
New Mexico's Permian Shale Factory

Supermajors driving growth.

Morningstar Commodities Research

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Data Sources for This Publication

EIA
New Mexico Oil Conservation Division
Texas Railroad Commission

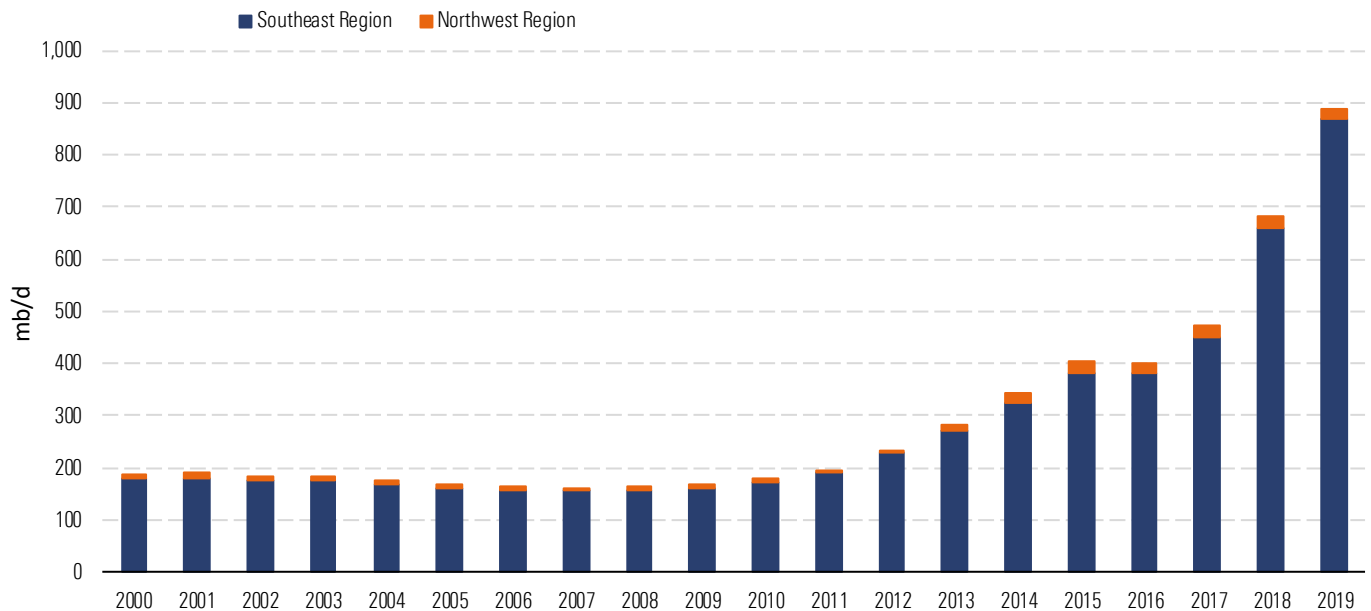
To discover more about the data sources used, [click here](#).

Longer-Term Mindset

Seven of the top 10 operators in New Mexico during 2018 were traditional independent producers. In 2020, these companies are struggling to keep investors happy with positive cash flows and scrambling for dwindling equity funds to finance drilling. Their dominance in the region has come under threat from two supermajor oil companies, ExxonMobil and Chevron, that have deep pockets and a longer-term mindset. This note looks at how New Mexico's crude output has developed in the shadow of its Texas neighbor and how its future may depend on major oil companies overcoming the traditional boom-and-bust cycles that independent producers seem fated to repeat.

New Mexico Permian

While the Permian Basin is primarily associated with West Texas, some of its fastest growth in recent years has been in New Mexico. The Land of Enchantment experienced a more than doubling of annual average crude production in just five years, from 381 thousand barrels/day in 2015 to 868 mb/d in 2019, according the state's Oil Conservation Division. In November 2019, production was just under 1 million b/d. While crude is produced in the San Juan Basin in northeast New Mexico, all the growth has been in the southeast part of the state that encompasses the northern section of the Permian's Delaware Basin. The Delaware is the western formation of the nation's most prolific oilfield. Exhibit 1 shows annual average crude output for southeast and northeast New Mexico since 2000 as reported by the OCD. Year-on-year growth during the past five years averaged 22% despite a 1% dip in 2016 after oil prices crashed in 2015. Over the past three years, crude production jumped 17% in 2017, 45% in 2018, and 31% in 2019.

