



3 July 2009

E&P Chart of the Week

Haynesville Mania Marches on

Shannon Nome
 Research Analyst
 (+1) 832 239-3144
 shannon.nome@db.com

Patrick Johnston
 Research Associate
 (+1) 832 239-3113
 patrick.johnston@db.com

Happy Birthday to America (and the Haynesville Shale)

About one-year post our "Shale to Shining Shale" report on U.S. gas shales, the Haynesville continues to dominate headlines, as impressive drilling results and exciting JV announcements have vaulted it past the Barnett as the #1 US shale play in terms of rig activity. Within this report, we update the core area maps, type curve economics, rig counts, along with acreage figures for the Haynesville's key players. In addition, we recap JV transactions that have been publicly announced over the past year.

Recent Haynesville Shale results continue to impress

Growth in the Haynesville Shale rig count has continued this year despite a significant pullback in many other shales. While a rush to hold acreage is one key driver for this increase, we believe strong drilling results have also fanned the flames of enthusiasm for the Haynesville, which stands among the very few US gas plays that can clear breakeven economic thresholds given the weak pricing backdrop (see analysis herein, page 3).

Acreage values holding up impressively in spite of the gas price collapse

Despite a 70% drop in natural gas prices over the past 12 months, it seems that acreage values in the Haynesville (at least, in the play's core areas) have held up amazingly well. Last July, we quoted a range of valuations from \$15,000 to \$40,000/acre in our Shale report, with a midpoint of \$25,000, while stating a belief that per-acre prices would ultimately push up into the \$50,000 range. Today, while industry contacts suggest that the low end of acreage transaction values has slipped to \$5,000/acre in the fringes of the play, land in the hottest part of the "core" area in DeSoto Parish is indeed changing hands in the \$50,000/acre realm.

Big production, big reserves, big interest

This divergence in low-end vs. high-end acreage values, in our estimation, reflects differences in well performance that are starting to emerge as the play enters its second year of heavy activity. At the high end of the range, IP rates exceeding 20 MMcf/d have become almost commonplace in the play's best areas, albeit differences in test periods inhibit comparability (i.e. 24-hour, 2-week and 30-day IPs yield very different results). That said, industry per-well EUR estimates seem to be walking generally higher as production history accumulates, and even in the "non-core" areas, we note many wells are being commercially completed. Pipeline projects further underscore optimism for future growth from the Haynesville, as roughly 5 Bcf/d of proposals with target dates on or before 2010 currently sit on the drawing board. *We expect playwide production will double to triple (from rates around 1 Bcf/d currently) by 2012.*

Key risks

Despite the major infrastructure projects in the works, we believe occasional bottlenecks in parts of the Haynesville Shale play area are likely to occur. As well, some producers may suffer attrition in their acreage unless they are able to successfully establish production before lease terms expire. Broader sector risks include oil and gas price exposure, weather disruptions, drilling/exploratory risks, heightened political/regulatory pressures, and significant capital requirements.

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Industry Update

Companies featured		
Anadarko Petroleum (APC.N)	USD44.68	Hold
Chesapeake Energy (CHK.N)	USD19.67	Buy
Devon Energy (DVN.N)	USD55.08	Hold
EnCana Corp (ECA.N)	USD49.80	Hold
EOG Resources (EOG.N)	USD67.04	Hold
Forest Oil (FST.N)	USD15.01	Hold
Goodrich Petroleum (GDP.N)	USD24.99	Hold
Noble Energy (NBL.N)	USD59.79	Hold
SandRidge Energy, Inc (SD.N)	USD8.61	Buy
Southwestern Energy Co. (SWN.N)	USD38.49	Hold
Exco Resources (XCO.N)	USD12.58	
XTO Energy (XTO.N)	USD37.33	Buy
Continental Resources, Inc. (CLR.N)	USD27.58	Hold

