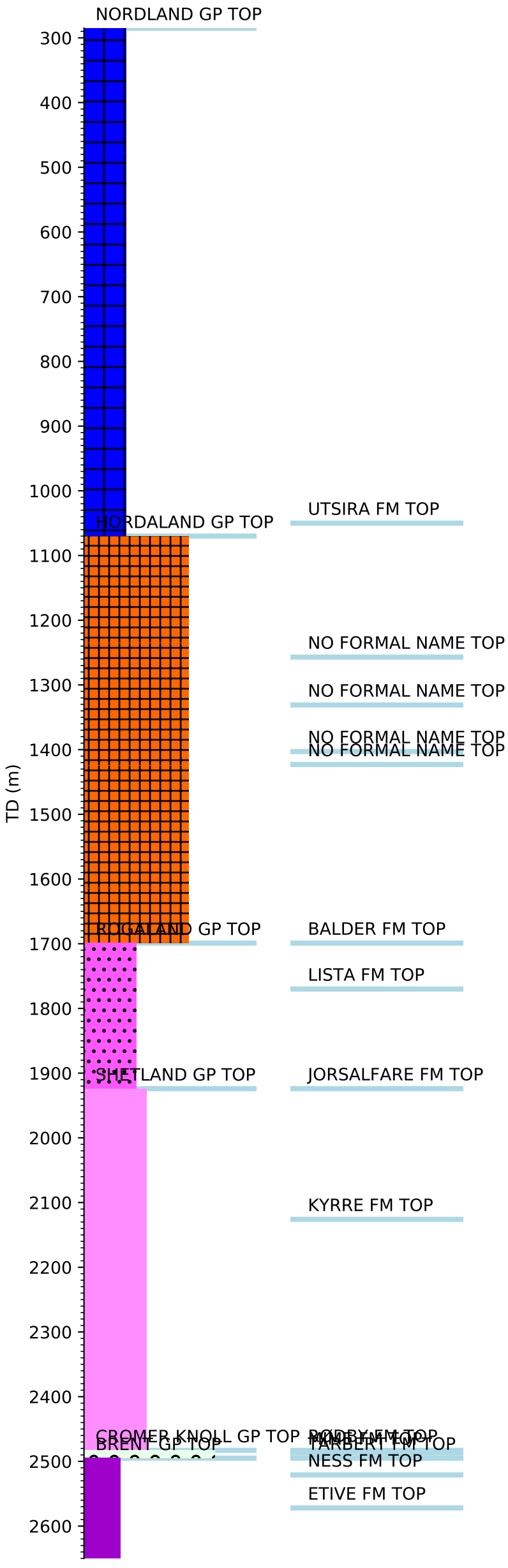
Groups

Formation Tops



Wellbore History

GENERAL

Well 34/7-17 A is a sidetrack to well 34/7-17 on the Vigdis Field on Tampen Spur in the Northern North Sea. In well 34/7-17 the primary target Brent reservoir was encountered 38 m deeper than prognosed and dry with only scattered oil shows. The 34/7-17 A sidetracked well thus aimed primarily at the Brent reservoir in an up-dip position above a possible OWC. According to prognosis Brent should be truncated in this direction. A secondary objective was to test the pressure regimes in the Jurassic sequence, including possible depletion associated with pressure communication, previously identified in the nearby Tordis Field.

OPERATIONS AND RESULTS

Well 34/7-17 A was spudded with the semi-submersible installation Treasure Saga on 7 April 1991. Kick off point was at 1994 m below the 13 3/8? casing shoe in well 34/7-17, in the top of the Shetland Group. The target was located up-dip in a south-easterly direction and the sidetrack was drilled deviated from its beginning. The well was drilled without significant technical problems to TD at 2650 m (2557 m TVD) in the Middle Jurassic Etive Formation of the Brent Group. It was drilled with KCl mud from kick off to TD.

Top Brent Group, Tarbert Formation, was penetrated at 2494.5 m (2439.5 m TVD). Truncation was confirmed by the absence of the Viking Group and erosion into the top of the Brent Group. The Brent Group proved to be oil bearing only in the uppermost 6.5 m TVD with a possible OWC at 2502.5 m (2446 m TVD / 2420 m MSL TVD). Above the reservoir ditch cuttings recorded a continuous sequence with good traces of oil shows between 2235 and Top Brent Group. The interval 2310 to 2370 m also had oil staining and a strong odour of hydrocarbons. No shows were reported below 2506 m.

One core was cut in the top of the reservoir between 2597 and 2617. Totally 21 m was cut, of which 20 m was recovered.

Two RFT runs were conducted over the Brent Group. The resulting pressure gradients showed the Tarbert Formation to be under-pressured by 5.1 bar compared to the underlying Formations of the Brent Group with transitional pressures in the Ness Formation. Two RFT segregated samples were recovered from 2495.5 and 2495.7 m in the top of the Tarbert Formation. Both contained mud and water with a film of oil.

The well was permanently abandoned on 4 May 1991 as an oil appraisal.

TESTING

One well test was carried out in the top of the Brent Group over the interval 2495 to 2499 m. The test was performed with variable, increasing choke sizes and it produced fluids with increasing water cut. At the end of the test a total liquid flow rate of 700 Sm3/day through a 15.9 mm choke was recorded at a well head pressure of 49 bar. The water cut at this end was 70%, the separator GOR was 115 Sm3/Sm3, the dead oil density was 0.850 g/cm3, and the gas gravity was 0.8 (air = 1). The maximum bottom hole

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 34/7-17 A