Exhibit 1 New Mexico Crude Oil Production

Source: New Mexico Oil Conservation Division.

Permian Growth

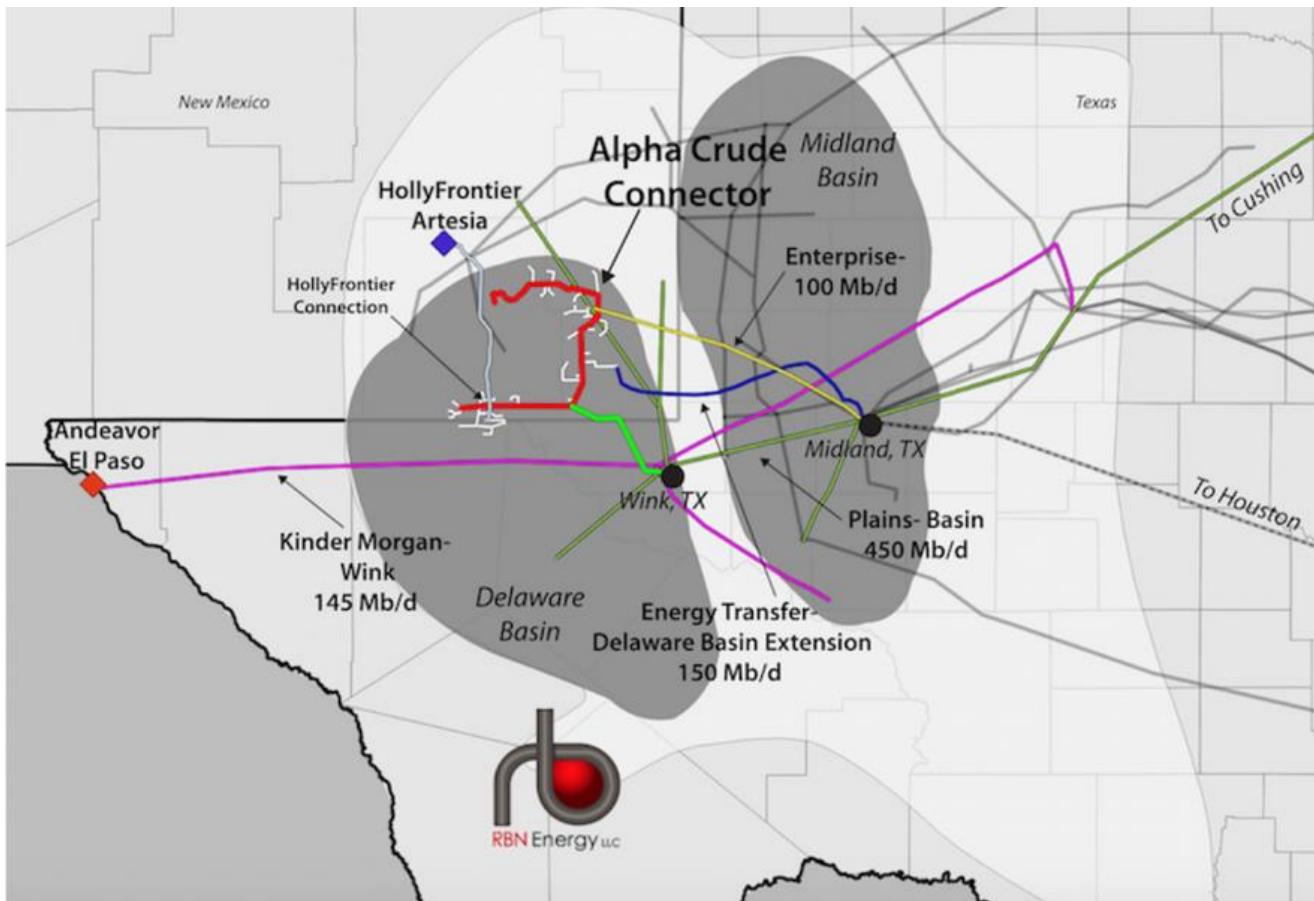
Total Permian crude output (in New Mexico and Texas) continues to grow today even as the number of drilling rigs in the basin has declined. The latest Energy Information Administration Drilling Productivity Report for February forecasts total Permian March production to be up 39 mb/d over February to a record 4.9 mmb/d despite rig counts in January falling to 402, down 18% from 490 in November 2018. Despite lower crude prices and falling producer investment during the past year, productivity improvements have kept output rising, although the rate of growth has slowed since 2018. The good news is that infrastructure investment in Permian takeaway capacity during 2019 and planned for 2020 will accommodate considerable output expansion for the foreseeable future (see our December 2018 note [Pipeline Plans Suggest Tsunami of Exports](#)).

