



Wellbore History

GENERAL

Well 17/12-4 B was drilled as a geologic sidetrack to 17/12-4 on the Bream structure in the north-western part of the Egersund Basin of the North Sea. The principle objective of the well was to identify if the Bream prospect contained hydrocarbons in the Sandnes and Bryne formations in order to make decisions regarding a future development of the Bream Discovery. The well was drilled easterly, in contrast to the previous NW directed sidetrack 17/12-4 A. The well was to be drilled into the Bryne Formation and drop into the water zone at lowest point. Then drill upwards again into the Bryne Formation and TD at 3883 m.

OPERATIONS AND RESULTS

Well 17/12-4 B was sidetracked on 16 August 2009 from below the 13 3/8" shoe at ca 1209 m in well 17/12-4. The well was drilled as a sub-horizontal appraisal well with the semi-submersible installation West Alpha to TD at 3253 m (2312 m TVD) in the Middle Jurassic Bryne Formation. Deviation was 93.4 deg at TD. A hard stringer was hit between 3213 - 3216m, drilling through what appeared to be coal. At this point the inclination was at maximum 96 deg, while at 3220 m inclination had dropped dramatically to 90 deg and also made a strong left hand turn. It was believed that the dogleg had been caused by a series of faults and the decision was made to TD the well due to high risk of hole problems to come. The sidetrack was drilled with Versatec DW oil based mud all through.

The Sandnes Formation came in at 2536 m (2276.5 m TVD) and confirmed a water-wet good reservoir sand within this Formation, as in the primary well. The Bryne Formation came in at 2594.5 m (2295.8 m TVD) and was drilled near-horizontally all through to TD. From ca 2838 m MD to ca 2900 m MD in the Bryne Formation the well was drilled just below the OWC at 2334.5 m TVD found in the primary well. The Bryne Formation consists of several sand bodies and thin sands with interbedded mudstones and with coal layers in the upper part. Petrophysical analysis gave 13.7 m TVD net oil pay, with average porosities for the different reservoir units ranging from 14.5% to 23.8%.

No cores were cut in the well. The well was logged while drilling. No wire line logs were run.

The sidetrack was permanently abandoned on 23 August 2009 as an oil appraisal well.

TESTING

No drill stem test was performed.

LITHOSTRATIGRAPHY & HISTORY FOR WELL: 17/12-4 B