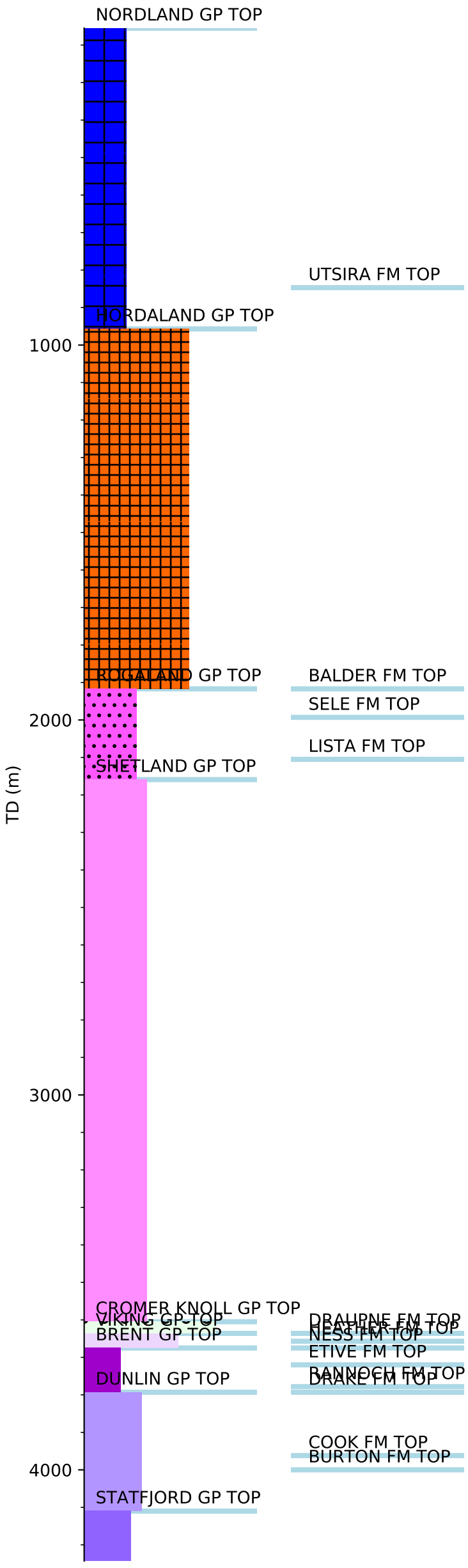
Groups

Formation Tops



Wellbore History

GENERAL

Well 30/2-1 is located roughly mid-way between the Oseberg Field complex and the Kvitebjørn Field in the Northern North Sea. The primary objective of the well was sandstones of Middle Jurassic age. Secondary objectives were sandstones of Paleocene and Late/Early Triassic age.

OPERATIONS AND RESULTS

Wildcat well 30/2-1 was spudded with the semi-submersible installation Dyvi Delta on 17 May 1982 and drilled to TD at 4243 m, 133 m into the Early Jurassic Statfjord Formation. A total of 125 days were spent on the drilling phase, which was 5 days more than prognosed. Twelve days were lost due to problems with lost circulation, gas influx, stuck pipe and a leaking liner overlap in the 8 1/2" hole section. Three and a half days were lost to free the 13 3/8" casing when this got stuck at 1998 m. Most of those days were caught up because total depth was reached 357 m shallower than prognosed, and because of successfully turbodrilling with diamond bits in the 12 1/4" and 6" hole section. The well was drilled with spud mud down to 1035 m, with Gypsum mud from 1035 m to 1860 m, and with Gypsum/Lignosulphonate mud from 1860 m to 2155 m. An oilfaze/pipelax and an Imco spot/pipelax pill was spotted at 1998 m to free the pipe. From 2155 to TD the well was drilled with Spersene XP 20 (Lignosulphonate).

Hydrocarbons were encountered in the Brent group. The secondary prospects were found to be water wet, although oil shows were recorded in dolomite between 1852 m and 1911 m in the Eocene and in a 30 cm thick sandstone bed at 1952 m in the Late Paleocene Balder Formation. Weak shows were also recorded on sandstones from 4119 m to 4202 m in the Statfjord Formation.

Eleven cores were cut with a total recovery of 108.8 metres. Two cores were cut from 1952 m to 1969.5 m in the Late Paleocene Balder Formation, while 9 cores were cut from 3696 m to 3794 m in the Ness, Etive, and Rannoch Formations of the Brent Group. Five RFT runs were made. From the pressure data no hydrocarbon-water contact was seen and it was concluded hat the Brent Group was completely hydrocarbon filled. At 3791 m one 2 3/4 -gallon sample (gas and filtrate) and one 1 -gallon sample (filtrate only) was obtained, and at 3763 m one 2 3/4 -gallon sample (0.85 l condensate) was obtained.

The well was suspended on 12 October 1982 on as a gas/condensate discovery.

TESTING

Three DST'S were performed in the well. All three tests produced gas and condensate.

DST 1 tested the interval 3785 - 3792 m in the Rannoch Formation. The maximum gas production was about 677000 sm3/day on a 32/64" choke with a GOR of about 2200 Sm3/Sm3. The condensate gravity was 0.804 g/cc and the gas gravity was 0.695 (air = 1). The CO2 content was 2% and the H2S content was nil.

DST 2 tested the interval 3761 - 3771 m in the Etive Formation. The maximum production was about 1030000 Sm3/day on a 48/64" choke with a GOR of about 2470 Sm3/Sm3. The condensate gravity was 0.807 g/cc and the gas gravity was 0.695 (air = 1). The CO2 content was 4%.

DST 3 tested the interval 3720 - 3728 m in the Etive Formation. The maximum production was about 1016000 Sm3/day on a 48/64" choke with a GOR of approximately 2564 sm3/Sm3. The condensate gravity was 0.814 g/cc and the gas gravity was 0.692 (air = 1). Six ppm H2S and 4 % CO were measured during this test. Sand production was not observed in any of the tests. The gauges used at bottom hole had a temperature limit of 150 deg. C and the measured BHT seemed to approach this limit.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 30/2-1