

This document was produced
by scanning the original publication.

Ce document est le produit d'une
numérisation par balayage
de la publication originale.

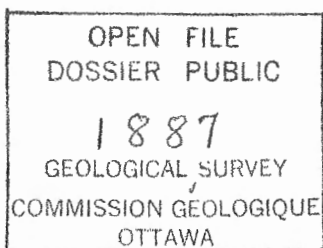
BUJAK DAVIES GROUP

SUMMARY OF THE PALYNOLOGICAL
ANALYSIS OF 12 WELLS FROM THE
SCOTIAN SHELF

REPORT NO. 87-0066, 88-0008

APRIL 1988

CALGARY, ALBERTA



PALYNOLOGICAL ANALYSIS OF THE
INTERVAL 1875-4045M,
ALBATROSS B-13, SCOTIAN SHELF

REPORT NO. 87-0066
February 1988

CALGARY, ALBERTA

BIOSTRATIGRAPHIC SUMMARY

1875-1885m:	<u>Cannosphaeropsis</u> sp. A Zone (late Miocene)
2025-2275m:	<u>Adnatosphaeridium reticulense</u> Zone (middle Eocene)
2295-2395m:	<u>Areoligera senonensis</u> Zone (early Eocene)
2415-2425m:	<u>Dinogymnium euclaense</u> Zone (Maastrichtian)
2445-2485m:	<u>Pervosphaeridium truncigerum</u> Zone (Santonian)
2505-2515m:	possible <u>Bacchidinium polypes</u> Zone or older (possible Cenomanian or older)
2535-3205m:	No zonal assignment (no age assignment)
3225-3595m:	No zonal assignment (Late Jurassic to Early Cretaceous)
3615-3805m:	<u>Pileosisporites</u> sp. A Zone: Subzone 2C or older (middle Kimmeridgian)
3825-3835m:	<u>Hystrichogonyaulax</u> #EA Zone (early Oxfordian)
3855-3935m:	<u>Systematophora orbifera</u> Zone (Callovian)
3945-4045m:	<u>Ctenidodinium combazii</u> Zone (late Bathonian to early Callovian)

ALBATROSS B-13Revised Jurassic Age and Zonal Determinations

- 3615-3775m Hystrihogonyaulax cladophora Zone: Subzone
undifferentiated (Kimmeridgian)
- 3825-3835m Adnatosphaeridium caulleryi Zone: Gonyaulacysta
jurassica Subzone (early Oxfordian)
- 3855-3935m Adnatosphaeridium caulleryi Zone: Gonyaulacysta
pectinigera Subzone (Callovian)
- 3945-4045m Ctenidodinium sellwoodii Zone: Ctenidodinium sellwoodii
Subzone (early Callovian)

ALBATROSS B-13: FORMATIONS

Interval considered: 1875-4045m

From: EPGS-STRAT. 36-87JAW/IIC

1875-2468m	Banquereau
2468-3958m	Abenaki (Baccaro Member)
3958-4045m	Abenaki (Misaine Member)

PALYNOLOGICAL ANALYSIS OF THE
INTERVAL 3370-5790M, BLUENOSE 2G-47,
SCOTIAN SHELF

REPORT NO. 88-0008

March 1988

CALGARY, ALBERTA

BIOSTRATIGRAPHIC SUMMARY

- 3370-3380m No zonal assignment (Neocomian to Aptian
undifferentiated)
- 3400-4360m Phoberocysta neocomica Zone (Berriasian to
Valanginian)
- 4380-5350m Probable Ctenidodinium panneum Zone (Portlandian)
- 5370-5790m Probable Hystrihogonyaulax cladophora Zone
(Kimmeridgian)

BLUENOSE 2G-47: FORMATIONS

Interval considered: 3370-5797m

From: EPGS-STRAT. 41-87JAW/ITC

3370-4003m	Missisauga (lower member)
4003-4580m	Miss'sauga
4580-5797m	Mic Mac

PALYNOLOGICAL ANALYSIS OF THE
INTERVAL 440-3950M,
BONNET P-23, SCOTIAN SHELF

REPORT NO. 86-0066
February, 1988

CALGARY, ALBERTA

BIOSTRATIGRAPHIC SUMMARY

- | | |
|-------------|--|
| 440- 450m: | probable <u>Cannosphaeropsis</u> sp. A Zone (probable late Miocene) |
| 470- 630m: | <u>Cannosphaeropsis</u> sp. A Zone (late Miocene) |
| 650- 875m: | <u>Pentadinium laticinctum</u> Zone (middle Miocene) |
| 890-1560m: | <u>Apteodinium</u> sp. B Zone (early Miocene) |
| 1580-1620m: | possible <u>Deflandrea heterophlycta</u> Zone (possible early Oligocene) |
| 1640-1680m: | <u>Deflandrea heterophlycta</u> Zone (early Oligocene) |
| 1700-1740m: | <u>Diphyes colligerum</u> Zone (late Eocene) |
| 1760-1770m: | <u>Adnatosphaeridium reticulense</u> Zone (middle Eocene) |
| 1820-1830m: | Zone not assigned (Aptian to Cenomanian) |
| 1850-1980m: | <u>Tenua anaphrissa</u> Zone (Barremian) |
| 2000-2040m: | <u>Ctenidodinium elegantulum</u> Zone (Hauterivian) |
| 2060-2190m: | <u>Phoberocysta neocomica</u> Zone (Berriasian to Valanginian) |

