

# Thistle Allowable Overview

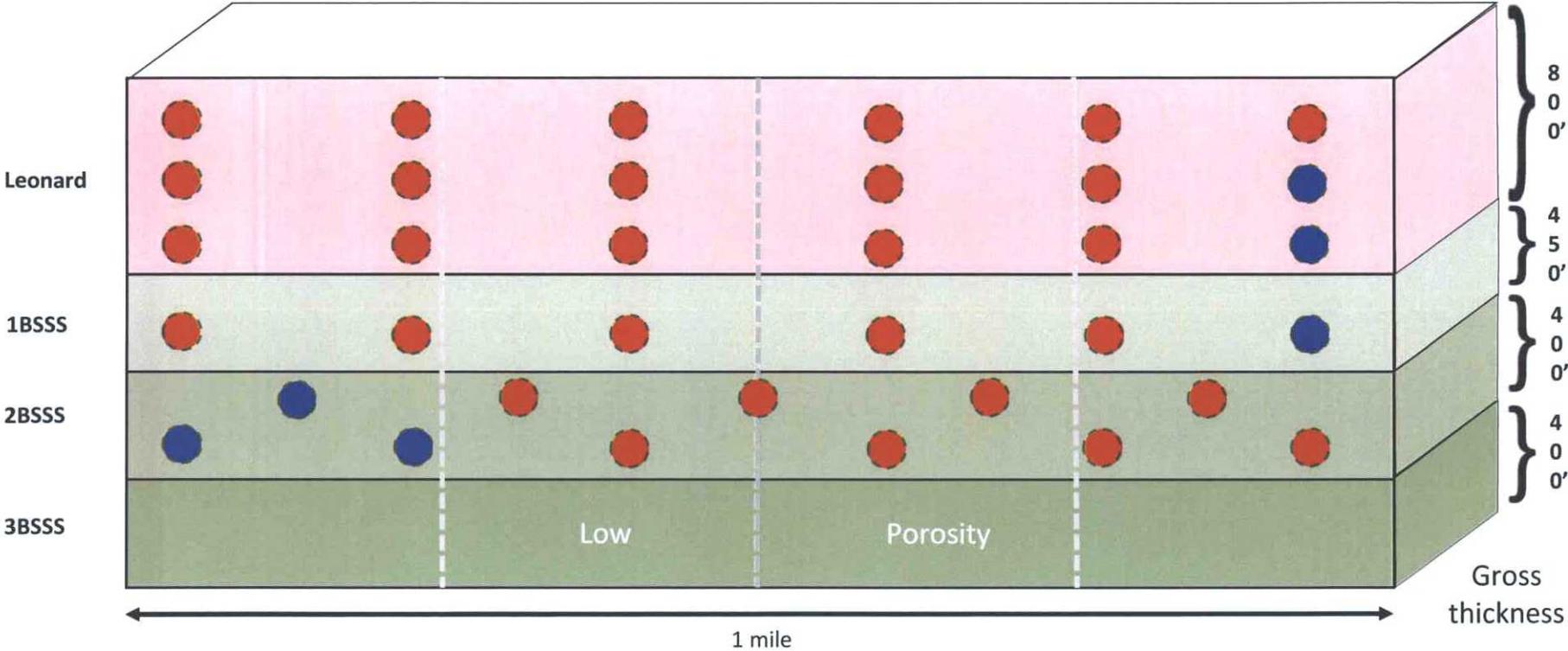


Oil Conservation Division  
Case No. 15438-15440  
Exhibit No. 15

- Current maximum allowable
  - 320 bopd/40 acre unit
  - 2,000 scf/stb
- Requesting an allowable increase to:
  - 6,400 bopd/320 acre unit = 3,200 bopd/160 acre unit = 800 bopd/40 acre unit
  - GOR = 5,000 scf/stb
- The increased allowable will allow for the development of multiple stacked pay zones and increased well density within separate prospective horizons.
- The increased well density will allow for optimum project economics and maximize resource recovery.
- Numerical modeling techniques were used in predicting production rates for each spacing scenario.

