

**raise**  
PRODUCTION INC



**ENDURANCE**  
LIFT SOLUTIONS

Raise Production Inc.

# Chasing Fluid

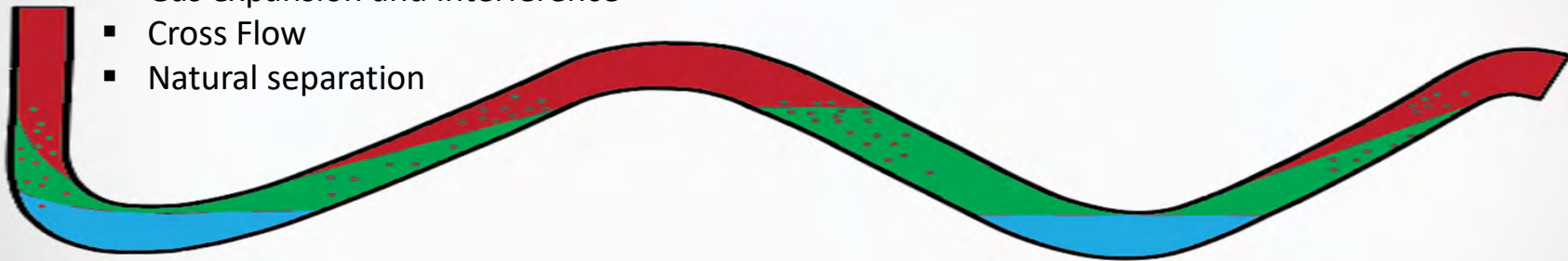
The Real Potential



# Chasing Fluid

**Operators face a combination of challenges in aging horizontal wellbores:**

- Well bore trajectory
- Artificial lift location in respect to fracture ports
- Decreasing bottom hole pressures
- Gas expansion and interference
- Cross Flow
- Natural separation



The unique challenges in horizontal wellbores require innovative solutions.

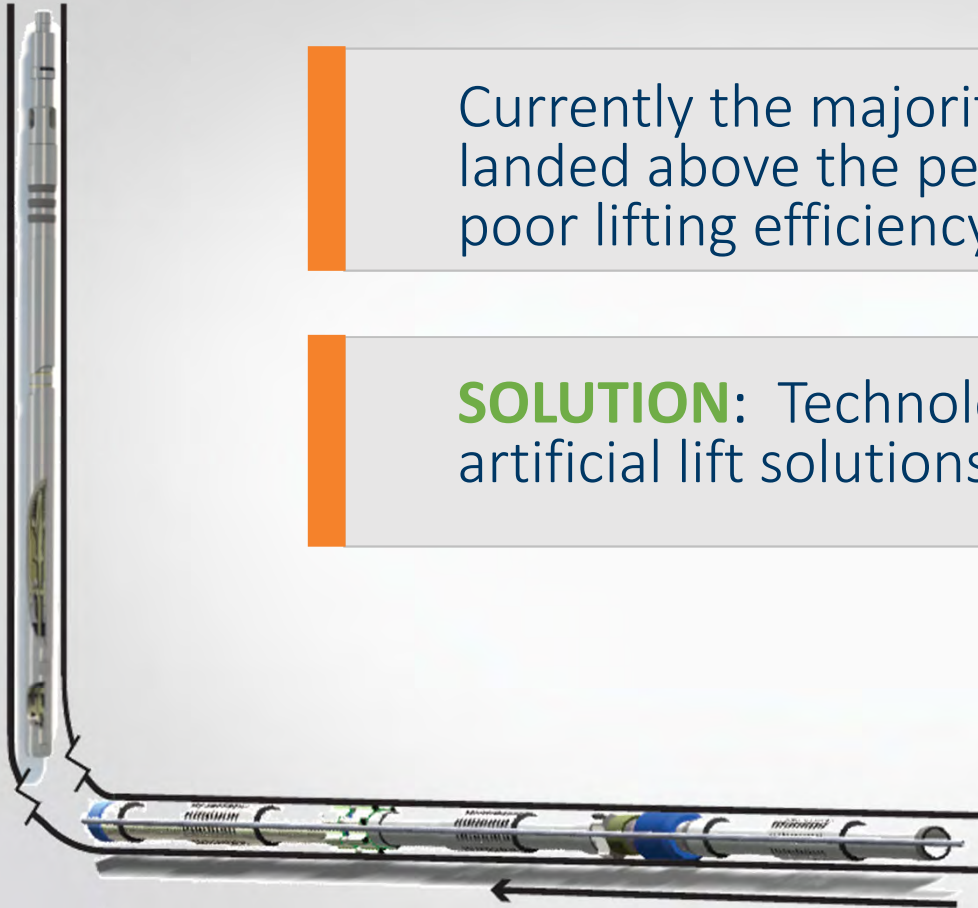
# Innovative Solutions to Unconventional Challenges

Currently the majority of lift solutions are landed above the perforations resulting in poor lifting efficiency.

