



Wellbore History

GENERAL

Well 24/12-6 S was drilled on the Stirby prospect in the Vana Sub-basin of the Viking Graben in the North Sea. Stirby was a potential multipay structure and the main target was the Late Jurassic Intra Draupne Formation Sandstones ("Stirby Upper"). The secondary target was the Middle Jurassic Hugin/Sleipner Formation sandstones ("Stirby Deep"). Additional targets was possible in the Heather Formation with potential for reservoir sands deposited from the east as encountered in the Gudrun Field south of the Stirby location.

OPERATIONS AND RESULTS

Wildcat well 24/12-6 S was spudded with the semi-submersible installation Songa Delta on 16 August 2010 and drilled to TD at 5207 m (5076 m TVD) in the Middle Jurassic Sleipner Formation. Severe hole problems with excessive cavings and tight hole was experienced in the 17 1/2" section from 1279 m to 2771 m. The reason for this was believed to be too high concentrations of KCl, drying out the claystone. Due to these problems the well was plugged back and sidetracked from 1300 m. The well was drilled with Spud mud down to 1279 m, and with KCl brine from 1279 m to 2771 m. After sidetracking the well was drilled with Carbotech oil based mud from 1300 m to 4330, and with Magmatech oil based mud from 4330 m to TD.

The Draupne Formation was encountered at from 4417 m (4286 m TVD), the Heather Formation at 4788 m (4657 m TVD), and top Vestland Group, Hugin Formation at 5029 m (4898 m TVD). Only rare traces of sand were seen at the expected primary target, the Late Jurassic Intra Draupne Sand (Stirby Upper). This part of the well contained organic rich shale with thin beds of limestone. These limestone beds correspond to the strong amplitudes which defined the main target as a basin floor fan in the prognosis. The secondary target, the Middle Jurassic Vestland Group (Stirby Deep), came in 7.8 m deeper than prognosed. An upper sandstone, probably belonging to the Hugin Formation, was described as silica cemented. Only one stable pressure point was collected here and thereby no gradient defining hydrocarbon or water was obtained. In the lower sandstone just above TD of the well another pressure point reading was obtained, 33 bar lower than the one in "Upper sandstone". Scanning evaluation with the RCI tool in the lower sandstone gave the conclusion that this sand was water filled. No oil shows were reported above BCU. Direct and cut fluorescence was observed on traces of sandstone grains/aggregates from top Hugin Formation and downwards. The fluorescence on the aggregates was however difficult to interpret due to possible interference from mineral fluorescence, oil base and rock flour.

No cores were cut and no wire line fluid samples were taken.

The well was permanently abandoned on 20 December 2010 as a dry well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 24/12-6 S