



Wellbore History

Well 36/4-1 is located in the Sogn Graben, ca 18 km south-east of the Agat field and ca 60 km west-northwest of Florø town in western Norway. The objective was to establish the presence, quality and fluid content of Jurassic target horizons (Fensfjord, Krossfjord, Sognefjord Formations and Brent/Dunlin Groups). The overlying Cretaceous sand of Late Cenomanian/Early Turonian age (k68) provided a secondary target.

OPERATIONS AND RESULTS

Wildcat well 36/4-1 was spudded with the semi-submersible installation Mærsk Jutlander on 3 September 1996 and drilled to TD in basement rock. Minor delays in the operations were caused by ROV problems during spud and top hole drilling, and BOP problems while setting the 13 3/8" casing at 1108 m. The well was drilled with sea water and gel down to 1108 m and with KCl/Polymer/GEM (Glycol Enhanced Mud) from 1108 m to TD.

The Jurassic was encountered at 2361 m and consisted of 351 m of Heather Formation overlying Basement rock. No primary reservoir was penetrated only low porosity thin sands were encountered with no shows. Wire line logging and sampling confirmed absence of Jurassic reservoir in the 36/4-1 prospect. The secondary target was penetrated 38 m high to prognosis and contained 77 m of sand. This sand showed no indications of hydrocarbons and was at hydrostatic pressure. Dull hydrocarbon shows were observed in sandstone stringers in the interval 1920-1990 m within the Cretaceous Kyrre Formation. No shows were encountered in the remaining part of the well. The failure of the primary target was attributed to lack of reservoir within the prospect. The secondary target probably failed due to lack of trap. Hydrostatic pressure within this sand indicated connection up-dip to the shelf and hence no up-dip seal. Apart from the Heather Formation with TOC in the range 1.5 to 4.3% and average HI of 340 mg HC/g TOC, no significant source rock formations were encountered in the well. The Heather Formation was found immature for hydrocarbon generation all through with measured vitrinite reflection and Tmax not exceeding 0.5 and 435 deg C, respectively. The Draupne shales were absent in the well.

One core was cut at TD from 2715.3 - 2717.4 m to confirm basement lithology. Only 40 cm of core was recovered. The low meterage and poor recovery was caused by hard formation. No wire line fluid samples were taken.

The well was permanently abandoned on at 2 October 1996 as a dry well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 36/4-1