**SOLUTION:** Technology designed to place the artificial lift solutions at the formation-face.

## ENSURES:

- Maximum fluid lift efficiency
- Lift equipment longevity
- Predictable decline rates



# Raise Proven High Angle Lift Solutions

## Divide the Wellbore



### Horizontal Solution

(Raise Efficient Artificial Lift, REAL™)

- Mitigate slugging (WaveBreaker™)
- Separate fluids prior to pump intake (Reveal™ separation assembly)
- Horizontal fluid Intake delivers high quality fluid to any lift system (FluidSeeker™)



### Lift Solution

(High Angle Reciprocating Pump)

- Land at any angle (0-95°)
- Eliminate gas Locking
- Lower SPM

# Raise Efficient Artificial Lift (REAL™)



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



REAL™ is a low cost option for production optimization solution offering high impact in production, free cash flow and profitability. Accretive production vs accelerated production.



Optimize hydrocarbon mix prioritizing preferential recovery of oil



**Reveal  
Separator**



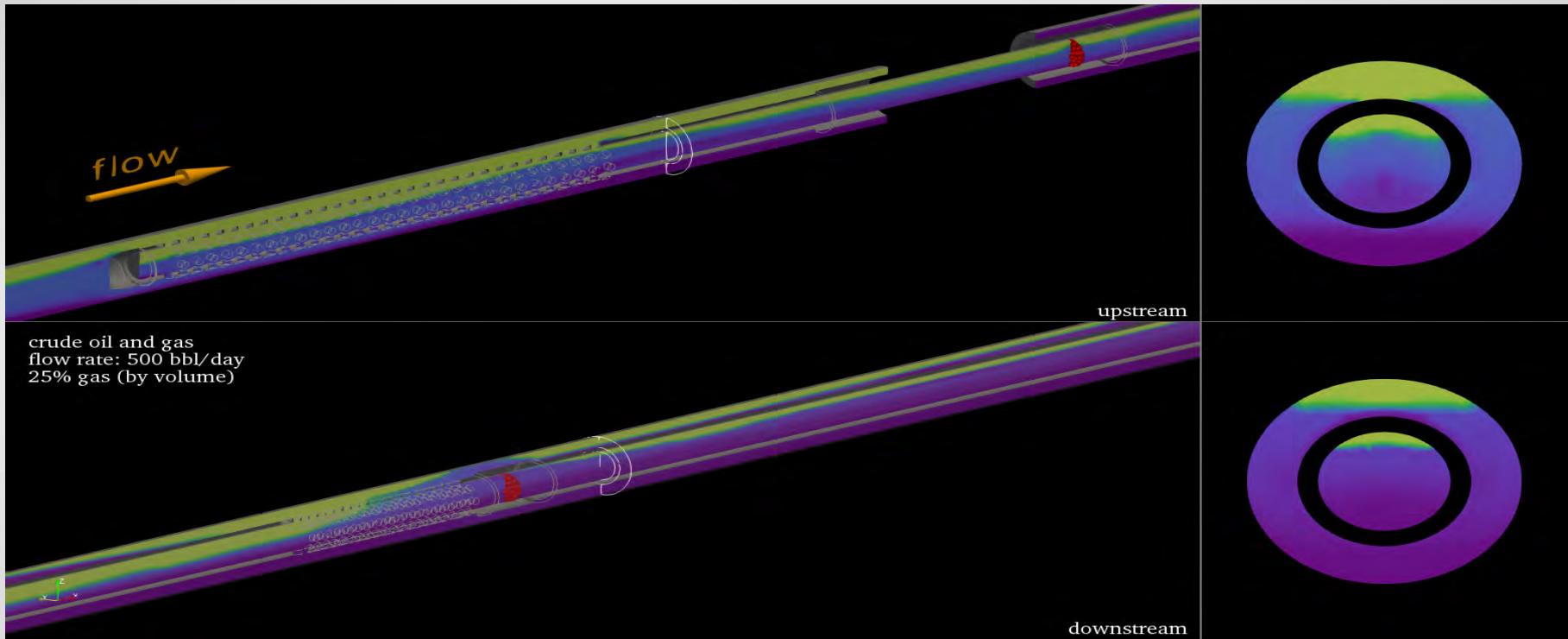
**Fluid  
seeker**



**Wave  
breaker**

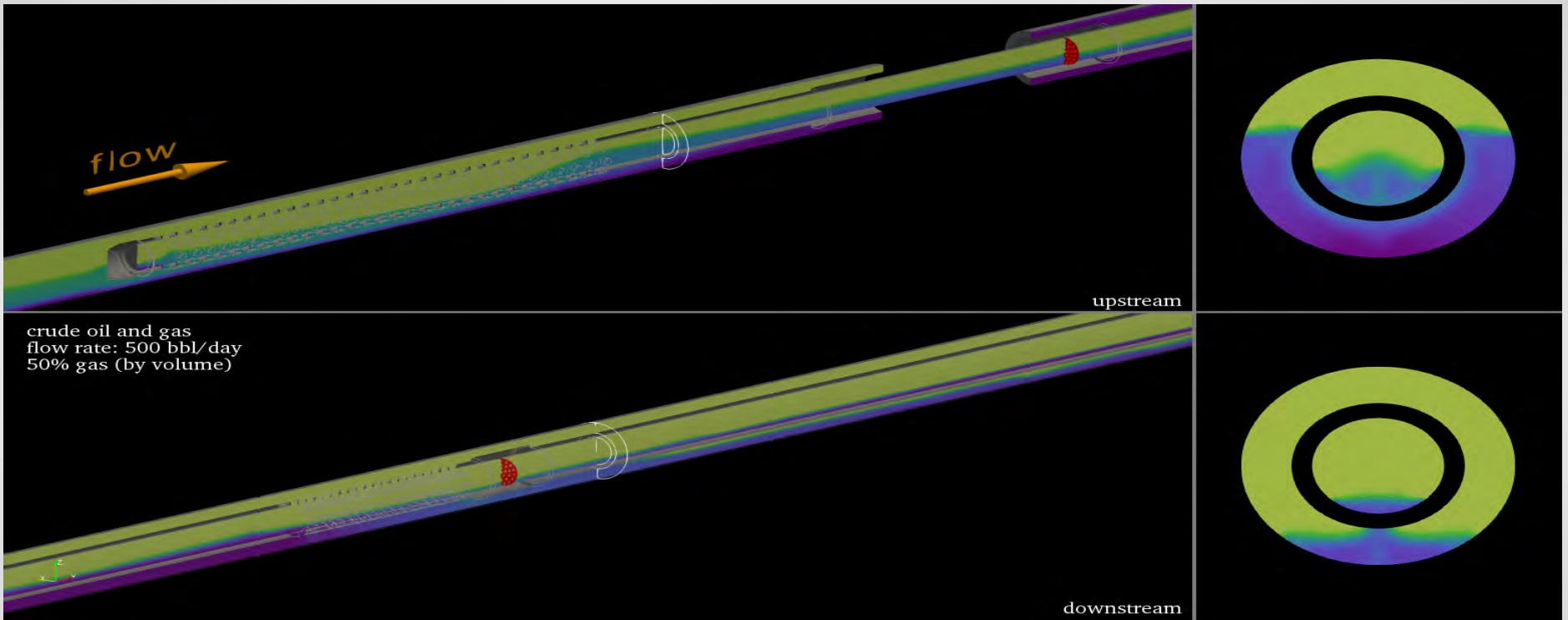


# 75% Oil - 25% Gas

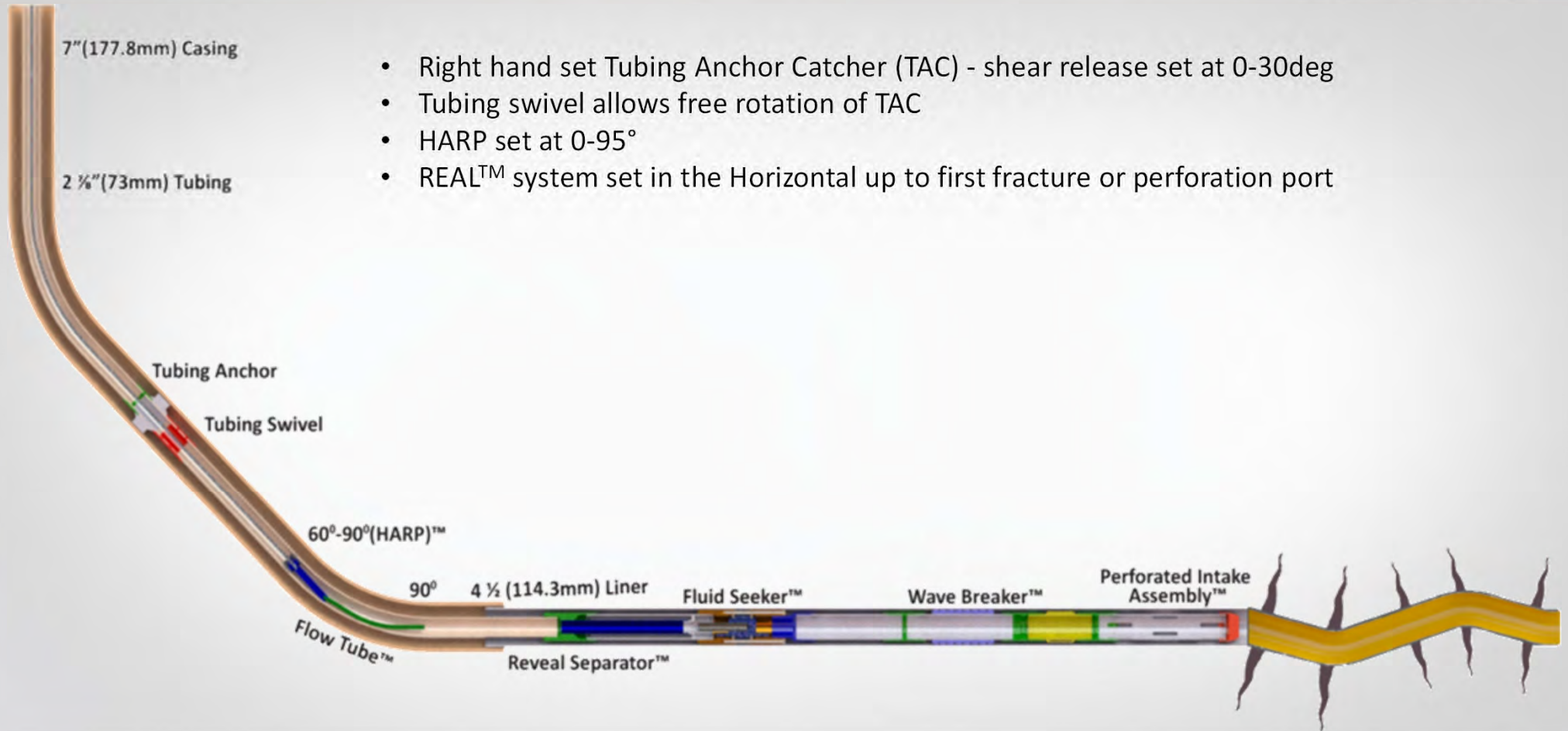




# 50% Oil -50% Gas



# Typical Downhole Completion



- Right hand set Tubing Anchor Catcher (TAC) - shear release set at 0-30deg
- Tubing swivel allows free rotation of TAC
- HARP set at 0-95°
- REAL<sup>™</sup> system set in the Horizontal up to first fracture or perforation port



# High Angle Reciprocating Pump (Patent Pending)

## Features

### Gas Mitigation

- Normally closed valves open on every stroke
- Controlled **auto tap/tag** prevents damage

### Spring Assisted Valves

- **Energized** to ensure valve will reseal
- Lapped for a perfect seal
- Seats at **any angle**
- High efficiency = lower SPM, less tubing & rod wear

### Articulated Plunger

- Up to **15°** articulation
- Furnished with various configurations and seals
- Allows pump placement in doglegs

### Engineered Flow Tube Extension

- Extension for extreme deviations
- Land intake on low side of well
- Access **quality fluid**



# The Broad Potential of Raise Efficient Artificial Lift

A 10,000 BOE/d oil focused producer(80% oil/ngl) with a current capital efficiency of \$26,000 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. REAL™ can offer the potential to both reduce corporate declines and improve capital efficiencies.

