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## Apache makes significant oil and gas discovery in West Texas

By Jennifer Hiller | September 7, 2016 | Updated: September 7, 2016 10:27pm

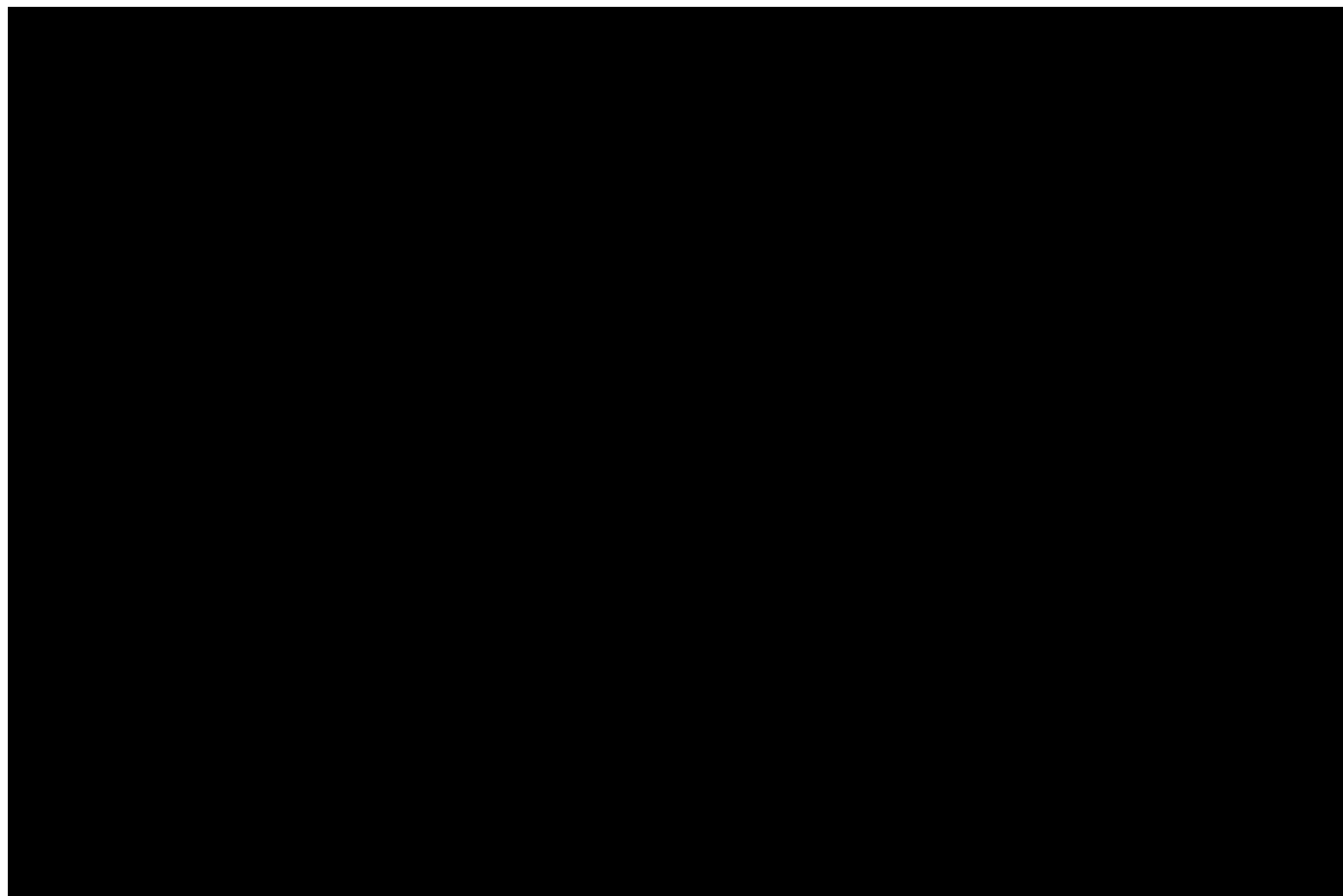


Photo: Apache Corp.



IMAGE 1 OF 8

Geology in the Permian Basin makes drilling easier and existing pipelines make moving oil cheaper.

Apache Corp. on Wednesday announced what may be this decade's biggest oil and gas discovery in West Texas' Permian Basin, the nation's hottest oil field, though this find is an area where drillers never before have struck it rich.

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The discovery, which Houston-based Apache is calling the "Alpine High," is centered around southwestern Reeves County.

It holds an estimated 3 billion barrels of oil and 75 trillion cubic feet of rich gas, the

company said, in just two of five geologic zones that are stacked on top of each other like a layer cake.

Apache estimated the field, previously overlooked and considered largely unsuitable for drilling, could be worth between \$8 billion and \$80 billion, the **Wall Street Journal reported**. The company's shares rallied by as much as 13 percent shortly after the news was announced, closing up 6.7 percent at \$55.13 a share.

“It's just geologically complex, and it took some unraveling and a lot of good unconventional technical work,” CEO John Christmann told investors at the **Barclay's CEO Energy-Power Conference** in New York. “It took a very unique team doing some very detailed work over a very long time to uncover this prize.”

