



APG Consultants

Palynostratigraphic Data

Bus Swamp #1

(Species distribution data from Morgan, 1993; Burger, 1993; Alley, 1993)

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Sample Sample Type Depth (Metres)	Palynostratigraphic Unit Age	Inferred Lithostratigraphy (Log Interp)	Palynostratigraphic Datum Reference	Remarks
SWC 300	APK5	Eumeralla Formation	Base <i>C. paradoxa</i>	<i>C. paradoxa</i> recorded lower (856m) in the section from cuttings.
SWC 756	APK3 probably APK321	Eumeralla Formation	Top <i>C. variabilis</i>	
	Windermere Sandstone ("basal Eumeralla") 835m			
SWC 862	APK321	Eumeralla Formation	Base <i>P. parvispinosus</i> Base <i>F. wonthaggiensis</i> sl (Morgan & Burger data)	<i>F. wonthaggiensis</i> "lunaris" present in cuttings at 856 - 870m
SWC 886	APK22 - APK321 probably APK22 - APK31	? Eumeralla Formation	Base <i>P. notensis</i> Base <i>C. variabilis</i> (Morgan data)	Morgan records high proportions of <i>Cyathidites</i> and <i>Osmundacidites</i> and may be perhaps suggestive of the APK22 - APK31 <i>Cyathidites</i> associations of Gordon #1.
	Crayfish Group 892m Laira Formation 892m			There is an indication of <i>APK21</i> associations being preserved in Bus Swamp #1, Gordon #1, Mocambo #11 and Digby #1 which suggests that there is a hiatus within the upper Crayfish Sub Group (Laira Formation) perhaps in addition to the Penola and Robe Trough regional unconformity between the Eumeralla Formation and Crayfish Sub Group. This contrasts with the Penola Trough where the upper Crayfish section is truncated with the progressive loss of the lower <i>APK21</i> and middle <i>APK21</i> section towards the trough margins as in Katnook tp Sawpit to Robinson and possibly Heathfield to Tullich to McEachern.
SWC 30 913	Upper APK122 - APK21 tentatively Lower - Middle APK21	basal Laira Formation or Pretty Hill Formation	Base <i>C. variabilis</i> (Burger data)	The persistence of <i>C. variabilis</i> and <i>A. hispidus</i> is perhaps are more typical of APK2 associations than APK122 but it should be noted that these taxa can range down into APK122. Thus, there is very little justification for including this sample in APK21 rather than Upper APK122 if the <i>F. wonthaggiensis</i> occurrence at 957m is questioned (see remarks below). The extremely tentative assignment to Middle APK21 by Price, 1998 was as much based upon the associations from the presumed equivalent section in Gordon #1 (SWC53 1275m), Mocambo #11 and Digby.



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Sample Sample Type Depth (Metres)	Palynostratigraphic Unit Age	Inferred Lithostratigraphy (Log Interp)	Palynostratigraphic Datum Reference	Remarks
957m	Upper APK122 - APK21 tentatively Lower - Middle APK21	Laira Formation or Pretty Hill Formation	? Base <i>F. wonthaggiensis</i> (Alley data)	Alley's record of <i>F. wonthaggiensis</i> at 957m is significantly below that of Burger or Morgan (862m). His deeper records of <i>F. wonthaggiensis</i> at 1515.83m and 1790m are given as doubtful ("??") occurrences on the range charts but seem more positive assignments in the supporting text. These two deeper occurrences seem at odds with the other studies for this well and the palynomorph distribution data for the surrounding wells.
SWC 1105m	Upper APK122 - Middle APK21 possibly Upper APK122	basal Laira Formation or Pretty Hill Formation	Base <i>A. spinulosus</i>	
SWC 1190m	APK122 - Middle APK21 tentatively Upper APK122	basal Laira Formation or Pretty Hill Formation	Base <i>A. veruucatus</i>	
	Pretty Hill Formation 1250m Sawpit Sandstone 1427m			
Core 2 1510m	APK12 - APK21 probably APK122 tentatively Lower - Middle APK122	basal Laira Formation or Pretty Hill Formation	Base & Top <i>M. evansii</i>	Only record of <i>M. evansii</i> in this well section
SWC 1516	APK12 - APK21 probably APK122 tentatively Lower - Middle APK122	basal Laira Formation or Pretty Hill Formation		Questioned <i>F. wonthaggiensis</i> recorded at 1516 and 1790m given on Alley's range chart.
	Sawpit "basal shale" member 1552m			

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