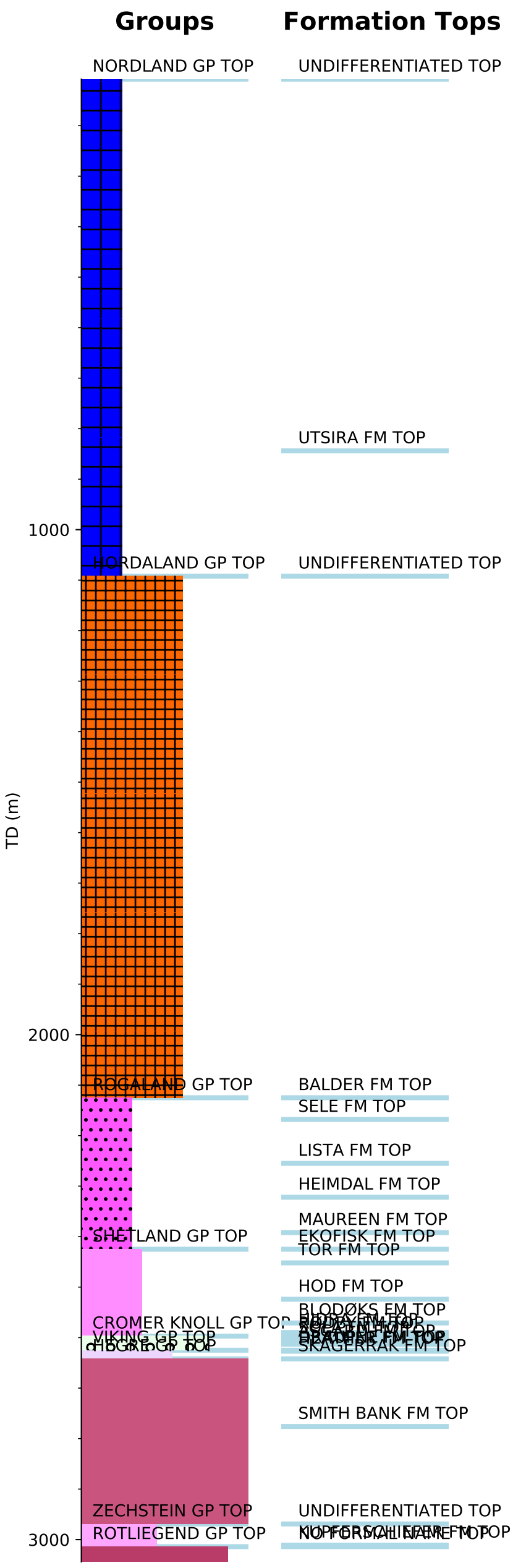

Wellbore History

GENERAL

Well 15/9-9, was drilled on the Sleipner Terrace in the North Sea. The primary objective was to test possible hydrocarbons in Jurassic sandstones on the 15/9-Gamma structure and to get more information about the sand distribution in the area.

OPERATIONS AND RESULTS

Wildcat well 15/9-9 was spudded with the semi-submersible installation Nordraug on 4 May 1981 and drilled to TD at 3044 m in the Early-Middle Permian Rotliegendes Group. No significant problems were experienced in operation, logging or testing of the well. The well was drilled with seawater and pre-hydrated gel down to 501 m, with gel/lignosulphonate from 501 to 1155 m, with gypsum/polymer mud from 1155 m to 2540 m, and with gel/lignosulphonate from 2540 m to TD.

The primary objective, the Jurassic, was thinner than expected and consisted of Late Jurassic Viking Group shales only. The well, however, proved gas and condensate in the Heimdal Formation. The Heimdal Formation was reached at 2322 m. It consisted of sand of fairly good reservoir properties interbedded with some thin shale beds. The whole sand interval was hydrocarbon bearing and no water contact was located. In addition, the well proved residual hydrocarbons over the interval 2648 to 2738 m on cores from the Triassic Skagerrak Formation.

Seven cores were cut. The interval 2648 to 2756 m was cored in six cores with 98 - 100% recovery. A seventh core was cut from 3032 to 3043.5 m with 96% recovery at TD. RFT segregated samples were taken at 2323 m (condensate and mud filtrate) and 2648 m (water and mud filtrate, no gas or condensate). Repeated attempts to sample in the interval 2401 to 2414 all failed due to plugging of probe by unconsolidated sand.

The well was permanently abandoned on 14 July as a gas/condensate discovery.

TESTING

Three drill stem tests were performed.

DST 1 tested the interval 2414 to 2421 m. This test gave no flow to surface and it was aborted due to malfunctioning downhole valves. The maximum downhole temperature measured by the gauges was 85.6 °C

DST 2 tested the interval 2386 to 2392 m. This test produced 286 Sm3 condensate and 586200 Sm3 gas /day through a 1.0" choke (max flow). No H2S and only traces of CO2 was measured. The GOR was 2050 Sm3/Sm3, the condensate gravity was 57.7 °API and the gas gravity was 0.734. The bottom hole temperature measured by the Flopetrol gauge was 87.8 °C.

DST 3 tested the interval 2323 to 2333 m. This test produced 272 Sm3 condensate and 587000 Sm3 gas /day through a 1.0" choke (max flow). No H2S and only traces of CO2 was measured. The GOR was 2160 Sm3/Sm3, the condensate gravity was 60.7 °API and the gas gravity was 0.740. The maximum down hole temperature measured by the gauges was 93.9 °C.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 15/9-9