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The Impact of High-Resolution Biostratigraphic Calibration on Sequence Stratigraphic Correlations within the Upper Jurassic Humber Group of the North Sea

High-resolution analysis of Upper Jurassic cored sections from the North Sea and coeval onshore Scottish sections has allowed the resolution of a long-standing biostratigraphic anomaly regarding the stratigraphic distribution of key dinoflagellate cyst ('dinocyst') marker taxa. The accurate calibration of dinocyst bioevents to the standard ammonite timescale has facilitated the construction of a robust, new biostratigraphic template for the Upper Jurassic, which is applicable in both the onshore and offshore realms. This new biostratigraphic scheme has been applied to both revise existing regional correlations, as well as addressing key field-scale issues, with a view to better understanding the distribution of the clastic reservoirs of the Humber Group.

The results will aid exploration and production in the Moray Firth Basin through the construction of more accurate reservoir correlations and robust palaeogeographic (play fairway) maps. The findings also serve to emphasise the importance of good quality, high-resolution biostratigraphic data and the value of accurately calibrating microfaunal or microfloral bioevents to a standard reference frame when constructing robust biostratigraphic schemes.