

## **Wellbore History**

## **GENERAL**

Well 6507/11-9 was drilled on the Natalia prospect in the Grinda Graben, ca 5 km north of the Midgard Field in the Norwegian Sea. The structure is a rotated fault block and comprise of Jurassic reservoir sandstones. It was drilled up-dip from the previously drilled 6507/11-4 on the structure. The primary objective of the well was to prove presence of hydrocarbons in Jurassic sandstones in the Fangst Group. The secondary target was to examine the hydrocarbon migration route in the prospect area.

## **OPERATIONS AND RESULTS**

The rig arrived at the 6507/11-9 location already on 20 February 2008, but had to wait 20 days due to bad weather before setting anchors. The well was spudded with the semi-submersible rig West Alpha on 12 March 2008 and drilled to TD at 3069 m in sandstones and claystones of the Early Jurassic Båt Group. No shallow gas was observed by the ROV at the wellhead or by the MWD while drilling the 26" hole. The well was drilled with spud mud down to 810 m and with Glydril mud from 810 m to TD.

The well penetrated rocks of Quaternary, Tertiary, Cretaceous and Jurassic age. The well penetrated the Garn reservoir section at 2597 m, 24.2 m shallower than prognosed. The well proved a ca 40 m gas column in the Garn Formation; with a gas-down-to top Not Formation at 2637.8 m (2612 m TVD MSL). The Ile Formation was water bearing. The first water bearing sand to be penetrated below the hydrocarbon column was in the Not Formation at 2645 m (2619 m TVD MSL). The hydrocarbon contact for the Natalia structure is therefore expected to be between 2637.8 and 2645 m (2612 m and 2619 m TVD MSL respectively), if same pressure regime and hydrocarbon system up dip. The updated seismic interpretation indicates that the structure spills to the north at 2646 m (2620 m TVD MSL), which is in conformance with the expected contact. The apex of the structure is mapped at 2575m (2550 m TVD MSL), which gives a corresponding column height for the entire structure of 60 m. Shows (fluorescence and cut) were recorded on sandstone cuttings down to 2658 m. The reservoir properties and sedimentary facies observed in the well are similar to the excellent reservoir properties observed on the Midgard Field. Porosity and permeability are estimated to 26% and 4 Darcy respectively.

Apart from shows in the reservoir, a 7.7% gas peak was recorded at 2240 m, with fluorescence and cut recorded on sandy/silty claystone cuttings at the same depth in the Nise Formation.

One core was cut at 2621 - 2642 m in the Garn and Not Formations with 97% recovery. MDT fluid samples were taken in the Garn and Ile Formations at 2609.0 m (condensate), 2625.0 m (gas/oil), and at 2671.5 m (water).

The well was permanently abandoned on 18 April 2008 as a gas Discovery.

## **TESTING**

No drill stem test was performed.