

High Strength Elastomer Increases ROP By 30% In Eagleford.

Time downhole was doubled over the competitor's power section.



CASE STUDY

CASE HISTORY

- Eagleford Shale
- McMullen County
- 290° F
- OBM
- 21.03% solids
- Bit – Security MMD65C – PDC
- When: February 2015

THE SOLUTION

- The Power Section: PV 6 3/4" 7:8 6.4 Stage Grp. 4 Stator
- The Elastomer: HS88 - High Strength Rubber

THE RESULTS

- Depth In: 10,768'
- Depth Out: 19,126'
- Footage Drilled: 8,358'
- Average ROP: 83'/hr.
- D&C Hours: 120.33
- Hours in hole: 156.5

DISCUSSION

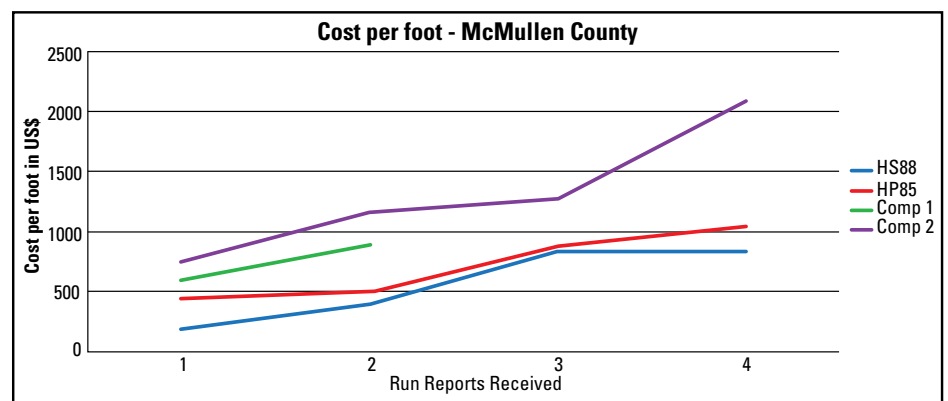
The Operator wanted to drill the curve and lateral portion of the well with a single motor. The extreme high temperature/high aromatic nature of the drilling fluid prompted the decision to run the Grp. 4 power section. The power section was set up with a shop fit of -0.019 clearance. At operating temperature, the Operator was able to maintain 22,000 ft./lbs. torque at 576 GPM with a consistent motor RPM of 118-161.

The motor averaged 18 ft./hr. while sliding. While rotating, the motor drilled an average of 138ft./hr. ranging from 90-300ft./hr.

Upon inspection, the power section showed no measurable swell. There was also no visible chunking after three reported stalls.

VALUE CREATED

The cost per foot was determined to be \$834.00. This was a 37% reduction over other motors used in McMullen County Eagleford applications. The ROP was 30% higher and the time downhole doubled over previous runs with the competitor's 6 3/4" 7:8 lobe 6.4 stage. The motor drilled the curve and horizontal portion to TD the well in a single run.



$$\text{Avg. Cost / Ft.} = \frac{(\text{Avg. D\&C hrs} + \text{Trip Hrs}) \times \text{Avg. Day Rate}}{\text{Footage Drilled}}$$

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