

USAEE Meeting

Houston, TX
April 14, 2011

Presented by: George Lippman
President of Lippman Consulting, Inc.
(915) 838-1619

How Shales have changed U.S. Gas Supply But at what cost?

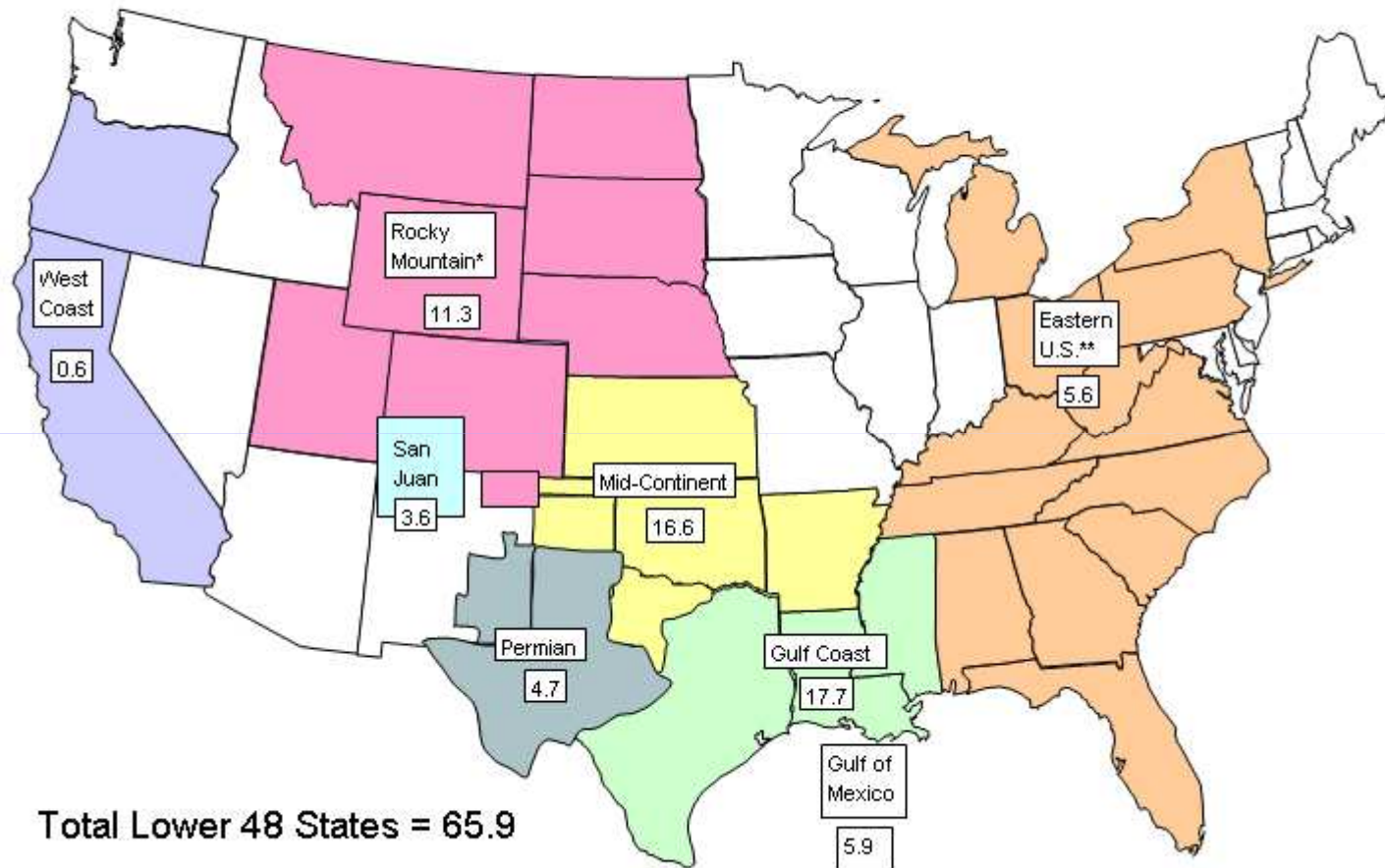
- Lower 48 States Production
- Major Shale Production Review
- Break-Even Economic Model

Lower 48 States Production

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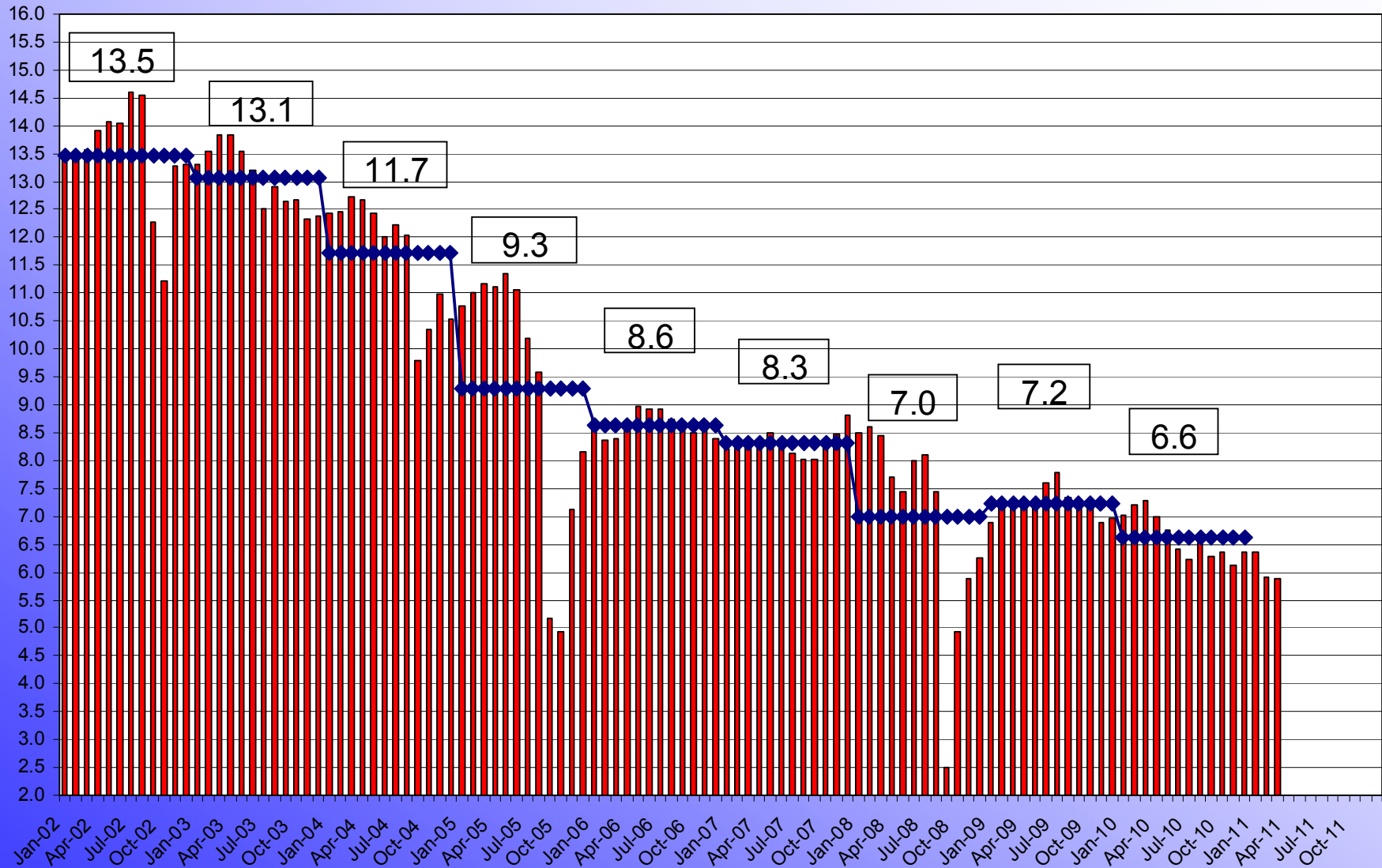
United States Wellhead Production for March 2011

Volumes in Bcf/d



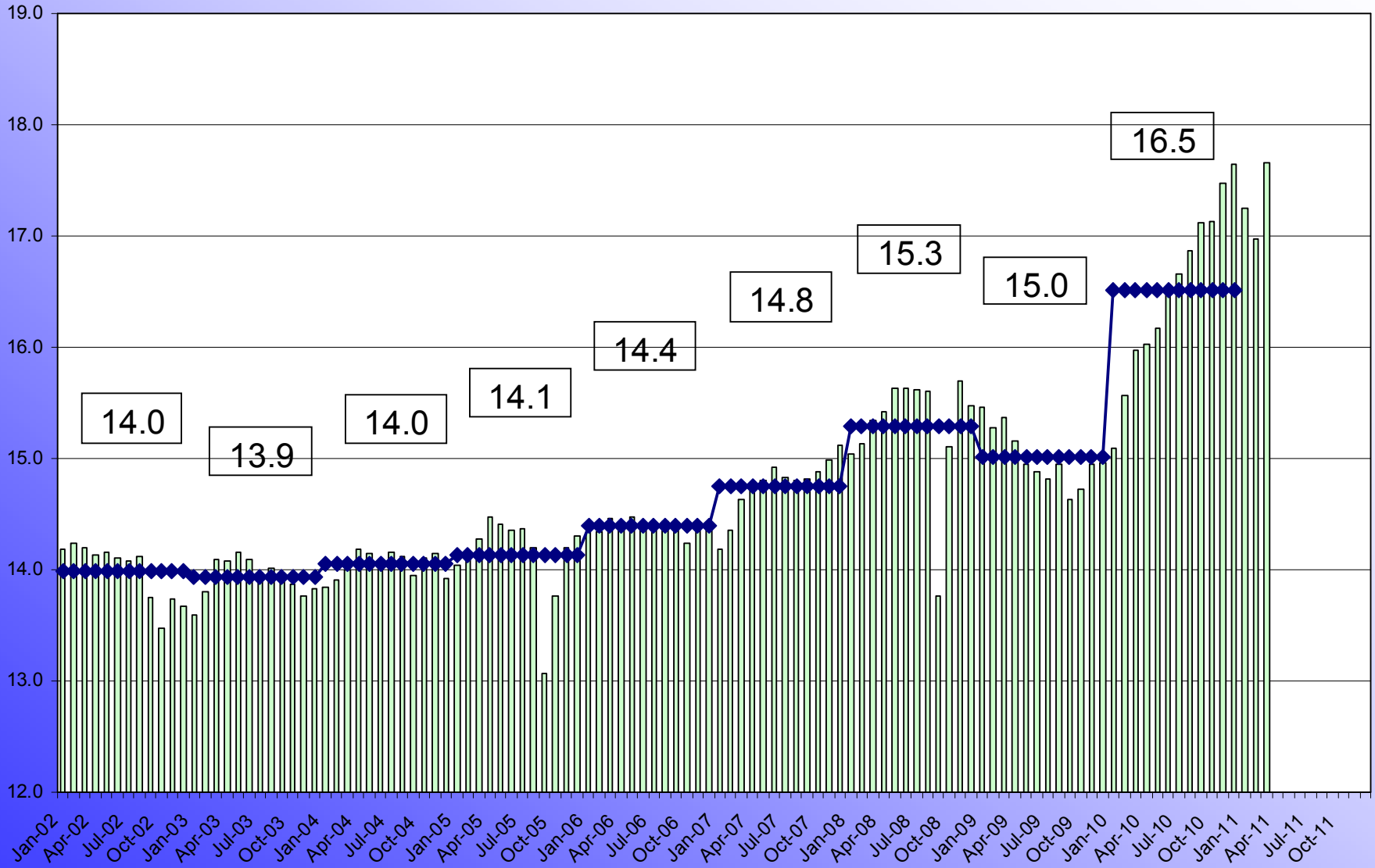
Wellhead Production for the Gulf of Mexico Region

