



Wellbore History

GENERAL

Well 7120/9-1 was drilled in the Hammerfest Basin. The primary objective of the well was to test sandstone reservoirs of Early to Middle Jurassic age at a location very close to the highest position of the prospective structure.

The well was to be drilled into sediments of Triassic age to a prognosed depth of 2180 m +100/-130.

OPERATIONS AND RESULTS

Exploration well 7120/9-1 was spudded with the semi-submersible installation Treasure Scout on 25 July 1982 and drilled to TD at 2300 m in the Triassic Snadd Formation. The 36" section was drilled with a 17 1/2" bit followed by a 36" hole opener. Low penetration rates were encountered due to the over-compacted nature of the clay formation together with the presence of numerous erratic glacial boulders. The hole had to be reamed 3 times before the 30" casing was set. After that drilling proceeded without major problems. The 36" section was drilled with mud left from the previous well (7117/9-1). The 26" section down to 760 m was drilled with seawater and prehydrated bentonite. From 760 m to 1651 m the well was drilled with gypsum/"Milpolymer 302" mud, and from 1651 m to TD the well was drilled with "Milpolymer 302".

The main reservoir was found hydrocarbon bearing from 1840.5 m (Top Stø Formation) down to the gas/water contact at 1904 m, eight meter into the Nordmela Formation. This interval consists of fine to medium, occasionally coarse sandstones with a few thin claystone stringers. RFT pressure recordings and sampling were performed over the interval. This gave a clear gas gradient of 0.084 psi/ft down to 1904 m with an underlying water gradient of 0.48 psi/ft. Weak to good shows were reported in sandstones in the interval from 1904 m in the lower part of the Early Jurassic and into the Triassic at TD. The water saturation in this interval ranged from 50-100% and based on log interpretation the hydrocarbons were assumed non-moveable.

The pore pressure recordings and estimates in the well showed a normal pressure gradient down to ca. 1000 m, below which a slight pressure build up was estimated reaching a maximum recorded pressure of 1.14 r.d. at 1840.5 m. No further over pressured zones were noted. Seven cores were taken in the 12 1/4" section. Two segregated RFT samples were taken at 1842.5 m and 1900.5 m, both recovered dry gas.

The well was permanently abandoned as gas discovery on 26 September 1982.

TESTING

Two production tests were conducted. DST no. 1 (1935-1939 m) was opened for initial flow on a 15.9 mm. choke but did not flow. The well was perforated again and flowed for 10 minutes during DST no. 2. After a one-hour build up period, the well was again opened for flow without result. The well was re-perforated in DST no. 2A (1858-1864 m and 1869-1874 m) and flowed initially for 10 minutes. After a one-hour build up period, the well was flowed. During the main flow period an ice plug formed in the tubing. Three sets of separator samples were taken during this flow period. DST no 2A produced 291700 Sm³/day of gas with a gravity of 0.72 (air=1) and 10.9 Sm³/day of 53.5° API condensate through a 52/64" choke. The GOR was ca. 27000 Sm³/Sm³ and the CO₂ content was 6.5%.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 7120/9-1