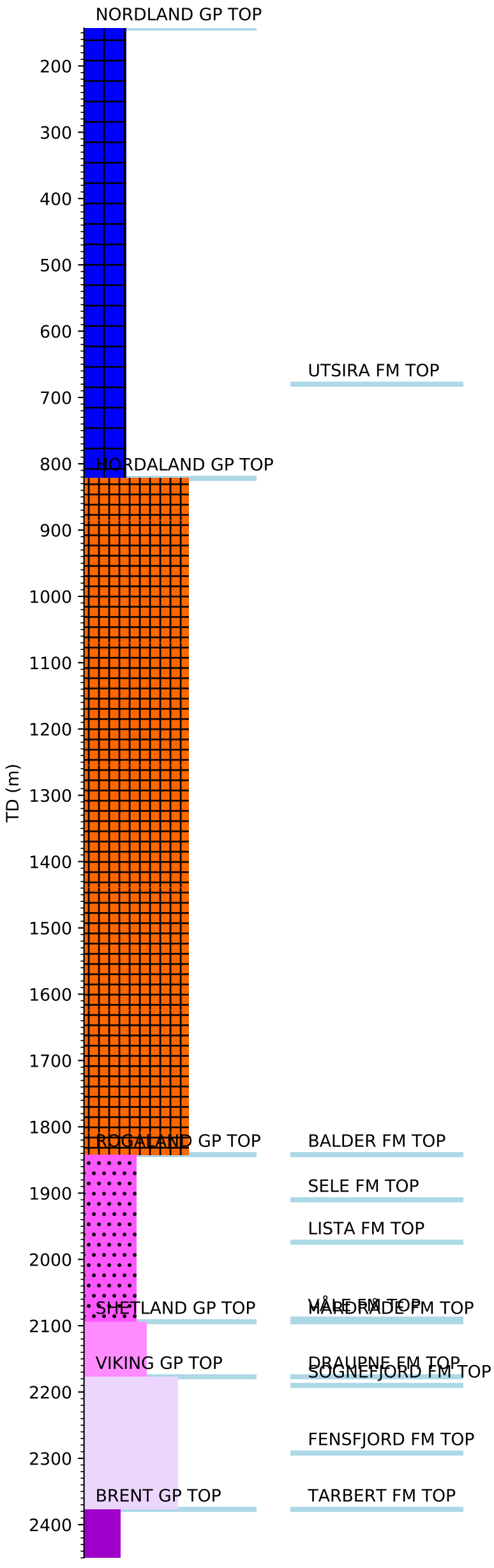
Groups

Formation Tops



Wellbore History

GENERAL

Well 31/7-2 S was drilled to appraise the Brasse discovery on the Bjørgvin Arch in the North Sea. The primary objective was to prove continuity of reservoir and hydrocarbon columns and contacts in the southern part of the Brasse structure.

OPERATIONS AND RESULTS

Appraisal well 31/7-2 S was spudded with the semi-submersible installation Deepsea Bergen on 24 May 2017 and drilled as a slightly deviated S-shape well to TD at 2450 m (2447 m TVD) m in the Middle Jurassic Tarbert Formation. Operations proceeded without significant problems. The well was drilled with seawater and hi-vis sweeps down to 910 m and with KCl/GEM/Polymer water-based mud from 910 m to TD.

The target Sognefjord Formation was encountered at 2190 m (2187 m TVD). It was oil bearing with an OWC at 2198 m (2195 m TVD), which is the same as in the discovery well 31/7-1. MDT measurements showed that the pressure in the reservoir was about 20 bar below hydrostatic and approximately 2 bar less than pressure measured in 31/7-1 and 31/7-1 A. This proves good lateral and vertical communication within the reservoir phases. The main cause of the depleted pressures is believed to be production from the Troll East gas field. Oil shows, very weak hydrocarbon odour with 30% uniform pale direct fluorescence and very slow blue white diffuse cut, were described on core down to 2205.

Two cores were cut in the Lower Shetland Group, Draupne Formation and Sognefjord Formation reservoir sandstone. Core 1 was cut from 2161.2 m to 2218.6 m. Core 2 was cut from 2218.6 m to 2273.45 m. Both cores recovered 100%. MDT fluid samples were taken at 2190.5 m (oil), 2271 m (water), 2217.4 m (water), and 2197.3 m (water).

The well was permanently abandoned on 8 July 2017 as an oil appraisal.

TESTING

A DST was performed in the Sognefjord reservoir over the interval 2186.5 -2190.8 m (2183.5 - 2187.8m TVDSS). The well flowed 548 Sm3 oil/day. The GOR was 158 Sm3/Sm3, the oil density was 0.844 g/cm3, and the gas gravity was 0.716 (air = 1) with 0.8% CO2 and 0.5% H2S. The maximum flowing temperature was 88.5 °C

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 31/7-2 S