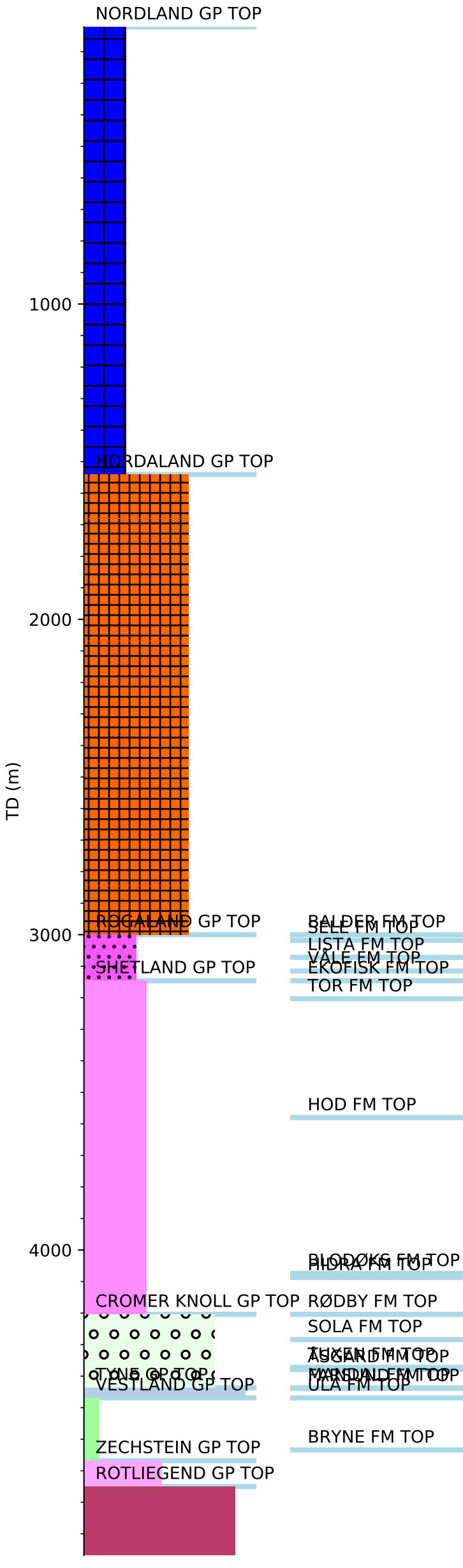
Groups

Formation Tops



Wellbore History

GENERAL

The objectives of drilling the 2/7-31 Ebba Prospect well were to test the hydrocarbon potential of the Permian Rotliegend and Jurassic Lower Ula sandstones in a fault closed structural trap. The prospect was located 10 km west of the Embla field and 1 km west of the Phillips 2/7-19 well, which tested hydrocarbons in the Jurassic Lower Ula Formation. Further, the well should establish proven economic reserves and obtain open hole wire line logs, cores and production tests in both formations.

OPERATIONS AND RESULTS

Well 2/7-31 was spudded with the jack-up rig "Mærsk Galant" on 13 January 1999 and drilling was completed on 5 May 1999 at 4968 m in the Permian Rotliegend Group. It was drilled with spud mud down to 593 m and with oil based Versaport mud from 593 to TD.
Hydrocarbons were encountered first in the Lower Cretaceous Tuxen Formation (Top 4372.1 m), then in the sandstones of the Jurassic Lower Ula (Top 4483.6 m) and Bryne (Top 4634.2 m) Formations, and finally in the sandstone of the Permian Rotliegend Group (Top 4750m). All zones were evaluated either by MWD/LWD log or open and cased hole wire line data. Wire line formation pressure tests were taken throughout the Rotliegend section and oil samples were recovered from two FMT tests at 4793 m and 4812 m. Planned coring of the Jurassic sandstones was cancelled due to operational difficulties in the HPHT environment encountered in this well. Coring in the Rotliegend faced a similar fate but the setting of a liner stabilized the well and one core was taken from the interval 4795.7 - 4798.2 m and three in the interval 4811.3 - 4850.9 m. The well was suspended as an oil discovery.

TESTING

A DST was performed over the Ula Sandstone interval 4565.9 - 4623.8 m. The well flowed at an average stabilized rate of 283 Sm3 oil and 120000 Sm3 gas on a 16/64" choke.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 2/7-31