <i>Ceratosporites equalis</i> notable. Abundant diffuse tissue (?algal or inaperturate pollen remnants).
SWC 16 1936.4m P18673	APJ62 - APK4 Very tentatively APK1 <i>[C. equalis]</i>	Crayfish Group <i>(Pretty Hill Formation)</i>	Peat Bog or Dystrophic Swamp.	Poor	Extremely low	Extremely low	Extremely sparse palynoflora; mostly ?inaperturate pollen with <i>Osmundacidites</i> and <i>Cyathidites</i> prominent. Degraded wood fibres and cuticle abundant. Few ?leiospheres present.



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				Preservation	Yield <i>(Organic yield)</i>	Diversity	
SWC 10 1948.1m P18674	APK122 [<i>D. speciosus</i>]	Pretty Hill Formation <i>(Pretty Hill Formation)</i>	Peat Bog.	Fair - poor	Very low	Very low	Mostly vitrinitic palynodebris; few palynomorphs free from matrix; typical coal recovery. Palynoflora extremely sparse and restricted in diversity. Price, 1993 considered this assemblage to be mostly derived from mud borne contamination; however, while there may be a slight degree of contamination, the association seems typical of that recovered from a bright (vitreous) coal. The lower degree of thermal alteration than the association recovered from SWC6 suggested contamination; however the vitreous coal palynodebris has a wide translucent rim (indicating a low rank) and the relative induration of SWC 6 relates to the intrusion.
SWC 6 2002.0m P18675	APK1 - mid APK122 probably Middle APK122 Conifer <i>Osmundacidites</i> Palynofacies [<i>C. "quasihughesii"</i> , <i>R. ludbrookiae "parallelus"</i> , <i>C. equalis</i> , <i>M. antarcticus</i>]	mid Pretty Hill Formation <i>(Pretty Hill Formation)</i>	Fluvial - Lacustrine.	Extremely poor	High	Low <i>(see remarks)</i>	A rich palynoflora dominated by saccate and ?inaperturate pollen remnants. Spores prominent and may have been diverse but few could be identified (exinal detail lost due to advanced stage of thermal alteration); <i>Osmundacidites</i> , <i>Cyathidites</i> and <i>Retitriletes</i> notable. ?Leiospheres may have been notable but difficult to distinguish from the inaperturate pollen remnants. The association seems too diverse for a typical Casterton Formation association
SWC 5 2017.2m P18676	Mesozoic	Indeterminate <i>(Pretty Hill Formation)</i>	Fluvial, braided stream or Beach.	Extremely poor	Almost nil	Almost nil	A few corroded spore and pollen remnants recovered; few of which could be identified.
SWC 4 2028.2m P18677	Indeterminate Contamination [<i>C. equalis</i> , <i>M. antarcticus</i>]	Indeterminate <i>(Pretty Hill Formation)</i>	Indeterminate	Fair to Extremely poor	Extremely low	very low	A sparse palynoflora which included a few carbonised spore and pollen remnants of similar preservation to the underlying assemblage; these forms may be endemic to the sampled horizon. The majority of the palynomorphs (saccate pollen, inaperturate pollen, Angiosperm pollen, cryptogam spores and acritarchs) and coarse palynodebris (cuticle and wood fibres) were fresh to moderately thermally altered and likely to have been derived from both a mud additive and from higher in the section. No biostratigraphic reliance can be placed upon the recovered palynoflora.
SWC 3 2048.2m P18678	APJ62 - APK1 tentatively APK1 Casterton Palynofacies [<i>C. equalis</i> , <i>R. watherooensis</i>]	Crayfish Group <i>(Pretty Hill Formation)</i>	Fluvial - Lacustrine.	Very low	Extremely poor	Extremely low	Palynoflora strongly carbonised with only the more robust forms identifiable. Spore remnants dominant; <i>Osmundacidites</i> and <i>Retitriletes</i> prominent, <i>Contignisporites</i> notable. Saccate and Inaperturate pollen remnants prominent. Leiospheres notable.
	Basement 2050m TD 2088m						