

G.S.C. O.F. 1884 PALYNOLOGICAL BIOSTRATIGRAPHY OF THE INTERVAL
2235-3340M, WHITEROSE L-61, GRAND BANKS

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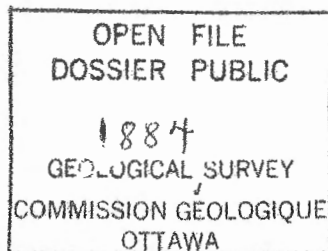
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BUTAK DAVIES GROUP

PALYNOLOGICAL BIOSTRATIGRAPHY
OF THE INTERVAL 2235-3340M,
WHITEROSE L-61, GRAND BANKS

REPORT NO. 87-0066
NOVEMBER, 1987

CALGARY, ALBERTA



BIOSTRATIGRAPHIC SUMMARY: WHITEROSE L-61

- 2235-2435m: Areoligera senonensis Zone (early Eocene)
- 2460-2500m: Ceratiopsis speciosa Zone (late Paleocene)
- 2520-2560m: Palaeoperidinium pyrophorum Zone (early Paleocene)
- 2580-2590m: Dinogymnium enclaense Zone (Maastrichtian)
- 2610-2745m: Surculosphaeridium longifurcatum Zone (Turonian)
- 2765-2865m: Parvisaccites amplus Zone Subzones 10 A-B (early to middle Aptian)
- 2885-2985m: Subtilisphaera terrula Zone (Hauterivian to Barremian)
- 3005-3135m: Muderongia staurota Zone (late Valanginian to early Hauterivian)
- 3155-3340m: Pseudoceratium pelliiferum Zone (early to late Valanginian)

REMARKS

Due to the high abundances of lignitic mud additives, the persistence of caved Tertiary material, the strong staining of the palynomorphs, and the scarcity of indigenous palynomorphs, the age and zonal assignments are highly tentative. This is especially true in the Lower Cretaceous sequence.

SELECTED PALYNOMORPHS2235-2435m: Areoligera senonensis Zone (early Eocene)

- 2235-2245m: Apectodinium homomorphum
Areosphaeridium multicornutum (small form)
Hystriocholpoma unispinum
Hystriochosphaeridium patulum
Systematophora placacantha
Wetzeliella articulata
Wetzeliella meckelfeldensis
- 2265-2275m: Deflandrea oebisfeldensis
Glaphyrocysta laciniiforme
Impagidinium californiense
Lejeunecysta spinulosa
Phthanoperidinium echinatum
- 2305-2315m: Areoligera senonensis (rare)
Hystriochosphaeridium tubiferum
- 2335-2345m: Apectodinium hyperacanthum
Lentinia wetzelii
Thalassiphora patula
- 2365-2395m: Dracodinium condylos
Homotryblum oceanicum
Homotryblum pallidum
Polysphaeridium subtile
- 2395-2405m: Cordosphaeridium fibrospinosum
- 2425-2435m: Spinidinium densispinatum

2460-2500m: Ceratiopsis speciosa Zone (late Paleocene)

2460-2470m: Apectodinium augustum
Ceratiopsis speciosa glabra

2490-2500m: Tanyosphaeridium isocalamum (probably reworked)

2520-2560m: Palaeoperidinium pyrophorum Zone (early Paleocene)

2520-2530m: Palaeoperidinium pyrophorum

2580-2590m: Dinogymnium euclaense Zone (Maastrichtian)

2580-2590m: Exochosphaeridium striolatum
Palynodinium grallator

2610-2745m: Surculosphaeridium longifurcatum Zone (Turonian)

2610-2620m: Stiphrosphaeridium anthophorum
Surculosphaeridium longifurcatum

2670-2680m: Pseudoceratium pelliiferum (questionable
identification)

2700-2710m: Abiespollenites microreticulatus
Astrocysta cretacea
Trichodinium castaneum

2765-2865m: Parvisaccites amplius Zone: Subzones 10 A-B (early to middle Aptian)

2765-2775m: Striatella #EF (derived)
 Cyclonephelium attadalicum
 Odontochitina operculata
 Podocarpidites epistriatus

2795-2805m: Cicatricosisporites abacus
 parvisaccites radiatus

2885-2985m: Subtilisphaera terrula Zone (Hauterivian to Barremian)

2885-2895m: Hystrichogonyaulax cladophora cf.

2915-2925m: Taeniophora #EB (questionable identification)

3005-3145m: Muderongia staurota Zone (late Valanginian to early Hauterivian)

3005-3015m: Achomosphaera neptunii (questionable identification)
 Callialasporites monoalasporus
 Cicatricosisporites #EAL
 Cribroperidinium #EX

3035-3045m: Pilosporites verus
 Trilobosporites tuberculiformis

3065-3075m: Florentina loffrense

3095-3105m: Cicatricosisporites #ECA
Cicatricosisporites annulatus
Cicatricosisporites minor

3125-3135m: Costatoperforosporites #EG

3155-3340m: Pseudoceratium pelliferum (early to late Valanginian)

3155-3165m: Endoscrinium pharo

3185-3195m: Cassiculosphaeridia magna
Gardodinium eisenackii
Occisucysta sp. indet.