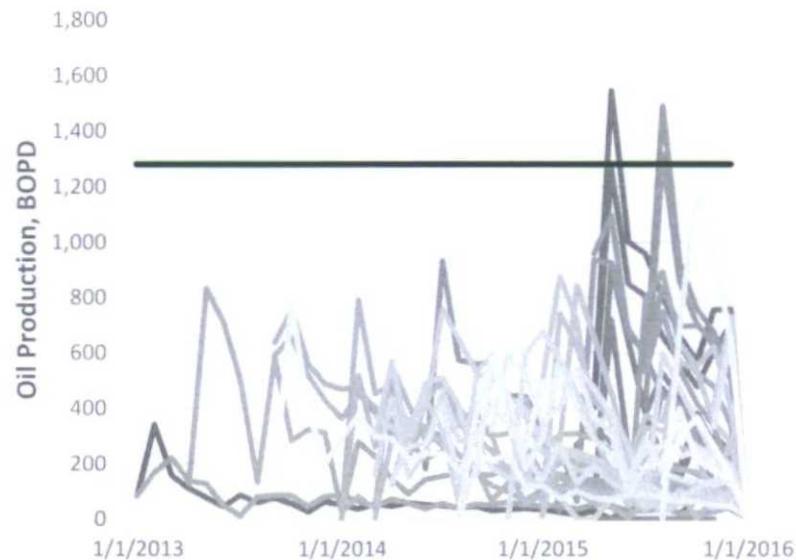
# Thistle Allowable

## Block Diagram

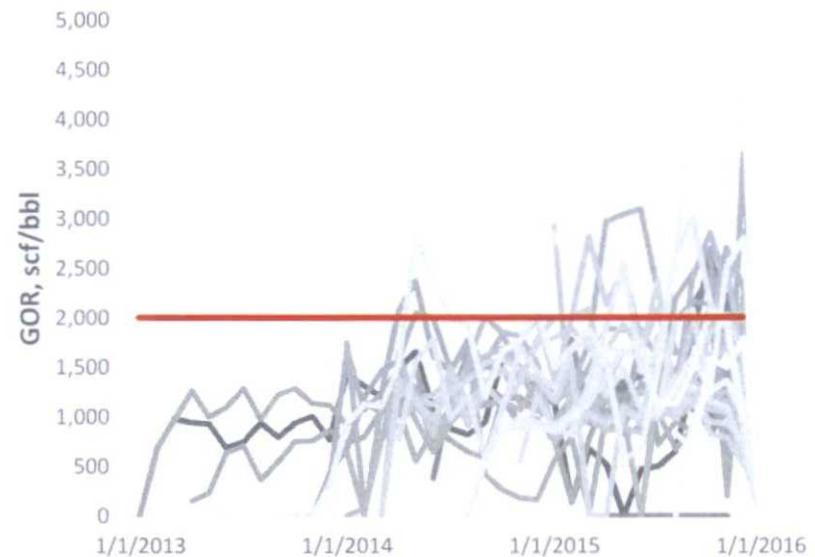


- Initial Planned Tests
- Potential 6 wells/Section spacing

# Thistle Allowable *Production Results*



— Current allowable (160 acres), BOPD

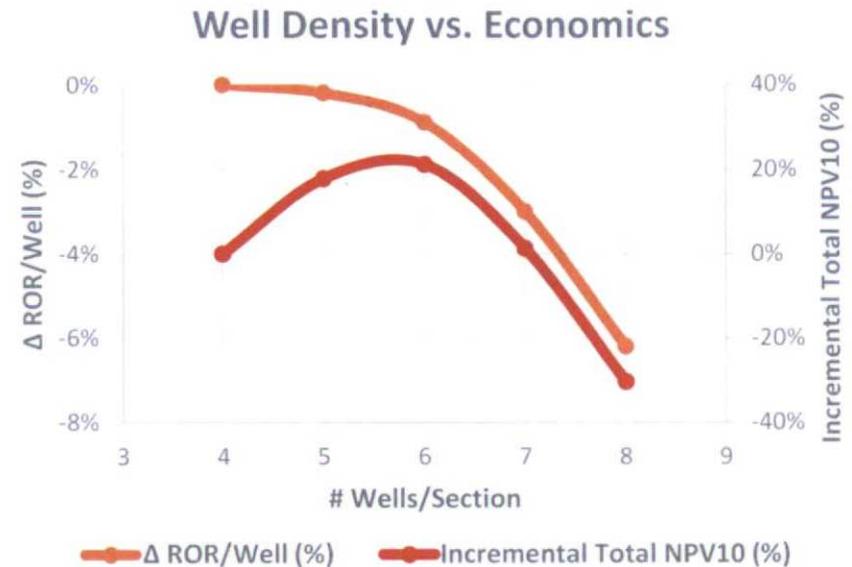
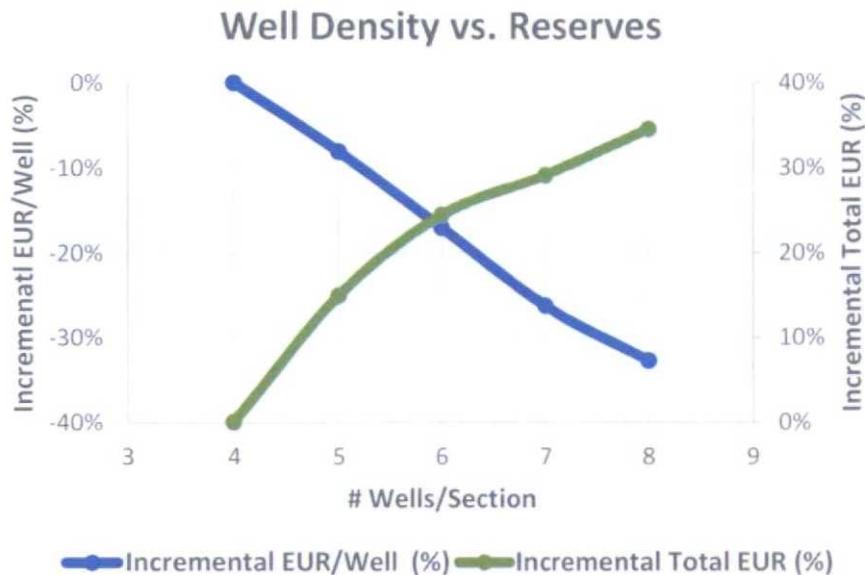


— Current allowable, GOR

- Historical production results of Bone Spring completions in and offsetting area wells
- Individual well results include 1 mile laterals, 160 acre spacing

# Thistle Allowable

## Economic Sensitivities



- Reserves recovery acceleration with increased well density
- ROR per well degrade with tighter well spacing
- 6 wells/section is optimal well density based on NPV
- Development above 6 wells/section is still profitable, but will require higher commodity prices to be economically competitive.

# Thistle Allowable

## *Summary*



- Potential for development in multiple landing zones within the Bone Spring interval supports the need for an increased allowable
- In addition the down spaced development within each horizon also provides justification for the necessity to increase the allowable
- Current analysis suggest optimal well density at 6 wells/section based on NPV<sub>10</sub>
- Potential to realize 20 - 30% increase in total reserves
- The request to increase the current allowable and GOR limit will maximize recovery and economics