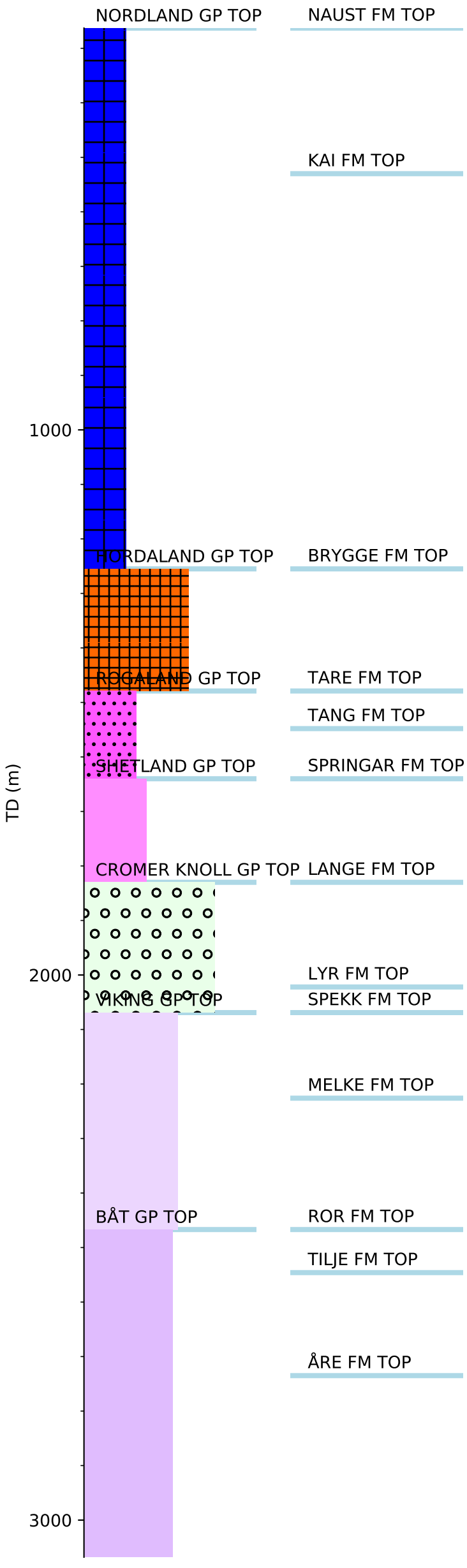

Wellbore History

GENERAL

Wildcat well 6609/11-1 was drilled on the Northwestern side of the Helgeland Basin outside Mid Norway. The primary objective was to test sandstone reservoirs of Middle to Early Jurassic age in a structurally high position on a narrow SW-NE trending horst block. The secondary objective was to test sandstone reservoirs of Early Jurassic to Upper Triassic age. The well was planned to be drilled to 3200 m, 200 m into the Triassic.

OPERATIONS AND RESULTS

Wildcat well 6609/11-1 was spudded with the semi-submersible installation Treasure Seeker on 19 May 1983 and drilled to TD at 3068 m in Late Triassic sediments of the Åre Formation. No major technical problems occurred during drilling. Operations were interrupted for 11 and a half days due to a crew strike. The well was drilled with seawater and hi-vis pills to 915 m and with gypsum/polymer mud from 915 m to TD.

The well encountered good quality sandstone reservoirs of Early Jurassic and Late Triassic age. These reservoirs were water bearing with minor amounts of residual hydrocarbons indicated on the logs. The uppermost part of the sandstone interval, 2546 - 2570 m had the highest reservoir quality encountered in the well. Porosities ranged from 15-30% (20.6% average in net sand) with a net/gross sand ratio of 0.85 and an average SW of 90%. The unit ranged from Sinemurian to Pliensbachian in age and consisted of massive to thinly bedded, very fine to fine grained sandstones with interbeds and stringers of shale, siltstone and limestone. Below 2570 m the sandstone units tended generally coarser grained and exhibited fining upward sequences with reduced porosity and net/gross ratio. The only recorded oil show in the well was on core no 1 at 2559.7 m to 2560.9 m. No significant mud gas levels were recorded. The Late Jurassic shales and the Early Jurassic coals and carbonaceous shales are rich source rocks for oil and gas. However, the Late Jurassic shales are immature in the well while the Early Jurassic sequence below ca 2800 m have reached only incipient oil window maturity (vitrinite reflectance ca 0.5% Ro).

One RFT run was made in the Tilje and Åre Formations and 21 formation pressure reading were taken. A water gradient of 0.099 bar/m (1.01 g/cm3) was calculated. No fluid sample was taken. Two conventional cores were cut, one from 2548.0 m to 2566.55 m in the top of the Tilje Formation and the other from 2717.0 m to 2735.0 m in the base of the Tilje Formation

The well was permanently abandoned on 7 July 1983 as a dry hole.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6609/11-1