

Oil & Gas Exploration and Production

Weekly Comp Tables

- **Stocks up 10.2% over the past week.** Our E&P coverage universe was up 10.2% over the past week versus the EPX, which rose 9.1%, and the S&P, which increased 1.3%. Spot gas was flat at \$3.67/Mcf, and spot oil fell 9.7% to \$54.11/Bbl. The JPM E&P group is down 27.6% YTD.
- **E&Ps trading at 137% of NYMEX NAV.** The stocks are trading at 137% of NAV using NYMEX prices (long-term prices of \$3.78/Mcf gas and \$60.49/Bbl oil). In 2010, 2011, 2012 and 2013, the group traded at an average of 96%, 88%, 109% and 99% of NYMEX NAV, respectively.
- **Current EV/2014E DACF at 5.5x; YE14 EV/2015E DACF at 5.7x.** Assuming NYMEX futures prices, the current median EV/2014E DACF is 5.5x. Rolling out the EV to YE14 and using 2015E DACF yields a 5.7x multiple. The median E&P stock is trading at a \$2.20/Mcfe on an EV/proved Mcfe basis.
- **NAVs imply \$3.89/Mcf and \$73.53/Bbl.** Based on our NAV calculations for the E&P group, the E&P stocks are discounting a flat Henry Hub gas price/WTI oil price of \$3.89/\$73.53. Our DCF NAV company models allow us to calculate the flat commodity price deck that matches the current stock prices to the companies' NAVs.
- **Favorite stocks.** Our favorite stocks with operational momentum, the best balance sheets, and market cap size are large caps EOG, APC, and NBL and mid caps XEC and PXD. For small caps, our favorite is PDCE.

Table 1: Price Deck Assumptions

	2012	2013	2014E	2015E	2016E+
NYMEX					
WTI Oil (\$/Bbl)	\$94.89	\$96.47	\$93.25	\$55.96	\$60.49
Henry Hub Gas(\$/Mcf)	\$2.79	\$3.69	\$4.37	\$3.54	\$3.78

Source: J.P. Morgan estimates, Bloomberg.

Note: For the NYMEX deck, 2016E+ represents 2016 average prices and we hold those prices flat for all future years after 2016. Historical prices use WTI spot and Henry Hub bid week. We base our NAVs, earnings and cash flow estimates on NYMEX futures. We are in the process of rolling out the above NYMEX deck for all models.

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Joseph Allman, CFA ^{AC}

(1-212) 622-4864
joseph.d.allman@jpmorgan.com

Dae K Lee

(1-212) 622-5673
dae.k.lee@jpmorgan.com
J.P. Morgan Securities LLC

J.P. Morgan analyst page on Bloomberg
JPMA ALLMAN<GO>

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See page 16 for analyst certification and important disclosures.

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U.S. E&Ps - SUMMARY COMPS

RATING	COMPANY	TICKER	LAST PRICE 12/18/2014	NAV / SHARE NYMEX	Price Target	PRICE /		Implied		EV-TO-DACF*	
						NAV NYMEX	PT	Upside NYMEX	PT	2014E	2015E
LARGE CAPITALIZATION (>\$10B)											
OW	Anadarko Petroleum	APC	\$81.01	\$60.59	\$88.00	134%	92%	-25%	9%	6.1x	8.2x
N	Apache Corporation	APA	\$62.15	\$40.70	\$61.00	153%	102%	-35%	-2%	4.1x	6.5x
NR	Chesapeake Energy	CHK	\$19.14	\$8.82	NA	217%	NA	-54%	NA	5.0x	5.4x
N	Devon Energy	DVN	\$60.29	\$44.19	\$58.00	136%	104%	-27%	-4%	5.4x	5.6x
OW	EOG Resources	EOG	\$92.45	\$71.40	\$105.00	129%	88%	-23%	14%	6.3x	8.8x
OW	Noble Energy	NBL	\$49.42	\$36.02	\$50.00	137%	99%	-27%	1%	6.4x	7.1x
NR	Southwestern Energy	SWN	\$30.71	\$27.71	NA	111%	NA	-10%	NA	5.5x	5.4x
Large Cap Median						136%	99%	-27%	1%	5.5x	6.5x
MEDIUM CAPITALIZATION (>\$2B)											
OW	Antero Resources	AR	\$43.05	\$32.40	\$59.00	133%	73%	-25%	37%	15.5x	11.9x
OW	Cabot Oil & Gas	COG	\$32.44	\$33.09	\$38.00	98%	85%	2%	17%	10.9x	11.3x
OW	Cimarex Energy	XEC	\$108.67	\$83.21	\$116.00	131%	94%	-23%	7%	6.3x	9.7x
OW	Cobalt International Energy	CIE	\$8.70	\$10.16	\$23.00	86%	38%	17%	164%	NA	NA
N	Concho Resources	CXO	\$93.97	\$62.85	\$99.00	150%	95%	-33%	5%	6.9x	7.3x
OW	CONSOL Energy	CNX	\$35.35	\$28.87	\$42.00	122%	84%	-18%	19%	10.4x	9.2x
OW	Continental Resources	CLR	\$36.63	\$23.78	\$38.00	154%	96%	-35%	4%	6.0x	8.7x
OW	Denbury Resources	DNR	\$7.32	\$2.92	\$7.00	251%	105%	-60%	-4%	4.3x	5.8x
OW	EP Energy Corporation	EPE	\$8.99	\$6.56	\$11.00	137%	82%	-27%	22%	4.2x	4.1x
OW	EQT Corporation	EQT	\$82.50	\$89.50	\$116.00	92%	71%	8%	41%	9.3x	8.6x
OW	Newfield Exploration	NFX	\$26.23	(\$8.83)	\$30.00	NM	87%	-134%	14%	4.6x	4.2x
OW	Pioneer Natural Resources	PXD	\$147.94	\$71.52	\$153.00	207%	97%	-52%	3%	9.2x	10.5x
N	QEP Resources	QEP	\$19.69	(\$0.31)	\$33.00	NM	60%	-102%	68%	4.7x	3.2x
OW	Range Resources	RRC	\$60.09	\$45.17	\$64.00	133%	94%	-25%	7%	10.8x	10.4x
UW	SandRidge Energy	SD	\$1.82	(\$5.91)	NA	NM	NA	NA	NA	3.9x	5.2x
N	SM Energy	SM	\$36.93	\$21.65	\$99.00	171%	37%	-41%	168%	2.4x	2.5x
N	Ultra Petroleum Corp	UPL	\$15.29	\$15.43	\$27.00	99%	57%	1%	77%	6.0x	6.8x
NR	Whiting Petroleum	WLL	\$31.91	\$19.88	NA	161%	NA	-38%	NA	3.0x	3.3x
N	WPX Energy	WPX	\$11.86	\$1.13	\$20.00	NM	59%	-90%	69%	4.4x	3.6x
Mid Cap Median						133%	84%	-30%	19%	6.0x	7.0x
SMALL CAPITALIZATION (<\$2B)											
UW	Approach Resources	AREX	\$5.86	(\$1.29)	NA	NM	NM	-122%	NA	3.1x	4.4x
UW	Goodrich Petroleum	GDP	\$4.91	(\$16.94)	NA	NM	NM	-445%	NA	6.9x	5.6x
N	Halcón Resources	HK	\$2.04	(\$4.22)	\$5.00	NM	41%	-307%	145%	2.8x	2.5x
N	Jones Energy	JONE	\$11.53	(\$3.06)	\$10.00	NM	115%	-127%	-13%	3.9x	4.0x
OW	Laredo Petroleum	LPI	\$8.93	\$5.36	\$10.00	167%	89%	-40%	12%	4.7x	5.7x
N	Parsley Energy	PE	\$14.59	\$3.94	\$20.00	370%	73%	-73%	37%	12.5x	5.6x
OW	PDC Energy	PDCE	\$40.17	(\$10.68)	\$81.00	NM	50%	-127%	102%	5.6x	4.8x
N	PetroQuest Energy	PQ	\$3.70	(\$4.46)	\$6.00	NM	62%	-221%	62%	3.7x	3.7x
OW	RSP Permian	RSPP	\$24.63	(\$5.10)	\$21.00	NM	117%	-121%	-15%	5.2x	8.0x
Small Cap Median						268%	73%	-127%	37%	4.7x	4.8x
Group Median						137%	87%	-36%	14%	5.5x	5.7x

Source: Company reports, Bloomberg, and J.P. Morgan estimates.

Note: OW - Overweight, N - Neutral, UW - Underweight, NR - Not Rated.

SD price target was withdrawn April 8, 2013. HK price target is for YE 2013.

We have excluded XCO and SFY from this note and will include those names once we have updated the models.

For GDP, HK and SD, the PT uses the prior JPM price deck with long-term WTI of \$90/Bbl and Henry Hub gas of \$4.25/Mcf.

*EV/2014 DACF = (current market cap + current net debt)/2014 Debt Adjusted Cash Flow. EV/2015 DACF = (current market cap + YE14 net debt)/2015 Debt Adjusted Cash Flow. Our Enterprise Value calculation now includes EV associated with all other non-E&P assets because DACF accounts for company-wide cash flow. We previously excluded non-E&P assets from the EV calculation. Debt Adjusted Cash Flow = Discretionary Cash Flow + Interest x (1- current tax rate). We are capping any tax rate below 0% to 0% and above 100% to 100%.

