

Terminator T1000 Motor Achieves Flawless Execution in Adverse Downhole Conditions

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A LA Haynesville Operator enlisted Workover Solutions to execute cement drillouts and TCP operations on three wells. The application is particularly challenging for downhole motors with industry-standard conventional elastomer stators due to the 400° F downhole conditions. WOS chose to deploy the **Terminator T1000** motors featuring stators made completely of metal.

There were several challenges experienced during the drillout operation outside of WOS's control, including selecting the optimal drill bit type, keeping the surface equipment running, deploying the correct chemicals, maintaining the fluid system, and encountering non-drillable cement wiper plugs. The speed of progress was highly dependent on the operations ability to manage these factors. One aspect of the operation that was consistent was the performance of the downhole motor. The Terminator T1000 exhibited flawless execution with **0 recorded motor stalls**. This was achieved while some BHA's were **downhole for up to 146 hours (6 days)**. Multiple BHA's were required to complete the operation on Well A and Well B, but the limiting factor for tripping was drill bit life. The operator chose to not rerun any motors due to the downhole temperature even though each motor ran was rerunnable. During teardown, there was **no chunking** or damage seen on any T1000's metal stator.

Ultimately, the target depth was achieved on all three wells, and the subsequent TCP operation was also executed successfully on all three wells. The operator was pleased with the performance of WOS tools and personnel, and they continue to select the T1000 for ongoing drillout and cleanout work.

2-7/8" Terminator T1000 Motor



Metal On Metal Power Section

Application Challenges

- Downhole temperature up to 400° F
- Target Depth > 26,000ft
- Inconsistent cement quality
- Non-drillable cement wiper plugs
- Reduced drill bit life

WOS Results

- All 3 wells successfully cleaned out to planned TD
- All cement and wiper plugs cleaned out
- Zero (0) motor stalls
- No stator chunking
- All 3 wells successfully deployed TCP operations

Motor Specifications

- OD: 2.88 in
- Overall Length: 6.89 ft (82.7 in)
- Flow Range: 1-4 BPM (42- 168 gpm)
- Max Temp Rating: 932 F
- Max Diff Pressure: 2000 psi
- Max Torque: 1800 ft-lb
- Speed: 2.2 rev/gal

