

### The US Natural Gas Revolution: Technology Transforms A Market

### **Presented To:**



Independent Statistics & Analysis

U.S. Energy Information Administration

**2011 EIA Energy Conference** 

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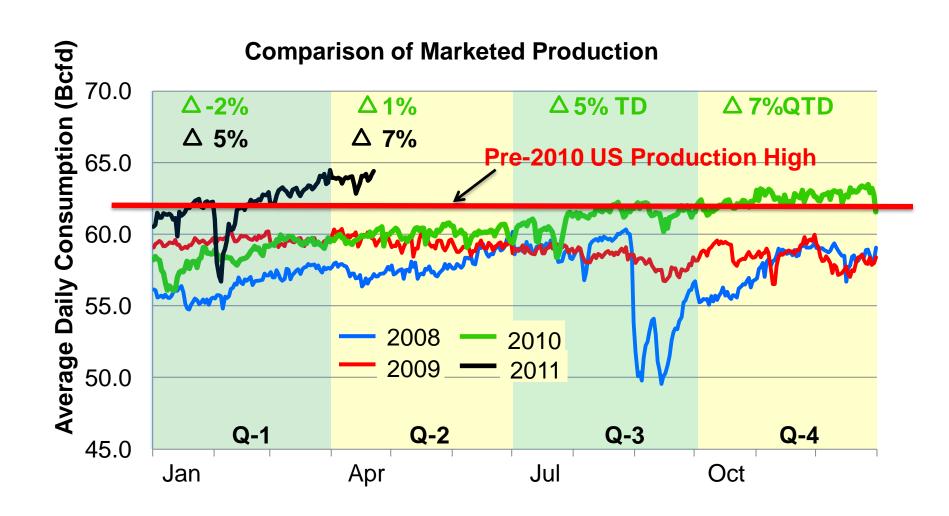


# Key Points Of My Presentation

- ▶ US natural gas production has reached record production levels.
- ♣ Growth has occurred because of evolving technology and process innovation that will continue to drive costs down.
- ▶ Technology is also improving environmental mitigation.
- ▶ Prices will remain relatively low for many years.
- ▶ The implications are profound for consumers, the economy and the environment.

