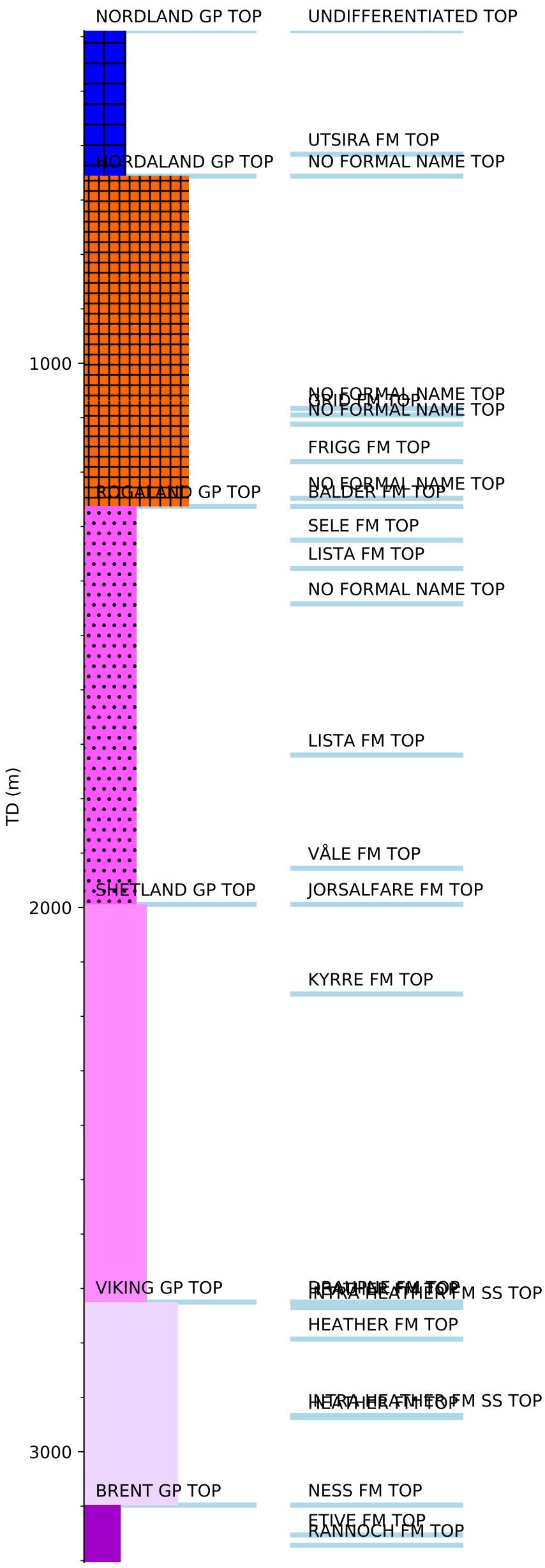

Wellbore History

GENERAL

Well 35/9-10 A is a geologic sidetrack to 35/9-10 S. Sidetrack 35/9-10 was drilled to appraise the southwest flank of the 35/9-7 Skarfjell discovery. The Skarfjell discovery is situated on the Uer Terrace between the Fram and the Gjøa Fields in the North Sea. The primary objective was to prove additional reserves in the Late Jurassic Intra Heather Sandstones. Two such sandstones were expected.

OPERATIONS AND RESULTS

Wildcat well 35/9-10 A was drilled with the semi-submersible installation Transocean Arctic. It was kicked off from 930 m in the primary well bore on 26 November 2013 and drilled to 976 m where it was observed that the BHA did not follow the planned well path. A new kick-off plug was placed and a second kick-off from 878.5 m was made. This well path is termed 35/9-10 AT2. It was drilled successfully to TD at 3203 m (2862 m TVD) m in the Middle Jurassic Rannoch Formation. The well was drilled deviated down to ca 2700 m and vertical from there to TD. The deviated section had a sail angle of ca 47 °. No significant problem was encountered in the operations. The well was drilled with seawater XP-07 oil based mud from kick-off to TD.

Sidetrack 35/9-10 A, drilled near the top of the structure in the southwest, found a 59-meter gross gas column in the Intra Heather Sandstone 2 (IHS 2). The IHS 2 was penetrated from 2734.5 to 2793 m (2393 to 2451.5 m TVD). It had better reservoir properties than expected with a 66% N/G and an average porosity of 25%. Pressure data indicate that the gas cap is in communication with the oil proven in the 35/9-7 & -8 wells in the northern part of Skarfjell. The Intra Heather Sandstone 1 (IHS 1) was penetrated from 2932.5 to 2936.5 m (2590.9 to 2594.1 m TVD). It contained oil and had reservoir quality lower than expected: 53% N/G and an average porosity of 12%. Only one pressure point could be taken in the IHS 1, so no reliable gradient can be constructed, but the IHS 1 at 35/9-10 A does not seem to be in communication with the rest of Skarfjell. No oil shows were described other than in the Intra Heather sandstones.

Four cores were cut. Core 1 was cut from 2776 to 2779 m, but recovered only 1.6 m (53% recovery). Cores 2 and 3 were cut from 2779 m to 2851 m with 100% recovery. Core 4 was cut from 2885 to 2921 m with 100% recovery. RCX fluid samples were taken at 2753.1 m (IHS 2; gas/condensate), 2772.8 m (IHS 2; gas/condensate), 2826.4 m (IHS 2; gas/condensate), and 2934.5 m (oil).

The well was permanently abandoned on 16 January 2014 as a gas and oil appraisal well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 35/9-10 A