INTERACTION BETWEEN BASEMENT TECTONICS, SALT MOVEMENTS AND DEPOSITION OF THE TRIASSIC SUCCESSION IN THE NORTH SEA AREA (NW EUROPE)

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The North Sea area (NW Europe) contains a number of intracratonic basins (e.g. the North Greman Basin, the Norwegian-Danish Basin, the Sole Pit Basin) and is bounded by the Britisk Isles to the west, the Central Europe to the south and Fennoscandia to the northeast.

The Ringkøbing-Fyn High and the Mid North Sea Highs constitute a major E-W striking basement high, which periodically from the Paleozoic to the Cenoizoic subdivided the North Sea area into a northern and a southern embayment. The Triassic sediments in the North Sea area are charaterised by dominantly nonmarine siliciclastics with some marine incursions.

The Triassic succession has been subdivided into a number of sequences. The subdivision is primarily based on petrophysical well logs and well cores from mainly the Danish area. Observations of significant unconformities are correlated to the adjacent areas (German, Duch and UK sectors), in order to analyse the basin evolution along and across the Mid North Sea –Ringkøbing Fyn Highs. The sequence boundaries are mapped on seismic sections and structural reconstructions are performed. The reconstructions show a close relationship between basement tectonics, salt tectonics (mobile Zechstein evaporites are present north and south of the highs burt absent above the highs) and the deposition of the Triassic succession. The structural and depositional evolution varies along the strike of the Ringkøbing-Fyn High indicating that the high was subdivided into a number of blocks which acted differently to the deformation applied to the NW European area during the Triassic.