- 2210-2310m: Ctenidodinium panneum Zone (Portlandian)
- 2330-2910m: Gonyaulacysta cladophora Zone (Kimmeridgian)
- 3190-3200m: Ctenidodinium chondrum Zone (early Kimmeridgian)
- 3220-3230m: Systematophora orbifera Zone (early Oxfordian)
- 3250-3730m: Ctenidodinium combazii Zone (late Bathonian to
early Oxfordian)
- 3750-3950m: Dapcodinium semitabulatum Zone to Nannoceratopsis
gracilis Zone (Aalenian to Bajocian)

BONNET P-23Revised Jurassic Age and Zonal Determinations

2330-2910m	<u>Hystrichogonyaulax cladophora</u> Zone: <u>Hystrichogonyaulax cladophora</u> Subzone (Kimmeridgian)
3190-3200m	<u>Hystrichogonyaulax cladophora</u> Zone: <u>Ctenidodinium chondrum</u> Subzone (early Kimmeridgian)
3220-3230m	<u>Adnatosphaeridium caulleryi</u> Zone: probable <u>Gonyaulacysta jurassica</u> Zone (Oxfordian)
3250-3350m	<u>Ctenidodinium sellwoodii</u> Zone: <u>Ctenidodinium sellwoodii</u> Subzone (early Callovian)
3370-3530m	<u>Ctenidodinium sellwoodii</u> Zone: <u>Ctenidodinium combazii</u> Subzone (late Bathonian)
3550-3730m	possible <u>Nummus</u> spp. Peak Zone: <u>Korystocysta</u> #EE Subzone (Bajocian)
3750-3950m	<u>Mancodinium semitabulatum</u> Zone: (Toarcian to Aalenian)

BONNET P-23: FORMATIONS

Interval considered: 440-3940m

From: EPGS-STRAT. 42-87JAW/ITC

440-1762m	Banquereau
1762-1796m	Logan Canyon (Naskapi Member)
1796-2091m	Roseway unit
2091-3178m	Abenaki (Baccaro Member)
3178-3346m	Abenaki (Misaine Member)
3346-3525m	Abenaki (Scatarie Member)
3525-3940m	Iroquois

PALYNOLOGICAL ANALYSIS OF THE
INTERVAL 320-454CM, GLOOSCAP C-63 WELL,
SCOTIAN SHELF

REPORT NO. 88-0008

MARCH 1988

CALGARY, ALBERTA

BIOSTRATIGRAPHIC SUMMARY

320- 380m	<u>Deflandrea heterophlycta</u> Zone (early Oligocene)
400- 460m	<u>Diphyes colligerum</u> Zone (late Eocene)
480- 490m	<u>Adnatosphaeridium reticulense</u> Zone (middle Eocene)
510- 520m	<u>Areoligera senonensis</u> Zone (early Eocene)
540- 550m	<u>D. euclaensis</u> , <u>P. pyrophorum</u> and <u>C. speciosa</u> Zones (Maastrichtian, early Paleocene and late Paleocene)
570- 820m	<u>Dinogymnium euclaensis</u> Zone (Maastrichtian)
840- 890m	probable <u>Odontochitina operculata</u> Zone (probable Campanian)
900- 910m	possible <u>Pervosphaeridium truncigerum</u> Zone (possible Santonian)
930-1060m	<u>Pervosphaeridium truncigerum</u> Zone (Santonian)
1080-1120m	<u>Oligosphaeridium pulcherrimum</u> Zone (Coniacian)
1140-1150m	<u>Surculosphaeridium longifurcatum</u> Zone (Turonian)
1170-1330m	<u>Kiokansium polypes</u> Zone (Cenomanian)
1360-1870m	<u>Chichaouadinium vestitum</u> Zone (Albian)
1890-1900m	<u>Subtilisphaera perlucida</u> Zone (late Aptian)
1920-2080m	<u>Subtilisphaera perlucida</u> Zone: <u>Cyclonephelium</u> <u>attadalicum</u> Subzone (early Aptian)

2100-2290m	<u>Aptea anaphrissa</u> Zone (Barremian)
2310-2320m	Probable <u>Ctenidodinium elegantulum</u> Zone (Hauterivian)
2340-2560m	<u>Phoberocysta neocomica</u> Zone (Berriasian - Valanginian)
2580-2650m	<u>Ctenidodinium panneum</u> Zone (Portlandian)
2670-2680m	<u>Hystrichogonyaulax cladophora</u> Zone (Kimmeridgian)
2700-2770m	<u>Hystrichogonyaulax</u> #EA Zone (Oxfordian)
2790-2800m	<u>Gonyaulacysta jurassica jurassica</u> Zone (early Oxfordian)
2820-3280m	<u>Hystrichosphaerina orbifera</u> Zone (Callovian)
3300-3310m	<u>Ctenidodinium combazii</u> Zone (Bathonian to early Callovian)
3330-3490m	<u>Gonglyodinium erymnoteichos</u> Zone (late Bajocian)
3510-3610m	<u>Eyachia prisca</u> Zone (early Bajocian)
3630-3880m	<u>Dapcodinium semitabulatum</u> Zone (Aalenian)
3890-3900m	<u>Scriniocassis weberi</u> Zone (Toarcian)
4040-4240m	No zonal assignment (No age assignment)
4255-4365m	No zonal assignment (Possible Carnian to Norian)
4380-4540m	<u>Patinasporites densus</u> Zone (Carnian to Norian)

