



Wellbore History

GENERAL

Wildcat well 7316/5-1 is located in the Vestbakken Volcanic Province of Bjørnøya West area. The well is located about 150 km south Southwest of Bjørnøya, and about 150 km North-west of well 7219/9-1 which was used for correlation purposes.

The Primary objective of the well was the potential of Tertiary prospects at lower Oligocene and upper Eocene levels. A secondary objective was to undertake a sampling and coring programme to provide improved stratigraphical control in the area.

OPERATIONS AND RESULTS

Well 7316/5-1 was spudded with the semi submersible installation Polar Pioneer 21 July 1992 and drilled to TD at 4027 m in the Late Cretaceous Nygrunnen Group. The first hole was drilled to 906 m where it had to be plugged and abandoned due to gas influx and lost circulation. The rig was moved 43.4 m and the well was re-spudded on 5 August. On the second attempt, an 8-1/2" pilot hole was drilled to 613 m. A drilling break with associated gas production was observed at 606 m and a cement plug was set over the interval 540 m to 597 m. The well was drilled with spud mud down to 921 m, with KCl / PHPA polymer mud from 921 m to 3800 m. From 3800 m to TD KCl was allowed to deplete naturally and the system was slowly converted to a higher temperature stable mud.

The Uppermost Sandstone of the Eocene Sotbakken Group B2 Member was encountered from 1340 m to 1383 m, and was considered to be gas bearing over the interval 1340 -1358.5 m. From a gross thickness of 43.0 m, a total net pay thickness of 9.75 m was calculated, giving a net/gross ratio of 0.23. Average porosity of 28.2% and average Sw of 35.9% was computed in the pay zone. A second sandstone was encountered from 1442 m to 1469 m in the Sotbakken Group B2 Member. Gross thickness of this Sand was 27.0 m, with average porosity of 32,1 %. It proved to be entirely water wet.

Numerous igneous intrusions were penetrated below 2976 m (Middle to Early Eocene level) throughout the well to TD. The intrusions were from 5 to 44 m thick.

No oil shows were recorded in the well. Gas peaks were recorded at 2973 m (3.04 % C1) and at 3063 m (14.1 % C1 ? C4). A total of three cores were cut at isolated intervals through the well. One core was taken over the interval 896 m - 907 m in sandstones of the Nordland Group "A" Formation. The second core was cut in the Eocene sand from 1347.5 m to 1375 m. The third core was cut from 1451.5 m to 1472 m in the lowermost sandstone of the Sotbakken Group B2 Member. Sidewall cores were taken all through the well from 567 m in the Nordland Group down to 4025 m in the Nygrunnen Group. A total of 10 successful RFT pressure measurements were taken in one run over the interval 1340 m - 1377 m. An RFT sample was collected at 1350 m and recovered 0.8 litres of mud filtrate and 31.0 SFC of dry gas. CST run 1A and 1B (sidewall cores) were run in the first hole. Otherwise all cores and RFT's were taken in the second hole.

The well was plugged and abandoned completed 6th October 1992 as a gas discovery.

TESTING

The interval 1338.5 - 1350 m was tested and produced gas at a rate of 563,000 Sm3/D, with 25.4mm choke size.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 7316/5-1