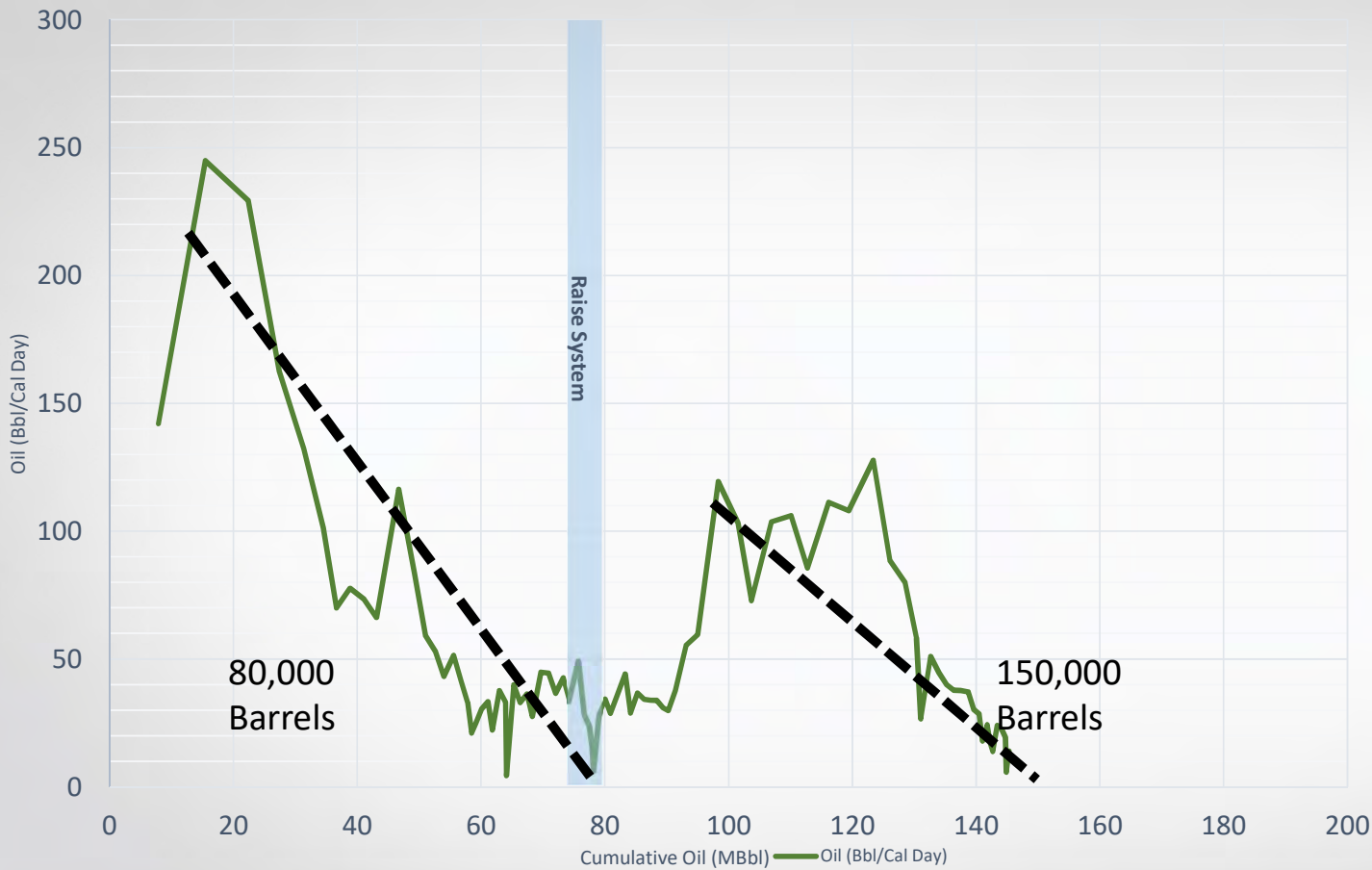
	<u>Capital Efficiency</u>			
<u>Decline</u>	\$25,000 BOE/d	\$24,000 BOE/d	\$23,000 BOE/d	\$22,000 BOE/d
<b>24%</b>	\$60.0mm	\$57.6mm	\$55.2mm	\$52.8mm
<b>23%</b>	\$57.5mm	\$55.2mm	\$52.9mm	\$50.6mm
<b>22%</b>	\$55.0mm	\$52.8mm	\$50.6mm	\$48.4mm
<b>21%</b>	\$52.5mm	\$50.4mm	\$48.3mm	\$46.2mm



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). REAL™ 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 REAL™ may also allow for reduced surface lift needs(pump size).

