Biostratigraphic and Well-log Sequence Stratigraphic Framework of the Offshore Nova Scotia Margin, Canada

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As part of a Play Fairway Analysis (PFA) of the Scotian Margin, offshore eastern Canada, we have conducted quantitative multi-disciplinary biostratigraphic studies of the Jurassic-Cretaceous sections in 6 wells: Bonnet P-23, Chebucto K-90, Cohasset L-97, Glenelg J-48, Glooscap C-63 and South Griffin J-13. These wells were chosen to provide good spatial coverage and stratigraphic penetration, plus correlation with the seismic grid. We have integrated microfossil abundance and diversity variations with lithofacies and wireline data in order to interpret the sequence stratigraphy of the sections. We have also re-evaluated pre-existing biostratigraphic data and interpreted the well-log sequence-stratigraphy of 14 additional wells. Our study aims to provide accurate ties and clarify the origin of seismic horizons mapped across the area within the PFA project. Key to the dating of some of these horizons has been our integration of the palynology and micropalaeontology (the subdisciplines most commonly used for biostratigraphy on the Scotian Margin) with available nannofossil and calpionellid data. By integrating the biostratigraphic, lithofacies, well log and seismic data, we have improved resolution and thus have a better understanding of potential unconformities and major flooding events. As part of the PFA, this work should help generate new momentum in the search for hydrocarbons on the Scotian Margin, much of which has not been explored adequately, especially in the deeper water