



Raise Production Inc.

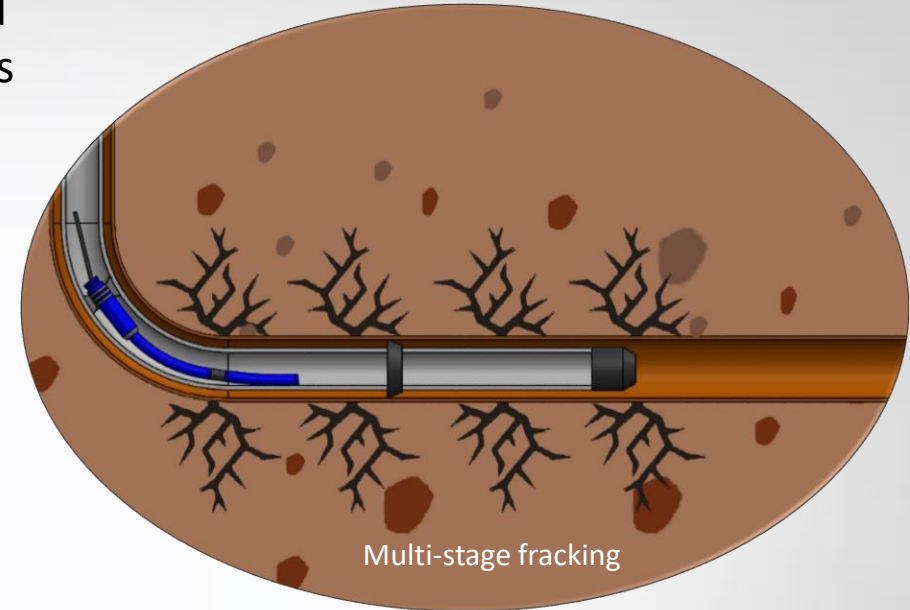
The  
**Next  
Revolution**  
in Oil and Gas

# Optimizing Productivity

**Multi-stage  
fracking  
helps  
stimulate  
the  
well  
optimizing  
productivity**

In the past decade multi-stage fracking has revolutionized the energy industry providing optimum flow of oil and gas out of well bores. As a result, North America has become self sufficient in oil and gas while becoming globally relevant in oil and gas supply.

The next great innovation to maximize capital efficiencies and profitability in North American production will be mechanical intervention and innovative management of the flow of oil and gas wells, that innovation will seek to reduce natural well declines while preferentially focusing on the recovery of hydrocarbon liquids based on a uniform and consistent drawdown of the entire horizontal well bore.



# The Untapped Opportunity

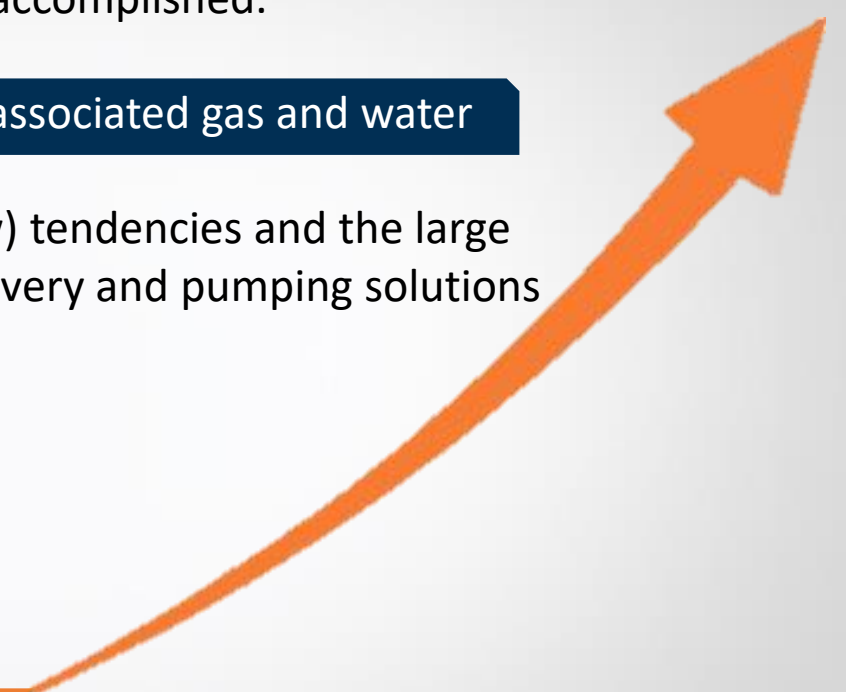
**Specialized  
recovery  
and  
pumping  
solutions  
optimize  
capital  
efficiency**

While there has been virtually constant innovation in the fracking and drilling of horizontal wells in North America, very little has been done to innovate and maximize production management, after initial production has been accomplished.