U.S. E&Ps - NET ASSET VALUES (NYMEX)

RATING	COMPANY TICKER	PROVED NAV	VALUE OF UNBOOKED RESERVES =		TOTAL NAV	P/TOTAL NYMEX NAV	P/PROVED NYMEX NAV	STOCKS REFLECTING		TOTAL NAV SENSITIVITY**	
			+	(AFTER TAX)				\$/Mcf	\$/Bbl	\$ 0.10 Δ	\$1.00 Δ
								Nat Gas	Crude	GAS PRICE	OIL PRICE
LARGE CAPITALIZATION (>\$10B)											
OW	APC	\$39.92		\$20.67	\$60.59	134%	203%	3.93	74.09	1.0%	3.0%
N	APA	\$46.47		(\$5.77)	\$40.70	153%	134%	3.96	74.66	1.4%	4.2%
NR	CHK	\$3.62		\$5.20	\$8.82	217%	529%	3.93	74.09	8.0%	4.6%
N	DVN	\$26.64		\$17.55	\$44.19	136%	226%	3.89	73.34	1.3%	3.6%
OW	EOG	\$19.19		\$52.21	\$71.40	129%	482%	3.82	72.02	0.2%	3.2%
OW	NBL	\$29.33		\$6.69	\$36.02	137%	168%	3.87	72.96	1.8%	3.5%
NR	SWN	\$16.01		\$11.70	\$27.71	111%	192%	3.90	73.53	8.3%	0.4%
Large Cap Median						136%	203%	3.90	73.53	1.4%	3.5%
MEDIUM CAPITALIZATION (>\$2B)											
OW	AR*	\$9.15		\$23.25	\$32.40	133%	470%	3.95	74.47	4.8%	1.4%
OW	COG	\$9.12		\$23.97	\$33.09	98%	356%	3.53	66.55	1.1%	0.6%
OW	XEC	\$25.49		\$57.72	\$83.21	131%	426%	3.73	70.32	1.6%	3.5%
OW	CIE	\$1.12		\$9.04	\$10.16	86%	777%	3.09	58.26	0.3%	5.2%
N	CXO	\$24.28		\$38.57	\$62.85	150%	387%	3.63	68.44	0.8%	5.4%
OW	CNX	\$16.13		\$12.74	\$28.87	122%	219%	4.00	75.41	5.0%	0.6%
OW	CLR	\$15.79		\$7.99	\$23.78	154%	232%	3.63	68.44	1.6%	6.1%
OW	DNR	\$1.35		\$1.57	\$2.92	251%	542%	3.66	69.00	2.4%	9.5%
OW	EPE	\$2.51		\$4.05	\$6.56	137%	358%	3.58	67.49	2.5%	8.8%
OW	EQT	\$69.51		\$19.99	\$89.50	92%	119%	3.60	67.87	5.7%	0.6%
OW	NFX	\$10.26		(\$19.09)	(\$8.83)	NM	256%	4.34	81.82	1.8%	7.1%
OW	PXD	\$34.44		\$37.08	\$71.52	207%	430%	3.79	71.45	0.8%	5.8%
N	QEP	\$9.34		(\$9.65)	(\$0.31)	NM	211%	4.34	81.82	3.3%	4.3%
OW	RRC	\$14.59		\$30.58	\$45.17	133%	412%	3.73	70.32	7.6%	3.1%
UW	SD	(\$0.16)		(\$5.75)	(\$5.91)	NM	NA	5.01	94.45	2.8%	1.8%
N	SM	\$34.34		(\$12.69)	\$21.65	171%	108%	3.78	71.26	3.6%	6.8%
N	UPL	\$11.78		\$3.65	\$15.43	99%	130%	3.67	69.19	12.2%	1.5%
NR	WLL	\$18.46		\$1.42	\$19.88	161%	173%	3.67	69.19	0.6%	11.2%
N	WPX	\$1.24		(\$0.11)	\$1.13	NM	956%	4.18	78.80	10.3%	5.0%
Mid Cap Median						133%	357%	3.73	70.32	2.5%	5.0%
SMALL CAPITALIZATION (<\$2B)											
UW	AREX	(\$0.11)		(\$1.18)	(\$1.29)	NM	NA	4.73	89.17	1.7%	17.9%
UW	GDP	(\$15.27)		(\$1.67)	(\$16.94)	NM	NA	4.07	76.73	12.4%	26.7%
N	HK	(\$3.51)		(\$0.71)	(\$4.22)	NM	NA	4.28	80.69	0.0%	15.6%
N	JONE	(\$2.67)		(\$0.39)	(\$3.06)	NM	NA	3.44	64.85	3.4%	5.0%
OW	LPI	\$1.44		\$3.92	\$5.36	167%	620%	3.56	79.14	2.6%	4.6%
N	PE	\$4.09		(\$0.15)	\$3.94	370%	357%	4.05	76.35	0.2%	6.1%
OW	PDCE	\$14.17		(\$24.85)	(\$10.68)	NM	283%	4.15	78.24	3.0%	6.9%
N	PQ	(\$2.36)		(\$2.10)	(\$4.46)	NM	NA	4.37	82.39	13.3%	7.6%
OW	RSPP	\$4.07		(\$9.17)	(\$5.10)	NM	605%	4.57	86.16	0.3%	4.8%
Small Cap Median						268%	481%	4.15	79.14	2.6%	6.9%
Group Median						137%	356%	3.89	73.53	2.4%	4.8%

Source: Company reports, Bloomberg, and J.P. Morgan estimates

*For AR, Proved NAV consists of midyear 2013 proved developed reserves only.

**We base NAV sensitivity on a \$1/Bbl or \$0.10/Mcf change in the prices reflected in the stocks.

Price deck assumptions	2013	2014E	2015E	2016E+
NYMEX				
WTI Oil (\$/bbl)	\$96.47	\$93.25	\$55.96	\$60.49
Henry Hub Gas(\$/Mcf)	\$3.69	\$4.37	\$3.54	\$3.78

Source: J.P. Morgan estimates, Bloomberg

Note: For the NYMEX deck, 2016E+ represents 2016 average prices and we hold those prices flat for all future years after 2016.

Historical prices use WTI spot and Henry Hub bid week. We base our NAVs, earnings and cash flow estimates on NYMEX futures.

The JPM Deck is the deck of J.P. Morgan Commodities Research.

We are in the process of rolling out the above NYMEX deck for all models.

U.S. E&Ps - CASH FLOW & EBITDA

RATING	COMPANY	TICKER	DISCRETIONARY CFPS		PRICE-TO-DCF		E&P EBITDA(X)**		DACF / DEBT ADJ. SHARE GROWTH**	
			2014E	2015E	2014E	2015E	2014E	2015E	2014E	2015E
LARGE CAPITALIZATION (>\$10B)										
OW	Anadarko Petroleum	APC	\$16.78	\$11.03	4.8x	7.3x	\$10,129	\$7,397	-1.0%	-37.9%
N	Apache Corporation	APA	\$20.78	\$12.69	3.0x	4.9x	\$10,109	\$5,771	-29.5%	-32.9%
NR	Chesapeake Energy	CHK	\$5.94	\$4.43	3.2x	4.3x	\$5,740	\$4,158	57.3%	-53.2%
N	Devon Energy	DVN	\$14.15	\$13.48	4.3x	4.5x	\$5,934	\$5,541	-8.8%	5.1%
OW	EOG Resources	EOG	\$15.57	\$11.02	5.9x	8.4x	\$9,238	\$6,585	13.4%	-29.7%
OW	Noble Energy	NBL	\$8.82	\$7.86	5.6x	6.3x	\$3,551	\$3,165	-1.8%	-8.6%
NR	Southwestern Energy	SWN	\$6.20	\$6.36	5.0x	4.8x	\$1,948	\$1,972	16.1%	0.4%
Large Cap Median					4.8x	4.9x			-1.0%	-29.7%
Large Cap Total							\$46,648	\$34,589		
MEDIUM CAPITALIZATION (>\$2B)										
OW	Antero Resources	AR	\$3.18	\$4.01	13.6x	10.7x	\$1,131	\$1,348	38.7%	31.5%
OW	Cabot Oil & Gas	COG	\$3.10	\$3.04	10.5x	10.7x	\$1,351	\$1,338	14.7%	0.6%
OW	Cimarex Energy	XEC	\$18.10	\$11.61	6.0x	9.4x	\$1,608	\$1,069	17.7%	-35.9%
OW	Cobalt International Energy	CIE	(\$0.51)	(\$0.60)	NA	NA	(\$108)	(\$111)	NA*	NA*
N	Concho Resources	CXO	\$16.57	\$15.59	5.7x	6.0x	\$2,058	\$2,017	21.4%	-9.5%
OW	CONSOL Energy	CNX	\$3.69	\$4.33	9.6x	8.2x	\$497	\$397	34.8%	11.0%
OW	Continental Resources	CLR	\$8.01	\$5.14	4.6x	7.1x	\$3,382	\$2,773	17.1%	-32.1%
OW	Denbury Resources	DNR	\$3.48	\$2.45	2.1x	3.0x	\$1,331	\$999	3.4%	-19.2%
OW	EP Energy Corporation	EPE	\$5.15	\$5.43	1.7x	1.7x	\$1,490	\$1,661	NA*	2.7%
OW	EQT Corporation	EQT	\$9.42	\$10.34	8.8x	8.0x	\$1,294	\$1,454	1.7%	11.1%
OW	Newfield Exploration	NFX	\$9.20	\$9.52	2.9x	2.8x	\$1,133	\$1,462	38.1%	-29.4%
OW	Pioneer Natural Resources	PXD	\$16.82	\$13.79	8.8x	10.7x	\$2,665	\$2,422	0.6%	-19.8%
N	QEP Resources	QEP	\$7.80	\$9.39	2.5x	2.1x	\$1,259	\$1,562	-19.3%	47.9%
OW	Range Resources	RRC	\$6.41	\$6.89	9.4x	8.7x	\$1,264	\$1,275	7.8%	3.2%
UW	SandRidge Energy	SD	\$0.96	\$1.04	1.9x	1.7x	\$999	\$1,086	-69.1%	9.7%
N	SM Energy	SM	\$22.57	\$25.90	1.6x	1.4x	\$1,732	\$1,892	-5.2%	36.3%
N	Ultra Petroleum Corp	UPL	\$4.18	\$4.29	3.7x	3.6x	\$812	\$855	28.8%	26.3%
NR	Whiting Petroleum	WLL	\$16.89	\$15.60	1.9x	2.0x	\$2,198	\$2,128	7.4%	-4.4%
N	WPX Energy	WPX	\$4.30	\$5.44	2.8x	2.2x	\$1,149	\$1,195	83.0%	21.6%
Mid Cap Median					4.1x	4.8x			14.7%	2.9%
Mid Cap Total							\$27,247	\$26,822		
SMALL CAPITALIZATION (<\$2B)										
UW	Approach Resources	AREX	\$4.18	\$3.02	1.4x	1.9x	\$186	\$145	25.8%	-7.1%
UW	Goodrich Petroleum	GDP	\$1.59	\$1.75	3.1x	2.8x	\$141	\$147	-38.3%	15.7%
N	Halcón Resources	HK	\$1.73	\$2.34	1.2x	.9x	\$1,242	\$1,614	59.7%	33.3%
N	Jones Energy	JONE	\$5.69	\$5.97	2.0x	1.9x	\$300	\$352	5.4%	20.8%
OW	Laredo Petroleum	LPI	\$3.32	\$2.81	2.7x	3.2x	\$590	\$535	-17.7%	9.4%
N	Parsley Energy	PE	\$1.02	\$1.72	14.2x	8.5x	\$222	\$325	NA*	10.9%
OW	PDC Energy	PDCE	\$8.34	\$11.47	4.8x	3.5x	\$331	\$468	-19.4%	36.5%
N	PetroQuest Energy	PQ	\$2.05	\$2.14	1.8x	1.7x	\$165	\$176	163.4%	-4.4%
OW	RSP Permian	RSPP	\$4.34	\$3.37	5.7x	7.3x	\$225	\$297	NA*	-20.3%
Small Cap Median					2.7x	2.8x			5.4%	10.9%
Small Cap Total							\$3,401	\$4,058		
Group Median					4.0x	4.4x			7.8%	1.7%
Group Total							\$77,297	\$65,470		

Source: Company reports, Bloomberg, and J.P. Morgan estimates

*These companies have either negative DACF or no trade history for the duration used.