GL00SCAP C-63Revised Jurassic Age and Zonal Determinations

- 2670-2680m Hystrihogonyaulax cladophora Zone (Kimmeridgian)
- 2700-2770m Adnatosphaeridium caulleryi Zone: Hystrihogonyaulax #EA
Subzone (Oxfordian)
- 2790-3130m Adnatosphaeridium caulleryi Zone: Gonyaulacysta jurassica
Subzone (early Oxfordian)
- 3150-3220m Adnatosphaeridium caulleryi Zone: Tubotuberella egemenii
Subzone: (Late Callovian to early Oxfordian)
- 3240-3280m Adnatosphaeridium caulleryi Zone: Gonyaulacysta
pectinigera Subzone: (Callovian)
- 3300-3310m Ctenidodinium sellwoodii Zone: Ctenidodinium sellwoodii
Subzone (early Callovian)
- 3330-3340m Ctenidodinium sellwoodii Zone: Ctenidodinium combazii
Subzone (Late Bathonian)
- 3360-3490m Nummus spp. Peak Zone: Korystocysta #EE Subzone
(Bajocian)
- 3510-3610m Nummus spp. Peak Zone: ?Bradleyella #EA Subzone (early
Bajocian)
- 3630-3820m Mancodinium semitabulatum Zone: Mancodinium
holotabulatum Subzone (Aalenian)

3840-3880m Mancodinium semitabulatum Zone: Noricysta #EA Subzone
(late Toarcian)

3890-3900m Echinitosporites sp. A Zone: Scriniocassis weberi
Subzone (late Pliensbachian to early Toarcian)

GLOOSCAP C-63: FORMATIONS

Interval considered: 320-4540m

From: EPGS-STRAT, 53-87JAW/ITC

320- 957m	Banquereau
957-1078m	Wyandot
1078-1092m	Dawson Canyon
1092-1098m	Dawson Canyon (Petrel Member)
1098-1320m	Dawson Canyon
1320-2211m	Shortland Shale
2211-2501m	Missisauga
2501-2696m	Roseway/Artimon equivalents
2696-3258m	Abenaki (Baccaro Member)
3258-3345m	Abenaki (Misaine Member)
3345-3475m	Abenaki (Scatarie Member)
3475-3894m	Mohican
3894-4045m	"Glooscap volcanics"
4045-4540m	Argo

PALYNOLOGICAL ANALYSIS OF THE
INTERVAL 900-6030M, HOME ET AL
LOUISBOURG J-47 WELL,
SCOTIAN SHELF

Analysis by: Judith Lentin

Lentin International Biostratigraphic Consultants
2110, 505 - 4th Avenue S.W.
Calgary, Alberta

REPORT No. 88-0008

March 1988

CALGARY, ALBERTA

BIOSTRATIGRAPHIC SUMMARY

900-1120m:	<u>Areoligera senonensis</u> Zone (early Eocene)
1140-1340m:	<u>Ceratiopsis diebelii</u> - <u>Palaeoperidinium pyrophorum</u> Zone (early Paleocene)
1350-1390m:	<u>Odontochitina operculata</u> Zone (Campanian)
1410-1540m:	Late Cretaceous undifferentiated
1560-1635m:	<u>Surculosphaeridium longifurcatum</u> Zone (Turonian)
1650-1845m:	<u>Kiokansium polypes</u> Zone (Cenomanian)
1860-2265m:	<u>Chichaouadinium</u> cf. <u>vestifum</u> Zone (Albian)
2280-2895m:	<u>Hystrichosphaerina schindewolfii</u> - <u>Subtilisphaera</u> <u>perlucida</u> Zone (Aptian)
2910-4072.5m:	<u>Aptea anaphrissa</u> Zone (Barremian)
4087.8-4265m:	Early Cretaceous undifferentiated
4280-4515m:	Valanginian
4528-4860m:	Late Berriasian
4875-4980m:	Portlandian - Early Berriasian
4995-5445m:	No age assignment
5453-5490m:	Late Jurassic
5505-6030m:	No age assignment

LOUISBOURG J-47: FORMATIONS

Interval considered: 900-6015m

From: EPGS-STRAT. 56-87JAW/ITC

900-1363m	Banquereau
1363-1546m	Wyandot
1546-1630m	Dawson Canyon
1630-1634m	Dawson Canyon (Petrel Member)
1634-1726m	Dawson Canyon
1726-1872m	Logan Canyon (Marmora Member)
1872-2034m	Logan Canyon (Sable Member)
2034-2747m	Logan Canyon (Cree Member)
2747-2993m	Logan Canyon (Naskapi Member)
2993-3198m	Missisauga (upper member)
3198-3276m	"U" Marker
3276-4290m	Missisauga (middle member)
4290-6015m	Mic Mac