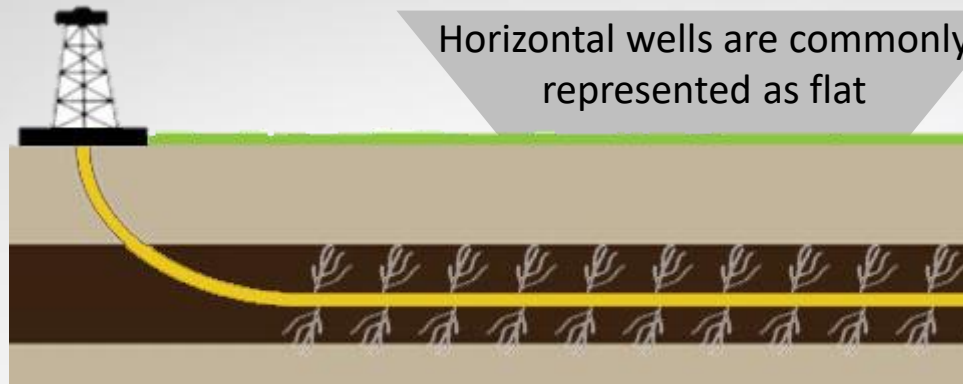
The major oil projects in North America produce excessive associated gas and water

Due to the nature of the phase flow (oil, gas and water flow) tendencies and the large differences in oil and gas commodity prices specialized recovery and pumping solutions can now off producers the potential for:

- Capital efficiency optimization
- Reduction in corporate production declines
- Large incremental free cash flow and profits
- Increased reserves recognitions

