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U.S. Shale Gas Development
The Tip of the Iceberg

Potential Impact of Shale Developments on U.S. Natural Gas Supply

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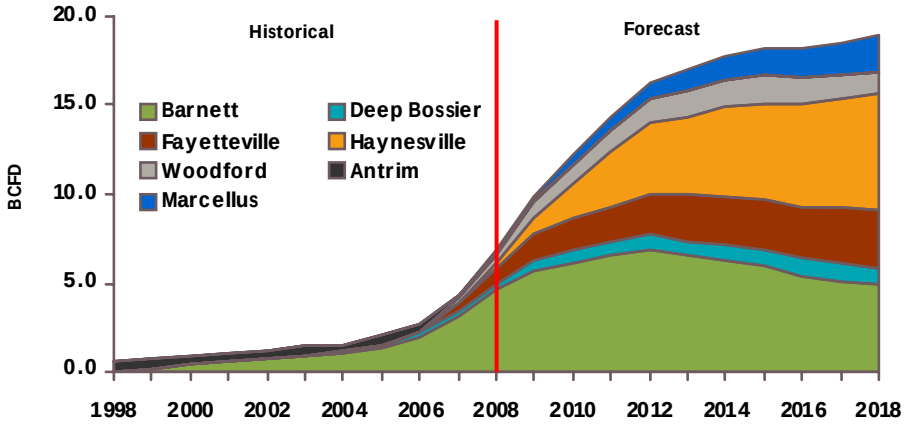
Major U.S. Shale Developments

Mr. Chairman, Commissioners – good morning! My name is Terry Ruder and I am senior vice president of Devon Energy Corporation's marketing and midstream division. I am also vice chairman of the Natural Gas Supply Association. Thank you for this opportunity to discuss the potential impact of shale developments on U.S. natural gas supply.

From Devon's perspective, shale developments have the potential to reshape the traditional domestic gas supply mix and aid in the replacement of declining conventional production. These resources, however, are only part of what will be needed to meet the nation's growing demand for natural gas. We will need to develop all of this country's natural gas resources, both onshore and offshore, if this country is going to move toward energy independence.

U.S. Shale Gas Production Potential



Source: Tristone Capital, Devon

Projections of shale's near-term and long-term potential on U.S. gas supply are significant with industry reserve estimates ranging from 250 to 750 Tcf. Currently, shale developments provide an estimated 6.0 to 8.0 Bcfd, or roughly 10 to 12% of U.S. demand. Over the next 10 to 15 years, U.S. shale production could triple from today's levels to an estimated 15 to 20 Bcfd. At those levels, shale production would make up roughly one-fourth of expected U.S. gas demand in 2018.

U.S. Shale Development

Technical Drivers

- **Resource maturity**
- **Silica content**
  - **Ability to fracture**
- **Thickness**
- **Depth**
- **Areal extent**
- **Porosity**
- **Gas-in-place**
- **Reserves per well**
- **Production rate**
- **Gas quality**
- **Frac barriers**

There are numerous technical and geological characteristics associated with shale. Ultimately, though, it gets down to how much gas is in place and recoverable, and is the shale capable of being fractured so the gas can flow at sustainable production rates. These characteristics can very dramatically between shale plays, and within the same play.

