

Arkoma-Woodford HnP Wells 1-2

nanoActiv®
by Nissan Chemical



Nitro-Lift performed a nanoActiv® HnP Treatment on two offsetting Woodford wells in 2019.



Arkoma-Woodford HnP Wells 1-2 Economics

Enhanced Recovery Using nanoActiv®

nanoActiv® HnP treatments are an economic, environmentally friendly method for increasing production. Production companies can achieve high returns with low risk by performing nanoActiv® treatments.

Economic Merits

Treatment Cost	\$ 150,000
Breakeven in Days	63
1 Year: xIRR (Internal Rate of Return)	405%
1 Year: xNPV using 10.0% Cost of Capital	\$ 235,555
1 Year: Multiple on Invested Capital (MOIC)	2.7x

Producer Economics	New Drill/Completion	Post nanoActiv® Tx
<i>Volume Dates</i>	7/12/17-7/11/18	9/6/19-9/5/20
Actual Production Year 1	747,962	188,004
less Severance Tax (State of OK)	7.50%	7.50%
less Royalty	18.75%	18.75%
Production for the Producer	551,622	138,653

Economic Comparison	New Drill	nanoActiv® Tx
First Year of Gas Owned by the Producer	551,622	138,653
Total Price Per Mcf with Liquids	x \$ 3.16	\$ 3.16
Est. Cash Flow to the Producer	\$ 1,743,125	\$ 438,143
Cost to Drill Est. / Cost for nanoActiv® HnP Treatment	\$ 3,500,000	\$ 150,000
Production for the Producer	+ \$ 3.16	\$ 3.16
MCF to Breakeven	1,107,595	47,468
Breakeven Achieved in Days-Using Actual Data	575	44
<i>9/6/19-9/5/20 Wtd Avg Price-Adjusted for Liquids and G&P Costs</i>		\$ 2.48
MCF to Breakeven		60,484
Breakeven Achieved in Days-Using Actual Data		63

Producer Economic Metrics		
1 Year: Cost per Mcf Year (Cost divided by Producer Production)	\$ 6.34	\$ 1.08
1 Year: xIRR (Internal Rate of Return)	-60%	405%
1 Year: xNPV using 0.0% Cost of Capital	\$ (1,877,352)	\$ 235,555
1 Year: Multiple on Invested Capital (MOIC)	0.5x	2.7x

Pricing	New Drill	nanoActiv® Tx
NYMEX Strip Weighted Avg from 7/12/17 to 7/11/18	\$ 2.94	\$ 2.94
Basis Differential (est.)	+ \$ (0.20)	\$ (0.20)
Gathering Fee (est.)	+ \$ (0.21)	\$ (0.21)
Processing Fee (est.)	+ \$ (0.64)	\$ (0.64)
Pipeline Fee (est.)	+ \$ (0.08)	\$ (0.08)
Nat Gas Producer Price	\$ 1.81	\$ 1.81
Liquids Price (C3+ Composite Gal.)- est.	\$ 0.60	\$ 0.60
Liquid Transport to Mont Belvieu	+ \$ (0.10)	\$ (0.10)
Fractionation Cost in MB	+ \$ (0.05)	\$ (0.05)
Liquid Price per Gal	\$ 0.45	\$ 0.45
Gallons per Mcf- C3+ (ethane rejection)	x 3.0	3.0
C3+ Liquids Producer Price Per Mcf	\$ 1.35	\$ 1.35
Total Price Per Mcf with Liquids	\$ 3.16	\$ 3.16