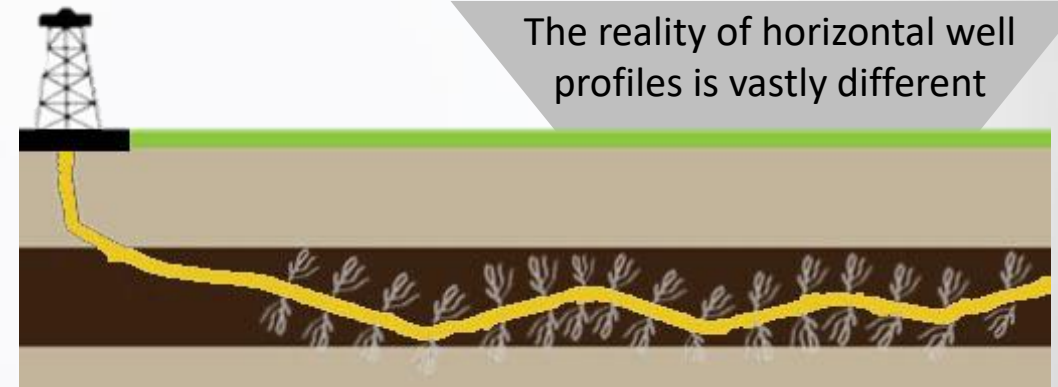


# Horizontal Realities



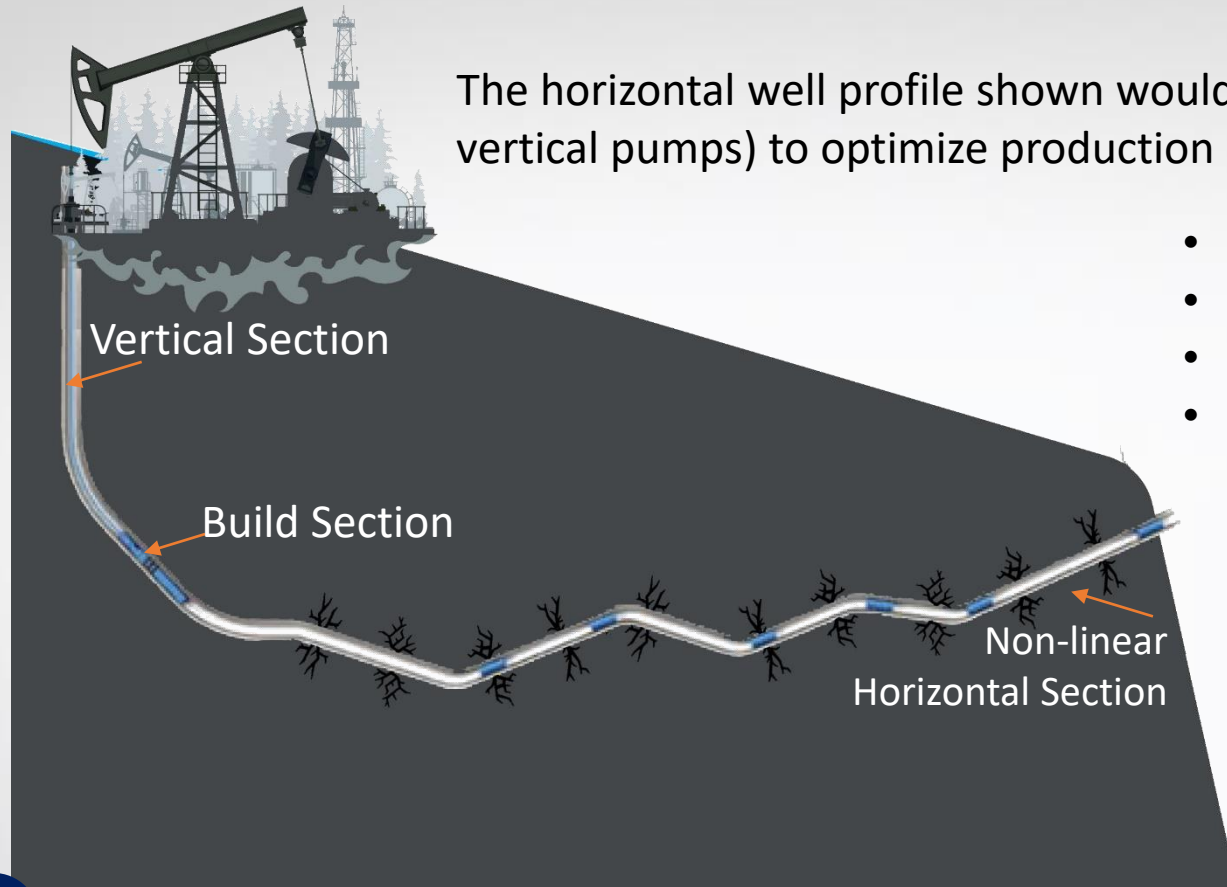
Horizontal wells are commonly represented as flat

While wells have transitioned from a vertical profile to a undulating horizontal profile, the mechanical lift put on wells has undergone virtually no change, thereby ignoring the change in flow dynamics experienced in horizontal wells.



