

ALL IS WELL IN THE YESO



RICHARD MASON,
CHIEF TECHNICAL
DIRECTOR

The sprawling Permian Basin is the oil and gas gift that keeps on giving—often in unanticipated ways. Headlines point to tight formation Wolfcamp, Bone Spring and Spraberry/Dean targets in the Delaware and Midland basins in a mobilization effort that may top \$1 trillion in capital spending over the next decade.

That same conversation bypasses conventional targets where skilled geologic and engineering teams deploy modern unconventional techniques to unlock value. Those targets include the Yeso on New Mexico's Northwest Shelf.

Yeso carbonate sequences rimmed the Delaware Basin during Leonardian time. Of note, the Bone Spring and Spraberry/Dean are the slope-to-basin equivalent of New Mexico's 2,000-foot thick Yeso, where conventional hydrocarbons are found in shallow stratigraphic traps on a platform margin environment.

Yeso opportunities expanded during the past eight years after longtime Artesia, N.M., players Marbob Energy Corp. and Yates Petroleum Corp. sold out. Those transactions also incorporated deeper Delaware Basin targets, including the Bone Spring and Wolfcamp, which gained greater attention over time while interest in the Northwest Shelf quietly stalled. Concho Resources Inc. acquired Northwest Shelf acreage through the \$1.5-billion 2010 purchase of Marbob Energy and operated a five-rig Yeso program as recently as 2013. Concho still runs one horizontal rig on the Northwest Shelf.

Meanwhile, EOG Resources Inc. grew its Northwest Shelf position from 12,000 to 150,000 net acres following the \$2.5-billion acquisition of Yates Petroleum in September 2016. EOG drilled four horizontal Yeso wells in 2017.

In April 2018, EOG's Northwest Shelf neighbor, Percussion Petroleum LLC, announced results from four Eddy County horizontal Yeso wells, including the record-setting Goodman 22 4H. The Goodman generated a 30-day IP rate of 1,208 barrels of oil equivalent per day (boe/d) (80% oil), the largest Yeso producer to date.

Percussion drills high-rate, high-volume wells on close stage spacing, using slick-water plug and perf targeting landing zones developed through seismic and thousands of vertical well cores. Percussion's four wells cost \$3- to \$4 million each, averaged 4,915 feet of productive lateral at just less than 3,000 feet TVD, with 30-day IP rates

of 1,080 boe/d. Not bad for a zip code that includes Apache Corp., ConocoPhillips Co., and Occidental Petroleum Corp. along with Concho and EOG.

The company employed a generation-two completion technique involving 1,000 pounds of sand and 2,500 gallons of water per foot of lateral. Percussion will increase proppant loading 50% to 1,500 pounds and fluid volume to 4,000 gallons per foot at 150 gallons per minute as it applies generation-three completion techniques to new Yeso horizontals.

The Houston-based company began in 2016 as a three-man operation involving CEO John Campbell III, COO Lupe Carrillo, and Brian Zwart, executive vice president of engineering. The trio previously worked together at QR Energy LP and Rockcliff Energy LLC, the latter known for technically astute operations in East Texas and northern Louisiana conventional plays.

Percussion obtained an equity commitment from Carnelian Energy Capital Management LP in January 2016 and began reviewing conventional opportunities in the Ark-La-Tex, Midcontinent and Permian Basin. Percussion subsequently acquired Nearburg Producing Co.'s legacy Yeso assets in December 2016, including 16,000 net acres and 800 net boe/d

Percussion since has increased production sixfold to 4,500 boe/d and added more than 10,000 net acres through 30 transactions. Percussion surveys a section or more at a time and pursues multiwell pads to develop the section as a unit, which helps with permitting the mix of fee, state and BLM lands.

The company's one-rig program currently targets four different landing zones, drilling two wells per pad. This is pad drilling the old-fashioned way where a bulldozer pulls the rig to the next well site on the pad. Wells are zipper fracked, further reducing cost while increasing pressures in offset wells by creating greater complexity in stimulated rock volume.

The "cube" approach to developing a section at a time provides flexibility synergies with service companies. Oil production finds outlet via truck to the Navajo refinery in Artesia 5 miles away, though Percussion experiences the same basis differentials as other Permian players.

The takeaway is this: You don't have to be a major public independent for Permian success. Skilled management and a tight technical focus on a contiguous plot of non-headline geology sometimes yields highly competitive results.

Excerpted from

**Oil and Gas
Investor**

August 2018
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Publishing LLP
1616 S. Voss Rd.
Suite 1000
Houston, TX 77057
(713) 260-6400