



Wellbore History

GENERAL

Well 6605/1-1 was drilled in the Vigrid Syncline of the Vøring Basin in the Norwegian Sea. The primary objective of the well was to prove hydrocarbons within the Obelix prospect, a deep marine turbidite system. The main target was two sand lobes from Maastrichtian age, within the Springar Formation (Hvithval Member). The secondary objective was to evaluate the Late Cretaceous Nise Formation. Other objectives in the main reservoir section were to verify the Springar reservoir properties and calibrate the Springar section to the seismic.

OPERATIONS AND RESULTS

Wildcat well 6605/1-1 was spudded in 1157 m water depth with the semi-submersible installation Transocean Leader on 7 December 2008 and drilled to TD at 3947 m in the Late Cretaceous Nise Formation. A 12 1/4" pilot hole was drilled to 2260 m, primarily for optimizing the setting depth of the 20" surface casing and for data acquisition, but also to check for shallow water flow. No shallow water flow was observed. The pilot hole was then opened up to 26" and the well was drilled to TD without significant technical problems. It was drilled with Seawater/hi-vis sweeps/Glydril mud down to 2260 m, with Ultradril water based mud from 2260 m to 3133 m, and with Ultradril DW water based mud from 3133 m to TD.

The well penetrated rocks of Quaternary, Tertiary and Cretaceous age and TD of the well was within the late Cretaceous Nise Formation, at 3947m. The well penetrated the two Springar reservoir (Hvithval Member) sand lobes at 3231.7 m and 3306.5 m. The upper and lower sands constitute 48 and 15 m net reservoir sections, respectively. The upper sand lobe has average porosity of 23.7%, with average permeability of 37 mD. The corresponding lower sand averages are 22.8% and 2.9 mD, respectively. The secondary target, Nise Formation was penetrated at 3853.5 m. Reservoir properties here are poor. All reservoirs were water bearing. Mud gas peaks were recorded when entering the Hvithval Member sand lobes. No oil shows were seen anywhere in the well.

Two 18 m cores were cut from 3239 to 3269 m in the Springar reservoir with recovery of 74.3% and 80.7% respectively. The MDT tool was run in the Springar Formation for pressure points and fluid samples. Nine valid pressure points were recorded and water samples with gas were collected at 2334.5 m. The samples were highly contaminated with drilling mud and did not give reliable information about the formation water salinity. Temperatures were measured on wire line at roughly three different reference depths. Horner corrections of these three data sets give a reasonably consistent temperature gradient that extrapolates to 134 deg C at final TD.

The well was permanently abandoned on 3 February 2009 as a dry well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6605/1-1