

## Commentary & Other News of Note

- The acquisitions discussed in this issue are part of a critically important restructuring of the unconventional gas sector.
- A second phase is emerging even as Phase 1 continues to unfold. This new phase has significant implications for future supply strategy, drilling activity and prices.
- Phase 2 is discussed in a recent Prism Update, "Restructuring the North American Unconventional Gas Industry, Phase 2". For more information or to schedule a presentation on the restructuring of the sector, contact us.
- Eagle Ford Shale
  - Magnum Hunter and Hunt Oil announced a 3 year joint venture. The 50/50 deal involves 26,822 net acres in Lavaca and Gonzales counties.
  - Shell has acquired 250,000 net acres in the play in 2010. The acreage is in the gas condensate and oil window sectors.
  - Kohlberg Kravis Roberts will invest US\$400 million in a JV with Hilcorp which has contributed 100,000 net acres to the JV
- CNOOC and EnCana have signed an MOU that could lead to a JV in Canadian gas

<http://prism.gordonenergysolutions.com>

# Land Acquisition Costs Unconventional Gas Sector

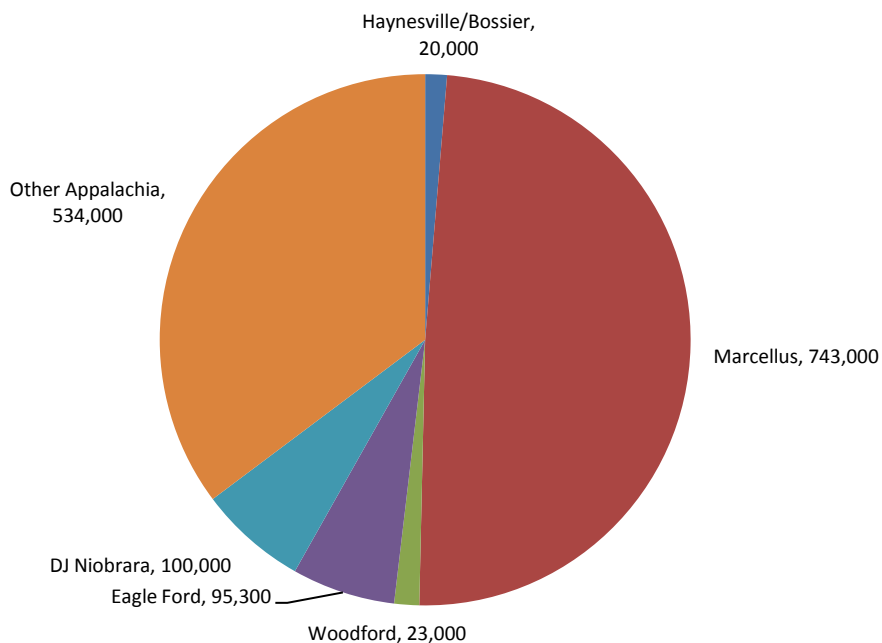
## Recent Major Transactions

Unconventional gas is an area of continuing significant acquisitions, joint ventures and alliances. We will focus on five recent acquisitions by BG, NextEra, Shell, Exco and Reliance that involved 1.5 million net acres and up-front costs of US\$6.2 billion plus US\$1.2 billion in carried costs and contingent payments.

## Target Areas of Interest in the Deals

Figure 1 shows the distribution of the net acreage acquired in these deals. The focus on the Marcellus is clear.

Figure 1: Net Acreage Acquired in Recent Transactions



Shell's acquisition of East Resources is the dominant transaction, involving slightly more than 1 million net acres (650,000 net acres in the Marcellus play) at an up-front cost of US\$4.7 billion. BG's buy-in to Exco's Appalachian acreage involved 186,000 net Marcellus acres. Both of these transactions also involve significant acreage outside the Marcellus target area that probably drove the decision to buy. Reliance,

Gordon Energy Solutions is an energy consulting firm specializing in competitor analysis, strategic decisions, political risk analysis, and global issues concerning the international, integrated oil & gas industry. We anticipate future opportunities and challenges confronting our clients and assist in exploiting those opportunities.

By integrating the corporate and financial dimensions of strategy and performance with detailed project level analytics, we maintain a unique approach to your business. GES provides value to our clients through our forward-looking, critical analysis and unique perspective.

The cornerstone of our firm is supplying Research Services on Demand, enabling GES to deliver the analysis you want, when it's needed. Our services are uniquely tailored to fit your company's needs and reflect our role as a source of independent research and analysis.

Please feel free to distribute this to your colleagues. If you received this issue as a forward, and wish to receive it directly, please send an e-mail to [subscribe@gordonenergysolutions.com](mailto:subscribe@gordonenergysolutions.com). If you no longer wish to receive this newsletter and would like to have your e-mail address removed from our list, please send an e-mail to [unsubscribe@gordonenergysolutions.com](mailto:unsubscribe@gordonenergysolutions.com). Please let us know how we may improve this service.

For additional information concerning our most recent work or to find out more about our company, please visit <http://www.gordonenergysolutions.com>.

Richard Gordon, Ph.D  
President & CEO  
(913) 451-9539

Steve Gordon  
Vice President  
(913) 451-9539

in its just announced Eagle Ford shale deal has committed US\$1.15 billion (US\$266 million up front plus US\$879 million in carries of Pioneer capital costs).

### Transaction Metrics

Table 1 provides key data concerning the assets. Table 2 details the estimated metrics of each deal in terms of costs by major type in absolute terms and on a per acre basis.

As shown in Table 2, the estimated future capital costs required to develop the land assets is very substantial -- amounting to over US\$21 billion or 74% of the all in costs of these deals.

Excluding projected future capital costs required to

develop the acquired net acreage, per acre costs of acquiring the land associated with these deals vary widely. The spread in per acre cost is shown in Figure 2.

It is likely that the BG and Shell costs are low on a per acre basis due to the presence of substantial amounts of acreage that are not in the Marcellus target play. By contrast, the NextEra, Reliance and Exco acquisitions involved focused acreage positions.

The deal with Southwestern Energy is worth noting as it is a follow-up to the earlier BG/Exco JV acquisition of Common Resources LLC acreage in the same play. In particular the Southwestern assets are reported as being substantially incremental to the Common Resources acreage.