A Haynesville Pictorial

Figure 1: Haynesville permitting activity—core area forming

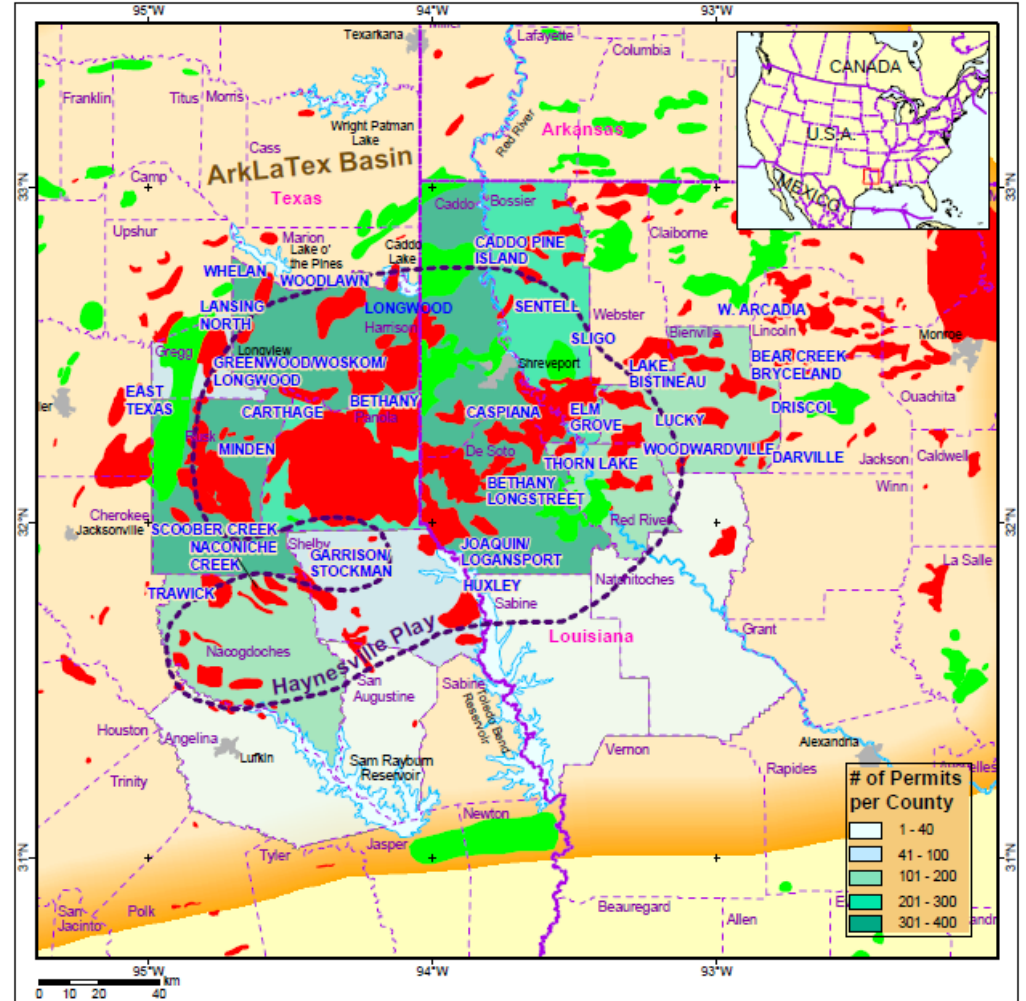
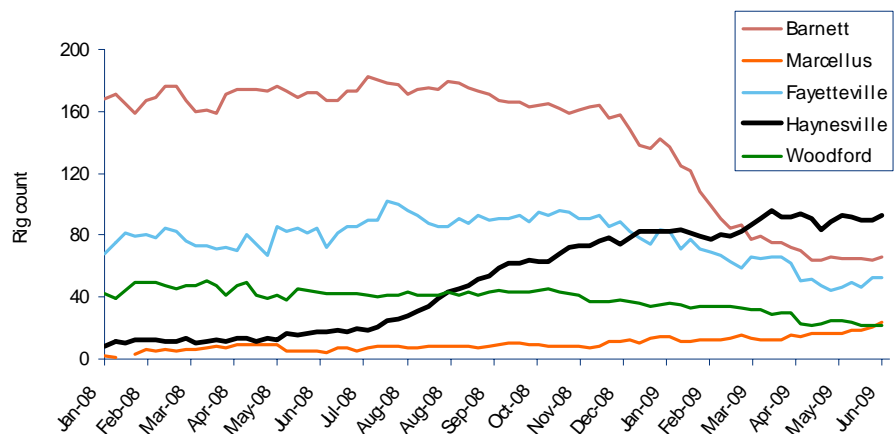
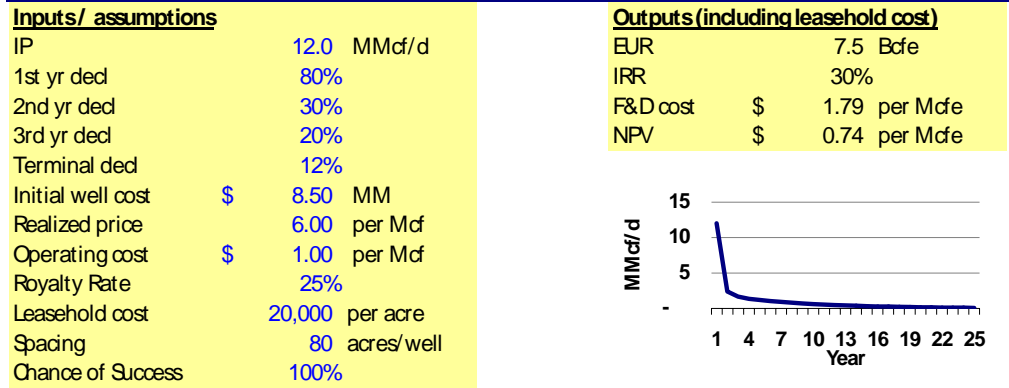


