



Maguire Energy Institute

APRA North Texas Meeting
November 9, 2018

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Topics for Discussion

- Overview of North American Oil Markets
- Oil Companies and Wealth Creation
- Information Sources
- Royalty Valuation
- Discussion

North American Oil Markets

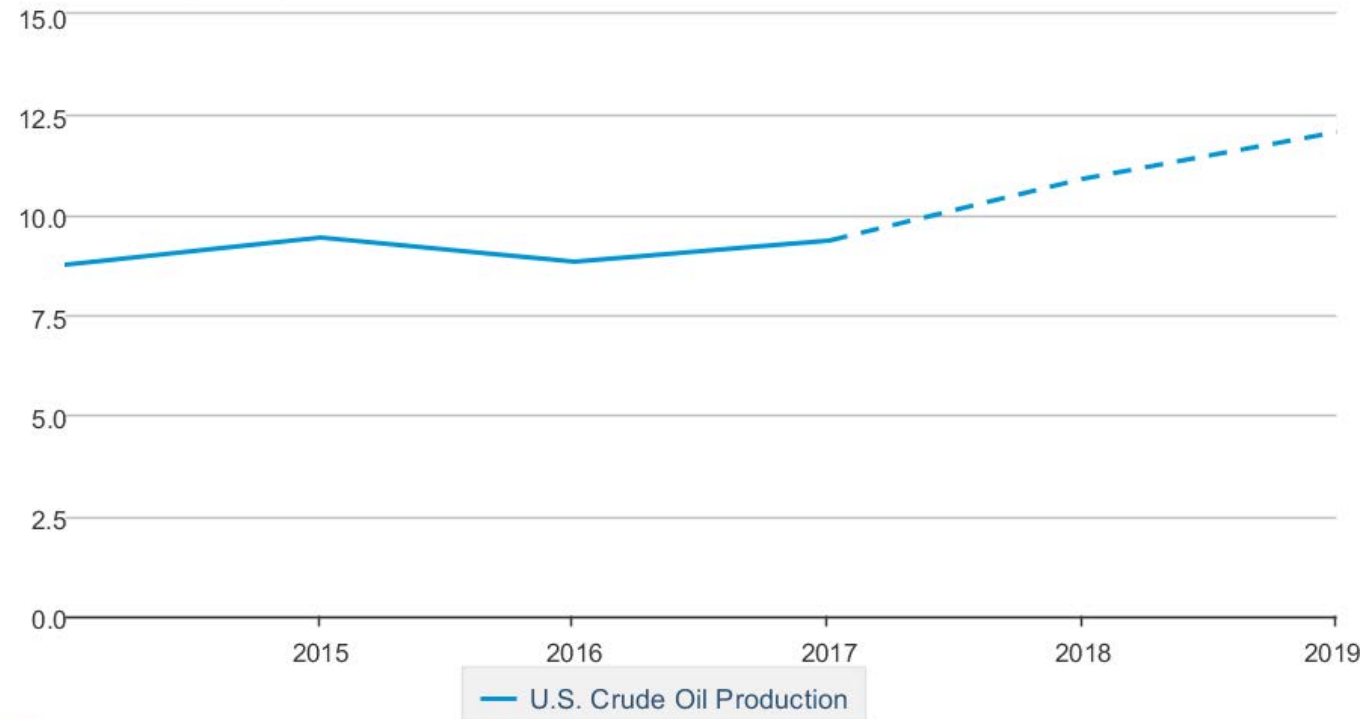
- Crude is off \$15 per barrel from its mid \$70s high in the summer
 - Seasonal
 - Iran sanctions being dampened by exemptions
 - Increased supply
 - Demand concerns
- Long term outlook is still bullish - \$60+
- Permian Basin is center of the US industry
 - Wells declining faster than anticipated
 - Economics work down into the 40s
 - Most private and public capital is going into the Permian, though other Basins are warming up