Delaware Basin

During the past 20 years, the New Mexico section of the Permian has consistently produced about 18% of total basin output based on OCD and Texas Railroad Commission data. The crude in the Delaware Basin formation is typically lighter than that found further east in the Midland Basin. Crude produced in the Delaware increasingly consists of West Texas Light crude with an API gravity between 44 and 50 degrees as well as ultralight condensate crude with an API over 50. These grades are lighter and less valuable than the traditional Permian crude benchmark West Texas Intermediate (38-44 API) or the heavier West Texas Sour grade (see our May 2019 note [Quality Adds to Domestic Crude Variety](#)). EIA data shows that between January and October 2019, 80% of overall New Mexico crude output was between 40 and 50 API, compared with only 57% of Texas output. New Mexico also produces significant liquids from natural gas, averaging 240 mb/d between January and December 2019, according to EIA.

As junior partners in the massive Permian basin, New Mexico producers rely on takeaway routes to market through Texas to reach refineries or export docks on the Gulf Coast. The most important conduit to external trunk lines to the Gulf Coast is the Plains All American Alpha Crude Connector (see Exhibit 2). The ACC came on line in November 2015 and runs through the heart of the northern Delaware Basin, connecting gathering systems (white lines) to a trunkline in southeastern New Mexico (red line) and a 16-inch-diameter shuttle (bright green line) from southwestern New Mexico to Wink, Texas, from where it can reach the 200 mb/d Marathon El Paso refinery. The ACC provides up to 350 mb/d of connectivity to mainline takeaway capacity, including the Plains Basin and Cactus pipelines as well as the Enterprise Hobbs to Midland pipeline, the Energy Transfer Delaware Extension, and the Lotus Midstream Centurion pipeline. New Mexico producers can also connect through ACC to new pipeline projects out of the basin to the Texas Gulf Coast at Corpus Christi (EPIC, Gray Oak, Cactus 2) as well as the Enterprise Midland to Echo system and the Lotus Midstream, Plains, ExxonMobil, and Marathon Wink to Webster project expected on line in 2021, which will connect to Houston.

Exhibit 2 New Mexico Takeaway Pipelines



Source: RBN Energy.

Refiners

We previously detailed how local refining capacity in the Permian Basin takes advantage of plentiful cheap crude supplies (see our September 2018 note [Sweethearts of the Permian — Refinery Margin Jackpot](#)). These include the El Paso refinery mentioned previously as well as the 100 mb/d Holly Frontier Navajo refinery in Artesia, New Mexico. Holly Frontier also own a smaller 36 mb/d refinery in Gallup, New Mexico, that processes local San Juan Basin crude known as Four Corners Sweet.

Producers

Looking at data for the top 10 producer/operators in New Mexico in 2018 (according to OCD; see Exhibit 3), the top eight by volume are all traditional independent exploration and production companies, most of which have been in the Delaware Basin for years. All these players have lately adopted a more conservative approach to shale drilling in the face of investor pushback on returns and tougher access to capital. We expect these players to remain active in New Mexico but to pare back new investment and consolidate drilling activity in sweet spots that bring the best returns.

