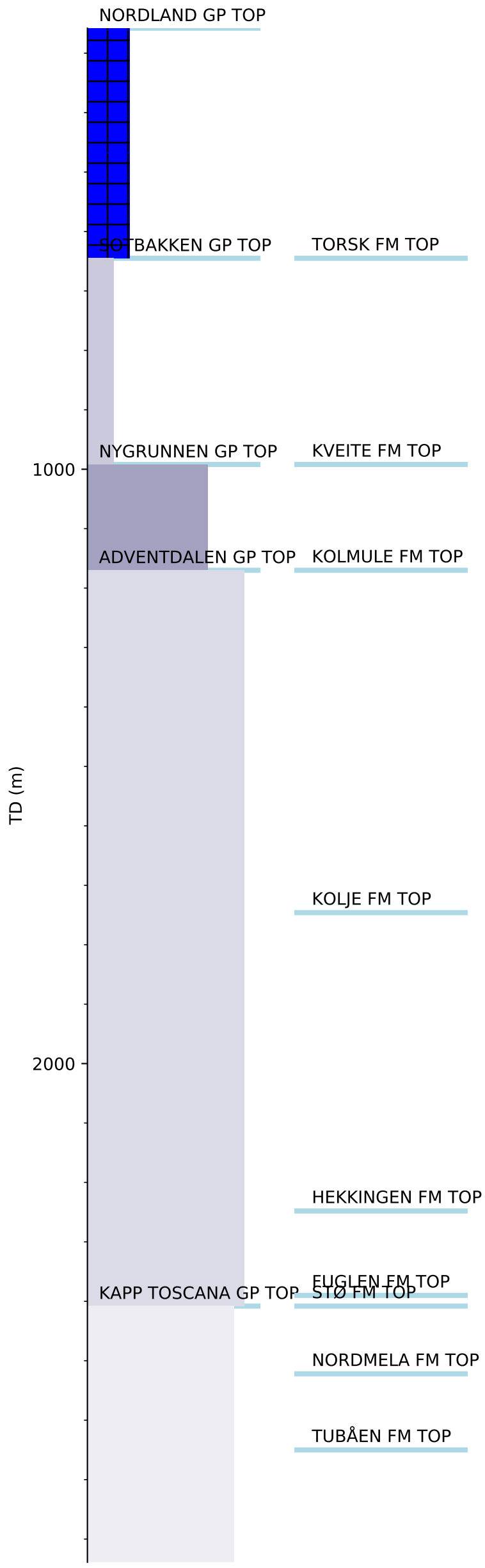

Wellbore History

GENERAL

Well 7120/7-1 is located on the Ringvassøy-Loppa Fault Complex, in the Snøhvit Field area. It was drilled to test possible hydrocarbon accumulations in sandstones of Middle to Early Jurassic age in the Alpha structure.

OPERATIONS AND RESULTS

Well 7120/7-1 was spudded with the semi-submersible installation Neptuno Nordraug on 31 July 1982 and drilled to TD at 2839 m in Late Triassic sediments of the Tubåen Formation. The 26" section was first pilot-drilled with a 12 1/4" bit to 752 m. Logging of the pilot hole confirmed a gas bearing sandstone from 375 to 392 m and it was decided to set the 20" casing above the sand and then set the 13-3/8" casing around the planned 20" casing shoe depth. Some gas problems delayed plug-back operations, but otherwise operations went smoothly, and the well was abandoned 4 days ahead of schedule. The well was drilled with seawater/gel down to 865 m, with gypsum/polymer mud from 865 m to 1917 m, and with gel/lignosulphonate mud from 1917 m to TD.

Hydrocarbon accumulations were discovered in the target sandstone sequence (Stø Formation) from 2408 m to 2473 m. The sandstones showed good to excellent reservoir properties. Weak shows were recorded in claystones in the interval from 1941 m to 2172 m and sporadically in the lower part of the Hekkingen Formation. Shows were recorded in sandstones throughout the reservoir and down to 2620 m. Sporadic shows were recorded from this depth down to TD. Organic geochemical analyses show an excellent source rock with high TOC (3 % to almost 9 %) with type II/ III kerogen in the lower part of the Hekkingen Formation, from 2274 m to its base. Source potential for gas and condensate was seen in the Cretaceous Kolje Formation from 1995 m to 2205 m and in the Early Jurassic Tubåen Formation from 2651 m to 2799 m. The well is immature down to ca 2000 m (%Ro ca 0.5) and at peak oil window maturity at TD (%Ro ca 0.8). In contrast to the weak shows recorded on rig the post-well organic geochemical analyses proved strong shows throughout the Late Jurassic Fuglen and Hekkingen shales. A show of a waxy oil, different from the Hekkingen shows, was detected at 2510 m to 2525 m. Four cores were cut in sequence in the reservoir zone from 2410 m to 2478.7 m. One segregated RFT sample at 2477.5 m in the transition zone showed water as the only moveable fluid.

The well was permanently abandoned on 8 October 1982 as a gas discovery.

TESTING

Two DST's were performed in the Middle Jurassic Stø Formation sandstone. The first test was performed in the water zone, from 2487 m to 2505 m. Due to technical problems formation water was not flowed to the surface before the well died, but analysis of the test string content showed a rather clean formation water. The second test was performed in the gas zone, from 2415m to 2435 m. The test flowed 489000 Sm3 gas and 18.8 m3 condensate through a 48/64" choke. The condensate gravity was 49.91 deg API, the gas gravity was 0.68 (air = 1), and GOR was 26000 Sm3/m3. A planned multi-rate test had to be cancelled due to a gas leak in the riser.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 7120/7-1