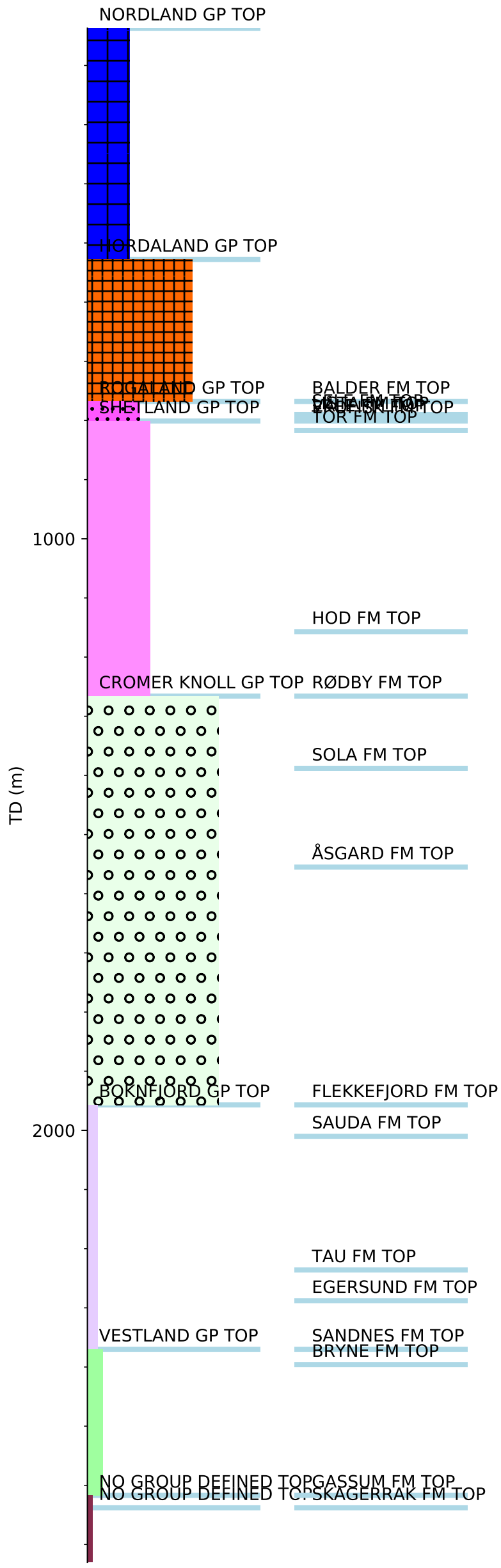
Groups

Formation Tops



Wellbore History

GENERAL

Well 17/12-3 is located on the northern margin of the Egersund Basin in the North Sea, ca 3 km west of the 17/12-1R Bream Discovery well. The Bream structure is a domal (salt-induced) anticline. The pay zone is the Middle Jurassic sands at a sub-sea depth of 2377 m (7800 feet). The 17/12-1R well was drilled on the crest of the Bream structure. Here Late Jurassic black marine shales with excellent source rock potential overlie a 156 m thick Early - Middle Jurassic sequence of interbedded sands and shales in which net sand thickness totals 38 m. Two 8 m thick sands near the top of the Middle Jurassic section tested oil. The Upper sand was oil saturated and the lower sand contained an oil/water contact between 2337.2 m and 2344 m (2310.4 m and 2317 m MSL). Two overlying sands, however, contained only water, which indicates that individual sands possess independent hydrodynamic characteristics and, therefore, probably are lenticular and laterally discontinuous. It was expected that on the flank of the structure potential reservoir sands would be thicker, and additional sands would be encountered.

Hence, primary objective was Middle Jurassic sands. Estimated top and thickness of the sand was 2313 m (7590 ft) and 91 m (300 ft), respectively. Planned TD was at 2591 m (8500 ft), 120 m into Triassic sediments

OPERATIONS AND RESULTS

Wildcat well 17/12-3 was spudded with the semi-submersible installation Nortrym on 12 December 1979. Due to technical problems it was re-spudded 19 December. The well was then drilled without significant problems to TD at 2730 m in m in the Triassic Skagerrak Formation.

Top Cretaceous (Tor Formation) came inn at 817 m, 28 m deeper than prognosed. The target Middle Jurassic reservoir sand (Sandnes and Bryne Formations) came in at 2370 m (2345 m MSL), which was 57 m deep to prognosis and ca 30 m MSL deeper than the OWC indicated by the DST's in 17/12-1R. No significant shows were encountered in the well other than in a bituminous shale at 2236 m (Tau Formation). Sidewall cores and RFT results from the sand section were not encouraging and no testing program was undertaken. Organic geochemical analyses show moderate to good source rock potential in the Sauda Formation, with the best properties towards the base. Excellent source potential was found in the Tau Formation with TOC typically around 6 % and Hydrogen Index between 500 and 600 mg HC/ g TOC. Below this depth shales and coals in the Sandnes and Bryne formation also show good source potential. Based on the vitrinite reflectance and rock-eval Tmax data the well is immature, possibly early mature (Ro = 0.5 %) at TD of the well.

No conventional core was cut. Sidewall cores were taken from 2225 m to 2701 m. The RFT tool was run in the interval 2373 m to 2678 m. One RFT fluid sample was taken at 2373 m and another at 2687 m. Both recovered water.

The well was permanently abandoned on 3 February 1980 as a dry hole.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 17/12-3