Volumes in Bcf per day



Wellhead Production for the Gulf Coast Region

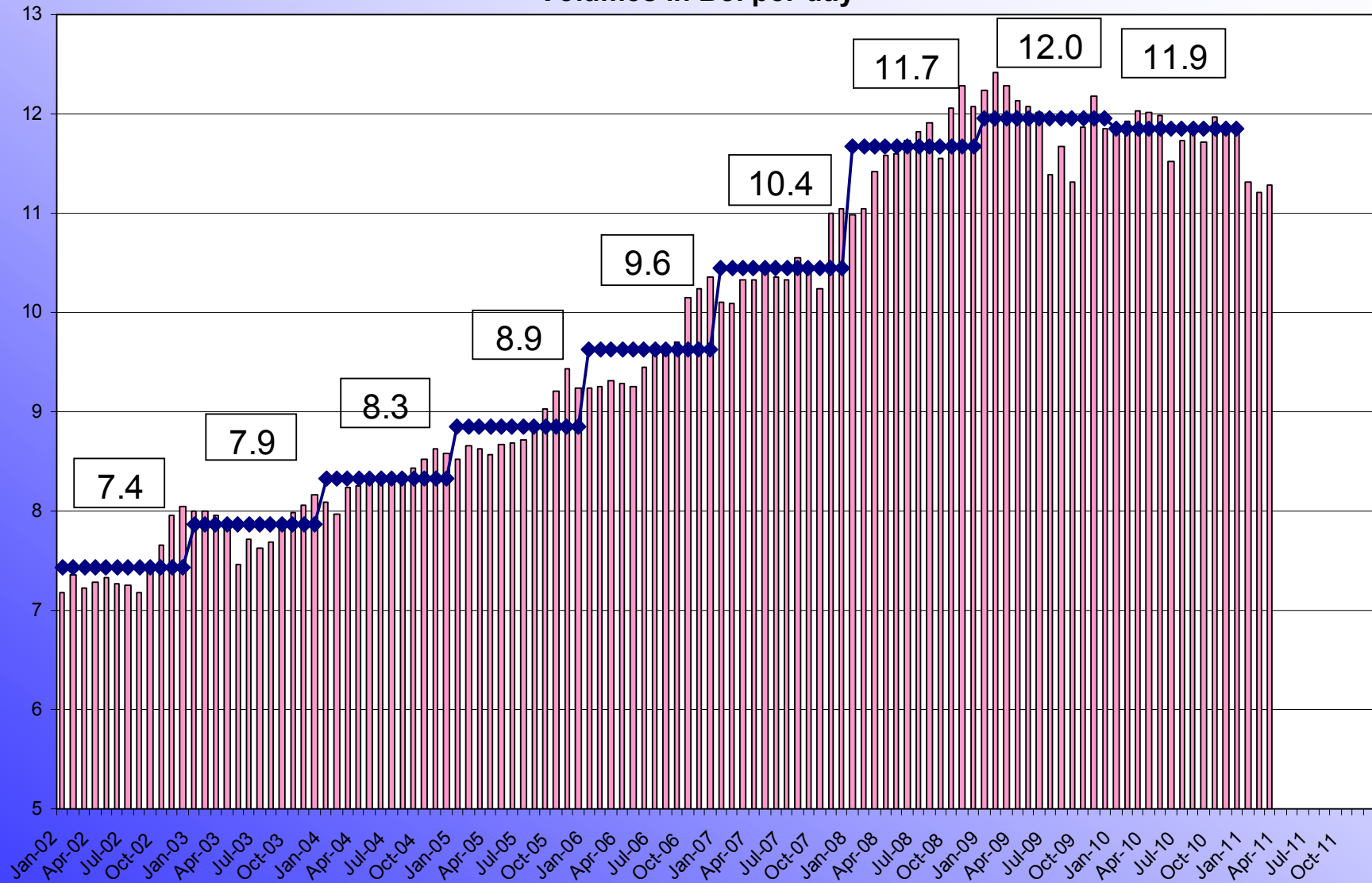
Volumes in Bcf per day



Lippman Consulting, Inc.

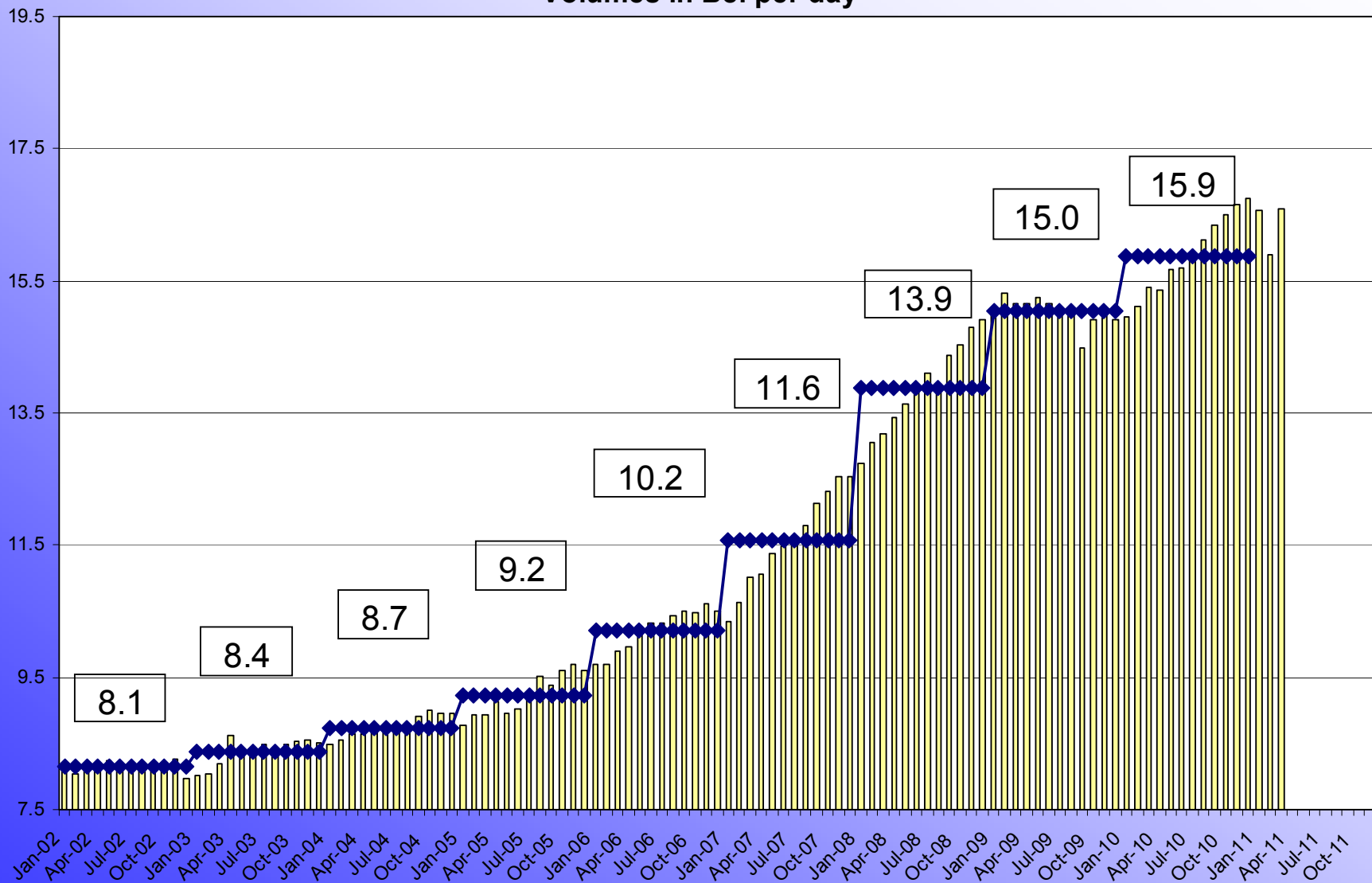
Wellhead Production for the Rocky Mountain Region

