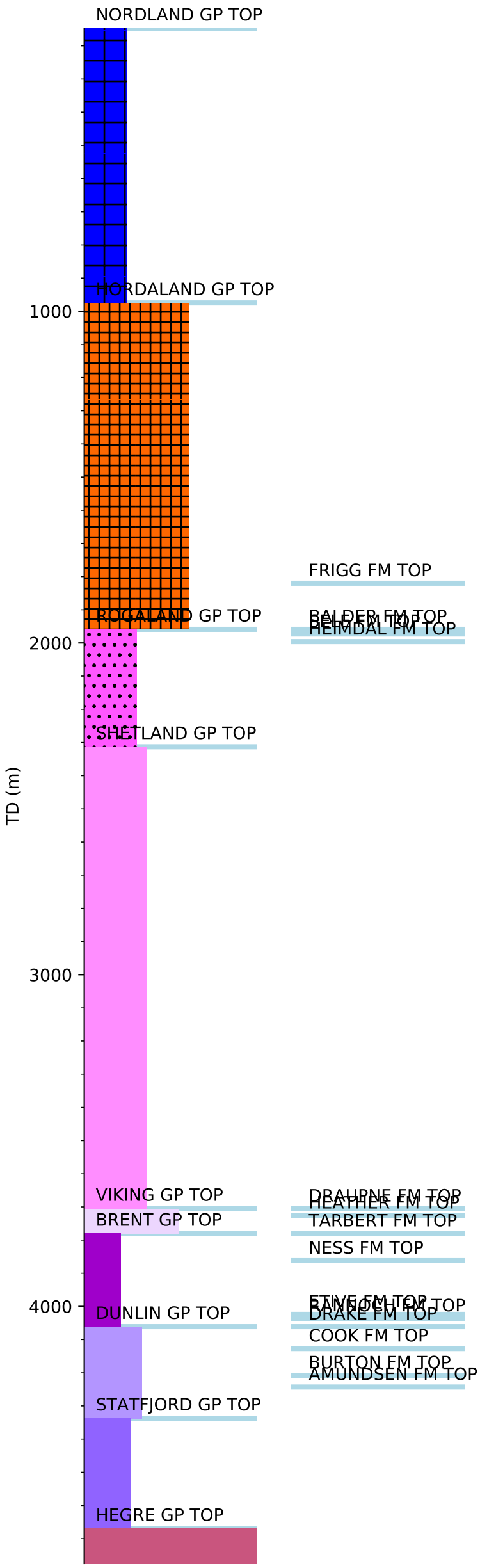
Groups

Formation Tops



Wellbore History

GENERAL

Well 30/4-2 was drilled test an easterly dipping fault block on the western margin of the Viking Graben. The primary target was the Brent Group, which had already been proven to contain gas condensate by well 30/7-6 located 3 km to the South on the same structure. Secondary objectives were to test Palaeocene and Lower Eocene sandstones, and the Statfjord Formation. Well 30/7-2 had earlier encountered a hydrocarbon column with dry gas overlying heavy oil in the uppermost part of the Eocene Frigg Formation.

OPERATIONS AND RESULTS

Well 30/4-2 was spudded with the semi-submersible installation SEDCO 707 on 16 November 1979 and drilled to TD at 4775 m in the Triassic Hegre Group. Bad weather caused some delay, and on 12 March, the drill string was hung-off due to adverse weather conditions. Whilst retrieving the running assembly an influx from the well was observed. The influx was bull-headed and it took five days before the well was in stable conditions again. Otherwise, no significant incident happened in the operations. The well was drilled with seawater and gel down to 1096 m, with lignosulphonate/Drispac/Gypsum mud from 1096 m to 2530 m, and with lignosulphonate/Poly-rx from 2530 to TD.

The Frigg Formation was encountered water-wet without shows at 1820 m, 36.5 m below the OWC defined in the 30/7-2 Frigg discovery. The Brent Group was encountered at 3779 m. Brent contained gas/condensate and had excellent poroperm characteristics. The gas-water contact established between 3876.5 m and 3893.5 m in the Ness Formation. The Statfjord Formation was encountered water-wet at 4337 m with only some poor shows in the top. Pressure analysis showed that it was not communicating with the Brent Group.

Thirteen full-hole cores were cut in well 30/4-2: two in the Tertiary, ten in the Jurassic Brent Group and one in the Dunlin formation. A total of 143.7 m core was recovered. A segregated RFT sample was take at 3827.5 m

The well was permanently abandoned on 16 May 1980 as a gas/condensate appraisal well.

TESTING

One drill stem test was performed from the interval 3832 to 3838.1 m. The test produced 811300 Sm3 gas and 174 Sm3 condensate /day through two downhole 1/2" chokes and a 38/64" surface choke. The GOR was 4663 Sm3/Sm3, the oil gravity was 45 °API, and the gas gravity was 0.64 (air = 1). The maximum gauge temperature in the test was 134.4 °C.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 30/4-2