



Wellbore History

GENERAL

Well 2/7-29 was the second commitment well on licence PL 145. The primary objective was to establish the presence, quality and fluid content of Jurassic sandstones in Prospects JU2 and JU7 via cores and wire line logs and to evaluate their productivity and fluid properties if hydrocarbon bearing. The pre-Cretaceous was to be accurately dated via biostratigraphy. The secondary objective was to verify the presence, quality and fluid content of Permian sandstones in Prospect P2, and if possible to test the margin of the Jurassic JU2-B Prospect located stratigraphically between JU2 and JU7.

OPERATIONS AND RESULTS

Exploration well 2/7-29 was spudded with the jack-up installation "Maersk Guardian" on 18 September 1993 and drilled to TD at 4900 m in mudstones of the Permian Rotliegend Group. A 9 7/8" pilot hole was drilled to 310 m before opening to 36" to evaluate possible shallow gas. No shallow gas was observed and the 30" casing was set at 302 m. A further 9 7/8" pilot hole was drilled to 1155 m before opening to 26" and the 20" casing set at 1146 m. The well was drilled with seawater and hi-vis sweeps down to 310 m, with bentonite mud from 310 m to 1153 m, and with synthetic oil (ester) based "AQUAMUL B II EBM" mud from 1153 m to TD.

Hydrocarbons were encountered in 129m of gross (49m net) sandstone in the JU2 prospect (Eldfisk Fm.), the shallower of the Jurassic prospects. Log evaluation established an Oil-Down-To at 4530 m TVDSS. Mean porosities of 12% and permeability in the range 0.01 to 80 mD were measured from core and log data over the pay zone. The mean reserves for the discovery are estimated at 9.3mmbbl (1.48mmcum). Two sand intervals of 12.5 and 19m gross thickness were encountered in the JU7 target. The upper interval contained hydrocarbons. A gross sandstone thickness of 46m was encountered in the Early Permian, although no hydrocarbons were present.

A total of seven cores were cut, five in the Jurassic JU2 sandstone (Eldfisk Fm.), one in the Jurassic JU7 sandstone (Eldfisk Fm.) and one in the Permian P2 Rotliegend sandstone. JU2 was cored from 4474 to 4549 m and had moderate to good shows to 4539 m. However, two logging runs with the Schlumberger MDT tool showed the JU2 formation to be generally tight.

JU7 was cored from 4684 to 4703 m and was found to grade to siltstone below 4688 m. Minor shows were present in the sandstone above this depth but from the MDT runs the formation was found to be tight. The Permian P2 Rotliegend sandstone was cored from 4853 m to 4872 m but did not contain hydrocarbons. This formation also proved tight from the second MDT logging run. Two PVT samples and a one-gallon dead-oil sample were obtained in JU2. The one-gallon sample proved to be oil when emptied at well site.

The well was permanently abandoned as an oil discovery on 6 January 1994.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 2/7-29