Volumes in Bcf per day



Wellhead Production for the Mid-Continent Region

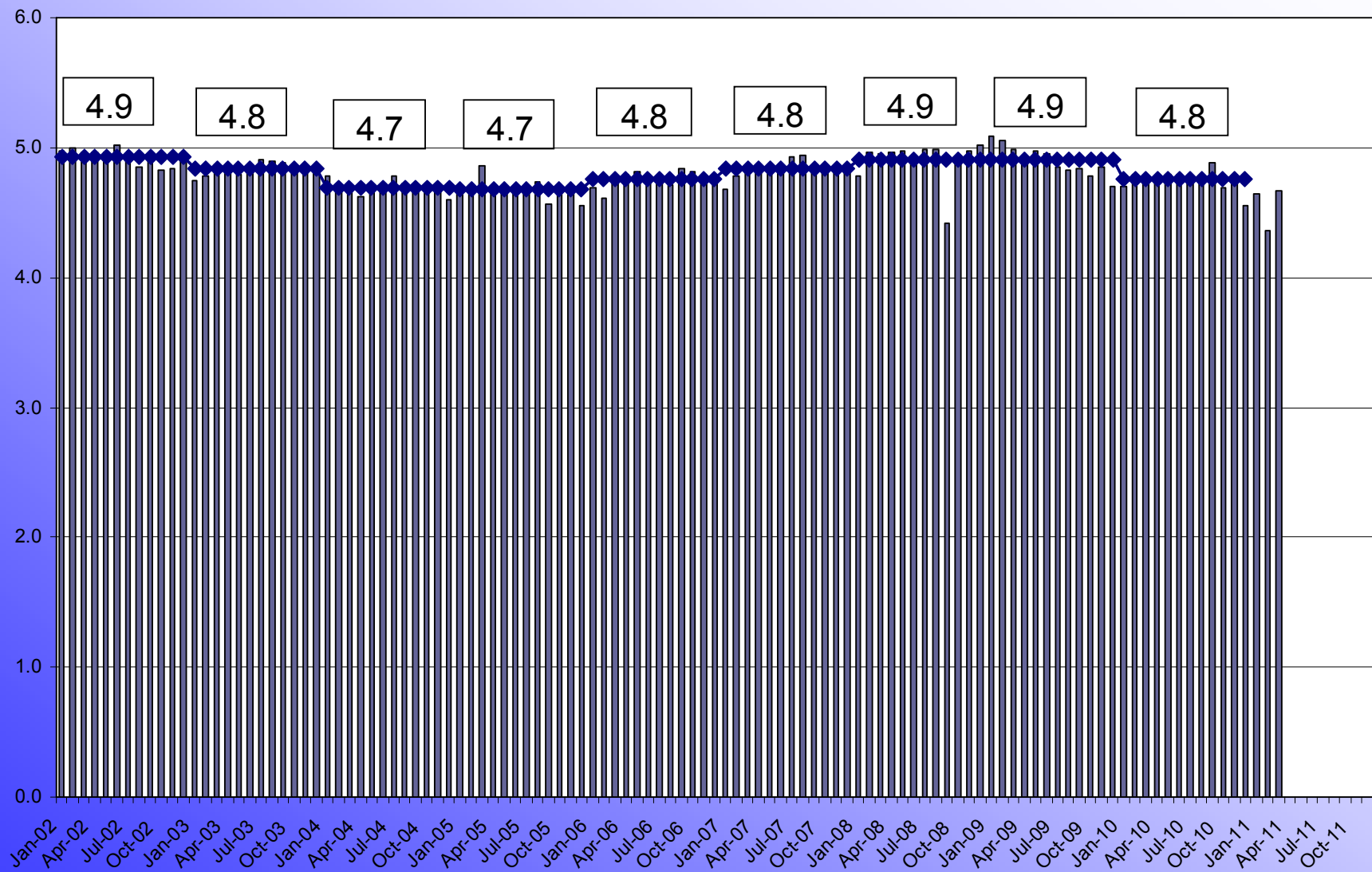
Volumes in Bcf per day



Lippman Consulting, Inc.

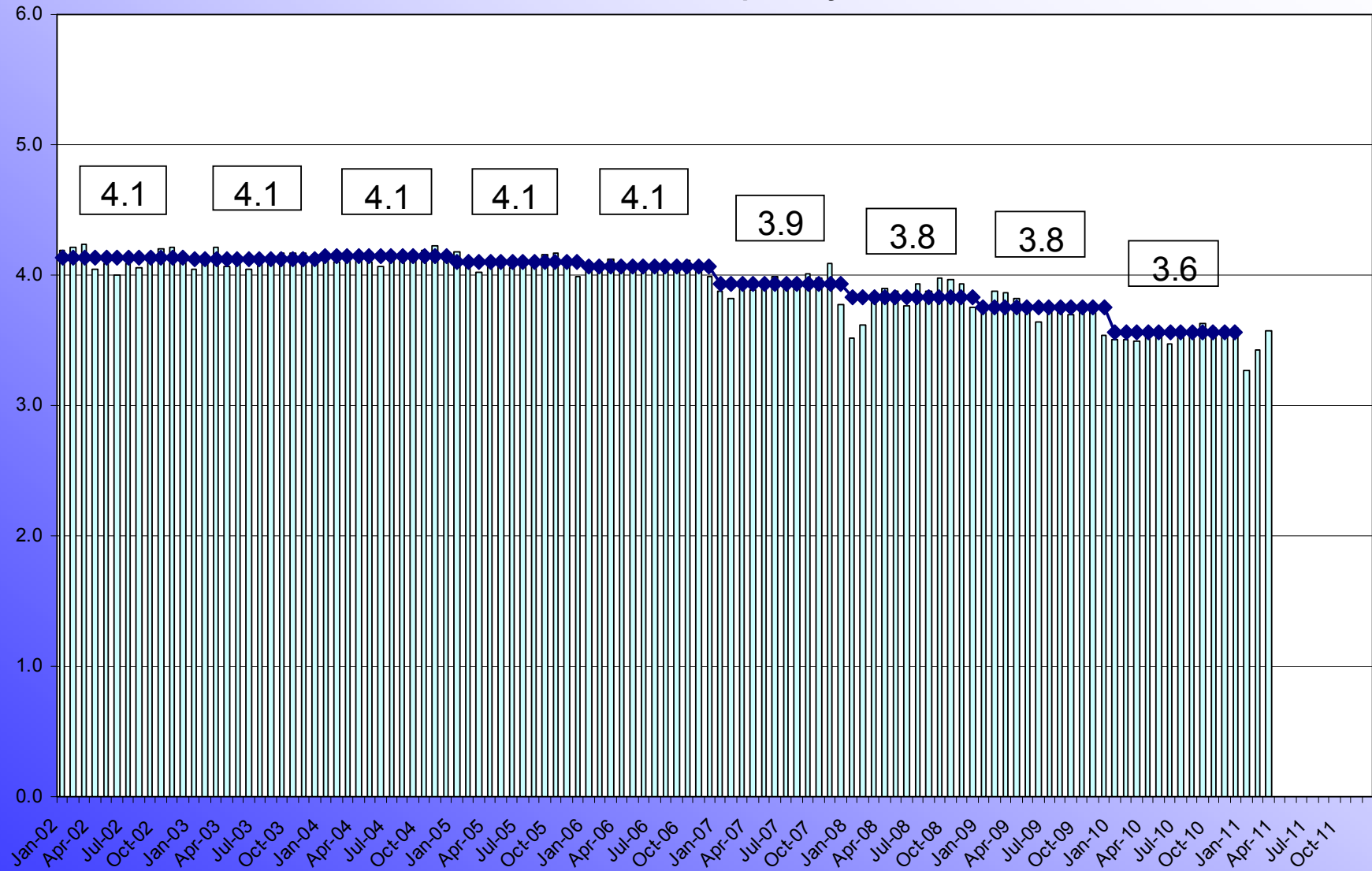
Wellhead Production for the Permian Region

Volumes in Bcf per day



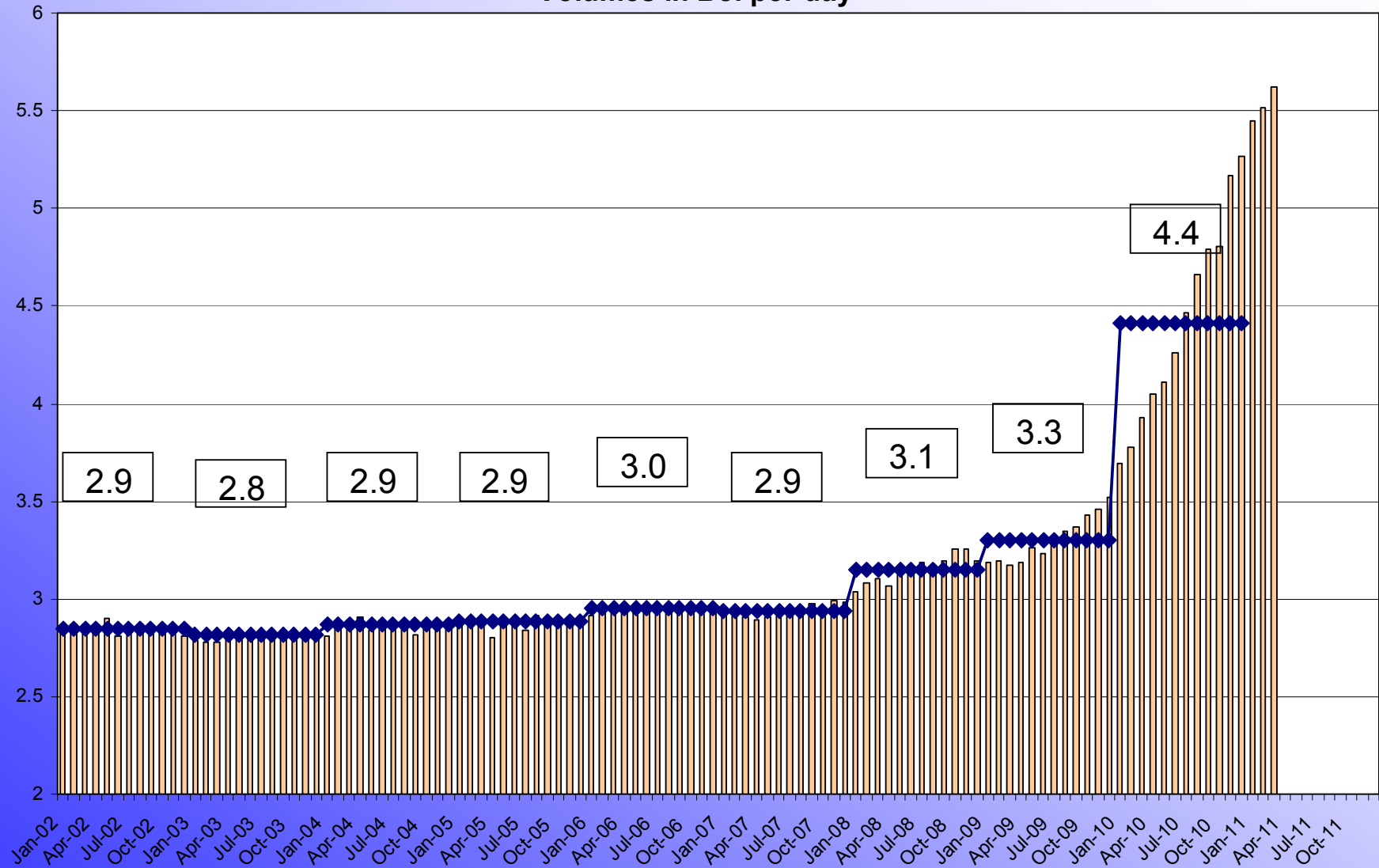
Wellhead Production for the San Juan Region

