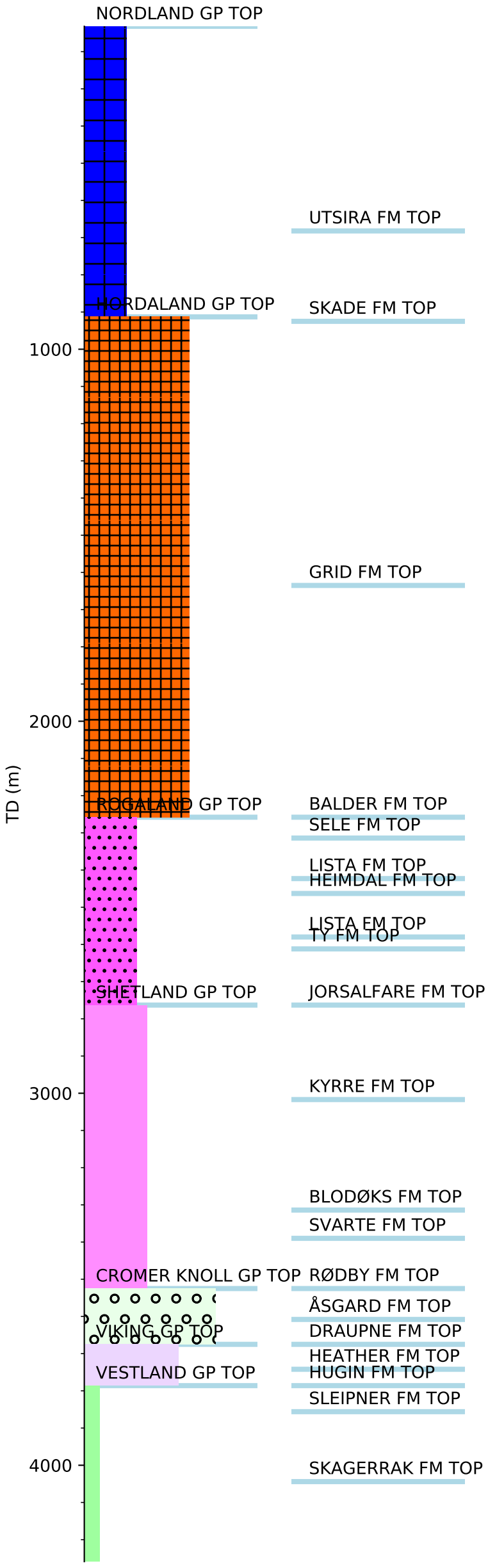

Wellbore History

GENERAL

Well 15/3-4 was drilled on the Gudrun Terrace, east of the 15/3-1 S Gudrun Discovery in the North Sea. The main objective of the well was to test sandstones of the Late and Middle Jurassic, which were found to contain gas and condensate in wells 15/3-1 S and 15/3-3. The secondary target was the Eocene sands where oil shows were encountered in well 15/5-3.

OPERATIONS AND RESULTS

Wildcat well 15/3-4 was spudded with the semi-submersible installation Borgsten Dolphin on 3 October 1981and drilled to TD at 4259 m in the Triassic Skagerrak Formation. After the 13 3/8" casing had been cemented drilling was interrupted for 13 days due to a combination of bad weather and repairs on the BOP stack. When running in hole at TD the drill string stuck leaving a fish with top at 4098 m. Hence, no logs were run between 4098 m and TD.

The Eocene sands from 1628 to 2025 m (Grid Formation sands) were found water bearing. The Brent Group was encountered with top Hugin Formation at 3786 m and top Sleipner Formation at 3856 m. Sandstones in the Brent Group contained oil and gas in four different intervals: 3786 to 3817 m, 3819.5 to 3826.5 m, 3849.9 to 3854.8 m, and 3872.2 to 3876.4 m. The four zones were in different pressure regimes. The interval from 3819.5 to 3826.5 m had a low hydrocarbon saturation based on the logs, but the cores from this section had good shows with a similar bulk hydrocarbon composition as in the uppermost interval. Triassic sands below 4050 m were found water bearing. Good oil shows were seen on all cores from the Hugin Formation, otherwise no shows were reported from the well.

Five cores were cut in the well. Core 1 was cut in the Grid Formation from 1678 to 1694 m with 27% recovery. Coring of the Grid sands was difficult due to their unconsolidated nature. Cores 2 - 5 were cut in the interval 3792 to 3839 m in the Hugin Formation with recovery from 65% to 100%. RFT fluid samples were taken at 3802.5 m (water, mud and filtrate), 3823.5 m (water, mud and filtrate), and 3850.2 m (gas and water). FIT fluid samples were taken at 3822.5 m (water and dissolved gas), 3852.6 m (oil, gas and water), and 3873.5 m (oil, gas and water).

The well was permanently abandoned on 30 March 1982 as an oil and gas discovery.

TESTING

One DST was performed through perforations in the interval 3789 to 3807.5 m. The test produced 615 Sm3 oil and 245000 Sm3 Gas/day through a 40/64" choke. The GOR was 400 Sm3/Sm3, the oil density was 0.816 g/cm3, and the gas gravity was 0.803 (air = 1). The gas contained 7.4 % CO2. Bottom hole temperature during the DST, at reference depth 3800 m, was 127.8 deg C.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 15/3-4