**We use average of stock prices YTD in the debt adjusted share calculation for 2014 and 2015.

U.S. E&Ps - RESERVES

RATING	COMPANY	TICKER	Cost Accounting Method*	2012A RESERVES			2013A RESERVES			
				TOTAL Bcfe	% PVD. DVLDP	E&P** EV / Mcfe	TOTAL Bcfe	% GAS	ANNUAL GROWTH OVERALL	PER SHARE
LARGE CAPITALIZATION (>\$10B)										
OW	Anadarko Petroleum	APC	SE	15,356	78%	\$2.23	16,748	55%	9%	11%
N	Apache Corporation	APA	FC	17,110	70%	\$2.29	15,878	46%	-7%	6%
NR	Chesapeake Energy	CHK	FC	15,690	57%	\$1.65	16,071	73%	2%	4%
N	Devon Energy	DVN	FC	17,780	72%	\$1.48	17,780	52%	0%	5%
OW	EOG Resources	EOG	SE	10,864	52%	\$5.15	12,711	40%	17%	18%
OW	Noble Energy	NBL	SE	7,105	39%	\$3.13	8,437	69%	19%	11%
NR	Southwestern Energy	SWN	FC	4,018	80%	\$2.11	6,976	100%	74%	68%
Large Cap Median					70%	\$2.23	55%	9%	11%	
MEDIUM CAPITALIZATION (>\$2B)										
OW	Antero Resources	AR***	SE	4,929	21%	\$9.28	7,634	88%	55%	49%
OW	Cabot Oil & Gas	COG	SE	3,842	60%	\$3.80	5,454	97%	42%	41%
OW	Cimarex Energy	XEC	FC	2,259	80%	\$3.96	2,497	52%	11%	6%
OW	Cobalt International Energy	CIE	SE	NA	NA	NA	51	7%	NA	NA
N	Concho Resources	CXO	SE	2,683	61%	\$4.62	3,018	39%	12%	6%
OW	CONSOL Energy	CNX	SE	3,993	54%	\$1.07	5,731	97%	44%	50%
OW	Continental Resources	CLR	SE	4,708	40%	\$2.97	6,505	32%	38%	29%
OW	Denbury Resources	DNR	FC	2,456	60%	\$2.16	2,810	17%	14%	14%
OW	EP Energy Corporation	EPE***	SE	3,551	47%	\$1.89	3,286	33%	-7%	NA
OW	EQT Corporation	EQT	SE	6,005	47%	\$1.25	8,348	91%	39%	47%
OW	Newfield Exploration	NFX	FC	3,403	53%	\$1.99	3,680	45%	8%	-10%
OW	Pioneer Natural Resources	PXD	SE	6,514	58%	\$3.80	5,072	38%	-22%	-29%
N	QEP Resources	QEP	SE	3,936	50%	\$1.13	4,105	62%	4%	9%
OW	Range Resources	RRC	SE	6,506	53%	\$1.61	8,202	69%	26%	23%
UW	SandRidge Energy	SD	FC	3,395	57%	\$1.57	3,888	39%	15%	152%
N	SM Energy	SM	SE	1,760	57%	\$1.47	2,572	46%	46%	47%
N	Ultra Petroleum Corp	UPL	FC	3,075	61%	\$0.97	3,614	94%	18%	-2%
NR	Whiting Petroleum	WLL	FC	2,273	64%	\$3.13	2,631	11%	16%	11%
N	WPX Energy	WPX	SE	4,718	60%	\$1.05	4,966	75%	5%	-8%
Mid Cap Median					57%	\$1.94	46%	15%	14%	
SMALL CAPITALIZATION (<\$2B)										
UW	Approach Resources	AREX	SE	573	34%	\$0.83	670	30%	17%	7%
UW	Goodrich Petroleum	GDP	SE	344	46%	\$1.83	463	71%	35%	28%
N	Halcón Resources	HK	FC	653	47%	\$5.22	685	14%	5%	-45%
N	Jones Energy	JONE	FC	512	46%	\$2.41	534	44%	4%	-2%
OW	Laredo Petroleum	LPI	SE	1,132	43%	\$2.85	1,222	45%	8%	8%
N	Parsley Energy****	PE	SE	112	52%	\$5.10	381	20%	241%	NA
OW	PDC Energy	PDCE	SE	1,157	42%	\$1.22	1,595	46%	38%	32%
N	PetroQuest Energy	PQ	FC	228	74%	\$2.40	302	84%	32%	-30%
OW	RSP Permian	RSP	SE	196	44%	\$4.35	220	16%	12%	8%
Small Cap Median					46%	\$2.41	44%	17%	8%	
Group Median					54%	\$2.20	46%	15%	10%	
Group Total				162,837			184,737			

* SE signifies successful efforts accounting. FC signifies full cost.

** E&P EV excludes the value of other operations including midstream, coal, and chemical assets. Reserves are adjusted for acquisitions and divestitures. For HK, GDP and SD, 2013 reserves are estimates.

***AR 2012 proved reserves assume ethane recovery. EPE proved reserves are pro forma for divestitures.

****PE 2013 proved reserves are pro forma for acquisitions.

Source: Company reports and J.P. Morgan estimates

U.S. E&Ps - PRODUCTION

RATING	COMPANY	TICKER	TOTAL			DAILY		GROWTH		GROWTH PER SHARE*	
			2013	2014E	2015E	MMcfepd		Overall		(Debt Adjusted)	
			Bcfe			2013	2014E	2013	2014E	2013	2014E
LARGE CAPITALIZATION (>\$10B)											
OW	Anadarko Petroleum	APC	1,710	1,858	1,984	4,686	5,090	6%	9%	11.1%	12.7%
N	Apache Corporation	APA	1,666	1,411	1,394	4,565	3,865	-3%	-15%	-7.9%	-8.5%
NR	Chesapeake Energy	CHK	1,467	1,545	1,578	4,018	4,233	3%	5%	4.9%	17.7%
N	Devon Energy	DVN	1,517	1,462	1,435	4,157	4,006	1%	-4%	-3.8%	-13.2%
OW	EOG Resources	EOG	1,117	1,318	1,452	3,061	3,611	9%	18%	7.8%	18.8%
OW	Noble Energy	NBL	598	658	762	1,638	1,801	13%	10%	10.5%	4.2%
NR	Southwestern Energy	SWN	657	770	901	1,800	2,109	16%	17%	13.3%	16.6%
Large Cap Median						4,018	3,865	6%	9%	8%	13%
MEDIUM CAPITALIZATION (>\$2B)											
OW	Antero Resources	AR	190	364	548	521	998	117%	91%	104.5%	80.0%
OW	Cabot Oil & Gas	COG	414	540	662	1,133	1,481	55%	31%	52.7%	30.0%
OW	Cimarex Energy	XEC	253	316	367	693	866	10%	25%	6.2%	21.7%
OW	Cobalt International Energy	CIE	0	0	0	0	0	NA	NA	NA	NA
N	Concho Resources	CXO	202	245	304	553	671	15%	21%	6.5%	14.7%
OW	CONSOL Energy	CNX	173	240	314	473	657	10%	39%	7.4%	40.2%
OW	Continental Resources	CLR	298	385	474	816	1,055	39%	29%	23.4%	23.3%
OW	Denbury Resources	DNR	154	163	163	421	446	-2%	6%	-2.1%	5.2%
OW	EP Energy Corporation****	EPE	189	217	235	517	595	-41%	15%	NA	-0.6%
OW	EQT Corporation	EQT	378	469	596	1,036	1,286	46%	24%	44.5%	26.7%
OW	Newfield Exploration	NFX	256	285	311	701	781	-17%	11%	-23.9%	18.8%
OW	Pioneer Natural Resources	PXD	374	407	471	1,026	1,116	11%	9%	0.5%	-2.8%
N	QEP Resources	QEP	309	287	305	847	785	-3%	-7%	-13.1%	-19.2%
OW	Range Resources	RRC	343	431	535	940	1,182	25%	26%	19.6%	22.3%
UW	SandRidge Energy	SD	200	204	224	548	560	-1%	2%	25.7%	-15.3%
N	SM Energy	SM	290	324	393	795	888	32%	12%	20.3%	7.6%
N	Ultra Petroleum Corp	UPL	232	251	304	636	689	-10%	8%	-9.7%	-10.2%
NR	Whiting Petroleum	WLL	206	247	299	565	677	14%	20%	5.2%	12.7%
N	WPX Energy	WPX	459	442	452	1,258	1,210	-10%	-4%	-19.8%	-12.1%
Mid Cap Median						693	785	11%	18%	6%	14%
SMALL CAPITALIZATION (<\$2B)											
UW	Approach Resources	AREX	21	30	32	56	82	19%	45%	-2.5%	24.5%
UW	Goodrich Petroleum	GDP	28	25	23	76	69	-12%	-9%	-12.1%	-19.1%
N	Halcón Resources	HK	77	129	164	210	354	271%	69%	-8.1%	27.1%
N	Jones Energy**	JONE	37	52	64	102	144	28%	41%	NA	-30.1%
OW	Laredo Petroleum	LPI	67	70	82	184	191	-1%	4%	-10.9%	-6.1%
N	Parsley Energy***	PE	13	31	49	37	85	NA	132%	NA	155.0%
OW	PDC Energy	PDCE	45	59	81	122	161	-1%	32%	-15.1%	15.7%
N	PetroQuest Energy	PQ	38	46	56	104	125	12%	20%	-23.6%	-18.4%
OW	RSP Permian	RSPP	16	26	39	44	71	43%	62%	37.8%	44.3%
Small Cap Median						102	125	15%	41%	-11%	16%
Group Median						636	781	10%	18%	5%	14%
Group Total			13,993	15,309	17,054	38,337	41,943	9%	11%		

*Production growth per share includes average net debt divided by the average share price for the year. Note that an increasing stock price will increase the adjusted production growth per share.

