

# **Riches in the Niches**

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\*Adapted from extended abstract based on oral presentation given at AAPG 4th Annual Orphan, Abandoned, Idle, and Marginal Wells: Opportunities with Legacy Assets workshop, Tulsa, Oklahoma, February 25-26, 2026.

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<sup>1</sup>Confirmed Speaker

## **Abstract**

ESal's patented Engineered Salinity™ technology enhances oil recovery in both conventional and unconventional wells by engineering injection water salinity – without using chemicals. It is very low cost and offers guaranteed results in less than a year after deployment. Our technology helps you to rebook reserves, extend the life of your field, and is fully compatible with other EOR techniques to push even higher yields and field-life extension. In unconventional wells we can enhance your completion fluids to achieve optimal reservoir wettability and increased production. After ten years of R&D, including thousands of wettability analyses, 18 published papers, dozens of field cases, and five patents – ESal's RightWater™ formulation provides game-changing production results. At under \$2 for each additional barrel of oil recovered, ESal's, RightWater™ offers one of the most cost-effective and environmentally responsible recovery methods available today. Guaranteed.



**Workshop**

# Discover Opportunity in Legacy Assets:

*Orphan, Abandoned, Idle,  
and Marginal Wells 2026*

25-26 February 2026 • Tulsa, Oklahoma



**Confirmed Speaker**

## Teresa Nealon

Riches in the Niches



# The Value of Engineered Salinity

**ESal<sup>®</sup> is the simplest and lowest cost technique to improve oil recovery in the market today**

- Field Proven Technology that engineers the salinity of injection water to increase oil recovery
- Improve Reservoir Production 5% - 15+%
- Rapid Response – 6-9 months
- Low Cost - \$0.50 to \$2.00 per incremental bbl
- Increase Reserves
- Little to No Change in Infrastructure
- No field damage – can reduce reservoir scaling
- Workflow is 20X faster and 40X less expensive than industry standard



# Who We Are/What We've Done

- Founded in 2013 in Laramie, WY

- National Science Foundation Grants:

- Phase I STTR
- Phase II SBIR
- Phase IIB
- TCEP, TABA

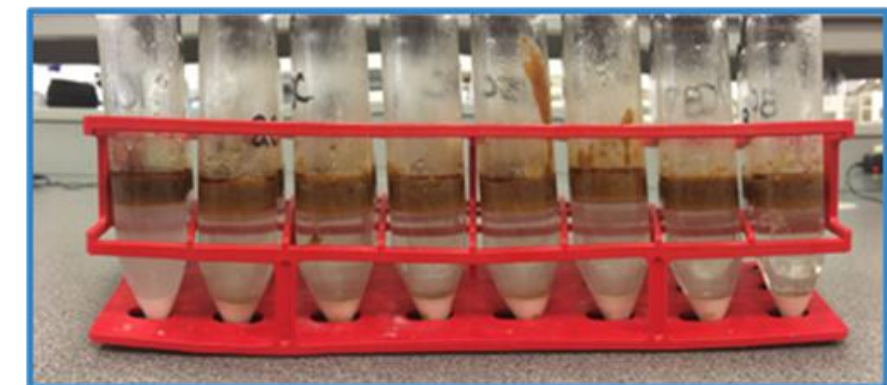
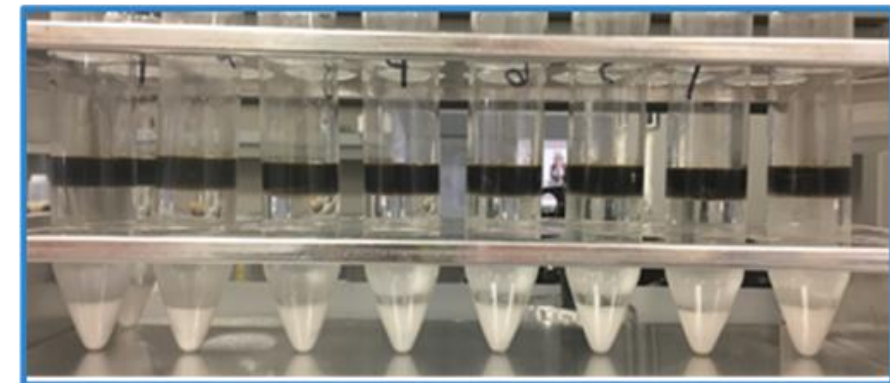


- Wyoming State Innovation Grants:

- Match to Phases I, II and IIB



- World leader in wettability measurements – we've performed more than 5,000 experiments to study partitioning trends in multi-phase systems.



# ESal is Gaining Traction

“In a time when technological advancements are changing the way the world does almost everything, it is not surprising that technology could transform EOR.”

– Hart Energy

“We believe that your application of low salinity waterflooding or wettability alteration is the next great steppingstone in production/recovery enhancement and optimization.”

David V. Williams  
Senior VP - Exploration and Development  
EnVen Energy Corporation



“A Ft. Worth service company startup believes it's found the sweet spot, where 'environmental' meets 'profitable'.”