The reality of horizontal well profiles is vastly different

# Horizontal Flow Dynamics

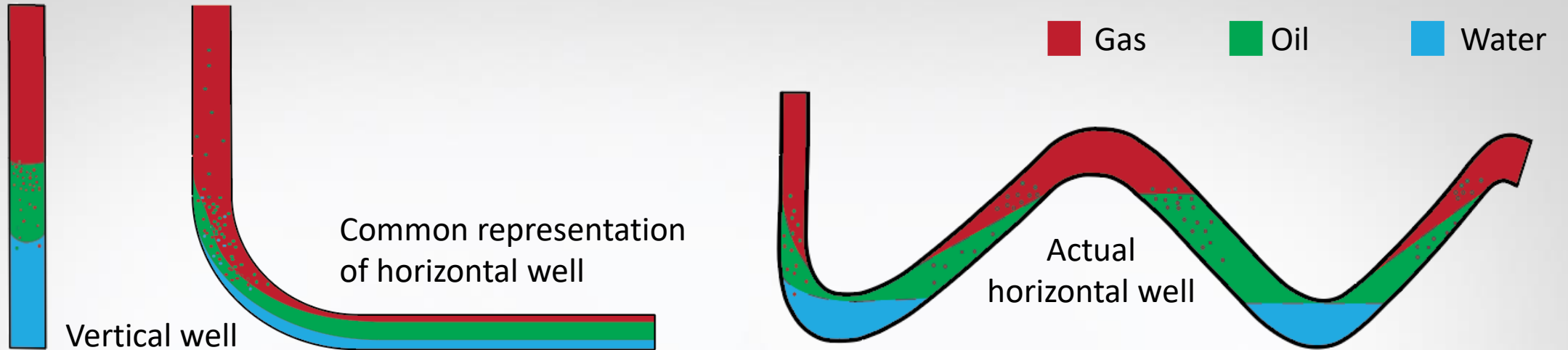


The horizontal well profile shown would require new lift techniques (beyond historical vertical pumps) to optimize production including:

- Maximizing rate of production
- Minimizing rates of production decline
- Prioritizing oil production over gas and water
- Ensuring production from the entire horizontal section

The actual profile of a horizontal well makes mechanical intervention/innovation important as non linear horizontals increase the chance of preferential water and gas flow and accelerated production declines.

# Natural Phase Flow Biases



The natural biases of phase flow (oil, gas and water flow) have material negative implications to producers in terms of production declines. Solution gas drive reservoirs have a natural bias to gas production with increasing association of water production. Changes in these dynamics through the introduction of lateral lift systems can offer the potential for a large improvement in corporate oil production, reduced declines, increased liquids leverage and reduced per unit cash costs. In short, mechanical innovation can offer large changes in free cash flow and profitability for producers.

# The Raise: High Angle Lift Solutions (HALS)



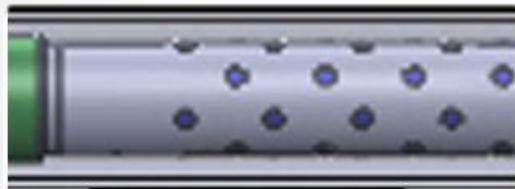
Designed to optimize production over the life of the well and minimize production declines



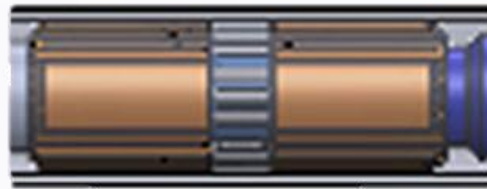
HALS is a low cost option for production optimization that offers high impact improvement in production, free cash flow and profitability



Optimize hydrocarbon mix prioritizing preferential recovery of oil



**Reveal  
Separator**



**Fluid  
seeker**



**Wave  
breaker**

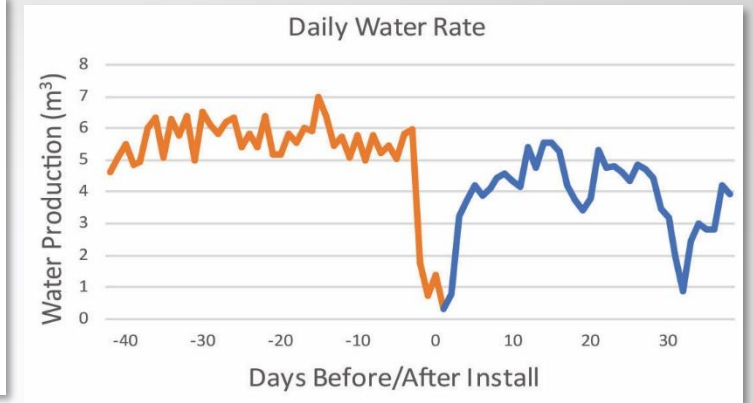
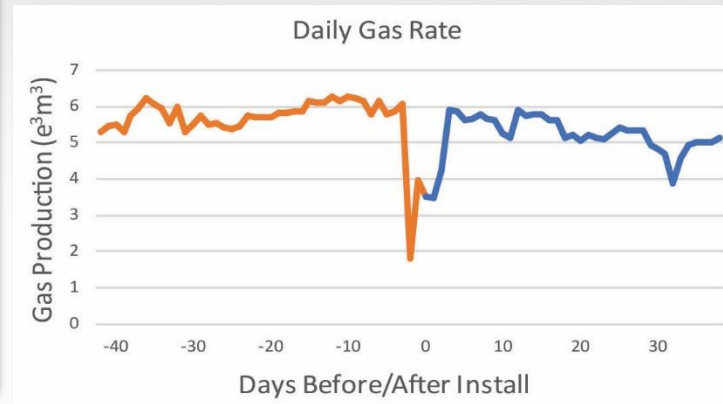
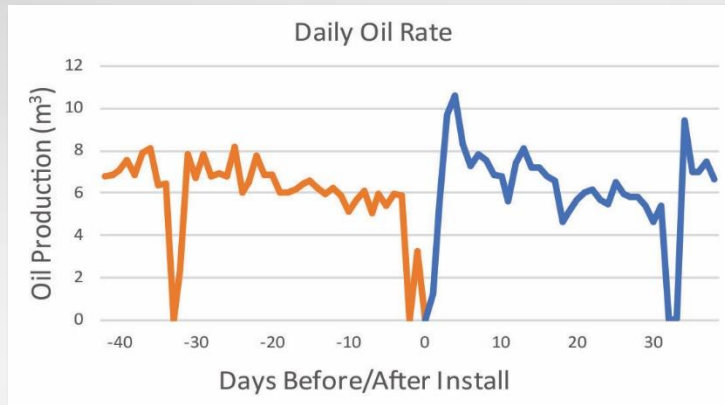


