

**PALYNOLOGICAL ANALYSIS OF THE
2600' – 3100' INTERVAL IN THE
EAST CHANCE C-18 WELL,
YUKON TERRITORY**

by
G. Dolby

Project: 2001/17A
July 2001



Prepared by:
G. Dolby, P. Geol.,
6719 Leaside Drive S.W.,
Calgary, Alberta
T3E 6H6

CONTENTS

SECTION 1	INTRODUCTION	2
SECTION 2	SUCCESSION.....	3
SECTION 3	CRETACEOUS	4

Six cuttings samples from the Canoe River East Chance C-18 well, Yukon Territory, were prepared for palynological analysis. They comprised single 10' samples at an average 100' spacing over the 2600' – 3100' (792.5m – 944.9m) interval.

The objective of the study was to determine the age of the section immediately above the Mississippian Hart River Formation at 3066'. There is no indication in the assemblages from above the Hart River, of rocks older than Early Cretaceous (Late Barremian). The Cretaceous section, assigned by the G.S.C. to the Albian, Whitestone River Formation, is of Aptian-Barremian age and belongs to the Mount Goodenough Formation.

The data are plotted to scale on a chart at the end of the report.

Interval Top	Age	Formation
2600' (792.5m)	Early Aptian	Mount Goodenough
2910' (887m)	Late Barremian	Mount Goodenough
3066' (934.5m) log	Mississippian	Hart River
3100' (944.9m)	Deepest sample studied	

The Late Barremian top is placed at the cuttings sample depth where markers appear. It may therefore be slightly low. The Mississippian top is from the NEB Catalog.

Interval: 2600' – 2910'. Probably Early Aptian

The age of this interval is based on the following criteria:

- The presence of probable *Cerbia tabulata* at 2600'.
- The presence of *Muderongia tetracantha* at 2810'.

Remarks

Samples from this interval yielded rich assemblages of dinocysts, bisaccate pollen and reworked Mississippian spores. Most of the species have relatively long ranges in the Early Cretaceous but the presence of two poor dinocyst specimens, closely resembling *Cerbia tabulata* indicates the presence of Aptian strata. This is confirmed by the occurrence of the earliest Aptian and older species *Muderongia tetracantha* at 2810'. Similar assemblages have been encountered at corresponding positions in other wells in the area.

The lack of pteridophyte spores with the rich and diverse microplankton assemblages points to an open marine environment at some distance from the shoreline.

The age of the interval correlates it with the Mount Goodenough Formation.

Interval: 2910' – 3066' (log). Late Barremian

The age of this interval is based on the following criteria:

- The presence of *Cassiculosphaeridia magna* at and below 2910'.
- The presence of *Pseudoceratium toveae* and *Tubotuberella uncinata* at 3100'.
- The presence of numerous *Odontochitina operculata* and *Palaeoperidinium cretaceum* at 3100'.

Remarks

The appearance of *Cassiculosphaeridia magna* at 2910' indicates the presence of Barremian strata. Also occurring at this level are specimens of the basal Aptian and older species *Pseudoceratium nudum* and *Phoberocysta neocomica*.

The 3100' assemblage comes from the uppermost Hart River Formation (Mississippian) but is comprised mainly of Cretaceous species from above 3066' including the Barremian marker *Tubotuberella uncinata* and the essentially Barremian species *Pseudoceratium toveae*. Although some may have caved from the Aptian section, the occurrence of numerous *Odontochitina operculata* and *Palaeoperidinium cretaceum* in the lower samples points to an age no older than late Barremian.

It is doubtful that any of the Mississippian spores encountered come from the Hart River limestones. They are almost certainly caved from the Cretaceous interval.

The environment of deposition was open marine at some distance from the shoreline.

There is no indication, in these samples, of any pre-Cretaceous/post Mississippian rocks. The age of the interval correlates it with the Mount Goodenough Formation.