– Permian Basin Oil and Gas Journal

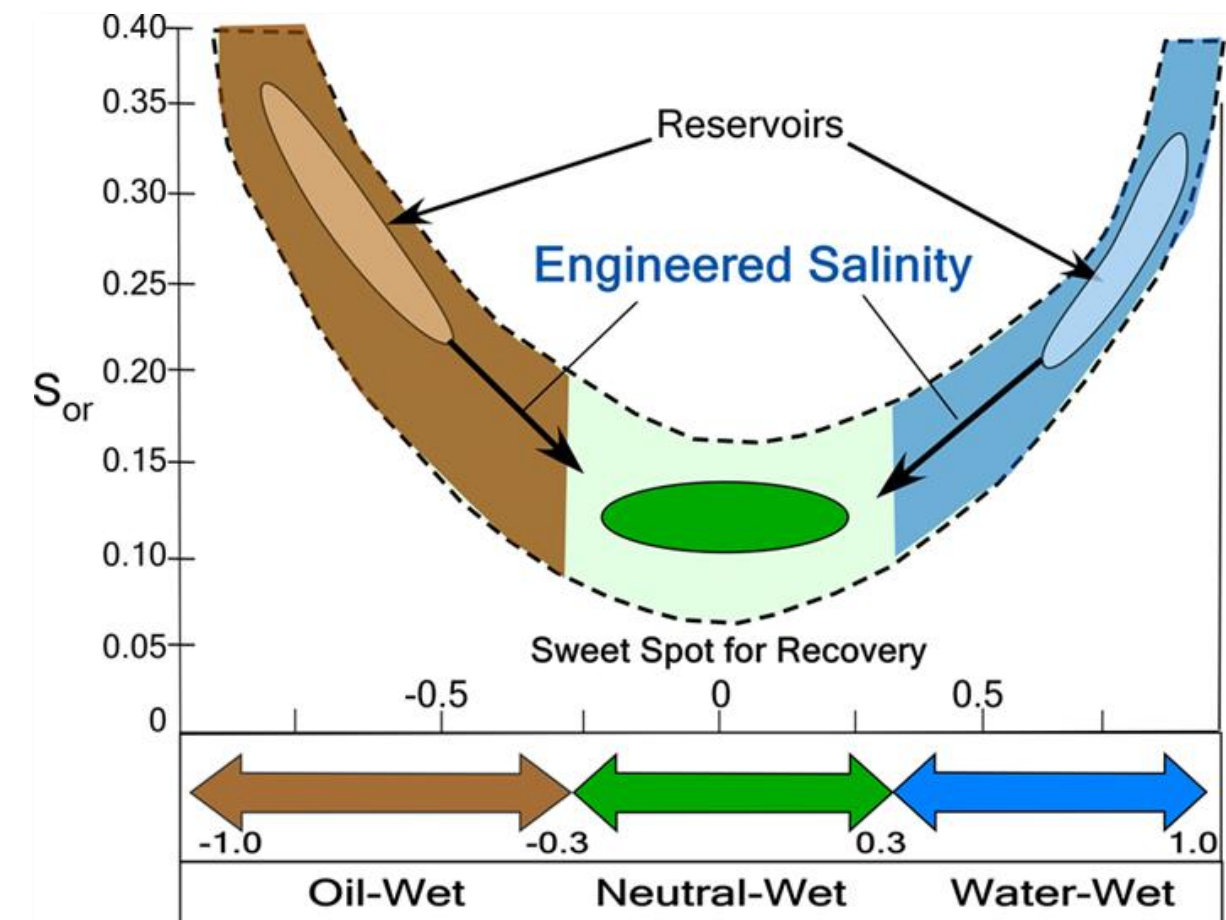
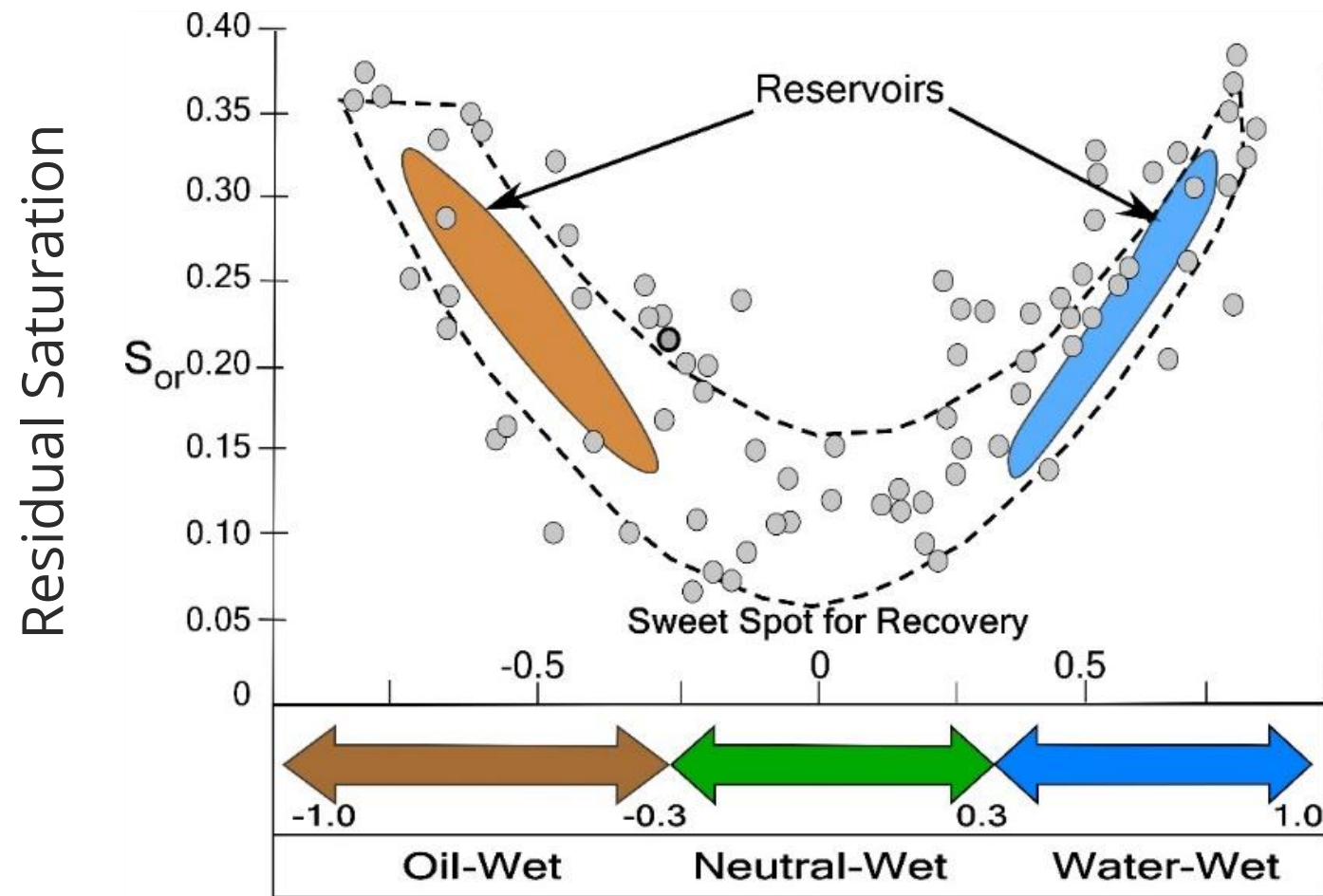
## Industry Partners



