



ROLLER SUCKER ROD COUPLING



Stinger Oil Tools

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Stinger Oil Tools has developed the Roller Sucker Rod Coupling to assist rod lifting operations. The Roller Sucker Rod Couplings are designed with API threads to accommodate typical sucker rods. The Roller Sucker Rod Couplings will have reduced torque and drag during operations. Additional benefits include reduction in sinusoidal and helical buckling of the sucker rods. The friction reducers allow the rods to rotate and move more freely and so there is less strain on the surface and downhole pumping components. This also allows a reduction in wear of the sucker rods, the couplings, and the tubing. Allow Stinger Oil Tools to help you pump further, safer, and more efficient.

Benefits

- Robust design to withstand typical operating loads and forces utilizing friction reduction system
- Improves maneuverability to help maintain momentum and traverse through tight spots
- Minimal increase in OD is offset with 3 fluid courses to allow flow of fluid and debris
- Engineered placement analytics to improve recovery and reduce wear on surface and sub surface equipment
- Can be customized for sour service environments
- Can be customized with various ball configurations, material, threads, and dimensions
- Average friction coefficient of 0.050 per tool

Applications

- Rod Lifting wells
- Vertical and Horizontal pumping

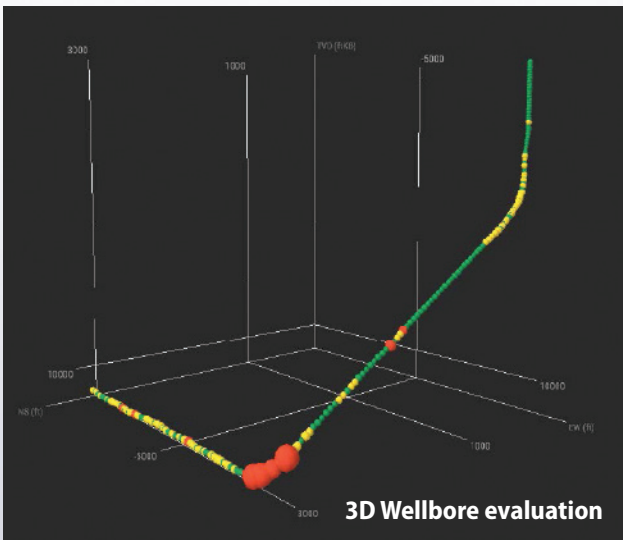
TECHNICAL DATA	0.750"	0.875"	1.00"
OD @ body	1.625"	1.810"	2.000"
OD @ friction reducers	1.765"	2.010"	2.200"
Threads (standard)	1.0625" 10 UN-2B (box by box)	1.1875" 10 UN-2B (box by box)	1.375" 10 UN-2B (box by box)
Length	12.25"	12.50"	13.00"

Patent Pending

www.drillingtools.com

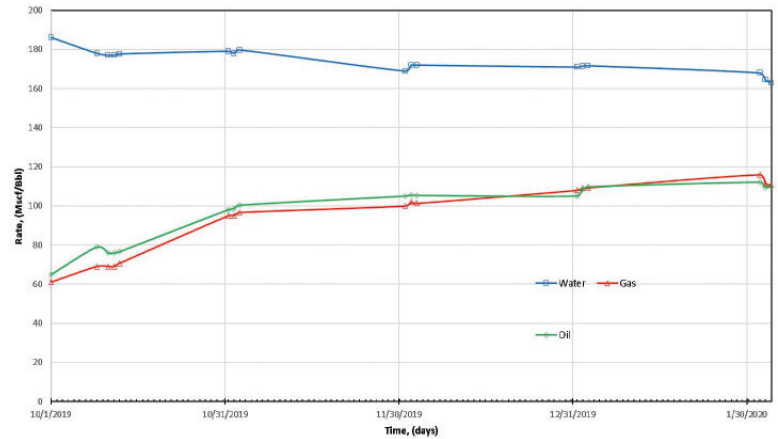
Drilling Tools International, Inc. is a leading provider of downhole tools to the land and offshore drilling markets. For more than 30 years our company has been guided by the principals of Strength, Innovation and Performance. We consistently deliver world class customer service while providing quality products that meet the demanding drilling applications of today's market.

Our Quality Management System is certified in compliance to ISO 9001, and API Spec Q1 and our manufacturing is licensed to API Spec 7-1. Our Quality Management System governs all of our processes from planning, to process control, to delivery. This ensures that we consistently manufacture products that not only meet API standards but also meet the ever-changing needs of our customers.



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PERFORMANCE SUMMARY

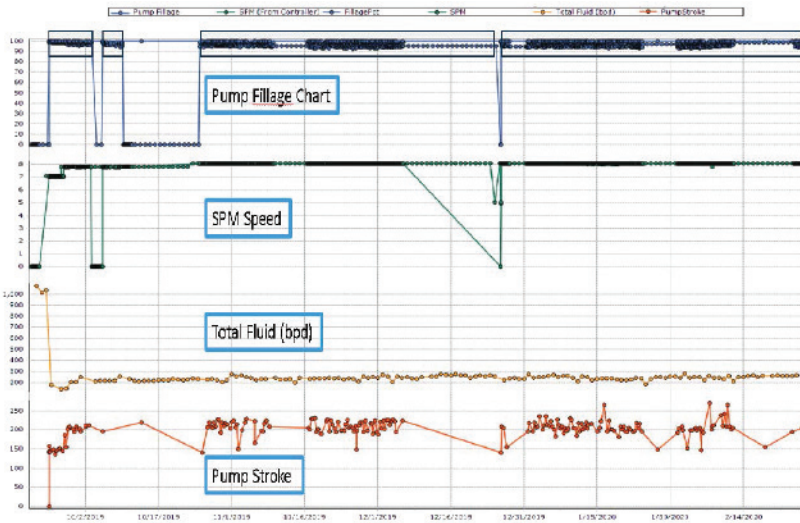


Objective

- Inclination changed **5.5 degrees to 24 degrees** from 4026 ft to 5070 ft.
 - High bending angle
 - Bigger DLS/side forces + high friction
- 3.77, 6.53 DLS occurred in tangent section
- 17.98, 17.97 DLS occurred in curve section
 - Shorter downhole stroke
 - Difficult to set a pump

Production Results

- Gas production increased from **60 Mscf/day to 115 Mscf/day**
- Oil production increased from **65 bbls/day to 111 bbls/day**
- Ball Transfer technology presented friction reduction downhole by shown **longer stroke length with higher pump fillage**
- Higher fluid loads = **Higher production rate/day base**



Friction Reduction Results

- Pump Fillage improved from **19.3% to 95%**
- Average pump rate: **8 SPM**
 - DTI suggested: 6.5 to 7 SPM
- Consistent downhole pump stroke = **avg 220 inches**
- Constant fluid input rate = Efficient pump system by providing increased downhole stroke length + reduced downhole friction coefficient from **avg 0.4 per tool to 0.05 per tool**

Conclusion

DTI's Friction Reduction Technology prevents high DLS and high inclination changes by using a ball transfer system to reduce buckling, side forces, and friction through the original wellbore. Since the friction reducers allow the rods to rotate and move more freely, there is less strain on the surface and downhole pumping components.

