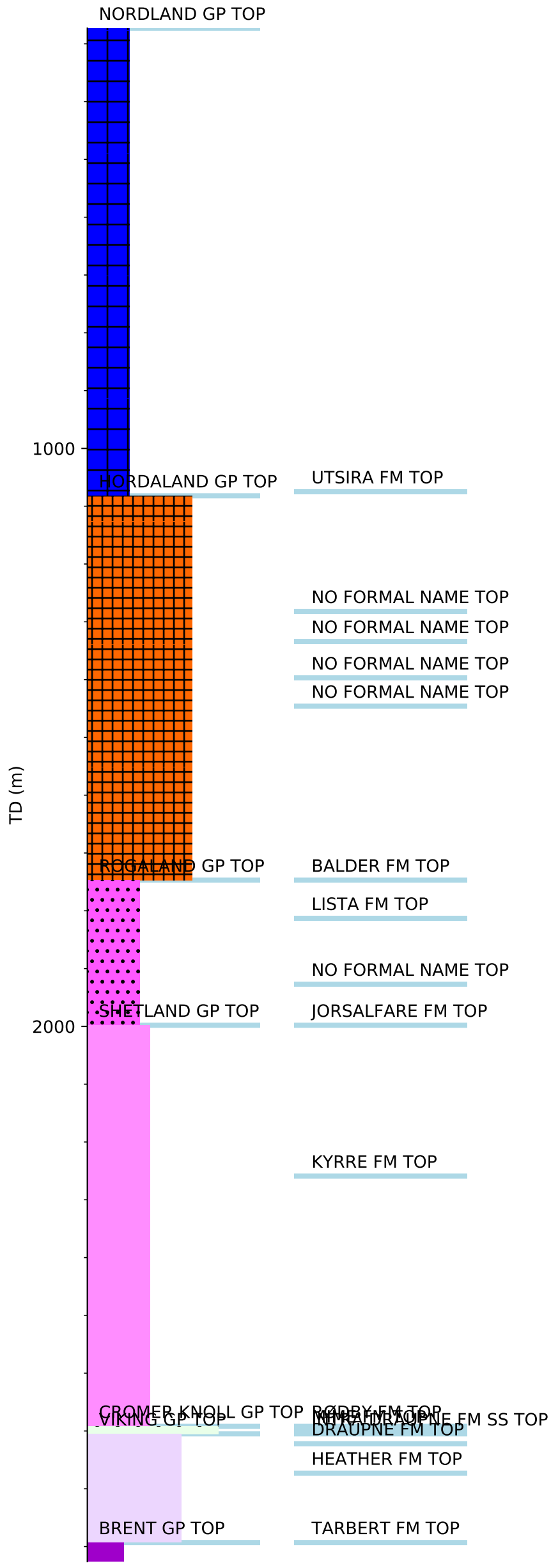
Groups

Formation Tops



Wellbore History

GENERAL

Exploration well 34/7-29 S was drilled in the west central part of block 34/7 on the H-North prospect. The H-North prospect was located SSE of the Vigdis field and NE of the Statfjord East field. The main objective of well 34/7-29 S was to test a northerly extension of the oil bearing Upper Jurassic Top Draupne Sands penetrated in wells 34/7-21, 21 A, 23 S & 23 A. The well was designed to test the presence of reservoir, hydrocarbons and pressure communication with the other H-Area segments. Reservoir presence was considered the primary risk. Seismic interpretation of the reservoir interval indicated communication with the H-West area, and pressure, sample and DST data were considered important to test this interpretation. In addition the well was to test for the presence of sands and possible hydrocarbons in the Middle and Lower Draupne Formation. Secondary objectives were to test the lithology and depositional model of the Palaeocene Lista Formation and tie the Top Brent seismic marker.

OPERATIONS AND RESULTS

Exploration well 34/7-29 S was spudded with the semi-submersible installation "Transocean Leader" on 4 March 1998 and drilled and cored to TD at 2927 m (2848 m TVD RKB) in the 8 1/2" hole section 30 m into the Middle Jurassic Brent Group. A 7" liner was set and cemented. The well was drilled with Sea water and bentonite sweeps down to 1211 m and with "AQUACOL D" KCl / Glycol mud from 1211 m to 2558 m, and with "ANTISOL D" PAC mud from 2558 m to TD. Due to the presence of hydrocarbons and the requirement for the rig to go on contract for Norsk Hydro, the well was suspended on 14 April 1998 as an oil discovery. The semi-submersible drilling installation "Deepsea Bergen" re-entered well 34/7-29 S R on 22 February 1999 for testing.

In the Nordland, Hordaland and Rogaland Groups the well penetrated mainly clay/claystones with some beds of sand. The Heimdal equivalent Member between 1928 -1999 m (1864 -1933 m TVD RKB) contained thick water wet sands. In the Shetland Group claystones and limestone beds were penetrated. The condensed Cromer Knoll Group consisted of marls, limestones and minor claystones. Core point was reached in the Cromer Knoll Group at 2701 m. The first core (2701 - 2718 m) penetrated the top of the Top intra Draupne Sand at 2705 m (2627 m TVD RKB) and contained oil bearing sands at the base. A second core was cut from 2718 to 2726 m from within the intra Draupne Sands and into the Draupne Shale. In total 17,7 m of sands were penetrated. MDT pressure samples acquired during logging indicated that the sands were all oil bearing and oil down to (ODT) of 2723 m (2622 m TVD MSL) was proved. No sands were penetrated within the Draupne Shale. Fluid samples proved the reservoir fluid to be undersaturated oil. The fluid samples were taken during the MDT run, using the Pump-Out module in combination with the Optical Fluid Analyser to limit contamination of mud filtrate. All fluid samples were taken at 2706.5 m. The quality of the samples and analyses was assumed to be good, because no significant differences were observed between the experimental results. Well 34/7-29 S R was permanently abandoned as an oil discovery on 17 March 1999.

TESTING

One zone in the intra Draupne Sandstone was tested, from 2704 - 2716 m. After clean-up pressure build-up period of 6.2 hours, the well was opened on a 6,4 mm (16/64") adjustable choke, for the main flow, through the heater. The choke size was increased in steps to 17,5 mm (44/64") fixed choke in about 1.5 hours. The flow was directed through the separator 0.75 hours after the well was opened. The main flow had a duration of 72 hours during which the oil rate decreased gradually from 920 Sm3/d to 875 m3/d. The wellhead pressure decreased from 84.0 bars to 80.6 bars during the same period. Final gas rate was 120000 m3/day, giving a GOR of 137 m3/m3. The oil density was 0.842 g/cm3. Bottom hole sampling after flowing was cancelled.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 34/7-29 SR