307-760-9421



# ESal's Wettability Cliff Notes

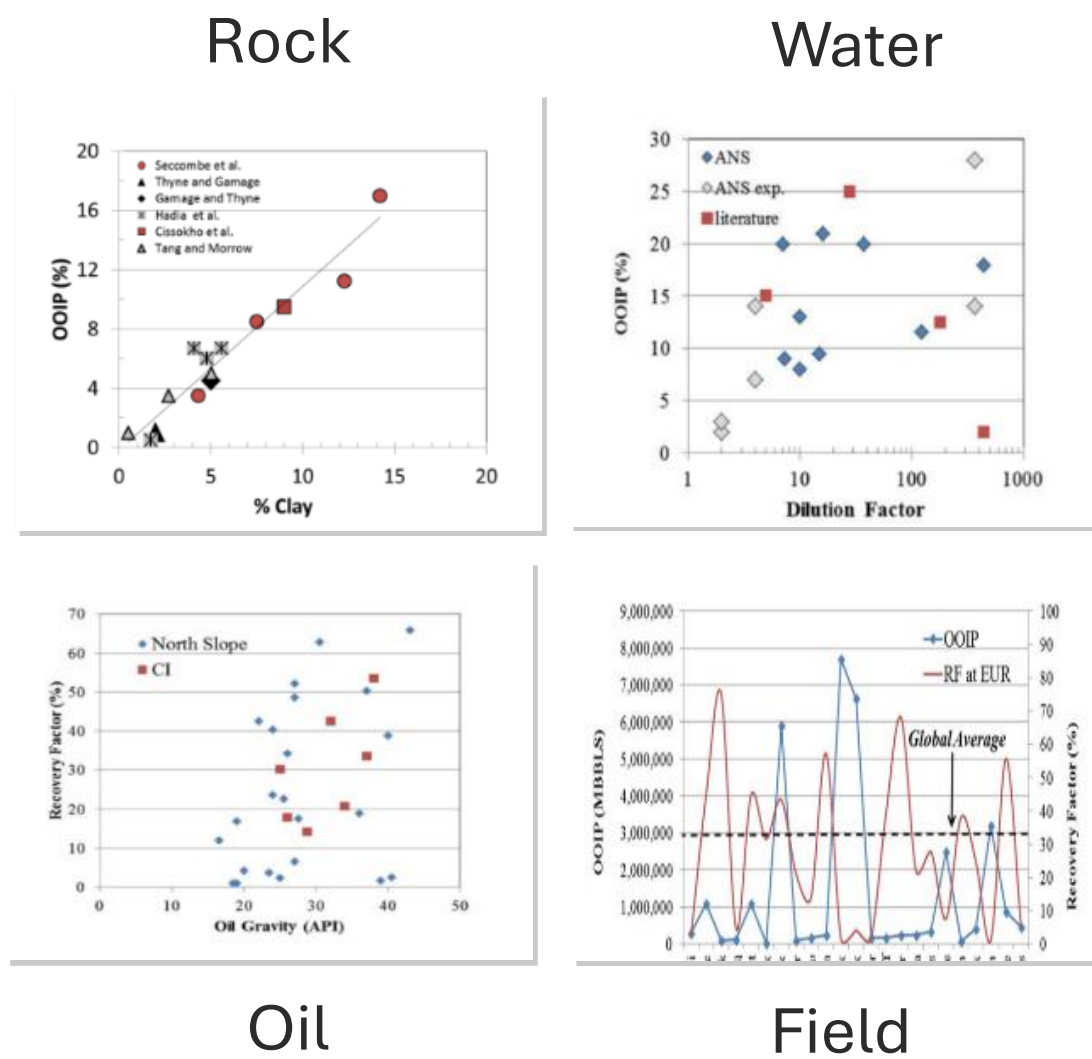


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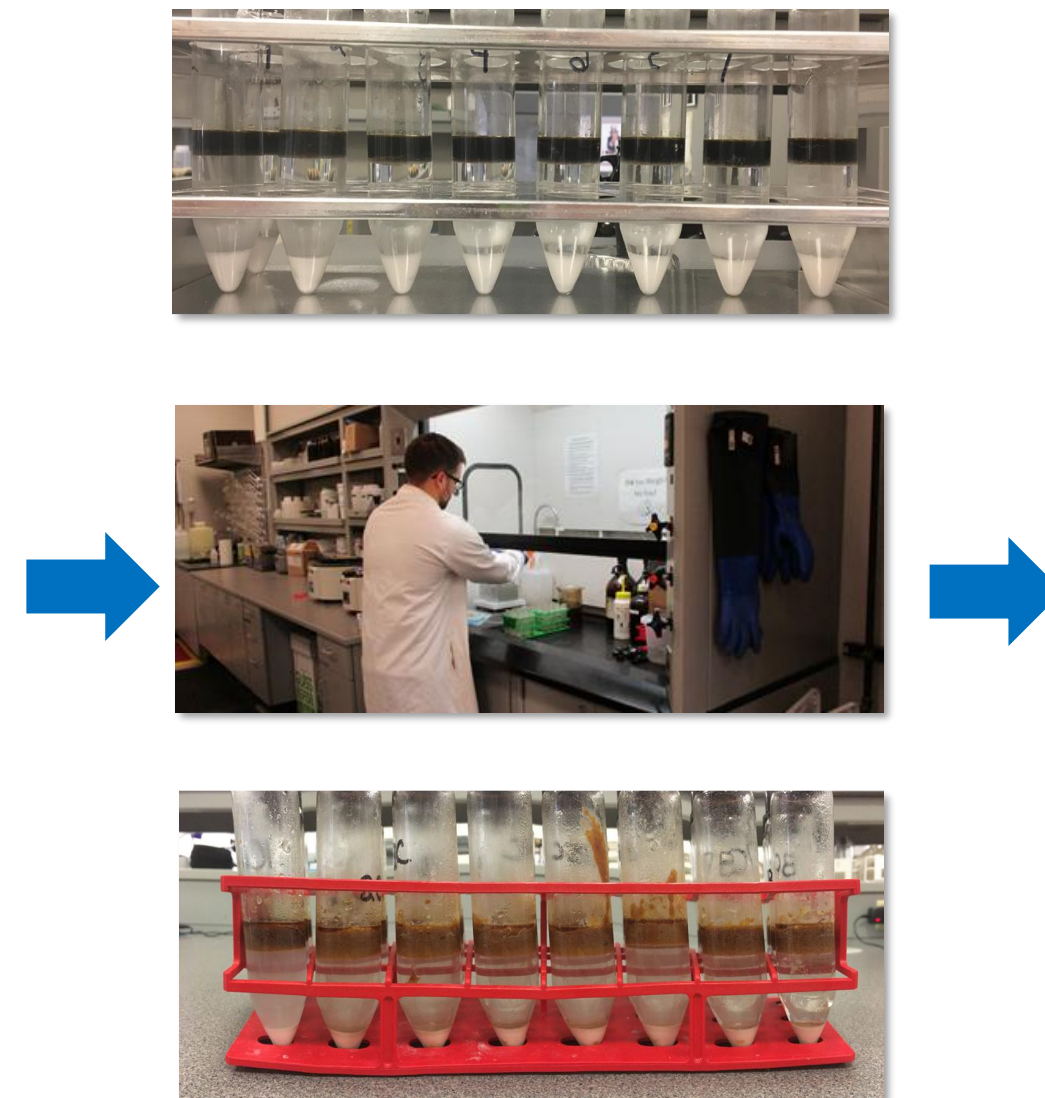


- The most hydrocarbon recovery is at neutral wettability.
- ESal's lever to improve wettability is via water chemistry.
- The method is practical, predictable, fast and inexpensive.

