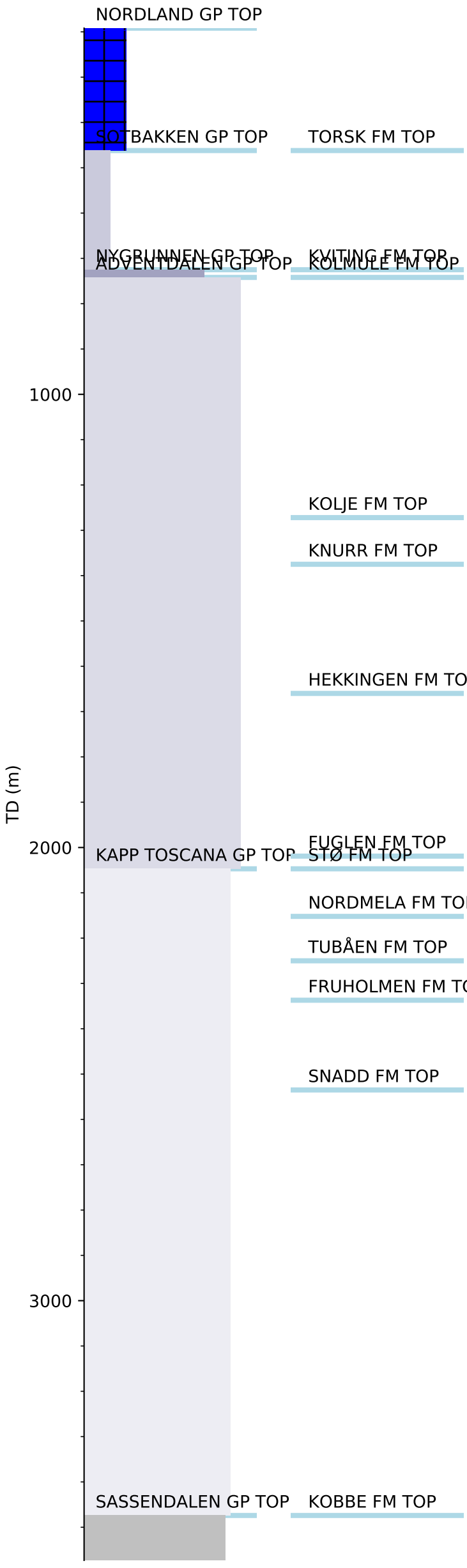

Wellbore History

Well 7120/12-1 was, together with Statoil's well 7119/12-1, the first well to be drilled offshore northern Norway in the Norwegian Sea, Troms I area. Based on seismic interpretation and regional geological data the location of the well was planned to test possible sandstone reservoirs of Middle Jurassic, Early Jurassic, and Late Triassic age. Post-Jurassic sediments were not considered prospective due to lack of closure and/or reservoir rocks. The well was planned to be drilled through a seismic marker at 1965 + 90 m and down to 2500 m (+ 300 m).

OPERATIONS AND RESULTS

Exploration well 7120/12-1 was spudded with the semi-submersible installation Treasure Seeker on 1 June 1980 and drilled to TD at 3573 m in Middle Triassic sandstones and shales (Kobbe Formation). When testing the BOP after setting the 20" casing a leakage was detected in the kill line. Three days was spent repairing this before operations could continue. At 1900 m drilling was interrupted by a 35-days labour strike, from 10 July to 14 August. The hole deviation was significant in the 8 3/4" section, building angle from 4 deg at 1875 m to 23 deg at TD. This resulted in a 57 m difference between drilled depth and true vertical depth at final TD. The well was drilled with seawater and hi-vis pills through the 36" and 26" sections down to 710 m and with lignosulphonate/lignite (Spersene/XP-20) mud from 710 m to TD.

The well encountered traces of hydrocarbons in thin sandstone reservoirs of Early Cretaceous and Late Triassic age.

The target seismic marker was reached at 2019 m (the Fuglen Formation). A 450 m thick sequence of sandstones with minor interbeds of shales of Middle to Lower Jurassic and Late Triassic age was penetrated below this marker, from 2047 m to 2497 m (Stø, Nordmela, Tubåen, and Fruholmen Formations). The sandstones in this sequence were water bearing. From log evaluation total net sand in the sequence was 271.5 m with an average porosity of 19% in the top interval decreasing to 15% in the lowest one. The Early Cretaceous sandstones, 1543 m to 1660 m, occurred as thin interbeds in a shale sequence, and were very fine to fine grained and partly calcite cemented. The net pay was 21 m and the average calculated porosity and water saturation was 16% and 74%, respectively. The hydrocarbons were considered residual and immovable. In the Late to middle Triassic from 3095 m to 3560 m (Snadd and Kobbe Formations) contained 43.5 m net sand with porosities in the range 7 % to 12 % and water saturation in the range 65 % to 88 %, from log evaluations.

Organic geochemistry show 2 % to 11 % TOC with a Hydrogen Index in the range 200 - 500 mg HC/g TOC throughout a massive Late Jurassic shale section from 1705 m to 2018 m. The sequence is immature in well position with %Ro ca 0.5 and Tmax ca 425 degC at 2000 m. The analyses also indicated migrated hydrocarbons in the Middle Jurassic to Late Triassic sandstones, in contradiction to a general lack of shows recorded during drilling.

Five conventional cores were taken. Core 1 was cut from 1535 to 1546 m in the Lower Cretaceous (Knurr Formation). Core 2 was cut from 1661 to 1668 m in the upper part of the Hekkingen Formation. Core 3 was cut from 1702.6 to 1707.6 m in the Hekkingen Formation. Core 4 was cut from 2042 to 2058.6 m covering the top of the Middle Jurassic sandstone and 5 m of the overlying Fuglen Formation. Core 5 was cut from 3521.3 to 3525.5 m in the Kobbe Formation. Three RFT runs were made for pressure recording and evaluation of the encountered sandstone reservoirs. Due to tight formations and tool problems a restricted number of pressure recordings were obtained and no samples could be taken in the Early Cretaceous and the Triassic sandstones. The pressure recordings from the Middle Jurassic to Late Triassic sandstone sequence gave a gradient of 0.455 psi/ft (1.02 g/cm3). No significant overpressures were detected where measurements were taken, only a slight increase from a normal trend could be interpreted in the lowest part of the well.

The well was permanently abandoned as dry with weak shows on 12 October 1980.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 7120/12-1

TESTING

No drill stem test was performed.