



## Wellbore History

### GENERAL

Well 16/2-7 was drilled about 5.5 kilometres southeast of the discovery well for the oil discovery 16/2-6 (Avaldsnes) on the Utsira High in the North Sea. The 16/2-6 Avaldsnes discovery was proven in September 2010 in Middle-Late Jurassic reservoir rocks. The primary exploration target for 16/2-7 was to delineate the presence of hydrocarbons in Middle-Late Jurassic sandstones above the 1922 m MSL oil-water contact established in well 16/2-6. The well's secondary objective was to determine the reservoir properties of the Rotliegende Formation.

### OPERATIONS AND RESULTS

Appraisal well 16/2-7 was spudded with the semi-submersible installation Bredford Dolphin on 19 July 2011 and drilled to TD at 2500 m in Early Permian Rotliegende Group rock. A 9 7/8" pilot hole was drilled from the seabed to 710 m to check for shallow gas. Some sand was found at the pre-warned level, but without shallow gas. No significant technical problem was encountered in the operations. The well was drilled with seawater and hi-vis pills down to 710 m and with Performadril WBM from 710 m to TD.

BCU/top Draupne Formation was encountered at 1936 m approximately 15 m deeper than prognosis. This was due to a small fault that was originally not accounted for in the seismic interpretation. The well proved oil in Intra Draupne Formation sandstone from top at 1939 m and down to the OWC at 1947.5 m (1922.5 m TVD MSL), confirming the OWC found in 16/2-6. Reservoir quality was good to very good and the reservoir continued through base of the Intra Draupne Formation sandstone at 1964 m and into the underlying Sleipner with base at 1984 m. Total net reservoir was 35 m. The Permian Zechstein and Rotliegende Groups were encountered within the depth prognosis uncertainty. Reservoir properties were not found in these sequences. The first oil show was observed in the Draupne Formation at 1937 m. Good oil shows were recorded down through the reservoir to 1948 m. Below 1948 m the oil shows became progressively weaker with no further shows observed below 1957 m.

Five conventional cores were cut in the well. The three first were cut from 1924 m to 1973.5 m across BCU, Draupne Formation shales and sandstone and into the underlying Sleipner Formation. Core no 4 was cut from 2198 m to 2217 m in the Zechstein Group, and core no 5 was cut from 2283 m to 2310 m in the Rotliegende Group. MDT wire line fluid samples were taken in the Intra Draupne Formation sandstone at 1941.62 m (oil), 1945.54 m (oil), 1963.51 m (water, and 1963.52 m (water).

The well was permanently abandoned on 1 September 2011 as an oil appraisal.

### TESTING

No drill stem test was performed.

## LITHOSTRATIGRAPHY & HISTORY FOR WELL: 16/2-7