



Natural Resources RECORD

The Valuation of Oil and Gas Properties

Valuing oil and gas properties held by individuals or estates at three times annual cash flow (3x Cash Flow) has been a widely used rule of thumb for decades. More sophisticated users of the rule might apply it only to working interests and apply a higher (say 5x) multiple for royalty or overriding royalty interests. The convention is to simply multiply the trailing twelve-month cash flow figure generated by the subject property or collection of properties by three and the result presumably represents the market value of such properties. Countless CPAs and attorneys have filed estate or gift tax returns using this methodology. Furthermore, many bank trust departments regularly use this methodology when valuing oil and gas properties.

Because the approach is so simple and avoids petroleum engineering or appraisal fees, it is widely used, particularly for smaller, nominal properties. However, this rule of thumb is often applied in situations beyond its useful bounds and can result in conclusions that differ dramatically from the actual market value of the subject properties.

The Likely Origin of the 3x Cash Flow Rule of Thumb

The 3x Cash Flow rule gained significant traction decades ago in oil and gas producing regions like Texas and Oklahoma where legacy oil fields had relatively predictable declines. Property buyers probably set the acquisition standard based on their expectation of field declines, and their desire to create some margin for error (not having sufficient time or resources to perform detailed due diligence) as well as earn a spread for making a market in the interest. As the interests were passed down through family lines and further fractionalized, the cash flows were likely less material and the sellers many times not sophisticated enough to know whether they were receiving fair value for their properties.

The Impact of Technology

Technological advances in recent decades have increased the value of oil and gas properties. The combination of horizontal drilling with hydraulic fracturing have unlocked the enormous “shale” plays – the Barnett Shale in the late 1990s/early 2000s and more recently, the liquids-oriented Bakken/Three Forks and Eagle Ford Shales during 2009 and 2010. This and other technology has breathed new life into legacy oil and gas producing regions in the U.S. Also, the advent of the auction houses such as EnergyNet, Inc. (EnergyNet) or The Oil and Gas Asset Clearinghouse have increased the efficiency of the market for oil and gas properties resulting in higher values.

Potential Distortions in Valuation

Sophisticated buyers and sellers of oil and gas properties know that there can be significant value attributable to non-producing properties. Use of the 3x Cash Flow multiple applied to a collection of producing and non-producing properties implicitly gives little or no value to the non-producing properties. Consider a 1,000 acre mineral tract in the Eagle Ford or Marcellus shale that has been producing cash flow of approximately \$100,000 per year from a non-shale depth. Under the rule, the minerals would have an implied value of \$300,000. A closer examination might show that the property has significant upside potential related to the shale play and that the lease bonus on the shale depth minerals alone might approximate \$2,500 to \$5,000 per acre or \$2.5 to \$5 million on a 1,000 acre tract. Clearly, the magnitude of such a lease bonus (and the expected royalty cash flow stream from future production) implies a substantially higher value for the property than the rule of thumb approach.

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Market Data

In a recent issue of *Oil and Gas Investor*, Bill Britain, the President and CEO of EnergyNet, reported that cash flow multiples on royalty and over-riding royalty interests auctioned from January 2007 to June 2010 ranged from a low of 54 months (4.5x annual cash flow) for Gulf Coast properties (typically, short lived properties), to about 90 months or higher (7.5x annual cash flow) for Permian, Mid-Continent, and ArkLaTex properties. The properties sold at auction are typically broken into the lowest definable strategic unit and are therefore undiversified and do not include a non-producing component. Mineral portfolios that have upside potential through significant non-producing acreage positions trade at even higher valuation multiples. In March 2010, Dorchester Minerals, LP acquired a diverse collection of producing and non-producing royalty and mineral properties (the Maecenas properties) located in 206 counties in 17 states (mostly Texas and North Dakota) at about 11x annualized cash flow.

Conclusion

Use of the 3x Cash Flow rule of thumb could grossly understate value if the subject property base includes a significant amount of non-producing minerals and especially if those minerals have significant known upside potential (located in or near an active shale play, for example). For smaller properties where engineering studies are not available, the auction house data on specific transactions is useful for valuation purposes but such data is not publicly available and is difficult to obtain. Ultimately, the location and other characteristics (type of interest – royalty vs. working, diversification by geography and by operator, “upside” potential, and years of production history) should be considered in the valuation of the subject properties.

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Did You Know...

In the last 10 years, master limited partnerships (MLPs) in the energy industry have continually outperformed the market, reporting annualized returns of 17% according to the *Alerian MLP Index* (a benchmark index comprised of 50 of the largest energy MLPs), while the S&P 500 reported an average return of just over 3%.

Global investment in renewable energy sources grew by 32% during 2010 to reach a record level of \$211B according to the UN's *Global Trends in Renewable Energy Investment 2011 report*.

The *Wall Street Journal* reported that Google and Citigroup will each invest an additional \$102 million in the Alta Wind Energy Center, a wind farm based in Tehachapi, California expected to become the nation's largest wind-energy provider by the end of this year.

Director pay in the energy industry is up 5.9%, the second highest increase among the eight industry sectors tracked in *The BDO 600: 2011 Survey of Board Compensation Practices of 600 Mid-Market Public Companies*. The increase speaks to the strength of the sector in 2010 linked to surging oil prices which allowed companies to compensate directors for increasing workloads. Energy industry directors receive an average \$139,930 in total compensation, surpassed only by directors in the technology industry.

Venezuela's proven oil reserves have surpassed Saudi Arabia's for the first time, making it the most oil-rich nation in the world, according to the *Organization of Petroleum Exporting Countries*.

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