**Table 1: Summary of Assets in the Transactions**

Acquirer	Seller	Announced Date	Play	Net Acres to Acquiring Company	% in Primary Target Play	Net Output Mmcf/d
BG	Exco	5/10/2010	Marcellus Shale & Other Appalachian	327,000	28.44%	35
NextEra	PetroQuest	5/25/2010	Woodford Shale	23,000	100.00%	
Shell	East Resources	5/28/2010	Marcellus Shale & Other Appalachian	1,050,000	61.90%	60
Exco	Southwestern Energy	6/17/2010	Haynesville/Bossier Shale	20,000	100.00%	10
Reliance	Pioneer Nat. Resources	6/24/2010	Eagle Ford Shale	95,300	100.00%	
<b>Total</b>				<b>1,515,300</b>	<b>—</b>	

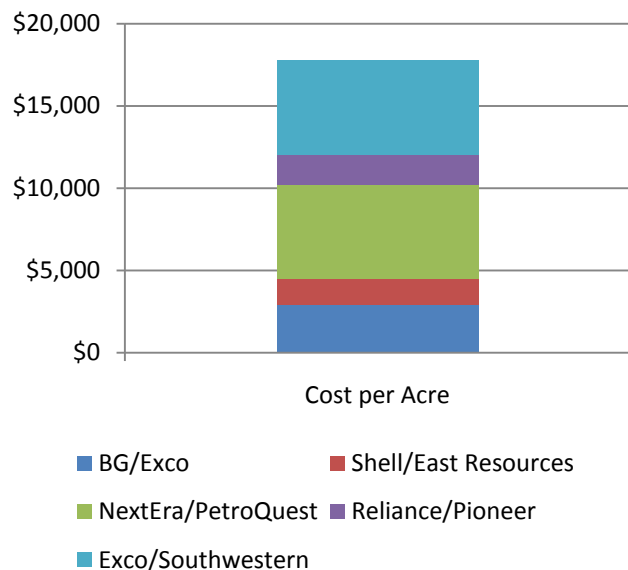
Note: The Exco/Southwestern Energy deal only includes producing rights to the Haynesville and Middle Bossier intervals. Estimated net proved reserves are 31 Bcfe. BG will likely join this deal as part of its JV with Exco. Southwestern retains rights to all other depths in the acreage. This transaction is incremental to the 29,200 net acres acquired in this play by the BG/Exco JV from Common Resources LLC.

**Table 2: Metrics of the Deals**

Acquirer	Up Front \$mm	First Carry \$mm	Other Carry \$mm	Contingent Cash \$mm	Future Capital Costs \$mm	Up Front \$/acre	First Carry \$/acre	Optional Carry \$/acre	Contingent Cash \$/acre	Future Development Costs \$/acre	All In Costs \$/acre
BG	\$800	\$150.0	\$0.0	\$0.0	\$6,711	\$2,446	\$459	\$0	\$0	\$20,524	\$23,429
NextEra	\$60	\$54.0	\$92.6	\$28.0	\$446	\$2,609	\$2,348	\$4,026	\$1,217	\$19,374	\$29,574
Shell	\$4,700	\$0.0	\$0.0	\$0.0	\$6,656	\$4,476	\$0	\$0	\$0	\$6,339	\$10,815
Exco	\$355	\$0.0	\$0.0	\$0.0	\$1,543	\$17,750	\$0	\$0	\$0	\$77,170	\$94,920
Reliance	266	\$879	\$0.0	\$0.0	\$6,181	\$2,791	\$9,224	\$0	\$0	\$62,111	\$74,126
<b>Total</b>	<b>\$6,181</b>	<b>\$1,083</b>	<b>\$93</b>	<b>\$28</b>	<b>\$21,276</b>						

Note: Future capital costs are estimated by Gordon Energy using our drilling program models and economic premises such as per well EUR, production rates and costs that we believe are reflective of conditions in the respective plays.

Figure 2: Per Acre Costs Excluding Future Capital Costs



## Perspectives on Land Market Conditions

### Woodford Shale Land Acquisition Cost Trends

As our coverage of land acquisition costs progresses through the year we will, on occasion, review the data on these costs in specific plays and areas of interest. Our goal is to provide easy to follow, graphical summaries of costs in specific plays over time and as they mature.

These summaries will include indicators from the full range of transactions including competitive lease sale results. In this issue we focus on the Woodford Shale play.

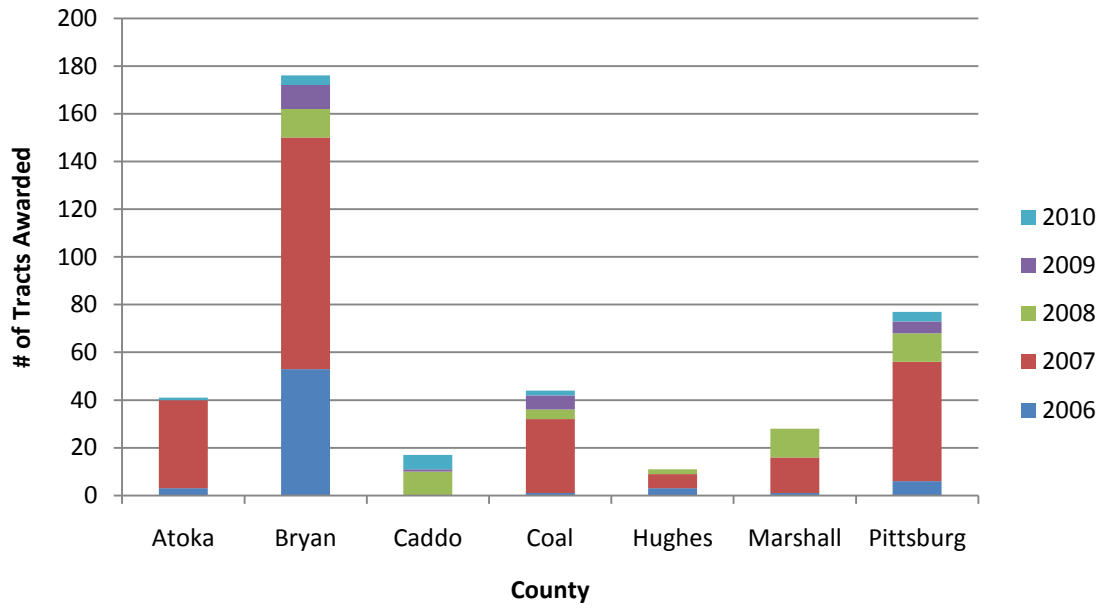
The data shown here are drawn from multiple lease sales held by the Commissioners of the Land Office (CLO) in Oklahoma from 2006 through May of this year. The CLO sales only account for a relatively small part of the total acreage acquisition programs of companies in the play. Nevertheless, the results of these sales are useful in evaluating cost conditions and provide a transparent source of indicators of value and competition.

