

Profiting From The Permian Basin Bottleneck

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Profiting From The Permian Basin Bottleneck

By Robert Rapier
May 15, 2018

As my readers know, I conduct a lot of reporting from the field. Many of the guys who call themselves energy "analysts" would not know a pump jack from a lumber jack. You will find them in TV studios, wearing tasseled-loafers. I witness energy developments in person, wearing muddy boots.

During a six-year stretch at ConocoPhillips, I ran a team of engineers in Scotland working on oil and gas projects in the North Sea. For two years, I was an efficiency expert in a Texas petrochemical plant. I won't bore you by reciting the rest of my credentials but, rest assured, I make money for investors because I know what I am talking about.

This week, I am back in the Permian Basin in Texas, where a looming logistical issue threatens oil production growth this year. But this temporary bottleneck should [set the table for market-beating growth](#). In fact, that logistical issue is what brought me here this week. More on that later.

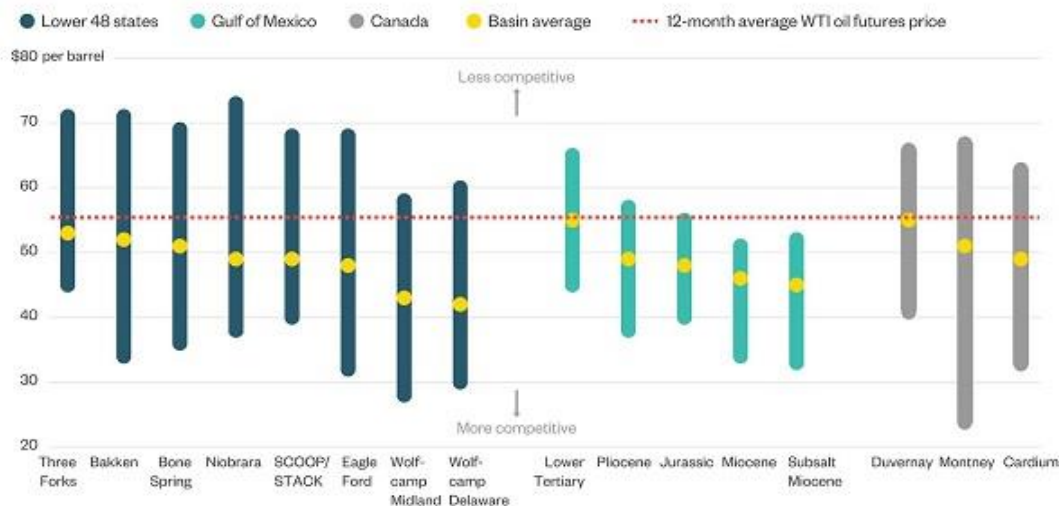
Why The Permian Is Booming

In recent years, the Permian Basin has proven to be one of the most important oilfields - not just in the USA, but in the entire world. New oil production technologies have made the basin extremely prolific. This is amazing considering that the Permian Basin has been producing oil since 1921.

A recent assessment by Wood Mackenzie shows some of the lowest-cost oil in the country is produced in the Permian Basin. The Midland Basin's Wolfcamp, for instance, is estimated to have breakeven prices just above \$40 per barrel (see graphic below).

Point Break

Breakeven oil prices for North America's shale basins and the Gulf of Mexico vary widely, but on average they look competitive even with oil below \$60 a barrel



Source: Wood Mackenzie

Note: Breakeven prices reflect projected level needed to generate a 10 percent return on drilling and completion costs in 2017.

ElcomberGadfly

This helps explain why production in the Permian continues to boom.

