



APG Consultants

Palynostratigraphic Data

Laira #1
Report 651/01

Page 1 of 9
23/06/2000
(Print: 07:38 7/7/00)

Sample Depth Prep. Number	Palynostratigraphic Unit Age [Index Species]	Inferred Lithostratigraphic Unit (Log interpreted Unit (Morton et al 1995))	Inferred Depositional Environment	Palynomorph			Remarks
				Preservation	Yield	Diversity	
	Eumeralla Formation ?m - 1937m						
SWC 52 1888m P19590	APK321 probably not basal "Conifer- <i>Ruffordiaspora</i> " Palynofacies [<i>F. wonthaggiensis</i> "lunaris", <i>F. asymmetricus</i> , <i>P. notensis</i> , <i>P. parvispinosus</i> , <i>C. variabilis</i> , <i>R. australiensis</i> , <i>R. ludbrookiae</i> , <i>Cyclo. hughesii</i>]	lower Eumeralla Formation (lower Eumeralla Formation)	Fluvial lacustrine	Fair most entire, most thin; ?over oxidized	Moderate	Moderate	Palynoflora dominated by Conifer pollen (bisaccate and inaperturate pollen); many fragmented. Cycad pollen conspicuous. Spores prominent and moderately diverse; <i>Cyathidites</i> conspicuous; <i>Ruffordiaspora</i> notable and modestly diverse (mostly <i>R. ludbrookiae</i>). <i>Pilosisorites</i> extremely scarce. Few Lycopod and Bryophyte spores although both modestly diverse. Aquatic forms notable; mostly leiospheres.
SWC 51 1889m P19591	APK22 - APK321 probably APK321 (not basal) " <i>Ruffordiaspora</i> - <i>Cyathidites</i> " Palynofacies [<i>F. wonthaggiensis</i> "lunaris", <i>P. notensis</i> , <i>P. ingramii</i> , <i>C. variabilis</i> , <i>Cyclo hughesii</i> , <i>R. ludbrookiae</i> , <i>R. australiensis</i>]	lower Eumeralla Formation (lower Eumeralla Formation)	Fluvial	Poor many fragmented and thin	Moderate	Moderate	Conifer pollen (bisaccate and inaperturate pollen) prominent; most fragmented and unidentifiable. Cycad pollen conspicuous. Spores prominent and modestly diverse; many unidentifiable; <i>Cyathidites</i> conspicuous; <i>Ruffordiaspora</i> notable and modestly diverse (mostly <i>R. ludbrookiae</i>). <i>Pilosisorites</i> extremely scarce. Few Lycopod and Bryophyte spores. Few aquatic forms; mostly leiospheres.
SWC 50 1898m P19592	APK321 possibly basal APK321 " <i>Pilosisorites</i> - <i>Cyathidites</i> " Palynofacies [<i>F. wonthaggiensis</i> , <i>F. asymmetricus</i> , <i>P. notensis</i> , <i>P. parvispinosus</i> , <i>R. australiensis</i> , <i>R. ludbrookiae</i> , <i>Cyclo. hughesii</i> , <i>C. stylosus</i>]	lower Eumeralla Formation or upper Windermere Member (lower Eumeralla Formation)	Fluvial lacustrine	Poor many fragmented and thin	Moderate	Moderate	Conifer pollen (bisaccate and inaperturate pollen) prominent; most fragmented and unidentifiable. Cycad pollen notable. Spores prominent and modestly diverse; many unidentifiable; <i>Cyathidites</i> conspicuous; <i>Ruffordiaspora</i> notable and modestly diverse (mostly <i>R. ludbrookiae</i>). <i>Pilosisorites</i> sparse but modestly diverse. Lycopod spores notable but somewhat restricted in diversity. Few Bryophyte spores. Aquatic forms notable; mostly leiospheres.
1898m	Base <i>P. parvispinosus</i>						



APG Consultants

Palynostratigraphic Data

Laira #1

Report 651/01

Page 2 of 9

23/06/2000

(Print: 07:38 7/7/00)