Volumes in Bcf per day



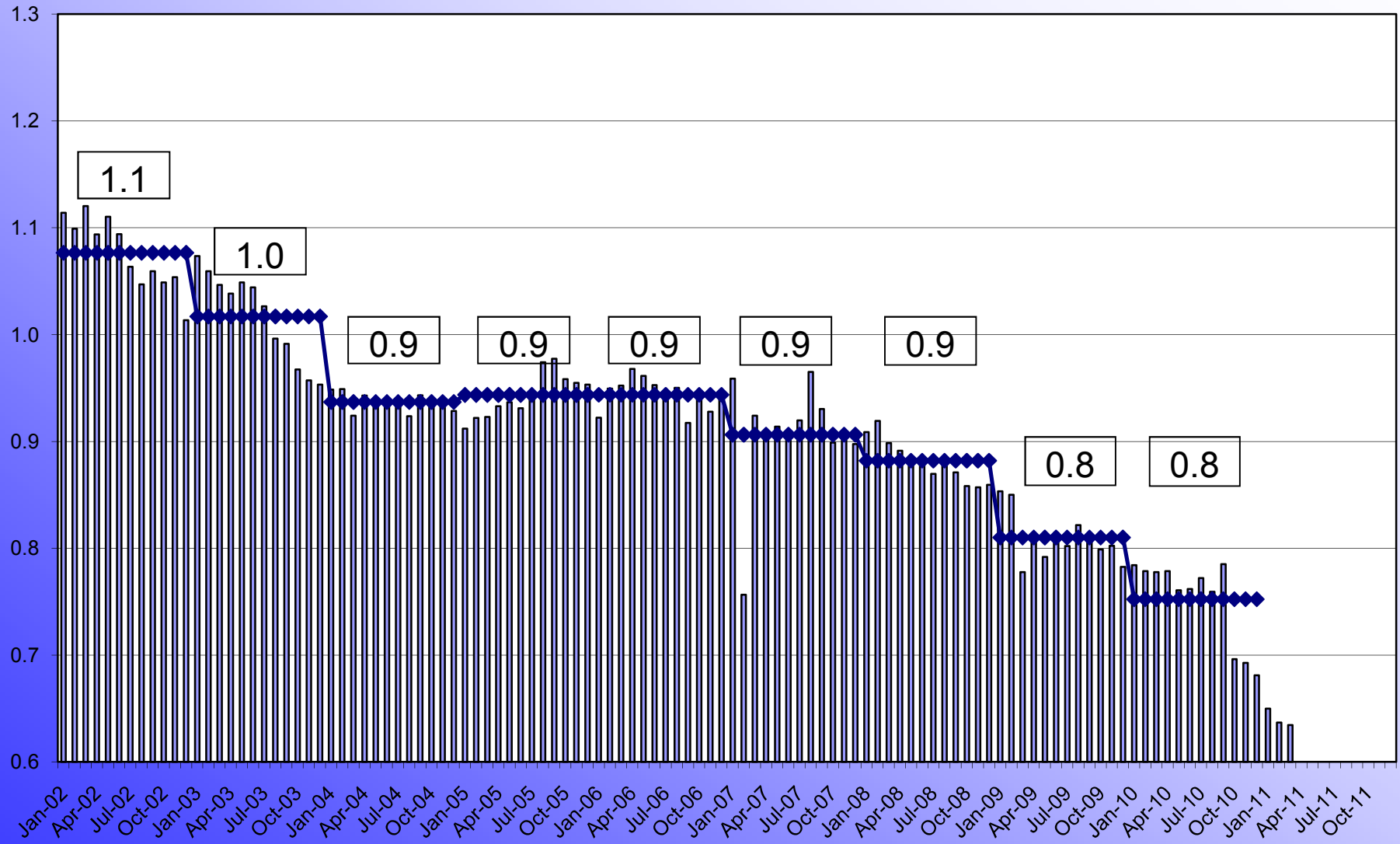
Wellhead Production for the Eastern U.S. Region

Volumes in Bcf per day



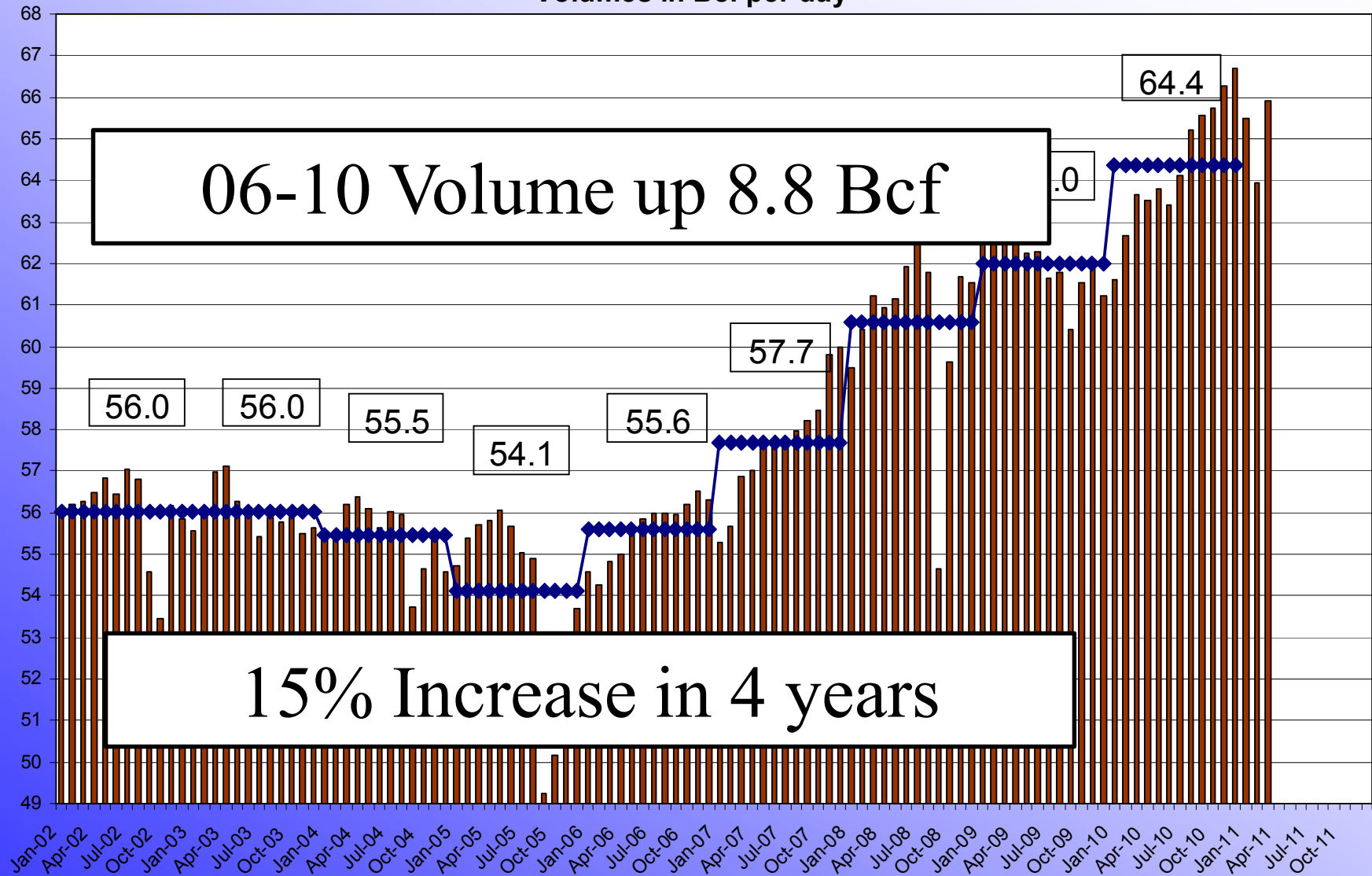
Wellhead Production for the West Coast Region

