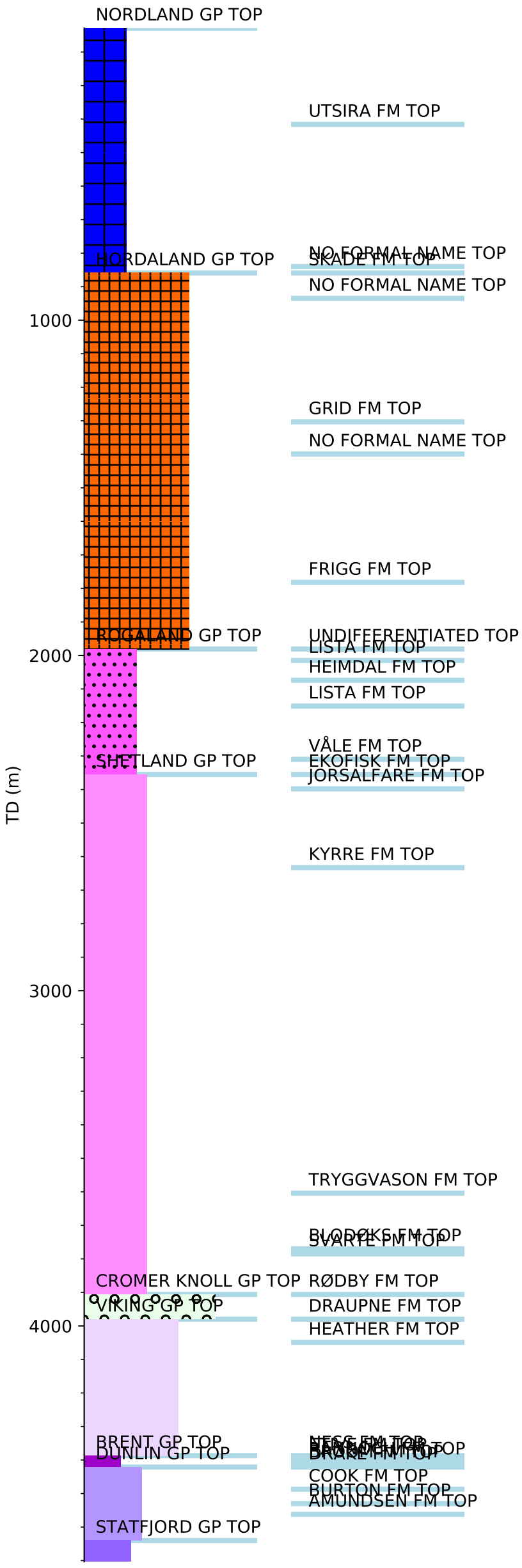

Wellbore History

GENERAL

Well 29/9-1 is located on the Hild structure ca 1.5 km west of the UK border on the eastern margin of the East Shetland Basin in the North Sea. The well was drilled to appraise the 30/7-2 discovery. The main objectives were to test the hydrocarbon prospectivity and reservoir parameters of the Middle and Early Jurassic sequence. The well was planned to be drilled 50 m into the Statfjord Formation at a total depth of 4640 +/- 200 m.

OPERATIONS AND RESULTS

Appraisal well 29/9-1 was spudded with the semi-submersible installation Treasure Seeker on 23 September 1983 and drilled to TD at 4703 m in the Early Jurassic Statfjord Formation. During drilling of the 17 1/2" hole, tight hole problems were experienced. The 9 5/8" casing had to be run twice due to problems with the casing hanger seal. Due to high temperature and lack of circulation the mud in the 7" liner gelled up and had to be replaced several times. This caused difficulties operating the testing tool. The well was drilled with seawater and gel slugs down to 1057 m and with KCl/polymer mud from 1057 m to TD. Mud retort test showed 4-5% oil in the mud from top of the 12 1/4" section at 2752 m, declining to traces at 3732 m.

The well encountered oil in the Frigg Formation in the interval 1782 to 1787 m (OWC), and gas in the middle Jurassic Brent Group from 4386.5 m to 4421 m (gas down to top Dunlin Group; no hydrocarbon contact was encountered).

The Frigg Formation (1782-1981 m) consisted of predominantly of fine to coarse grained porous sandstones. The uppermost 2.5 m was tight and calcareous cemented. Net pay was thus 2.5 m with 31% average porosity and 40% average water saturation, based on logs. No RFTs or drill stem tests were performed through this section. The upper part of the Brent Group, the Tarbert and most of the Ness Formation was faulted out. The remaining section of the Ness Formation (4386.5 - 4393.5m) consisted of shales with interbedded coals and stringers of sandstones. Fairly clean fine to coarse grained sandstones made up the underlying Etive Formation (4393.5 - 4405.5 m). The Rannoch Formation (4405.5 - 4415m) was a relatively tight sequence of very fine grained micaceous and silty sandstones. The Broom Formation (4415 - 4421m) constitutes the base of the Brent Group and consisted of fine to coarse grained pebbly sandstones. The net pay for the whole Brent Group was calculated to 10.6m of a gross thickness of 34,5m giving a net to gross ratio of 0.3. The average porosity was calculated from logs to 14.3% with an average water saturation of 53.6%.

Oil shows in the Frigg Formation became weaker below OWC and died completely at 1844 m. Poor hydrocarbon shows occasionally observed on limestones and marls in the Cretaceous section were not considered significant. Good shows were seen on cores from the Brent reservoir. No shows were recorded below bas Brent Group.

Three cores were cut in the middle Jurassic sequence from 4386 to 4436 m with 96 to 100% recovery. No RFT pressure recordings or sampling were performed due to badly washed out hole over the reservoir section.

The well was permanently abandoned on 24 February as a gas as an oil and gas appraisal well.

TESTING

A drill stem test (DST) was performed over the interval 4394 - 4405 m in the Etive Formation. The well produced at maximum only 9769 Sm3 (0.345 MMft3) gas/day through a 1.27cm (32/64") choke. The gravity of the gas was 0.774 (air=l). Only traces of condensate were produced. Bottom hole temperature measured in the test was 141.1 deg C.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 29/9-1