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

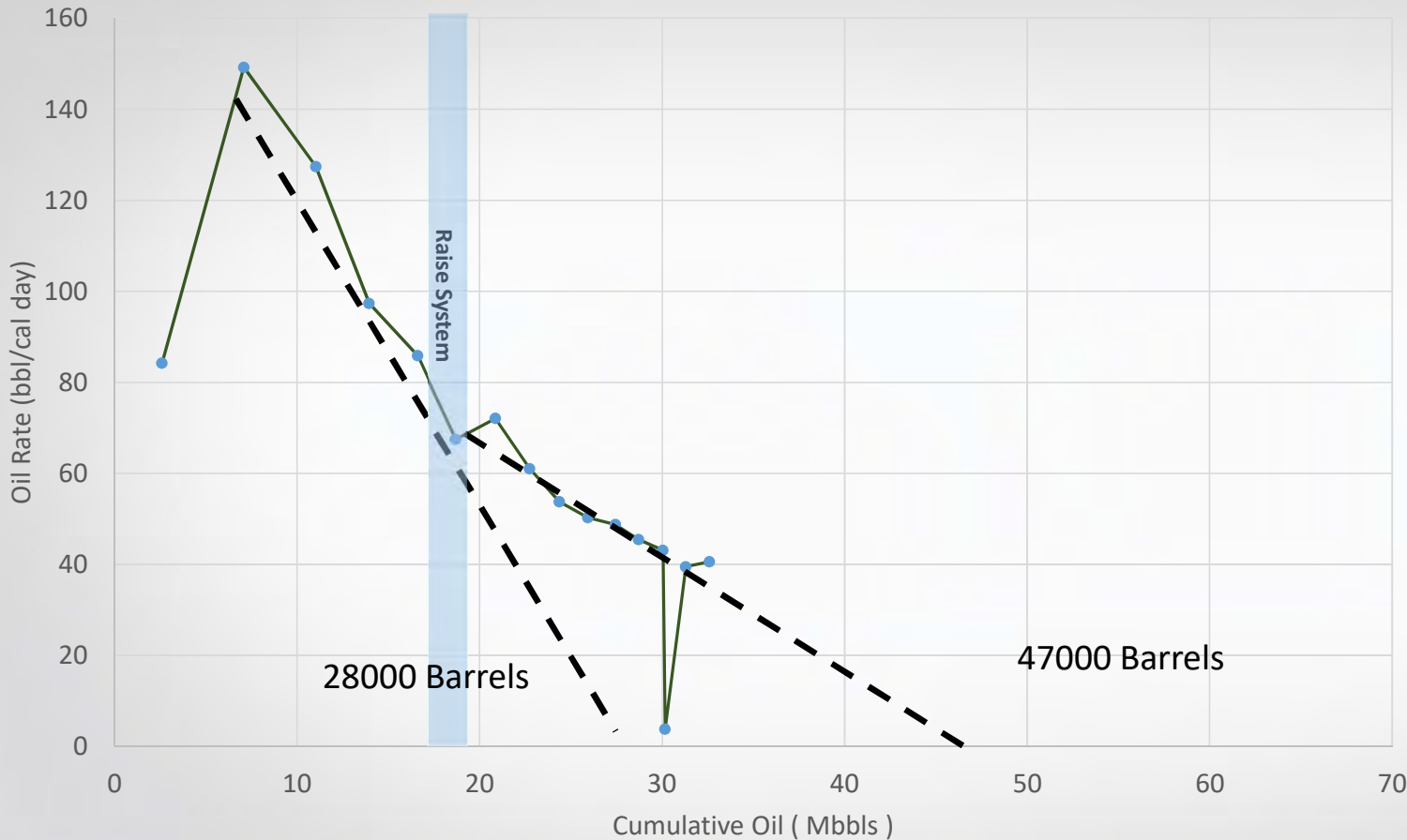
# Slave Point Oil Rate vs Cumulative Oil Production



- Slave Point water flood
- Pump landed at 82.14° Inc.
- Increase in overall efficiency
- Proven to eliminate gas locking
- Increased drawdown accessing stranded reserves