PALYNOLOGICAL ANALYSIS OF THE
INTERVAL 1140-14,100FT, MOHEIDA P-15 WELL,
SCOTIAN SHELF

REPORT NO. 88-0008

March 1988

CALGARY, ALBERTA

BIOSTRATIGRAPHIC SUMMARY

1140-1170ft	No assignment
1230-2430ft	<u>Cannosphaeropsis</u> sp. A Zone (late Miocene)
2490-2610ft	<u>Pentadinium laticinctum</u> Zone (middle Miocene)
2670-2700ft	<u>Apteodinium</u> sp. B Zone (early Miocene)
2760-2970ft	<u>Chiropteridinium mespilanum</u> Zone (late Oligocene)
3030-3420ft	possible <u>Adnatosphaeridium reticulense</u> Zone (possible middle Eocene)
3480-3570ft	possible <u>Dinogymnium euclaense</u> Zone or older (possible Maastrichtian or older)
3940-3970ft	<u>Oligosphaeridium pulcherrimum</u> Zone (Coniacian)
4040-4170ft	<u>Surculosphaeridium longifurcatum</u> Peak Zone (Turonian)
4350-4880ft	<u>Kiokansium polypes</u> Zone (Cenomanian)
4950-6860ft	<u>Chichaouadinium vestitum</u> Zone (Albian)
6930-7360ft	<u>Subtilisphaera perlucida</u> Zone: <u>Pilososporites</u> <u>trichopapillosus</u> Subzone (early Aptian)
7430-7560ft	<u>Subtilisphaera perlucida</u> Zone: <u>Cyclonephelium</u> <u>attadalicum</u> Subzone (early Aptian)

7630-7760ft	<u>Aptea anaphrissa</u> Zone (Barremian)
7830-8260ft	<u>Ctenidodinium elegantulum</u> Zone (Hauterivian)
8330-8950ft	<u>Phoberocysta neocomica</u> Zone (Berriasian to Valanginian)
9020-9150ft	<u>Ctenidodinium panneum</u> Zone (Portlandian)
9120-9550ft	<u>Hystrichogonyaulax</u> #EA Zone (Oxfordian)
9620-9650ft	<u>Hystrichosphaerina orbifera</u> Zone (Callovian)
9,20-10,650ft	<u>Ctenidodinium combazii</u> Zone (Bathonian to early Callovian)
10,720-11,350ft	<u>Nummus</u> #EX Zone (early Bathonian)
11,420-11,850ft	<u>Gonglyodinium erymnoteichos</u> (late Bajocian)
11,920-12,050ft	<u>Eyachia prisca</u> Zone (early Bajocian)
12,120-12,600ft	<u>Dapcodinium semitabulatum</u> Zone (Aalenian)
12,600-12,750ft	<u>Scriniocassis weberi</u> Zone (Toarcian)
12,820-12,850ft	<u>Liasidinium variable</u> Zone (Late Sinemurian)
12,920-14,100ft	No zonal assignment

MOHEIDA P-15Revised Jurassic Age and Zonal Determinations

- 9120-9350ft Adnatospheridium caulleryi Zone: Hystrichogonyaulax
#EA Subzone (early Oxfordian)
- 9420-9550ft Adnatosphaeridium caulleryi Zone: probably
Gonyaulacysta jurassica Subzone (Oxfordian)
- 9620-9650ft Adnatosphaeridium caulleryi Zone: Tubotuberella
egemenii Subzone (late Callovian to early Oxfordian)
- 9720-10,450ft Ctenidodinium sellwoodii Zone: Ctenidodinium
sellwoodii Subzone (early Callovian)
- 10,520-10,650ft Ctenidodinium sellwoodii Zone: Ctenidodinium combazii
Subzone (late Bathonian)
- 10,720-11,250ft Ctenidodinium sellwoodii Zone: Nummus #EX Subzone
(early Bathonian)
- 11,320-11,850ft Nummus spp. Peak Zone: Korystocysta #EE Subzone
(Bajocian)
- 11,920-12,050ft Nummus spp. Peak Zone: ?Bradleyella #EA Subzone (early
Bajocian)
- 12,120-12,350ft Mancodinium semitabulatum Zone: Convolutispora #EA
Subzone (Aalenian)

- 12,420-12,580ft Echinitosporites sp. A Zone: Kraeuselisporites
reissingerii Subzone (Toarcian)
- 12,600-12,750ft Echinitosporites sp. A Zone: Scrinocassis weberi
Subzone (late Pliensbachian to early Toarcian)
- 12,820-12,850ft Liasidium variabile Zone (Pliensbachian)

MOHEIDA P-15: FORMATIONS

Interval considered: 1140-14,100ft

From: EPGS-STRAT. 14-80-JAW

Rev. 04-87JAW/ITC

1140-3618ft	Banquereau
3618-3812ft	Wyandot
3812-3880ft	Dawson Canyon
3880-3884ft	Dawson Canyon (Petrel Member)
3884-4465ft	Dawson Canyon
4465-7302ft	Logan Canyon equivalent
7302-8312ft	Missisauga equivalent
8312-8895ft	Roreway/Artimon
8895-11,040ft	Abenaki (Baccaro Member)
11,040-11,289ft	Abenaki (Misaine Member)
11,289-11,738ft	Abenaki (Scatarie Member)
11,738-12,230ft	Mohican
12,230-12,635ft	Iroquois facies
12,635-13,265ft	Mohican
13,265-14,100ft	Triassic (Eurydice?)

