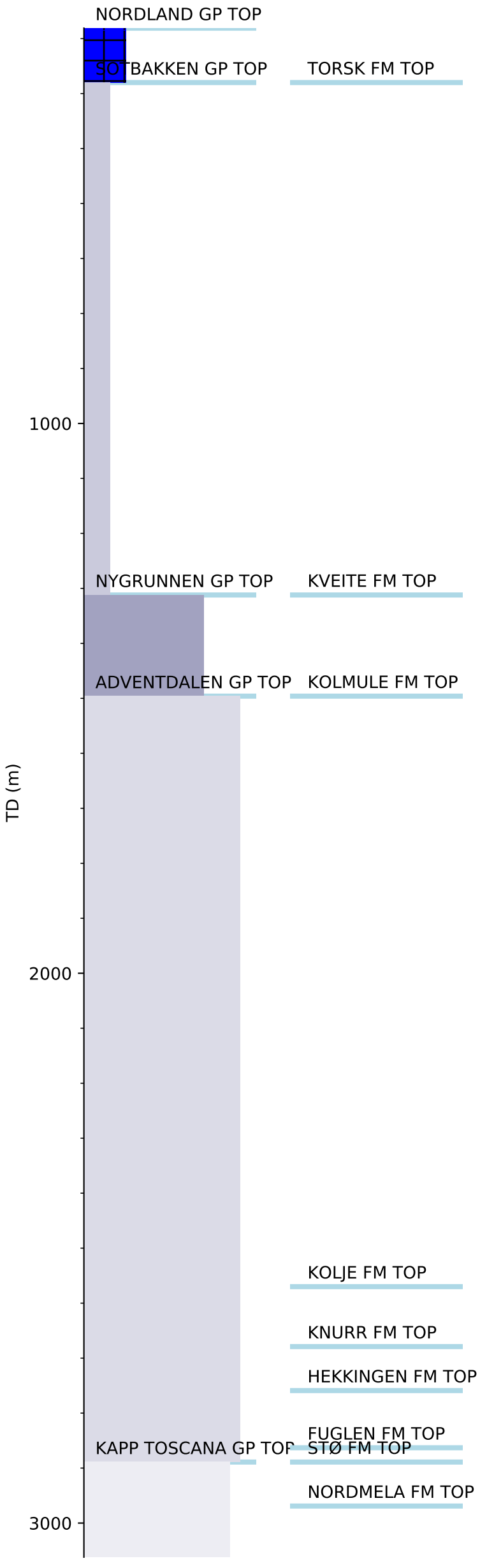

Wellbore History

GENERAL

Wildcat well 7120/7-3 is located on the Ringvassøy-Loppa Fault Complex west of the Hammerfest Basin and the Snøhvit Field. The primary objective of the well was to test possible hydrocarbon accumulations in sandstones of Middle to Lower Jurassic age.

OPERATIONS AND RESULTS

The well was spudded with the semi-submersible rig West Vanguard on 18 March 1984 and drilled to TD at 3062 m in the Early Jurassic Nordmela Formation. The well was drilled with seawater and bentonite down to 331 m, with lignosulfonate/gypsum/polymer mud from 331 m to 715 m, with gypsum/polymer mud from 715 m to 1720 m, with polymer mud from 1720 m to 2625 m, and with lignite/polymer mud from 2625 m to TD. The 36" hole had to be reamed before setting of the 30" casing. During cementing of 20" casing returns were lost. Technical problems occurred when testing the BOP stack before drilling out of the 20" casing shoe, and after the 13 3/8" casing job. Mud problems occurred when drilling out of the 20" casing shoe due to cement contamination. Because of tilted wellhead two attempts to run in the casing was needed. When running in an 8 1/2" bit to perform leak off test below the 9 5/8" casing shoe, problems occurred getting the bit through wearbushing in wellhead. After this 4 kg junk was recovered from the hole.

The well penetrated Tertiary, Cretaceous, and Jurassic sediments. Lithology down to 2759 m (Base Cretaceous) was dominantly claystone with stringers of sandstone/siltstone/Limestone/Dolomite. The Late Jurassic Hekkingen Formation from 2759 m to 2889 m consisted of shale with stringers of siltstone and limestone and traces of sand. Pyrite was seen in trace amounts in the upper part and was abundant in the lower part of the sequence. From 2889 m to TD, in the Middle to Early Jurassic, the lithology was sandstone with shale interbeds. Trace to faint shows were recorded in claystone cuttings below 1200 m. Good shows, probably residual oil, was recorded on core 2 in the top 1.5 m of the Middle Jurassic Stø Sandstone. Poor to fair shows were seen in sandstones on the cores below this depth down to 2909 m and occasionally on cuttings below 2909 to TD.

Geochemical analyses showed that the sediments are marginally mature already at 1350 m, and have reached peak oil maturity from 2750 m down to TD. The Late Jurassic interval from 2759 m to 2863 m is the best source rock in the well with potential for gas and light oil. The claystones above the Jurassic contain sequences with fair to medium source potential, particularly in the Late - Middle Barremian from ca 2170 m to 2580 m has a total organic content in the range 2% - 4% throughout. However, Hydrogen Index was found to be quite moderate throughout the well, not exceeding 150 mg/g in any source sequence.

Three cores were cut in the interval from 2867 m to 2910 m in the Middle to Late Jurassic Jurassic. A segregated RFT sample was taken at 2889.5 m. It recovered only water. The well was permanently abandoned as dry with shows on 9 June 1984.

TESTING

No drill stem test was performed

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 7120/7-3