North American Oil Markets

U.S. Crude Oil Production

million barrels per day



Source: U.S. Energy Information Administration

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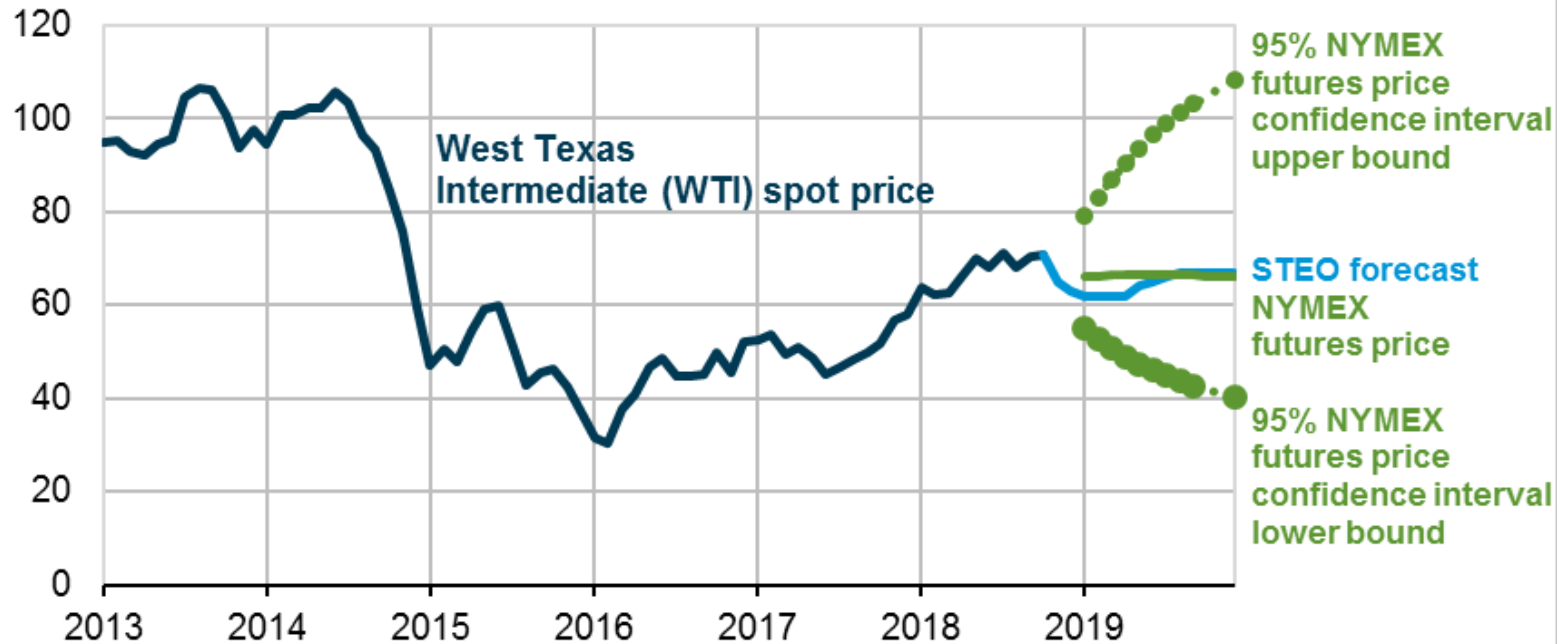
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Oil Prices

West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



Note: Confidence interval derived from options market information for the five trading days ending Nov 1, 2018. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Source: Short-Term Energy Outlook, November 2018, and CME Group



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How do oil companies create value?

- Explore for potential minerals through seismic, record searches etc.
- Acquire mineral rights through leases
- Drill exploratory wells - determine results
- Drill development wells
- “Prove Up” the property - determine the reserves and the value
- An independent petroleum engineering firm provides a “reserve report”
- Reserve report provides an assumption on how much oil can be economically produced at forecasted prices and with certain assumptions such as how fast the wells will decline etc.
- Value is the NPV or Net Present Value of the forecasted cash flows.
- The company can either produce the field, sell the field, or enter into a joint interest agreement to partner with others.



You have this property in hand. What do you do with it?

