

THE SCIENTIFIC WAY – OPTIMAL TECHNOLOGY

EAGLE FORD SHALE CASE HISTORY

APPLICATION

High Temperature, Long horizontal section

TECHNOLOGY

TiTAN22 750 GPM - Performance Drilling Motor
Falcon HT MWD

LOCATION

Live Oak County,
Texas

CUSTOMER CHALLENGE

Drilling Extended Reach Laterals and Curve in a single run. Challenges include:

- Elimination of MWD and Motor failures due to temperature range (~170°F to >300°F)
- Increasing weight transfer to bit by reducing buckling. This well's extended run length >7,250'

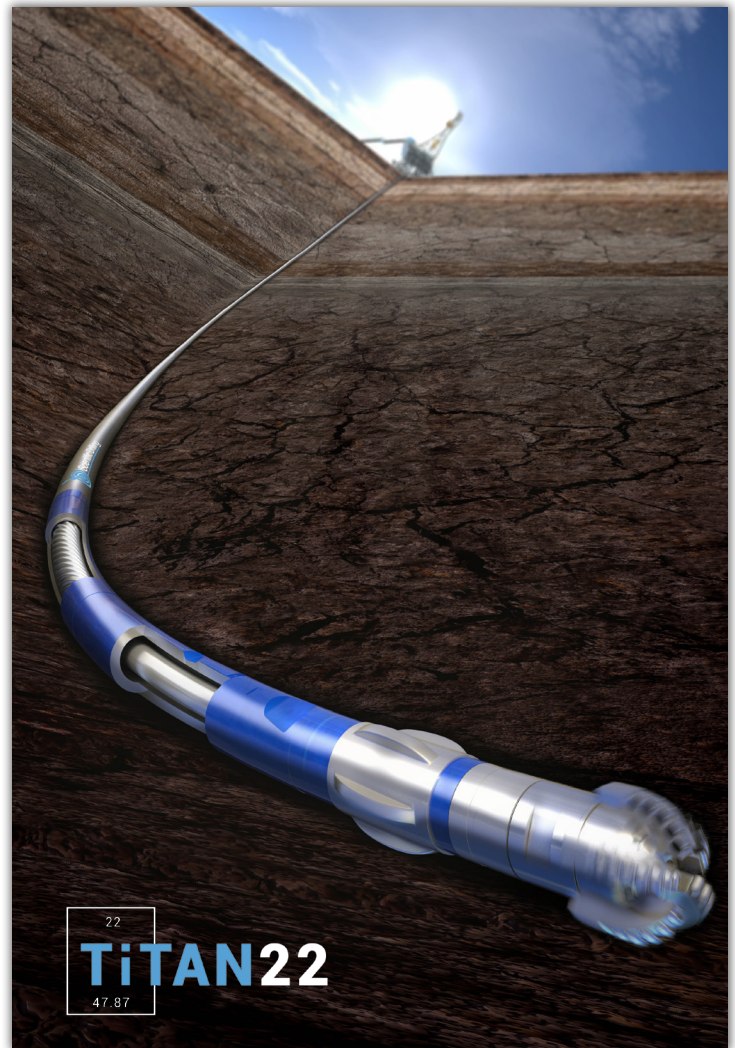
SCIENTIFIC SOLUTION

SDI provided two primary solutions that were able to overcome this challenge.

- SDI utilized its proprietary fit calculator to determine the motor's rotor and stator optimal setup and allow completion of the lower temperature section at a loose fit and expand to optimal fit to drill the high temperature lateral.
- SDI utilized its new BHA Vibration Modeling software to modify drilling parameters, reducing rotary RPM to 70 and reducing WOB to 40 klbs, contrary to the industries traditional methodology that higher WOB and faster RPM equates to higher overall ROP. This change enabled the entire curve and lateral to be drilled in one run with an average ROP of 143 ft/hr.

CUSTOMER VALUE

- Company record of 3,633 feet per day well (Spud to TD)
- The well was drilled in less than 4.2 days, beating the average by over two days and saving the customer over \$100,000.
- There was a 31% decrease in time taken to drill the intermediate hole section well-to-well for this pad.



The utilization of the Scientific approach with proprietary software and Teamwork, combined with the performance of the TiTAN22 750 gpm motor, the SDI Falcon Fire MP MWD system and the quick decision making Motive Drilling Technologies Bit Guidance system yielded significant time and cost savings and achieved the customer's objective.