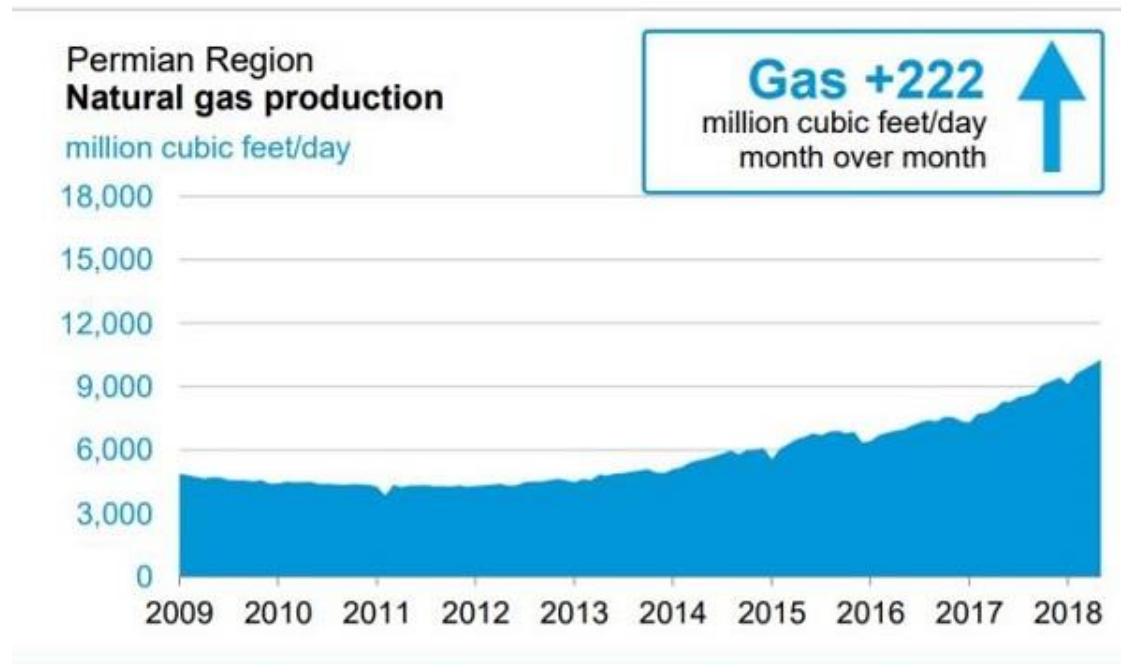
According to the U.S. Energy Information Administration's (EIA) most recent Permian Region Drilling Productivity Report, the Permian is now producing 3.1 million barrels per day (BPD) of oil, an increase of 2 million BPD since 2012. This makes the Permian the world's second-most prolific oil field, behind only Saudi Arabia's mammoth Ghawar.

Oil production logistics are more complex than in past decades because most wells today are hydraulically fractured. Hydraulic fracturing (fracking) involves pumping water, chemicals, and a proppant (usually sand) down an oil or gas well under high pressure. The high pressure breaks open channels (fractures) in the reservoir rock and trapping the deposit. The proppant holds those channels open.

This means that sand and water must be transported to the production site. After the wells have been fracked, the oil, natural gas, and water that flows back up from the ground must all be processed.

At present, the rapid growth of oil and natural gas production in the Permian Basin has led to logistical constraints in most of these areas. Sand and water are in short supply. Water disposal is starting to become a big challenge.

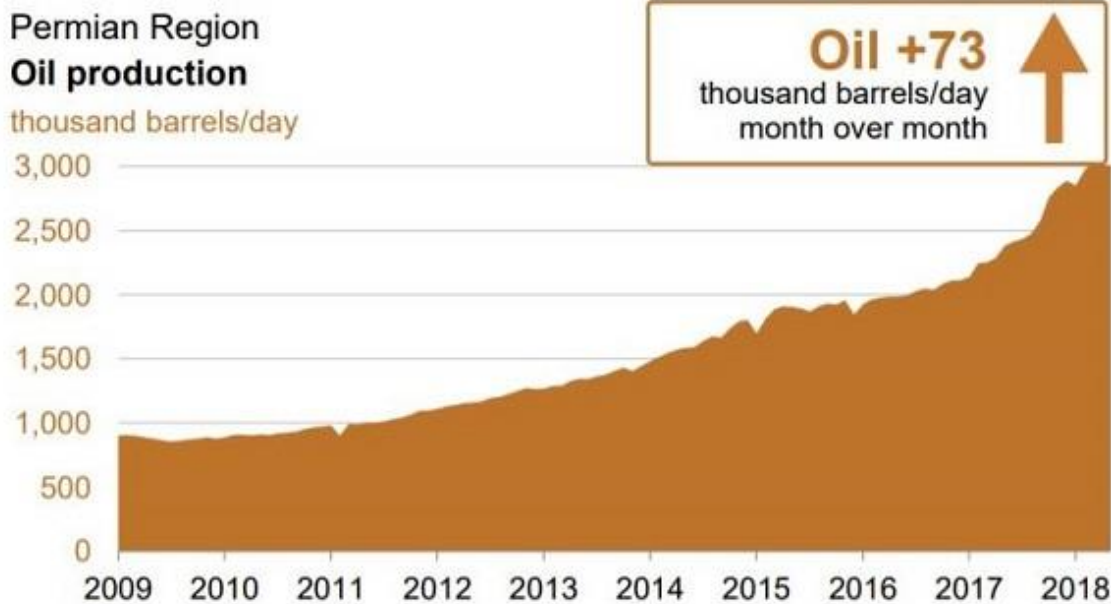
However, the most obvious problem is the transportation of oil and gas out of the region. Both oil and gas are at record production levels and are projected to continue to rise (see two graphics, below).



