



**Wellbore History**

**GENERAL**

Well 15/6-10 was drilled on the Gudrun Terrace in the South Viking Graben of the North Sea. The main objectives of the well were to test the hydrocarbon and reservoir potential in the Hugin and Sleipner sandstones of the Freke prospect. The main target was the Hugin Formation, prognosed at 3495 m TVD RKB, and the secondary target was the Sleipner Formation.

**OPERATIONS AND RESULTS**

Wildcat well 15/6-10 was spudded with the semi-submersible installation Bredford Dolphin on 7 February 2009 and drilled to TD at 3700 m in the Late Triassic Skagerrak Formation. The well experienced some deviation difficulties in the 17 1/2" and 12 1/4" sections. The 17 1/2" section started out well but with fairly high torque and stick-slip levels. When entering the Skade Fm the assembly started to build angle. Despite attempts to reduce the building tendency, the angle kept building 0.5-0.7 degrees per stand drilled. When drilling at 1838 m, the 17 1/2" assembly twisted off in an extension sub just below the bottom stabilizer, approximately 18 m above the bit. The fish was retrieved at first attempt. The 17 1/2" were finished on a motor run to correct the well path. In 12 1/4" section, steering commenced in order to correct the well path back towards the target centre. Initially steering proved to be relatively easy but turned impossible once entering chalk due to very poor toolface control. The well was drilled with spud mud down to 696 m, with KCl/GEM water based mud from 696 m to 2109 m, and with Performadril water based mud from 2109 m to TD.

The well penetrated several Tertiary sands (Utsira, Skade, and Heimdal Formations), all water-filled. The primary target Hugin Formation was not encountered although an equivalent age Heather Formation shale prone lithology was encountered at 3497 m. Top Sleipner Formation was encountered at 3510 m and contained gas/condensate down to ca 3567 m (3536 m TVD SS), however the actual hydrocarbon/water contact could not be established from any well data. The Sleipner Formation reservoir sands were silty, with interbedded coals, claystone and thin limestones. Net/gross ratio of the total reservoir was limited to ca 0.3. Oil shows were observed in the Shetland Group (3260-3270 m and 3340-3370 m), in the Vestland Group (3497 - 3584 m) and in the Hegre Group (3620 - 3659 m).

No cores were taken because massive sands with shows were not identified. No sidewall cores were obtained due to tool failure. MDT hydrocarbon samples were taken at 3545.5 and 3563.8 m and an MDT water sample was taken at 3628 m. Compositional analysis of the hydrocarbon samples showed a condensate with ca 23 % C2+ hydrocarbons.

The well was permanently abandoned on 6 April 2009 as a gas/condensate discovery.

**TESTING**

No drill stem test was performed.

**LITHOSTRATIGRAPHY & HISTORY FOR WELL: 15/6-10**