PALYNOLOGICAL ANALYSIS OF THE
INTERVAL 625-3960M,
NORTH TRIUMPH B-52, SCOTIAN SHELF

REPORT NO. 88-0008

March 1988

CALGARY, ALBERTA

BIOSTRATIGRAPHIC SUMMARY

625- 705m	<u>Cannosphaeropsis</u> sp. A Zone (late Miocene)
715- 845m	<u>Pentadinium laticinctum</u> Zone (middle Miocene)
935- 965m	<u>Apteodinium</u> sp. B Zone (early Miocene)
975-1005m	<u>Chiropteridium mespilanum</u> Zone (middle to late Oligocene)
1015-1145m	<u>Deflandrea heterophlycta</u> Zone (early Oligocene)
1155-1365m	<u>Diphyes colligerum</u> Zone (late Eocene)
1375-1385m	<u>Adnatosphaeridium reticulense</u> Zone (middle Eocene)
1395-1565m	<u>Areoligera senonensis</u> Zone (early Eocene)
1575-1585m	<u>Palaeoperidinium pyrophorum</u> Zone (early Paleocene)
1595-1665m	<u>Dinogymnium euclaense</u> Zone (Maastrichtian)
1665-1785m	<u>Kiokansium polypes</u> Zone (Cenomanian)
1785-2620m	<u>Chichaouadinium vestitum</u> Zone (Albian)
2620-2650m	Possible <u>Subtilisphaera perlucida</u> Zone (possible Aptian)

- 2650-2860m Subtilisphaera perlucida (Aptian)
- 2860-2900m Probable Aptea anaphrissa Zone (probable Barremian)
- 2910-3460m Aptea anaphrissa Zone (Barremian)
- 3460-3710m Ctenidodinium elegantulum Zone (Hauterivian)
- 3720-3960m Phoberocysta neocomica Zone (Berriasian-Valanginian)

Bujak Davies Group

North Triumph B-52....3

NORTH TRIUMPH B-52: FORMATIONS

Interval considered: No data available

PALYNOLOGICAL ANALYSIS OF THE
INTERVAL 1200-14,030FT,
PENOBSCOT L-30, SCOTIAN SHELF

REPORT NO. 88-0008

APRIL 1988

CALGARY, ALBERTA

BIOSTRATIGRAPHIC SUMMARY

1200-1590ft	<u>Diphyes colligerum</u> Zone (late Eocene)
1650-2220ft	<u>Adnatosphaeridium reticulense</u> Zone (middle Eocene)
2280-2310ft	<u>Palaeoperidinium pyrophorum</u> Zone (early Paleocene)
2370-2940ft	<u>Dinogymnium euclaense</u> Zone (Maastrichtian)
3000-3300ft	<u>Odontochitina operculata</u> Zone (Campanian)
3360-3390ft	<u>Oligosphaeridium pulcherrimum</u> Zone to <u>Pervosphaeridium truncigerum</u> Zone (Coniacian to Santonian)
3450-3660ft	<u>Surculosphaeridium longifurcatum</u> Zone (Turonian)
3720-3840ft	<u>Kiokansium polypes</u> Zone (Cenomanian)
3900-5790ft	<u>Chichaouadinium vestitum</u> Zone (Albian)
5860-5990ft	<u>Subtilisphaera perlucida</u> Zone (Aptian)
6060-6190ft	<u>Subtilisphaera perlucida</u> Zone: <u>Pilosporites</u> <u>trichopapillosa</u> Subzone (early Aptian)
6260-6890ft	<u>Subtilisphaera perlucida</u> Zone: <u>Cyclonephelium</u> <u>attadalicum</u> Subzone (early Aptian)

6960-7390ft	<u>Aptea anaphrissa</u> Zone (Barremian)
7460-8390ft	<u>Ctenidodinium elegantulum</u> Zone (Hauterivian)
8460-10,690ft	<u>Phoberocysta neocomica</u> Zone (Berriasian to Valanginian)
10,760-13,230ft	<u>Hystrihogonyaulax cladophora</u> Zone (Kimmeridgian)
13,280-13,311ft	Probable <u>Hystrichosphaerina orbifera</u> Zone (Callovian)
13,312-14,030ft	<u>Ctenidodinium combazii</u> Zone (late Bathonian to early Callovian)

PENOBSCOT C-30Revised Jurassic Age and Zonal Determinations

10,760-11,090ft	<u>Hystrichogonyaulax cladophora</u> Zone: <u>Hystrichogonyaulax cladophora</u> Subzone (Kimmeridgian)
11,160-12,390ft	<u>Hystrichogonyaulax cladophora</u> Zone: possible <u>Ctenidodinium chondrum</u> Subzone (early Kimmeridgian)
12,460-13,050ft	<u>Hystrichogonyaulax cladophora</u> Zone: <u>Leptodinium</u> <u>aceras</u> Subzone (late Oxfordian to early Kimmeridgian)
13,110-13,230ft	<u>Adnatosphaeridium caulleryi</u> Zone: <u>Hystrichogonyaulax</u> #EA Subzone (Oxfordian)
13280-13,311.4ft	<u>Adnatosphaeridium caulleryi</u> Zone: probable <u>Gonyaulacysta jurassica</u> Subzone (early Oxfordian)
13,312-13,313.7ft	<u>Ctenidodinium sellwoodii</u> Zone: <u>Ctenidodinium</u> <u>sellwoodii</u> Subzone (early Callovian)
13,380-14,030ft	No zonal assignment (no age assignment)

