



Wellbore History

GENERAL

Well 35/9-10 S was drilled to appraise the southeast flank of the 35/9-7 Skarfjell discovery. The Skarfjell discovery is situated on the Uer Terrace between the Fram and the Gjøa Fields in the North Sea. The primary objective was to prove additional oil reserves in the Late Jurassic Intra Heather Sandstones. Two such sandstones were expected.

OPERATIONS AND RESULTS

Appraisal well 35/9-10 S was spudded with the semi-submersible installation Transocean Arctic on 16 October 2013 and drilled to TD at 3619 m (3132 m TVD) m in the Middle Jurassic Rannoch Formation. The well was drilled vertical down to ca 800 m and below ca 2920 m. The deviated section in between had a sail angle of ca 51 °. No significant problem was encountered in the operations. The well was drilled with spud mud down to 459 m, with KCl/GEM polymer mud from 459 m down to 898 m, and with XP-07 oil based mud from 898 m to TD.

The first Intra Heather Formation sandstone (IHS 2) was encountered at 3067 m (2581.6 m TVD). IHS 2 held a 13-meter gross gas column above an oil column of 49-meter gross in 3 thin sandstones. The IHS 2 has a 115 m gross thickness with 20% N/G at the 35/9-10 S location. The average porosity is 18% (10% cut off applied). Pressure data shows that this area has a lower reservoir pressure and is not in direct communication with the western and northern part of Skarfjell. The second Intra Heather Formation sandstone (IHS 1) was encountered at 3293 m (2807 m TVD) with a 16 m gross thickness. IHS 1 had a N/G of 56% and 15% porosity. The IHS 1 was found oil bearing, but the pressure data show a different pressure gradient than in the IHS 2, so there is no communication between the IHS 1 and 2. In addition, there is no pressure communication between IHS 1 and the western and northern part of Skarfjell. No oil shows were described other than in the Intra Heather sandstones.

A total of 109.5 m core was recovered in four cores. Cores one and two were cut from 3068 to 3105 m. Cores 3 and 4 were cut from 3136.5 to 3209 m. RCX fluid samples were taken in the IHS 2 reservoir at 3067.1 m (gas/condensate), 3076.4 m (oil), 3162.8 m (oil), and 3175.4 m (oil). IHS 1 was not sampled.

The well was plugged back for side tracking on 25 November 2013 as an oil and gas appraisal well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 35/9-10 S