



Wellbore History

GENERAL

Well 35/11-9 is located ca 14 km north of the Troll Field and ca 3.5 km south-east well 35/11-8 S, which discovered oil and gas in a 79 m thick Intra Heather Sandstone unit, termed the "Early Oxfordian Turbidite" sequence. Well 35/11-9 was designed to appraise the oil and gas resources of this discovery. It should delineate the hydrocarbon contacts and test the lateral continuity and cementation of the turbidite sequence. The Sognefjord Formation was seen as secondary objective.

OPERATIONS AND RESULTS

Appraisal well 35/11-9 was spudded with the semi-submersible installation West Delta on 2 March 1997 and drilled to TD at 2830 m in the Late Jurassic Heather Formation. The well was drilled with seawater to 1250 m and with ANCO 2000 water based glycol mud from 1250 m to TD.

The Intra Heather Sandstone unit was encountered at 2653 m. From 2653 m to 2688 m, 30 m net pay oil reservoir showed oil saturation of 76% and the average porosity was calculated to 22.1%. MDT pressure measurements gave an oil-water contact at 2687 m (2658 m TVD MSL), which is 4 m deeper than the oil-water contact in well 35/11-8 S. The top reservoir was, as prognosed, penetrated below the expected gas-oil contact for the structure. However, the main conclusion is that within the range of uncertainties there are pressure communication both in the oil and the gas zones.

No reservoir sand was encountered in the Sognefjord Formation. No shows were reported above top Jurassic, and all shows apart from those in the Intra Heather Sandstone reservoir, were found associated with in-situ source rock shales . Organic geochemical analyses showed that the oils from 35/11-8 S and 35/11-9 are very similar although a slightly lower maturity was noted for 35/11-8 S. Three conventional cores were cut from 16 m above the Intra Heather Sandstone to 8 m below the Heather Sandstone. MDT fluid samples were taken at 2706 m (water), 2677.4 m (oil), 2679.9 m (oil), and at 2677.5 m (oil).

The well was permanently abandoned on 1 May 1997 as an oil appraisal well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 35/11-9