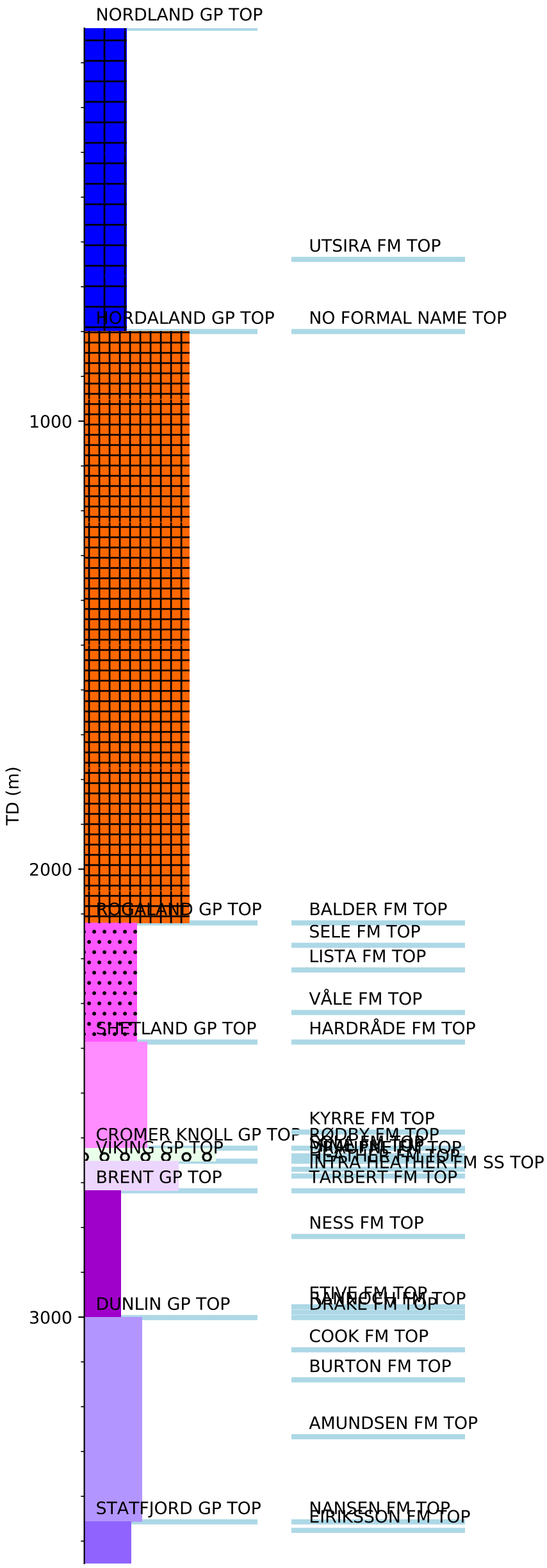

Wellbore History

GENERAL

Well 30/9-16 was drilled on the Bjørgvin Arch south of the Oseberg Fault block in the North Sea. The primary objective was to prove hydrocarbon accumulations in the Tarbert Formation and the“NORE” (lower Brent Group) reservoir. Secondary objective was to test the hydrocarbon potential in the Cook Formation and Statfjord Group reservoirs within closure.

OPERATIONS AND RESULTS

Wildcat well 30/9-16 was spudded with the semi-submersible installation West Vanguard on 14 June 1994 and drilled to TD at 3550 m in the Early Jurassic Eiriksson Formation. No significant problem was encountered in the operations. The well was drilled with spud mud down to 165 m, with ANCO 2000 mud from 165 m to 2668 m, and with KCl/polymer mud from 2668 m to TD.

Intra Heather Formation sandstone came in at 2685 m and proved to be gas bearing with GOC at 2706 m, based on geochemical data. Based on RFT pressure gradients the GOC is at 2711 m. The Tarbert Formation came in at 2718 m and was 101 m thick, 11 m thicker than prognosed. It was oil-bearing with an OWC at 2764 m. There is a 10 bars pressure difference in the oil zone, between 30/9-13 S and 30/9-16. The 30/9-9 Lower Ness oil gradient is 14 bars higher than the 30/9-16 oil gradient. The water gradient is only 1.5 bars higher than 30/9-13 S and three bars lower than 30/9-9. No hydrocarbons or shows were reported below OWC in the Brent Group, but weak shows, with gas shows at the top and oil shows below, were reported from the Statfjord Group at 3455 – 3475 m. Further, down to TD, these shows disappeared or became localised.

Four cores were cut. The three first were cut from 2694 m in the Heather Formation sandstone to 2796.4 m in the Tarbert Formation. Core 4 was cut from 3459 m to 3486.2 m in the upper part of the Statfjord Group. An RFT fluid sample was taken at 2727 m in the Tarbert Formation. It contained oil and water.

The well was permanently abandoned on 8 August 1994 as an oil and gas discovery.

TESTING

Two drill stem tests were performed.

DST 1 tested the interval 2722 - 2753 m in the Tarbert Formation. It produced 264000 Sm3 gas and 1600 Sm3 oil/day through a 72/64” choke. The GOR was 165 Sm3/Sm3, the oil density was 0.836 g/cc density, and the gas gravity was 0.733 (air = 1) with 2.1 % CO2 and 1.5 ppm H2S. The flowing bottom hole temperature was 106.6 °C.

DST2 tested the interval 2685.1 - 2694.1 min the Intra-Heather Formation sandstone.

It produced 722000 Sm3 gas and 238 Sm3 oil/day through a 64/64” choke. The GOR was 3030 Sm3/Sm3, the condensate density was 0.836 g/cc density, and the gas gravity was 0.733 (air = 1) with 2.1 % CO2 and 1.5 ppm H2S. The flowing bottom hole temperature was 106.6 °C.

No water was produced in the tests.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 30/9-16