Sample Depth Prep. Number	Palynostratigraphic Unit Age [Index Species]	Inferred Lithostratigraphic Unit (Log interpreted Unit (Morton et al 1995))	Inferred Depositional Environment	Palynomorph			Remarks
				Preservation	Yield	Diversity	
SWC 49 1899m P19593	APK31 - APPK321 probably APK31 "Ruffordiaspora - Cyathidites" Palynofacies [<i>F. asymmetricus</i> , <i>P. notensis</i> , <i>C. variabilis</i> , <i>R. australiensis</i> , <i>R. ludbrookiae</i>]	basal Eumeralla Formation or Windermere - Katnook Sandstone (lower Eumeralla Formation)	Lacustrine	Very poor thin corroded, fragmented; ?over oxidised aquatics forms OK	Moderate	Moderate	Saccate pollen and inaperturate pollen remnants prominent; few identifiable. Cycad pollen notable. Fern spores conspicuous; mostly <i>Cyathidites</i> ; <i>Pilosporites</i> extremely scarce; <i>Ruffordiaspora</i> scarce. Lycopod spores conspicuous and modestly diverse. Few Bryophyte spores. Aquatic forms prominent; mostly leiospheres (<i>Sigmopollis punctatus</i>)
1899m	Base <i>F. asymmetricus</i> Base <i>P. notensis</i> (see remarks)						<i>P. notensis</i> recorded at 1916.5m by Morgan, 1989 but could not be found in this study.
SWC 44 1916.5m P19594	APK2 - APK321 probably Upper APK21 - APK31 possibly APK22 "Ruffordiaspora - Cyathidites" Palynofacies [<i>F. wonthaggiensis</i> "wonthaggiensis", <i>R. ludbrookiae</i> , <i>R. australiensis</i>]	basal Eumeralla Formation or Windermere - Katnook Sandstone (lower Eumeralla Formation)	Fluvial - lacustrine	Very poor thin corroded fragmented; ?over oxidised	Moderate	Moderate	Saccate pollen and inaperturate pollen remnants prominent; few identifiable. Cycad pollen notable. Cryptogam spores dominant. Fern spores conspicuous; mostly <i>Cyathidites</i> ; <i>Ruffordiaspora</i> scarce. Lycopod spores conspicuous and modestly diverse. Few Bryophyte spores. Aquatic conspicuous; mostly leiospheres. Morgan, 1989 records <i>P. notensis</i> but the specimen could not be relocated; no co-ordinates were given on RM's work sheets.
1916.5m	Base <i>F. wonthaggiensis</i> "wonthaggiensis"						
1934m	Top <i>M. evansii</i>						
SWC 43 1934m P19595	Middle APK21 - APK31 tentatively APK22 "Ruffordiaspora - Osmundacidites" Palynofacies [<i>F. wonthaggiensis</i> "gracilis", <i>D. speciosus</i> , <i>T. reticulatus</i> "bireticularis", <i>R. ludbrookiae</i> , <i>R. australiensis</i> , <i>D. speciosus</i> , <i>M. evansii</i> (abundant)]	upper Laira Formation (upper Laira Formation)	Fluvial lacustrine	Fair - Poor most saccate pollen thin, fragmented.	High	High	Palynoflora dominated by Fern spores (mostly <i>Osmundacidites</i> and <i>Cyathidites</i>) <i>Ruffordiaspora</i> scarce. Bi and trisaccate pollen, and inaperturate prominent but mostly unidentifiable remnants. Lycopod spores notable (mostly <i>Leptolepidites</i>). Bryophyte spores notable and modestly diverse. Aquatic forms conspicuous; mostly <i>Microfaster evansii</i> .



APG Consultants

Palynostratigraphic Data

Laira #1

Report 651/01

Page 3 of 9

23/06/2000

(Print: 07:38 7/7/00)

