

CRETACEOUS AND TERTIARY GEOLOGY
OF BYLOT ISLAND, N.W.T.

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ABSTRACT

A substantial thickness of Cretaceous and Early Tertiary rocks are found on Bylot Island within a graben referred to as the Eclipse Trough. These sediments consist entirely of marine and continental clastics and are greater than 1884 metres in thickness. Good potential sandstone reservoirs are present with associated shale caprock. Micropaleontology and palynology would indicate a Santonian to Early Eocene age for these sediments. Sedimentation is related to a period of tectonism, associated with block faulting which resulted in the uplift of the Byam Martin Mountains and the formation of the Eclipse Graben. Geochemical analysis would indicate that these sediments are presently immature. However, the amount of organic carbon content is greater than average, and should similar source rocks be found at greater depths such as beneath Lancaster Sound, some of these would be expected to source gas and others, oil.

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