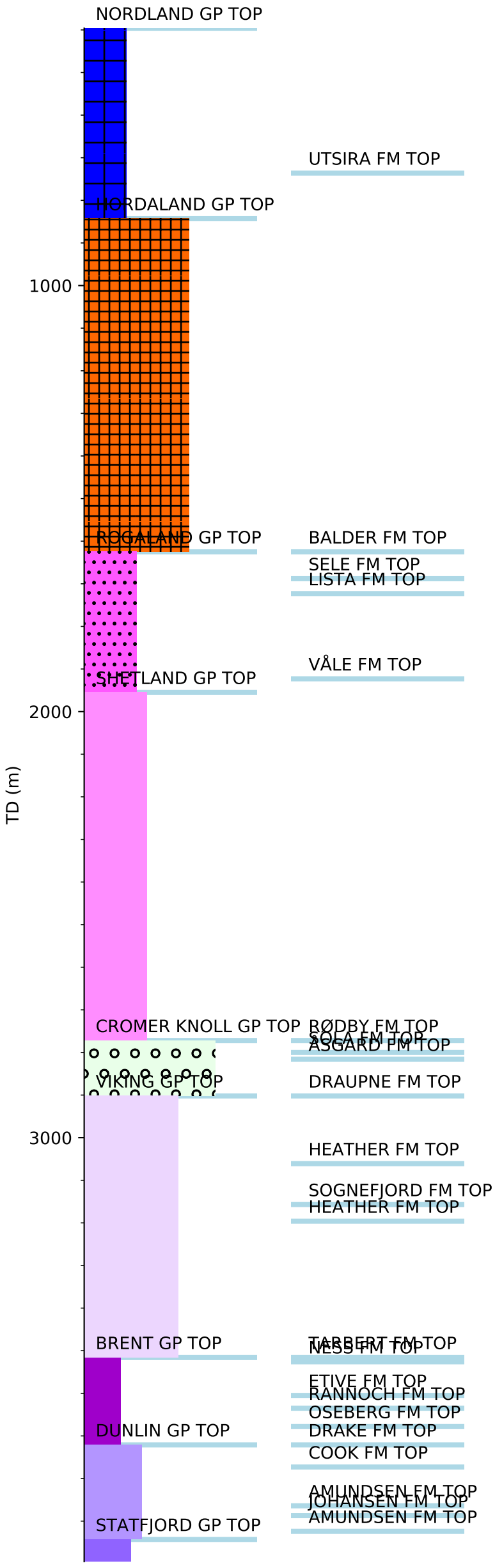

Wellbore History

GENERAL

Block 35/11 is located on the northwestern edge of the Horda Platform, on the Lomre and Uer Terrace. The Northern part of the Viking Graben is immediately to the Northwest. The block lies due north of the Troll Field. The well was drilled to appraise the 35/11-2 Discovery, which proved oil and gas in the Middle Jurassic and had shows in Late Jurassic Intra Heather Sandstones. The primary objective was to evaluate the Middle Jurassic sandstones of the Brent Group, and the location was chosen such that the OWC of the Tarbert Formation could be identified. The secondary objective was the Late Jurassic Intra Heather Sandstones, which were thought to be much thicker than in the 35/11-2 location.

OPERATIONS AND RESULTS

Wildcat well 35/11-6 was spudded with the semi-submersible installation Sovereign Explorer on 30 January 1992 and drilled to TD at 3990 m in the Early Jurassic Statfjord Formation. The well was drilled with seawater and viscous pills to 985 m and with KCl/polymer mud from 985 m to TD. In the Late Jurassic, sandstones were found in the Upper Heather and Sognefjord Formations. In the Upper Heather Formation a very porous and permeable sandstone contained 1.2 m of oil. A core was taken at the base of this interval and an RFT sample at 3072.7 m recovered gas and heavy oil. RFT pressure and sampling data indicated that the zone had excellent permeability in places. The pressure data did not support communication with 35/11-2, and a large sampling pressure draw down indicated a limited accumulation. The sandstone in the Sognefjord Formation, although thicker, was much less porous and contained only traces of residual oil. Two cores were taken in this Formation and an RFT at 3174.5 m recovered only traces of hydrocarbons. In the Middle Jurassic Brent Group, shows were observed in cores but these were probably residual as petrophysical results showed only low oil saturations. The reservoir quality of the sandstones was generally poor and many of the RFT pretests taken were either dry or supercharged. An RFT sample at 3522.4 m contained mud filtrate and only traces of gas.

No oil shows were recorded above top Jurassic and below base Brent Group. Organic geochemical analyses showed that both the Draupne and Heather Formations contained good to excellent source rocks for oil and gas generation. The top of the oil window is reached at about base Draupne Formation at 3000 m, peak-oil generation (0.8% Ro) at around 3250-3350 m, and the base of the oil window (1.0% Ro) at about 3700 m. The analyses showed that the Intra Heather RFT sample from 3072.7 m was a low-mature heavy oil (equivalent to a 0.7% Ro source rock), suggesting the live oil could have a rather local origin in either base Draupne or top Heather shales.

Eleven cores were cut, recovering a total of 231 m of core. One was cut in the Upper Heather Formation, two in the Sognefjord Formation and eight in the Brent Group. Three RFT samples were taken, one at 3174.5 m in the Sognefjord Formation (mud filtrate with only trace of gas and light oil), one at 3072.7 m in the Intra Heather sandstone (9 litres of 18-19 API oil and 42 litres of gas), and one at 3522.4 m in the Tarbert Formation (mud filtrate with only trace of gas and oil).

The well was permanently abandoned on 20 April 1992. The well contained a limited accumulation of live oil. It is classified as well with shows.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 35/11-6