It is the natural gas logistical issue that has me back in the Permian this week.

My company has developed technology to utilize natural gas close to the source of oil production, which helps ease the pipeline constraints. One of our units is presently operating in the Permian on the site of a publicly-traded oil company. But the more immediate issue is that oil transportation is hitting its limits and that is starting to impact production growth:

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U. S. Energy Information Administration | Drilling Productivity Report

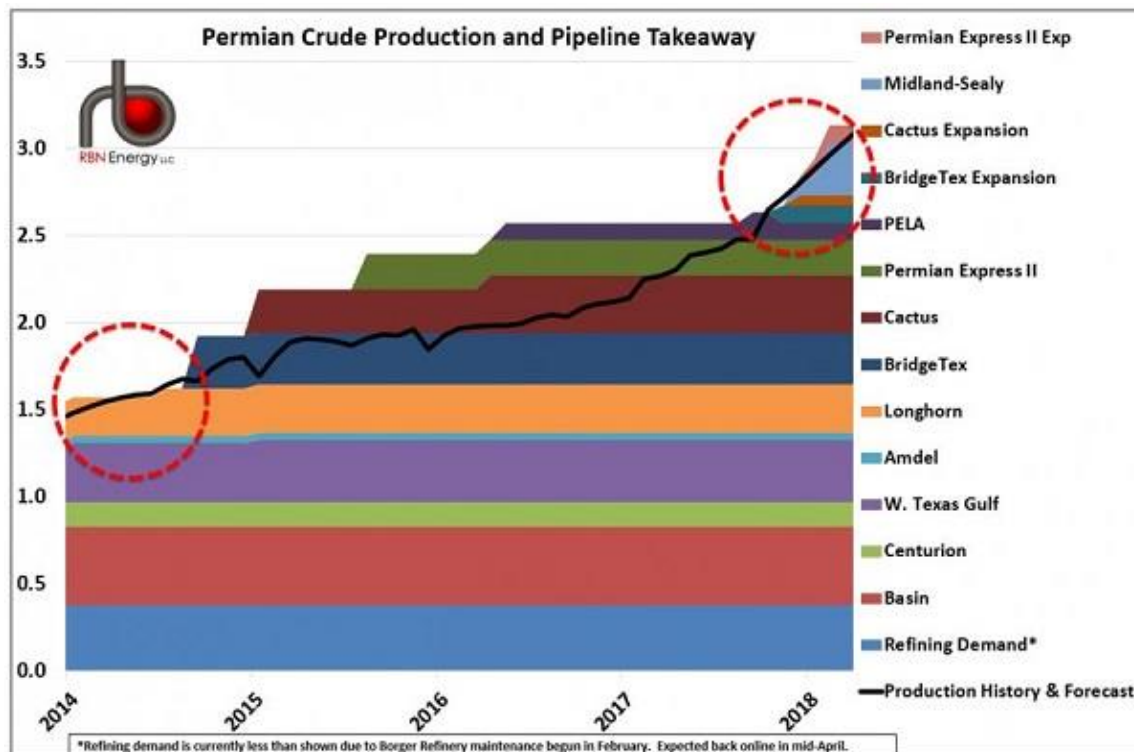
Global commodity and energy data provider, Genscape, recently reported that crude oil pipeline utilization has reached 96% in the past month. There are multiple projects underway to relieve the constraints, but there is a risk to production growth until those projects start to come on-line. You can actually see this in the oil production data from the past couple of months in the graphic.