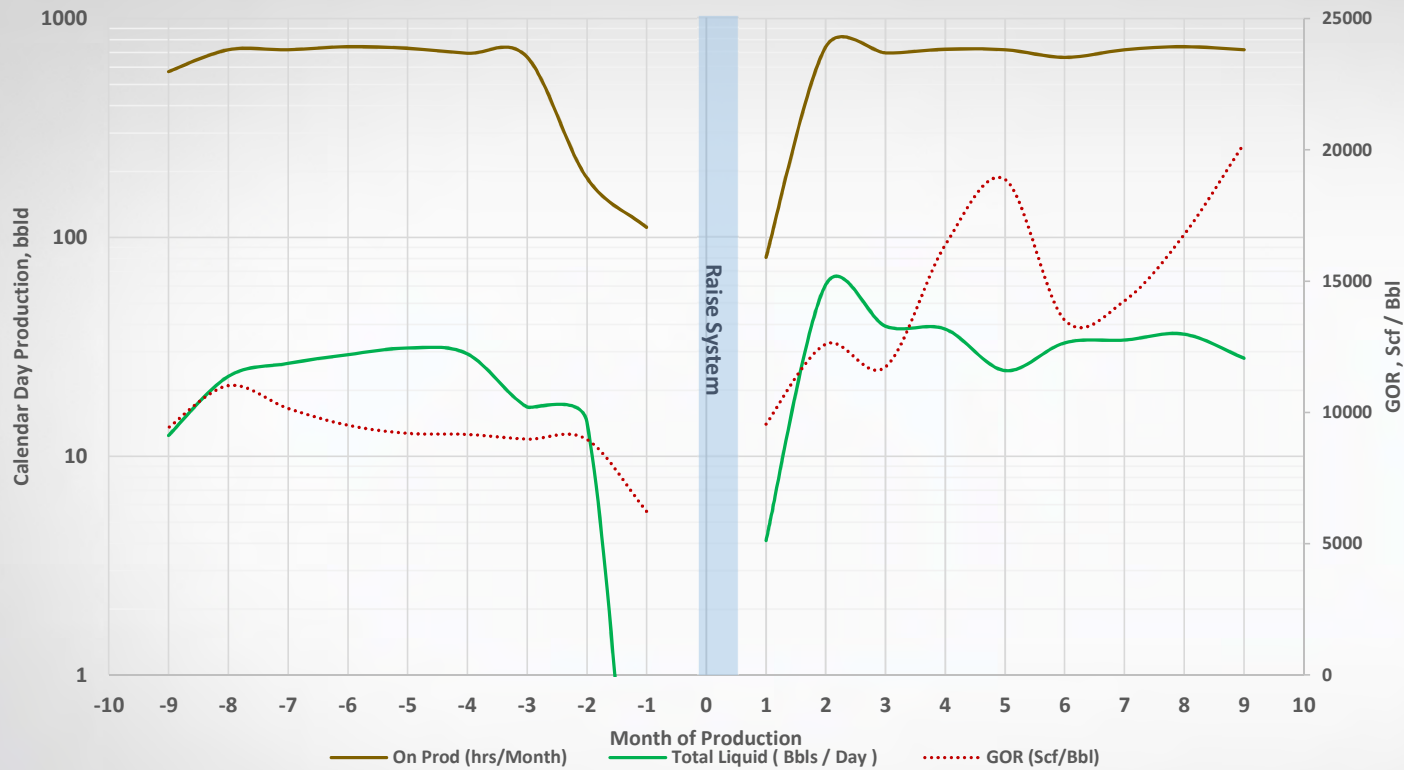
# Cardium Oil Rate vs Cumulative Oil Production



- Willesden Green , Cardium Formation
- Pump landed at 49° Inc.
- Increase in Overall Efficiency
- Proved to eliminate Gas locking
- Increased Longevity compared to Conventional Pump
- Changed the Type Curve / Well Decline
- Pump Change due to rod parting

