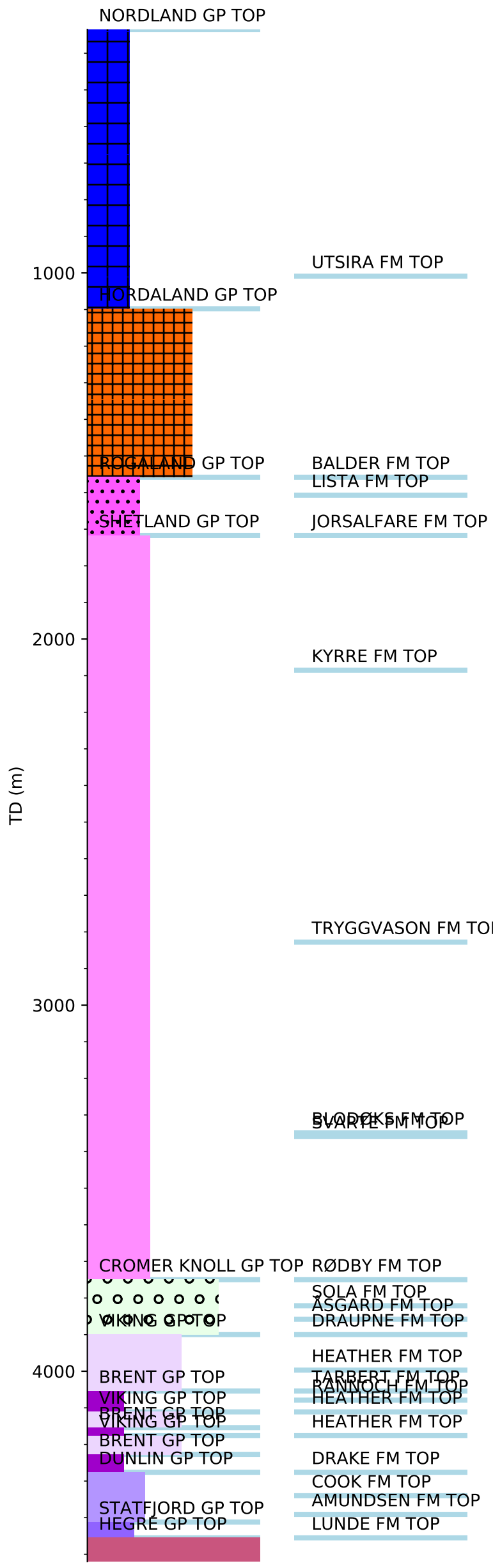

Wellbore History

GENERAL

The prime objective of the well 33/5-2 was to test a Late Jurassic sandstone reservoir. The Middle Jurassic Brent Group and the Early Jurassic Statfjord Formation were considered secondary objectives. The Late Jurassic (Early Kimmeridgian) sandstone was assumed to be a continuation of the same deposits recorded at the Magnus Field and in the wells 211/8-1 and 211/13-3. These deposits constitute the oil reservoir at the Magnus Field and were also hydrocarbon bearing in 211/13-3. This objective was considered a high-risk prospect since the "Magnus Sandstone Member" had previously not been recorded on this side of the 211/13- 33/5- (Makrell-) horst. The Brent Group was expected to be as in the wells 211/13-2 and -6 where it is oil bearing. It was thought to be a typical shallow to marginal marine sandstone sequence, deposited during shoreline progradation. The location far down flank from the crest of the closure was considered to make hydrocarbon occurrence in the 33/5-2 Brent Group less likely. This was also the case for the Statfjord Formation. It was expected to consist of fine to coarse, occasionally pebbly sandstones with some shale interbeds of fluvial to marginal marine origin. The well was planned to drill approximately 50 m into the Statfjord Formation with an expected total depth at 4525 m.

OPERATIONS AND RESULTS

A number of "pockmarks" typically 40 m across and 2 m deep were seen in the northern and eastern part of the area of the well location. To get some more information about the uppermost meters of soil, seafloor sampling and analysis were conducted by IKU. The seabed was found to consist of a fine sand, normally firm with shell fragments, plastic, silty clay and below greyish green sand.

Wildcat well 33/5-2 was spudded with the semi-submersible installation Nortrym on 31 July 1981 and drilled to a total depth of 4520 m in the Triassic Lunde Formation. The well was drilled with seawater and h-vis pills down to 960 m, with KCl/polymer mud from 960 m to 2714 m, and with KCl/Lignite/lignosulfonite/polymer mud from 2714 m to TD.

When attainting to run the 13 3/8" casing in the hole, the casing got stuck at 1653 m. After displacing Diesel/Milfree around the string, the casing came free and could be landed at 1974.5 m and cemented 100 m back into the 20" casing.

The only show recorded above Jurassic was an oil show on a sidewall core from 2525 m in the Late Cretaceous Kyrre Formation. No reservoir sands of Late Jurassic age were encountered in the well. Poor shows were reported in shales of the Kimmeridge Clay Formation. The Middle to Late Jurassic sequence in this well consists of Heather Formation shales on top of Brent Group sands repeated three times. This unusual event is interpreted as the two upper Brent Group sands are sediment packages that have slumped into the heather mudstones during deposition, the deepest Brent sequence likely represent autochthonous Brent. The Uppermost Brent sequence (4054 m to 4111 m) was cored and consists of Tarbert and Rannoch Formation sandstones. Poor to occasionally good shows were recorded from cuttings and from cores 1 and 2 cut over this interval. The logs showed, however, the sand to be water bearing with a water saturation of 91% and an average porosity of 13%. The next Brent sand interval from 4154 m to 4176 m was water bearing with a net sand of 5 m, a water saturation of 78% and an average porosity of 11%, while the deepest Brent sand interval from 4227 m to 4276 m had a net sand of 9 m, and was interpreted water bearing with a water saturation of 70% and an average porosity of 11%. The interval from 4270 m to 4275 m within the deepest Brent sand from 4227 m to 4276 m gave high mud gas readings (5.62%). Oil shows were not recorded on-rig in either of the two deeper Brent sands, but geochemical analyses detected shows of a "medium gravity crude" in the interval 4200 m to 4270. The Lower Jurassic Statfjord Formation was encountered at 4412 m. No distinct boundary against the underlying Triassic Hegre Group exists. The sandstone was both silica- and calcite cemented with a very low porosity and without any kind of shows.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 33/5-2

Three cores were cut in this well, all three in the interval from 4053.5 m to 4100.5 m in the Tarbert and Rannoch Formations of the uppermost Brent slump package. No fluid samples were taken in this well.

The well was permanently abandoned on 18 November 1981 as a dry well with oil shows.