



Wellbore History

GENERAL

Well 25/7-5 was the first exploration well drilled in PL203 and was designed to test the hydrocarbon potential of a sand prospect within the Sele Formation in the northwest corner of block 25/7. This prospect was a stratigraphic trap with structural elements formed by the pinch out of the Hermod T80 sand. Oil was prognosed to be encountered within the Hermod T80 sand. A very small closure in the top of the underlying Heimdal sand was also expected to contain hydrocarbons, but this closure was not defined as a secondary target due to the small volumes expected within the structure. The well commitment was to drill to a total depth of 2735 m within the Shetland Group. The objectives of the well were to test commercial oil volumes within the Hermod T80 sand, to test the geological and geophysical models for the presence of the Hermod T80 sand, and to test the model for hydrocarbon migration within the license area.

OPERATIONS AND RESULTS

The semi-submersible drilling rig "West Vanguard" was used to drill wildcat well 25/7-5. The well was spudded 16 July 1997 and reached a total depth of 2736m on the 7 August 1997 in the Early Paleocene Våle Formation. The well was drilled water based with spud mud to 1338 m and with the ANCO 2000 mud system from 1338 m to TD. Total rig time for the well, including testing, was 46.7 days. Oil was encountered within the Hermod T80 sands between 2044 - 2052 m. There was 3.5 m of net reservoir within the interval (N/G 0,4372) with an average porosity of 0.25 and an excellent permeability of up to 6 Darcy. The rest of the non-reservoir sand was tightly cemented with calcite. No Oil-Water contact was seen in these sands. The Heimdal formation was penetrated at 2126 m and contained approximately 1m of oil in the top of the reservoir (0.85 gm/cc density). The reservoir quality of these sands is excellent with an average porosity of 0.234 and permeabilities in the low Darcy range. Approximately 6m of residual hydrocarbons were found under the Oil-Water contact at 2127m. The well was cored (11 cores) from 1976m in the top of the Balder Formation tuffaceous clay stone unit and down through the Sele, Hermod and Lista formations and into the Heimdal sands. Coring was stopped at 2150m, 24m into the Heimdal Formation. Core recovery was generally excellent. MDT oil samples were taken at 2045.4 m and 2116.4 m. MDT samples containing both water and oil were taken at 2126.3 m and 2126.6 m, while MDT samples containing only water was taken at 2127.1 m. The well was permanently plugged and abandoned as an oil discovery on 30 August 1997.

TESTING

One Drill Stem test was performed over the Hermod T80 sands (perforation 2043 - 2052 m) with a stable flow rate of 900 Sm³ oil/day through a 48/64"choke. The GOR was 88 Sm³ /Sm³ and the oil gravity was 0.870 gm/cc. Traces of produced sand and water were found in the oil.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 25/7-5