

Brushy Bill CO₂ Pilot in Platang Field

Yoakum Co., TX – Riley Exploration Permian, Inc.

Presented at the 27th Annual CO₂ Conference
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Bush Convention Center
Midland, TX



Forward-Looking Statements

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Summary

REXP History

- Platang Horizontal San Andres Well Performance
- Geologic Overview: Wasson / Brahaney/ Platang – One Large System

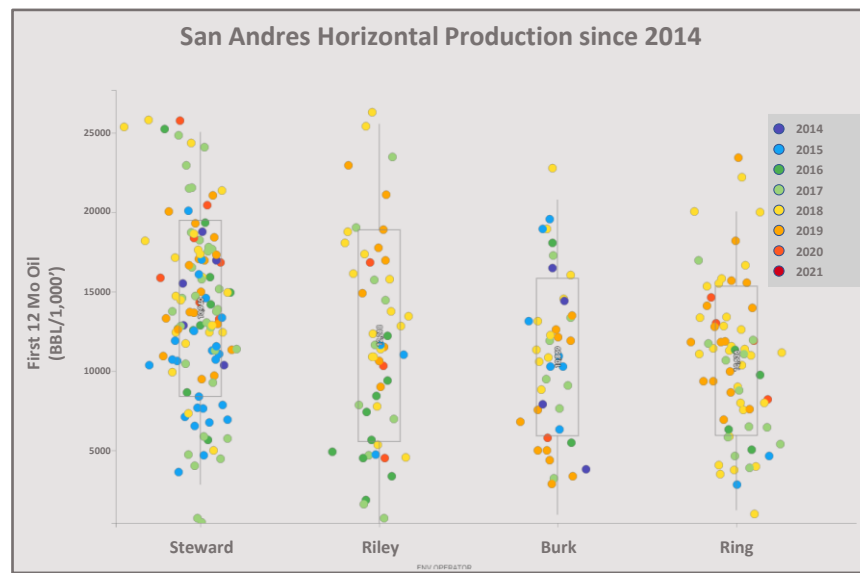
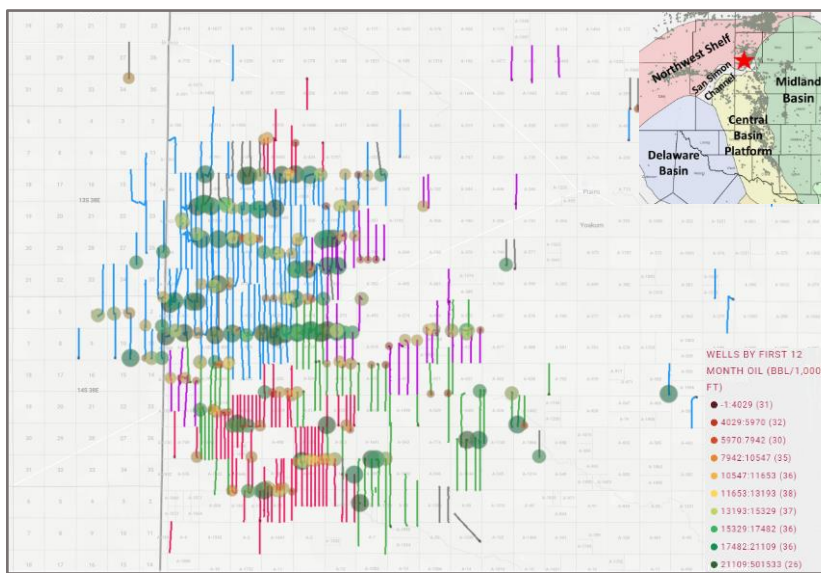
Plans / Potential Going Forward