- The proved reserves - those with a 90% probability of being economically produced are put on your balance sheet as assets.
- If you are a small company, you will need need capital to produce it.
 - Debt markets
 - Equity markets - IPOs
 - Partners
- Ultimately that property is either produced, held for the future, or sold.



So what is the value?

- If its produced, it's the proved reserves on the balance sheet.
 - Public companies - 10K (PV10)
 - Private companies or entrepreneurs - difficult to find
- If its sold - it's the transaction price
 - A little easier to find
 - Oil and Gas Investor Magazine
 - Investment bank and analyst reports
 - DrillingInfo service
 - Bloomberg
 - Thomson Reuters Eikon
 - Google
- If its neither - look for comparable transactions
 - Same commodity
 - Same basin
 - Same county
 - Same acreage
 - Within the same year
 - Other similarities
 - Look through the same basic sources



Three players in the markets

- Public companies
 - Pioneer
 - Anadarko,
 - ExxonMobil
- Private Equity Backed Companies
 - NGP (sponsor)
 - Encap (sponsor)
- Private companies

Strategies Prior to 2017

- Public Companies
 - Find and produce
- Private Equity Companies
 - Prove up, drill 3 to 4 years
 - Sell to public company
 - IPO to capital markets
- Private companies
 - All of the above

Post 2017 – IPO Market Closed

- Public Companies
 - Find and produce
- Private Equity Companies
 - Prove up, drill
 - Sell to another private equity company
 - Wait for public capital market valuations to improve
- Private Companies
 - All of the above



Royalties

- The source of most mineral holders wealth
- A lease provides two major compensation components
 - Royalty - used to be 1/8 of revenue. 1/5 now standard
 - Bonus --\$/acre. Amount depends on field, market cycle etc. Can range from \$500 to \$10,000.

Valuing Royalties

- Very difficult
- While leases are public information in the county of record and most leases are on sources such as DrillingInfo etc., the “real compensation” is confidential.
- The true bonus and royalty is usually in a side agreement or letter for competitive reasons - companies don't want other companies knowing what they pay royalty owners

Ways to Calculate Royalty Information

- NPV of the production stream at a price forecast times the royalty rate.
 - Information is difficult to find.
 - Bonus can be higher than the royalty in early years as its cash to the mineral owner.
 - Production rate available from DrillingInfo or the state regulatory web site
 - Don't know the rate.
- WAG method - 3 to 5 times the annual royalty payment
 - \$12 million in annual payment per year. Property may be worth \$36 million to \$60 million in net worth.



Ways to Calculate Royalty Information

- Comparable Transactions
- Look for comparable transactions
 - Basin
 - Profile of production
 - County
- Compare comparable transactions - take 20% of it for the royalty approximation.
- Remember - that's a value. The royalty owner continues to receive payments, not a lump sum.

Example

Pioneer Natural Resources selling more assets in \$132M deal

Oct 31, 2018, 1:59pm CDT

Pioneer Natural Resources Co. is continuing its slow exit from the oil and natural gas fields of South Texas.

Irving-based Pioneer (NYSE: PXD) entered into a \$132 million deal to sell 2,900 net acres of leases in Live Oak County, the exploration and production company confirmed. The buyer was not disclosed.

Wells drilled on the leases, which are about 75 miles south of San Antonio, target the Sinor Nest field of the Lower Wilcox geological formation. The wells produced 3,100 barrels of oil equivalent per day during the second quarter, Pioneer reported.



Tim Dove is CEO of Pioneer Natural Resources Co., which made a deal to sell 2,900 acres of oil leases in South Texas.

Implication for Development Purposes

- Landowner may not be the mineral owner. Title search often required.
- Difficult to calculate a precise value but you can ballpark.
- Royalty payments fluctuate with the markets
- Wills and trusts can be a nightmare - the acreage can be split multiple ways with heirs fighting. Oil and gas lawyers are worth the price.
- Private equity backed company CEOs and officers frequently have much of their own wealth tied up in their company - by requirement of the PE sponsor. Their wealth occurs when they are bought.