Sample Depth Prep. Number	Palynostratigraphic Unit Age [Index Species]	Inferred Lithostratigraphic Unit (Log interpreted Unit (Morton et al 1995))	Inferred Depositional Environment	Palynomorph			Remarks
				Preservation	Yield	Diversity	
SWC 42 1936m P19596	Upper APK21 - APK31 tentatively APK22 "Ruffordiaspora - Osmundacidites" Palynofacies [<i>Ruffordiaspora australiensis</i> , <i>R. "mega-australiensis"</i> , <i>T. reticulatus</i> "bireticularus", <i>D. speciosus</i> , <i>M. evansii</i> (abundant)]	upper Laira Formation (upper Laira Formation)	Fluvial lacustrine	Poor	Moderate	Moderate	Conifer pollen (mostly trisaccate and inaperturate pollen) prominent but many unidentifiable fragments. Fern spores prominent; mostly <i>Cyathidites</i> and <i>Osmundacidites</i> , <i>Ruffordiaspora</i> notable. Lycopod spores conspicuous and moderately diverse. Bryophyte spores scarce. Aquatic forms conspicuous; mostly <i>Microfaster evansii</i> and leiospheres.
1936m	Deepest consistent, modestly diverse and notable <i>Ruffordiaspora spp</i>						
	Laira Formation 1937m - 2680m						
SWC 41 1938m P19597	APK21 probably Lower APK21 - Middle APK21 tentatively Middle APK21 "Osmundacidites - Retitriteles" Palynofacies [<i>F. wonthaggiensis</i> "gracilis", <i>Cyathidites</i> <i>hughesii</i> , <i>D. speciosus</i> , <i>M. evansii</i> (abundant)]	upper Crayfish Subgroup (upper Laira Formation)	Fluvial lacustrine	Very poor most thin corroded and fragmented	Moderate	Moderate	Conifer pollen (mostly trisaccate and inaperturate pollen) prominent but many unidentifiable fragments. Spores prominent but many unidentifiable. Fern spores conspicuous; mostly <i>Cyathidites</i> and <i>Osmundacidites</i> . Lycopod spores conspicuous and moderately diverse. Bryophyte spores scarce. Aquatic forms conspicuous; mostly <i>Microfaster evansii</i> and leiospheres.
SWC 40 1938.5m P19598	APK122 - APK21 tentatively Middle APK21 "Osmundacidites - Retitriteles" Palynofacies [<i>D. speciosus</i> , <i>M. evansii</i> (notable)]	Crayfish Subgroup (upper Laira Formation)	Lacustrine	Poor most thin corroded and fragmented	Moderate	Moderate	Fern spores prominent; mostly <i>Cyathidites</i> and <i>Osmundacidites</i> . Conifer pollen prominent but mostly unidentifiable inaperturate and saccate pollen remnants. Lycopod spores conspicuous; mostly <i>Retitriteles</i> remnants. Bryophyte spores scarce. Aquatic forms prominent; mostly leiospheres; <i>M. evansii</i> notable
SWC 39 1941m P19600	Upper APK122 - APK21 "Conifer" Palynofacies [<i>D. speciosus</i> , <i>M. evansii</i> (notable)]	Crayfish Subgroup (upper Laira Formation)	Fluvial lacustrine	Very poor most thin corroded and fragmented	Low	Low	Palynoflora dominated by Conifer pollen (saccate pollen and inaperturate pollen) remnants; few identifiable. Fern and lycopod spores conspicuous but many only broadly assigned. Few Bryophyte spores. Aquatic forms notable; <i>Microfaster evansii</i> notable.



APG Consultants

Palynostratigraphic Data

Laira #1

Report 651/01

Page 4 of 9

23/06/2000

(Print: 07:38 7/7/00)