**JONE's 2013 debt adjusted production growth per share assumes the current shares outstanding and average share price since July 23, 2013, IPO.

***PE's 2013 production and 2014E overall production growth are pro forma for acquisitions.

****EPE's 2013 production is pro forma for divestitures.

Source: Company reports, Bloomberg, and J.P. Morgan estimates

U.S. E&Ps - Ex-Leasehold PD F&D METRICS

RATING	COMPANY	TICKER	Ex-Leasehold Proved Developed F&D				RODD (Return on Drilling Dollars)			Asset Intensity 2013A*
			2010A	2011A	2012A	3 Yr Avg (2010-2012A)	2010A	2011A	2012A	
LARGE CAPITALIZATION (>\$10B)										
OW	Anadarko Petroleum	APC	\$1.62	\$1.91	\$1.42	\$1.65	61%	42%	65%	38%
N	Apache Corporation	APA	\$4.40	\$4.54	\$4.91	\$4.62	11%	10%	4%	103%
NR	Chesapeake Energy	CHK	\$2.25	\$2.43	\$2.85	\$2.51	5%	5%	2%	168%
N	Devon Energy	DVN	\$2.96	\$2.47	\$3.33	\$2.92	1%	6%	2%	89%
OW	EOG Resources	EOG	\$3.24	\$3.53	\$4.46	\$3.75	16%	18%	7%	65%
OW	Noble Energy	NBL	\$9.37	\$6.12	\$5.77	\$7.09	-8%	-2%	-5%	29%
NR	Southwestern Energy	SWN	\$1.70	\$1.67	\$1.57	\$1.65	2%	2%	10%	56%
Large Cap Median			\$2.96	\$2.47	\$3.33	\$2.92	5%	6%	4%	65%
MEDIUM CAPITALIZATION (>\$2B)										
OW	Antero Resources	AR	\$1.54	\$0.84	\$1.32	\$1.23	-4%	6%	7%	31%
OW	Cabot Oil & Gas	COG	\$1.46	\$2.14	\$1.05	\$1.55	8%	2%	33%	43%
OW	Cimarex Energy	XEC	\$2.44	\$3.33	\$3.94	\$3.24	26%	9%	2%	51%
OW	Cobalt International Energy	CIE	NA	NA	NA	NA	NA	NA	NA	NA
N	Concho Resources	CXO	\$2.32	\$3.20	\$3.80	\$3.11	55%	29%	19%	77%
OW	CONSOL Energy	CNX	\$3.37	\$1.83	\$1.85	\$2.35	NA	NA	NA	NA
OW	Continental Resources	CLR	\$9.52	\$3.84	\$3.55	\$5.63	-2%	27%	29%	50%
OW	Denbury Resources	DNR	\$2.95	\$4.09	\$4.17	\$3.73	37%	17%	16%	129%
OW	EP Energy Corporation	EPE	NA	NA	\$3.68	NA	NA	NA	NA	71%
OW	EQT Corporation	EQT	\$1.48	\$1.58	\$2.30	\$1.78	4%	4%	1%	42%
OW	Newfield Exploration	NFX	\$2.09	\$3.40	\$5.82	\$3.77	28%	10%	-4%	125%
OW	Pioneer Natural Resources	PXD	\$2.32	\$2.88	\$4.02	\$3.07	13%	9%	5%	76%
N	QEP Resources	QEP	\$2.60	\$2.12	\$4.08	\$2.93	4%	14%	2%	88%
OW	Range Resources	RRC	\$2.01	\$2.07	\$1.14	\$1.74	6%	3%	16%	51%
UW	SandRidge Energy	SD	\$1.89	\$3.21	\$3.42	\$2.84	24%	7%	6%	85%
N	SM Energy	SM	\$4.16	\$4.17	\$3.56	\$3.96	6%	6%	17%	59%
N	Ultra Petroleum Corp	UPL	\$1.80	\$1.67	\$2.93	\$2.13	9%	11%	0%	164%
NR	Whiting Petroleum	WLL	\$2.99	\$6.69	\$6.89	\$5.52	34%	5%	5%	88%
N	WPX Energy	WPX	\$1.99	\$1.48	\$2.43	\$1.97	-5%	6%	0%	351%
Mid Cap Median			\$2.32	\$2.88	\$3.55	\$2.93	8%	8%	6%	76%
SMALL CAPITALIZATION (<\$2B)										
UW	Approach Resources	AREX	\$11.65	\$5.61	\$5.61	\$7.63	NA	0%	-1%	72%
UW	Goodrich Petroleum	GDP	\$2.76	\$4.66	\$6.63	\$4.69	10%	0%	-2%	0%
N	Halcón Resources	HK	\$1.49	\$2.62	\$9.23	\$4.45	56%	34%	-12%	NA
N	Jones Energy	JONE	NA	\$5.31	\$2.50	NA	NA	-2%	24%	42%
OW	Laredo Petroleum	LPI	\$3.37	\$4.75	\$4.95	\$4.36	28%	9%	4%	83%
N	Parsley Energy	PE	NA	NA	\$1.92	NA	NA	NA	NA	34%
OW	PDC Energy	PDCE	\$4.09	\$2.99	\$2.23	\$3.10	-2%	6%	18%	65%
N	PetroQuest Energy	PQ	\$3.88	\$2.20	\$1.81	\$2.63	-9%	8%	23%	173%
OW	RSP Permian	RSPP	NA	NA	\$7.38	NA	NA	NA	2%	37%
Small Cap Median			\$3.63	\$4.66	\$4.95	\$4.40	10%	6%	3%	54%
Group Median			\$2.52	\$2.99	\$3.55	\$3.09	8%	7%	5%	68%

Source: Company reports and J.P. Morgan estimates. We calculate the 3 Yr Avg using annual Ex-Leasehold PD F&D values.

*Asset Intensity = PD F&D (all in) x Production / Discretionary Cash Flow. Asset Intensity for SD, GDP and HK are for 2012.

U.S. E&Ps - All-in PD F&D METRICS

RATING	COMPANY	TICKER	All-in Proved Developed F&D				RODD (Return on Drilling Dollars)		
			2010A	2011A	2012A	3 Yr Avg (2010-2012A)	2010A	2011A	2012A
LARGE CAPITALIZATION (>\$10B)									
OW	Anadarko Petroleum	APC	\$2.69	\$2.07	\$1.52	\$2.09	21%	36%	58%
N	Apache Corporation	APA	\$4.98	\$5.05	\$5.52	\$5.18	7%	8%	2%
NR	Chesapeake Energy	CHK	\$4.21	\$4.02	\$4.45	\$4.23	-5%	-3%	-6%
N	Devon Energy	DVN	\$3.50	\$2.82	\$3.85	\$3.39	-1%	3%	-2%
OW	EOG Resources	EOG	\$3.51	\$3.78	\$4.79	\$4.03	12%	15%	7%
OW	Noble Energy	NBL	\$10.22	\$6.83	\$6.33	\$7.79	-8%	-4%	-5%
NR	Southwestern Energy	SWN	\$1.83	\$1.83	\$1.74	\$1.80	0%	0%	7%
Large Cap Median			\$3.51	\$3.78	\$4.45	\$4.03	0%	3%	2%
MEDIUM CAPITALIZATION (>\$2B)									
OW	Antero Resources	AR	\$3.20	\$1.36	\$1.84	\$2.13	-11%	0%	0%
OW	Cabot Oil & Gas	COG	\$1.67	\$2.41	\$1.20	\$1.76	6%	0%	25%
OW	Cimarex Energy	XEC	\$2.80	\$3.68	\$4.26	\$3.58	19%	7%	0%
OW	Cobalt International Energy	CIÉ	NA	NA	NA	NA	NA	NA	NA
N	Concho Resources	CXO	\$3.01	\$3.77	\$4.60	\$3.79	35%	21%	9%
OW	CONSOL Energy	CNX	\$6.02	\$3.16	\$3.57	\$4.25	NA	NA	NA
OW	Continental Resources	CLR	\$11.00	\$4.16	\$3.93	\$6.37	-3%	27%	22%
OW	Denbury Resources	DNR	\$4.43	\$5.13	\$5.32	\$4.96	15%	9%	4%
OW	EP Energy Corporation	EPE	NA	NA	\$3.94	NA	NA	NA	6%
OW	EQT Corporation	EQT	\$1.63	\$1.74	\$2.62	\$2.00	3%	3%	-1%
OW	Newfield Exploration	NFX	\$2.36	\$3.82	\$6.53	\$4.23	21%	6%	-6%
OW	Pioneer Natural Resources	PXD	\$2.62	\$3.06	\$4.19	\$3.29	11%	9%	4%
N	QEP Resources	QEP	\$2.84	\$2.30	\$4.84	\$3.33	2%	12%	-2%
OW	Range Resources	RRC	\$2.52	\$2.43	\$1.36	\$2.10	2%	0%	11%
UW	SandRidge Energy	SD	\$2.31	\$3.55	\$3.89	\$3.25	15%	4%	3%
N	SM Energy	SM	\$4.52	\$4.36	\$3.74	\$4.21	3%	3%	10%
N	Ultra Petroleum Corp	UPL	\$1.98	\$1.82	\$3.42	\$2.41	5%	9%	-2%
NR	Whiting Petroleum	WLL	\$3.21	\$7.14	\$7.27	\$5.87	29%	3%	2%
N	WPX Energy	WPX	\$2.74	\$1.86	\$3.22	\$2.61	-10%	0%	-6%
Mid Cap Median			\$2.80	\$3.16	\$3.91	\$3.33	5%	5%	3%
SMALL CAPITALIZATION (<\$2B)									
UW	Approach Resources	AREX	\$12.46	\$6.05	\$5.89	\$8.13	NA	-1%	-1%
UW	Goodrich Petroleum	GDP	\$3.03	\$5.07	\$7.48	\$5.19	5%	-4%	-8%
N	Halcón Resources	HK	\$1.49	\$2.62	\$18.04	\$7.38	56%	34%	-12%
N	Jones Energy	JONE	NA	\$5.31	\$2.78	NA	NA	-2%	19%
OW	Laredo Petroleum	LPI	\$3.42	\$4.79	\$4.99	\$4.40	28%	9%	4%
N	Parsley Energy	PE	NA	NA	\$2.03	NA	NA	NA	NA
OW	PDC Energy	PDCE	\$4.71	\$3.39	\$3.06	\$3.72	-4%	4%	10%
N	PetroQuest Energy	PQ	\$4.80	\$2.69	\$2.24	\$3.24	-12%	3%	11%
OW	RSP Permian	RSPP	NA	NA	\$7.38	NA	NA	NA	2%
Small Cap Median			\$4.07	\$4.79	\$4.99	\$4.80	5%	3%	3%
Group Median			\$3.11	\$3.55	\$3.94	\$3.75	5%	4%	2%

Source: Company reports and J.P. Morgan estimates
We calculate the 3 Yr Avg using annual All-in PD F&D values.

