

# DrillFact® MSE Surveillance

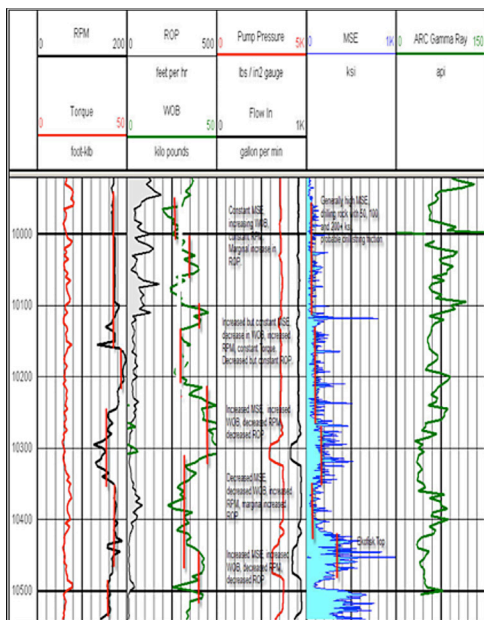
## MONITORING DRILLING EFFICIENCY TO OPTIMIZE PARAMETERS AND REDUCE WELL TIME

### OVERVIEW

DrillFact® mechanical specific energy (MSE) surveillance from Halliburton Sperry Drilling is designed to optimize the rate of penetration (ROP) by considering, in particular, the weight on bit (WOB), torque, and RPM for a given hole diameter. DrillFact MSE surveillance measures, in real time, how efficient the bit is at breaking up the given rock volume with the aim of achieving the optimum WOB to drive the maximum ROP. DrillFact MSE surveillance is a visual trending tool that can be used qualitatively. It is a means to observe, record, and assess the changes in efficiency in the drilling system.

DrillFact MSE surveillance is integrated into InSite® software, and can be run at the wellsite, or in a client's office or Halliburton real-time operations center.

DrillFact MSE surveillance can also be used in conjunction with our DrillSaver™ III software that monitors torsional and drillstring vibration, our GasFact™ gas analysis service that identifies bit metamorphism gases, and a Smart Activity tracker that analyzes time spent on specific rig activities.



*DrillFact® MSE surveillance enables operators to monitor and optimize drilling parameters, reducing well time.*

For more information, contact your local Halliburton representative or visit us on the web at [www.halliburton.com](http://www.halliburton.com)

### FEATURES

#### Calculation Methods Available

- » Delivers four different calculation methods, each with two variants – one for surface parameters and the other for downhole parameters
  - Classic Teale calculation method (1965)
  - Exxon MSE (Dupriest and Koederitz, 2005, SPE/IADC-92194) – This applies a 0.35 modifier to Teale calculations as an approximation for rock strength
  - Modified Bit Factor (Pessier and Fear, 1992, SPE-24584) – MSE variant that does not use torque as an input
  - Armenta DSE (Armenta, 2008, SPE-116667) – This is the classic Teale calculation method, with an additional hydraulic factor
- » Identifies bit wear with the use of GasFact service to identify bit metamorphism gases
- » Identifies and mitigates torsional vibration by using the DrillSaver III system in conjunction with MSE
- » Works with a Smart Activity tracker to help operators analyze time breakdowns of major drilling activities in order to improve overall drilling performance

### BENEFITS

#### Reduce Well Time

- » Improves drilling efficiency by optimizing ROPs
- » Reduces bit wear and prolongs bit life
- » Decreases the number of bit trips required

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