Key indicators include:

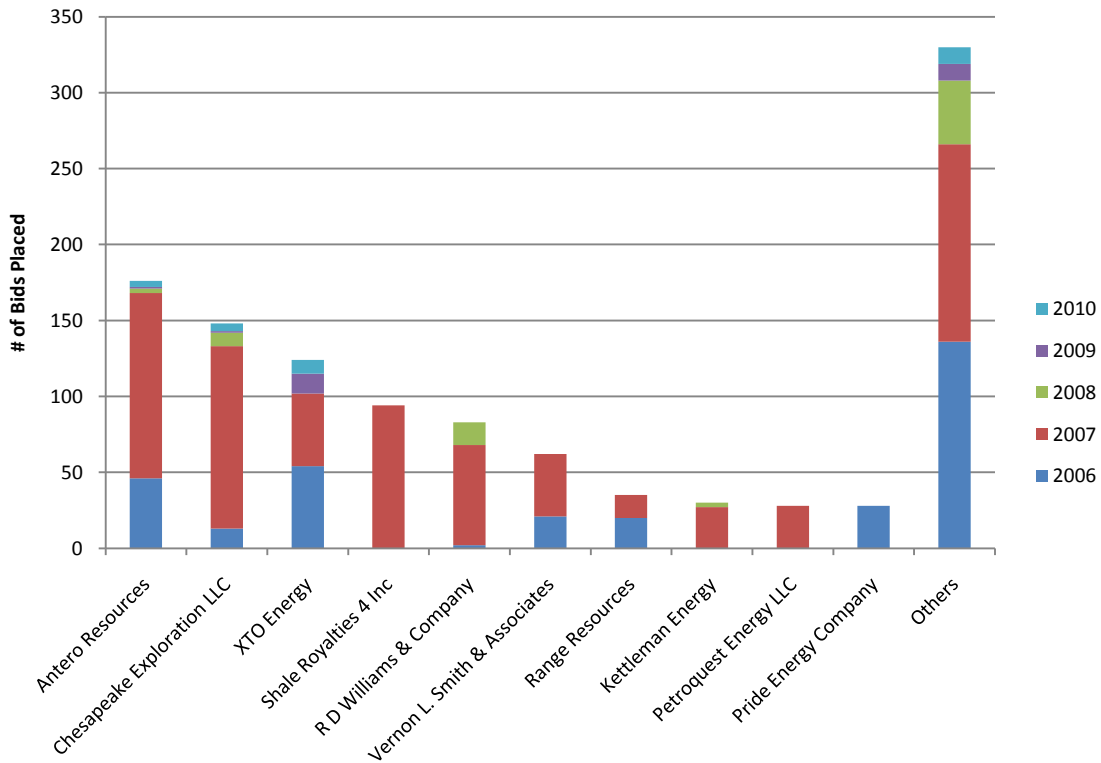
- **Focus Areas of Bidding:** Bryan, Coal and Pittsburg counties have been focus areas for acreage acquisition. Recent bidding, i.e., after 2007, continues to be focused in these areas but with some signs of extension into Caddo county.
- **Timing of Activity and Play Maturity:** Aggressive land acquisition in 2006 and 2007 through the CLO sales as well as private leasing have caused the play to mature rapidly. By July 2008 (when BP acquired Chesapeake's Woodford Shale acreage at a cost of US\$19,444 per acre) the tactics used in land accumulation was shifting to acquisitions and joint ventures.
- **Leading Competitors:** A very large number of companies have participated in bidding over the period beginning in 2006. However, in many cases these smaller players have not been significant since 2007. Antero Resources, Chesapeake Exploration LLC and XTO Energy were leading players and have participated more or less continuously in CLO sales.
- **Acreage Valuation using Winning Bids:** The winning bid distributions show the per acre price paid for land and the number of tracts won in each county by year.
- **Summary Statistics:** These are provided to show the highest, lowest and average price paid per acre in the winning bids as well as the range of variation in bid values

The results below provide an important benchmark for comparisons of land deals involving acquisitions versus the cost of grass roots land accumulation.