U.S. E&Ps - RESERVES & PRODUCTION METRICS

RATING	COMPANY	TICKER	RLI** (YEARS)	2012		RES. GROWTH		PROD. GROWTH		2014E PROD.	2014E PROD.
				SEC PV-10 / Mcf	EV / Mcfepd*	DEBT-ADJ PER SHARE***	DEBT-ADJ PER SHARE***	% UNITED STATES	% NATURAL GAS (TOTAL)		
						CAGR (2011-2013)	CAGR (2011-2013)				
LARGE CAPITALIZATION (>\$10B)											
OW	Anadarko Petroleum	APC	7.9	\$3.40	\$6,502	3.9%	5.2%	89%	51%		
N	Apache Corporation	APA	10.1	\$3.43	\$8,489	-3.8%	-4.5%	45%	40%		
NR	Chesapeake Energy	CHK	10.0	\$1.13	\$6,055	-2.6%	7.9%	100%	71%		
N	Devon Energy	DVN	12.9	\$1.22	\$7,012	-0.7%	2.5%	85%	48%		
OW	EOG Resources	EOG	7.7	\$2.58	\$14,604	0.2%	5.9%	86%	38%		
OW	Noble Energy	NBL	10.1	\$2.99	\$11,595	3.1%	3.6%	59%	56%		
NR	Southwestern Energy	SWN	5.0	\$0.70	\$3,855	9.2%	14.8%	100%	100%		
Large Cap Median			10.0	\$2.58	\$7,012	0.2%	5.2%	86%	51%		
MEDIUM CAPITALIZATION (>\$2B)											
OW	Antero Resources	AR	3.2	\$0.39	\$10,900	NA	NA	100%	85%		
OW	Cabot Oil & Gas	COG	6.0	\$0.81	\$8,424	25.2%	45.5%	100%	95%		
OW	Cimarex Energy	XEC	7.5	\$1.84	\$10,895	5.3%	1.3%	100%	50%		
OW	Cobalt International Energy	CIE	NA	NA	NA	NA	NA	NA	NA		
N	Concho Resources	CXO	11.0	\$3.10	\$18,667	7.7%	14.7%	100%	36%		
OW	CONSOL Energy	CNX	19.2	\$0.31	\$7,558	NA	NA	100%	91%		
OW	Continental Resources	CLR	14.7	\$2.83	\$16,065	28.9%	32.1%	100%	30%		
OW	Denbury Resources	DNR	17.1	\$4.03	\$13,619	2.7%	-5.1%	100%	5%		
OW	EP Energy Corporation	EPE	13.9	\$1.94	\$9,693	NA	NA	100%	33%		
OW	EQT Corporation	EQT	11.6	\$0.55	\$5,309	17.2%	34.7%	100%	91%		
OW	Newfield Exploration	NFX	11.3	\$2.60	\$8,304	-8.6%	-11.7%	100%	45%		
OW	Pioneer Natural Resources	PXD	14.2	\$1.27	\$19,845	-12.4%	8.0%	100%	32%		
N	QEP Resources	QEP	14.7	\$1.35	\$6,086	2.0%	-1.0%	100%	61%		
OW	Range Resources	RRC	16.5	\$0.61	\$9,731	17.5%	18.2%	100%	68%		
UW	SandRidge Energy	SD	10.1	\$3.78	\$5,834	18.8%	6.2%	100%	52%		
N	SM Energy	SM	8.3	\$2.19	\$4,503	25.5%	23.8%	100%	46%		
N	Ultra Petroleum Corp	UPL	20.3	\$0.74	\$7,224	-13.3%	-2.8%	100%	92%		
NR	Whiting Petroleum	WLL	7.6	\$3.21	\$8,747	5.7%	2.6%	100%	12%		
N	WPX Energy	WPX	9.7	\$0.78	\$3,708	-12.5%	-13.8%	96%	77%		
Mid Cap Median			11.5	\$1.60	\$8,585	5.7%	6.2%	100%	51%		
SMALL CAPITALIZATION (<\$2B)											
UW	Approach Resources	AREX	21.8	\$1.45	\$6,645	-1.4%	2.2%	100%	31%		
UW	Goodrich Petroleum	GDP	17.7	\$0.91	\$11,913	-9.1%	-20.2%	100%	59%		
N	Halcón Resources	HK	10.4	\$3.55	\$19,688	-27.0%	-13.5%	100%	9%		
N	Jones Energy	JONE	9.8	\$1.53	\$8,683	NA	NA	100%	44%		
OW	Laredo Petroleum	LPI	11.6	\$2.08	\$12,135	NA	NA	100%	42%		
N	Parsley Energy	PE	9.2	NA	\$17,321	NA	NA	100%	23%		
OW	PDC Energy	PDCE	27.8	\$1.48	\$12,299	-5.0%	-20.2%	100%	40%		
N	PetroQuest Energy	PQ	5.5	\$1.04	\$4,828	-13.5%	-10.0%	100%	72%		
OW	RSP Permian	RSPP	15.8	\$4.61	\$25,289	NA	NA	100%	13%		
Small Cap Median			11.6	\$1.50	\$12,135	-9.1%	-13.5%	100%	40%		
Group Median			10.7	\$1.53	\$8,715	2.0%	2.6%	100%	47%		

*Enterprise Value is for E&P assets only (excluding midstream assets). Mcfe/d adjusted in the EV/Mcfepd calculation for acquisitions, divestitures, and hurricanes.

**RLI is calculated using current quarter production annualized and current proved reserves, adjusted for acquisitions and divestitures.

***Production growth per share debt adjusted includes average net debt divided by the average share price for the year.

We calculate AR's RLI using Midyear 2013 proved developed reserves only.

Note that an increasing stock price will increase the adjusted production growth per share.

Source: Company reports and J.P. Morgan estimates.

U.S. E&Ps - BALANCE SHEET

RATING	COMPANY	TICKER	LTM EBITDA / INTEREST		NET DEBT TO BOOK CAP		NET DEBT TO EBITDA		REINVESTMENT RATE (CFI / CFO)		
			YE13E	YE14E	YE13E	YE14E	2013E	2014E	2012	2013E	2014E
<i>(excludes acquisitions)</i>											
LARGE CAPITALIZATION (>\$10B)											
OW	Anadarko Petroleum	APC	13.2x	10.4x	31%	23%	1.0x	0.7x	90%	93%	116%
N	Apache Corporation	APA	57.5x	61.9x	18%	24%	0.7x	1.0x	119%	115%	128%
NR	Chesapeake Energy	CHK	20.8x	35.3x	44%	32%	2.5x	1.1x	272%	136%	83%
N	Devon Energy	DVN	13.4x	11.9x	23%	25%	1.0x	1.3x	181%	81%	99%
OW	EOG Resources	EOG	31.9x	43.2x	23%	18%	0.6x	0.4x	130%	95%	95%
OW	Noble Energy	NBL	22.5x	16.2x	28%	33%	1.0x	1.3x	126%	136%	138%
NR	Southwestern Energy	SWN	48.2x	44.8x	35%	29%	1.0x	0.8x	127%	109%	88%
Large Cap Median			22.5x	35.3x	28%	25%	1.0x	1.0x	127%	109%	99%
MEDIUM CAPITALIZATION (>\$2B)											
OW	Antero Resources	AR	2.1x	6.8x	36%	46%	7.3x	3.5x	506%	415%	302%
OW	Cabot Oil & Gas	COG	16.7x	19.3x	34%	41%	0.9x	1.2x	143%	121%	115%
OW	Cimarex Energy	XEC	71.8x	54.0x	19%	20%	0.7x	0.7x	145%	123%	127%
OW	Cobalt International Energy	CIE	NA	NA	28%	53%	NA	NA	NA	NA	NA
N	Concho Resources	CXO	7.5x	9.1x	49%	41%	2.2x	1.8x	122%	138%	154%
OW	CONSOL Energy	CNX	3.4x	4.7x	36%	38%	3.4x	3.0x	226%	104%	129%
OW	Continental Resources	CLR	11.6x	12.0x	54%	55%	1.7x	1.7x	217%	145%	139%
OW	Denbury Resources	DNR	9.7x	7.4x	38%	40%	2.4x	2.6x	104%	88%	91%
OW	EP Energy Corporation	EPE	3.3x	5.0x	60%	55%	3.9x	2.9x	195%	200%	168%
OW	EQT Corporation	EQT	9.2x	11.6x	25%	26%	1.2x	1.3x	170%	181%	182%
OW	Newfield Exploration	NFX	8.8x	8.3x	55%	43%	2.7x	2.2x	155%	140%	125%
OW	Pioneer Natural Resources	PXD	12.1x	13.9x	25%	15%	1.0x	0.6x	166%	133%	143%
N	QEP Resources	QEP	9.2x	9.1x	47%	55%	1.9x	2.7x	108%	135%	123%
OW	Range Resources	RRC	5.8x	7.4x	57%	51%	3.1x	2.7x	233%	157%	153%
UW	SandRidge Energy	SD	3.4x	4.1x	45%	54%	2.8x	3.4x	274%	249%	310%
N	SM Energy	SM	15.9x	16.5x	45%	53%	0.9x	1.3x	163%	116%	135%
N	Ultra Petroleum Corp	UPL	5.9x	6.0x	116%	99%	4.1x	4.1x	88%	94%	85%
NR	Whiting Petroleum	WLL	16.6x	13.6x	34%	40%	1.0x	1.3x	123%	140%	160%
N	WPX Energy	WPX	7.6x	10.2x	30%	33%	2.3x	1.8x	191%	182%	173%
Mid Cap Median			9.0x	9.1x	38%	43%	2.3x	2.0x	165%	139%	141%
SMALL CAPITALIZATION (<\$2B)											
UW	Approach Resources	AREX	8.6x	8.4x	21%	35%	1.6x	2.2x	326%	205%	218%
UW	Goodrich Petroleum	GDP	2.1x	2.9x	55%	73%	4.0x	3.9x	130%	299%	245%
N	Halcón Resources	HK	18.5x	24.9x	55%	52%	3.7x	2.4x	690%	293%	150%
N	Jones Energy	JONE	6.4x	6.5x	50%	56%	3.3x	2.7x	115%	117%	162%
OW	Laredo Petroleum	LPI	4.5x	4.8x	40%	56%	1.9x	3.0x	244%	205%	236%
N	Parsley Energy	PE	5.9x	5.4x	79%	1%	5.1x	0.0x	NA	509%	363%
OW	PDC Energy	PDCE	4.6x	6.4x	32%	44%	1.9x	2.4x	199%	248%	217%
N	PetroQuest Energy	PQ	5.0x	5.6x	81%	75%	3.8x	2.5x	169%	187%	100%
OW	RSP Permian	RSPP	30.6x	16.0x	24%	28%	0.8x	2.0x	247%	286%	177%
Small Cap Median			5.9x	6.4x	50%	52%	3.3x	2.4x	222%	248%	217%
Group Median			9.2x	9.7x	36%	41%	1.9x	1.9x	166%	139%	141%