# ESal Process

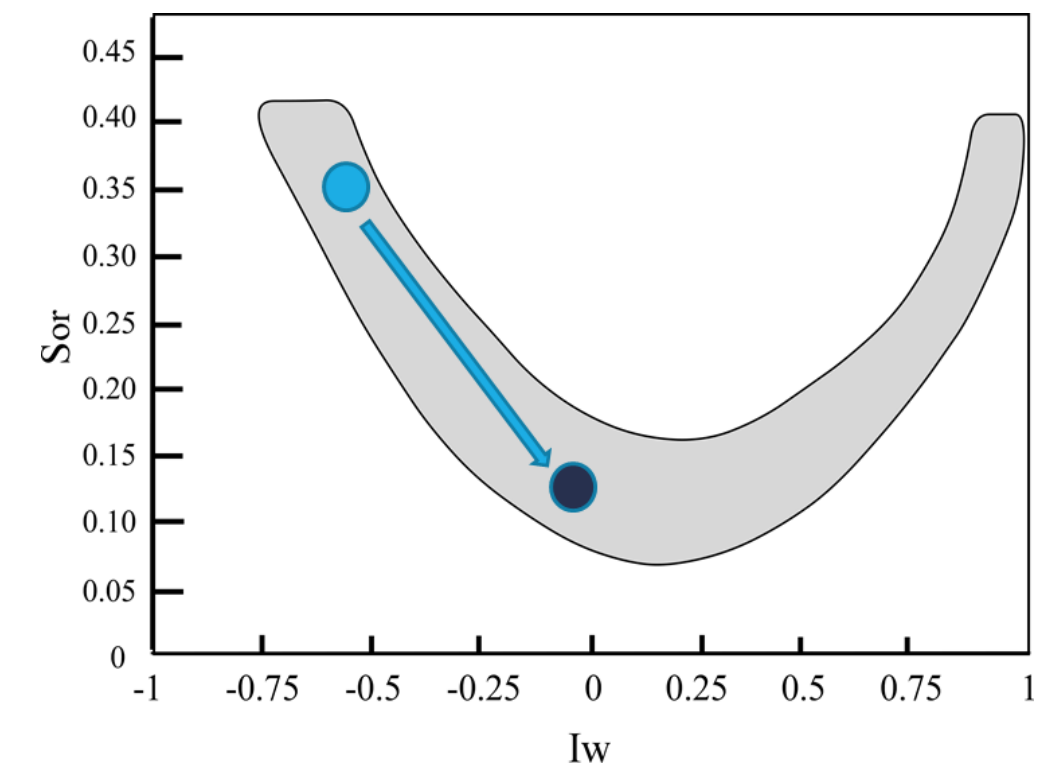


**Screening**



**Detailed Lab Analysis**

## Engineered Injection Water Chemistry For Optimal Recovery



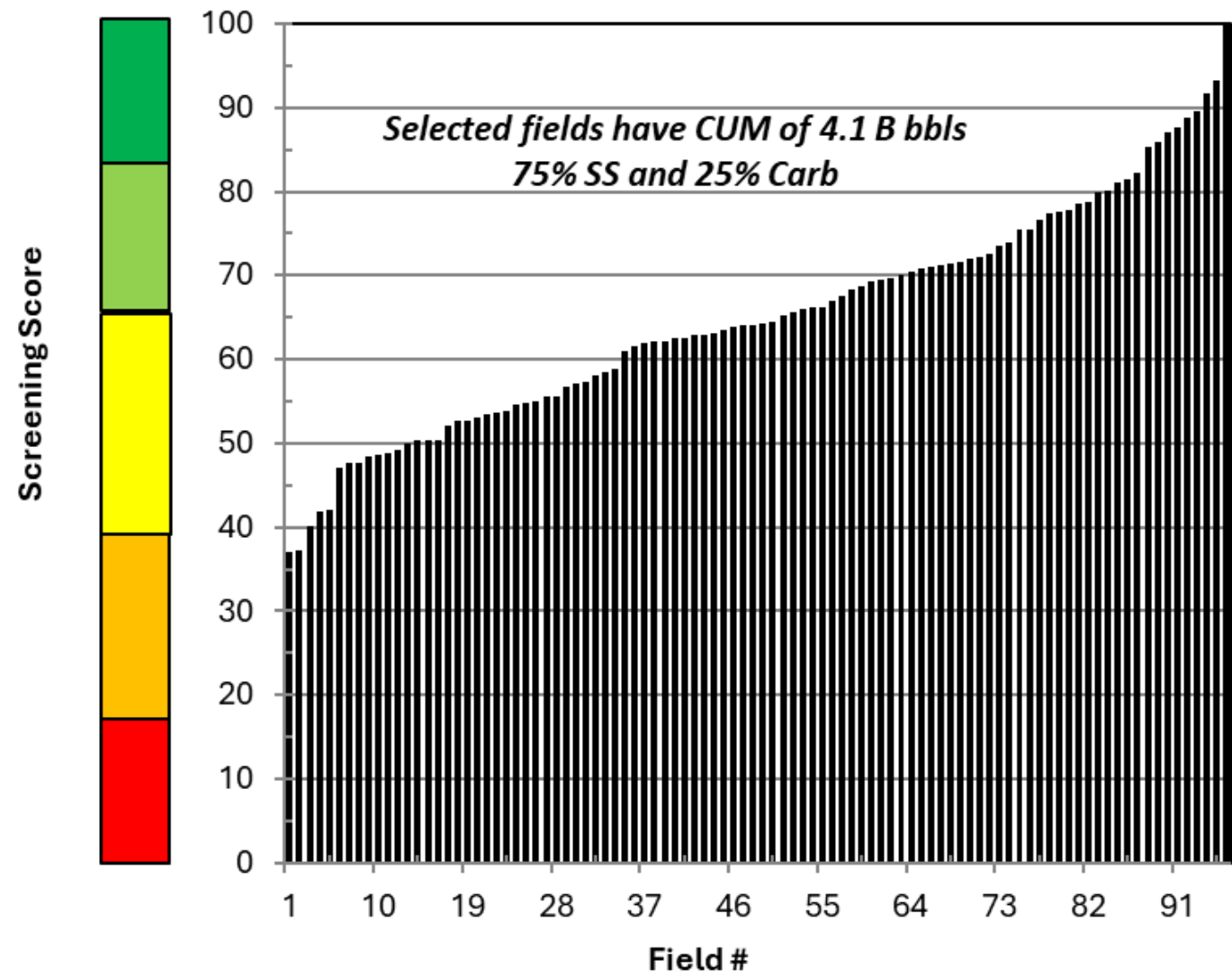
**Deploy RightWater<sup>®</sup> Solution**

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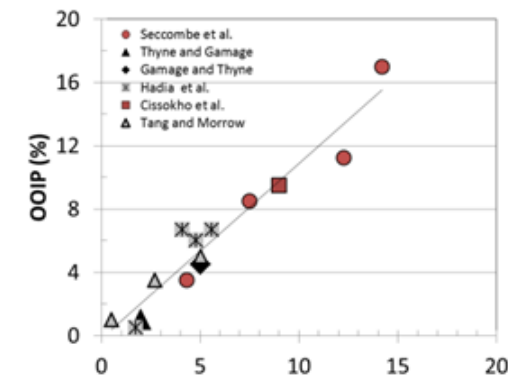


