



Wellbore History

GENERAL

Exploration well 2/7-28 was drilled on the Eldfisk Jurassic Prospect, on the flank of the Eldfisk Field on the western side of the Feda Graben in the North Sea. The well was positioned 1.8 kilometres west of the Eldfisk Alpha Platform. The primary objective was to prove hydrocarbons in sandstones in the Late Jurassic Eldfisk Formation. The Eldfisk Formation is interpreted as high density turbidite/debris flow deposits located on the eastern side of the major northwest-southeast trending Skrubbe Fault.

OPERATIONS AND RESULTS

Well 2/7-28 was spudded with the jack-up installation Mærsk Guardian on March 8, 1992 and drilled to TD at 3893 m, 54 m into the Late Permian Zechstein Group. Drilling to the Upper Palaeocene Section proceeded without major difficulty, but the 11 3/4" liner was set higher than prognosed because of a combination of lost circulation in the Lower Palaeocene Våle Formation and instability in the Tertiary section above. A prognosed depleted chalk reservoir horizon, the flank of the Eldfisk Field, necessitated setting 9 7/8" casing at top of the Ekofisk Formation. Drilling proceeded to 3050.4 m in the Lower part of the Hod Formation, the proposed setting for the 8 3/4" casing. While under-reaming before running the linear, an under-reamer arm was lost in the hole. A successfully sidetrack hole was made below the liner. Drilling continued to 3061.1 m where the bottom hole assembly twisted off. The hole was sidetracked again and drilling continued to base of the Early Cretaceous where 7" liner was set. Further drilling to final TD went without significant difficulties. The well was drilled water based with spud mud down to 745 m, polymer mud from 745 m to 8313 m, sea water/Drispac/Soltex mud from 8313 m to 9304 m, polymer mud from 9304 m to 10008 m, and Thermadril mud from 10008 m to TD.

Poor shows were recorded in intervals between 1510 m to 1950 m in Miocene to Late Oligocene claystones. At 1617 m in top Hordaland Group the shows were stronger with local strong smell of oil. A weak show was recorded also in the Balder Formation.

The Våle Formation was encountered at 2827 m and top Ekofisk Formation at 2850 m. The Våle Formation proved to be in pressure communication with the depleted Ekofisk-Tor-Hod reservoir of the main Eldfisk Field. The reservoir was pressure depleted down to 2917 m in the Hod Formation due to production from the Eldfisk Field since 1979. Good oil shows were described throughout the chalk reservoir down to 2914 m in the Hod Formation. The shows became weaker below this depth and vanished below 3048 m.

The base Cretaceous unconformity, top Farsund Formation, was encountered at 3339 m. The section from 3414 m to 3426 m in the Farsund Formation was extremely rich in organic carbon (TOC = 10 - 22%) and with log responses that confirmed an extremely rich source rock. The target Eldfisk Formation was encountered 20 m thick with top at 3498 m. The lower part from 3509 to 3518 m had sandstone with up to 20% porosity, but it was water bearing with only poor shows. There were poor oil shows on claystone throughout the Farsund and Haugesund formations.

Two cores were cut. Core 1 was cut from 3414.4 m to 3433.3 m in the best source rock interval in the Farsund Formation. Core 2 was cut from 3514.1 m in the basal Eldfisk Formation to 3519.6 m in top Haugesund Formation. No wire line fluid samples were taken in the well.

The well was permanently abandoned on 7 August 1992 as well with shows.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 2/7-28