Figure 2: Horizontal rig count comparison by shale play



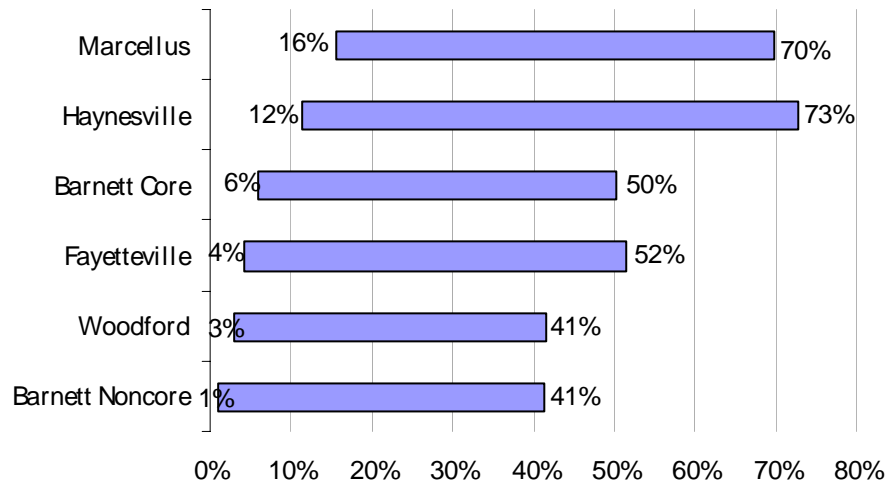
Source: Smith Bits, Wood Mackenzie. *Marcellus Rig Count includes only Bradford, Fayette, Green, Somerset, Washington, Westmoreland counties, Pennsylvania

