

Downhole Drilling Motor with Real-Time Near-Bit Measurements



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Instrumented Wired Motor



Instrumented wired motor BHA (Excerpted from SPE-204032-PA)

The simple and rugged layout allows the motor to be serviced in a motor workshop with existing motor technicians. https://sanveantech.com/



Scaleable Design for Various Motor Platforms



https://sanveantech.com/ Excerpted from SPE-201551-MS



Near-bit Inclination Field Data







Pseudo Gamma Processing Example





Geosteering with Real-Time Pseudo Gamma



Note: pGamma_NB is uncalibrated



Real-time Detection of Motor Back-drive Dynamics





Surface Advisory System with the Instrumented Wired-Motor Real-Time Data https://sanveantech.com/



ROP, stick-slip severity, and peak shock levels are anticipated before encountering the formation transition zone. (Excerpted from SPE-199560-MS)



Summary and Conclusion

- Real-time near-bit inclination and geosteering measurements have been provided in a mud motor without compromising mechanical integrity or directional response.
- The new instrumented drilling motor has undergone extensive field testing in West Texas over the past 4-5 years.
- The new *instrumented wired motor internals* are of a scaleable design, allowing retrofit of any mud motor lower end, bent housing, and power-section design.
- The real-time inclination, pseudo gamma and drilling dynamics data from the instrumented motor are integrated into a drilling advisory system at surface.