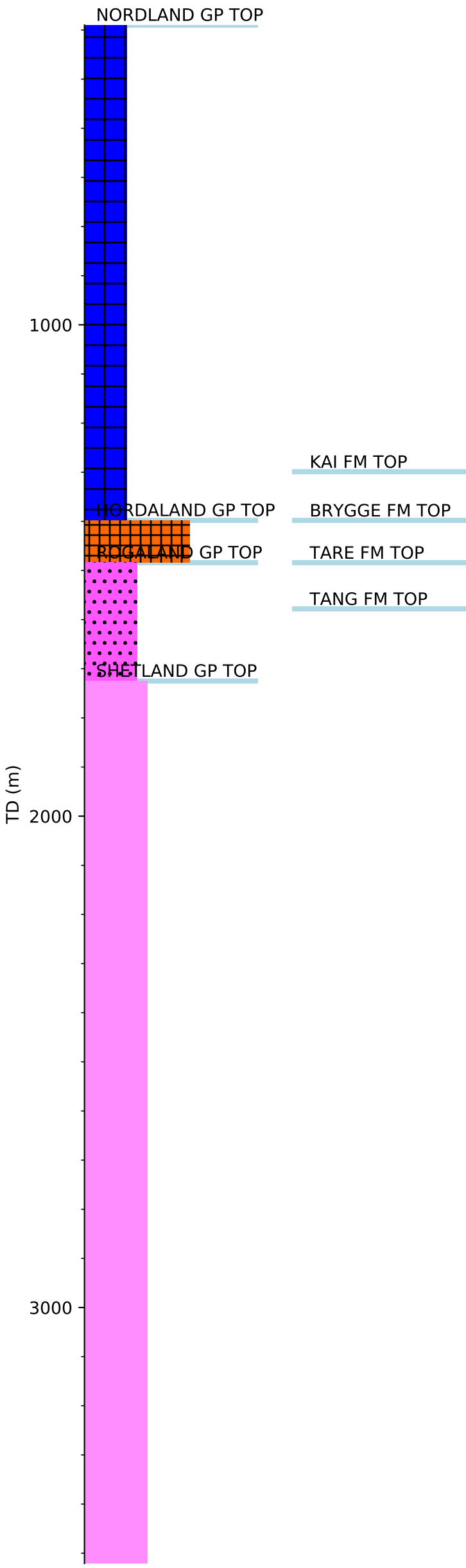
Groups

Formation Tops



Wellbore History

GENERAL

Well 6607/12-1 is located in the western part of the Dønna Terrace in the Norwegian Sea off shore Mid Norway. It was designed to test a structure in the north-western part of the block. The main structuration was seen at top Brygge Formation and top Tare Formation. A secondary structure was mapped at an intra Cretaceous marker. The top of the Shetland Group showed an anomalous graben-like development without structural closure. The well was located close to or at the highest structural point of all closed levels. The main objectives of the well were to test for hydrocarbons at all closed levels of the main structure, to test the contents of the anomalous graben feature seen at top Shetland Group level, and to test the upper part of the Cretaceous section west of the Nordland Ridge for potential source rocks. The prognosed depth was 3500 m.

OPERATIONS AND RESULTS

Wildcat well 6607/12-1was spudded with the semi-submersible installation Henry Goodrich on 19 July 1986 and drilled to TD at 3521 m in the Late Cretaceous Shetland Group. Down to 1440 m drilling proceeded without significant problems. At this depth there was experienced a loss of mud to the formation, but the well was stabilised. The well was drilled with bentonite mud down to 765 m, with polymer mud from 765 m to 1526 m, and with Lignosulphonate mud from 1526 m to TD.

Only thin levels of water bearing sandstones were encountered. The main target (Brygge Formation) came in at 1398 m, 43 meter shallower than prognosis with claystones and a few stringers of limestone and sand. The Cretaceous section came in at 1725 m. The main lithology here was multicoloured claystone with stringers of white, hard limestone. A fault zone, rich in dolomite and calcite alternating with limestone were penetrated at 2666 to 2672 m. Total gas of 38% were recorded from this interval, otherwise no other major shows were recorded during drilling or coring. Minor shows, however, were recorded between 2935 - 2940 m in bituminous claystones and argillaceous dolomites of the Shetland Group. Source rock geochemical analyses did not reveal any prolific kerogen at this depth however. The best source rock in the well was found in the interval 1630 to 1725 m in the Tang Formation, which had TOC in the range 1.2 - 4.5 % and Hydrogen Index in the range 50 - 150 mg HC/g TOC. This can be classified as fair source rock potential with potential for gas and possibly oil.

One core was cut in the interval 1409 - 1426 m in the Brygge Formation. The recovery was 56% with claystones, limestone, tuff and thin sand stringers. No RFT sampling was performed. Corrected wire line BHT temperatures at TD indicate a formation temperature of 124 deg. C at TD.

The well was permanently abandoned on 1 October 1986 as a dry well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6607/12-1