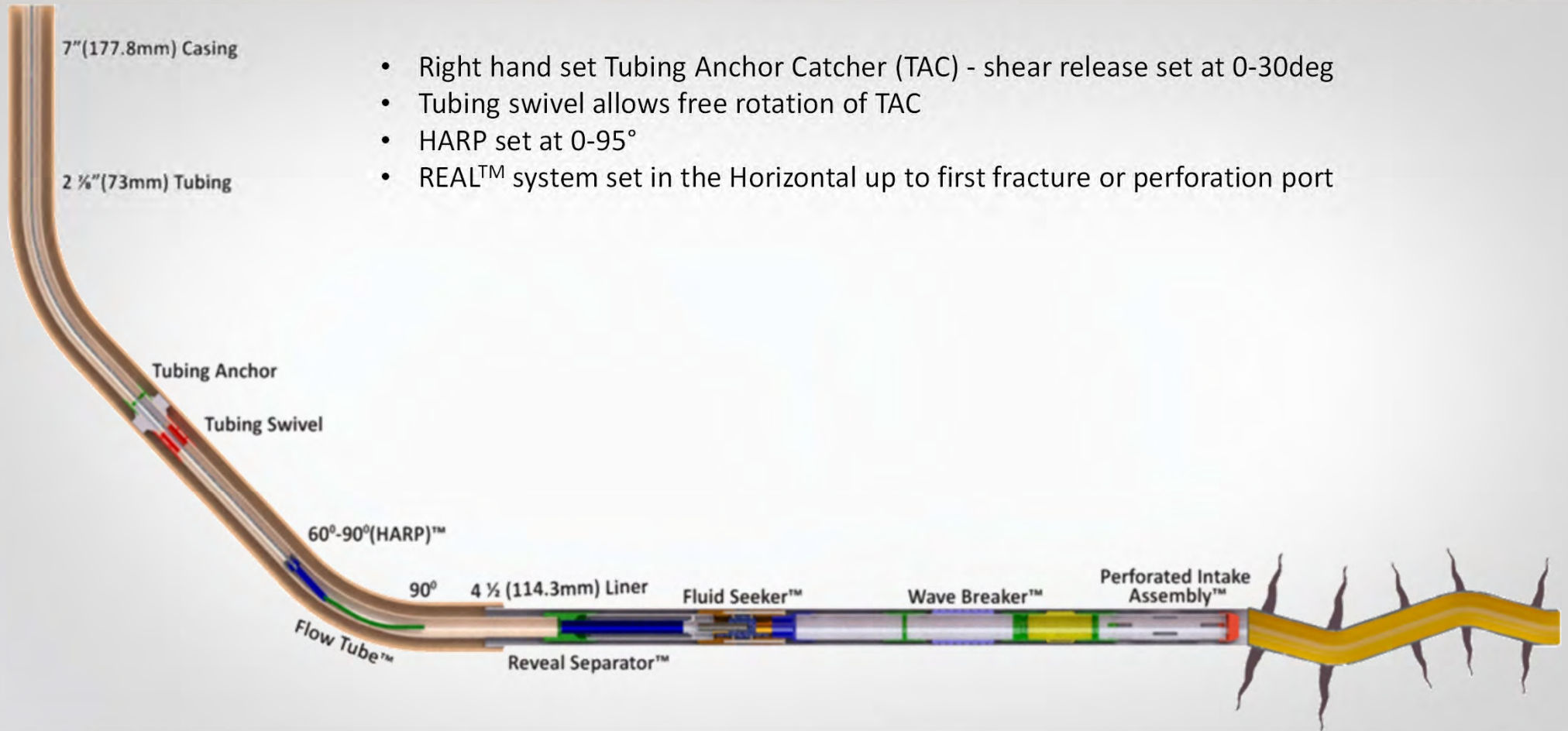


# Glauconitic – Wayne Rosedale



- Originally on conventional pump with separator
- Raise system installed, separator removed
- Landed at 51° Inc.
- Results:
  - Improved Decline Curve
  - Escalated Overall production
  - Eliminated Gas Locking

# Typical Downhole Completion



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- Tubing swivel allows free rotation of TAC
- HARP set at 0-95°
- REAL<sup>™</sup> system set in the Horizontal up to first fracture or perforation port



Thank You!

A large silhouette of an oil pumpjack is shown against a sunset sky with orange and yellow clouds. The pumpjack is positioned on the right side of the frame, with its long arm extending towards the center. A bright light source, likely the sun, is visible behind the pumpjack's base, creating a lens flare effect.

**OVER**  
**5.5**  
**MILLION CYCLES**

- Single pump in wellbore for 3+ years
- Landed at High Angle (76°)
- Eliminated Gas locking
- Pumping at 3 SPM
- Revenue generated at \$35 Netback: \$315000
- Installation Cost: 7.5% of total revenue

**raise**   
PRODUCTION INC  
THE COMPLETE SOLUTION