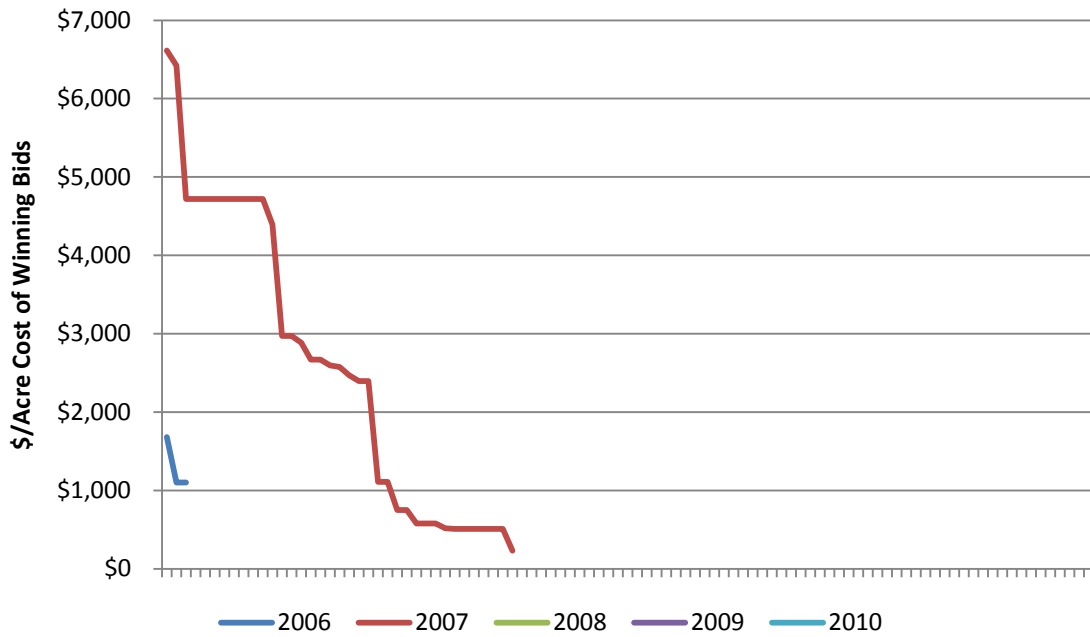
Industry Bid Focus Areas



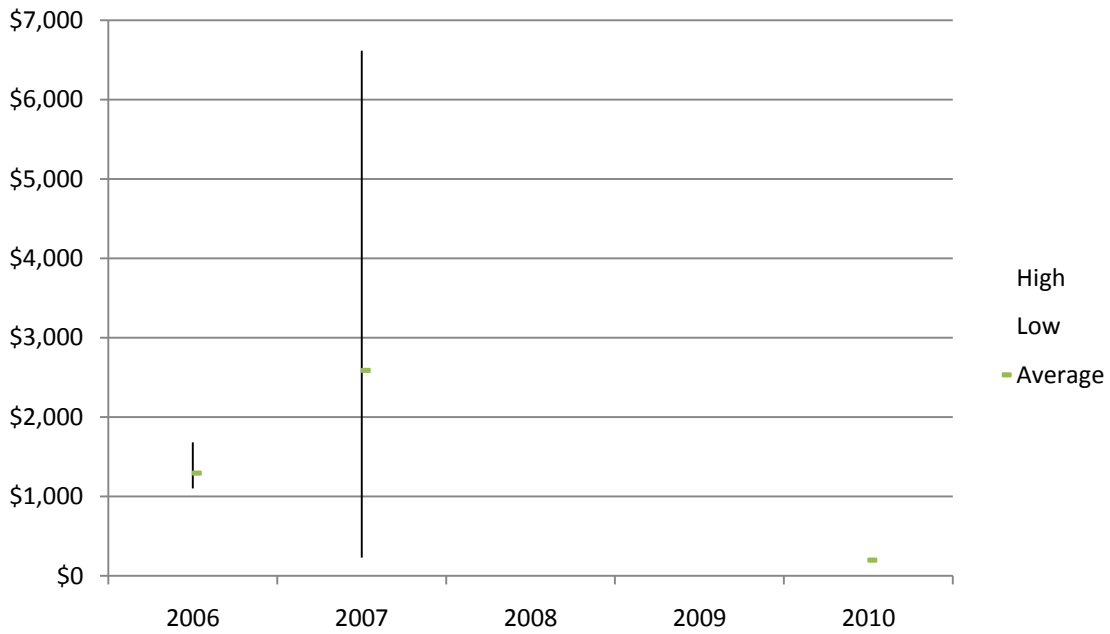
Leading Competitors



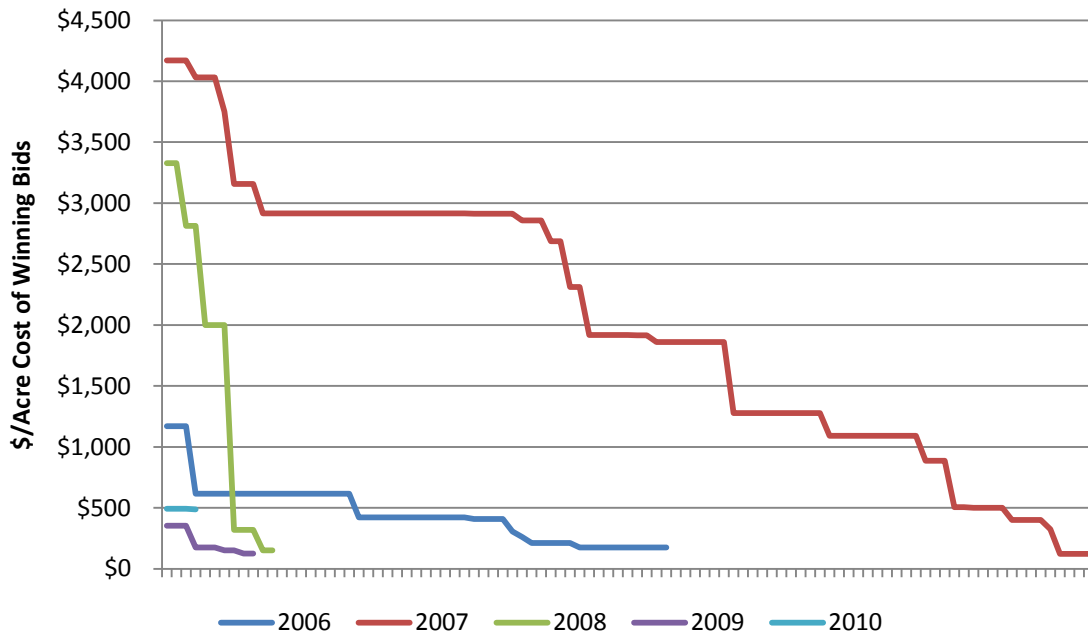
Atoka



