

Thistle Allowable

Overview



Oil Conservation Division

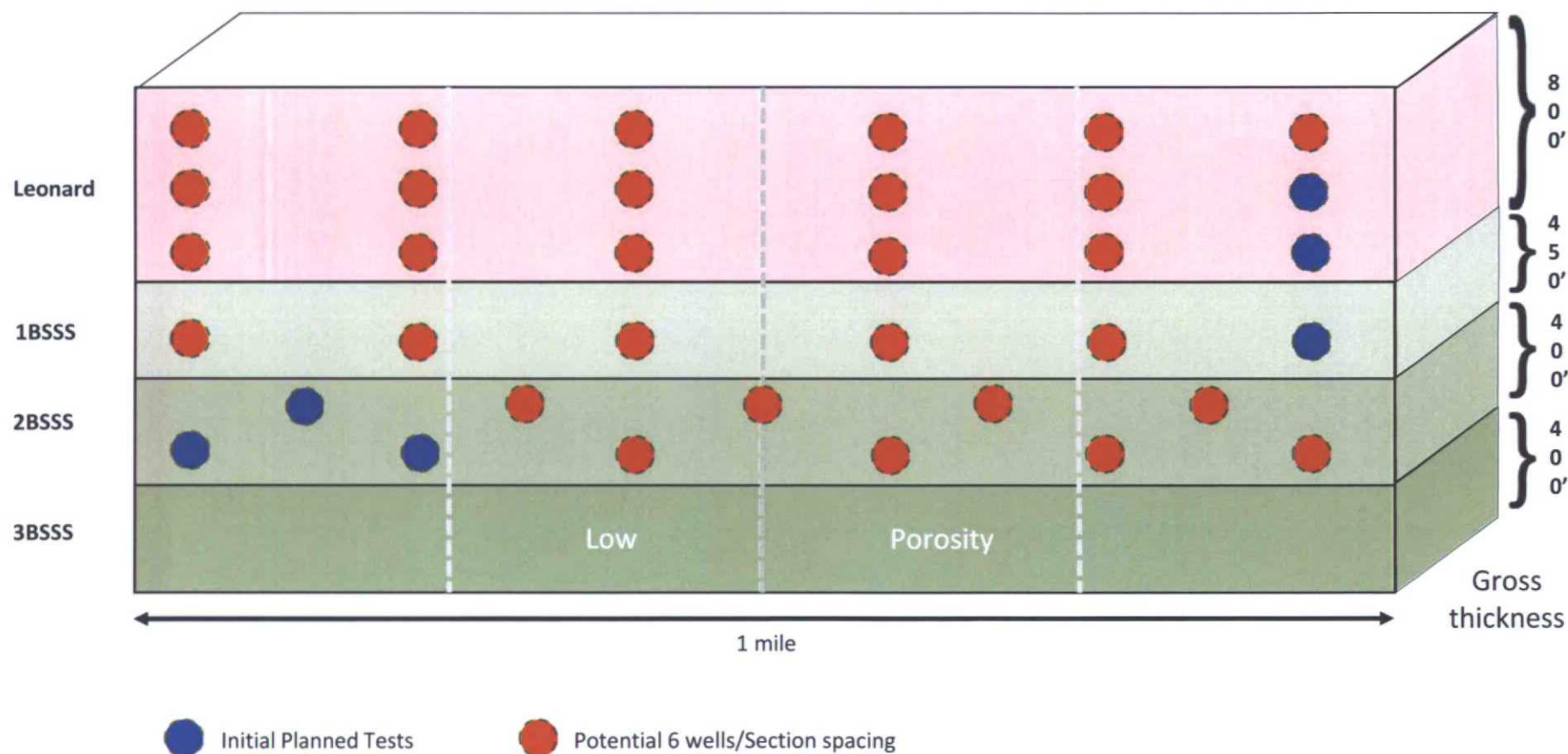
Case No. 15438-15440

Exhibit No. 15

- Current maximum allowable
 - 320 bopd/40 acre unit
 - 2,000 scf/stb
- Requesting an allowable increase to:
 - $6,400 \text{ bopd}/320 \text{ acre unit} = 3,200 \text{ bopd}/160 \text{ acre unit} = 800 \text{ bopd}/40 \text{ acre unit}$
 - 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.

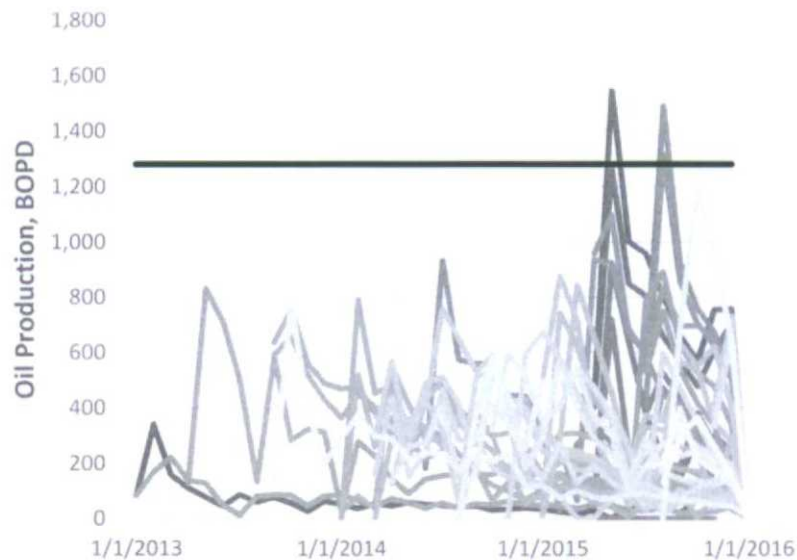
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Block Diagram

