



Wellbore History

GENERAL

Well 34/4-12 S was drilled on the Omega Nord prospect on a down faulted terrace northeast of the Snorre Fault Block in the northern North Sea. The main well objective was to prove hydrocarbons in the Triassic Lunde Formation. The well path was positioned to verify the assumed oil water contacts and secure that no commercial resources were left up dip in the structure. In addition to this the well was positioned to serve as a donor well for sidetrack 34/4-12 A, which targeted a separate prospect in the Lunde Formation up-dip on the Snorre Fault block.

OPERATIONS AND RESULTS

Wildcat well 34/4-12 S was spudded with the semi-submersible installation Ocean Vanguard on 19 December 2009 and drilled to TD at 3066 m (2962 m TVD) in Late Triassic sediments of the Lunde Formation. Operations went forth in rough weather and 11 days were spent waiting on weather. However, no significant operational problems were encountered. The well was drilled vertical down through the 12 1/4" section, and deviated from below the 13 3/8" section at 1890 m. It was drilled with seawater and bentonite sweeps down to 1253 m, with Performadril water based mud from 1253 m to 1858 m, and with XP-07 oil based mud from 1858 m to TD. No shallow gas was observed by the ROV at the wellhead or by the MWD while drilling the well.

The well penetrated rocks of Quaternary, Tertiary, Cretaceous and Triassic age. The Jurassic was missing. Top Lunde Formation was encountered at 2738 m, 32 m deeper than prognosed. The first reservoir sand was encountered at 2751 m (2681 m TVD) with a small oil column. This was the first well on the Omega Nord structure and showed that the Inner Snorre Fault can hold a small hydrocarbon column. Due to sparse pressure information obtained in the oil leg, the uncertainty with regards to the depth of the OWC is large. Based on two pressure points only it can be from 2774 - 2796 m (2701 ? 2720 m TVD). Good oil shows were seen both in the cuttings and in the cores from 2757 m to 2792 m (2686 - 2717 m TVD), and described as weak HC odour, patchy light brown oil stains, bright yellow white direct fluorescence and a dull yellow cut fluorescence. Down to 2841m (2761 m TVD) the shows remained the same but became considerably weaker, until easing completely.

One 54 m core was cut from 2757 to 2811 m in top Triassic with 95.4 % recovery. Due to the limited discovery a reduced wire line programme was carried out with the standard logs (gamma ray, resistivity, density, neutron, sonic). Formation pressures were measured with the MDT tool, and one set of oil samples was collected at 2763.7 m. The mobility at the sample depth was poor (estimated to 2.0 mD/cp). The sample was 25 % contaminated, with a GOR of 295 and density of 0.825 g/cm³.

The well was plugged back for sidetracking on 25 January 2010. It is classified as a minor oil discovery.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 34/4-12 S