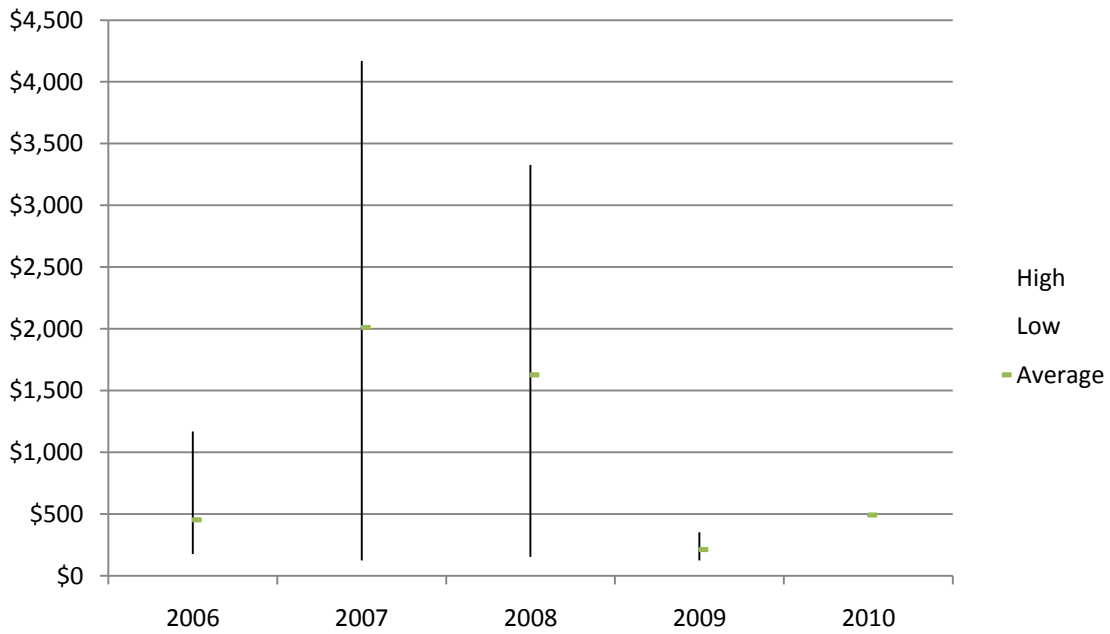
Summary Results



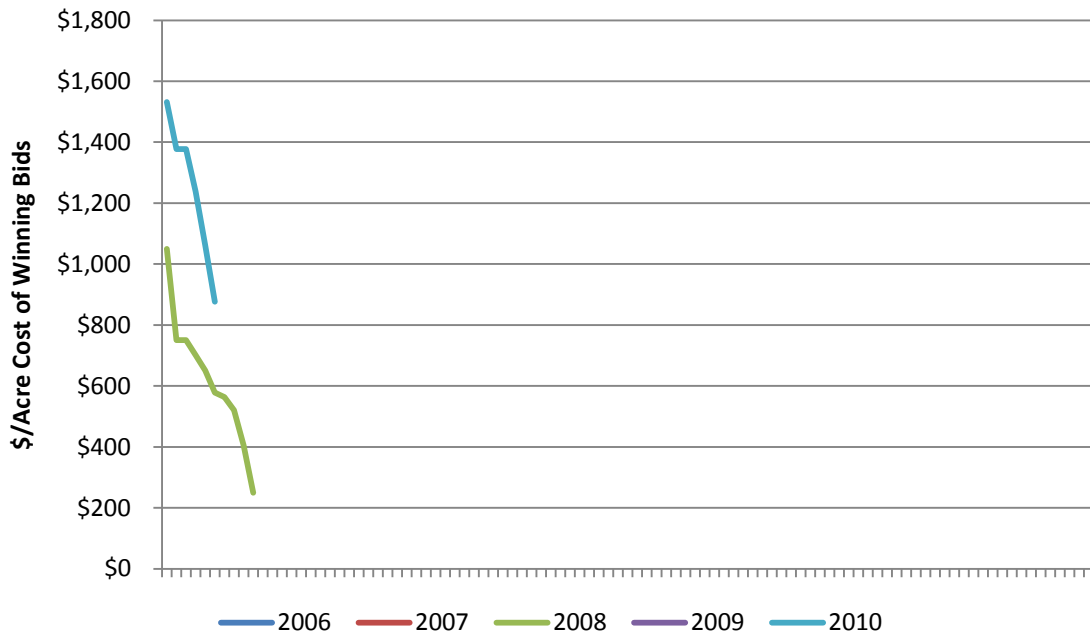
Bryan



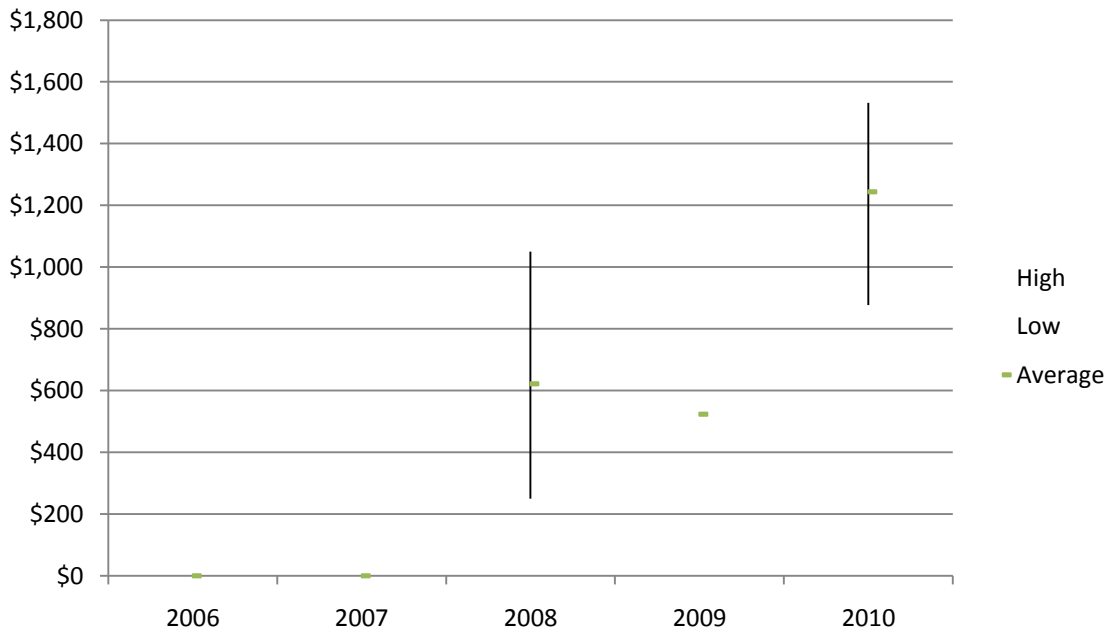
Summary Results



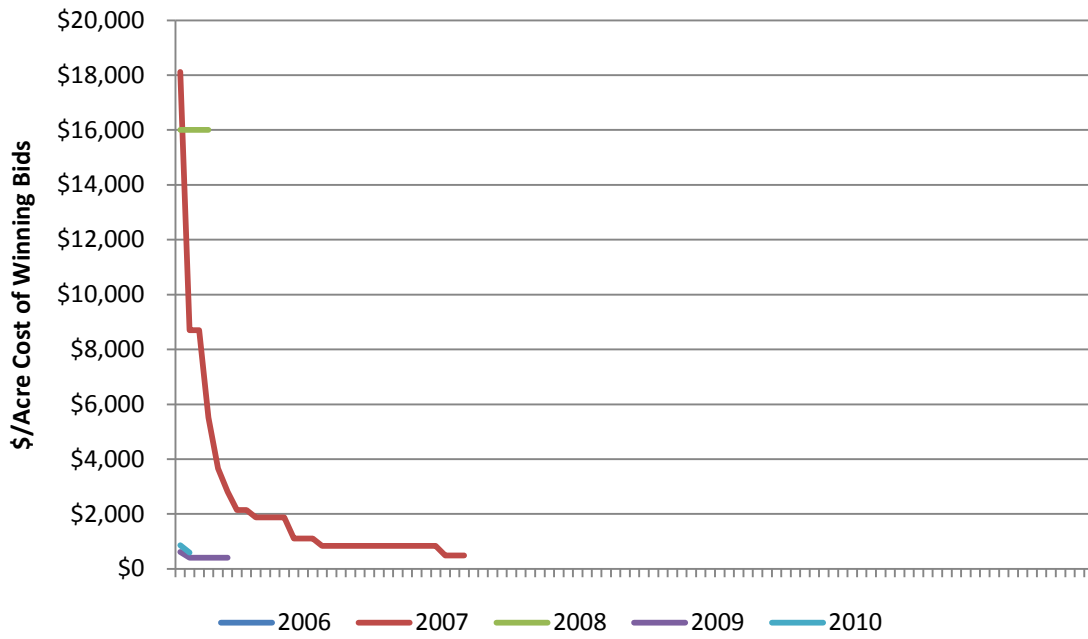
