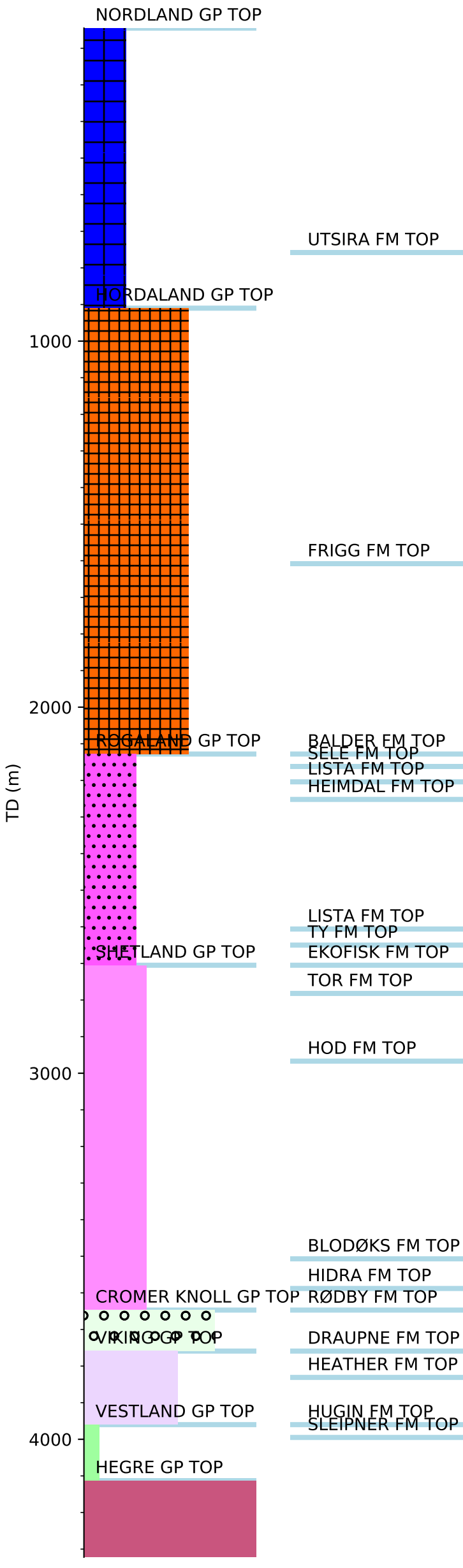

Wellbore History

GENERAL

Well 15/5-2 was drilled in the Ve Sub-basin in the North Sea, north of the Sleipner Vest Field and 15/5-1 Gina Krog Discovery. The main objective of the well was to test possible hydrocarbon accumulations in Middle to Late Jurassic Bathonian/Callovian transgressive sandstones and Middle Jurassic Bajocian deltaic sandstones. The well was located in a purposely off-crestal position on an approximately 16 km2 large structure some 7 km north-west of the 15/5-1 discovery.

The well was planned to penetrate into the Triassic with a projected total depth of 4500 m.

OPERATIONS AND RESULTS

Wildcat well 15/5-2 was spudded with the semi-submersible installation Treasure Seeker on 16 August 1978 and drilled to TD at 4322 m in the Triassic Hegre Group. At 1267 m, the string unscrewed in a tight section, but it was fished without problems. After drilling to 2293 m, the string stuck when pulling out of hole. This time the fish was not recovered and a sidetrack was performed with kick-of at 1775 m. Heavy weather caused further delays, otherwise the drilling went forth without significant problems to TD. The well was drilled with seawater mud mixed with gel and Spersene down to 454 m, and with a Spersene/XP-20 (lignosulphonate) mud from 454 m to TD. At 2232 m 1% Diesel was added to the mud.

Two hydrocarbon bearing sandstone intervals were penetrated by the well. In the Jurassic, only a thin Early to Middle Bathonian sandstone development was penetrated between 4035 m and 4055 m. Interbeds of siltstones and shales reduced the 20 m gross pay to a net pay of 7.3 m from wireline log interpretation. Average porosity and average water saturation over the pay interval was calculated to 14.3 and 41.7% respectively. The top of the Triassic sandstones was encountered at 4141.3 m and continued with interbeds of varicoloured shales and siltstones to TD. From wireline log evaluation hydrocarbon bearing sandstones were seen down to 4158.1 m. Below this a tight cemented sandstone appears, masking the exact hydrocarbon - water contact. Proven gross pay interval is thus 16.8 m while the net pay is 12.8 m. Average porosity over this interval has been calculated to 14.6 % and the average water saturation to 43 %.

Above top Jurassic weak oil shows were observed on limestones at 2792 and 2828 m in the Tor Formation, between 3488 m and 3517 m in the Lower Hod and Blodøks formations, and between 3707 m and 3723 m in the Rødby Formation. In the Jurassic oil shows were recorded on sandstones from 4008 m to 4055 m. In the Triassic, no oil shows were seen despite the hydrocarbon saturation (gas) in the sandstones shown by the logs.

Two cores were cut in the Middle Jurassic sequence. Core 1 was taken from 4013.6 m to 4020.6 m and recovered 5.1 m (72.8 %). The core was decided to be cut based on sandstone occurrence in the ditch cuttings, but only shale and coal beds were found in the core. Core 2 was cut from 4032.5 m to 4043.0 m and recovered 9.8 m (93.3 %). The core to log depth shift is ca +4.5 m for both cores. RFT fluid samples were attempted at 4148.5 m, 4145 m, 4053 m, and 4157.5 m. Only mud filtrate was retrieved at all depths.

The well was suspended on 16 December 1978 for future re-entry and testing. It is classified as a gas discovery.

TESTING

No drill stem test was performed.

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LITHOSTRATIGRAPHY & HISTORY FOR WELL: 15/5-2