- CO₂ analog: Wasson Field – Denver Unit
- Brushy Bill layout and execution

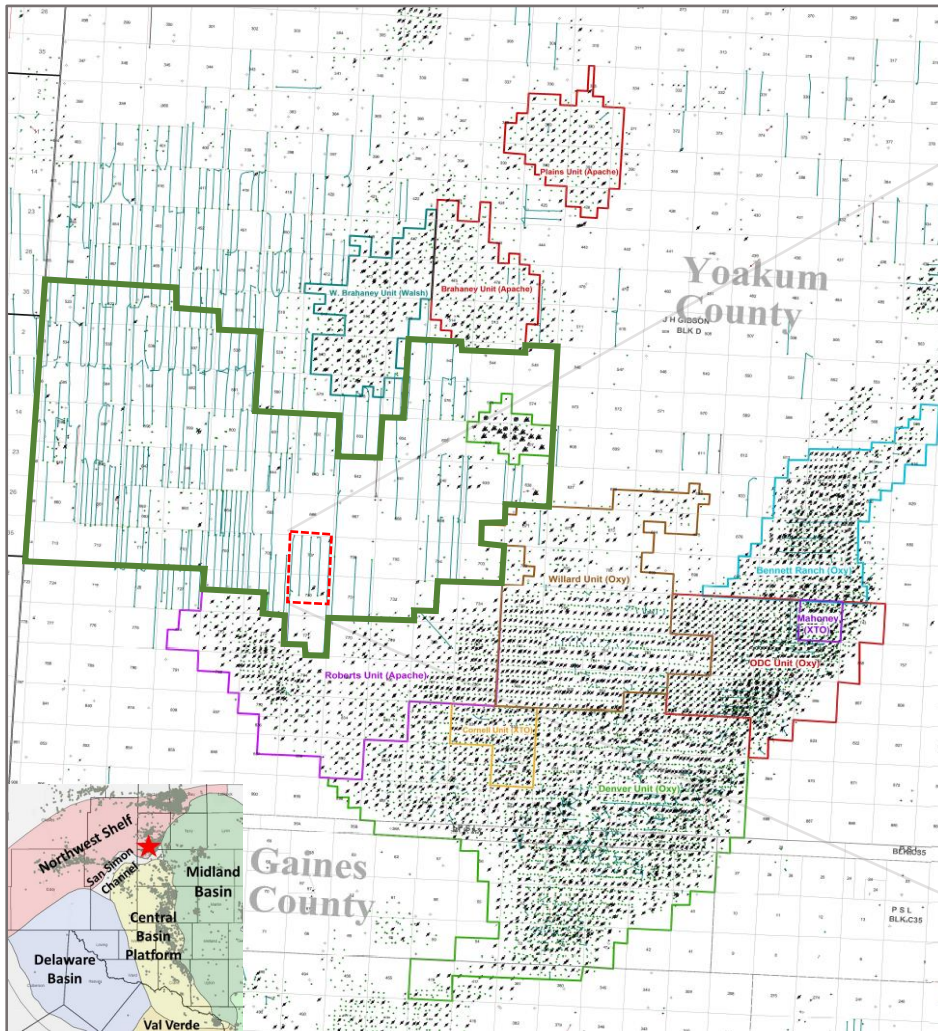
Riley in the Permian

Riley Permian is a growth-oriented, independent oil and natural gas company focused on the acquisition, exploration, development and production of oil, natural gas and NGLs

- Our activities primarily target the horizontal development of the San Andres formation, a shelf margin deposit on the Northwest Shelf of the Permian Basin
- Riley Permian's core asset, a ~26K net acre portion of the Platang Field, is a continuation of giant, legacy oilfields, primarily in Yoakum County, TX
- The Wasson and Brahaney Field Complex commenced development in the 1930s and has produced over 2.3 billion barrels of oil
- Operators of Wasson and Brahaney have been using water and CO₂ injection for decades to enhance recovery; Riley has not yet employed such techniques but is beginning a pilot program to test viability