3215-3225m: Minerisporites #EA
Occisucysta #EX

3245-3255m: Muderongia staurota

3305-3315m: Pseudoceratium pelliferum
Tanyosphearidium magneticum

3330-3340m: Aequitriradites tilchaensis

APPENDIX AAlphabetical Listing of Species Shown on Occurrence Chart:Marine Dinoflagellates

Index number	Taxon names	
59	Achomosphaera neptunii	33 Polysphaeridium subtile
10	Achomosphaera ramulifera	52 Pseudoceratium pelliiferum
25	Adnatosphaeridium multispinosum	18 Rottnechia borussica
36	Apectodinium augustum	35 Spinidinium densispinatum
1	Apectodinium homomorphum	19 Spiniferites ramosus
26	Apectodinium hyperacanthum	68 Spiniferites sp. indet.
58	Aptodinium granulatum	47 Stiphrosphaeridium anthophorum
21	Areoligera senonensis	48 Surculosphaeridium longifurcatum
2	Areosphaeridium multicornutum (small)	24 Systematophora #LE
53	Astrocysta cretacea	7 Systematophora placacantha
66	Cassiculosphaeridia magna	61 Taeniophora #EB
39	Ceratiopsis diebelii	38 Tanyosphaeridium isocalamum
37	Ceratiopsis speciosa glabra	72 Tanyosphaeridium magneticum
34	Cordosphaeridium fibrospinosum	29 Thalassiphora patula
11	Cordosphaeridium gracile	20 Thalassiphora pelagica
22	Cordosphaeridium inodes inodes	54 Trichodinium castaneum
62	Cribroperidinium #EX	8 Wetzeliella articulata
12	Cribroperidinium giuseppi	9 Wetzeliella meckelfeldensis
74	Cribroperidinium spp.	
55	Cyclonephelium attadalicum	
57	Cyclonephelium distinctum	
13	Deflandrea oebisfeldensis	
30	Dracodinium condylos	
65	Endoscrinium pharo	
42	Exochosphaeridium striolatum	
63	Florentina loffrense	
67	Gardodinium eisenackii	
14	Glaphyrocysta laciniiforme	
49	Gochtodinium simplex	
73	Gonyaulacysta fastigiata	
43	Hafniasphaera septata	
31	Homotryblum oceanicum	
32	Homotryblum pallidum	
64	Hystrichodinium pulchrum	
60	Hystrichogonyaulax cladophora cf.	
3	Hystrichokolpoma unispinum	
50	Hystrichosphaeridium difficile	
4	Hystrichosphaeridium patulum	
23	Hystrichosphaeridium tubiferum	
15	Impagidinium californiense	
5	Impletosphaeridium scalenfurcatum	
45	Isabelidinium cooksoniae	
16	Lejeunecysta spinulosa	
27	Lentinia serrata	
28	Lentinia wetzelii	
6	Lingulodinium machaerophorum	
69	Minerisporites #EA	
71	Muderongia staurota	
70	Occisucysta #EX	
56	Odontochitina operculata	
40	Palaeocystodinium lidiae	
46	Palaeohystrichophora infusorioides	
41	Palaeoperidinium pyrophorum	
44	Palynodinium grallator	
17	Phthanoperidinium echinatum	
51	Polysphaeridium sp. indet.	

APPENDIX A cont'dAlphabetical Listing of Species Shown on Occurrence Chart:Pollen and Spores

Index number	Taxon names
7	Abiespollenites microreticulatus
13	Aequitriradites spp.
35	Aequitriradites tilchaensis
14	Alisporites bilateralis
21	Araucariacites australis
22	Callialasporites monoalasporus
8	Callialasporites turbatus
17	Cedripites canadensis
9	Cerebropollenites mesozoicus
23	Cicatricosisporites #EAL
28	Cicatricosisporites #ECA
15	Cicatricosisporites abacus
29	Cicatricosisporites annulatus
30	Cicatricosisporites minor
33	Concavissimisporites punctatus
25	Corollina torosa
31	Costatoperforosporites #EG
1	Cyathidites spp.
19	Deltoidospora hallii
32	Kraeuselisporites linearis
2	Laevigatosporites ovatus
20	Lycopodiumsporites marginatus
3	Osmundacidites claytonites
18	Parvisaccites amplus
16	Parvisaccites radiatus
24	Perinopollenites elatoides
4	Piceapollenites spp.
26	Pilosporites verus
5	Pinuspollenites spp.
12	Podocarpidites epistriatus
34	Podocarpidites herbtsii
11	Podocarpidites potomacensis
10	Striatella #EF
6	Taxodiaceapollenites hiatus
27	Trilobosporites tuberculiformis

APPENDIX A cont'd

Alphabetical Listing of Species Shown on Occurrence Chart:

Algae and Miscellaneous

Index number	Taxon names
3	extruded hydrocarbons
4	foraminiferal liners
1	Micrhystridium fragile
2	Pediastrum boryanum

APPENDIX BExamined Samples: Whiterose L-61

2235.00 : cuttings
2265.00 : cuttings
2305.00 : cuttings
2335.00 : cuttings
2365.00 : cuttings
2395.00 : cuttings
2425.00 : cuttings
2460.00 : cuttings
2490.00 : cuttings
2520.00 : cuttings
2550.00 : cuttings
2580.00 : cuttings
2610.00 : cuttings
2640.00 : cuttings
2670.00 : cuttings
2700.00 : cuttings
2735.00 : cuttings
2765.00 : cuttings
2795.00 : cuttings
2825.00 : cuttings
2855.00 : cuttings
2885.00 : cuttings
2915.00 : cuttings
2945.00 : cuttings
2975.00 : cuttings
3005.00 : cuttings
3035.00 : cuttings
3065.00 : cuttings
3095.00 : cuttings
3125.00 : cuttings
3155.00 : cuttings
3185.00 : cuttings
3215.00 : cuttings
3245.00 : cuttings
3275.00 : cuttings
3305.00 : cuttings
3330.00 : cuttings