# Preliminary WY Screen

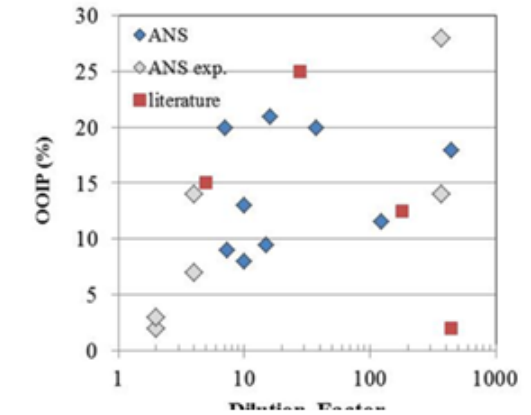
## Wyoming Fields Screen Scores



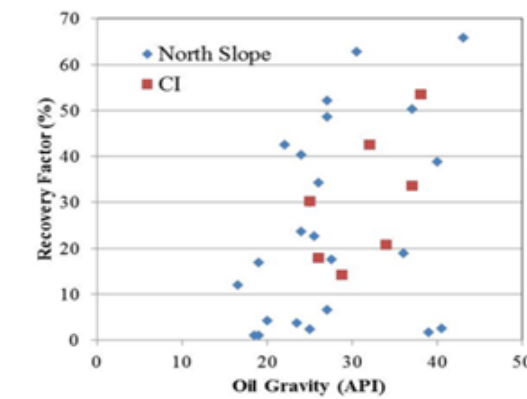
|  |                 |
|--|-----------------|
|  | Excellent       |
|  | Good            |
|  | Average         |
|  | Marginal        |
|  | Not recommended |



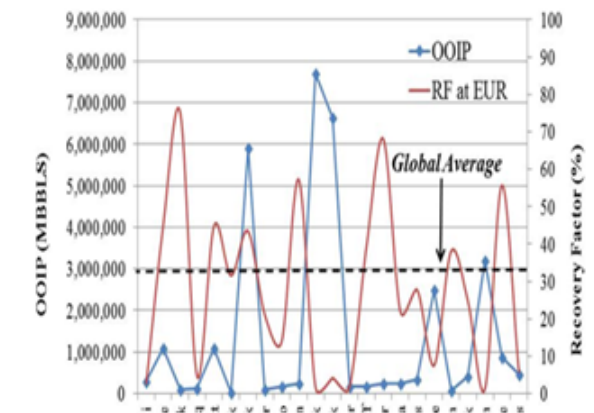
Rock



Water



Oil



Field

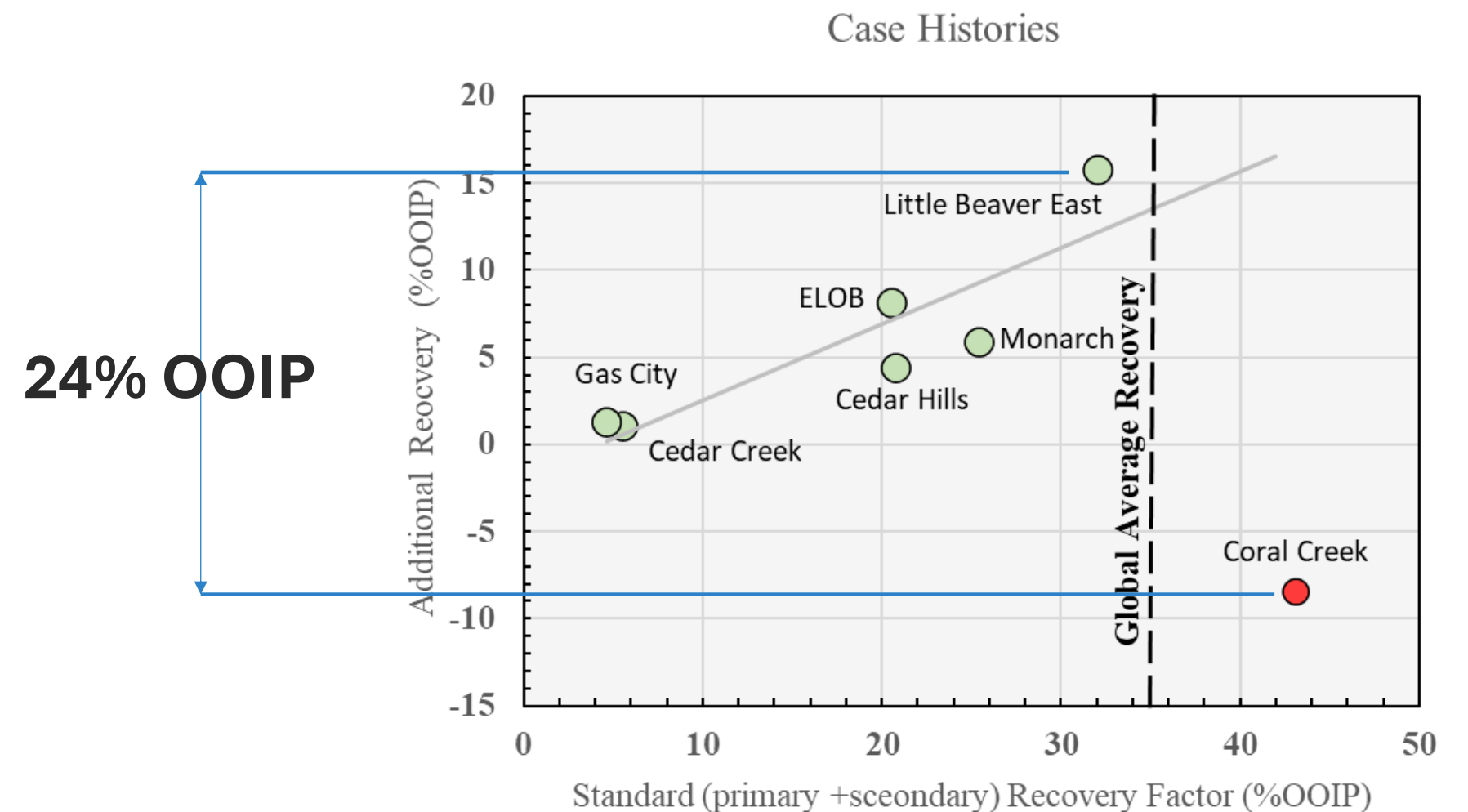
# What is the benefit?

| Reservoir<br>OOIP (MMbbl) | Bbls<br>(5% OOIP) | Gross \$\$<br>\$50/bbl |   | bbls Gained<br>(15% OOIP) | Gross \$\$<br>\$50/bbl |
|---------------------------|-------------------|------------------------|---|---------------------------|------------------------|
| 2                         | 100,000           | \$5,000,000            |   | 300,000                   | \$15,000,000           |
| 4                         | 200,000           | \$10,000,000           | ▲ | 600,000                   | \$30,000,000           |
| 8                         | 400,000           | \$20,000,000           | ▲ | 1,200,000                 | \$60,000,000           |
|                           |                   |                        |   |                           |                        |
| 10                        | 500,000           | \$25,000,000           | ▲ | 1,500,000                 | \$75,000,000           |
| 15                        | 750,000           | \$37,500,000           | ▲ | 2,250,000                 | \$112,500,000          |
| 25                        | 1,250,000         | \$62,500,000           | ▲ | 3,750,000                 | \$187,500,000          |
|                           |                   |                        |   |                           |                        |
| 50                        | 2,500,000         | \$125,000,000          | ▲ | 7,500,000                 | \$375,000,000          |
| 75                        | 3,750,000         | \$187,500,000          | ▲ | 11,250,000                | \$562,500,000          |
| 100                       | 5,000,000         | \$250,000,000          | ▲ | 15,000,000                | \$750,000,000          |