Figure 3: Estimated Haynesville Shale type curve economics



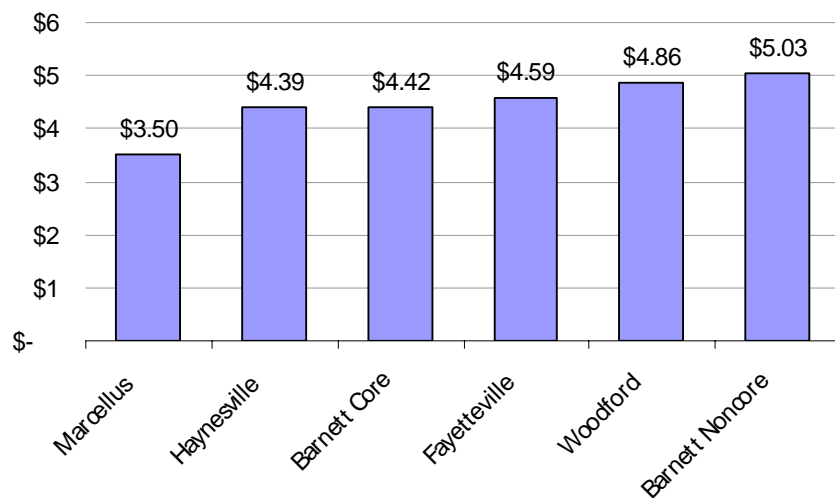
Source: Company data and Deutsche Bank estimates

Figure 4: Estimated pretax IRRs assuming \$4-8/MMBtu NYMEX gas pricing



Source: Company data, Deutsche Bank estimates

Figure 5: Estimated NYMEX price required for 10% pretax IRR



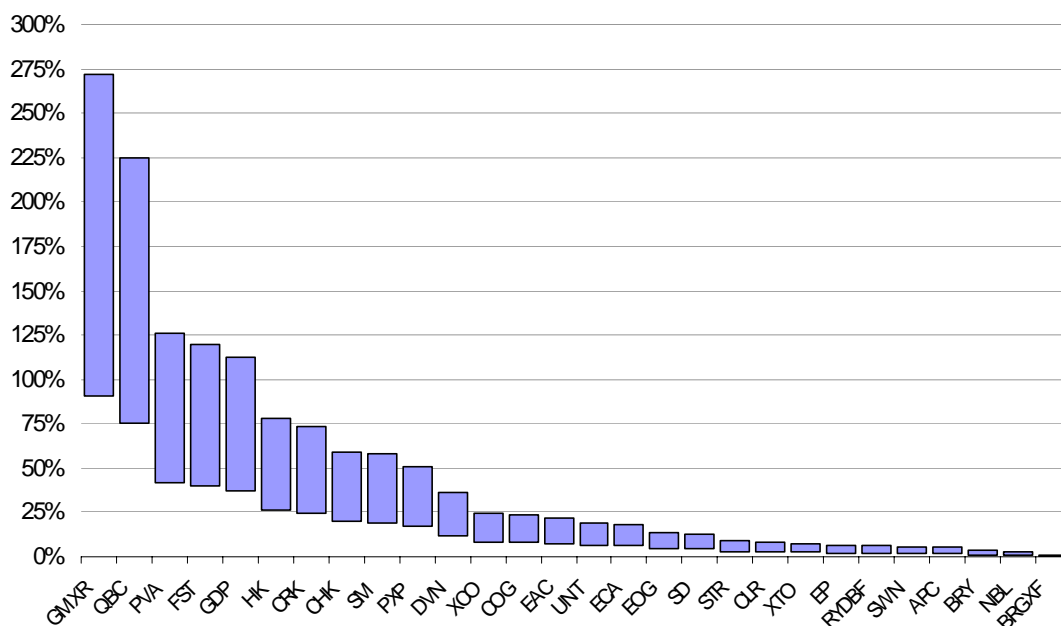
Source: Company data, Deutsche Bank estimates

