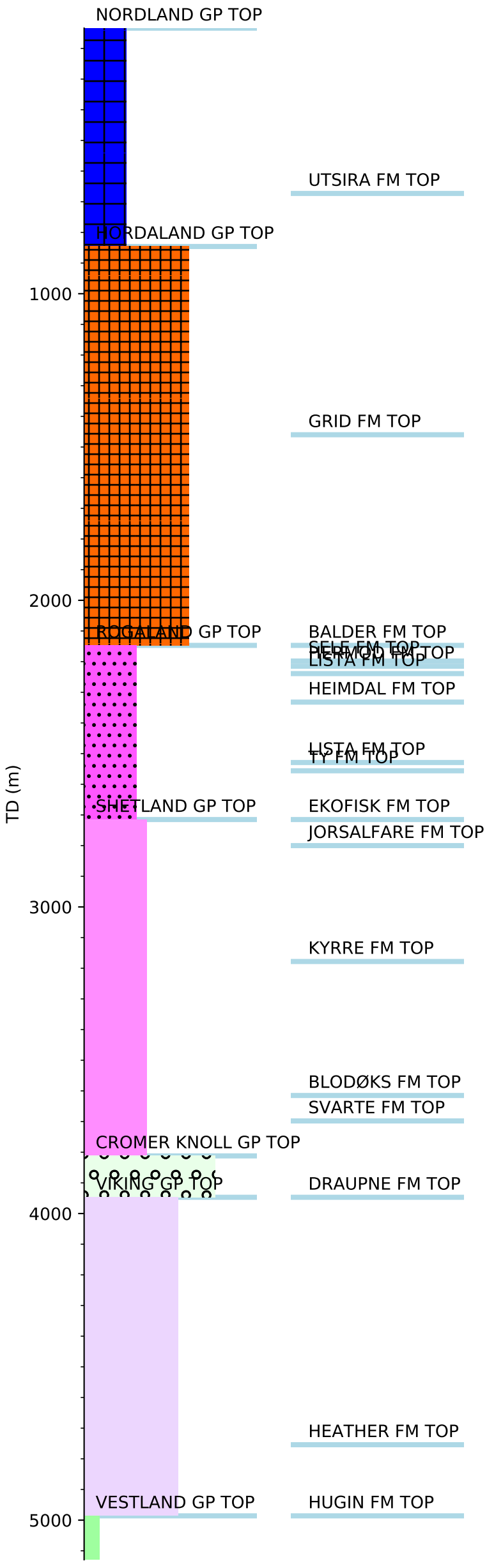

Wellbore History

GENERAL

Well 15/3-1 S was drilled west of the Gudrun Terrace on the east flank of the North Sea Central Graben. The primary objective was to test sands in the Middle Jurassic (Dogger sands). Secondary objectives were the Early Tertiary, Danian, Early Cretaceous sands. Triassic sandstones and Zechstein dolomites down to the "economic basement" were also possible targets.

The well is reference well for the Ty, Draupne, and Heather formations.

OPERATIONS AND RESULTS

Wildcat well 15/3-1 S was spudded with the semi-submersible installation Deepsea Driller on 27 November 1974 and drilled without significant problems to 4400 m. While circulating before logging the pipe stuck and the hole started to kick. After unsuccessful efforts to free the pipe the well was plugged back and sidetracked from 3985 m. The sidetrack was drilled without further significant problems to final TD at 5129 m in the Middle Jurassic Hugin Formation.

The well penetrated water-bearing Hermod, Heimdal and Ty formation sandstones from 2215 to 2715 m. The Ty Formation from 2556 m was reported as the best of these with a main body of clean sand from 2599 to 2711 m. Top Viking Group, Draupne Formation was encountered at 3947 m. The Draupne Formation contained many oil and gas bearing Intra-Draupne Formation sandstones. Of these the best reservoirs were found in the intervals 4083 to 4317 m with OWC at 4218 m, and 4442.5 to 4610 m with OWC at 4486 m. Total net pay in these two intervals together were 32 m with 22 - 19 % porosity. Geochemical analyses indicated good source rock properties in the shale interbeds, with a maturity ranging from early to late oil window (vitrinite reflectance from 0.6 to 0.9 %Ro). Top Heather Formation was encountered at 4754 m. The Heather Formation had no sandstone interbeds. Top Hugin Formation came in at 4986 m with a 10 m net pay gas bearing sandstone reservoir at 4986 to 5001 m. Porosity here was 12.5%. Sandstones with hydrocarbons were penetrated below this level, but these had low permeability. No oil shows were reported above the Viking Group.

Four cores were cut in the well; the three first before and the fourth after sidetracking. Core 1 was cut from 3947 to 3951 m, core 2 was cut from 4083 to 4092, core 3 was cut from 4141 to 4150 m, and core 4 was cut from 4991 to 4993.3 m. FIT wire line fluid samples were taken at 4217 m (oil and gas), 4148.8 m (oil and gas), 4089.3 m (gas), 4168.5 m (oil and gas), 4243.5 m (water and trace filtrate), 4443.5 m (oil and gas), and at 4479.5 m (water and filtrate)

The well was permanently abandoned on 6 July 1975 as a gas/condensate discovery.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 15/3-1 S