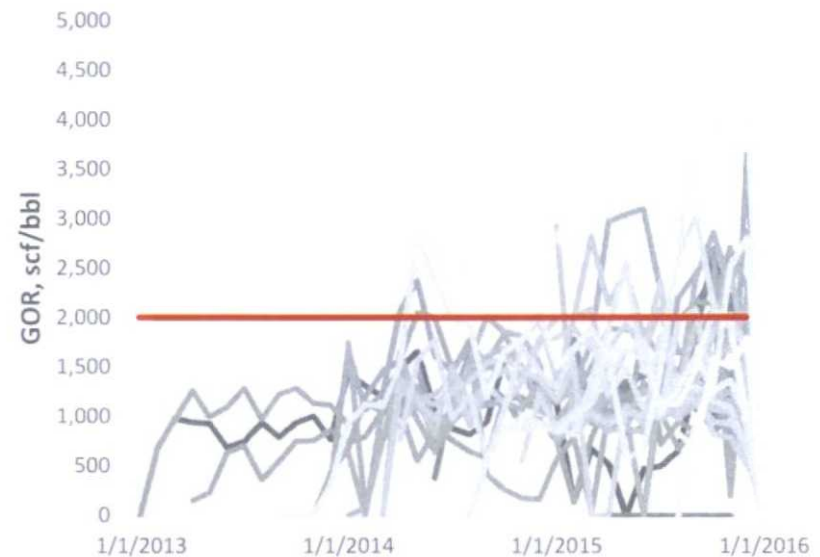


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Production Results



— Current allowable (160 acres), BOPD

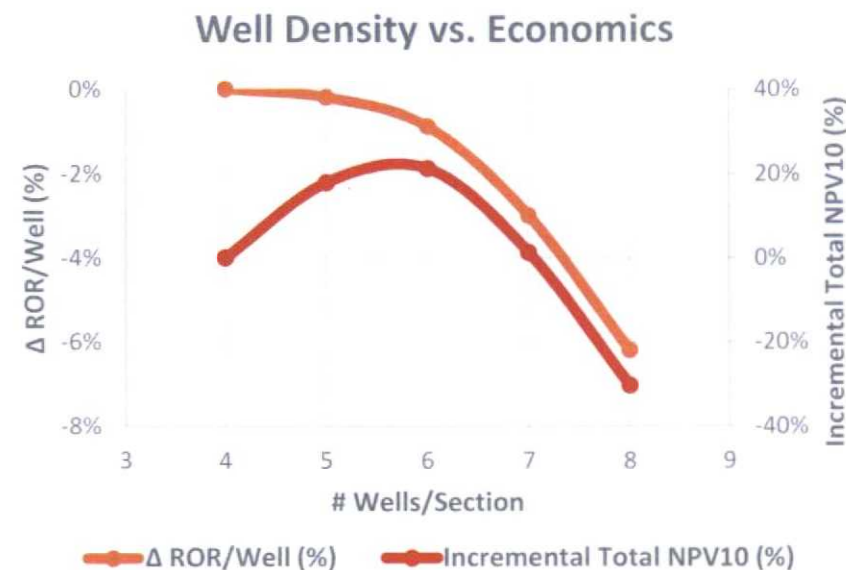
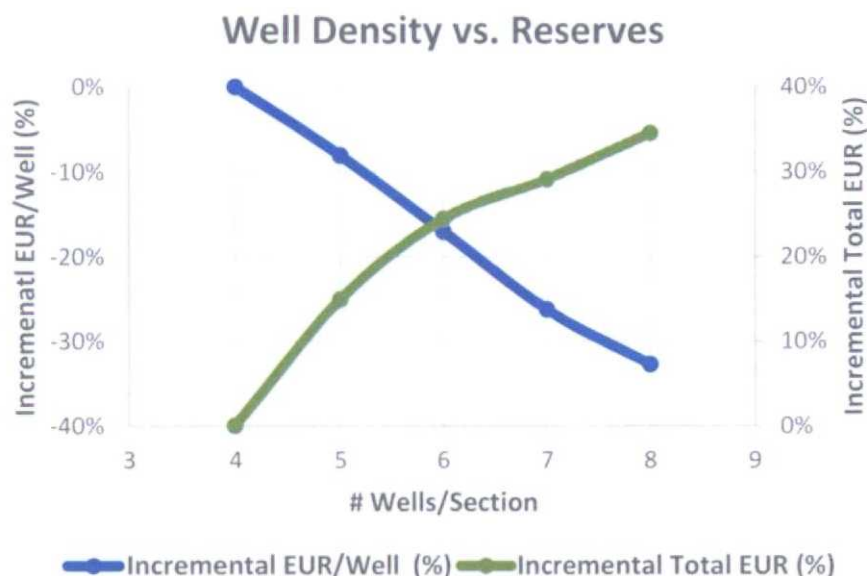


— Current allowable, GOR

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

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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.

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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 NPV₁₀
- Potential to realize 20 - 30% increase in total reserves
- The request to increase the current allowable and GOR limit will maximize recovery and economics