Volumes in Bcf per day

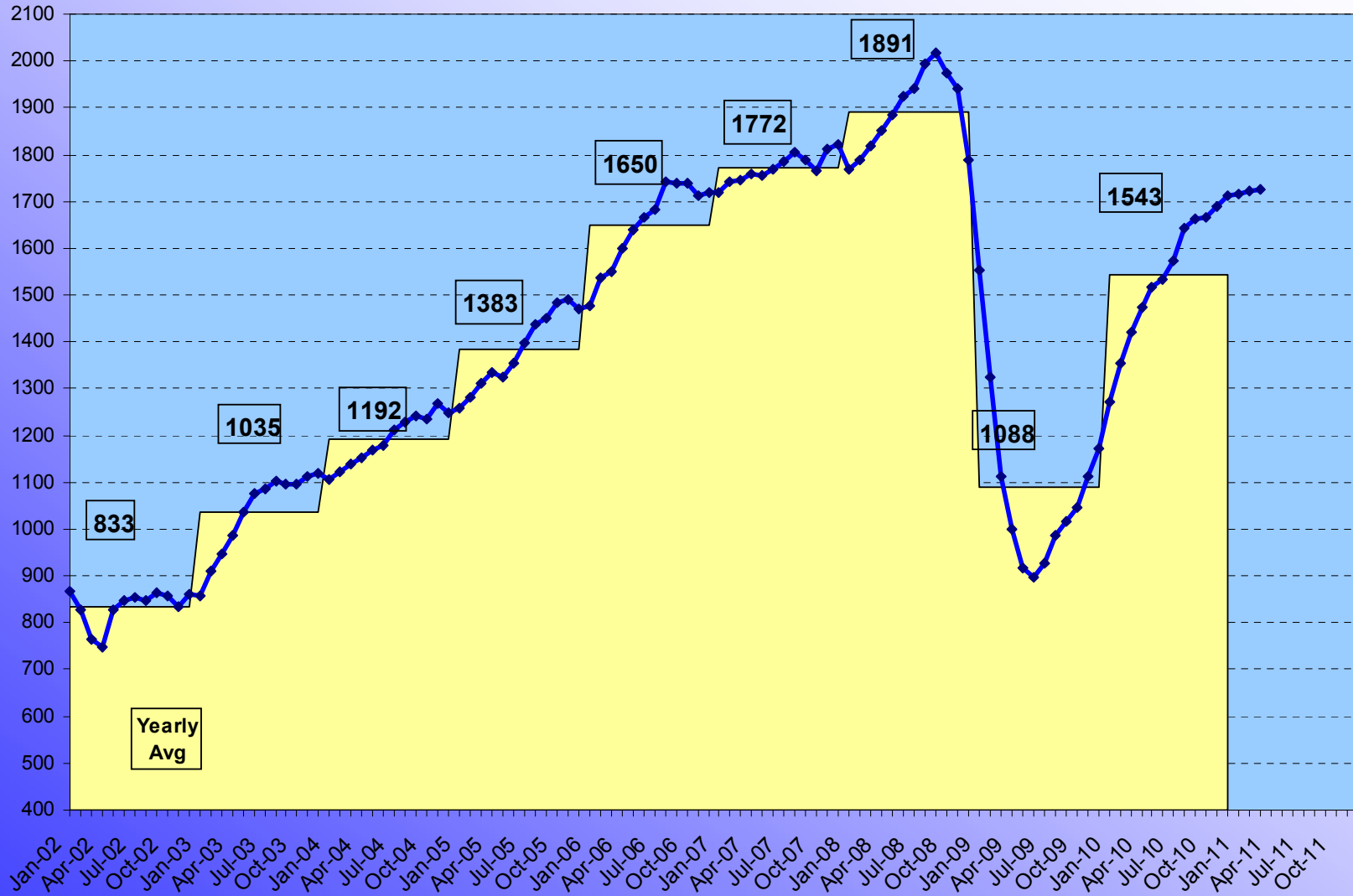


Wellhead Production for the Lower 48 States

Volumes in Bcf per day



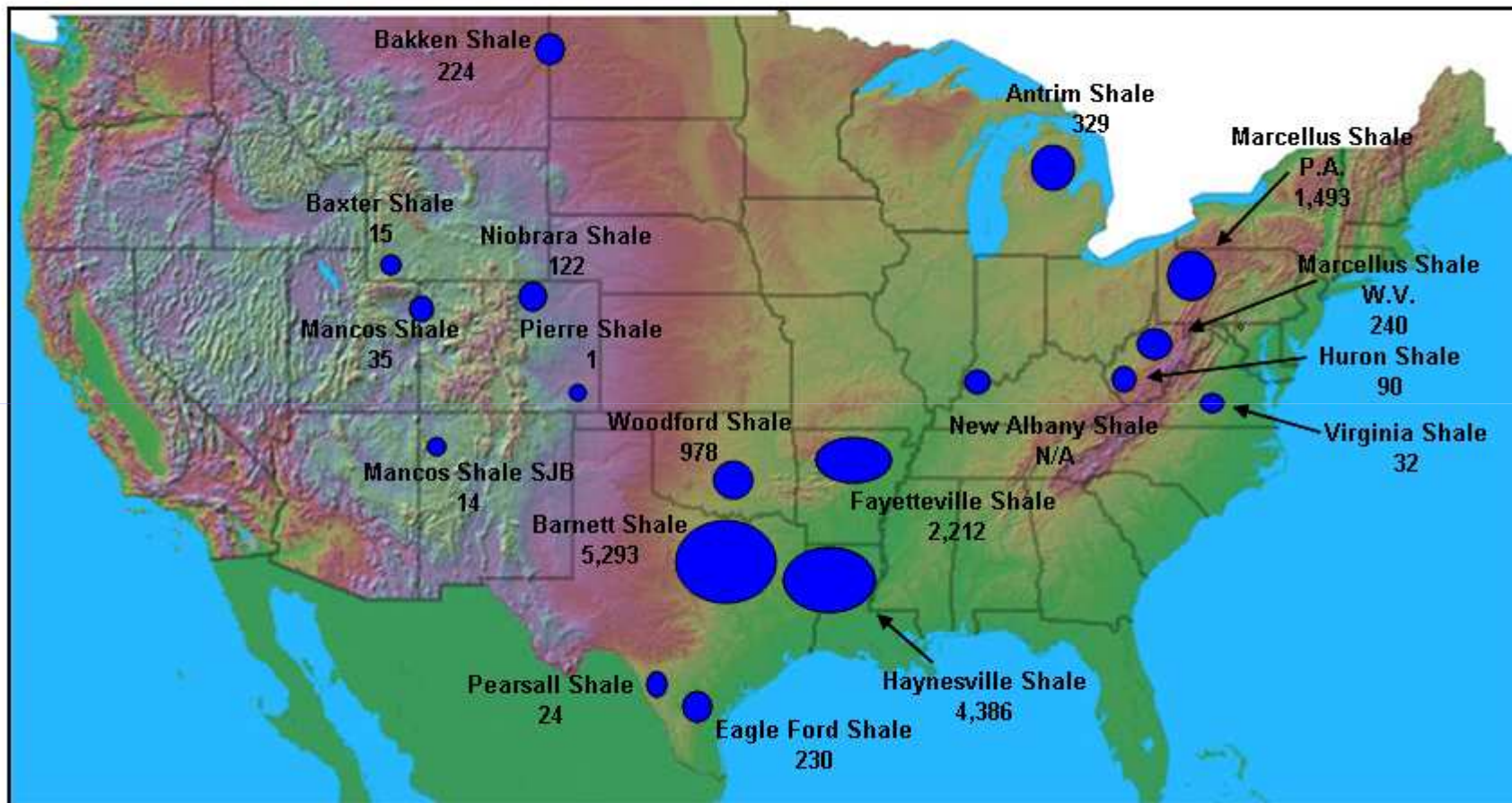
United States Rig Count



Major Shale Production

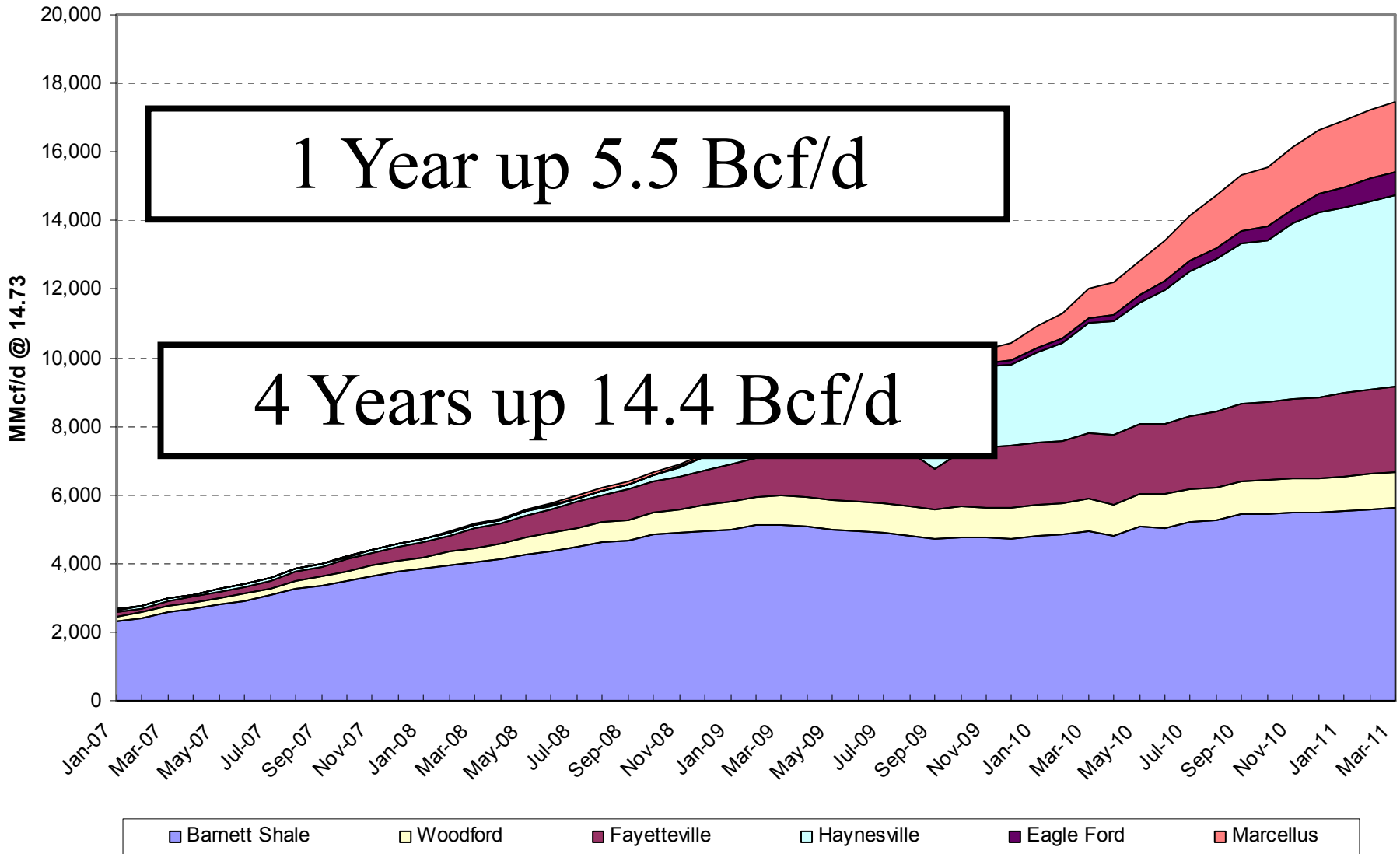
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Lower 48 States Shale Production By Production Area 3rd Qtr. 2010 Average MMcf/d



