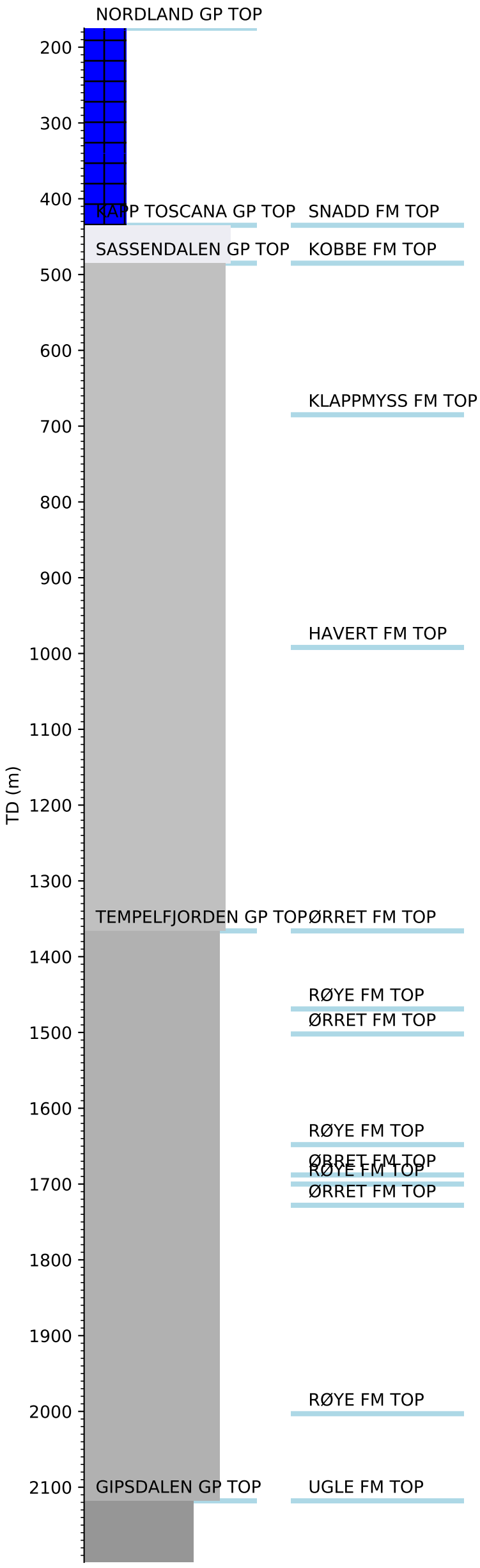
Groups

Formation Tops



Wellbore History

GENERAL

Wildcat well 7120/12-4 is located on the northern margin of the Finmark Platform ca 9 km south of the 7120/12-2 gas discovery. The primary objective of the well was to test a sandstone reservoir of Late Permian age on the platform area. The reservoir prospect was seen as merging of two shale/limestone units separated by the reservoir sandstone. These shale units were seen on the seismic as the "platform" event and the "sub crop" event at 1160 ms and 1260 ms respectively. The sub crop event was interpreted as a carbonate shelf edge and the reservoir as being composed of shallow marine sandstones. The cap rock was the massive overlying Triassic shale and the trap was sourced by migration from mature Late Triassic and Permian shales in the Hammerfest basin. Basement was prognosed at 2430 m.

OPERATIONS AND RESULTS

Well 7120/12-4 was spudded with the semi-submersible installation Treasure Scout on 18 February 1984 and drilled to TD at 2199 m in the Late Carboniferous Ugle Formation. No significant problems occurred during operations. The well was drilled with seawater and hi-vis pills down to 666 m and with KCl/polymer/gypsum mud from 666 m to TD.

The well penetrated an interval of Quaternary to Tertiary age sediments, which directly overlay rocks of Middle to Late Triassic age (Snadd Formation) at 435 m. A Late Permian succession was penetrated from 1366 m to 2118 m and consisted of alternating beds of claystone/siltstone/sandstone (Ørret Formation) and cherty limestone (Røye Formation). The "platform" event was penetrated at 1469 m and correlate with a 33 m thick Røye sequence. The prognosed reservoir was encountered at 1502 m and was composed of fine to occasionally very coarse-grained sandstone belonging to the Ørret Formation. The reservoir was water bearing with a gross interval of 56 m and net sand was 55 m. Average calculated porosity was 18 %. The sub crop event was a second Røye sequence at 1648 m. The Permian succession rests unconformably on the Late Carboniferous Ugle Formation at 2118 m. No hydrocarbons were seen on the logs and no shows were recorded. Geochemical studies indicate that the sediments are immature down to somewhere between 1500 m to 1700 m where Tmax reaches values in the range 430 °C to 435 °C and vitrinite reflectance readings are in the range 0.5 to 0.6 %Ro. All shale samples from the interval 1740 m to 1900 m have TOC values in the range1.3% to 2.2% and this is the potentially most prolific source rock interval in the well. The hydrogen index in these shales is moderate: 68 to 168 mg HC/g TOC. All in all, the source rocks penetrated in well position are regarded as gas prone and with moderate potential, at best. A total of three conventional cores were taken in the well for lithological and reservoirs studies. One was cut in the reservoir interval between 1514 m and 1532 m, one in the "platform event" limestone and the final core was cut at TD. No RFT's were run in the well, and thus no fluid sample taken.

The well was permanently abandoned as dry on 16 April 1984.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 7120/12-4