



Wellbore History

GENERAL

Well 6507/6-4 A is a geologic sidetrack to well 6507/6-4 S on the Sør High of the Nordland Ridge in the Norwegian Sea. The distance to the Skarv Field immediately to the west is 10 km and to the Heidrun Field (to the SSW) approximately 30 km. The sidetrack targeted the Sesam prospect, a separate prospect from the Late Triassic Sinbad prospect targeted by the primary well 6507/6-4 S. The Sesam prospect was interpreted as Late Permian platform carbonates reefs/build ups as seen in the Foldvik Creek Group of East Greenland. This target/facies was until drilling 6507/6-4 A unproven in the Norwegian Sea.

OPERATIONS AND RESULTS

The well bore 6507/6-4 A was kicked off at 753 m in well bore 6507/6-4 S on 16 November 2011. It was drilled with the semi-submersible installation Borgland Dolphin to TD at 4957 m in Permian conglomerates. Operations were suspended several times during the storms "Berit", "Cato", and "Dagmar", causing a significant amount of WOW for this well. The well was drilled with Carbo-Sea Oil based mud from kick-off to TD in the 12 1/4" section at 4240 m, and with Aqua-Drill water based mud from 4240 m to TD. The Aqua-Drill mud contained Aqua-col, a glycol additive used for shale inhibition. In addition it was reported in the geochemical report that the water based mud was contaminated with 3% oil from the oil base used in the above section.

The deeper sections of well 6507/6-4 A, the Earliest Triassic and the Permian, can be correlated to East Greenland stratigraphy and to the shallow IKU boreholes on the eastern margin of the Helgeland Basin (IKU 6611/9-U-1 and 6611/9-U-2). Using this "Greenland stratigraphy", top Wordie Creek Formation Eq. is interpreted at 4248 m (3683 m TVD), top Schuchert Dal Formation Eq. at 4652 m (4087 m TVD), and top Ravnefjeld Formation Eq. at 4673 m (4107 m TVD). The Ravnefjeld Formation Eq. is 43 m thick MD (40 m TVD) and show two high Gamma Ray sequences. The TOC levels in cuttings from the Ravnefjeld Formation Eq. were modest, from 0.6 to 1.2 %. Due to mud contamination of the Rock-eval the quality of the kerogen in the Ravnefjeld Formation Eq. (the Hydrogen Index) could not be assessed.

The target section for the Sesam Prospect was penetrated from 4716 to 4790 m (4147 to 4224 m TVD). As hoped for, the formation was found to consist of limestone, but was relative argillaceous and turned out to be very tight with very low porosity. No shows were recorded while drilling the well. Upon organic geochemical analysis of the cored section the extract from a cored grey-black shale at 4734.1 m showed trace amounts of condensate-like hydrocarbons. Vitrinite reflectance at this level was ca 1.1 %Ro, in agreement with the maturity inferred for the hydrocarbons in the extract from 4734.1 m. Otherwise extracts from the cored section showed no obvious petroleum signatures above the mud contaminants.

A core of 27.5 m was cut in the equivalents to Foldvik Creek Group Eq./Wegener Halvø Formation Eq. from 4726 to 4753.5 m with 100% recovery. Two wire line logs were run but no fluid samples were taken.

The well was permanently abandoned on 29 January 2012 as a dry well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 6507/6-4 A