



Wellbore History

GENERAL

Well 6407/1-4 was drilled primarily to appraise the 6407/1-3 Tyrihans Nord Discovery. The specific target was to encounter a free oil-water-contact in the Garn Formation. Secondary objective was to gather information from the possibly oil bearing Campanian sandstone interval (Nise Formation).

OPERATIONS AND RESULTS

Appraisal well 6407/1-4 was spudded with the semi-submersible installation Byford Dolphin on 6 June 1996 and drilled to TD at 3805 m in the Middle Jurassic Not Formation. Due to a labour conflict the MWD services was not run in the top hole down to 810 m. In addition 183 hrs rig time was lost during the strike. The well was drilled with seawater and prehydrated bentonite sweeps down to 816 m, from 816 m to 1810 m with ANCO 2000 mud, and with oil based Ancovert mud from 1810 m to TD.

The upper part of the Nise Formation was dominated by siltstone with abundant thin laminas of very fine sandstone and rare limestone stringers. From 2560 m the siltstone progressively grades to claystone, becoming 100 % claystone at 2620 m. Top Garn reservoir came in 101 m thick at 3675 m, 18 m deep to prognosis, so rock-volume above proven OWC was reduced. The reservoir was more cemented than expected. Trace fluorescence and crush cut was recorded in a single siltstone cutting sample from the Springar Formation at 2470 m, otherwise no shows were seen above the shales and claystones of the Late Jurassic Spekk and Melke Formations. Gas on oil on water was encountered in the Garn Formation reservoir. The gas/oil contact was at 3681 m, while the oil/water contact was at 3705 m. No shows were recorded below the OWC. One conventional core was cut from 2498 m to 2526 m in the Nise Formation. Two conventional cores were cut across both fluid contacts from 3679.0 m to 3740.0 m in the Garn Formation, A FMT water sample was taken below the OWC at 3709 m. Two segregated FMT samples were taken to collect gas (3679.2 m) and oil (3691.2 m).

The well was permanently abandoned on 23 August 1996 as an oil and gas appraisal well.

TESTING

One drill stem test was performed from 3687 m to 3693 m in the oil zone in the Garn Formation. The test produced at the end of the multirate period 29505 Sm³ gas and 243.9 Sm³ oil /day. The GOR was 120 Sm³/Sm³ and the oil density was 0.86 g/cm³.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6407/1-4