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The Permian Basin, which has produced 29 billion barrels of oil and is estimated to have more in recoverable reserves, has been pumping oil since the first commercial well in 1921. It now has 202 drilling rigs, 41 percent of those working in the U.S., but the Alpine High field treads new territory. If drilling continues, it would expand the footprint of the Permian.

“There’s about 120 wells in that area in maybe all of history,” said R.T. Dukes, an analyst with the research and consulting firm Wood Mackenzie. “They’re not in a legacy producing area.”

The Alpine High also is in a part of West Texas considered more environmentally sensitive because the **artesian springs** that feed the crystal clear West Texas oasis of Balmorhea.

It’s not far from the University of Texas’ McDonald Observatory in the Davis Mountains in neighboring Jeff Davis County, where astronomers have worried about the encroaching nighttime lights and sky glow of the 24-hour oil field.

The company’s test wells this year had been raising the concern of residents, and Apache said it has created exclusion zones and won’t drill under Balmorhea State Park, though it owns the mineral rights there, or inside or under the city limits of Balmorhea.

“We are also taking proactive steps to ensure well integrity and monitor water quality on an ongoing basis,” spokeswoman Castlen Kennedy said by email. It’s working with the observatory to limit the impact of operations in the area, she said.

The company is working well to the west than others in Reeves County, and Eric

Potter with the Bureau of Economic Geology at the University of Texas at Austin said Apache primarily is targeting deep rock oil and gas formations, the Woodford and Barnett, where few companies have made good wells.

“There’s almost no commercial Barnett or Woodford in the Permian. They’re saying they’ve cracked the code,” Potter said. “It’s very refreshing to hear this. The announcements of this type by the kind of company like Apache are few and far between. They expect to make money on these wells pretty much at today’s prices. That’s significant.”

The Barnett Shale is better known in North Texas for the prolific and eponymous gas field around Fort Worth. More than a decade ago, as the Barnett boomed in North Texas, Potter said drillers tried to replicate that success in West Texas.

“People rushed out there because they knew the Barnett was present, and they couldn’t make it work,” Potter said.

Interest in the West Texas Barnett fizzled.

Apache said there’s also potential in the Pennsylvanian and the more shallow, popular Permian targets: the Wolfcamp and the Bone Spring formations.

Altogether, the company can drill into rocks that are 4,000 to 5,000 feet thick. It has locked up 307,000 acres, including nearly 20 percent of Reeves County.

Apache said it has drilled 19 test wells in the area, with nine wells producing.

Christmann said the company leased 182,000 acres in Reeves County in the second half of 2015. The industry was slogging through Year 2 of the oil bust, which started in summer 2014, and “things were kind of at their worst and we were scratching for dollars,” he said.

It added to its Alpine High acreage this year, with leasing costs of just \$1,300 per acre, “which is just amazing,” Christmann said. Other Permian deals this year have cost firms tens of thousands per acre. But Christmann said the assumptions about this area were wrong. Everyone thought contained a lot of clay, which makes drilling difficult, (it doesn’t have much clay) and was mostly the less profitable dry gas (it’s not).

Christmann said there are 2,000 to 3,000 future drilling locations in the Woodford and Barnett formations.

“This really is a giant onion that is going to take us years to pull back and uncover,” he told investors at the conference.

The acreage is centered around the desert oasis of Balmorhea State Park, built by the Civilian Conservation Corps in the 1930s. Water flows into the park from San Solomon Springs, the largest in a series of interconnected springs in the area, and home to endangered desert fishes, the Pecos gambusia and the Comanche Springs pupfish.

Trey Gerfer, board president of the Big Bend Conservation Alliance, said the group has several concerns, including possible contamination and overpumping.

“There’s not really any comprehensive management of the pumping and no credible data being collected as far as how much water do we have, how much do the farmers need, how much do the frackers need,” Gerfer said. “The concern is that those springs could be damaged or overpumped to nonexistence. The town relies on that oasis. The entire region relies on that oasis.”

Nearby Comanche Springs in Fort Stockton was pumped dry in the 1960s for agricultural use.

Kennedy said Apache is working to reduce its water needs, and is metering all water it withdraws. If water was needed for the long term, Kennedy said Apache would look at using brackish water or recycling the water it does use.

In other parts of the Permian, the company has received kudos for on-site water recycling programs.

Reeves County is part of a 28,000-square-mile, dark-sky reserve that requires companies to regulate outdoor lighting to protect the McDonald Observatory, whose Hobby-Eberly Telescope atop Mount Fowlkes is the largest in North America. The reserve was created by the Legislature in 2011, though enforcement and awareness have been spotty.

Bill Wren, a special assistant to the superintendent at the observatory, said officials there have a meeting next week with Apache, and that the Permian Basin Petroleum Association and the state's oil and gas regulator, the Texas Railroad Commission, have been spreading the word about the dark-sky efforts.

The bright lights from drilling and fracking can threaten the observatory. Wren said a parallel concern is gas flaring, which is common early in the development of a field before things such as pipelines and gas plants are built.

"They'll certainly be aware of the issue," Wren said. "What they'll be able to do about it in the field is the next question."

Apache said it will put \$500 million in the Apache High this year, a quarter of its capital spending.

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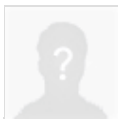




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