



Wellbore History

GENERAL

Well 16/2-3 was drilled on the Ragnarrock prospect in the North Sea.The Ragnarrock prospect is situated on the top of the Utsira High, southeast of the Verdandi discovery in PL 167 and east of the Gudrun field in PL 025. The main objective was to prove presence of hydrocarbons in the Tor Formation of Maastrichtian age and to test its permeability and its productivity. The secondary target was to check the presence of hydrocarbon in the Basement and to test its permeability and its productivity.

OPERATIONS AND RESULTS

Well 16/2-3 was spudded with the jack-up installation West Epsilon on 1 August 2007 and drilled to TD at 1905 m, 9 m into basement rock. No significant problem was encountered during drilling, but an incident with a falling object during P&A caused several days stand still for investigation before the well could be abandoned. No shallow gas was observed by the ROV at the well head or by the MWD while drilling the 36" hole and the 12 1/4" pilot hole. The well was drilled with spud mud down to 640 m and with KCl/polymer/glycol mud from 640 m to TD.

The well encountered the Tor reservoir section at 1716 m, 6 m shallower than prognosed. A HC discovery was proven in the Tor Formation but the results from the MDT suggested the formation to be tight and tightening with depth. The basement was penetrated at 1894 m, 22 m deeper than prognosed. Only occasional dead oil stain was found in the upper 7 m of the basement so no further formation evaluation was performed here. No oil shows were recorded above top Tor Formation.

Three cores were cut from 1715.7 to 1852.5 m. The first core covered the transition zone between the Lista and Tor Formations. Cores 2 and 3 were cut in the Tor and Hod Formations. Two mini-DST runs were performed for pressure points and fluid sampling in the Tor Formation.Sampling was performed at depths 1716.8 m (gas), 1720.5 m (oil) and 1742.6 m (oil), 1769.9 m, and 1781.1. Only the samples at 1720.5 m were found to be representative of reservoir fluid.PVT analyses of these samples gave a single stage GOR around 140 Sm3/Sm3 and an oil density of 0.861 /cm3. Sample bottles from depth 1716.8 m, 1742.6 m, 1769.9 m and 1781.1 contained mainly water

The well was permanently abandoned on 28 September 2007 as an oil discovery.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 16/2-3