



## Wellbore History

### GENERAL

Well 34/5-1 S was drilled on the Blåbær prospect in Tampen North in the northern North Sea, ca 10 km to the southwest the 34/3-1 S Jordbær discovery. The objective was to prove hydrocarbons in the Cook and Statfjord formations.

### OPERATIONS AND RESULTS

Wildcat well 34/5-1 S was spudded with the semi-submersible installation Bredford Dolphin on 7 January 2010 and drilled to TD at 3900 m (3737 m TVD) in the Early Jurassic Statfjord Formation. The spud location was selected to avoid an area with risk of possible shallow gas. It was drilled vertical down to the end of the 17 1/2" section at 2135 m, deviated to maximum 35 degrees through the 12 1/4" section and back to vertical in the deepest 100 m of the final 8 1/2" section. Some hole problems were encountered in the 17 1/2" section, believed to be caused by the hole being left open too long due to WOW, otherwise operations went forth without significant problems. The well was drilled with seawater and hi-vis sweeps down to 467 m, with KCl/Glycol Enhanced Mud (GEM) from 467 m to 2135 m, and with XP-07 oil based mud from 2135 m to TD.

Top Cook (Late Pliensbachian) reservoir came in at 3629 m, 57 m shallower than the pre-drill prediction. The Cook Formation sandstones had an average porosity of 18.3% and 20 m of net sand based on a 50% Vsh cut-off and 10% porosity. The secondary target Statfjord Formation was penetrated at 3834 m, 55 m shallower than prognosed. Statfjord was inferred to be water bearing from the LWD data. An extensive wire line programme was carried out after reaching TD. After analysing the acquired data it was concluded that the Cook reservoir was oil bearing. The lower Cook interval showed the best reservoir quality with average porosity of 20% and average Sw of 40%. The oil/water contact was interpreted to be below the lowest sand in the Cook Fm. Oil shows were recorded only in the Cook Formation reservoir, with weak shows in the upper part, and the strongest shows below 3684 m.

Two cores were cut in the reservoir. Core 1 was in the interval 3640.5 m to 3667.5 m with 100% recovery. Core 2 was cut from 3667.5 m to 3702 m, with a 62% recovery from the top of the interval. Oil samples were collected by MDT at 3647.5 m, 3688 m, 3690.2 m and 3694.1 m.

The well plugged back on 13 March 2010 for sidetrack 34/5-1 A to test a neighbouring Blåbær fault block. It is classified as an oil discovery.

### TESTING

No drill stem test was performed.

## LITHOSTRATIGRAPHY & HISTORY FOR WELL: 34/5-1 S