Sample Depth Prep. Number	Palynostratigraphic Unit Age [Index Species]	Inferred Lithostratigraphic Unit (Log interpreted Unit (Morton et al 1995))	Inferred Depositional Environment	Palynomorph			Remarks
				Preservation	Yield	Diversity	
SWC 38 1943m P19601	APK122 - APK21 "Osmundacidites - Retitriteles" Palynofacies [<i>D. speciosus</i> , <i>Cyclo. hughesii</i> , <i>C. equalis</i> , <i>C. stylosus</i> , <i>M. evansii</i>]	Crayfish Subgroup (upper Laira Formation)	Fluvial lacustrine	Poor thin, corroded	Moderate	Moderate	Conifer pollen (bisaccate, trisaccate and inaperturate pollen) remnants prominent. Fern spores conspicuous; mostly <i>Osmundacidites</i> . Lycopod spores notable; mostly <i>Retitriteles</i> . Bryophyte spores scarce and restricted. Aquatic forms notable; mostly Leiospheres.
SWC 37 1945m P19602	APK21 possibly Middle APK21 "Osmundacidites - Retitriteles" Palynofacies [<i>R. ludbrookiae</i> "parallelus", <i>F. "burgeri"</i> , <i>D. speciosus</i> , <i>C. mediae</i> , <i>F. dailyi</i> , <i>C. stylosus</i> , <i>M. evansii</i> (notable)]	upper Laira Formation (upper Laira Formation)	Fluvial lacustrine	Very poor thin, corroded, fragmented	Moderate	Moderate	Conifer pollen (bisaccate, trisaccate and inaperturate pollen) remnants prominent; few identifiable. Fern spores prominent; mostly <i>Osmundacidites</i> and <i>Cyathidites</i> ; isolated <i>Ruffordiaspora ludbrookiae</i> and <i>Fisciniasporites "burgeri"</i> . Lycopod spores notable; mostly <i>Retitriteles</i> . Bryophyte spores scarce and restricted. Aquatic forms notable; mostly <i>M. evansii</i> .
SWC 36 1956m P19603	APK21 possibly Middle APK21 "Osmundacidites - Retitriteles" Palynofacies [<i>R. ludbrookiae</i> "priscus", <i>D. speciosus</i> , <i>Cyclo hughesii</i> , <i>C. glebulentus</i> "digimpressus", <i>C. stylosus</i> , <i>M. evansii</i> (abundant)]	upper Laira Formation (upper Laira Formation)	Fluvial lacustrine	Poor thin, corroded, fragmented	Moderate	Moderate	Conifer pollen (bisaccate, trisaccate and inaperturate pollen) remnants prominent but few identifiable and difficult to distinguish from cuticle remnants and leiospheres. Fern spores prominent; mostly <i>Osmundacidites</i> ; isolated <i>Ruffordiaspora ludbrookiae</i> . Lycopod spores notable <i>Retitriteles</i> . Bryophyte spores scarce but modestly diverse. Aquatic forms conspicuous; mostly <i>M. evansii</i> and leiospheres; isolated spinose acritarch.
SWC 35 1961m P19604	Middle APK21 - Upper APK21 possibly Middle APK21 "Osmundacidites - Retitriteles" Palynofacies [<i>R. australiensis</i> , <i>R. ludbrookiae</i> , <i>C. stylosus</i> , <i>T. reticulatus</i> , ? <i>F. wonthaggiensis</i> "gracilis", <i>D. speciosus</i> , <i>Cyclo. hughesii</i> , <i>C. mediae</i> , <i>M. evansii</i> (abundant)]	upper Laira Formation (upper Laira Formation)	Fluvial lacustrine	Poor - Fair Thin, some corroded	Moderate	Moderate	Conifer pollen prominent; mostly inaperturate pollen and trisaccate pollen. Fern spores prominent; mostly <i>Cyathidites</i> and <i>Osmundacidites</i> ; <i>Ruffordiaspora</i> extremely scarce (2 spec). Lycopod spores notable. Bryophyte spores notable and modestly diverse; <i>T. reticulatus</i> notable; isolated and rather doubtful <i>F. wonthaggiensis</i> "gracilis". Aquatic forms conspicuous; mostly <i>Microfaster evansii</i> .



APG Consultants

Palynostratigraphic Data

Laira #1

Report 651/01

Page 5 of 9

23/06/2000

(Print: 07:38 7/7/00)

