



**Wellbore History**

**GENERAL**

Well 16/1-23 S was drilled appraise the Edvard Grieg Field on the Utsira High in the North Sea. The primary objective was to investigate the hydrocarbon potential in the South Eastern part of the Field. It was also designed to allow installation of a CaTS pressure gauge for long term monitoring of reservoir pressure.

**OPERATIONS AND RESULTS**

Wildcat well 16/1-23 S was spudded with the jack-up installation Rowan Viking on 24 June 2015 and drilled to TD at 2130 m in basement rock. The well was drilled S-shaped with up to 24 ° deviation in the interval from 630 m to 1480 m. This was to avoid a fault at the reservoir level. Target location was approximately 43 m west of the spud location. No significant problem was encountered in the operations. The well was drilled with seawater and hi-vis sweeps down to 315 m, with KCl/polymer mud from 634 m to 1888 m, and with Aquadril mud from 188 m to TD.

Well 16/1-23 S proved a 66 metres gross oil column in conglomerates and sandstones with medium to good reservoir quality. The top of the reservoir, from 1953 to 1953.5 m, is a marine sandstone unit with a basal conglomeratic transgression lag belonging to the Åsgard Formation, the remaining reservoir is conglomerates and thin sandstone units belonging to the Triassic Skagerrak Formation. A Free Water Level was established from pressure gradients at ca 2020.4 m (1985.5 m TVD). The pressure points further proved an oil gradient with the same density as in the rest of the Edvard Grieg field. Fair to poor oil shows were recorded on cores below the FWL down to 2054 m.

Eight cores were cut. Core 1 was cut from 1681 to 1690 m in Hordaland Group claystone for hole instability studies. Core recovery was 104.1%. Cores 2 to 8 were cut from 1945.5 m in the Åsgard Formation to 2064.4 m in the Skagerrak Formation. Recovery varied from 92.5 to 100%. MDT fluid samples were taken at 1958.2 m (oil), 1990.0 m (oil), 1990.6 m (oil), 2015.21 m (oil), 2024.7 m (water), 2061.4 m (water), 2061.72 m (water), and 2030.85 m (water). Single stage separation of the oil samples gave oil densities in the range 0.857 to 0.886 g/cm3 and GORs in the range 149 to 111 Sm3/Sm3.

The CaTS reservoir pressure monitoring system was installed before the well was permanently abandoned on 25 August 2015 as an oil appraisal well.

**TESTING**

No drill stem test was performed.

**LITHOSTRATIGRAPHY & HISTORY FOR WELL: 16/1-23 S**