# HALS Single Well Case Studies

ECONOMIC METRICS				
Capital	\$22,000 *			
Netback	\$30/bbl			
Discount Rate	10%			
Nominal Decline	20%			
ECONOMIC RESULTS				
	INCREMENTAL PRODUCTION (bbl/d)			
	5	10	15	20
12 Month NPV <sub>10</sub> (Annualized Value)	\$39,000	\$86,000	\$133,000	\$181,000
Time to Payout NPV <sub>10</sub> (Months)	< 4	< 3	< 2	< 2
NPV <sub>10</sub> 12 Month Recycle Ratio	1.8	3.9	6.1	8.2
12 Month Undiscounted Recycle Ratio	1.9	4.2	6.4	8.7

HALS can simultaneously improve total BOED, with disproportional change in oil/liquids such that total BOE's improve at the same time that liquids percentage increases with per unit cash cost reductions. This drives large changes in free cash flow from a small incremental capital investment that pays out very rapidly. All this makes the producers business more valuable and easier to grow from new and existing wells.





## Well Metrics

Increase in pump efficiency would improve oil production by over 7 bbl/day and subsequently reduce water production by 10 bbl/day, ensuing in over \$500/day change in revenue.

# The Broader Potential of HALS

A 10,000 BOE/d oil focused producer(80% oil/ngls) with a current capital efficiency of \$26000 BOE/day and a 25% corporate decline, needs to replace 2,500 BOE/day of declines per annum at a capital cost of \$65 million. HALS can offer the potential to both reduce corporate declines and improve capital efficiencies.

	<b>Capital Efficiency</b>			
<b>Decline</b>	\$25,000 BOE/d	\$24,000 BOE/d	\$23,000 BOE/d	\$22,000 BOE/d
<b>24%</b>	\$60.0mm	\$57.6mm	\$55.2mm	\$52.8mm
<b>23%</b>	\$57.5mm	\$55.2mm	\$52.9mm	\$50.6mm
<b>22%</b>	\$55.0mm	\$52.8mm	\$50.6mm	\$48.4mm
<b>21%</b>	\$52.5mm	\$50.4mm	\$48.3mm	\$46.2mm



Such a business would have a run rate cash flow in the order of \$85million per annum. Reducing 'stand still capital' from \$65mm to even just \$55mm causes a 50% increase in annual free cash flow(\$20mm to \$30mm). HALS can also further optimize corporate commodity mix and minimize cash operating expenses per BOE, for even more free cash flow improvement. In the longer term HALS may also allow for reduced surface lift needs(pump size).

**Estimated standstill capital requirements at various assumed improved capital efficiencies and corporate declines**

**Thank You**  
—— *For your time* ——

**RAISE PRODUCTION**  
THE COMPLETE SOLUTION

