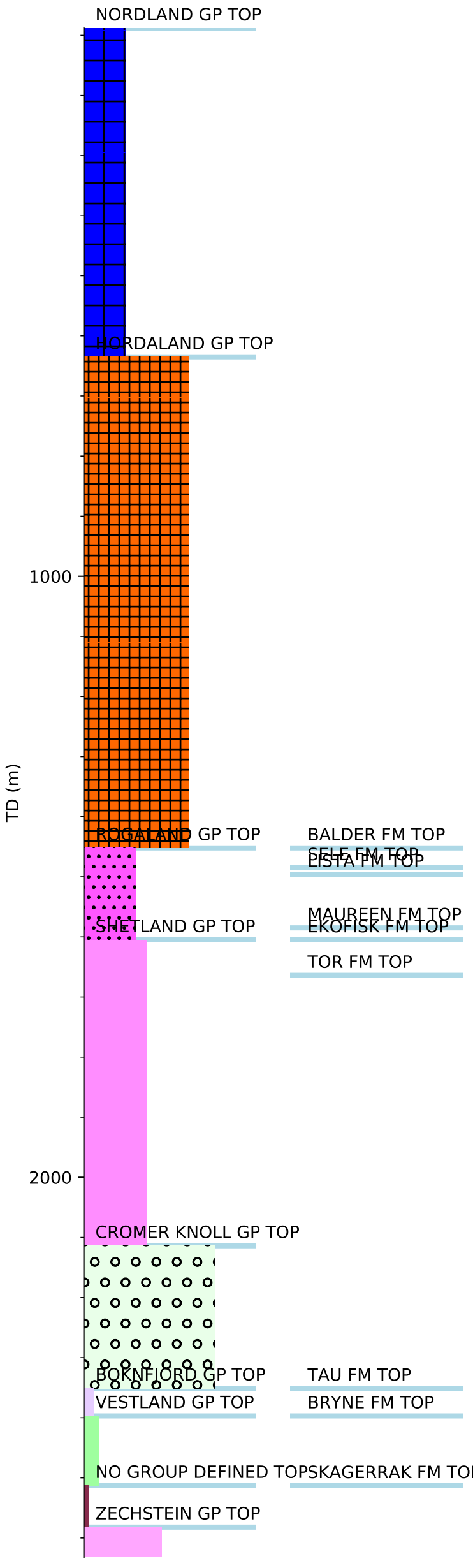
Groups

Formation Tops



Wellbore History

GENERAL

Wildcat well 8/4-1 is located in the Danish Norwegian Basin of the North Sea. The primary objective was to test the hydrocarbon potential of Middle Jurassic sandstones, expected at 2430 m with a 122 m thickness. A secondary objective was seen in the Late Cretaceous chalk. Planned TD was at 2850 m in the Permian Zechstein Group.

OPERATIONS AND RESULTS

Wildcat well 8/4-1 was spudded with the semi-submersible installation Norjarl on 21 June 1977 and drilled to TD at 2632 m, 50 m into the Permian Zechstein Group. The well was drilled with lime and Drispac down to 1757 m and with, and lignosulphonate from 1757 m to TD.

The well encountered a 116 m thick Middle Jurassic sandstones sequence (Bryne Formation) with top at 2397, fairly close to prognosis. The secondary target was also encountered close to prognosis, at 1664 m (Tor Formation). Early Cretaceous Cromer Knoll Group was found unconformable on Late Jurassic shales. The Upper part of the Boknfjord Group was not present in the well. The well was electrically logged from 85 m to 2623 m and no pay was present in the well to this depth. Trace residual oil shows were seen in sidewall cores at 2417 m and 2462 m. Total gas averaged 5 to 10 units throughout the course of drilling with no significant gas peaks. Shows of the heavier hydrocarbon gases C2 to C4 were present in the interval 2355 m to 2466 m. Three pressure regimes exists in this well. The first includes the Late Tertiary sediments and is only very slightly overpressured reaching approximately 9.2 ppg at its base at 899 m. This is the top of the second regime and marks the unconformity between the Late Tertiary and Eocene sediments. The Eocene and the Paleocene below, exhibit an increasing pore pressure with depth reaching a maximum of approximately 12.6 ppg EMW above the Paleocene/Late Cretaceous unconformity at 5261 ft. (1604 m). The third regime extends to TD and is assumed to be near normally pressured. Organic geochemical analyses indicated a thermally immature well all through with %Ro approaching 0.40 at TD. Good source rock, but immature at well site, was found in the Tau Formation, which had 3 - 7 % TOC and hydrogen index in the range 300 - 400 mg HC/g TOC. No conventional cores were cut. Twenty-seven sidewall cores were recovered out of 30 attempted. No fluid sample was taken.

The well was permanently abandoned on 25 July as a dry hole.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 8/4-1