Figure 6: Active Haynesville operators and acreage positions

		7/2/2009			Potential acreage value, \$MM			As % of equity mkt cap		
		Net acres	Price	Mkt Cap	Low	Mid	High	Low	Mid	High
Anadarko Petroleum	APC	75,000	\$ 42.95	\$ 21,435	375	1,125	2,250	2%	5%	10%
Berry Petroleum	BRY	2,000	\$ 18.47	\$ 788	10	30	60	1%	4%	8%
BG Group	BRGXF	42,000	\$ 16.20	\$ 57,282	210	630	1,260	0%	1%	2%
Cabot Oil & Gas	COG	50,000	\$ 30.17	\$ 3,127	250	750	1,500	8%	24%	48%
Chesapeake Energy	CHK	470,000	\$ 19.19	\$ 12,019	2,350	7,050	14,100	20%	59%	117%
Comstock Resources	CRK	70,500	\$ 31.00	\$ 1,440	353	1,058	2,115	24%	73%	147%
Continental Resources	CLR	24,000	\$ 26.02	\$ 4,411	120	360	720	3%	8%	16%
Cubic Energy	QBC	9,300	\$ 0.99	\$ 62	47	140	279	75%	225%	450%
Devon Energy	DVN	570,000	\$ 52.82	\$ 23,447	2,850	8,550	17,100	12%	36%	73%
El Paso Energy	EP	27,000	\$ 8.81	\$ 6,169	135	405	810	2%	7%	13%
EnCana Corp.	ECA	435,000	\$ 49.16	\$ 36,875	2,175	6,525	13,050	6%	18%	35%
Encore Acquisition	EAC	22,600	\$ 29.55	\$ 1,559	113	339	678	7%	22%	43%
EOG Resources	EOG	150,000	\$ 64.54	\$ 16,157	750	2,250	4,500	5%	14%	28%
EXCO Resources	XCO	42,000	\$ 12.06	\$ 2,545	210	630	1,260	8%	25%	50%
Forest Oil	FST	127,000	\$ 14.51	\$ 1,590	635	1,905	3,810	40%	120%	240%
GMX Resources	GMXR	42,300	\$ 9.82	\$ 234	212	635	1,269	91%	272%	543%
Goodrich Petroleum	GDP	66,500	\$ 23.53	\$ 885	333	998	1,995	38%	113%	225%
Noble Corp.	NBL	19,000	\$ 57.40	\$ 9,950	95	285	570	1%	3%	6%
Penn-Virginia	PVA	59,000	\$ 15.46	\$ 701	295	885	1,770	42%	126%	252%
Petrohawk	HK	300,000	\$ 20.93	\$ 5,765	1,500	4,500	9,000	26%	78%	156%
Plains Exploration	PXP	111,000	\$ 27.00	\$ 3,294	555	1,665	3,330	17%	51%	101%
Questar	STR	31,000	\$ 30.58	\$ 5,323	155	465	930	3%	9%	17%
SandRidge	SD	13,000	\$ 8.28	\$ 1,506	65	195	390	4%	13%	26%
Shell	RYDBF	300,000	\$ 24.85	\$ 68,570	1,500	4,500	9,000	2%	7%	13%
Southwestern Energy	SWN	50,000	\$ 37.27	\$ 12,807	250	750	1,500	2%	6%	12%
St Mary Land & Exploration	SM	50,000	\$ 20.81	\$ 1,298	250	750	1,500	19%	58%	116%
Unit Corp.	UNT	15,500	\$ 26.30	\$ 1,250	78	233	465	6%	19%	37%
XTO Energy	XTO	100,000	\$ 36.56	\$ 21,200	500	1,500	3,000	2%	7%	14%

Source: Company data, FactSet and Deutsche Bank estimates. Note: "Low" acreage value assumes \$5,000/acre valuation; "mid" assumes \$15,000/acre, and "High" assumes \$30,000/acre

Figure 7: Haynesville acreage valuation ranges (low-to-mid) as percent of equity market cap



Source: Company data, FactSet and Deutsche Bank estimates. Note: Acreage values assumed to range from \$5,000-\$15,000/acre

Figure 8: Recap of significant Haynesville shale acquisition and JV transactions since mid-2008