# Field Example

## What We Have Learned

- Wettability is the interaction of rock, brine and oil
- You have to understand each component
- You have to account for each component
- You have to test each component and the system
- Then you can **OPTIMIZE SWEEP EFFICIENCY**
- **24% OOIP**
- **Shooting in the DARK?**
- **ESal can turn on the LIGHT**

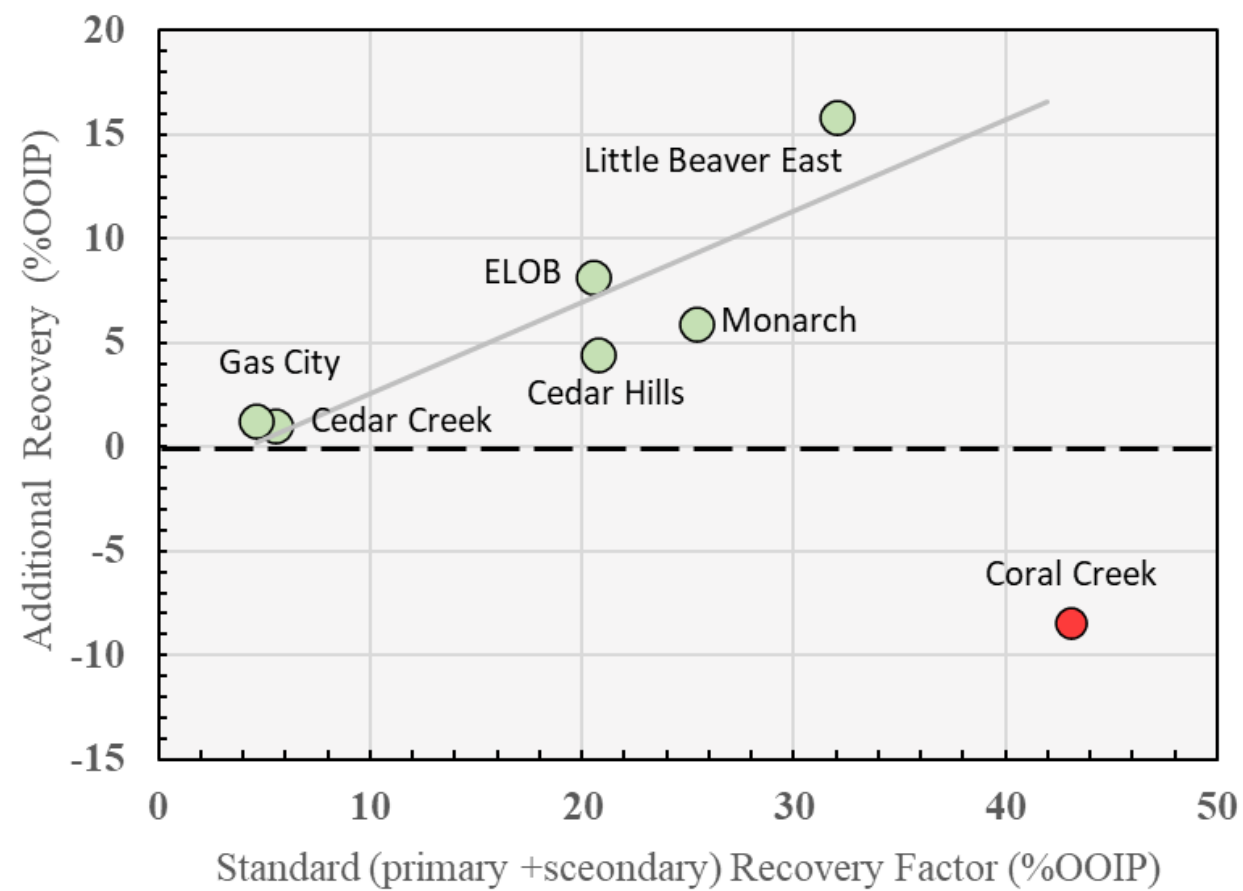


# Real World Examples

EUR from standard waterfloods

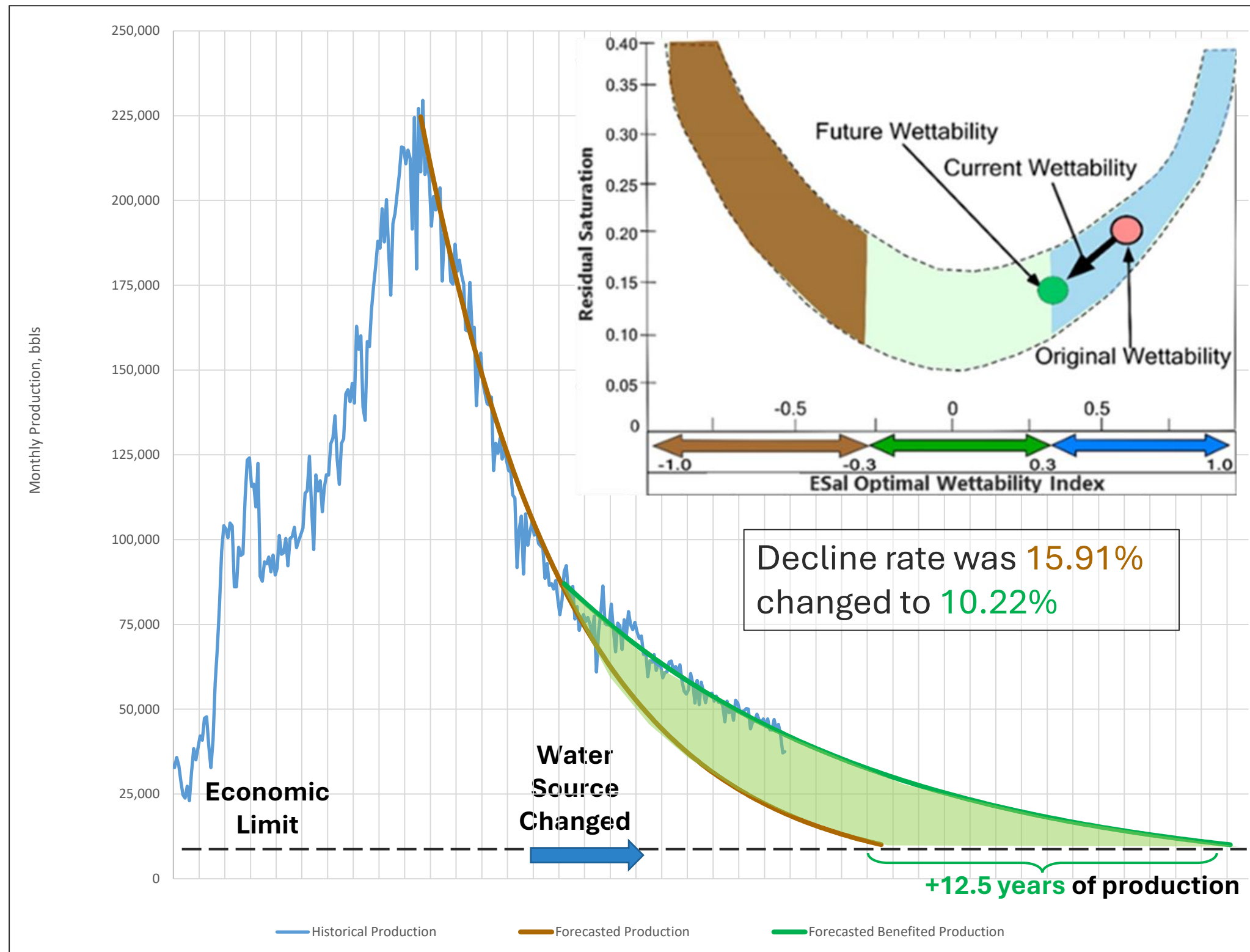
Changing salinity increased recovery in six of seven fields

