



Wellbore History

GENERAL

Well 8/10-6 S was drilled on the Butch SW prospect, a salt-induced structure on the Sørvestlandet high, approximately 13 km SE of the Ula Field in the North Sea. The Butch structure has three potentially separate prospects, divided by radial faulting from the salt diapir. The north-west prospect (Butch) was tested by well 8/10-4 S and sidetracks 8/10-4 A&B and found oil in Ula Formation sandstones. The eastern compartment (Butch East) was tested by 8/10-5 S and sidetrack 8/10-5 A and was dry. The primary objective of drilling 8/10-6 S was to test the hydrocarbon potential in the Ula Formation in the Butch south-west compartment. A secondary objective was to penetrate the underlying Zechstein salts to establish a seismic tie.

OPERATIONS AND RESULTS

Wildcat well 8/10-6 S was spudded with the jack-up installation Mærsk Giant on 29 May 2014 and drilled to TD at 2256 m (1945 m TVD) m, 60 m into the Permian Zechstein Group. The well was drilled deviated in order to avoid significant shallow gas warnings and to allow the borehole to intersect the target Ula Formation at angle close to perpendicular. A 12 1/4" pilot hole was drilled to a planned depth of 703 m to check for shallow gas. This was deepened to 722 m after observing elevated concentrations heavier alkanes in drilled gas, over the interval 657 m to 702 m. otherwise no shallow gas was seen. Some hole problems were experienced in the 17 1/2" section where volumes of large tabular cavings were produced. The cavings originated from the uppermost part of the Hordaland Group. This correspond to the same problem interval in 8/10-4 B, which was abandoned after excessive cavings production and hole collapse. The well was drilled with Spud mud down to 180 m, with Glydril mud from 180 m to 703 m, with Versatec oil based mud from 703 m to 1995 m, and with Warp oil based mud from 1995 m to TD.

The target Ula Formation was found to be water wet, and potential reservoir properties in the Farsund Formation were not developed. No oil shows above the oil based mud was described in the well. Chromatograph ratios detected elevated amounts of heavier hydrocarbons over the interval 811 to 1090 m in the basal Nordland Group and upper Hordaland Group.

One conventional core was cut through the Ula Formation from 2057.0 to 2111.0 m with 99% recovery. No fluid sample was taken. Wireline and circulation temperatures at TD were rather high in this well compared to the other Butch wells, corresponding to a gradient close to 50 °C/km.

The well was permanently abandoned on 16 July 2014 as a dry well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 8/10-6 S