PENOBSCOT L-30: FORMATIONS

Interval considered: 1200-14,000ft

From: EPGS-STRAT. 46-79JAW

Rev. 04-87ITC

1200-2844ft	Banquereau
2844-3122ft	Wyandot
3122-3554ft	Dawson Canyon
3554-3593ft	Dawson Canyon (Petrel Member)
3593-3881ft	Dawson Canyon
3881-4662ft	Logan Canyon (Marmora Member)
4662-4960ft	Logan Canyon (Sable Member)
4960-7018ft	Logan Canyon (Cree Member)
7018-7386ft	Logan Canyon (Naskapi Member)
7386-7900ft	Missisauga (upper member)
7900-8060ft	"0" Marker
8060-10,468ft	Missisauga (middle member)
10,468-11,169ft	Missisauga (lower member)
11,169-14,000ft	Mic Mac

PALYNOLOGICAL ANALYSIS OF THE
INTERVAL 440-5905m,
SOUTH GRIFFIN J-13 WELL, SCOTIAN SHELF

REPORT NO. 88-0008

March 1988

CALGARY, ALBERTA

BIOSTRATIGRAPHIC SUMMARY

440- 450m	<u>Cannosphaeropsis</u> sp. A Zone or older (late Miocene or older)
470- 480m	<u>Pentadinium laticinctum</u> Zone (middle Miocene)
500- 660m	<u>Apteodinium</u> sp. B Zone (early Miocene).
680- 720m	<u>Chiropteridium mespilanum</u> Zone (middle to late Oligocene)
740- 780m	<u>Deflandrea heterophlycta</u> Zone (early Oligocene)
800- 840m	<u>Diphyes colligerum</u> Zone (late Eocene)
860- 870m	<u>Adnatosphaeridium reticulense</u> Zone (middle Eocene)
890-1140m	<u>Areoligera senonensis</u> Zone (early Eocene)
1160-1230m	<u>Ceratiopsis speciosa</u> Zone (late Paleocene)
1250-1440m	<u>Palaeoperidinium pyrophorum</u> Zone (early Paleocene)
1460-1595m	<u>Dinogymnium euclaensis</u> Zone (Maastrichtian)
1615-1715m	<u>Odontochitina operculata</u> Zone (Campanian)
1735-1835m	<u>Oligosphaeridium pulcherrimum</u> Zone to <u>Pervosphaeridium truncigerum</u> Zone (Coniacian to Santonian)

1855-1865m	Possible <u>Surculosphaeridium longifurcatum</u> Zone (possible Turonian)
1885-1895m	Possible <u>Kiokansium polypes</u> Zone (possible Cenomanian)
1915-2405m	<u>Chichaouadinium vestitum</u> Zone (Albian)
2425-2555m	Probable <u>Subtilisphaera perlucida</u> Zone (probable Aptian)
2575-2730m	<u>Subtilisphaera perlucida</u> Zone (Aptian)
2750-3030m	<u>Subtilisphaera perlucida</u> Zone: <u>Cyclonephelium</u> <u>attadalicum</u> Subzone (early Aptian)
3055-3335m	<u>Aptea anaphrissa</u> Zone (Barremian)
3355-3655m	<u>Ctenidodinium elegantulum</u> Zone (Hauterivian)
3675-4435m	Probable <u>Phoberocysta neocomica</u> Zone equivalent (probable Berriasian to Valanginian)
4455-4495m	<u>Ctenidodinium panneum</u> Zone (Portlandian)
4515-5455m	<u>Hystrihogonyaulax cladophora</u> Zone (Kimmeridgian)
5475-5485m	No zonal assignment (probable Oxfordian or older)
5505-5905m	No zonal assignment (undifferentiated Middle to Late Jurassic)

SOUTH GRIFFIN J-13: FORMATIONS

Interval considered: 440-5905m

From: EPGS-STRAT. 64-87JAW/ITC

440-1587m	Banquereau
1587-1774m	Wyandot
1774-1873m	Dawson Canyon
1873-1880m	Dawson Canyon (Petrel Member)
1880-2170m	Dawson Canyon
2170-2253m	Logan Canyon (Marmora Member)
2253-2297m	Logan Canyon (Sable Member)
2297-2881m	Logan Canyon (Cree Member)
2881-3214m	Logan Canyon (Naskapi Member)
3214-3502m	Missisauga (upper member)
3502-3592m	"O" Marker
3592-4611m	Missisauga (middle member)
4611-5905m	Mic Mac

