

Voyager® Sets New ROP and CPF Benchmark in BRRI Field, Saudi Arabia

12-1/4" VRT616PX, Assembly A20334

CHALLENGE: To provide one bit to be used on two wells with excellent directional response on both wells and minimal wear at the TD of the second run. The formations to be drilled are the Aruma, Wasia, Shu'aiba, Biyadh, Buwaib, Yamama, Sulaiy and Hith. The formations are mainly sandstone and limestone with some interbedded shale. The bit would be on an RSS tool with a PDM for both well applications.

SOLUTION: To maximize downhole efficiency in this application, Varel designers using proprietary SPOT-DN™ software designed a durable yet aggressive cutting structure with PowerCutters™ to maximize shoulder life. This cutting structure arrangement produces a fast but directionally friendly bit, enhancing bit life without sacrificing ROP. Bits can achieve maximum ROP without concern for damage to the cutting structure as a bit transitions through formations.

RESULTS: This Voyager bit drilled a total of 10,143 ft (3091 m) over two wells while earning an ROP and CPF field record. The 12 1/4" VRT616PX bit achieved an 18.6% ROP improvement beating its own record and a 26.2% CPF reduction compared to the best CPF offset. The bit TD'ed both intervals with an excellent dull grade of 0-0-NO-A-X-0-NO-TD on the first well and a dull grade of 1-1-NO-A-X-0-NO-TD on the second well. The design of this Voyager bit contributed to the efficiency of this well establishing CPF and ROP records.



Dull picture provided after drilling two wells without repairs.

