



Wellbore History

GENERAL

Well 6608/10-12 was drilled on the Dompap structure, about 17 kilometres north-northeast of the Norne field in the Norwegian Sea. The primary objective was to prove hydrocarbons in the Jurassic sandstones of the Båt group, Åre 2 and Åre 1 formations. Secondary objective in the main bore was to test for hydrocarbons in the Cretaceous Måke prospect, comprising Cretaceous Intra-Lange/Lysing Formation sandstone.

OPERATIONS AND RESULTS

Well 6608/10-12 was spudded with the semi-submersible installation Ocean Vanguard on 19 October 2008 and drilled to TD at 3180 in the Late Triassic Red beds. No shallow gas was observed. Operations were delayed a number of times due to bad weather, but no significant operational problems were encountered. The well was drilled with spud mud down to 1415 m and with KCl/polymer/GEM GP mud from 1415 m to TD.

The well penetrated rocks of Quaternary, Tertiary, Cretaceous, Jurassic, and Triassic age. The Lysing Formation was penetrated at 2522 m to 2557 m with four meters of net oil bearing sandstone in the interval 2537 to 2542 m. No OWC was observed. Below the Lysing Formation a 42 m thick section of intra Lange Formation (middle Aptian) water bearing sandstone was encountered. Several Intra-Melke Formation sandstone units were encountered in the interval 2688 to 2738 m. These sandstones were water wet without shows. The main Åre reservoir section was encountered at 2770 m, 4 m deeper than prognosis. Oil was proven in the Åre 2 Formation. Pressure points indicated that the reservoir was oil-filled down to the base of Åre 2. No definitive OWC was observed.

Three cores were cut from 2777 to 2826.9 m in the Åre 2 Formation; a fourth core was cut from 2827 to 2845 m in the Åre 2 and Åre 1 Formation and a fifth core from 2845 to 2872 m in the Åre 1 Formation. Pressure points were taken in the Lysing Formation and in the Åre 1 and Åre 2 formations. MDT fluid samples were taken at 2539 m in the Lysing Formation (oil), at 2773 m in the Åre 2 Formation (oil), 2785.5 m in the Åre 2 Formation (oil), 2799.2 m in the Åre 2 Formation (oil), 2834.6 m in the Åre 2/1 formation boundary (water), 2836.7 m in the Åre 1 Formation (water and oil), and at 2846.9 m in the Åre 1 Formation (water). The oil / water mix sample taken at the top of Åre 1, indicate a potential transition zone. The Åre 2 sandstones was found to have a permeability range of 0.03 mD to 9000 mD with a porosity of 21 %. The numerous thin sandstone beds of the Åre 1 Formation shows a permeability range of 0.01 mD to 17000 mD with a porosity of 23 %.

Temperatures were measured on MDT but were not suitable for Horner correction. The temperature measured after the longest period without circulation, 177.5 hours, was 97 deg C, at 2875 m. This gives a gradient of 37 deg C/km from 4 deg C at seafloor.

A decision was taken to drill a sidetrack in order to find the OWC and prove enough hydrocarbon volumes for a commercial development. The well bore was plugged back and abandoned on 21 December 2008 as an oil discovery.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6608/10-12