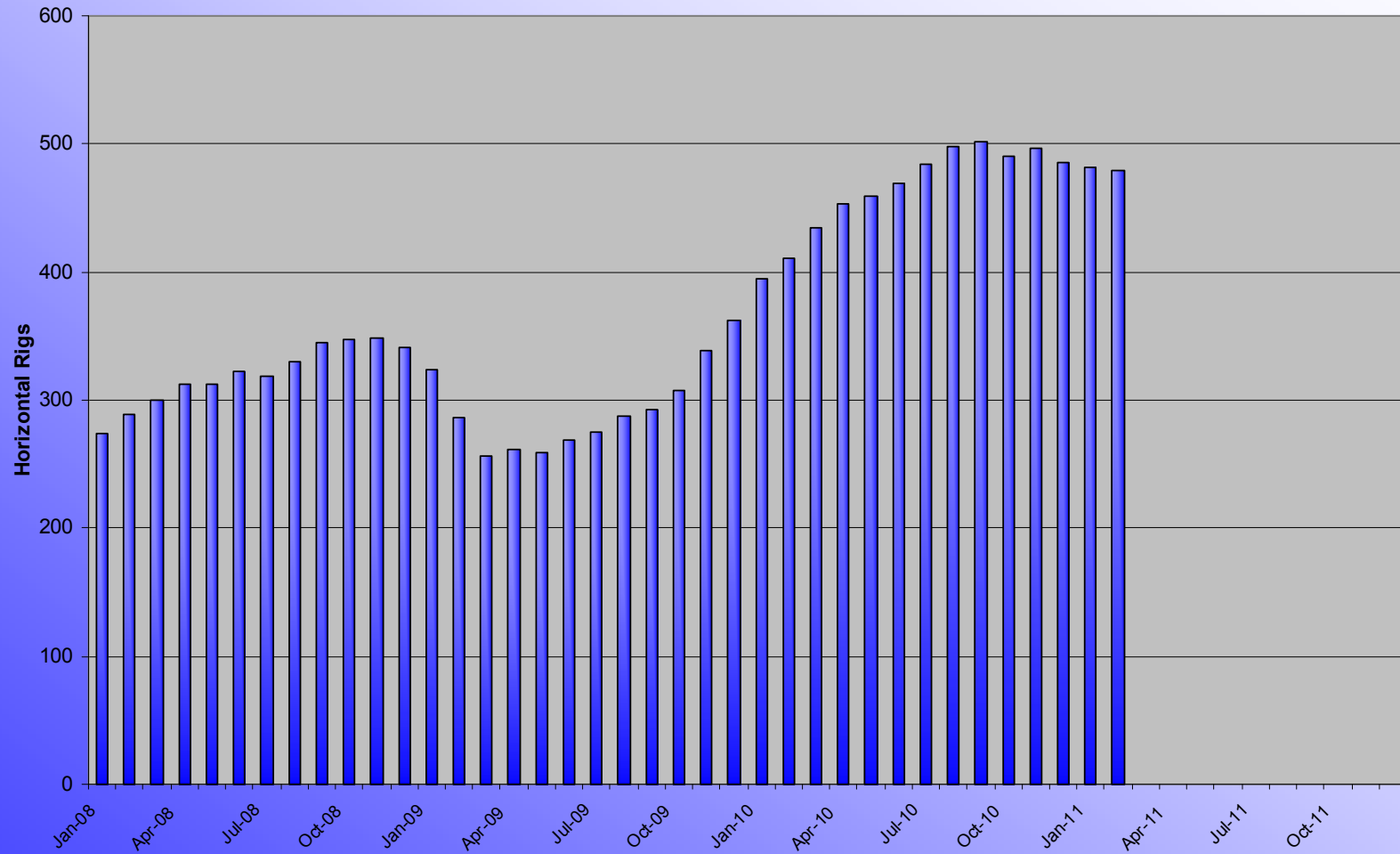
Total Lower 48 Shale: 15,718 MMcf/d

Major Shale Production

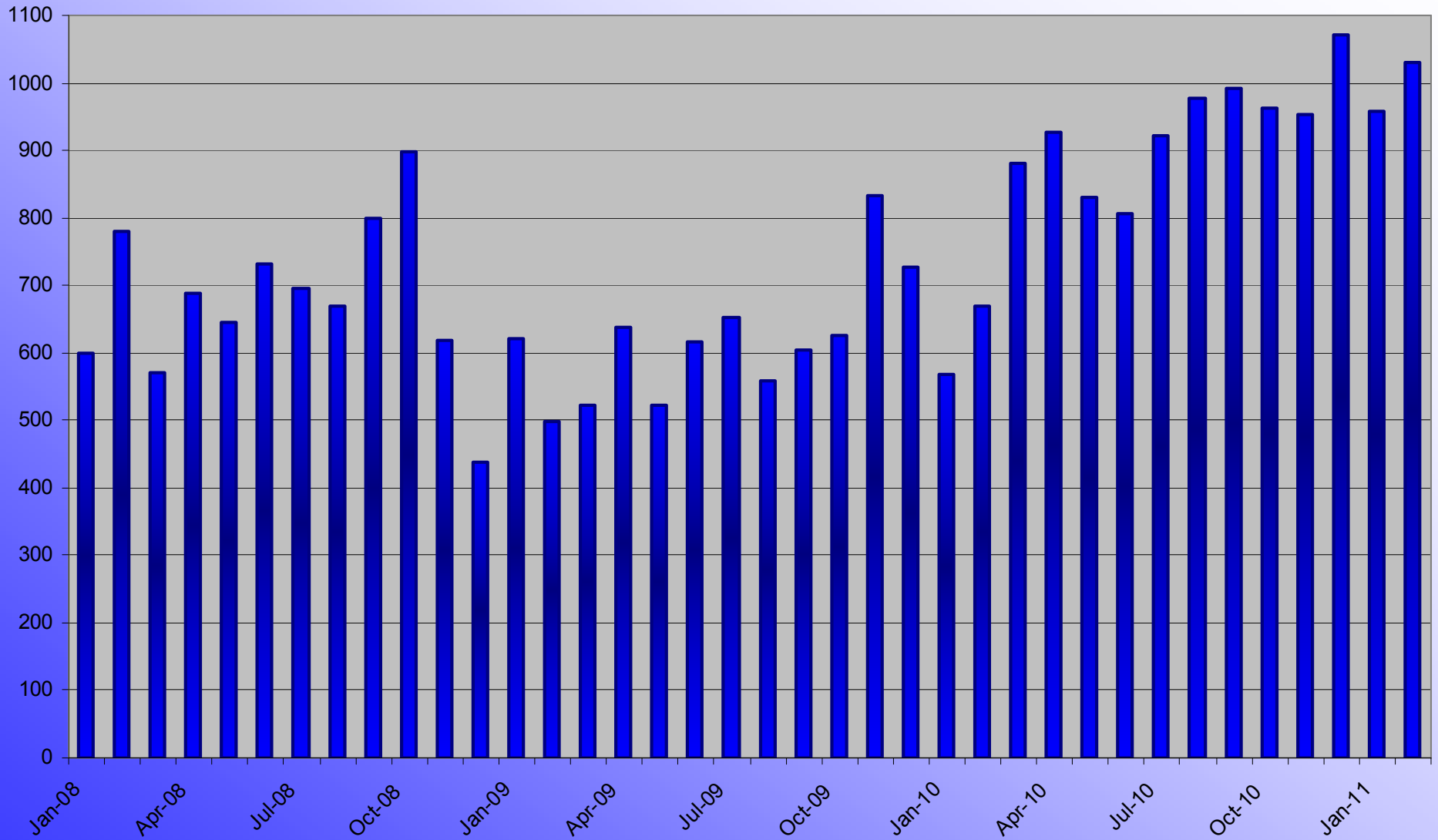


Total Horizontal Rigs

in Haynesville, Barnett, Woodford, Eagleford, Fayetteville and Marcellus Shales



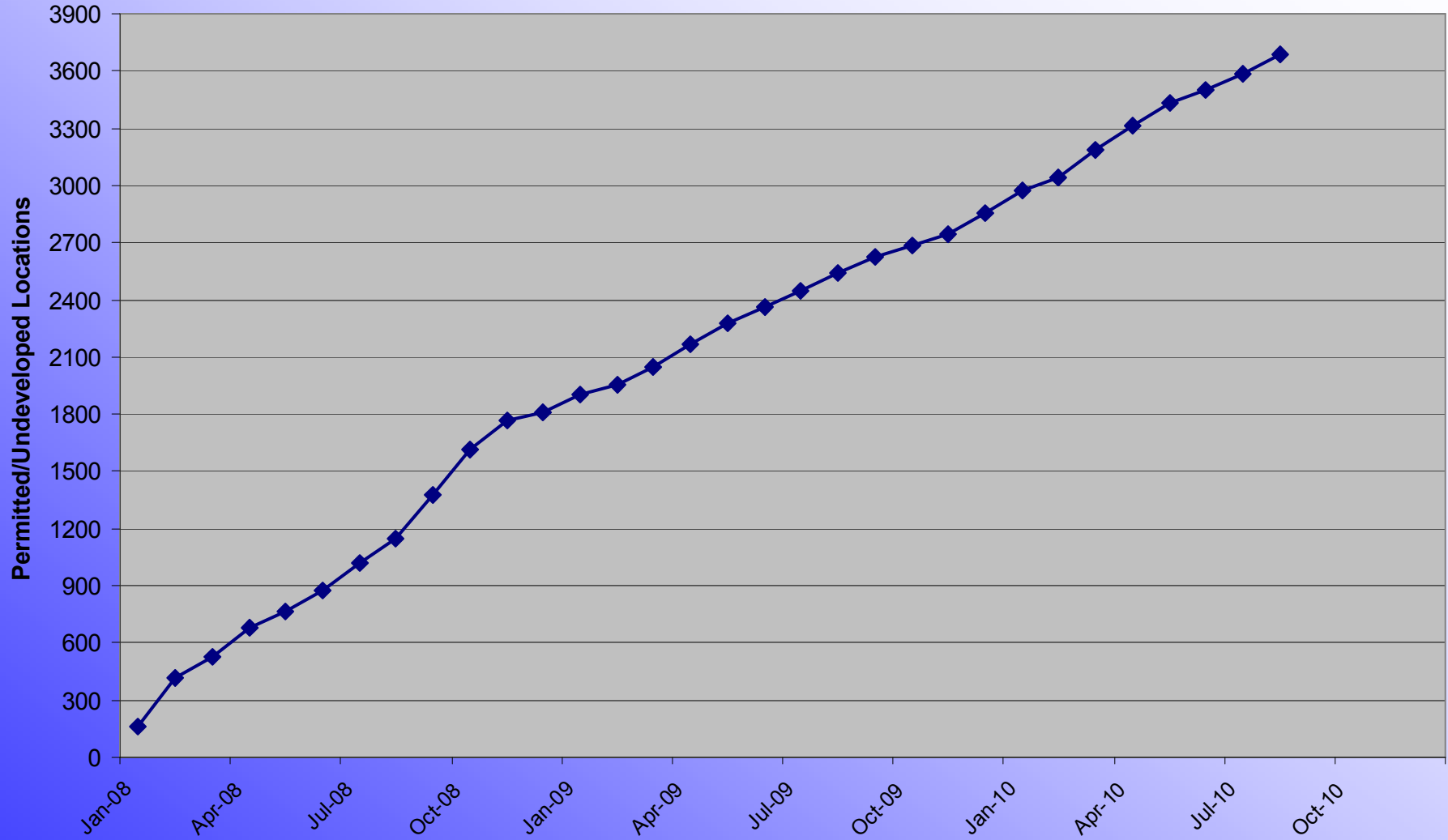
Shale Permits



★ Additional Data Pending

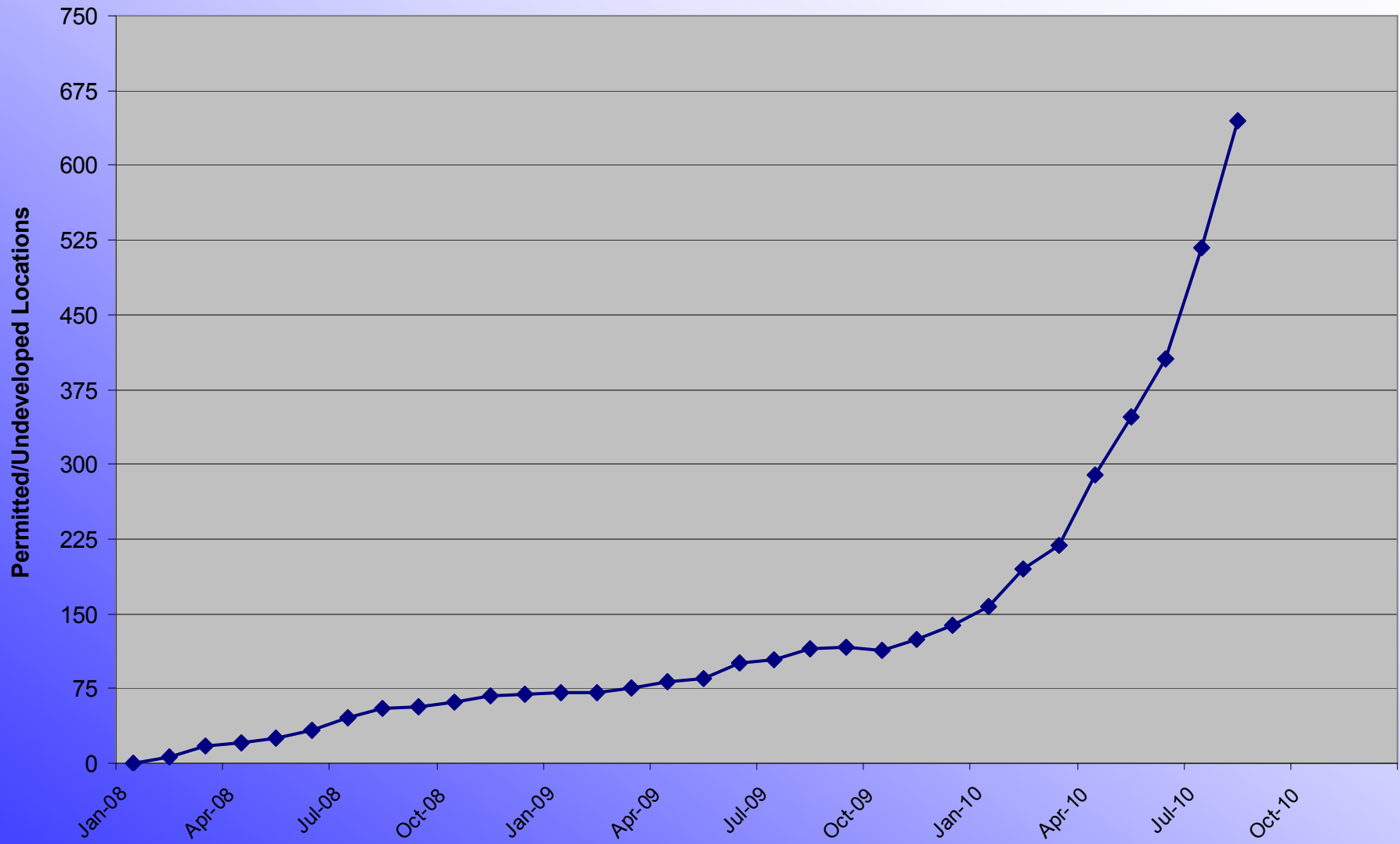
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Barnett Shale