Exhibit 3 Top 10 New Mexico Producers in 2018

Operator	Crude Production (mb/d)
EOG Resources	110
Oxy/Occidental	89
Concho	85
Devon Energy	59
Mewbourne Oil Co	47
Cimarex	31
Matador	29
Apache	23
Chevron	20
ExxonMobil (XTO)	19

Source: New Mexico Oil Conservation Division.

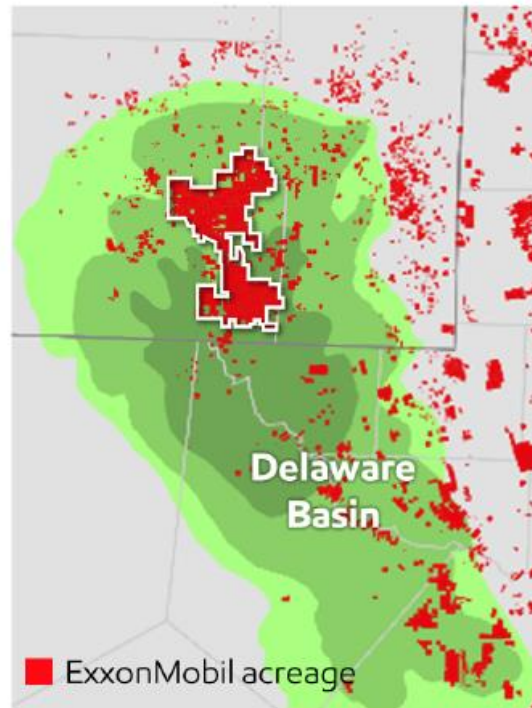
Majors

More interesting for New Mexico going forward are the two companies ranked ninth and tenth in Exhibit 3: supermajors Chevron and ExxonMobil. Both these companies have invested heavily in Permian acreage in the past several years and adopted a longer-term approach to harvesting these assets than traditional independent producers. This involves an industriallike production system combined with investment in takeaway capacity and Gulf Coast refining that provides flexibility to maximize revenue through different channels.

For example, according to its February 2019 investor day presentation, ExxonMobil has estimated resources in the northern Delaware that exceed 10 billion barrels of oil equivalent (Exhibit 4). Exxon acquired this acreage — mostly in New Mexico — in a \$6.6 billion January 2017 acquisition from the Bass family that includes large blocks of contiguous acreage in the Delaware's stacked plays where multiple

oil-bearing shale deposits are folded on top of each other in a pancake geological formation. ExxonMobil is developing this acreage on a large and efficient scale using its deep financial, technical, and logistical capabilities to capture full value and exploit the resource in an industrial manner. The company is targeting 1.0 mmb/d of oil equivalent production from the Permian by 2024.

Exhibit 4 ExxonMobil Acreage in the Northern Delaware Basin



Source: Company presentation.

Sister supermajor Chevron has adopted a similar approach to Permian production and has large leases in the northern Delaware basin—1.2 million acres according to its 2018 annual Securities and Exchange Commission filing. The company has implemented a factory development strategy in the Permian utilizing multiwell pads to drill a series of horizontal wells that are completed concurrently. Chevron uses data analytics and technology to optimize recovery and drive productivity improvements. The company is targeting 900 mb/d of oil equivalent production in the Permian by the end of 2023.

Both majors have invested in downstream takeaway capacity—Chevron in commitments to the Enterprise Midland to Echo system as well as Enterprise's planned offshore SPOT terminal at Freeport, Texas, and ExxonMobil in the Wink to Webster pipeline. As we described in a February 2019 note ([Permian Majors Expand Downstream Processing](#)), both companies have made Gulf Coast refinery investments with a view to increasing domestic processing, giving them flexibility when export markets are less favorable.

Outlook

Permian production is expanding at a slower pace than in the heady days of 2017 and 2018, and the investment model that financed independent shale producers for the past decade has lost steam, to say the least. As a result, it remains unclear how much longer Permian growth can persist. Into this breach have come major oil companies — typified by ExxonMobil and Chevron — applying a different discipline to exploiting New Mexico's resources. We expect their longer-term view to protect the region from the worst of the cyclical busts that have plagued the Permian since its birth a century ago. ■■

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