Sample Depth Prep. Number	Palynostratigraphic Unit Age [Index Species]	Inferred Lithostratigraphic Unit (Log interpreted Unit (Morton et al 1995))	Inferred Depositional Environment	Palynomorph			Remarks
				Preservation	Yield	Diversity	
SWC 34 1978m P19605	APK122 - APK21 tentatively Middle APK21 "Osmundacidites" Palynoflora [<i>Cyclo hughesii</i> , <i>D. speciosus</i> , <i>C. stylosus</i> , <i>J. spinulosus</i> , <i>Triporeletes</i> "cretaceous", <i>M. evansii</i> (notable)]	Laira Formation (upper Laira Formation)		Poor thin, corroded, fragmented	Moderate	Moderate	Conifer pollen prominent; mostly inaperturate pollen and trisaccate pollen remnants. Fern spores conspicuous; mostly <i>Osmundacidites</i> and <i>Cyathidites</i> . Lycopod spores notable but not very diverse. Bryophyte spores scarce. Aquatic forms conspicuous; mostly leiospheres; <i>M. evansii</i> notable.
SWC 32 2074.5m P19606	Middle - Upper APK21 probably Middle APK21 Conifer Palynofacies [<i>D. speciosus</i> , <i>C. stylosus</i> , <i>T. reticulatus</i> , <i>F. wonthaggiensis</i> "gracilis", <i>R. ludbrookiae</i> , <i>M. evansii</i> (notable)]	upper Laira Formation (upper Laira Formation)	Lacustrine	Poor thin, corroded, fragmented	Moderate	Moderate	Palynoflora dominated by aquatic forms; mostly leiospheres (<i>Granodiscus</i>); <i>M. evansii</i> notable. Conifer pollen conspicuous; mostly inaperturate pollen and trisaccate pollen. Fern and lycopod spores notable but somewhat restricted in diversity; isolated <i>Ruffordiaspora</i> . Bryophyte spore sparse.
	128.5m sample gap						
SWC 31 2204m P19607	Middle - Upper APK21 possibly mid APK21 "Osmundacidites - Retitriteles" Palynofacies [<i>T. reticulatus</i> , <i>D. speciosus</i> , <i>C. stylosus</i> , <i>R. australiensis</i> , <i>R. ludbrookiae</i> , <i>C. mediae</i> , <i>J. "delicatus"</i> , <i>C. "quasilinearis"</i> , <i>M. evansii</i> (notable)]	upper Laira Formation (upper Laira Formation)	Fluvial lacustrine	Poor thin, corroded, fragmented	Moderate	Moderate	Conifer pollen prominent; mostly inaperturate pollen and trisaccate pollen remnants. Fern spores conspicuous; mostly <i>Osmundacidites</i> ; <i>Ruffordiaspora</i> very scarce but modestly diverse. Lycopod spores notable but not very diverse. Bryophyte spores scarce. Aquatic forms conspicuous; mostly leiospheres; <i>M. evansii</i> notable.
2204m	Base <i>T. reticulatus</i> Base scarce, somewhat inconsistent, but modestly diverse <i>Ruffordiaspora</i> spp. Base consistent notable to abundant <i>Microfista evansii</i>						
	253m sample gap						



APG Consultants

Palynostratigraphic Data

Laira #1

Report 651/01

Page 6 of 9

23/06/2000

(Print: 07:38 7/7/00)

Sample Depth Prep. Number	Palynostratigraphic Unit Age [Index Species]	Inferred Lithostratigraphic Unit (Log interpreted Unit (Morton et al 1995))	Inferred Depositional Environment	Palynomorph			Remarks
				Preservation	Yield	Diversity	
SWC 28 2457m P19608	APK122 - APK21 possibly Lower APK21 "Osmundacidites" Palynofacies [<i>Cyclo hughesii</i> , <i>D. speciosus</i> , <i>A. spinulosus</i> , <i>C. mediae</i> , ? <i>F. wonthaggiensis</i> " <i>gracilis</i> ", <i>M. evansii</i>]	lower Laira Formation or uppermost Pretty Hill Formation (lower Laira Formation)	Fluvial lacustrine	Poor thin, corroded, fragmented	Moderate	Moderate	Conifer pollen prominent; mostly inaperturate pollen remnants; few identifiable. Fern spores prominent; mostly <i>Osmundacidites</i> . Lycopod spores notable but not very diverse. Bryophyte spores scarce. Aquatic forms notable; mostly leiospheres; few <i>M. evansii</i> .
2457m	Base <i>Contignisporites mediae</i>						
SWC 27 2569.5m P19609	APK21 probably Lower APK21 "Osmundacidites - Retitrites" Palynoflora [<i>C. stylosus</i> , <i>D. speciosus</i> , <i>F. wonthaggiensis</i> " <i>gracilis</i> ", <i>Cyclo hughesii</i> , <i>C. equalis</i> " <i>rotundus</i> ", <i>C. equalis</i> " <i>tenuisetosus</i> ", <i>C. "quasilinearis"</i> , <i>M. evansii</i>]	lower Laira Formation or uppermost Pretty Hill Formation (lower Laira Formation)	Fluvial lacustrine	Poor thin, corroded, fragmented	Moderate	Moderate	Palynoflora dominated by fern spores; mostly <i>Osmundacidites</i> . Conifer pollen prominent; mostly fragmented bisaccate pollen (<i>Alisporites</i>) remnants. Lycopod spores notable and moderately diverse; <i>Dictyosporites</i> notable. Bryophyte spores scarce and restricted. Aquatic forms notable; few <i>Microfaster evansii</i> .
2457m	Base <i>F. wonthaggiensis</i> " <i>gracilis</i> "						
SWC 25 2630m P19610	Upper APK122 - Lower APK21 possibly Upper APK122 "Osmundacidites" Palynofacies [<i>D. speciosus</i> , <i>Cyclo hughesii</i> , <i>C. equalis</i> " <i>rotundus</i> ", <i>C. "quasilinearis"</i> , <i>A. spinulosus</i> , <i>R. australiensis</i> , <i>M. evansii</i>]	basal Laira Formation or Pretty Hill Formation (basal Laira Formation)	Fluvial	Very poor thin corroded fragmented, stained	Moderate	Low	Palynoflora dominated by fern spores; mostly <i>Osmundacidites</i> ; isolated <i>Ruffordiaspora australiensis</i> . Conifer pollen conspicuous; mostly fragmented saccate pollen and inaperturate pollen remnants; few identifiable and difficult to distinguish from cuticle fragments. Lycopod spores notable but somewhat restricted; <i>Dictyosporites</i> notable. Bryophyte spores scarce and restricted. Aquatic forms scarce; isolated <i>Microfaster evansii</i> .



