



Well 6607/5-2 was designed to drill the Amundsen II prospect on the NE-SW trending Bodø High. Block 6507/5 is located in the NW corner of the Nordland II, which is a geological province separated from the Halten and Dønna Terrace by the deep Træna Basin to the east. The main objective of the well was to test the hydrocarbon potential of the Middle-Lower Jurassic shallow marine sandstones. The prognosed formation pressure was supposed to follow the general behavior of the Haltenbanken Region, where a pressure regression might be experienced towards the Base Cretaceous at 4080 m. The objective Middle Jurassic sandstones were expected to exhibit a potentially high level of overpressure. No shallow gas warnings were given.

OPERATIONS AND RESULTS

Wildcat well 6607/5-2 was spudded on 7 August 1991 by the semi-submersible installation "Dyvi Stena" and completed 16 November 1991 at a total depth of 4684 m in intrusive rocks within the Upper Cretaceous Kvitnos Formation. Bentonite mud was used to 1225 m, water based KCl polymer mud was used from 1225 m to TD. There were no lost time accidents. The 523 m of water depth made this well the deepest well to date drilled on the Norwegian continental shelf. The well bore was maintained in excellent conditions over the entire well. Only 0.9 day of hole instability NPT was accumulated for this well. Throughout the well, immediate mud weight increase was made to counter excessive drag thus contributing to hole stability. During logging at TD, RFT results indicated a maximum pore pressure of 1.51 g/cm³. Following open hole logging of the 8 1/2" section, on request, the hole was plugged back and sidetracked at 3998 m RKB to permit a core cutting from 4161 - 4188.5 m in the Nise Formation sand, prior to resuming plug and abandon. No fluid samples were taken.

The well did not penetrate the primary objective of Middle-Early Jurassic sandstones. The seismic reflectors interpreted as Jurassic turned out to be of Cretaceous age. This was considered to be the primary risk of the well from the start. Two Upper Cretaceous sandstone reservoir intervals (3748 - 3768 and 4167 - 4308 m) were encountered. Cutting samples indicated poor reservoir quality and since no shows were present, the well was drilled to TD. After TD was reached the well was sidetracked to obtain a core in the lower sandstone for sedimentological and diagenetic studies. Shows were not present in the core, and core analysis determined the permeability to be very poor. Wire line log interpretation indicated both sandstones to be water wet. It is possible that two dolerite intrusives, the first from 3793 - 3885 and the second from 4642 to TD at 4684 m have altered both sandstones. Minor fluorescence and cut were observed in five sidewall cores between 2564.5 and 2732.5 m. Weak, scattered shows were also present. The well was permanently plugged and abandoned as a dry well on 17 November 1991.

TESTING

No drill stem test was performed

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6607/5-2