# Case Study 1: Optimal Targeting using Production Allocation (PA) and Reservoir Characterization Induces (RCI)
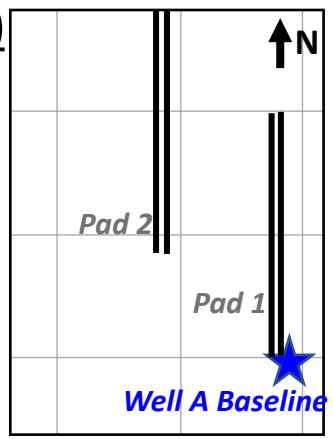
## Challenge

Operator needed quantification of vertical drainage to optimize well placement due to concern Well B1 and C1 were draining shared rock volume.
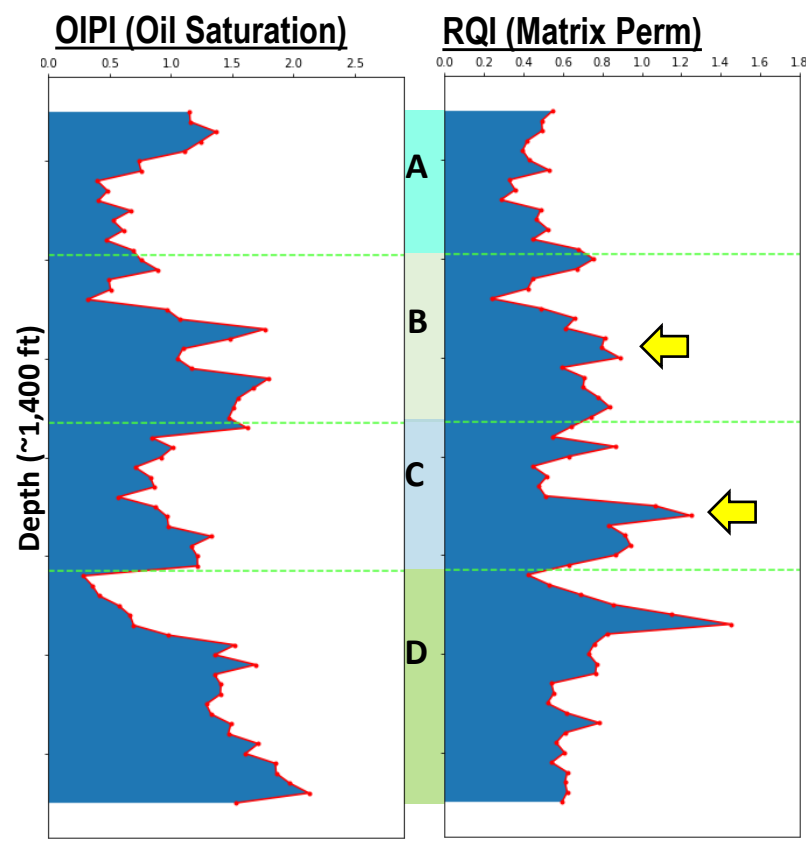
## Process

- Cuttings from offset well, and separator produced oils from Pad 1 wells, were collected
- Geochemical fingerprint of oil extracted from the cuttings, and produced oils, were collected
- A regression model was built to allocate the produced oil back to its producing zone and calculate drainage frac height based on the geochemical fingerprint data

## Results

- Pad 1 wells showed very similar drainage though different landing depths
- *Baseline RCI emphasized high perm zones in both formations B & C for optimal targeting*
- *Landings were optimized leading to better performance and less cross-drainage in Pad 2 wells*

Pad 2

Pad 1

N

Well A Baseline

## Well A Baseline RCI

OIPI (Oil Saturation)

RQI (Matrix Perm)

Depth (~1,400 ft)

A
B
C
D

⬅ Changed target to high perm intervals after receiving RCI and reviewing PA

## FDFC (Fitted Drainage Frac Curve)

*Pad 1 Wells*

Well B1          Well C1

A
B
C
D

*Pad 2 Wells*

Well B2          Well C2

A
B
C
D
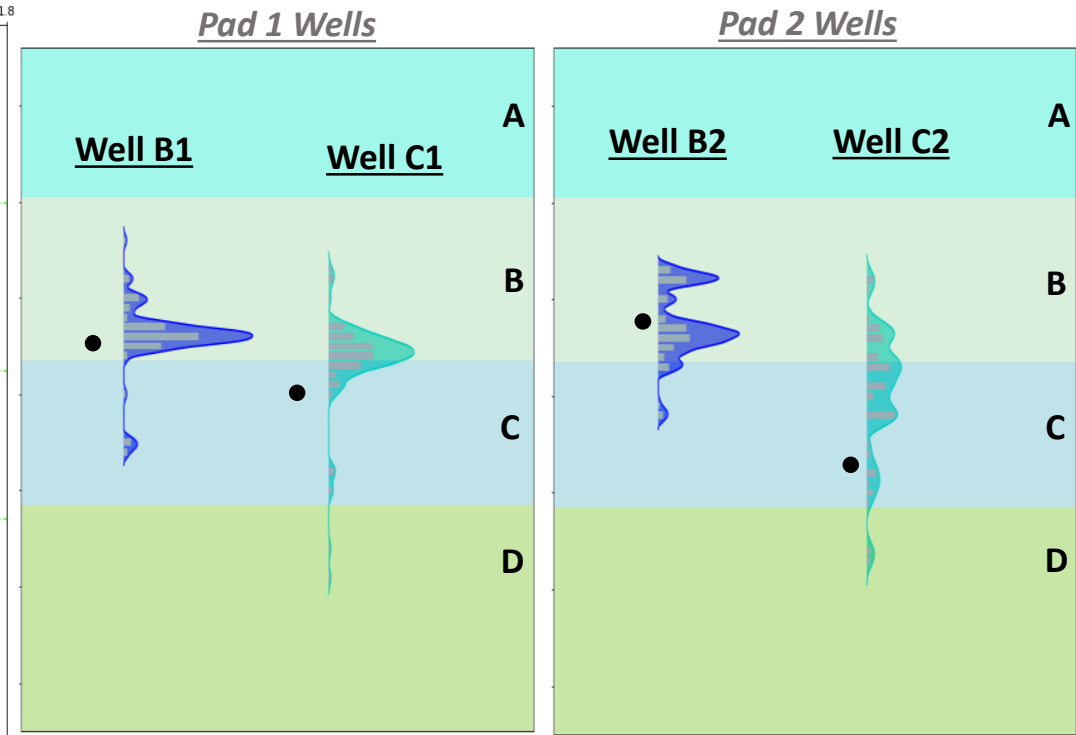
FDFC plots visualize quantitative production % from each rock end member
● Lateral Well Placement

Revo Chem
Information in A Drop of Oil