OIL-GENERATING POTENTIAL OF COALS FROM SPITSBERGEN, SVALBARD

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The Upper Palaeozoic through to Cenozoic of Spitsbergen includes at least five separate coal-bearing stratigraphic units. The sequences richest in coal are the Lower Carboniferous Billefjorden Group (Hoelbreen Member and Birger Johnsonfjellet Member), the Cretaceous Glitrefjellet Member and the Palaeocene and Oligocene-Miocene coals. The oil- generating potential of these coals has been investigated using coal petrographic and organic geochemical techniques. The coals of the Birger Johnsonfjellet Member possess good oil-generating potential, being algal-rich, with high hydrocarbon indices and are early mature. The Hoelbreen Member coals are in general liptinite-rich, with high relative hydrogen indices and possess fair to good oil- generating potential. Coals of the Glitrefjellet Member and the Tertiary coals are predominantly vitrinite-rich, with relatively low oil-generating potential, having a lower liptinitic content which is supported by low relative hydrogen indices. The presence of a range of vitrinitic macerals, their inhomogeneity, their capability to fluoresce under certain conditions, and the occurrence of oil-like smears, may also contribute to the oil-generating potential of coals.

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