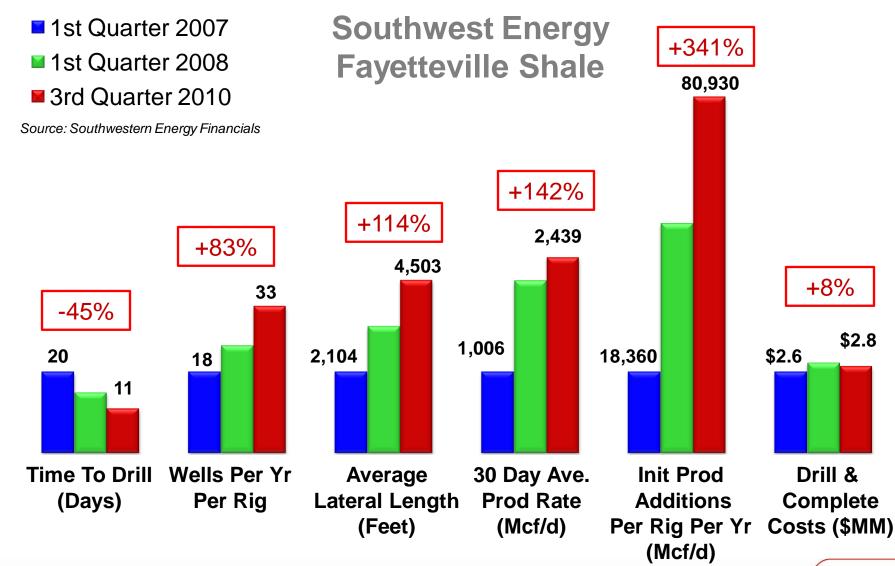


### US Production Is At Record Levels





# Drilling Rig Productivity Has Dramatically Improved

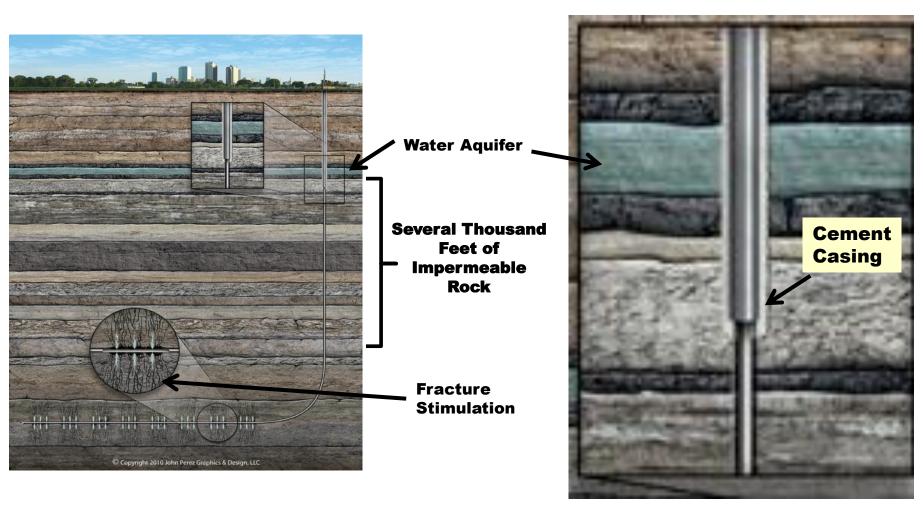


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Slide 4



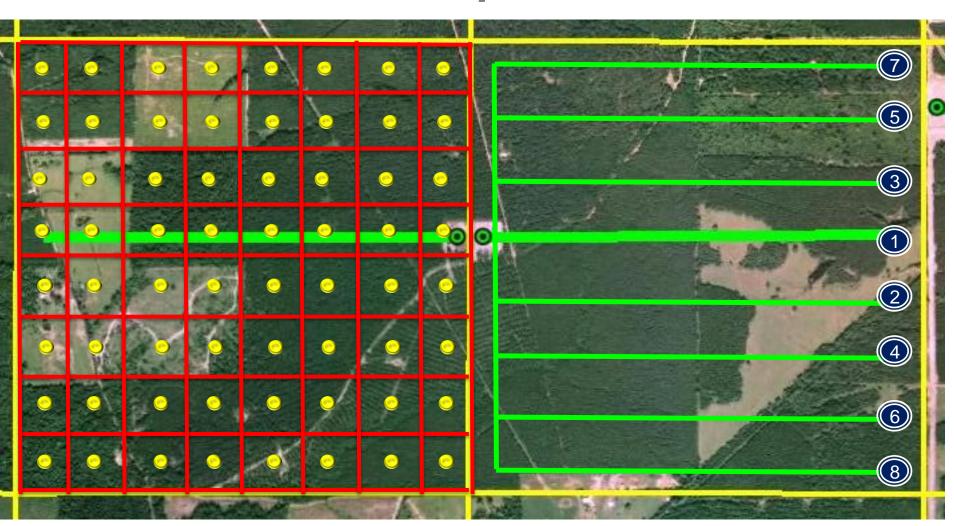
# Concerns About Fracing Are Misplaced



**Upper Well Close-up** 



# Bentek The Multi-Well Pad Approach Results In A Smaller Footprint As Well



**Historic Section Layout** 

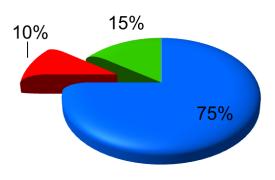
**Future Section Layout** 

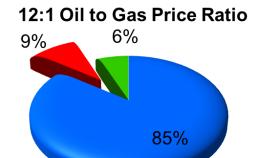


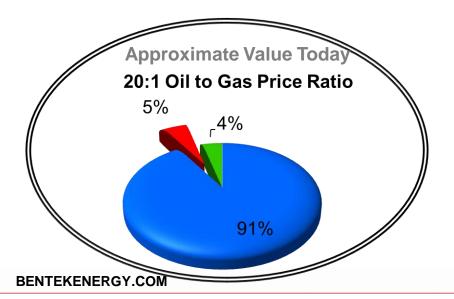
# BENTEK The Higher The Oil To Gas Price Ratio, The Less Value Accrues To Natural Gas