PALYNOLOGICAL ANALYSIS OF THE
INTERVAL 625-6305M,
S.W. BANQUEREAU F-34, SCOTIAN SHELF

REPORT NO. 88-0008

MARCH 1988

CALGARY, ALBERTA

BIOSTRATIGRAPHIC SUMMARY

625- 930m	<u>Apteodinium</u> sp. B Zone (early Miocene)
950- 990m	<u>Deflandrea heterophlycta</u> Zone (early Oligocene)
1010-1245m	<u>Diphyes colligerum</u> Zone (late Eocene)
1265-1305m	<u>Adnatosphaeridium reticulense</u> Zone (middle Eocene)
1325-1365m	<u>Areoligera senonensis</u> Zone (early Eocene)
1385-1635m	<u>Ceratiopsis speciosa</u> Zone (late Paleocene)
1655-1755m	<u>Dinogymnium euclaense</u> Zone or older (Maastrichtian or older)
1775-1900m	<u>Oligosphaeridium pulcherrimum</u> Zone (Coniacian)
1920-1960m	<u>Surculosphaeridium longifurcatum</u> Zone (Turonian)
1980-1990m	<u>Kiokansium polypes</u> Zone to <u>Surculosphaerium</u> <u>longifurcatum</u> Zone (Cenomanian to Turonian)
2010-2500m	<u>Chichaouadinium vestitum</u> Zone (Albian)
2520-2920m	<u>Subtilisphaera perlucida</u> Zone (Aptian)

- 2940-3585m Aptea anaphrissa Zone (Barremian)
- 3605-4185m Probable Ctenidodinium elegantulum Zone (probable
Hauterivian)
- 4205-4870m Phoberocysta neocomica Zone (Berriasian to
Valanginian)
- 4890-6305m No zonal assignment (No age assignment)

SW BANQUEREAU F-34: FORMATIONS

Interval considered: 625-6309m

From: EPGS-STRAT 66-87JAW/ITC

625-1773m	Banquereau
1773-1930m	Wyandot
1930-2148m	Dawson Canyon
2148-2399m	Logan Canyon (Marmora Member)
2399-2526m	Logan Canyon (Sable Member)
2526-3533m	Logan Canyon (Naskapi Member)
3533-3918m	Missisauga (upper member)
4160-4240m	"O" Marker
4240-4980m	Missisauga (middle member)
4980-6309m	Verrill Canyon

PALYNOLOGICAL ANALYSIS OF THE
INTERVAL 925-5735M, UNIACKE G-72 WELL,
SCOTIAN SHELF

REPORT NO. 88-0008

May 1988

CALGARY, ALBERTA

BIOSTRATIGRAPHIC SUMMARY

925- 935m	<u>Palaeoperidinium pyrophorum</u> Zone (early Paleocene)
955-1055m	<u>Dinogymnium euclaense</u> Zone (Maastrichtian)
1075-1145m	<u>Odontochitina operculata</u> Zone (Campanian)
1165-1205m	<u>Pervosphaeridium truncigerum</u> Zone (Santonian)
1225-1235m	<u>Oligosphaeridium pulcherrimum</u> Zone and <u>Surculosphaeridium longifurcatum</u> Zone (Coniacian to Turonian)
1255-1295m	<u>Kiokansium polypes</u> Zone to <u>Surculosphaeridium</u> <u>longifurcatum</u> Zone (Cenomanian to Turonian)
1315-1950m	<u>Chichaouadinium vestitum</u> Zone (Albian)
1970-2140m	<u>Subtilisphaera perlucida</u> Zone (Aptian)
2160-2170m	<u>Subtilisphaera perlucida</u> Zone: <u>Pilosisporites</u> <u>trichopapillosus</u> Subzone (early Aptian)
2190-2385m	<u>Subtilisphaera perlucida</u> Zone: <u>Cyclonephelium</u> <u>attadalicum</u> Subzone (early Aptian)
2405-2880m	<u>Aptea anaphrissa</u> Zone (Barremian)
2900-3000m	<u>Ctenidodinium elegantium</u> Zone (Hauterivian)
3020-3630m	<u>Phoberocysta neocomica</u> Zone (Berriasian to Valanginian)

- 3650-3990m Ctenidodinium panneum Zone (Portlandian)
- 4010-4110m Hystrihogonyaulax cladophora Zone (Kimmeridgian)
- 4130-4625m Adnatosphaeridium caulleryi Zone (Callovian to
Oxfordian)
- 4645-5115m Ctenidodinium sellwoodii Zone (Bathonian to early
Callovian)
- 5135-5260m Ctenidodinium sellwoodii Zone: Nummus #EZ Subzone
(Bajocian)
- 5275-5735m Dapcodinium semitabulatum Zone (Toarcian to
Aalenian)

UNIACKE G-72Revised Jurassic Age and Zonal Determinations

- 3980-3990m Probable Hystrihogonyaulax cladophora Zone:
Hystrihogonyaulax cladophora Subzone (Kimmeridgian)
- 4010-4110m Hystrihogonyaulax cladophora Zone: Leptodinium aceras
Subzone (late Oxfordian to early Kimmeridgian)
- 4130-4290m Probable Adnatosphaeridium caulleryi Zone:
Hystrihogonyaulax #EA Subzone (Oxfordian)
- 4310-4625m Probable Adnatosphaeridium caulleryi Zone: Tubotuberella
egemenii Subzone: (Late Callovian to early Oxfordian)
- 4645-4865m Ctenidodinium sellwoodii Zone: Ctenidodinium sellwoodii
Subzone (early Callovian)
- 4885-5115m Ctenidodinium sellwoodii Zone: Ctenidodinium combazii
Subzone (Late Bathonian)
- 5135-5145m Ctenidodinium sellwoodii Zone: Nummus #EZ Subzone
(late Bajocian)
- 5165-5260m Probable Nummus spp. Peak Zone: ?Bradleyella #EA Subzone
(early Bajocian)
- 5275-5345m Mancodinium semitabulatum Zone: Mancodinium
holotabulatum Subzone (Aalenian)