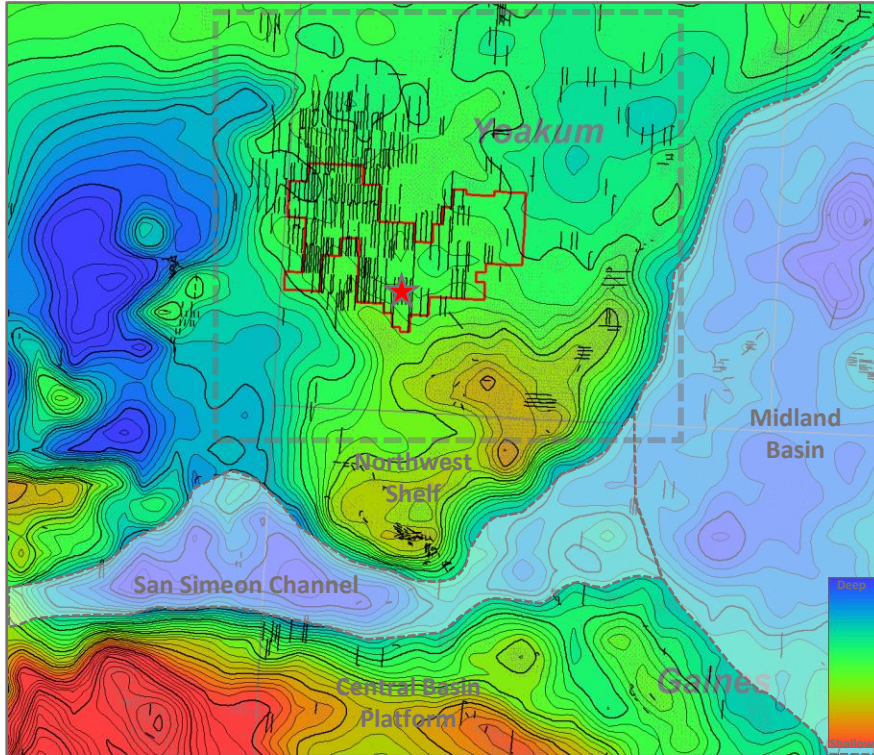


Platang Field

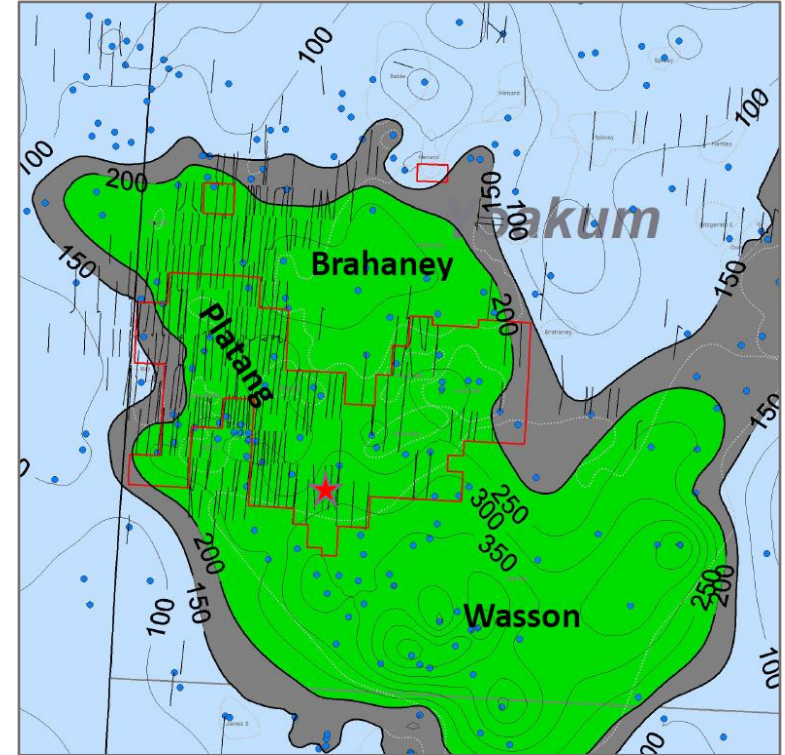


San Andres Geology

Top SADR Pay (50' C.I.)



