Mid-Continent Coalbed Methane Symposium

Tulsa, OK
November 7-9, 2004

Presentation by
Eric Maidla
281 770-3009
E-Mail: Eric.Maidla@Slidercorp.com

SLIDER™
* Service Mark of Noble Corporation, Patents Pending
- Torque
- Standpipe pressure
- Drillpipe
- Downhole motor
- Bit
- MWD
- Bend in motor housing for directional control
SLIDER™ Technology

While Sliding for Directional Drilling

**Top Drive without Slider:** Stopped or Sometimes Rocks Pipe Manually

**Top Drive with Slider:** Directional Drilling Machine
- Automatic “Rocking” to enhance ROP
- Provides accurate Tool Face Orientation While Drilling
- May Extend the length of the Well (see conditions)
- Avoids Downhole Motor Stalling
- Saves time and consequently $$$
How SLIDER™ Works
Robotics Solution
Slider Assisted Drilling
Slider Improvement as the Directional Driller Gets to use it More

Very short Manual Run

Slider

Manual

Slide ROP / Rotate ROP

0% 20% 40% 60% 80% 100% 120%

Slide Start Depth, ft

8422 8562 8651 8740 8838 8881 8928 8953 9006 9260 9365 9498 9528 9637 9818 9945 10108 10299 10347 10676 11257
Manual Slide, 8864'-8874'

Target TF= 0-10, 7 Stalls
Slider Assisted, 10106'-10129'

Target TF= 250-270, No Stalls
Tool-Face Correction w/ Slider

Left Bump Correction larger than desired, TF brought back to target by two right bumps.
Coming Unstuck w/ Slider

Differentially stuck while sliding thru Sands, use left / right bumps to get unstuck w/o loosing tool-face
Field example of some torque values

Barge Rig
For Comparison Only

Make up torque 18,400 ft.lbs

Break out torque 14,000 ft.lbs

Rotating torque

Torque values:
- 18,400 ft.lbs (Make up torque)
- 14,000 ft.lbs (Break out torque)
- Rotating torque

Time:
- 5/2 8:06
- 5/2 8:16
- 5/2 8:26
Conclusions

- New Directional Drilling process was presented.
- Fast on bottom orientation ...............$ Savings
- Faster Overall Sliding.........................$ Savings
- Maintains efficiency throughout the well path.........................................................$ Savings
- Less stalls….Higher Motor Life...........$ Savings
- No downhole tools….less risk..............$Savings
- Simple….Easy to Learn..fast adoption....$$$$$
SLIDER LLC

www.slidercorp.com

Presentation
by
Eric Maidla & Marc Haci

281 770-3009
E-Mail: Eric.Maidla@Slidercorp.com

SLIDER™
* Service Mark of Noble Corporation, Patents Pending
Robotics Solution