



### Wellbore History

**GENERAL**

Well 6406/2-5 was the second well drilled on the Kristin structure in the north-western part of block 6406/2, south-west of the Smørbukk Field and north-west of the Lavrans Field on Haltenbanken). The discovery well 6406/2-3 was drilled high on the structure; it tested gas and condensate in a down-to situation in both the Garn and the Ile Formations. The main objective of well 6406/2-5 was to test the hydrocarbon potential of the Garn and Ile Formations in a down flank position. In addition the well would test a secondary reservoir target of late Jurassic age, the Rogn sandstone, which was predicted based on seismic observations.

**OPERATIONS AND RESULTS**

Appraisal well 6406/2-5 was drilled with the semi-submersible drilling installation "Deepsea Bergen". The well was spudded on 3 June 1997 and drilled to TD at 5439 m in the Åre Formation. It was drilled with spud mud down to 1407 m, with KCl mud from 1407 m to 2612 m, and with oil based mud from 2612 m to TD. No hydrocarbon bearing formations were encountered in well 6406/2-5. Hydrocarbon shows were observed in both the Garn and Ile Formations, but wire line logs, pressure measurements and fluid samples proved the well to be dry. In the well position the Viking Group consisted of the Spekk and Melke Formation shales, while the Late Jurassic Rogn sandstone was not observed. The Garn Formation in well 6406/2-5 had distinctively reduced permeabilities and slightly reduced porosities compared to the parameters of well 6406/2-3. The low permeabilities of the Garn Formation made it difficult to perform pressure measurements, thus no reliable pressure gradient could be established in the Garn Formation. The Ile Formation reservoir parameters in well 6406/2-5 were similar to what was experienced in well 6406/2-3, with variable, but in parts excellent porosity and permeability values. Water gradients were established based on pressure measurements in the Ile, Tofte, Tilje and Åre Formations. Pore pressures of the Jurassic units were very high, reaching a gradient of 1.95 g/cc BMW in upper part of the Garn Formation. Thirteen cores were cut from the Middle to Lower Jurassic Garn, Not, Ile, Ror, and Tofte Formations. A total of 321,72 meter was cored, of which 98,38 % was recovered. Modular Formation Dynamics Tester (MDT) and RFT water samples were collected from the Garn, Ile, Tofte and Tilje Formations. It was plugged for geological sidetrack on 29 September 1997.

**TESTING**

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6406/2-5