APG Consultants

Palynostratigraphic Data

Laira #1

Report 651/01

Page 7 of 9
23/06/2000
(Print: 07:38 7/7/00)

Sample Depth Prep. Number	Palynostratigraphic Unit Age [Index Species]	Inferred Lithostratigraphic Unit (Log interpreted Unit (Morton et al 1995))	Inferred Depositional Environment	Palynomorph			Remarks
				Preservation	Yield	Diversity	
SWC 24 2655m P19611	Upper APK122 - Lower APK21 possibly Upper APK122 "Osmundacidites" Palynoflora [<i>D. speciosus</i> , <i>Cylo hughesii</i> , <i>C. equalis</i> "tenuisetosus", <i>C. stylus</i> , <i>A. spinulosus</i> , <i>P. linearis</i> , <i>M. evansii</i>]	basal Laira Formation or Pretty Hill Formation (basal Laira Formation)	Fluvial ?paralic	Very poor thin corroded fragmented, stained	Low	Low	Palynoflora dominated by fern spores; mostly <i>Osmundacidites</i> . Conifer pollen conspicuous; mostly fragmented saccate pollen and inaperturate pollen remnants; few identifiable and difficult to distinguish from cuticle fragments. Lycopod spores notable but somewhat restricted; <i>Dictyosporites</i> notable. Bryophyte spores scarce but modestly diverse. Aquatic forms scarce; isolated <i>Microfaa evansii</i> , isolated spinose acritarch.
SWC 20 2676m P19612	Upper APK122 - Lower APK21 possibly Upper APK122 "Osmundacidites" Palynoflora [<i>D. speciosus</i> , <i>A. "cristatus"</i> , <i>A. spinulosus</i> , <i>C. spinulosus</i> , <i>Cylo hughesii</i> , <i>C. equalis</i> "rotundus", <i>C. "quasilinearis"</i> , <i>M. evansii</i>]	basal Laira Formation or Pretty Hill Formation (basal Laira Formation)	Fluvial	Very poor thin corroded fragmented, stained	Moderate	Low	Palynoflora dominated by fern spores; mostly <i>Osmundacidites</i> . Conifer pollen conspicuous; mostly fragmented saccate pollen and inaperturate pollen remnants; few identifiable and difficult to distinguish from cuticle fragments. Lycopod spores notable but somewhat restricted; <i>Dictyosporites</i> notable. Bryophyte spores scarce and restricted in diverse. Aquatic forms scarce; isolated <i>Microfaa evansii</i> .
SWC19 2677m P19613	upper APK122 - lower APK21 tentatively upper APK122 "Osmundacidites" Palynoflora [<i>D. speciosus</i> , ? <i>A. spinulosus</i> , <i>C. equalis</i> "tenuisetosus", <i>S. "killanoolensis"</i> , <i>C. "quasilinearis"</i> , <i>F. dailyi</i> , <i>M. evansii</i>]	basal Laira Formation or Pretty Hill Formation (basal Laira Formation)	Fluvial	Very to extremely poor very thin, corroded fragmented, stained; high proportion of unidentifiable fragments	Low	Low	Palynoflora mostly unidentifiable corroded fragmented remnants. Conifer pollen conspicuous; mostly fragmented saccate pollen remnants. Fern spores conspicuous; mostly <i>Osmundacidites</i> . Lycopod spores notable but restricted and difficult to identify beyond genus. Bryophyte spores scarce and restricted in diverse. Aquatic forms very scarce; isolated <i>Microfaa evansii</i> .
SWC 18 2678.5m P19614	mid APK122- lower APK21 probably APK122 "Osmundacidites" Palynoflora [<i>D. speciosus</i> , <i>S. "killanoolensis"</i> , <i>Cylo hughesii</i> , <i>C. "quasilinearis"</i> , <i>C. equalis</i> "tenuisetosus", <i>F. dailyi</i>]	basal Laira Formation or Pretty Hill Formation (basal Laira Formation)	Fluvial	Very to extremely poor very thin, corroded fragmented, stained; high proportion of unidentifiable fragments	Low	Low	Mostly unidentifiable corroded fragmented palynomorph remnants and cuticle fragments. Conifer pollen conspicuous; mostly fragmented saccate pollen remnants. Fern spores conspicuous; mostly <i>Osmundacidites</i> , <i>Cyathidites</i> notable. Lycopod spores conspicuous but restricted and difficult to identify beyond genus. Bryophyte spores scarce and restricted in diverse. Aquatic forms very scarce.
2678	Base <i>S. "killanoolensis"</i>						