Negative Net Debt reflects working capital greater than the debt requirements of a company

Net Debt / EBITDA = YE Net Debt / Annual EBITDA

Source: Company reports and J.P. Morgan estimates

U.S. E&Ps - HEDGES

RATING	COMPANY	TICKER	2014		2014		2015		2015	
			% HEDGED	AVG.	% HEDGED	AVG.	% HEDGED	AVG.	% HEDGED	AVG.
			PROD.	PRICES*	PROD.	PRICES*	PROD.	PRICES*	PROD.	PRICES*
			GAS	GAS	OIL	OIL	GAS	GAS	OIL	OIL
LARGE CAPITALIZATION (>\$10B)										
OW	Anadarko Petroleum	APC	61.6%	\$4.28	42.0%	\$101.36	24.2%	\$3.75	7.6%	\$77.34
N	Apache Corporation	APA	8.6%	\$4.39	39.3%	\$95.43	0.0%		0.0%	
NR	Chesapeake Energy	CHK	68.5%	\$4.20	74.9%	\$93.70	28.4%	\$4.31	36.6%	\$77.31
N	Devon Energy	DVN	85.7%	\$4.71	81.5%	\$77.85	28.8%	\$8.42	56.2%	\$90.87
OW	EOG Resources	EOG	27.8%	\$4.55	48.6%	\$96.30	12.6%	\$4.51	8.2%	\$91.00
OW	Noble Energy	NBL	29.0%	\$4.35	65.7%	\$96.84	24.3%	\$4.26	55.7%	\$86.92
NR	Southwestern Energy	SWN	60.0%	\$4.35	0.0%		26.7%	\$4.40	0.0%	
Large Cap Median			60.0%	\$4.35	48.6%	\$95.86	24.3%	\$4.36	8.2%	\$86.92
MEDIUM CAPITALIZATION (>\$2B)										
OW	Antero Resources	AR	81.8%	\$4.64	71.5%	\$94.75	64.6%	\$4.55	0.0%	
OW	Cabot Oil & Gas	COG	82.5%	\$4.26	15.0%	\$97.00	11.4%	\$3.99	0.0%	
OW	Cimarex Energy	XEC	30.7%	\$4.26	29.0%	\$96.03	0.0%		0.0%	
OW	Cobalt International Energy	CIE	0.0%		0.0%		0.0%		0.0%	
N	Concho Resources	CXO	39.5%	\$4.19	71.4%	\$92.73	22.8%	\$4.16	45.7%	\$87.73
OW	CONSOL Energy	CNX	72.9%	\$4.59	0.0%		30.4%	\$4.07	0.0%	
OW	Continental Resources	CLR	101.5%	\$4.21	58.0%	\$100.58	39.5%	\$3.96	0.0%	
OW	Denbury Resources	DNR	64.0%	\$4.24	82.1%	\$93.02	40.0%	\$4.00	74.5%	\$81.78
OW	EP Energy Corporation	EPE	102.9%	\$4.02	103.0%	\$97.93	96.4%	\$4.26	93.5%	\$88.64
OW	EQT Corporation	EQT	58.9%	\$4.42	0.0%		46.1%	\$4.30	0.0%	
OW	Newfield Exploration	NFX	85.9%	\$4.05	82.4%	\$91.90	69.5%	\$4.13	68.6%	\$85.72
OW	Pioneer Natural Resources	PXD	87.5%	\$4.15	92.5%	\$97.21	87.3%	\$4.02	83.3%	\$76.78
N	QEP Resources	QEP	55.8%	\$4.11	64.2%	\$92.61	18.7%	\$4.10	20.5%	\$87.64
OW	Range Resources	RRC	85.4%	\$4.22	97.3%	\$94.58	56.0%	\$4.13	73.0%	\$90.57
UW	SandRidge Energy	SD	0.9%	\$4.00	104.6%	\$91.64	0.9%	\$4.15	34.7%	\$87.87
N	SM Energy	SM	72.3%	\$4.13	72.2%	\$96.15	43.7%	\$4.05	42.8%	\$90.54
N	Ultra Petroleum Corp	UPL	51.3%	\$4.20	40.3%	\$93.04	0.0%		0.0%	
NR	Whiting Petroleum	WLL	13.5%	\$5.49	51.8%	\$96.08	0.0%		3.0%	\$85.00
N	WPX Energy	WPX	54.4%	\$4.32	45.5%	\$94.67	25.4%	\$4.32	10.0%	\$93.33
Mid Cap Median			64.0%	\$4.21	64.2%	\$94.71	30.4%	\$4.13	10.0%	\$87.73
SMALL CAPITALIZATION (<\$2B)										
UW	Approach Resources	AREX	71.8%	\$4.23	85.0%	\$93.56	44.2%	\$4.05	70.5%	\$82.53
UW	Goodrich Petroleum	GDP	73.5%	\$4.62	92.7%	\$94.53	81.9%	\$5.06	53.2%	\$96.11
N	Halcón Resources	HK	113.6%	\$3.97	31.9%	\$90.23	21.9%	\$4.15	0.0%	
N	Jones Energy	JONE	46.1%	\$4.85	47.7%	\$89.48	33.0%	\$4.83	33.8%	\$88.49
OW	Laredo Petroleum	LPI	59.5%	\$4.52	79.1%	\$95.38	64.9%	\$3.93	95.2%	\$80.99
N	Parsley Energy	PE	19.7%	\$4.98	41.1%	\$95.71	36.3%	\$4.50	64.3%	\$83.18
OW	PDC Energy	PDCE	94.0%	\$4.12	96.4%	\$92.76	76.0%	\$4.13	69.5%	\$88.83
N	PetroQuest Energy	PQ	38.0%	\$4.15	43.3%	\$98.49	4.6%	\$4.32	0.0%	
OW	RSP Permian	RSPP	34.7%	\$4.24	54.2%	\$94.06	0.0%		49.2%	\$86.94
Small Cap Median			59.5%	\$4.24	54.2%	\$94.06	36.3%	\$4.24	53.2%	\$86.94
Group Median			60.0%	\$4.25	58.0%	\$94.67	28.4%	\$4.15	33.8%	\$87.64
Total (Production Weighted)			59.8%	\$4.35	59.7%	\$94.41	28.3%	\$4.51	27.3%	\$85.22

*The hedged prices reflect the average price received on all hedged volumes (even if floors or collars are not in the money). Hedges reflect our latest published models. Excludes monetized hedges.
Source: Company reports and J.P. Morgan estimates.