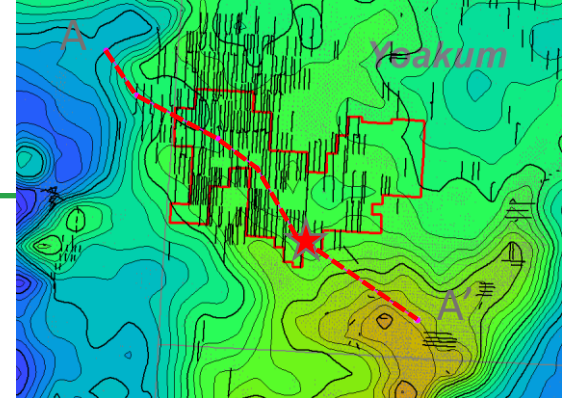
SADR Pay Thickness (50' C.I.)



- Mapping the top of the San Andres pay illustrates the presence of a trapping mechanism in Wasson/Platang
- Pay thickness across this area increases to the southeast

San Andres Geology

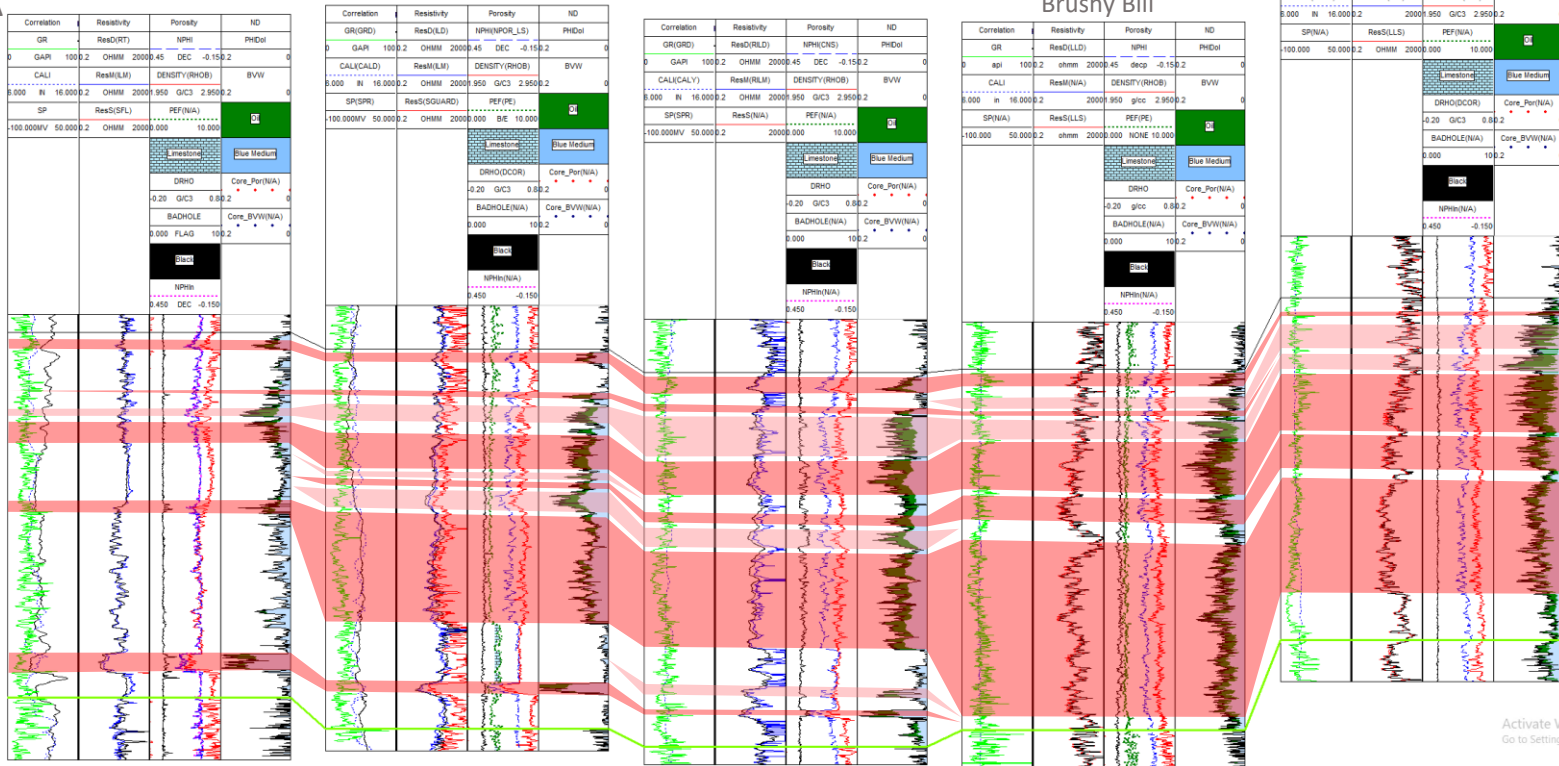
- Highest reservoir quality found below the anhydrite in the heavily dolomitized Chambliss and Brahaney
- San Andres porosity is controlled by diagenesis which is complex across Wasson and Platang field
 - Reservoir connectivity and sweep efficiency are dependent on the presence of baffling between dolomitized zone



