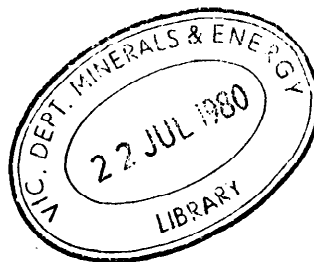




NEPEAN 37 WELL COMPLETION REPORT

*Unpublished Report 1980/50*

*D.T. Ripper*



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## BIOSTRATIGRAPHY

## a) Palaeontology

Cores 4 (Wannaeye Fm), 5 (Lower Brighton Gp), 6 to 14 (Fyansford Fm), 15 to 17 (Demons Bluff Fm) along with the following sidewall cores from the Fyansford Fm - 560 m, 637.5 m, 687.5 m, 708 m, 773.5 m, have been examined by Dr Abele for foraminifera and his results are summarised below.

Core of sidewall core	Depth, metres	Age Carter's Faunal Unit	Epoch Thickness	Lithostratigraphy
4	165.2-170.2	14	Pliocene 122 m	Wannaeye Fm
5	183.0-188.6	14		Lower Brighton Gp
6	216.0-221.5		Late Miocene 187 m	Fyansford Fm
7	283.7-289.7			"
8	338.8-345.0	13		"
9	402.0-408.0		base Mid Miocene 119 m	"
10	466.0-472.0	10		"
11	530.0-536.7			"
SWC	560	sparse fauna		"
12	602.9-607.5			"
SWC	637.5	sparse fauna	base Early Miocene 213 m	"
13	665.5-669.2	6		"
SWC	687.5	?6		"
SWC	708	sparse fauna		"

14	731.1-734.7	(4-) 5		Fyansford Fm
SWC	755	(4-) 5		"
SWC	773.5	sparse fauna		"
15	794.9-800.8	rare forams	Late Oligocene 175 m	Demons Bluff Fm
16	859.1-864.7	rare benthonics		" "
<hr/>				
17	922.9-928.3	rare benthonics	Early Oligo 68 m	Demons Bluff Fm

#### Environment of Deposition

The Demons Bluff Formation is likely to have been deposited in a shallow water closed or restricted environment. Planktonic forams are very rare and the benthonics are restricted in species.

Small planktonic forams are present in the lower part of the Fyansford Formation suggesting some change in the environment from Demons Bluff time. As the deposition of the Fyansford Fm continued the environment of deposition becomes less restricted with increasing water depth and more open water.

Shallow water conditions existed during the deposition of the lower Brighton Group with a return to deeper and more open water conditions at the start of deposition of the Wannaeue Formation.

## List of species identified in the cores and sidewall cores from Nepean 37.

Core/Sidewall Core	Species	Abundance
4	Ammonia aoteana Globerotalia crassaformis puncticulata	
5	Ammonia aoteana Globigerina  Benthonics	Ab R
6	Globigerina decoraperta praebulliodes Globigeriniodes trilobus	R
7	Globigerina woodi Globigerinoides trilobus Globoquadrina dehiscens Orbulina	
8	Globerotalia acostaensis mayeri Globigerina angustiumbilocata-quinqueloba druryi-decoraperta praebulloides Globigerinoides trilobus Orbulina Praeorbulina	
9	Globigerina woodi woodi Globigerinoides trilobus Globoquadrina dehiscens Orbulina	
10	Globigerina praebulloides woodi woodi Globigerinoides sicanus subquadratus trilobus Globoquadrina dehiscens Orbulina suturalis Praeorbulina	
11	Globigerina praebulloides woodi woodi Globigerinoides subquadratus trilobus	R R
SWC 560 m	Cassigerinella Globigerina woodi	Ab R

12	Globigerina praebulloides woodi woodi	
SWC 637.5	sparse fauna	
13	Globigerina connecta woodi	
	Globoquadrina	R
SWC 687.5 m	Globigerina praebulloides woodi	
	Globoquadrina dehiscens	R
	Miliolidi	
SWC 708 m	Calligerinella	Ab
	sparse fauna includes small planktonics	
14	Globigerina praebulloides small planktonics	
SWC 755 m	Bolivinopsis cubensis	
	sparse fauna includes small planktonics	
SWC 773.5 m	sparse fauna includes small planktonics	
15	very rare forams	
16	very rare benthonics (Lagena, Uvigerina, Siphonina)	
17	very rare benthonic foram fragments some glauconite	