



MERCER CAPITAL QUICK FACTS

PERMIAN BASIN



OVERVIEW

as of September 2016

Stretching over 86,000 sq. miles in western Texas and New Mexico, the Permian Basin is the most productive formation in the U.S. Since 2007, new technologies have created a boom in the region by increasing the production of old wells and enabled drilling in previously underdeveloped geological layers. In the current low price environment, Permian production has been affected less than other large U.S. reserves.

PERMIAN BASIN AT A GLANCE

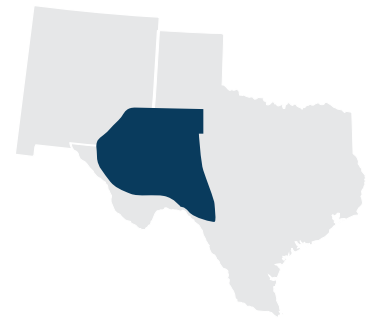
First Discovered	1920
Discovery as Viable Play	Began in 1923, declined post 1970s, increased again after 2007
Primary Production	Oil
Oil Type	Sweet, Light Crude
Play	Conventional & Unconventional Plays
Drilling	Vertical (traditionally), Horizontal (81% of recent drilling) and Multi-Stage Hydraulic Fracturing
Top 3 Production Companies	Occidental, Pioneer, Apache
Breakeven	\$25 – \$63 per barrel ¹
Abnormal DUCs	433 ²
Production Since 2007	7,156 MMBOE ³
Issues	Cheapest Oil Has Already Been Produced
Potential	Improving Technology, Easy Entry, Stacked Play Efficiency, Low Service & Transport Costs, & Under-Explored Layers

¹ Bloomberg Intelligence county-level estimates
² Drilled Uncompleted Wells with > 3 months in inventory as of January 2016; also referred to as fraclog (Bloomberg Intelligence)
³ EIA as of June 2016

The USGS has not updated remaining resource reports for the Permian Basin since 2007.

GEOGRAPHY & DRILLING

The Permian Basin produces from a variety of geological formations. These formations are layered on top of each other, creating stacked reservoirs of limestone, sandstone, and shale. For decades, wells have targeted conventional, permeable reservoir layers that trap oil and gas produced primarily in the shale layers. Recently developed enhanced extraction techniques have maintained these reservoirs' outputs. However, since 2007, hydraulic fracturing targeting the less permeable tight sand and shale layers has driven over 60% of new production growth. Many of these new wells are "stacked plays" that capitalize on the region's layered geography by exploiting multiple producing zones (conventional and unconventional) from one surface drill point. The Permian is divided into basins such as the Delaware Basin and Midland Basin which are further divided into zones, or stacks, such as the Wolfcamp, Spraberry, Clearfork, Avalon, and Bone Springs.

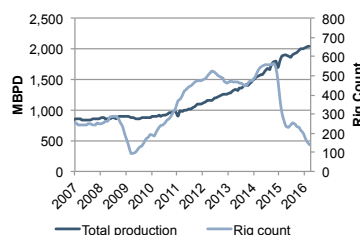


ISSUES & FUTURE POTENTIAL

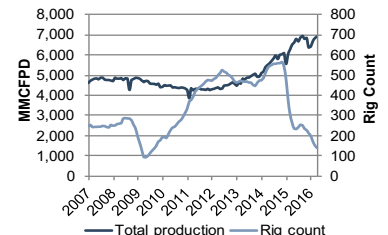
The easiest, cheapest oil and gas to extract from the Permian Basin was produced long ago so that many areas are not viable at low oil prices. However, Permian wells tend to be more efficient than pure shale plays because they drill through many productive layers. For example, Wolfcamp wells are estimated by Bloomberg Intelligence to have the lowest break-even point of any US shale oil play. The Permian will benefit from continued technological advances, development of less-known, potentially productive layers, and an abundance of low cost support services and pipelines.

PERMIAN PRODUCTION

OIL



GAS



Source: EIA