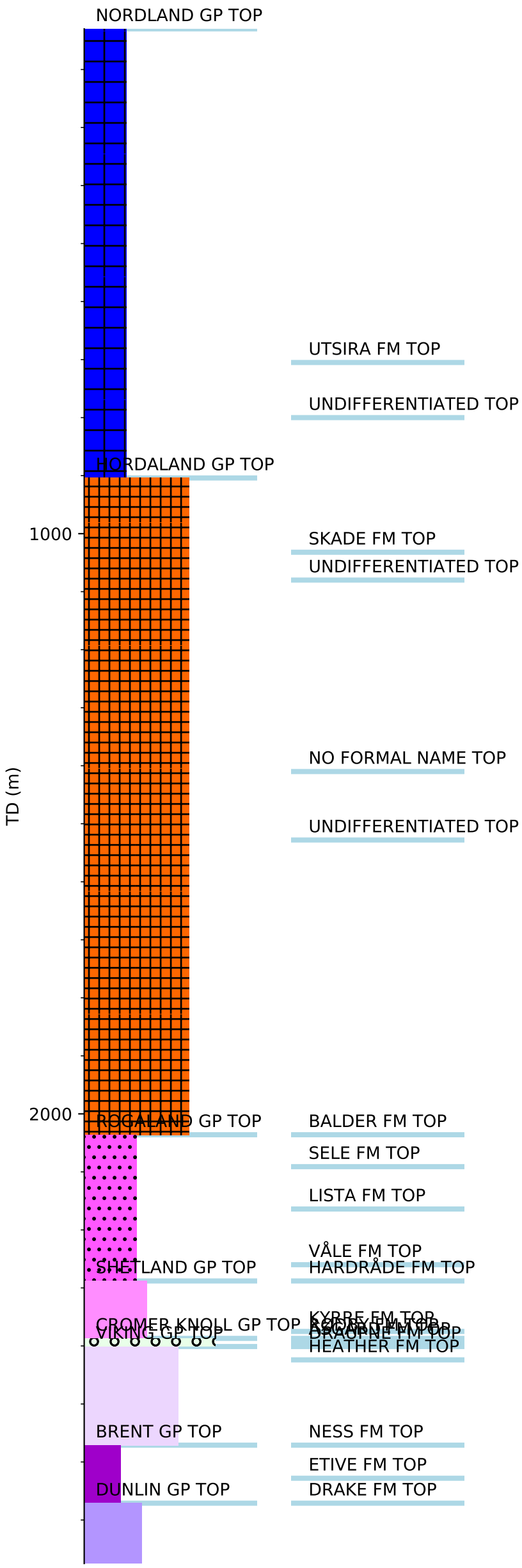

Wellbore History

GENERAL

Well 30/6-13 is a replacement for the 30/6-12 well, which was terminated in Pliocene sediments due to technical problems. The appraisal well 30/6-13 was drilled in a down flank position on the Alpha block east of the 30/6-1 Oseberg Discovery well, which tested gas in the Middle Jurassic Brent Group. The main objectives of the well were to confirm the reserves of hydrocarbons, to prove oil in the Etive Formation, to define and refine the geological model for the Alpha structure, to obtain core from the Brent Group, and to do a water injection test in the oil zone. The well was planned to be drilled 50 m into the Drake Formation to a total depth of 2764+/- 50 m.

OPERATIONS AND RESULTS

Well 30/6-13 was spudded with the semi-submersible installation Treasure Seeker on a location ca 40 m to the south-east of well 30/6-12, on 11 March 1983. It was drilled to TD at 2775 m in the Early Jurassic Drake Formation. No major problems occurred during drilling. The well was drilled with spud mud down to 613 m and with a KCl/polymer mud from 613 m to TD. A pill of Imco-spot/Pipelax 140 bbl pill with 50 bbl diesel was spotted from 1410 m to 1525 m to free the 13 3/8" casing, which was stuck. The casing got free and was cemented with shoe at 1705 m.

The well encountered hydrocarbons from 2571 to 2671 m in the Middle Jurassic Brent Group sandstones. No other hydrocarbon bearing reservoirs were encountered. Oil shows reported from limestone stringers in the interval 2120 - 2325 m in the Paleocene and Late Cretaceous were considered uninteresting.

A total of nine cores were cut continuously from the Ness Formation to the Dunlin Group shales. One successful segregated RFT fluid sample was obtained at 2661.5 m (3 l oil and 0.57 Sm3 gas).

The well was permanently abandoned on 14 May 1983 as an oil/gas appraisal well.

TESTING

Three DST's were performed in the Brent Group.

DST 1 was a combined production and injection test in the Etive Formation at 2640 - 2650 m. The test produced 450 Sm3 oil and 57766 Sm3 gas /day through a 28/64" choke. The GOR was 128 Sm3/Sm3 and the oil gravity was 34.3 deg API. The CO2 content was 0.9 %, and the H2S content was 0.3 ppm. The maximum injection rate was 1586 m3 in the water injection test. The bottom hole temperature was 103.9 deg C.

DST 2 tested the interval 2596 - 2601 m in the Ness Formation. It produced 424 Sm3 oil and 43608 Sm3 gas /day through a 28/64" choke. The GOR was 103 Sm3/Sm3 and the oil gravity was 35.1 deg API. The CO2 content was 1 % and the H2S content was 0 ppm. The bottom hole temperature was 101.9 deg C.

DST 3 tested the interval 2573.5 - 2579.5 m in the Ness Formation. It produced 428 Sm3 oil and 42192 Sm3 gas /day through a 28/64" choke. The GOR was 99 Sm3/Sm3 and the oil gravity was 35.8 deg API. The CO2 content was 1 % and the H2S content was 0 ppm. The bottom hole temperature was 101.7 deg C.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 30/6-13