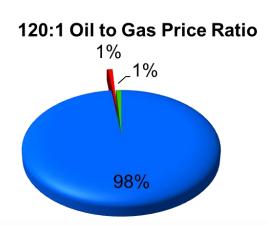
Values For Typical Sprayberry Formation Well In The Permian Basin

6:1 Oil to Gas Price Ratio



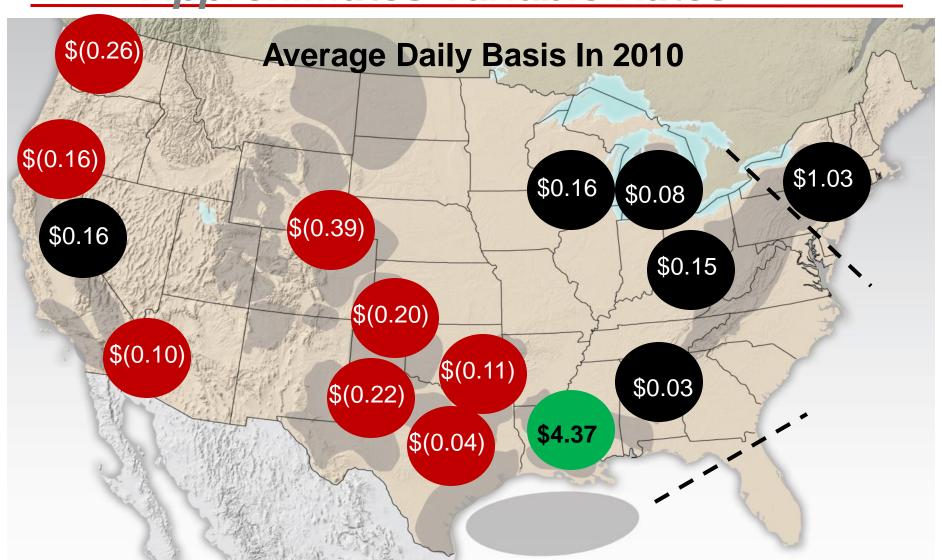








# Basis Is Relatively Flat & Approximates Variable Rates



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## **Conclusions & Implications**

- ▶ Technology is and will continue to transform the natural gas business resulting in vastly greater low cost supplies.
- As a consequence, the US faces a period of time at least through the balance of this decade where prices will remain relatively low and flat -- BENTEK believes \$4.00 to \$5.00 per MMBtu.
- Implications fall into several buckets:
  - For producers and investors:
    - Economics will favor liquids and oil exploration over natural gas.
    - The producer community may split into "haves" and "have nots", with lots of consolidation.
    - Midstream, transportation, processing and storage assets will continue to increase in value.
  - For consumers natural gas will provide an increasingly important alternative:
    - Natural gas will continue to gain market share relative to coal, alternative energy and possibly nuclear alternatives.
    - Natural gas vehicles will gain market share over electric alternatives.
    - Industry both feedstock and thermal users will increasingly rely on natural gas adding 1000s of jobs the economy. Industry will also gain because of relatively low cost gas-based electricity.
  - For state and federal policy makers, changes must occur to achieve maximum benefits:
    - Permitting must become far more expeditious and efficient.
    - Place budgetary resources where they can do the most good to facilitate the market, not subsidizing politically motivated winners and losers; let the market evolve.
    - Policy decisions at either the state or federal levels increasingly will have competitive economic implications which can damage regional, state and local tax bases and economies.



### **Questions?**

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