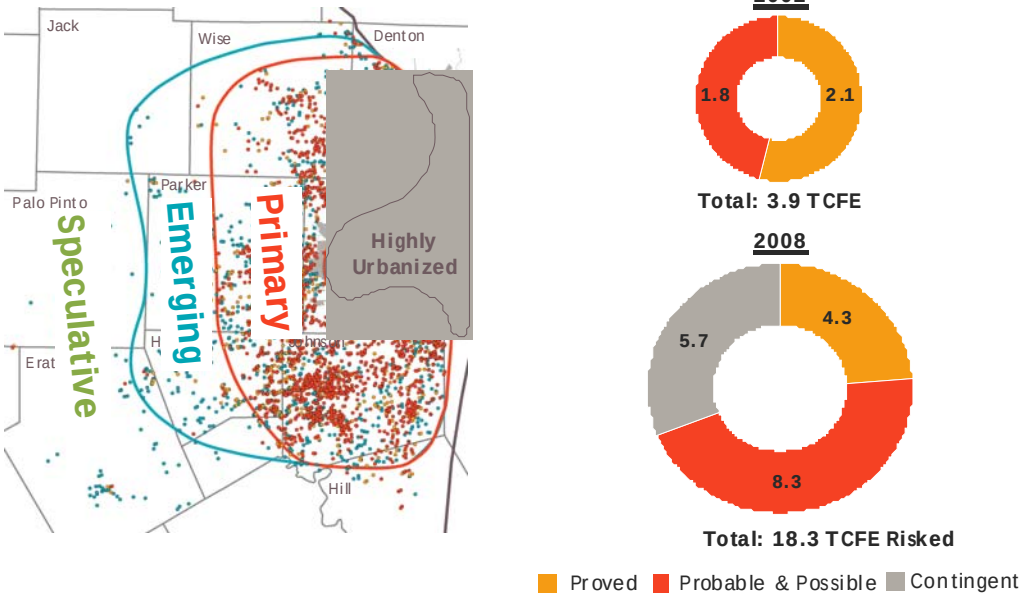
U.S. Shale Characteristics
Devon Estimates

	Fort Worth Barnett	Arkoma Woodford	Haynesville	Fayetteville	Marcellus
Depth	7,500'	7,550'	11,500'	3,000'	6,350'
Thickness (Gross)	435'	175'	1000'	275'	150'
Porosity	6%	6%	8%	7%	6%
Total gas in-place (Bcf/square mile)	147	60	200	68	72
Above ground challenges (access, market, water, regulatory, topography)	Low	Low	Low	Medium	High

For example, in the Barnett shale gas-in-place ranges from 200 Bcf per square mile to less than 50 Bcf per square mile. When Devon entered the Barnett in 2002 we were seeing 10 to 15% recovery factors of this gas-in-place. Today, however, our expectations now approach 30% or more in some areas, primarily due to advancements in horizontal drilling, extended use of 3-D seismic, application of large hydraulic fracture stimulations, and increased well density. It should be noted that without hydraulic fracture stimulation shale would not be developed to any significant scale.

Defining the Barnett Shale

Devon Resources



What has all of this meant to Devon and to the natural gas industry? For Devon, it's meant that its total risked Barnett shale resource base has increased almost 5-fold, going from 3.9 Tcf equivalent in 2002 to 18.3 Tcfe today. For industry, it's allowed shale developments following the Barnett to grow production faster with a shorter experimental drilling phase, resulting in lower costs. We believe similar advancements and accelerated growth rates can occur in many of the other yet-to-be developed shales, such as the Marcellus and Haynesville, but only if the right commercial drivers exist, such as market access and price, along with a business environment conducive to the development of oil and gas.

U.S. Shale Development

Commercial & Business Drivers

- **Prices**
- **Capital**
- **Market access**
- **Land access**
- **Regulatory environment**
- **Taxes**
- **Infrastructure**
- **Manpower & services**
- **Costs**
  - **Leasing**
  - **Drilling & completion**
  - **Operating**
- **Water availability & disposal**
- **Reserves per well**
- **Production rate**
- **Gas quality**

Although shale has proven to be a viable supply source, it has also proven to be very expensive to develop. Drilling and completion costs are a big component in determining commerciality. Costs across different shale plays vary dramatically, ranging from less than $3.0 million per well in the Barnett to more than $9.0 million per well in deeper and more complex plays. Devon estimates that industry will need to spend at least $150 billion in drilling and completion costs alone to fully develop the Barnett in the coming decades.

Infrastructure for shale is expensive due to scale and low pressure operating requirements. However, for potential shale developments in basins that are not well connected to downstream markets, are located in difficult terrain settings, or are in close proximity to more environmentally sensitive or urban areas, infrastructure costs will be even higher. To put infrastructure costs in perspective, Devon alone has invested $1.6 billion on gathering and processing systems in the Barnett shale since 2002, along with entering into contractual commitments for up to another $2.3 billion to secure and utilize gas pipeline takeaway capacity.