Case Histories



| Field | OOIP<br>(MMbbls) | WF EUR<br>(%OOIP) | LSWF<br>%OOIP | Field Life Inc.<br>(yrs) |
|-------|------------------|-------------------|---------------|--------------------------|
| A     | 395              | 5.5               | 1.1           | 40                       |
| B     | 395              | 25.4              | 5.9           | 27                       |
| C     | 81               | 4.6               | 1.3           | 35                       |
| D     | 14               | 32.0              | 15.8          | 52                       |
| E     | 147              | 20.8              | 4.6           | 13                       |
| F     | 35               | 19.1              | 8.2           | 54                       |
| G     | 200              | 41.3              | -8.3          | -24                      |

# Case Histories - Benefits to Clients

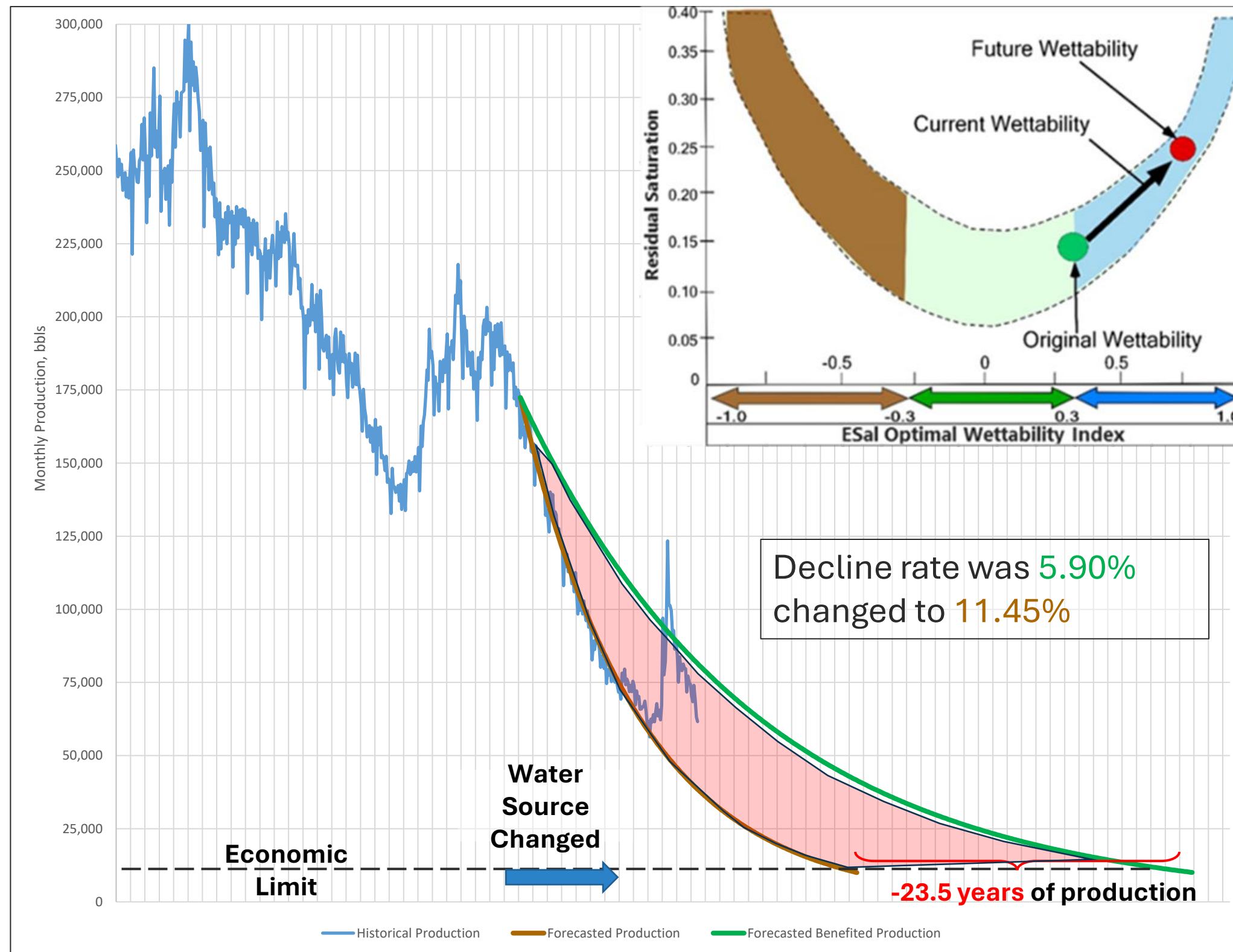


← **ESal Testing**  
 Predict Recovery with  
 RightWater® Technology.

## Improved Wettability:

- Extend property life = **12.5 years**
- Recover **1,900,000** more barrels (to date)
- Additional EUR: **4,900,000 barrels**
- Increased property value by **\$50 million @ \$40/bbl**
- **\$1.62 per incremental barrel (CAPEX+OPEX)**