5365-5680m Probable Mancodinium semitabulatum Zone: Noricysta #EA
Subzone (late Toarcian)

5700-5735m Probable Liasidium variabile Zone: Dapcodinium priscum
Subzone (Sinemurian)

UNIACKE G-72: FORMATIONS

Interval considered: 925-5735m

From: EPGS-STRAT. 69-87JAW/ITC

925-1125m	Banquereau
1125-1218m	Wyandot
1218-1318m	Dawson Canyon
1318-1325m	Dawson Canyon (Petrel Member)
1325-1410m	Dawson Canyon
1410-1675m	Logan Canyon (Marimora Member)
1675-1761m	Logan Canyon (Sable Member)
1761-2453m	Logan Canyon (Cree Member)
2453-2563m	Logan Canyon (Naskapi Member)
2563-2907m	Missisauga (upper member)
2907-2948m	"O" Marker
2948-4011m	Missisauga (middle member)
4011-5735m	Mic Mac

PALYNOLOGICAL ANALYSIS OF THE
INTERVAL 200-4815M,
WEST OLYMPIA 0-51, SCOTIAN SHELF

REPORT NO. 88-0008

MARCH 1988

CALGARY, ALBERTA

BIOSTRATIGRAPHIC SUMMARY

200- 210m	Probable <u>Pentadinium laticinctum</u> Zone (probable middle Miocene)
230- 480m	<u>Apteodinium</u> sp. B Zone to <u>Pentadinium laticinctum</u> Zone (early to middle Miocene)
500- 510m	<u>Chiropteridium mespilanum</u> Zone (middle to late Oligocene)
530- 540m	<u>Deflandrea heterophlycta</u> Zone (early Oligocene)
560- 600m	<u>Diphyes colligerum</u> Zone (late Eocene)
620- 915m	<u>Adnatosphaeridium reticulense</u> Zone (middle Eocene)
935-1075m	<u>Areoligera senonensis</u> Zone (early Eocene)
1095-1165m	<u>Palaeoperidinium pyrophorum</u> Zone (early Paleocene)
1185-1250m	<u>Dinogymnium euclaense</u> Zone (Maastrichtian)
1270-1435m	<u>Odontochitina operculata</u> Zone (Campanian)
1455-1465m	<u>Surculosphaeridium longifurcatum</u> Zone to <u>Pervosphaeridium truncigerum</u> Zone (Turonian to Santonian)
1485-1495m	<u>Kiokansium polypes</u> Zone or possible <u>Chichaouadinium vestitum</u> Zone (Cenomanian or possible Albian)

1515-2030m	<u>Chichaouadinium vestitum</u> Zone (Albian)
2050-2275m	<u>Subtilisphaera perlucida</u> Zone (Aptian)
2300-2370m	<u>Cyclonephelium attadalicum</u> Subzone (early Aptian)
2390-2760m	<u>Aptea anaphrissa</u> Zone (Barremian)
2780-2840m	<u>Ctenidodinium elegantulum</u> Zone (Hauterivian)
2860-3700m	Probable <u>Phoberocysta neocomica</u> Zone (probable Berriasian-Valanginian undifferentiated)
3720-4180m	Possible <u>Ctenidodinium panneum</u> Zone (possible Portlandian)
4200-4590m	Probable <u>Hystrihogonyaulax cladophora</u> Zone (probable Kimmeridgian)
4610-4680m	Probable <u>Gonyaulacysta jurassica</u> Zone (probable early Kimmeridgian)
4690-4815m	No zonal assignment (no age assignment)

WEST OLYMPIA 0-51Revised Jurassic Age and Zonal Determinations

- 4200-4590m Hystrichogonyaulax cladophora Zone: Hystrichogonyaulax
cladophora Subzone (Kimmeridgian)
- 4610-4680m Hystrichogonyaulax cladophora Zone: Ctenidodinium
chondrum Subzone (early Kimmeridgian)
- 4690-4816m No zonal assignment (no age assignment)

WEST OLYMPIA 0-51: FORMATIONS

Interval considered: 200-4818m

From: Report No. EPGS-STRAT 74-87JAW/ITC

200-1283m	Banquereau
1283-1361m	Wyandot
1361-1442m	Dawson Canyon
1442-1455m	Dawson Canyon (Petrel Member)
1455-1545m	Dawson Canyon
1545-1811m	Logan Canyon (Marmora Member)
1811-1907m	Logan Canyon (Sable Member)
1907-2692m	Logan Canyon (Cree Member)
2692-2925m	Logan Canyon (Naskapi Member)
2925-4027m	Missisauga (upper member)
4027-4818m	Missisauga (lower member)

