



Wellbore History

GENERAL

Well 16/1-21 S was drilled to appraise the 16/1-9 Ivar Aasen discovery on the Gungne Terrace in the North Sea. The objective was to obtain key depth and reservoir information for field development in the north-eastern part of the Ivar Aasen Discovery. The targets were reservoirs in the Heimdal, Hugin/Sleipner and Skagerrak Formations.

OPERATIONS AND RESULTS

Wildcat well 16/1-21 S was spudded with the jack-up installation Mærsk Interceptor on 21 January 2015 and drilled to TD at 2630 m (2584 m TVD) m in the Triassic Hegre Group. A 9 7/8" pilot hole was drilled from the 30" conductor shoe to 376 m. No shallow gas was encountered. The well was drilled with seawater and hi-vis pills down to 373 m, with Glydril mud from 373 m to 1304 m, and with Versatec oil based mud from 1304 m to TD.

The Heimdal Formation was encountered water filled at 2176 m (2138.7 m TVD). Reservoir properties were excellent with 26.5 m net sand with 30% average porosity. The distribution of the Jurassic versus the Triassic sequence was different from the expected. Triassic reservoir was thicker than predicted, while the Jurassic had no reservoir at all. However, the total actual reservoir quality and hydrocarbon pore volume height was in agreement with the predicted, since the Triassic proved better than expected combined with a deeper hydrocarbon contact. The Triassic reservoir (Skagerrak Formation) was penetrated at 2491 m (2446.6 m TVD) and it was hydrocarbon bearing with 20.3 m net pay with 20% average porosity. The hydrocarbon type was undersaturated oil, as in well 16/1-16. No gas cap was present and an oil down-to situation was established at ca 2535 m (2490 m TVD). Hydrocarbon shows were first evident in the lowermost part of core #1, from 2489 m in the Skagerrak Formation. Good hydrocarbon shows continued in the sandy sections in the cores. No shows were recorded below 2554 m, in the lowermost part of the Skagerrak Formation.

Three cores were cut in succession from 2499 m in the Heather Formation to 2586.2 m in the Skagerrak Formation. Core recovery was 100%. The core to log shift is +1.85 m for all three cores. Fluid samples were taken at 2178.25 m (water), 2497.71 m (oil), 2514.7 m (oil), 2525.25 m (oil), 2533.61 m (oil), and 2538.92 m (water).

The well was plugged back and abandoned on 3 March 2015 as an oil appraisal well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 16/1-21 S