

**PALYNOLOGICAL ANALYSIS OF THE
2380' - 2870' INTERVAL IN THE
WEST PARKIN C-33 WELL,
YUKON TERRITORY**

by
G. Dolby

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

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Six cuttings samples from the 2380' – 2870' (725.4m – 874.8m) in the Chevron et al. West Parkin C-33 well, Yukon territory, were prepared for palynological analysis. The preparations were from individual 10' samples rather than composites.

The objective of the study was to determine the age of the rocks immediately above the Mississippian Hart River Formation at 2872' (875.4m). The GSC assigned these rocks to the Albian, Whitestone River Formation. The recovered assemblages are of Aptian-Late Barremian age assigning the interval to the Mount Goodenough Formation.

There is no indication in these samples of rocks older than Middle Barremian.

The data are plotted to scale in semi-quantitative format at the end of the report.

Interval Top	Age	Formation
2380' (725.4m)	Aptian	Mount Goodenough
2820' (859.5m)	Late Barremian	Mount Goodenough
2870' (874.8m)	Deepest sample studied	

The top of the Late Barremian is drawn at the sample depth where markers first appear in the cuttings. The boundary may therefore be slightly low.

Interval: 2380' – 2820'. Aptian

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

- The presence of *Atopodinium haromense* at and below 2380'.
- The presence of *Muderongia tetracantha* at 2500'.
- The presence of *Pseudoceratium cf. nudum*, *Vesperopsis longicornis* and *Heslertonia heslertonense* at and below 2500'.
- The presence of *Cerbia tabulata* at and below 2600'.

Remarks

The samples from this interval yielded rich and diverse assemblages of dinocysts comparable to other Aptian sections in the area. The 2380' assemblage is comprised of relatively long ranging species and a single specimen of *Atopodinium haromense*. Most published records of this species are from Aptian to Oxfordian rocks.

Of the remaining markers listed above, *M. tetracantha*, *P. cf. nudum* and *H. heslertonense* indicate that the section at and below 2500' is no younger than earliest Aptian.

The abundance and variety of dinocysts and the abundance of bisaccate pollen but rarity of pteridophyte spores, indicates an open marine environment, at some distance from the shoreline.

Interval: 2820' – 2870'. Late Barremian

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

- The presence of *Tubotuberella uncinata* at and below 2820'.
- The presence of *Batioladinium longicornutum*, *Kleithriasphaeridium fasciatum* at 2870'.
- The presence *Exiguisphaera plectilis*, abundant *Palaeoperidinium cretaceum* and numerous *Odontochitina operculata* at 2870'.

Remarks

The occurrences of *T. uncinata*, *B. longicornutum* and *K. fasciatum* indicate that Barremian strata have been penetrated. A late Barremian age is indicated by the presence of *P. cretaceum* and *O. operculata* and although some specimens may have caved, the numbers in comparison to those in the overlying samples, suggest that they are *in situ*. Also present is a specimen of the Middle Barremian – earliest Aptian species, *Exiguisphaera plectilis*.

There is no evidence of rocks older than Late Barremian in the samples studied.

The abundance and variety of dinocysts, abundance of bisaccate pollen but lack of pteridophyte spores, points to an open marine environment, at some distance from the shoreline.