Caddo



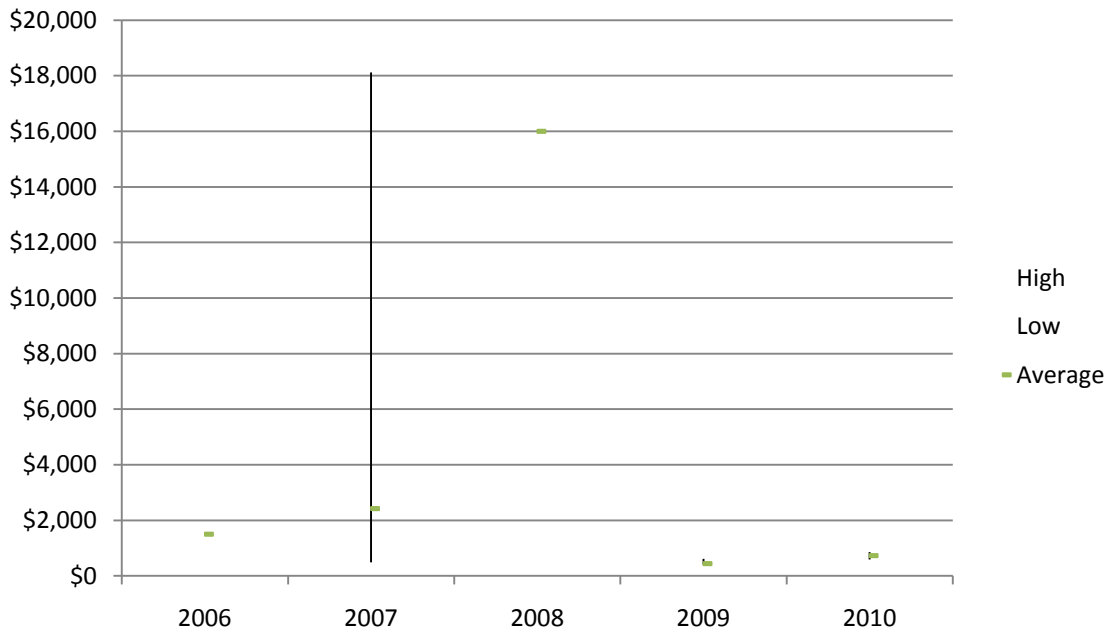
Summary Results



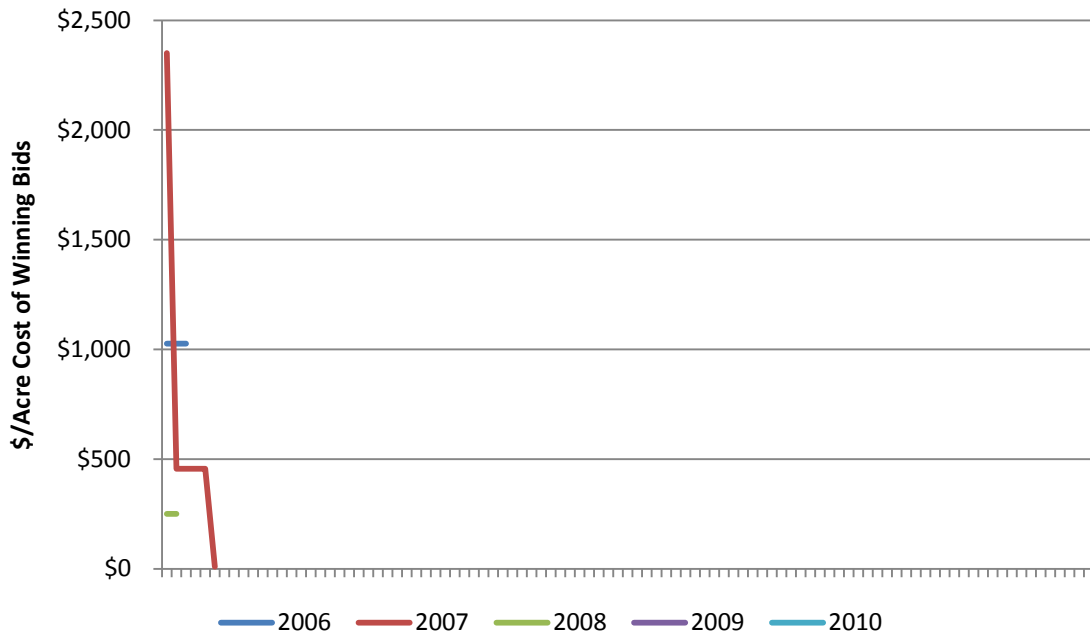
Coal



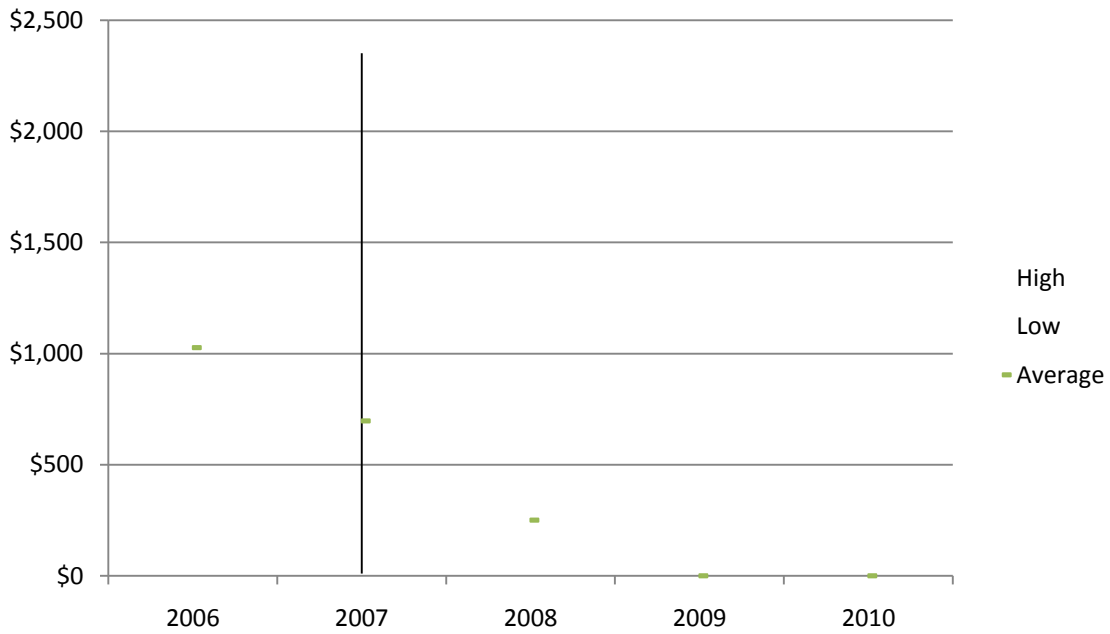
Summary Results



