

WISE Design Saves 60 Hours off Previous Well In Central North Sea

17-1/2" VYZ1013DGX + V816GPXA2 + V816CPBTDGX = 3 Bit Combination

CHALLENGE: The directional objective was to build to 30 degrees tangent then drop back to vertical in the 17 1/2" section while improving dull condition and overall bit performance. The WISE bit would drill the base of the Maureen, Ekofisk, and Tor formations.

SOLUTION: The three bits were designed using Varel's IMPACTS™ software. IMPACTS consist of a cutting structure design tool called SPOT-DN™, a bha vibration analysis software called Vibes™, and a 3D formation bit analysis tool named DIG-IT™. A WISE design was chosen as one of the solutions due to the oval and round cutter combination cutting structure. The shape of the oval cutter provides point loading and maximizes drilling efficiency. Bits can achieve maximum ROP because of the oval cutters effect at fracturing carbonates and the superior shearing action of round cutters in other formations. Varel's Force³™ cutters were matched to the application and supplied in all three bits.

RESULTS: This WISE bit drilled a total of 561 ft (171 m) setting an ROP benchmark of 10.1 ft/hr (3.1 m/hr). The three Varel bits combined drilled 8819 feet (2688 m) at an average ROP of 28.8 ft/hr (8.7 m/hr) while cutting 60 hours off the previous well's 17 1/2" section.



17 1/2" VYZ1013DGX Dull
0-0-NO-A-X-IN-NO-TD

17 1/2" VYZ1013DGX and Three Bit Section

