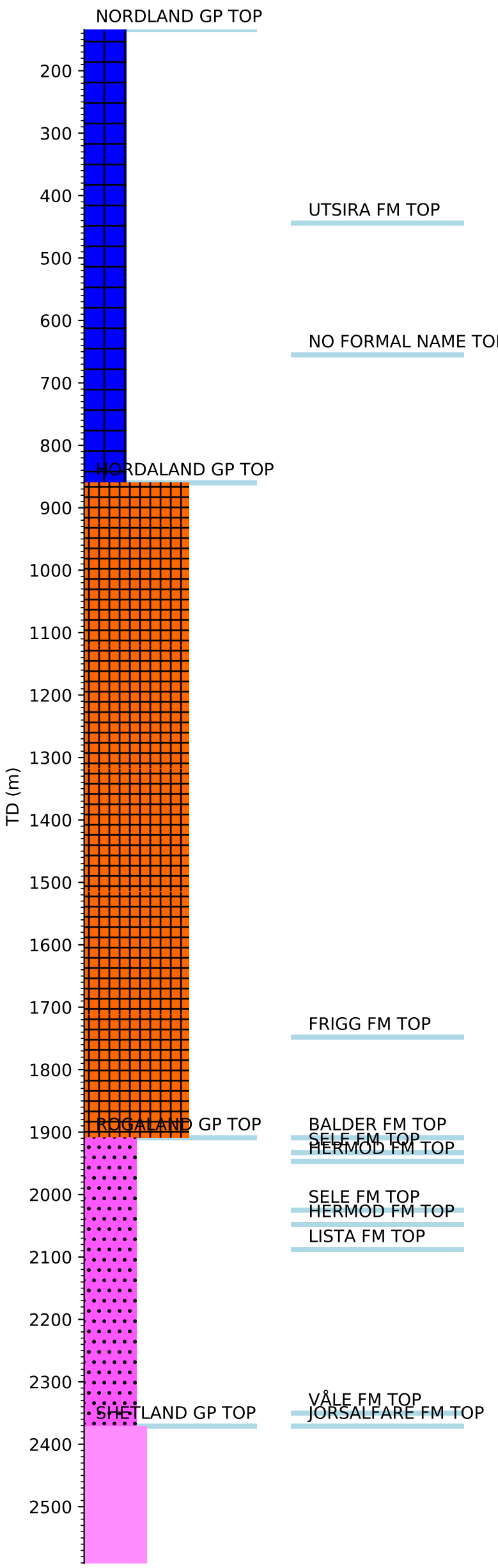

Wellbore History

GENERAL

Well 30/7-2 was drilled from a location 150 ft (46 m) east of well 30/7-1, which was junked for technical reasons. The well is located in the eastern part of the East Shetland Basin in the North Sea. The well location is due west of the Oseberg Field and ca 3.5 km from the UK Border. The primary objective was to investigate structural closure at Eocene and Paleocene with possible sand development.

OPERATIONS AND RESULTS

Well was spudded with the semi-submersible installation on 6 August 1975. While drilling the 36" hole at 167 m, the drill string stuck. After several unsuccessful attempts to free the pipe, a string shot was run and the hole was plugged. The well was re-spudded on 9 August 9 after having moved the rig 200 ft (61 m) south-southeast. From 28 August up to 10 September operations were more or less suspended at a depth between 991 and 1001 m due to technical problems with the BOP. The well was drilled with gel/seawater mud down to 485 m, with seawater/gel and Drispac from 485 m to 1001 m, and with seawater/gel/Drispac and Lignosulfonate (Unical) from 1001 m to TD.

Two minor shows were reported from Late Eocene. The first, at 1226 m, is a sandstone with patchy yellow to whitish fair to weak fluorescence with a medium to slow cut. There was no visible oil stain on the sample. The second, in a thin sandstone stringer, at 1525 m, gave a dull gold fluorescence with a slow streaming cut. At approximately 1700 a thin sandstone gave a gold fluorescence and a white, milky, streaming cut. The samples had a slight oil stain.

The well penetrated the Frigg Formation from 1748 to 1909m. It was hydrocarbon bearing with a gas/oil contact at 1762.8 m and an oil/water contact at 1783 m according to the CPI log. The oil in the reservoir seems to be biodegraded with virtually no light components (98% C10+), while the gas is extremely dry (99.6% CH4). Below the OWC at 1783m some sandstone stringers with oil were present with the thickest zone at 1807.5 - 1810.5 m Cored sandstones from 1975 m to 1989 m in the Hermod Formation had good oil shows. In the sandstone/limestone stringers from 2140 m to 2200 m, 2340 m to 2395 m and 2505 to 2530 m, weak to fair shows were encountered. From 2500 m to TD at 2591 m a substantial increase in the background gas was recorded.

Six cores were cut from 1753 m to 1821.7 m and two more cores were cut from 1970 m to 1989.2 m. Five FIT tests were attempted, of which FIT 1 was a misrun. FIT 2 at 2010 m recovered mud, mud filtrate and possibly some gas. The formation was apparently too tight for proper flow to occur. FIT 3 at 1978 m recovered mud and mud filtrate. FIT 4 at 1808.5 m recovered 2 litres of 21.4 deg API oil and 2.3 litres mixed sand, oil, and water. FIT 5 at 1753 m recovered gas.

The well was permanently abandoned on 9 November 1975 as an oil and gas discovery.

TESTING

Two drill stem tests were performed.

DST 1 at 1796.5 to 1801.4 m produced no formation fluids to the surface, but formation water and sand was recovered from the drill string after the test. No show of oil was detected.

DST 2 at 1766 to 1776.5 m produced 80 - 140 Sm3 oil and gas/day. Oil gravity was 22.2 deg API and the gas gravity was 0.564 (air = 1). DST 2 also produced a lot of sand that created problems for the test. The content of sand produced with the fluids exceeded 14% by volume at the start of the flow, decreasing to less than 1% after 4 hours.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 30/7-2