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PowerDrive Orbit RSS Keeps Well Trajectory to Plan Without Compromising ROP, Indonesia

RSS increases ROP 160% over previous well and breaks swamp record for fastest well drilled

CHALLENGE

Drill 8½-in section while maintaining trajectory without affecting ROP at deeper depths.

SOLUTION

Use the PowerDrive Orbit* rotary steerable system in the 675 tool size to deliver enhanced steering performance at high ROP.

RESULTS

- Increased ROP by 160% over the previous well in the building section.
- Set the record for drilling the fastest 8½-in section through a building trajectory profile in well history.
- Maintained trajectory control while eliminating the need to restrict ROP.

Maintain a fast ROP while drilling through challenging section

Historically, drilling the 8½-in section of main zone wells from 1,000- to 4,000-m TVD in the Tunu and Handil Fields had been challenging. The offset well data showed that at around 1,900-m TVD and deeper, the tool steering efficiency dropped and required controlling other drilling parameters to maintain the planned trajectory. This led to reducing the overall ROP for the rest of the well.

The operator wanted to drill this 8½-in section while eliminating the need to sacrifice ROP and other performance to maintain the proper trajectory.

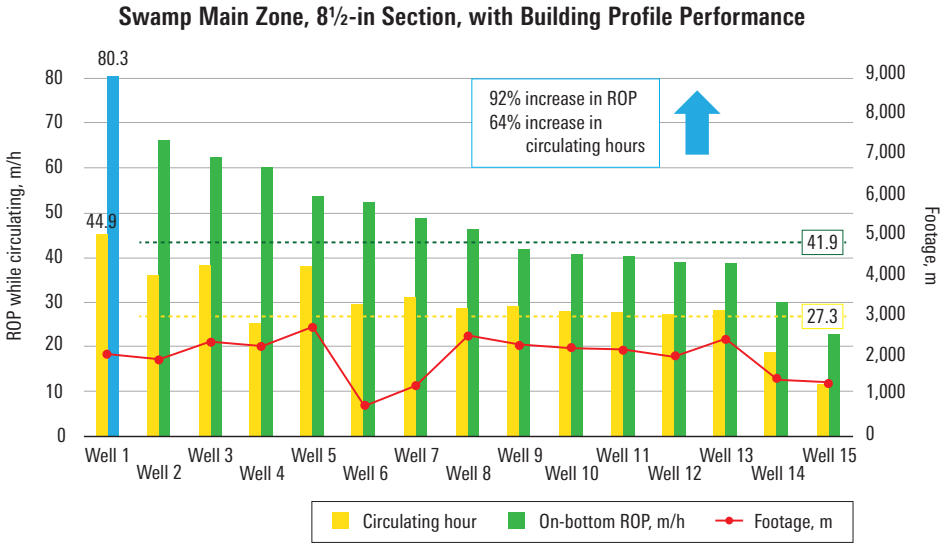
Enable better control and higher flow rate using PowerDrive Orbit RSS

The operator collaborated with Schlumberger and decided to use the PowerDrive Orbit RSS to tackle the next well. Its push-the-bit system provides a higher pad force to the formation, enabling better trajectory control. The RSS's wider operating envelope also enables the tool to go to a higher flow rate for better ECD management.

Increased ROP 92% over offset wells

The PowerDrive Orbit RSS enabled the operator to successfully drill the well to plan without having to compromise on ROP—something never seen before in wells with a similar building profile in this field. The RSS helped the operator increase ROP 160% over the previous well and 92% over the average of offset wells. The circulating hours also increased 64% compared with the offset average.

The overall on-bottom ROP broke the swamp record for fastest well drilled in history for main zone wells with similar building profiles.



The ROP of the well drilled using the PowerDrive Orbit RSS showed an ROP increase of 92% and circulating hour increase of 64% over the average of the offset wells.

*Mark of Schlumberger

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