

**\$80K**  
POTENTIAL COST SAVINGS

**30%**  
DECREASE IN BIT HOURS

**25%**  
INCREASE IN AVERAGE ROP

The Thruster provides consistent force to bit by balancing hydraulic and mechanical forces. This balance provides smooth energy transfer to the bit, even in erratic situations. By providing consistent parameters, the Thruster reduces shock and vibration, BHA damage and failures.

### THE CHALLENGE

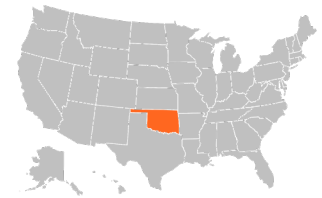
A Kingfisher County operator was seeking to maximize effectiveness from their vibratory tool, which possibly could have been restricted by an overly stiff string.

### THE SOLUTION

Applying a Thruster at the BHA allowed the shock tool at their vibratory tool to extend and compress as planned and allowed the string in between the two to move axially, breaking friction and moving more effective weight to it.

### THE RESULT

The following four 6 1/8" laterals were drilled in Kingfisher County, Oklahoma. The TAQA Thruster was added in two of the laterals, to work in conjunction with the vibratory tool.



#### 5" Thruster BHA Placement

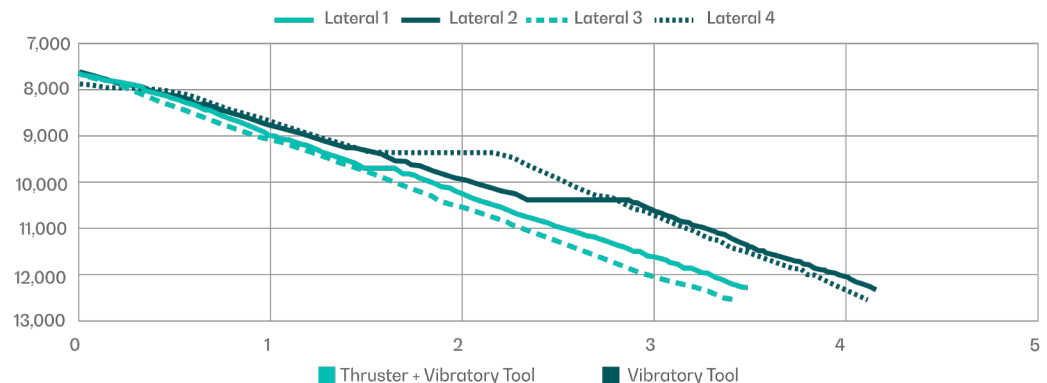
- Bit ..... 6 1/8"
- Mud Motor ..... 5"
- MWD ..... 4 3/4"
- Thruster ..... 5"
- Vibratory Tool ~2,200ft back

#### 4 Laterals Results

Well	Total Drilled (ft.)	# Bits	Bit Hours	ROP (ft/hr)	Total Slide (ft.)	Slide %
Lateral 1	4,659	1	62.0	75.1	401	8.61
Lateral 2	4,722	2	86.5	54.5	720	15.25
Lateral 3	4,892	1	65.9	74.2	179	3.66
Lateral 4	4,891	1	80.5	60.7	256	5.23

\*Thruster was used in lateral 1 and 3

#### Days VS Depth — 6 1/8" Lateral Sections



\*Same type of drill bit and mud motor used in all laterals.