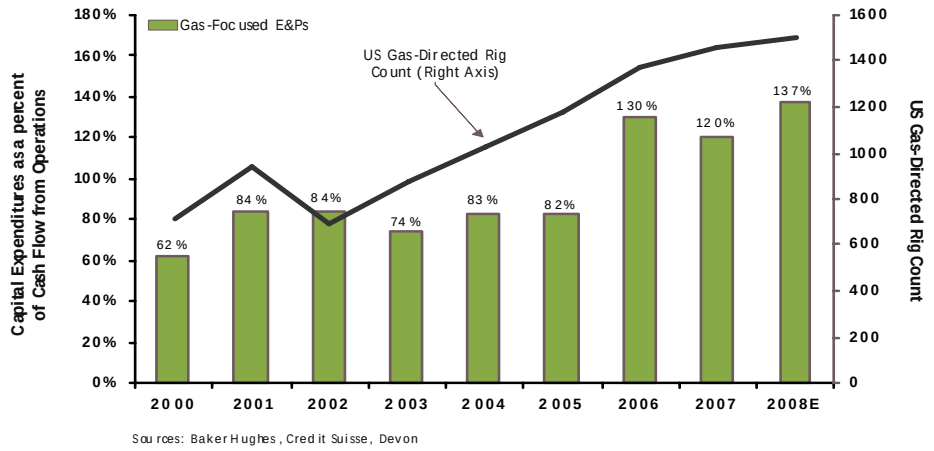
Each shale development has a different price threshold to provide commercial returns. Based on land acquisition costs and royalty rates, drilling and completion costs, and the various technical factors mentioned previously, we estimate that today industry can economically develop new shale plays with a NYMEX pricing band of $6.00 to $9.00 per MMBtu.

Just as important as commercial drivers is the need to have a stable business environment from a regulatory, financial and tax perspective. Access to land will continue to be a potential restriction to the growth of shale resources. In parts of the country where there are not well established roles and responsibilities of the local, state, and federal agencies, especially for permitting and water access, it will be difficult to duplicate the pace of growth that the Barnett has experienced. Expedient permitting for gas pipeline and related infrastructure projects is also needed to keep pace with shale developments.

Finally, there must be a stable tax environment to facilitate steady supply growth. Any new taxes imposed on industry, such as a “windfall profit tax” now being discussed in Congress, would directly and immediately reduce investment in U.S. shale developments and adversely effect production. This also holds true if any existing tax deductions for normal drilling expenses are eliminated.

Gas-Focused E&P Investment

Capital Investment as Percent of Cash Flow



Sources: Baker Hughes, Credit Suisse, Devon

The final area I will briefly touch on concerns the current economic downturn that is already beginning to have an impact on our business. Based on a recent study by Credit Suisse, gas-focused independent producing companies reinvested almost 130% of their cash flow into their drilling programs during the last 3 years. This investment has been a driving force contributing to domestic natural gas supply growth, increasing from nearly 50.0 Bcfd in 2005 to an estimated 56.0 Bcfd in 2008, a significant portion of which has come from the development of shale.

This same pace of investment cannot be sustained without access to credit. Many producers have recently announced cut backs in capital spending in order to operate within their cash flow. This lack of credit, combined with the rapid decline in oil and gas prices the past 4 months, will likely result in significantly fewer shale wells being drilled. How deep the cuts go, and the resulting impact on domestic production will probably not be known for some time, but if the current situation persists beyond next year, we can expect material production declines to continue for the next few years.

In closing, Devon's experience in developing natural gas shale plays in the U.S. and Canada gives us confidence that the potential for shale to become a cornerstone of domestic supply, reaching production levels of 15 to 20 Bcfd in the next ten to fifteen years, is real and achievable from a technical perspective. Commercial and business factors, as well as government policies, will ultimately determine if industry can fully realize the potential of this promising new gas supply.

Thank you for this opportunity to share our views.