A

Brushy Bill

A'

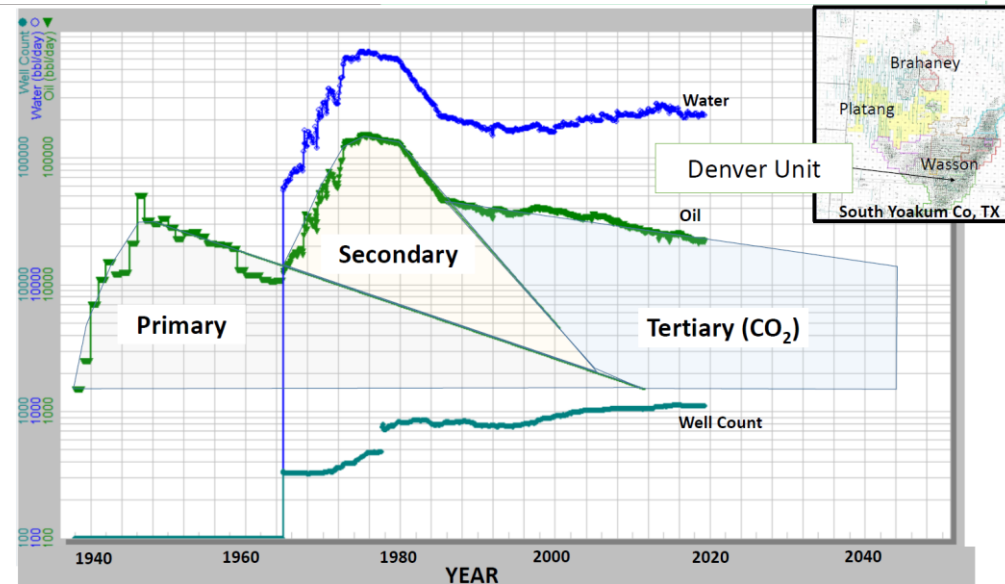


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REPX CO₂ Initial Study

- Joint study with Baker Hughes
- Detailed geology and reservoir characterization
- Reservoir Simulation – history matching horizontal well performance and forecasting
- CO₂ efficiency evaluated with horizontal producers and vertical injectors
- Results indicated potential for +2X-5X over primary
- Similar porosity (~10%) and pay thickness to Wasson CO₂ analogs (BB: 250-300', Denver: 250-400')
- Current Brushy Bill saturations are similar to Wasson field when water-flooding began in the 80's

Denver Unit Historical Performance (2.8 billion bbls OOIP)



REPX CO₂ Pilot – Brushy Bill Unit

- 5 horizontal producers in the San Andres (3/4 mile)
- 6 injectors on the east half of the unit
- Combining results of joint REPX/Baker study with Wasson historical results
- Incorporating costs, expected results and economic feasibility
- Injectors drilled; flooding starts 2022

Future Work

- Improving geologic understanding with detailed core analysis (B. Trentham and B. Lindsay)
- Tracers
- Growth potential
- Geomodeling and reservoir simulation