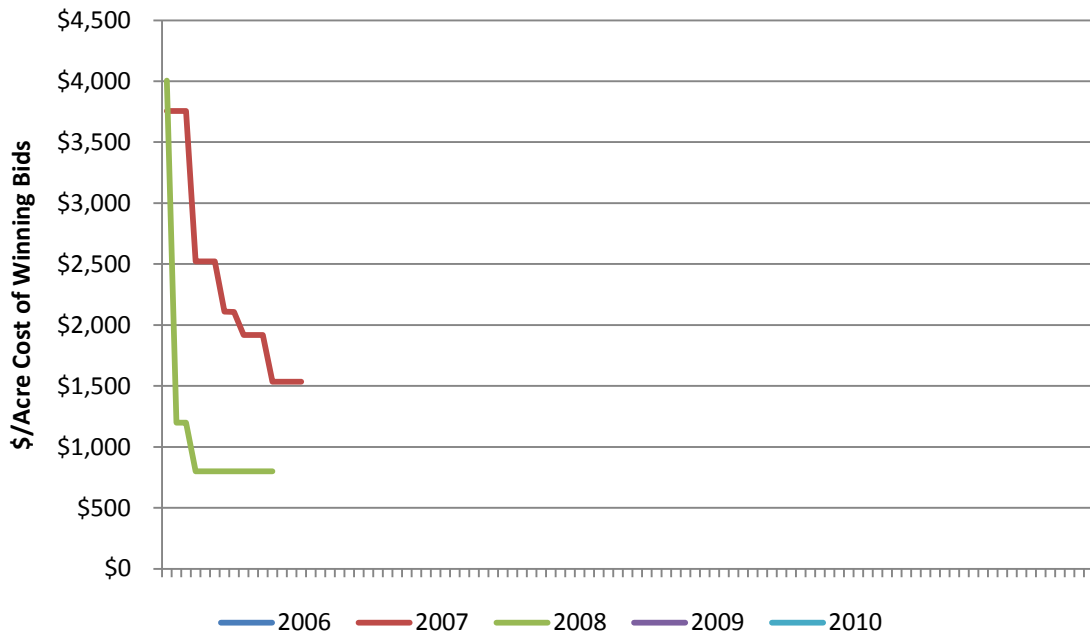
Hughes



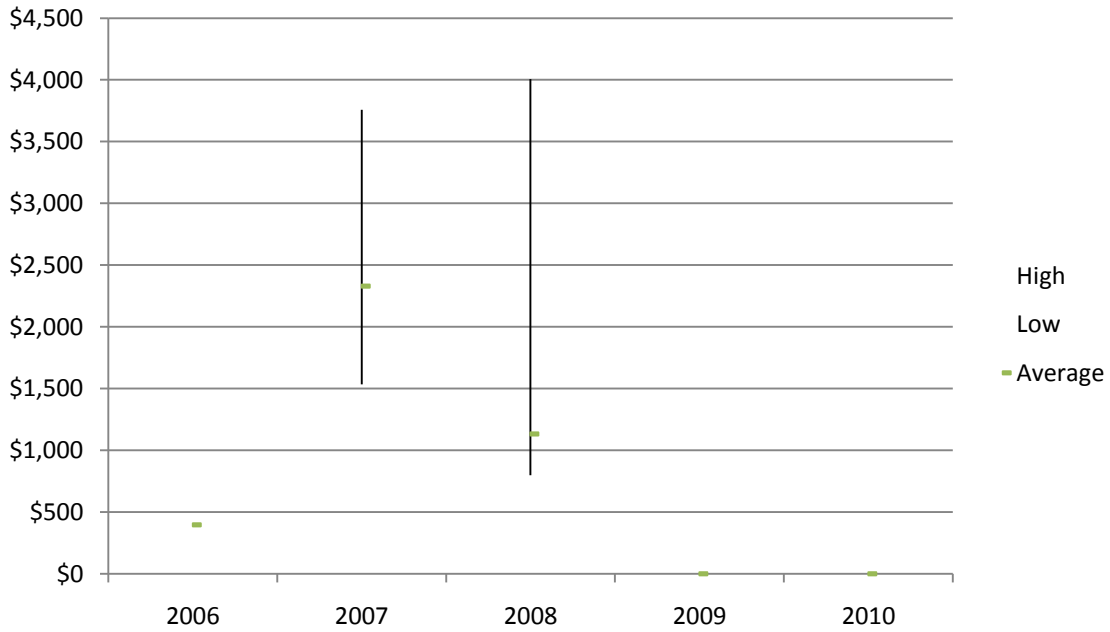
Summary Results



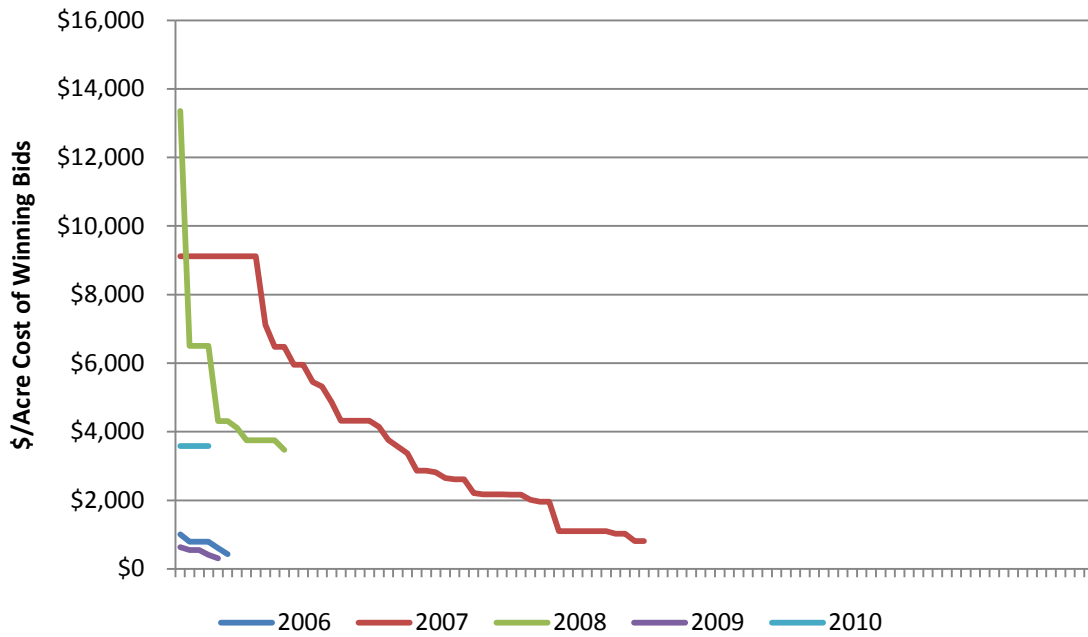
Marshall



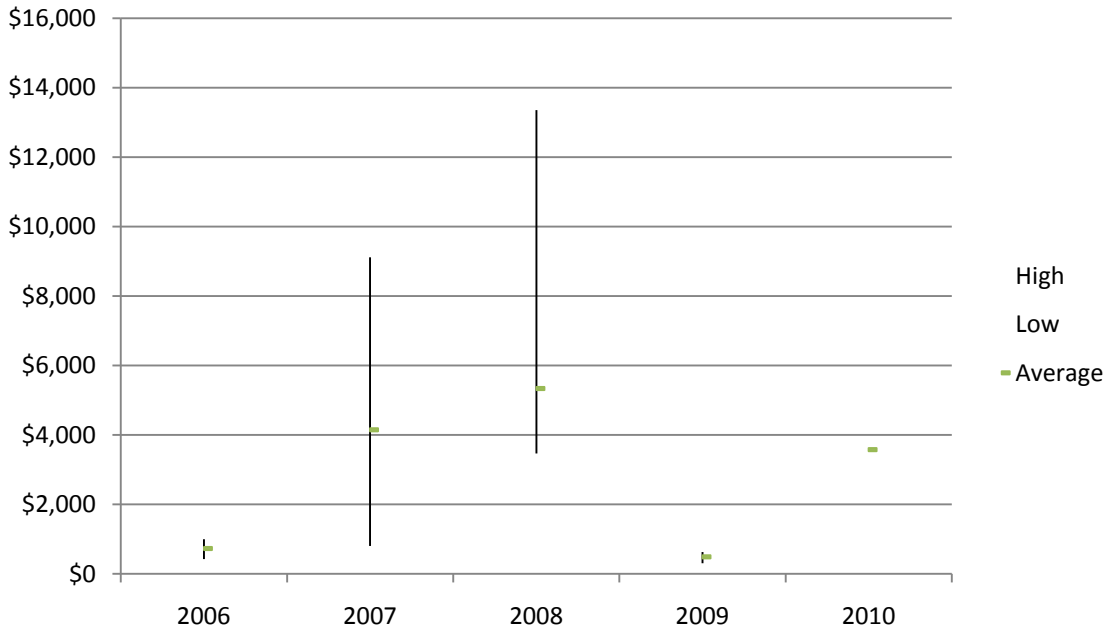
Summary Results



Pittsburgh



Summary Results



The sharp upturn in Pittsburgh county bids in 2010 reflect aggressive bids by Antero Resources on four tracts in competition with XTO Energy.