Production has trended down due to the pipeline constraints.

This has also caused West Texas Intermediate (WTI) oil in the Permian to trade at up to \$16 a barrel below U.S. benchmark prices in Cushing, Oklahoma. This is the biggest discount in more than three years.

A recent graphic from RBN Energy (see next page) highlights existing crude oil pipeline capacity out of the Permian Basin and shows the reason for the current tightness in takeaway capacity. Simply put, production has risen faster than new takeaway capacity has come on-line.

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In 2014-2015, the last time pipeline capacity in the area was as tight as it is presently, WTI in the Permian traded at up to a \$20/bbl discount to crude oil in Cushing. Since that time, there has been more than enough pipeline takeaway capacity, but that spare capacity vanished in late 2017 as oil production continued to rise. Given the Permian's importance to U.S. oil production growth, this may have implications for U.S. oil production growth in 2018.

Help is on the way, but it cannot come soon enough. Around a half dozen pipeline projects are being planned or constructed to deliver hydrocarbons from the Permian Basin to Corpus Christi, Texas and the Houston area. But most of these projects will not be commissioned until 2019.

Tight capacity has allowed **Enterprise Products Partners L.P.** to set a tariff of \$6.74/bbl for uncontracted shippers, which is \$2.50/bbl more than the next-highest competitor for comparable Permian Gulf Coast routes.

In the short-term, this pipeline constraint may provide a windfall to pipeline companies that have any uncontracted pipeline volumes available.

Crude oil takeaway capacity is but one bottleneck for producers in the Permian Basin. However, it is one of the most pressing. Projects are underway to relieve the bottleneck, but none of these projects is going to offer any relief until 2019.

The pipeline capacity constraint poses a legitimate risk to Permian Basin production growth in 2018, and will likely continue to result in Permian crude trading at a discount to oil in Cushing or on the Gulf Coast. However, pipeline operators should profit from the congestion.

For other examples of how investors can profit from supply-and-demand volatility, [click here](#).

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ABOUT THE AUTHOR



It's hard to imagine anyone better suited to covering the energy-investment waterfront than Robert Rapier. Robert is no armchair analyst—he has two decades of in-the-trenches experience in a wide range of fossil fuel and biofuel technologies, including refining, natural gas production, gas-to-liquids, ethanol production and butanol production. During a six-year stretch at ConocoPhillips, Robert ran a team of engineers in Scotland working on oil and gas projects in the North Sea.

For two years, Robert was an efficiency expert in a Texas petrochemical plant. The process changes he implemented saved the facility \$9 million a year. He later worked as the Engineering Director for a Dutch environmental-technology company and provided engineering support for a Chinese facility the company was constructing.

Robert was also a butanol engineer in Germany for the Celanese Corporation, where he designed a novel butanol unit that cut production costs by \$5 million per year.

In all, Robert has spent more than a dozen years working on liquid fuels technologies. Along the way he's picked up five patents, including one for a breakthrough way to convert ethane into ethylene (U.S. Patent 7,074,977).

Now, in addition to guiding readers to timely energy plays in his twice-monthly *Energy Strategist*, Robert travels the world evaluating startup energy companies for deep-pocketed investors. After grilling management and assessing the technology on-site, he makes a go/no-go investment decision. His wealthy private investors and hedge fund backers trust him to make the right choice for the same reason we do: his vast real-world experience in just about every facet of the energy industry. If Robert votes thumbs-up, millions of dollars flow into these cutting-edge outfits.

Robert earned his master of science in chemical engineering and a bachelor of science in chemistry and mathematics (double major) at Texas A&M University. He tells us he was “this close” to finishing his Ph.D. before he decided he was having a lot more fun making money in energy stocks.

A prolific writer, Robert's articles have appeared in *Forbes*, *The Wall Street Journal*, *The Washington Post* and the *Christian Science Monitor* — and he has been a featured expert on *60 Minutes* and *The History Channel*. His new book, [*Power Plays: Energy Options in the Age of Peak Oil*](#) (Apress, 2012), helps investors sort through doom and gloom, hype and misinformation to understand the true costs, benefits and trade-offs for each of our major energy options.

In what little spare time he has left, Robert consults for a number of energy projects, including biodiesel, ethanol, butanol and biomass gasification facilities.