<u>Date</u>	<u>Seller</u>	<u>Purchaser</u>	<u>Acreage</u>	<u>Associated shallow reserves (Bcfe)</u>	<u>Cash pmt \$MM</u>	<u>Shallow allocation</u>	<u>Drilling carry, \$MM</u>		<u>Total price NPV \$/acre</u>
							<u>Gross</u>	<u>NPV</u>	
6/4/2008	Private seller	Cabot Oil & Gas	24,250	176	\$ 602.8	\$ 352	\$ -	\$ -	\$ 10,342
6/16/2008	Goodrich Petroleum	Chesapeake Energy	10,250	-	\$ 173.0	\$ -	\$ -	\$ -	\$ 16,878
7/1/2008	Chesapeake Energy	Plains Exploration	110,000	-	\$ 1,650.0	\$ -	\$ 1,650	\$ 1,174	\$ 25,675
6/30/2009	EXCO Resources	BG Group	42,000	207	\$ 655.0	\$ 362	\$ 400	\$ 356	\$ 15,457

Source: Company data, Deutsche Bank calculations. Note: acreage tallies exclude land not considered prospective for the Haynesville Shale.

Appendix 1

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Equity rating key Equity rating dispersion and banking relationships

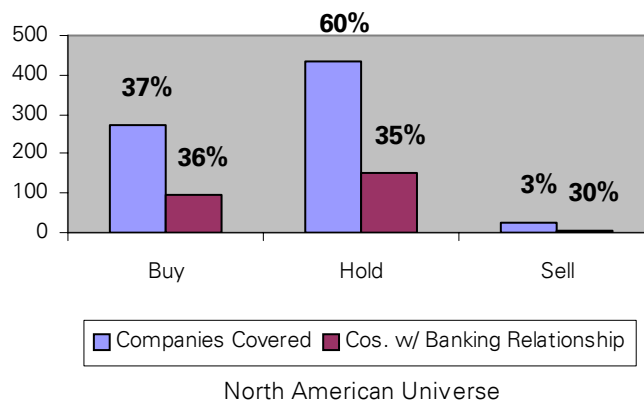
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Deutsche Bank Securities Inc.

North American locations

Deutsche Bank Securities Inc.

60 Wall Street
New York, NY 10005
Tel: (212) 250 2500

Deutsche Bank Securities Inc.

225 Franklin Street
25th Floor
Boston, MA 02110
Tel: (617) 988 8600

Deutsche Bank Securities Inc.

222 South Riverside Plaza
30th Floor
Chicago, IL 60606
Tel: (312) 537-3758

Deutsche Bank Securities Inc.

3033 East First Avenue
Suite 303, Third Floor
Denver, CO 80206
Tel: (303) 394 6800

Deutsche Bank Securities Inc.

1735 Market Street
24th Floor
Philadelphia, PA 19103
Tel: (215) 854 1546

Deutsche Bank Securities Inc.

101 California Street
46th Floor
San Francisco, CA 94111
Tel: (415) 617 2800

Deutsche Bank Securities Inc.

700 Louisiana Street
Houston, TX 77002
Tel: (832) 239-4600

International locations

Deutsche Bank Securities Inc.

60 Wall Street
New York, NY 10005
United States of America
Tel: (1) 212 250 2500

Deutsche Bank AG London

1 Great Winchester Street
London EC2N 2EQ
United Kingdom
Tel: (44) 20 7545 8000

Deutsche Bank AG

Große Gallusstraße 10-14
60272 Frankfurt am Main
Germany
Tel: (49) 69 910 00

Deutsche Bank AG

Deutsche Bank Place
Level 16
Corner of Hunter & Phillip Streets
Sydney, NSW 2000
Australia
Tel: (61) 2 8258 1234

Deutsche Bank AG

Level 55
Cheung Kong Center
2 Queen's Road Central
Hong Kong
Tel: (852) 2203 8888

Deutsche Securities Inc.

2-11-1 Nagatacho
Sanno Park Tower
Chiyoda-ku, Tokyo 100-6171
Japan
Tel: (81) 3 5156 6701

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