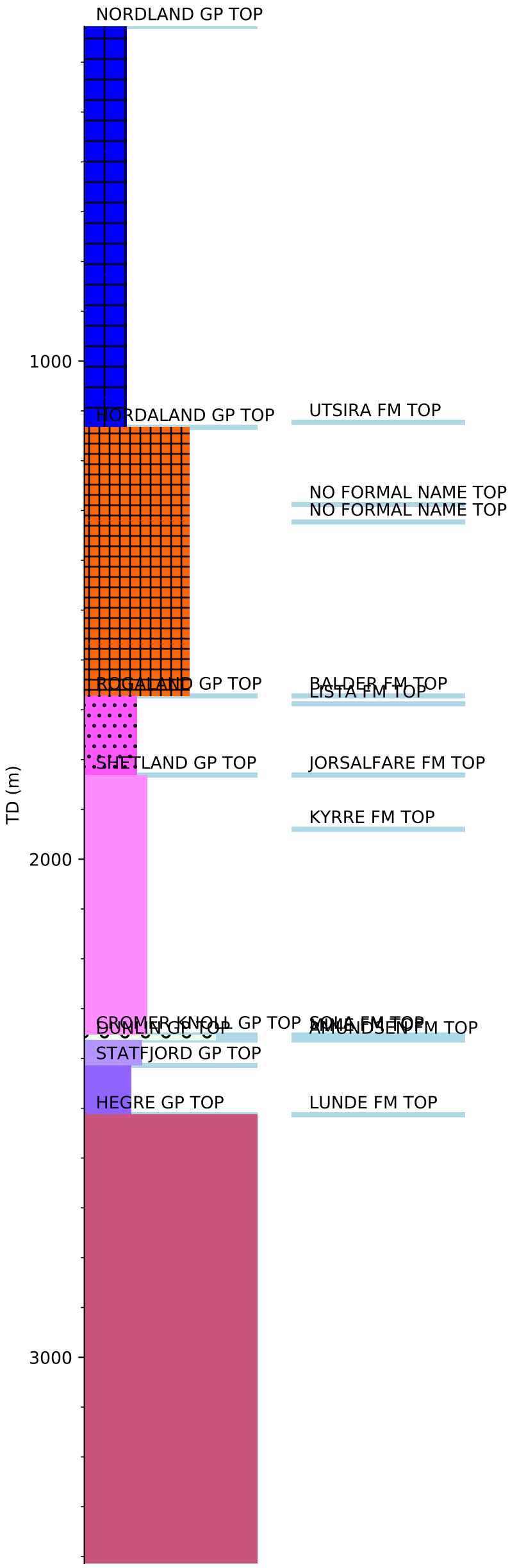
Groups

Formation Tops



Wellbore History

GENERAL

Well 34/7-3 was drilled on the Snorre E structure in the northern part of block 34/7. The purpose was to further appraise the reservoir potential of the Statfjord Formation and upper Lunde Formation in the E-structure extension of the Snorre Discovery and to test the oil/water contact found in wells 34/4-4 and 34/7-1.

OPERATIONS AND RESULTS

Well 34/7-3 was spudded with the semi-submersible installation Vildcat Explorer on 14 September 1984 and drilled to TD at 3414 m in the Late Triassic Lunde Formation. Drilling proceeded without significant problems. The well was drilled with spud mud down to 454 m, with gel mud from 454 m to 1165 m, with KCl/Polymer mud from 1165 m to 2769 m, and with ligno/lignosulphonate mud from 2769 m to TD.

The well consisted mainly of claystones in the Tertiary and Cretaceous sections, with the exception of sand development in the Utsira Formation (Miocene), and an Early Oligocene sand development (1288 - 1323 m). The rest of the well, the Jurassic and Triassic sections, was mainly composed of alternating claystone/sandstone sequences. Top Statfjord was encountered at 2414 m.The Statfjord and Lunde Formations were oil filled down to a common OWC at 2610 m based on pressure gradients. Strong shows on cores continued down to 2622 m, below this depth the shows became weak and spotted. Apart from this oil shows, of variable quality, started in silty claystones at 2180 m in the Late Cretaceous and continued down to 2755 m in the Lunde Formation.

A total of 19 cores were taken in the interval 2396 - 2643 m in the Jurassic (Dunlin- and Statfjord Formations) and the Triassic sequence (Upper Lunde Formation). The core recovery was 91.5%. Core depth for core 17 was 0.5 m deeper than logger's depth and core depth for core 19 was 2.0 m shallower than logger's depth. Otherwise core depths were found equal to logger's depth. In addition to conventional cores 240 sidewall cores were recovered in this well. RFT fluid samples were taken at 2418 m (oil), 2475 m (oil/water/mud), and 2605 (water and mud filtrate with small amount of oil)

The well was permanently abandoned on 2 January 1985 as an oil appraisal well.

TESTING

Three drill stem tests were carried out.

DST 1 tested the interval 2601.0 to 2607.5 m in the upper Lunde Formation. It produced 293 Sm3 oil/day through an 8 mm choke. The separator GOR was 28.5 Sm3/Sm3, the oil density was 0.840 g/cm3, and the gas gravity was . The down hole temperature measured in the test was 94.4 deg C.

DST 2 tested the interval 2505.0 to 2513 m in the Statfjord Formation. It produced 666 Sm3 oil/day through an 11 mm choke. The separator GOR was 26 Sm3/Sm3, the oil density was 0.836 g/cm3, and the gas gravity was . The down hole temperature measured in the test was 91.4 deg C

DST 3 tested the interval 2440.9 to 2449 m in the Statfjord Formation. It produced 1390 Sm3 oil/day through a 12.7 mm choke. The separator GOR was 32 Sm3/Sm3, the oil density was 0.838 g/cm3, and the gas gravity was . The down hole temperature measured in the test was 89.4 deg C.

All tests produced clean oil with no water or sand. The initial oil formation volume factor ranged from 1.23 m3 /Sm3 to 1.35 m3 /Sm3 in DST1 to DST3 test intervals respectively.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 34/7-3