



BULLDOG CHEMICALS_{LLC}

Formation: Austin Chalk
Angle: Horizontal/Down Dip
Hole Size: 6.5"
Casing depth: 13,500'
Current depth: 17,500'

Application: To find the most economical slide pill to increase the rate of penetration while sliding and rotating in the down dip lateral of the well.

Procedure: The operator experimented with several lubricants such as esters, glycols, graphite, Extreme Lube and Con Tone. The products were mixed in consistent concentrations in 40 bbl pills and pumped to aid in slide applications.

Results: The combination that sustained best results was the Con Tone at 6ppb, and Extreme Lube at 2% by volume in conjunction with 1 gallon phpa. Note the results below as the other lubricants were tested.

	Competitors lube at 4%	Extreme Lube at 2%
Slide rop	2-3'/hr	5-6'/hr
Rotating rop	15'/hr	+20'/hr
Cost of pill	\$1345.00	\$1080.00

Conclusion: The **EXTREME LUBE** consistently doubled the Rate of Penetration at 1/2 the concentration of the competitors Lubricant. Assuming it costs +/- \$80,000 per day to run the entire drilling operation each day this would equate to \$3,333.00 per hour. Therefore by doubling the ROP from 2.5'/hr to 6'/hr the cost per foot (while sliding) reduced from \$1,333.00/ foot to \$555.50/ foot.

