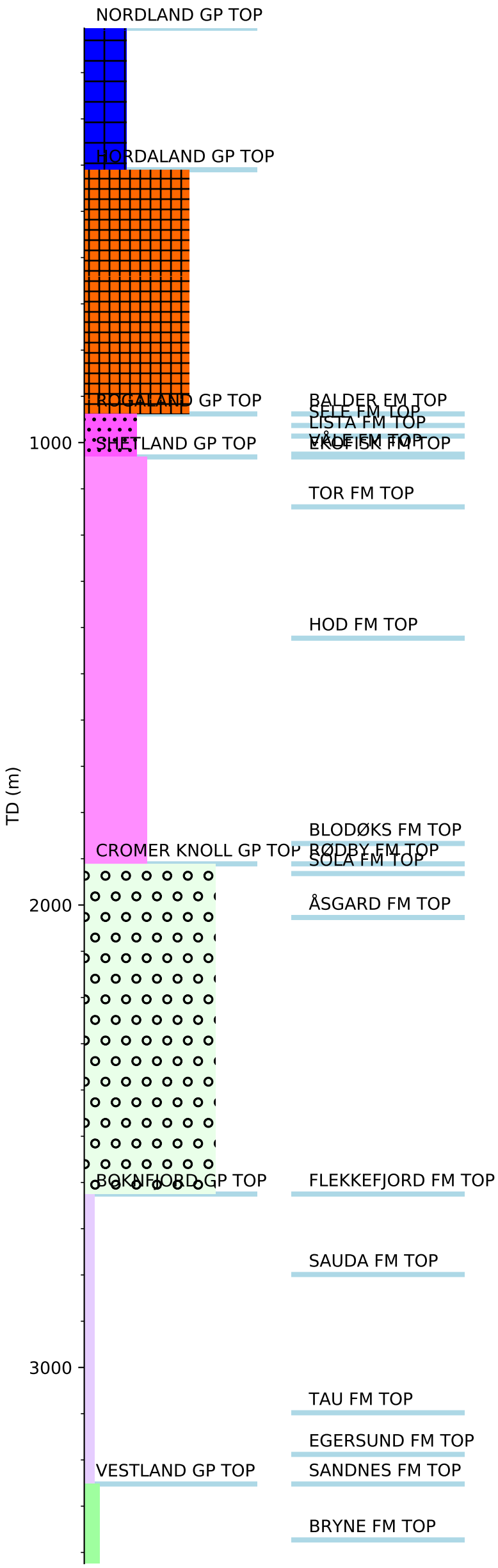

Wellbore History

GENERAL

Well 9/2-3 is located ca 11.5 km southwest of the Yme Field in the Egersund Basin. The objectives of the well were to test the sandstones of Late/Middle Jurassic age, the Sandnes- and Bryne formations. Furthermore the 9/2-3 well will test the geophysical and structural interpretation of the area and improve the paleontological, geological and geochemical understanding of this area in the North Sea. A strong reflector was observed at 253 m, but was expected to be a change in lithology rather than shallow gas.

OPERATIONS AND RESULTS

Wildcat well 9/2-3 was spudded with the semi-submersible installation Vildkat Explorer 4 December 1989 on and drilled to TD at 3424 m in the Middle Jurassic Bryne Formation. No shallow gas was encountered in this well. Drilling went on without significant difficulties. The well was drilled with seawater/gel/bentonite down to 376 m, with gypsum/polymer mud from 376 m to 3210, and with a polymer/Resinex mud from 3210 m to TD.

The Sandnes Formation was encountered at 3252 m and proved oil. The OWC was difficult to place from the logs, but was estimated at 3273 m. This gives a 21 m oil column. Gross reservoir interval was found to be 115 m. Core and log analysis indicate a fairly low porosity sandstone with small amounts of silt, shale and limestone (calcite cement). The Bryne Formation proved to be water bearing, and no test was performed in this formation.

Organic geochemical analyses show that the Tau Formation (3098 m to 3188 m) is an excellent source rock with TOC in the range 3 to 13 % and hydrogen index in the range 360 to 700 mg HC/g TOC. The Tau Formation is early oil-window mature (%Ro around 0.6 and Tmax from 430 to 435 deg C) in the well. Analyses of the DST oil show a somewhat higher maturity than the in-well source rock. Furthermore, the oil showed a close resemblance to the 9/2-1 DST 3 oil.

One conventional core was cut in the Sandnes formation in the interval 3264 to 3291 m. Sidewall cores were shot in two rounds with a total of 45 shots whereof 30 were recovered. One run with the FMT tool was made in the interval 3260 to 3329 m in the Sandnes/Bryne formations. Only 9 out of 64 attempts were successful and no fluid gradients could be evaluated from the pressure plot. One segregated sample was taken at 3263.1 m. The 2 3/4-gallon chamber contained mud and the 1-gallon chamber was empty due to plugging in the chamber line.

The well was permanently abandoned on 8 February 1990 as an oil discovery.

TESTING

One DST test was performed in the interval 3258 to 3268 m. The Sandnes formation was confirmed oil bearing. The production rate was very low due to low permeability. Gas was not produced during the test, and 4 Sm3/d oil was produced through a 12,7 mm choke. The static bottom hole temperature measured in the test was 102.5 deg C.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 9/2-3