

The Unst Basin is situated in the northern North Sea between the East Shetland Basin and the Shetland Isles. The basin is essentially a three-armed, Permo-Triassic fault-controlled basin containing up to 3600 m of red-beds. This is overlain by a westerly thickening Jurassic and early Cretaceous sequence, the stratigraphy of which is very similar to that of the East Shetland Basin. In particular, the Brent Group (140 m), Humber Group (685 m) and Cromer Knoll Group (300 m) are well represented. As a result of Laramide uplift of the area, the thick Upper Cretaceous and Palaeocene strata of the East Shetland Basin are absent from the Unst Basin. This uplift resulted in substantial erosion within the Unst Basin providing the major source for Palaeocene sands in the Viking Graben and the Faeroes Basin. Late Palaeocene and younger Tertiary strata transgress westwards across this erosion surface. Petroleum exploration within the basin culminated in the drilling of two exploration wells. These wells encountered potential reservoir and source rocks in the Jurassic section. However, geochemical analyses indicate these source rocks are immature for hydrocarbon generation within the Unst Basin. It is concluded that the Unst Basin has a low petroleum potential.