U.S. E&Ps - MARGINS

RATING	COMPANY	TICKER	2015E OPERATING MARGIN (\$/Mcf)						
			REV (EX. HDG)	LOE & SEV. TAX	G&A	CASH MARGIN	EXPL & DD&A	HEDGES	NET MARGIN
LARGE CAPITALIZATION (>\$10B)									
OW	Anadarko Petroleum	APC	\$6.12	(\$1.78)	(\$0.70)	\$3.64	(\$2.89)	\$0.09	\$0.84
N	Apache Corporation	APA	\$6.83	(\$2.38)	(\$0.31)	\$4.14	(\$4.01)	\$0.00	\$0.13
NR	Chesapeake Energy	CHK	\$3.27	(\$0.85)	(\$0.20)	\$2.23	(\$1.72)	\$0.41	\$0.92
N	Devon Energy	DVN	\$5.28	(\$1.92)	(\$0.57)	\$2.79	(\$2.38)	\$1.07	\$1.49
OW	EOG Resources	EOG	\$6.89	(\$2.33)	(\$0.28)	\$4.29	(\$3.29)	\$0.25	\$1.25
OW	Noble Energy	NBL	\$5.51	(\$1.48)	(\$0.72)	\$3.31	(\$3.57)	\$0.84	\$0.59
NR	Southwestern Energy	SWN	\$3.25	(\$1.00)	(\$0.23)	\$2.02	(\$1.16)	\$0.17	\$1.03
Large Cap Median			\$5.51	(\$1.78)	(\$0.31)	\$3.31	(\$2.89)	\$0.25	\$0.92
MEDIUM CAPITALIZATION (>\$2B)									
OW	Antero Resources	AR	\$4.10	(\$1.60)	(\$0.43)	\$2.07	(\$1.24)	\$0.39	\$1.22
OW	Cabot Oil & Gas	COG	\$3.19	(\$1.08)	(\$0.12)	\$1.99	(\$1.31)	\$0.03	\$0.71
OW	Cimarex Energy	XEC	\$5.21	(\$2.02)	(\$0.27)	\$2.91	(\$2.55)	\$0.00	\$0.36
OW	Cobalt International Energy	CIE	NA	NA	NA	NA	NA	NA	NA
N	Concho Resources	CXO	\$7.88	(\$2.02)	(\$0.70)	\$5.15	(\$4.42)	\$1.32	\$2.05
OW	CONSOL Energy	CNX	\$3.14	(\$1.56)	(\$0.39)	\$1.19	(\$1.40)	\$0.07	(\$0.13)
OW	Continental Resources	CLR	\$7.83	(\$1.59)	(\$0.43)	\$5.81	(\$3.67)	\$0.04	\$2.19
OW	Denbury Resources	DNR	\$9.63	(\$4.80)	(\$1.02)	\$3.80	(\$3.62)	\$2.33	\$2.50
OW	EP Energy Corporation	EPE	\$6.70	(\$1.77)	(\$0.69)	\$4.24	(\$4.30)	\$2.84	\$2.78
OW	EQT Corporation	EQT	\$2.82	(\$0.26)	(\$0.25)	\$2.31	(\$1.31)	\$0.13	\$1.13
OW	Newfield Exploration	NFX	\$7.16	(\$2.08)	(\$0.74)	\$4.34	(\$3.18)	\$0.35	\$1.52
OW	Pioneer Natural Resources	PXD	\$6.79	(\$2.10)	(\$0.72)	\$3.97	(\$2.92)	\$1.17	\$2.22
N	QEP Resources	QEP	\$8.40	(\$2.56)	(\$0.64)	\$5.21	(\$3.91)	(\$0.09)	\$1.21
OW	Range Resources	RRC	\$3.45	(\$1.06)	(\$0.39)	\$1.99	(\$1.38)	\$0.39	\$1.01
UW	SandRidge Energy	SD	\$8.21	(\$2.59)	(\$0.72)	\$4.90	(\$2.98)	(\$0.06)	\$1.86
N	SM Energy	SM	\$7.36	(\$2.19)	(\$0.46)	\$4.71	(\$2.72)	\$0.10	\$2.09
N	Ultra Petroleum Corp	UPL	\$4.37	(\$1.47)	(\$0.09)	\$2.82	(\$1.18)	\$0.00	\$1.64
NR	Whiting Petroleum	WLL	\$10.49	(\$2.82)	(\$0.58)	\$7.10	(\$4.90)	\$0.02	\$2.21
N	WPX Energy	WPX	\$5.43	(\$2.14)	(\$0.66)	\$2.63	(\$2.32)	\$0.02	\$0.33
Mid Cap Median			\$6.74	(\$2.02)	(\$0.52)	\$3.89	(\$2.82)	\$0.09	\$1.58
SMALL CAPITALIZATION (<\$2B)									
UW	Approach Resources	AREX	\$5.70	(\$1.50)	(\$0.77)	\$3.43	(\$3.40)	\$1.10	\$1.14
UW	Goodrich Petroleum	GDP	\$7.37	(\$1.78)	(\$1.59)	\$3.99	(\$6.03)	\$2.30	\$0.27
N	Halcón Resources	HK	\$13.44	(\$2.84)	(\$0.78)	\$9.83	(\$5.83)	\$0.00	\$4.00
N	Jones Energy	JONE	\$6.65	(\$1.16)	(\$0.46)	\$5.03	(\$3.40)	\$0.44	\$2.07
OW	Laredo Petroleum	LPI	\$7.57	(\$1.80)	(\$1.34)	\$4.44	(\$3.17)	\$2.08	\$3.34
N	Parsley Energy	PE	\$9.12	(\$1.84)	(\$1.05)	\$6.22	(\$2.43)	\$0.37	\$4.16
OW	PDC Energy	PDCE	\$8.45	(\$1.46)	(\$1.09)	\$5.90	(\$3.17)	(\$0.10)	\$2.63
N	PetroQuest Energy	PQ	\$4.92	(\$1.23)	(\$0.55)	\$3.15	(\$1.95)	\$0.01	\$1.21
OW	RSP Permian	RSPP	\$9.91	(\$2.15)	(\$0.44)	\$7.32	(\$3.61)	\$0.37	\$4.08
Small Cap Median			\$7.57	(\$1.78)	(\$0.78)	\$5.03	(\$3.40)	\$0.37	\$2.63
Group Median			\$6.74	(\$1.79)	(\$0.57)	\$3.98	(\$3.07)	\$0.21	\$1.37

Source: Company reports and J.P. Morgan estimates

U.S. E&Ps - MARKET CAP & ENTERPRISE VALUE

RATING	COMPANY	TICKER	DILUTED SHARES (MM)	MARKET CAP (\$MM)	ADJUSTED NET DEBT (\$MM)	ENTERPRISE VALUE (\$MM)	DIVIDEND YIELD	SHORT INTEREST % OF FLOAT
LARGE CAPITALIZATION (>\$10B)								
OW	Anadarko Petroleum	APC	508	\$41,190	\$6,393	\$47,583	0.9%	1.5%
N	Apache Corporation	APA	377	\$23,419	\$10,412	\$33,831	1.0%	1.9%
NR	Chesapeake Energy	CHK	776	\$14,853	\$11,502	\$26,355	1.5%	7.4%
N	Devon Energy*	DVN	411	\$24,779	\$7,197	\$31,976	1.3%	1.4%
OW	EOG Resources	EOG	554	\$51,195	\$4,422	\$55,617	0.7%	1.5%
OW	Noble Energy	NBL	369	\$18,236	\$4,329	\$22,565	0.9%	2.1%
NR	Southwestern Energy	SWN	354	\$10,872	\$1,786	\$12,658	0.0%	6.1%
Large Cap Total				\$184,544	\$46,041	\$230,585		
MEDIUM CAPITALIZATION (>\$2B)								
OW	Antero Resources	AR	262	\$11,281	\$4,132	\$15,413	0.0%	20.4%
OW	Cabot Oil & Gas	COG	413	\$13,398	\$1,302	\$14,700	0.2%	4.4%
OW	Cimarex Energy	XEC	87	\$9,496	\$936	\$10,432	0.5%	2.4%
OW	Cobalt International Energy	CIE	411	\$3,578	\$896	\$4,474	0.0%	7.2%
N	Concho Resources	CXO	113	\$10,652	\$3,280	\$13,932	0.0%	2.9%
OW	CONSOL Energy	CNX	230	\$8,140	\$3,066	\$11,206	0.8%	5.6%
OW	Continental Resources	CLR	374	\$13,691	\$5,682	\$19,372	0.0%	15.9%
OW	Denbury Resources	DNR	351	\$2,569	\$3,575	\$6,144	1.2%	7.7%
OW	EP Energy Corporation	EPE	246	\$2,208	\$4,364	\$6,572	0.0%	25.1%
OW	EQT Corporation	EQT	152	\$12,556	\$1,823	\$14,378	0.1%	2.3%
OW	Newfield Exploration	NFX	136	\$3,573	\$3,022	\$6,595	0.0%	4.2%
OW	Pioneer Natural Resources	PXD	149	\$22,028	\$2,112	\$24,140	0.0%	2.2%
N	QEP Resources	QEP	180	\$3,544	\$3,915	\$7,460	0.3%	4.8%
OW	Range Resources	RRC	169	\$10,181	\$2,999	\$13,179	0.2%	6.3%
UW	SandRidge Energy	SD	581	\$1,058	\$2,100	\$3,158	0.0%	12.2%
N	SM Energy	SM	68	\$2,520	\$1,436	\$3,956	0.3%	4.7%
N	Ultra Petroleum Corp	UPL	155	\$2,370	\$2,432	\$4,802	0.0%	18.4%
NR	Whiting Petroleum	WLL	120	\$3,831	\$2,725	\$6,557	0.0%	5.8%
N	WPX Energy	WPX	205	\$2,428	\$1,976	\$4,404	0.0%	2.1%
Mid Cap Total				\$139,102	\$51,773	\$190,875		
SMALL CAPITALIZATION (<\$2B)								
UW	Approach Resources	AREX	40	\$232	\$338	\$570	0.0%	21.4%
UW	Goodrich Petroleum	GDP	45	\$219	\$607	\$826	0.0%	48.1%
N	Halcón Resources	HK	388	\$791	\$2,500	\$3,291	0.0%	27.1%
N	Jones Energy	JONE	49	\$569	\$718	\$1,287	0.0%	7.0%
OW	Laredo Petroleum	LPI	144	\$1,284	\$1,521	\$2,805	0.0%	15.6%
N	Parsley Energy	PE	125	\$1,819	\$425	\$2,243	0.0%	6.5%
OW	PDC Energy	PDCE	36	\$1,433	\$520	\$1,953	0.0%	11.0%
N	PetroQuest Energy	PQ	64	\$237	\$392	\$628	0.0%	5.6%
OW	RSP Permian	RSPP	73	\$1,786	\$125	\$1,911	0.0%	14.6%
Small Cap Total				\$8,370	\$7,146	\$15,516		
Group Total				\$332,016	\$104,960	\$436,976		

Source: J.P. Morgan, Bloomberg and company reports.

Negative Net Debt reflects working capital greater than the debt requirements of a company.

Dividend yield is based on projected rather than historical dividends.

*For DVN, we adjust for debt attributable to minority interest.