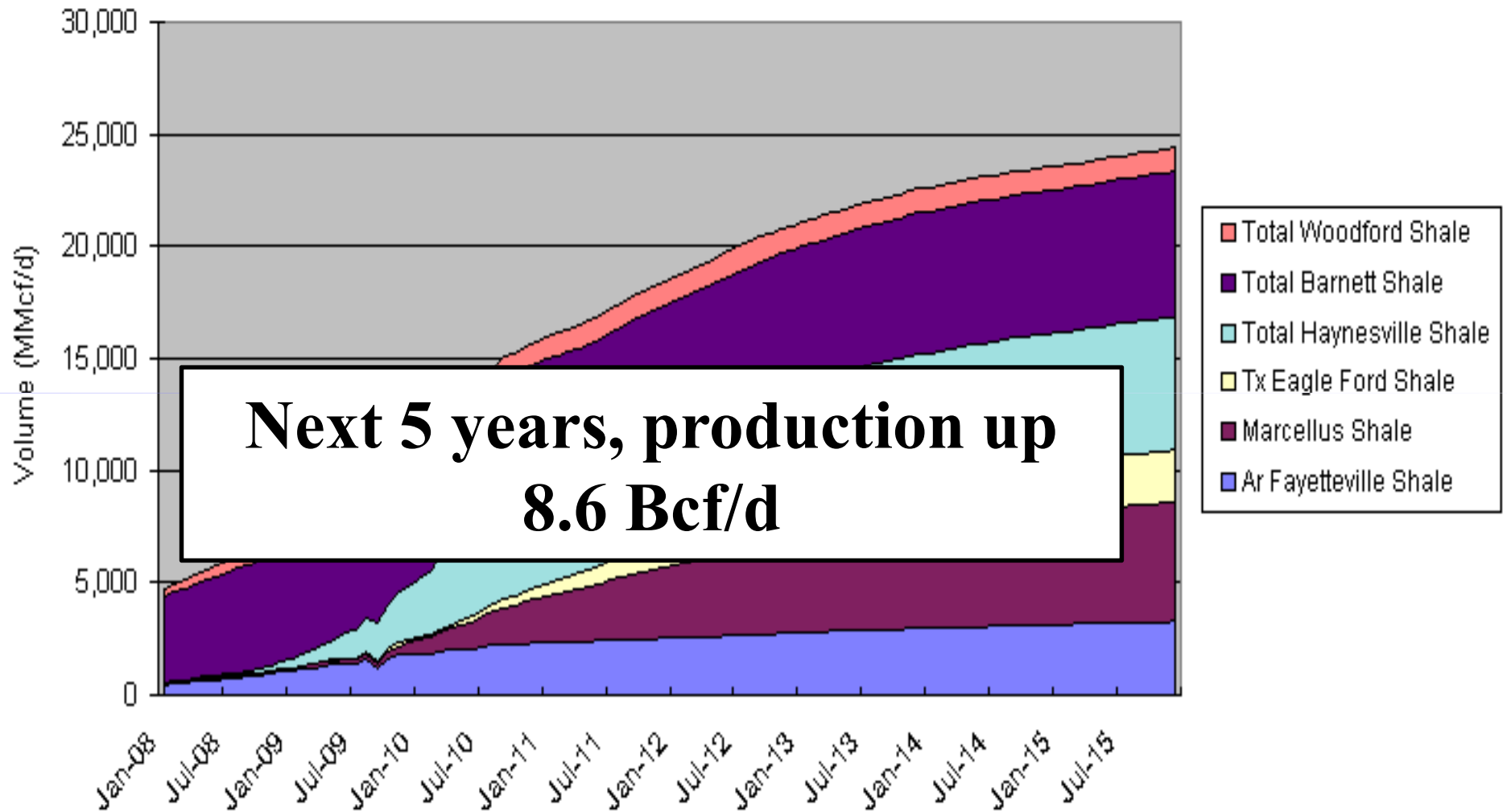
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Eagle Ford Shale



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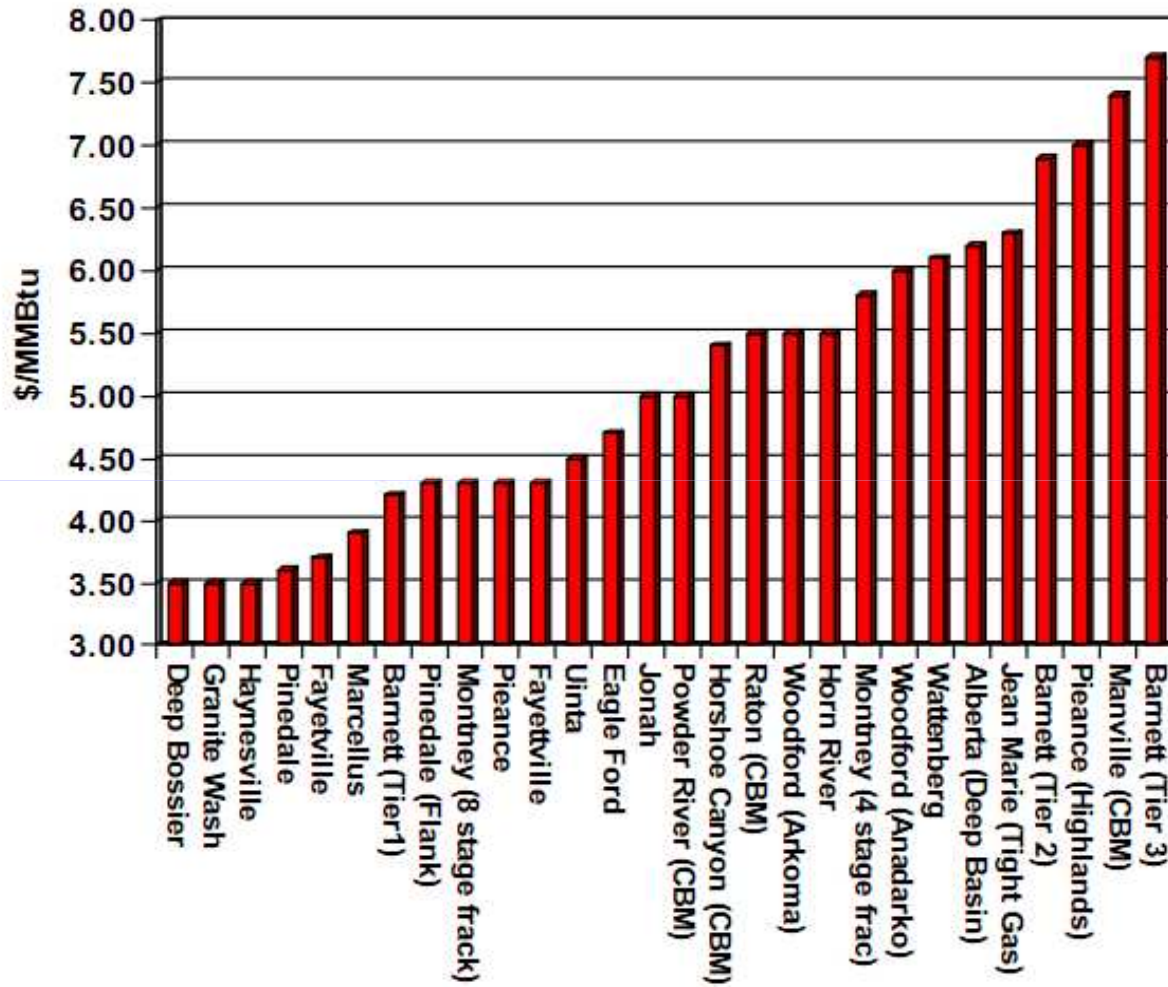
LCI Monthly Major Shale Forecast



Break-Even Economic Model

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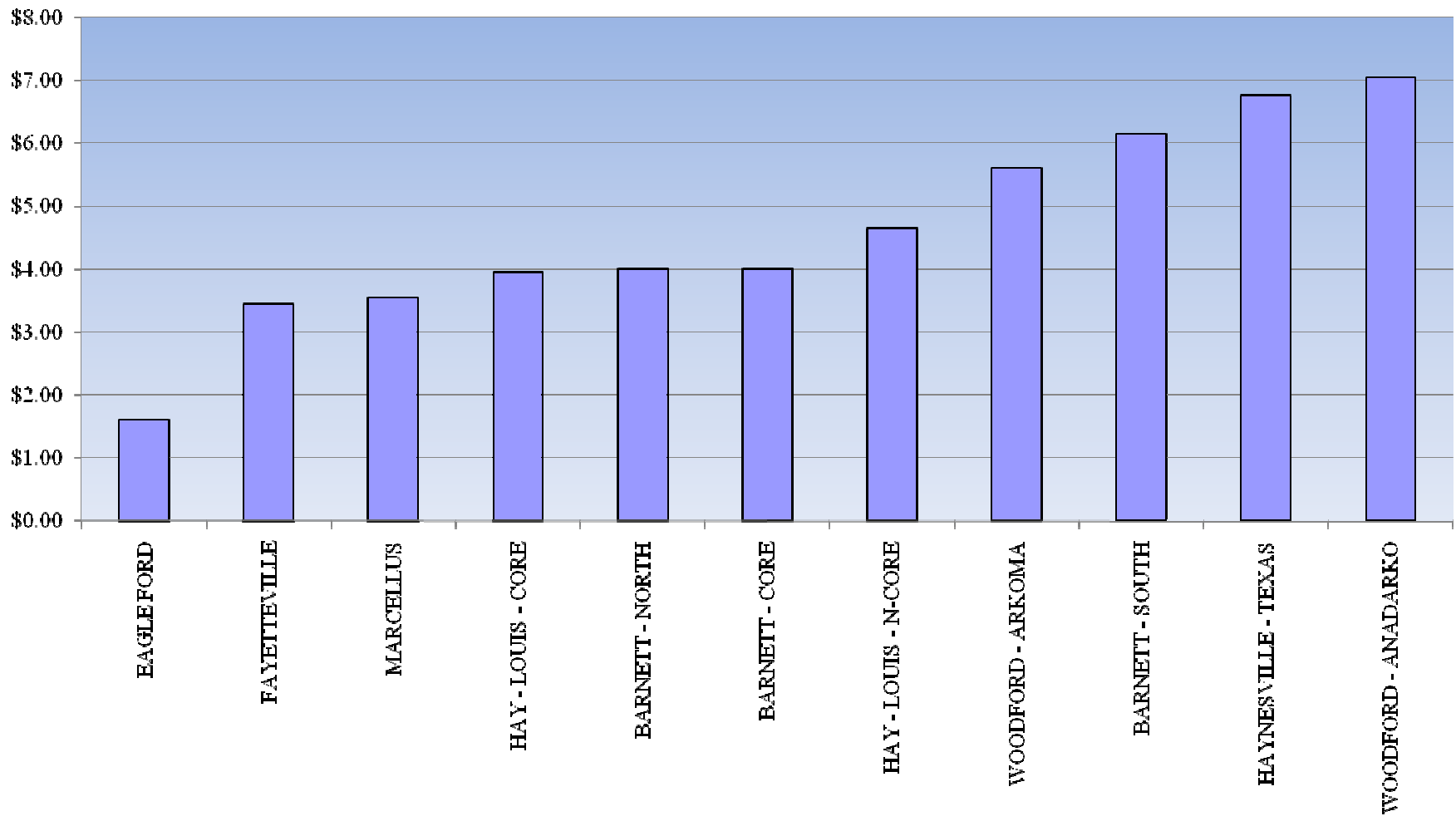
Breakeven Prices - Henry Hub



