



**Toro  
Downhole  
Tools**

## Highlights

**Toro outperforms competitors in Grady County, Oklahoma**

**Toro motors exceeded customer expectations**

**Even in the harshest environments, Toro motors deliver performance and reliability**

# Toro 4-3/4" 9:10-3.5 Motor Outperforms the Competition

### CHALLENGE:

Toro was asked to provide a Downhole Motor that would drill in the rigorous and extremely harsh drilling conditions of the Granite Wash of Western Oklahoma. The customer desired increased downhole tool life and maximum ROP while remaining as close to the well plan as possible.

### SOLUTION:

A Toro 475 9:10 lobe 3.5 stage VSS Motor was selected with a 1.50° Fixed Bend Housing with a 6-1/2" OD near bit stabilizer. Toro utilized a DRILEX 475DX-910-35 Power Section that operates at 0.35 RPG and produces 6,000 ft. lbs. peak torque at 300 GPM.

### RESULTS:

Three motors were utilized. The first Motor was tripped into the well and began drilling at 14,000 ft. The tools was operated at 300 GPM with an average differential pressure of 150 PSI. The drill string was rotated at 50 RPM while using a 6-3/4" PDC drill bit. The Motor ran for 228 hours and achieved an ROP average of 7.4 ft./hr. The Motor was tripped due to the dulling of the bit. A second Toro Motor was tripped into the hole and began drilling at 15,900 ft. The second Motor was operated for 82 hours, averaging 4.82 ft./hr. ROP, and was finally tripped due to bit dulling. The third and final Toro Motor operated for 60 hours, averaging 9.19 ft./hr. ROP, before completing the well.

### OPERATOR VALUE:

Together the three Toro Motors were operated for 370 hours drilling 2,281 ft. with an overall average of 6.16 ft./hr.

The performance and reputation of the Toro 475 9:10 lobe 3.5 stage VSS Motor was once again documented as a valuable tool within the BHA. The customer's costs were significantly lowered by eliminating extra trips and drill bits, thus increasing profits accordingly.



***Reliable Tools | Proven Performance***