APG Consultants

Palynostratigraphic Data

Laira #1

Report 651/01

Page 8 of 9

23/06/2000

(Print: 07:38 7/7/00)

Sample Depth Prep. Number	Palynostratigraphic Unit Age [Index Species]	Inferred Lithostratigraphic Unit (Log interpreted Unit (Morton et al 1995))	Inferred Depositional Environment	Palynomorph			Remarks
				Preservation	Yield	Diversity	
	Below 2678.5m palynomorph recoveries and preservation limit the reliable Palynostratigraphic resolution to 1 st and 2 nd order units					Species diversity and preservation decline in most samples below 3678.5m	
	Pretty Hill Formation 2680m - TD						
	159.5m Sample gap						
SWC 14 2838m P19615	Middle APK122- Lower APK21 possibly APK122 (no older Middle APK122) "Osmundacidites"Palynoflora [D. speciosus, Cyclo hughesii, C. equalis "tenuisetosus", C. "quasilinearis", F. daily]	basal Laira Formation or Pretty Hill Formation (upper Pretty Hill Formation)	Fluvial	Extremely poor very thin, corroded fragmented, stained; high proportion of unidentifiable fragments	Low	Low	Mostly unidentifiable corroded fragmented palynomorph remnants and cuticle fragments. Conifer pollen conspicuous; mostly fragmented saccate pollen remnants. Fern spores conspicuous; mostly Osmundacidites. Lycopod spores conspicuous but restricted and difficult to identify beyond genus. Bryophyte spores scarce and restricted in diverse. Aquatic forms very scarce.
SWC 13 2854.2m P19616	Middle APK122 - Lower APK21 possibly APK122 (no older Middle APK122) ? "Osmundacidites"Palynoflora [?D. speciosus, Cyclo hughesii, C. equalis, R. mega-australiensis]	basal Laira Formation or Pretty Hill Formation (upper Pretty Hill Formation)	Fluvial	Extremely poor Some very thin, most corroded fragmented, strongly stained; high proportion of unidentifiable fragments	Low	Low	Mostly unidentifiable corroded fragmented palynomorph remnants and cuticle fragments. Conifer pollen conspicuous; mostly fragmented saccate and inaperturate pollen remnants. Spores conspicuous but few identifiable; isolated Ruffordiaspora. Aquatic forms extremely scarce.
2854	Base R. "mega-australiensis"						
SWC 7 2895m P19617	APK122 - Lower APK21 possibly APK122 ? "Osmundacidites"Palynoflora [D. speciosus, Cyclo hughesii, C. equalis,]	basal Laira Formation or Pretty Hill Formation (upper Pretty Hill Formation)	Fluvial	Extremely poor Some very thin, most corroded fragmented, strongly stained; high proportion of unidentifiable fragments	Low	Low	Mostly unidentifiable corroded fragmented palynomorph remnants and cuticle fragments. Conifer pollen conspicuous; mostly fragmented saccate and inaperturate pollen remnants. Spores conspicuous but few identifiable. Aquatic forms extremely scarce.



Page 9 of 9
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