Source: Morgan Stanley

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Break Even Gas Price Average Well with Land Cost



BARNETT - CORE - Factors

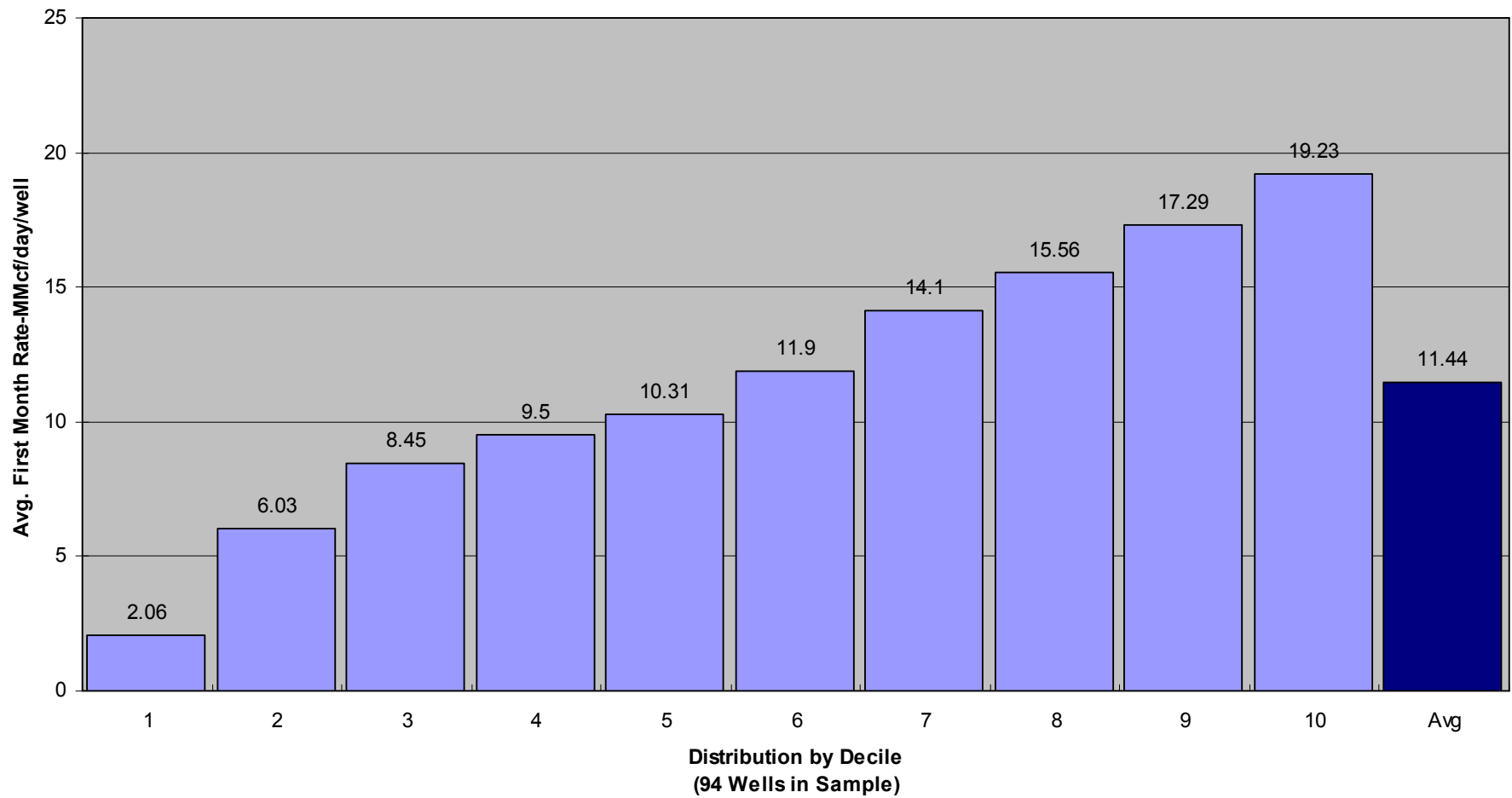


Name:

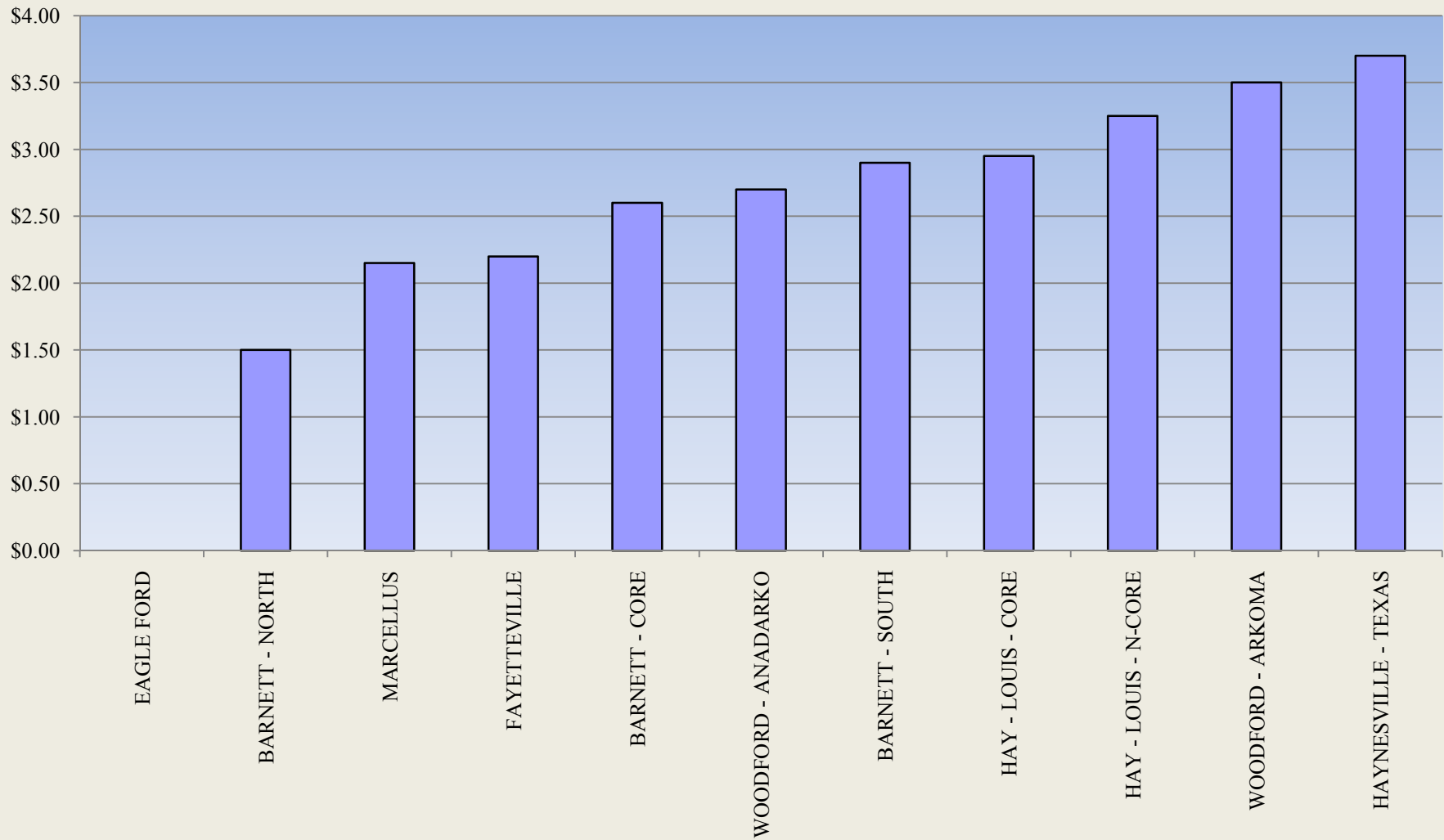
Year1	<input type="text" value="1.19"/>	Condensate Production - Bbls/MMcf	Condensate Price - \$/Bbl	NGL Production - Bbls/MMcf	NGL Price - \$/Bbl
Year2	<input type="text" value="0.63"/>	<input type="text" value="1"/>	<input type="text" value="80"/>	<input type="text" value="7"/>	<input type="text" value="40"/>
Year3	<input type="text" value="0.45"/>	Drilling & Completion Cost - M\$	Land Cost - \$/Acre	Drillsite Acres	Severance Tax - %
Year4	<input type="text" value="0.36"/>	<input type="text" value="2.5"/>	<input type="text" value="2000"/>	<input type="text" value="40"/>	<input type="text" value="7.5"/>
Year5	<input type="text" value="0.31"/>	Fixed Cost - \$/Year	Variable Cost - \$/Mcf	IRR - %	Royalty Rate - %
Decline Rate %	<input type="text" value="15"/>	<input type="text" value="12000"/>	<input type="text" value="0.5"/>	<input type="text" value="10"/>	<input type="text" value="25"/>
Top 30% Growth Factor	<input type="text" value="1.63"/>				

To change any of the LCI factors simply type over the value in the respective field. When finished with your changes, click the 'Update' button. Any values displayed in yellow show a change from the LCI factors. To reset the Model back to the LCI factors, click the 'Load LCI' button.

La North Haynv Shale Core Wells
First Delivered in 2009



Break Even Gas Price Top 30% Well with Land Cost





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