# Case Histories – Avoid Formation Damage



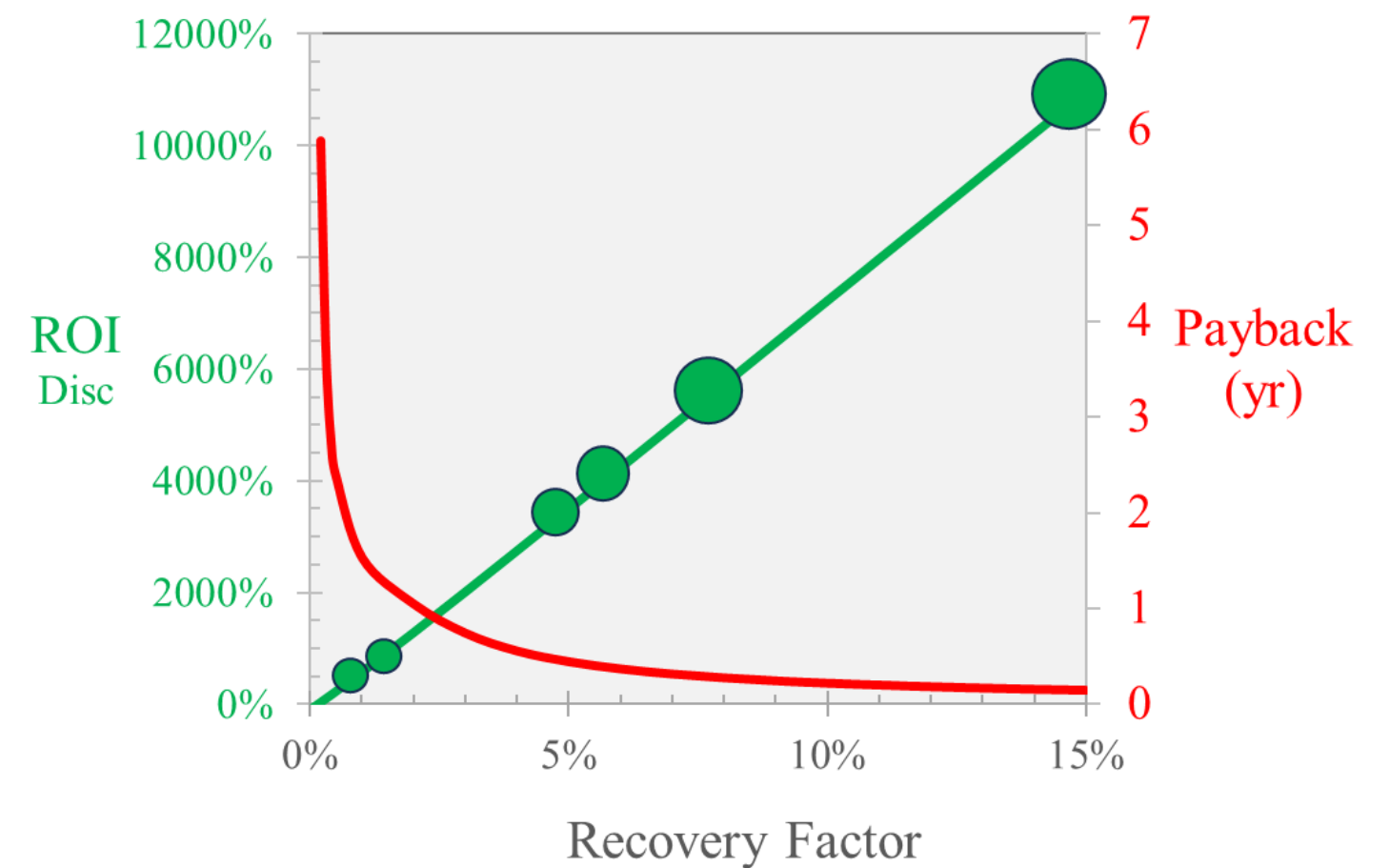
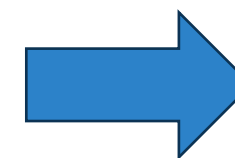
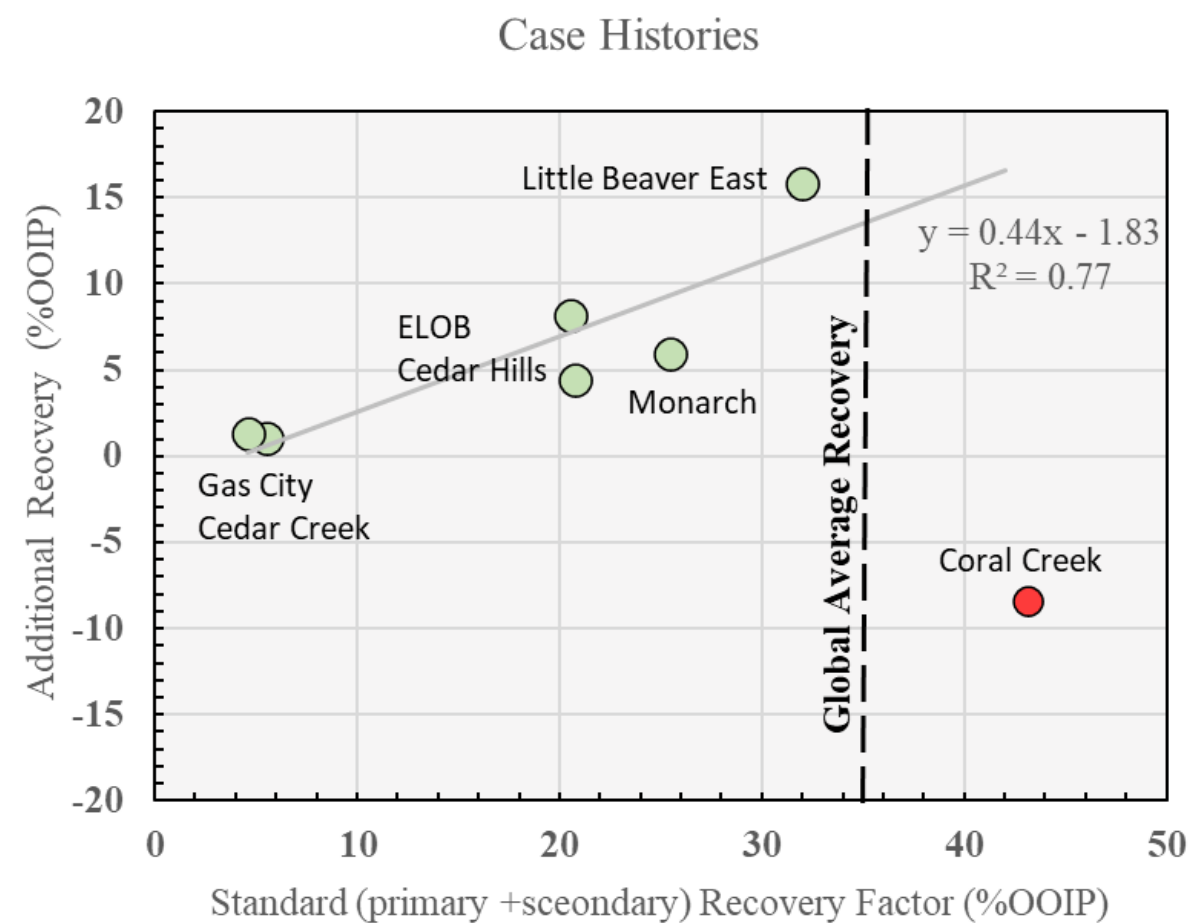
**ESal Testing**  
 Avoid **Wettability Damage** with  
 RightWater® technology.

## Wettability Damage

- Reduced property life = **23.5 years**
- **5,000,000** barrels left behind to date
- Total loss = **16,000,000** barrels

# Case Histories Economics

- Williston Basin waterfloods, Orovician Carbonates
- Lab to Field to Economic Analysis = Business Intelligence



# The Value of Engineered Salinity

**ESal<sup>®</sup> is the simplest and lowest cost technique to improve oil recovery in the market today**



- Field Proven Technology
- Improve Reservoir Production - 5-15+ %
- Rapid Response – 6-9 months
- Low Cost - \$0.50 to \$2.00 per incremental bbl

**Guaranteed – we make our money  
when you make money**



# Questions

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