U.S. E&Ps - STOCK PERFORMANCE

RATING	COMPANY	TICKER	LAST PRICE	RETURN SINCE			ANNUAL RETURN				
			12/18/2014	12/11	11/18	YE13	2013	2012	2011	2010	2009
LARGE CAPITALIZATION (>\$10B)											
OW	Anadarko Petroleum	APC	\$81.01	7.7%	-9.4%	2.1%	7%	-3%	0.2%	22%	62%
N	Apache Corporation	APA	\$62.15	9.0%	-13.8%	-27.7%	9%	-13%	-24%	16%	38%
NR	Chesapeake Energy	CHK	\$19.14	14.5%	-17.0%	-25.4%	63%	-25%	-14%	0%	60%
N	Devon Energy	DVN	\$60.29	12.0%	-6.5%	-2.6%	19%	-16%	-21%	7%	12%
OW	EOG Resources	EOG	\$92.45	6.4%	-5.3%	10.2%	39%	23%	8%	-6%	46%
OW	Noble Energy	NBL	\$49.42	8.9%	-10.2%	-27.4%	34%	8%	10%	21%	45%
NR	Southwestern Energy	SWN	\$30.71	5.8%	-7.1%	-21.9%	18%	5%	-15%	-22%	66%
Large Cap Median				8.9%	-9.4%	-21.9%	18.9%	-2.6%	-14.0%	6.8%	46.1%
MEDIUM CAPITALIZATION (>\$2B)											
OW	Antero Resources	AR	\$43.05	9.8%	-17.4%	-32.1%	NA	NA	NA	NA	NA
OW	Cabot Oil & Gas	COG	\$32.44	9.9%	-2.5%	-16.3%	56%	31%	101%	-13%	68%
OW	Cimarex Energy	XEC	\$108.67	10.2%	-5.6%	3.6%	82%	-7%	-30%	67%	98%
OW	Cobalt International Energy	CIÉ	\$8.70	14.0%	-12.7%	-47.1%	-33%	58%	27%	-12%	NA
N	Concho Resources	CXO	\$93.97	9.3%	-18.3%	-13.0%	34%	-14%	7%	95%	97%
OW	CONSOL Energy	CNX	\$35.35	0.1%	-13.0%	-7.1%	19%	-13%	-25%	-2%	74%
OW	Continental Resources	CLR	\$36.63	10.2%	-30.4%	-34.9%	53%	10%	13%	37%	107%
OW	Denbury Resources	DNR	\$7.32	10.6%	-26.9%	-55.4%	1%	7%	-21%	29%	36%
OW	EP Energy Corporation	EPE	\$8.99	11.0%	-38.0%	NA	NA	NA	NA	NA	NA
OW	EQT Corporation	EQT	\$82.50	5.3%	-11.8%	-8.1%	52%	8%	22%	2%	31%
OW	Newfield Exploration	NFX	\$26.23	9.2%	-20.6%	6.5%	-8%	-29%	-48%	50%	144%
OW	Pioneer Natural Resources	PXD	\$147.94	13.3%	-11.4%	-19.6%	73%	19%	3%	80%	198%
N	QEP Resources	QEP	\$19.69	-1.6%	-15.9%	-35.8%	1%	3%	-19%	NA	NA
OW	Range Resources	RRC	\$60.09	13.4%	-15.9%	-28.7%	34%	1%	38%	-10%	45%
UW	SandRidge Energy	SD	\$1.82	1.7%	-51.6%	-70.0%	-4%	-22%	11%	-22%	53%
N	SM Energy	SM	\$36.93	21.9%	-27.3%	-55.6%	59%	-29%	24%	72%	69%
N	Ultra Petroleum Corp	UPL	\$15.29	4.9%	-31.3%	-29.4%	19%	-39%	-38%	-4%	44%
NR	Whiting Petroleum	WLL	\$31.91	10.3%	-41.1%	-48.4%	43%	-7%	-20%	64%	114%
N	WPX Energy	WPX	\$11.86	11.7%	-23.8%	-41.8%	37%	-18%	NA	NA	NA
Mid Cap Median				10.2%	-18.3%	-30.8%	34.2%	-6.7%	5.0%	29.0%	71.4%
SMALL CAPITALIZATION (<\$2B)											
UW	Approach Resources	AREX	\$5.86	5.2%	-47.6%	-69.6%	-23%	-15%	27%	199%	6%
UW	Goodrich Petroleum	GDP	\$4.91	15.3%	-44.5%	-71.2%	83%	-32%	-22%	-28%	-19%
N	Halcón Resources	HK	\$2.04	-2.9%	-29.2%	-47.2%	-44%	NA	NA	NA	NA
N	Jones Energy	JONE	\$11.53	15.2%	-10.5%	-20.4%	NA	NA	NA	NA	NA
OW	Laredo Petroleum	LPI	\$8.93	15.1%	-46.4%	-67.8%	52%	-19%	NA	NA	NA
N	Parsley Energy	PE	\$14.59	24.2%	-11.6%	NA	NA	NA	NA	NA	NA
OW	PDC Energy	PDCE	\$40.17	18.1%	3.8%	-24.5%	60%	-5%	-17%	132%	-24%
N	PetroQuest Energy	PQ	\$3.70	3.6%	-7.3%	-14.4%	-13%	-25%	-12%	23%	-9%
OW	RSP Permian	RSPP	\$24.63	17.0%	-11.0%	NA	NA	NA	NA	NA	NA
Small Cap Median				15.2%	-11.6%	-47.2%	19.9%	-18.6%	-14.6%	77.4%	-14.0%
Group Median				10.2%	-15.9%	-27.6%	34.0%	-7.1%	-12.4%	18.2%	53.3%
Commodities											
Spot Henry Hub (\$/MMBtu)			3.67	0.0%	-14.9%	-15.4%	27%	15%	-29%	-27%	3%
Spot WTI (\$/bbl)			54.11	-9.7%	-27.5%	-45.0%	7%	-7%	8%	15%	78%
Indices											
EPX - U.S. E&P Index			352.65	9.1%	-16.3%	-27.4%	26%	-8%	-10%	22%	61%
OSX - Oil Service Index			208.33	4.6%	-13.4%	-25.9%	28%	2%	-12%	26%	61%
S&P500			2,061.23	1.3%	0.5%	11.5%	30%	13%	0%	13%	23%
DJIA			17,778.15	1.0%	0.5%	7.2%	26%	7%	6%	11%	19%
NASDAQ Comp			4,748.40	0.9%	1.0%	13.7%	38%	16%	-2%	17%	44%
Russell 2000			1,192.16	2.2%	1.9%	2.5%	37%	15%	-5%	25%	25%

Source: Company reports, Bloomberg, and J.P. Morgan estimates.

HK - Former symbol for Petrohawk. Performance only relevant from February 2012 onward.

U.S. E&Ps - TIERED PERFORMANCE

Performance Rank - Past Week			
Top Performers		Bottom Performers	
Tier 1	Tier 2	Tier 3	Tier 4

PE	RRC	COG	EQT
SM	PXD	AR	AREX
PDCE	DVN	CXO	UPL
RSPP	WPX	NFX	PQ
GDP	EPE	APA	SD
JONE	DNR	NBL	CNX
LPI	WLL	APC	QEP
CHK	XEC	EOG	HK
CIE	CLR	SWN	

15%	11%	9%	3%
\$1,786	\$9,496	\$15,817	\$1,827
1.3	1.4	1.2	1.4
47%	49%	52%	74%
11.6	13.9	9.0	13.2
205%	140%	129%	184%
\$4.71	\$3.80	\$3.89	\$3.29
60%	85%	51%	57%
\$3.74	\$3.94	\$4.69	\$3.73
35%	42%	39%	50%
46%	60%	56%	52%
6.4x	11.9x	13.3x	5.8x
0%	10%	11%	5%
0%	30%	15%	39%

Stock P(x) Performance

Current Market Cap

Beta

% Natural Gas (2013E)

RLI (2012A)

Reinvestment Rate (2013E)

Cash Margins (2013E)

% Gas Hedged (2013E)

PD F&D (2012A)

% Proved NAV/Total NAV

% Proved Developed (2012A)

EBITDA/Interest (2013E)

Production Growth (2013E)

Debt Adj CFPS Growth (2013E)

Performance Rank - Past Month			
Top Performers		Bottom Performers	
Tier 1	Tier 2	Tier 3	Tier 4

PDCE	JONE	QEP	CLR
COG	RSPP	CHK	UPL
EOG	PXD	AR	EPE
XEC	PE	CXO	WLL
DVN	EQT	NFX	GDP
SWN	CIE	WPX	LPI
PQ	CNX	DNR	AREX
APC	APA	SM	SD
NBL	RRC	HK	

-7%	-12%	-19%	-43%
\$13,398	\$8,140	\$3,559	\$1,746
1.2	1.1	1.3	1.5
57%	46%	61%	50%
7.7	14.2	10.5	14.3
121%	133%	137%	203%
\$3.15	\$3.97	\$4.07	\$4.34
60%	46%	66%	66%
\$3.06	\$2.78	\$4.52	\$4.47
41%	35%	51%	45%
72%	52%	57%	46%
16.2x	7.4x	9.1x	5.5x
10%	11%	0%	-1%
26%	0%	14%	30%

Performance Rank - Past Three Months			
Top Performers		Bottom Performers	
Tier 1	Tier 2	Tier 3	Tier 4

COG	XEC	NBL	DNR
RSPP	CHK	NFX	HK
CNX	APC	PQ	SM
EOG	WPX	APA	WLL
EQT	AR	UPL	LPI
DVN	PDCE	JONE	SD
QEP	PXD	CIE	AREX
SWN	CXO	CLR	GDP
RRC	PE	EPE	

-12%	-25%	-36%	-61%
\$10,872	\$10,967	\$3,576	\$1,284
1.1	1.3	1.3	1.4
77%	53%	48%	41%
12.9	9.9	10.7	11.6
121%	137%	127%	205%
\$2.31	\$3.28	\$3.73	\$4.44
60%	65%	42%	62%
\$3.57	\$3.70	\$3.68	\$5.15
53%	59%	49%	51%
11.9x	10.3x	7.4x	6.1x
16%	8%	6%	-1%
34%	28%	0%	38%

Stock P(x) Performance

Current Market Cap

Beta

% Natural Gas (2013E)

RLI (2012A)

Reinvestment Rate (2013E)

Cash Margins (2013E)

% Gas Hedged (2013E)

PD F&D (2012A)

% Proved Developed (2012A)

EBITDA/Interest (2013E)

Production Growth (2013E)

Debt Adj CFPS Growth (2013E)

Performance Rank - 2014 YTD			
Top Performers		Bottom Performers	
Tier 1	Tier 2	Tier 3	Tier 4

EOG	CXO	NBL	HK
NFX	PQ	APA	WLL
XEC	COG	RRC	DNR
APC	PXD	UPL	SM
QEP	JONE	AR	LPI
DVN	SWN	CLR	AREX
CNX	PDCE	WPX	SD
EQT	CHK	CIE	GDP

2%	-20%	-31%	-56%
\$11,026	\$10,762	\$10,731	\$1,284
1.3	1.2	1.3	1.4
57%	61%	66%	30%
11.5	10.5	10.1	11.6
113%	134%	141%	205%
\$3.28	\$3.56	\$2.72	\$4.44
60%	64%	53%	60%
\$4.06	\$2.92	\$3.32	\$4.99
53%	59%	47%	57%
11.0x	11.5x	8.8x	7.4x
8%	13%	6%	-1%
30%	31%	5%	44%

Source: Company reports, Bloomberg, and J.P. Morgan estimates

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