

# **Chemostratigraphic Correlation within the Grand Banks, With a View of Constraining Sandstones for Provenance Analysis**

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## **Abstract**

The Grand Banks of eastern Canada lies in the deep waters offshore Newfoundland and incorporates a series of rift basins associated with the opening of the North Atlantic Ocean. Mesozoic and Cenozoic strata rest unconformably on Palaeozoic basement, with the Jurassic and Cretaceous rocks forming the main source and reservoir units within the area. Despite extensive exploration and discovery within the Jeanne d'Arc Basin, recent discoveries in the Flemish Pass Basin to the north, have highlighted a greater oil potential within the area. However, exploration in this northern frontier is hampered by a lack of well penetrations, whilst the deep water and arctic conditions makes for challenging drilling conditions. Consequently, a firm understanding of the regional geology is vital to petroleum exploration within the area. Furthermore, the need for a greater understanding of the sediment provenance terrains and pathways active during the Mesozoic is apparent; however, in order to tackle such an investigation, it is important to have a clear understanding of stratigraphy. To go some way in addressing this, a chemostratigraphic study was conducted on twenty wells spanning the Orphan, Flemish Pass and Jeanne d'Arc basins, in addition to wells from the Outer Ridge Complex. The main aim being to establish a robust chemostratigraphic correlation, which can ultimately be used to constrain key sandstone bodies, which only then, can be targeted for further provenance investigation.

## **References Cited**

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