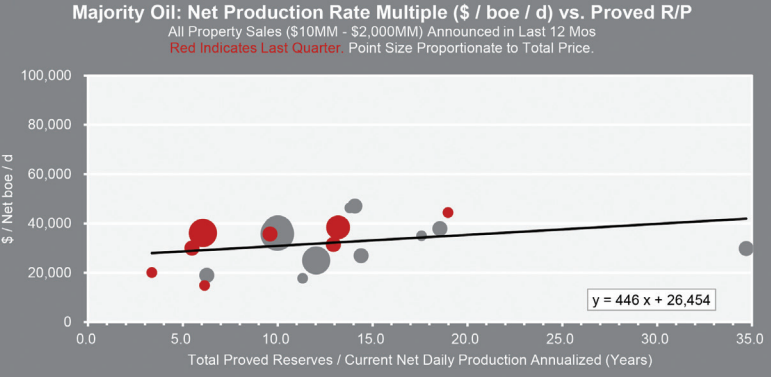
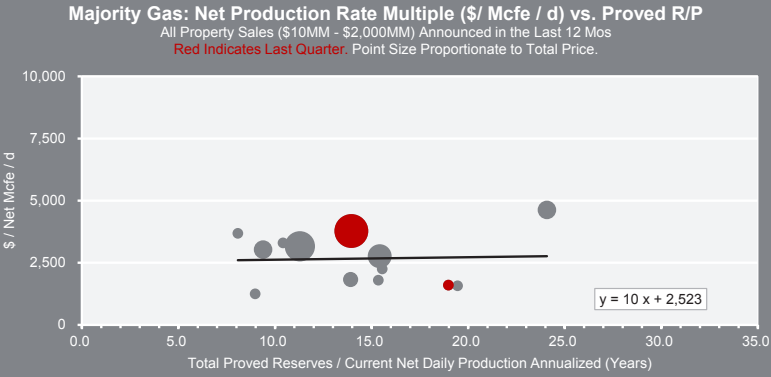


U.S. Upstream **M&A Activity Report**
Second Quarter 2018

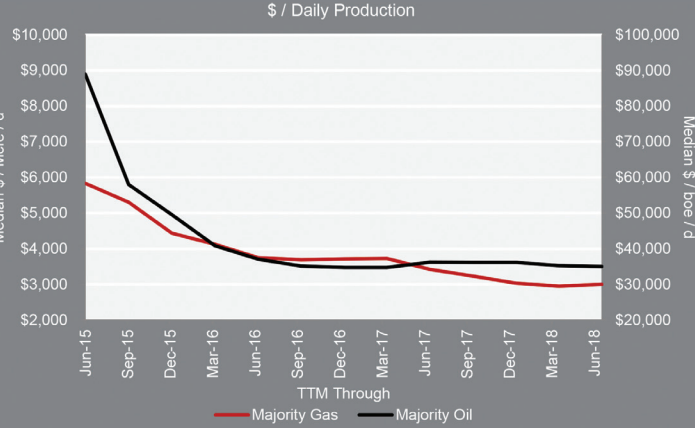
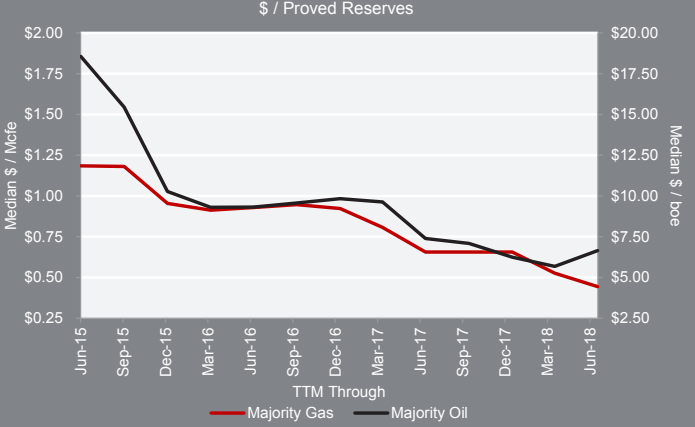


Proved R/P as Estimate of Asset Sale Price

Why does one property sell for \$40,000 per net boe / d and another for \$140,000 per net boe / d? Using statistical analysis, E-Spectrum Advisors has identified a positive correlation between Proved R/P and dollar paid per daily unit of net production.

R is defined as Total Net Proved Reserves. **P** is defined as Current Net Daily Production Annualized. As indicated in the data table, most reserve information is taken from buyers' press releases.

For example, using the oil chart and formula above, one can see that a majority-oil transaction with an R/P of 15 years could sell on **average** for \$33,144 per net Boe/d.



E-Spectrum Advisors provides creative solutions that are best for you and your upstream business and can help in every aspect of the transaction process. Our capabilities include: raising capital, asset divestiture, acquisitions (buyside advisory), financial advisory, restructuring consultation and evaluation services and fairness opinions.

To learn more about E-Spectrum Advisors, visit www.e-spectrumadvisors.com or contact:

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Jeff Hawes - Associate | 214.417.3554

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Select Current and Recent Transactions

 Sale of Operated and Non-Operated STACK Properties (Blaine County, OK) Exclusive Divestiture Agent Marketing	 Sale of Non-Op Bakken Shale & Three Forks Properties Exclusive Divestiture Agent PSA Negotiations	 Sale of Non-Operated STACK & SCOOP Properties Exclusive Divestiture Agent June 2018	UNDISCLOSED Sale of Operated Properties in the Haynesville / Bossier (De Soto and Sabine Parishes, LA) Exclusive Divestiture Agent April 2018
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Trailing Twelve Months June 2018

MAJORITY GAS ALL U.S. FROM \$10 MILLION TO \$2 BILLION

Announced	Date	Buyer	Seller	Total Price* (\$MM)	Reserve Price (\$MM)	Proved Reserves (Bcfe)	Value* (\$ / Mcfe)	Production (MMcfe / d)	Net (\$ / Mcfe / d)	Value* (\$ / Mcfe / d)	Region	% Gas	Proved R/P	Oil **	Gas **
	6/29/18	Ascent Resources LLC	CNX Resources; Hess; Utica Minerals	1,500	816	1,100	0.74	216.0		3,778	APP (Utica)	81%	14.0	68.30	2.90
	6/29/18	Osaka Gas	Sabine Oil & Gas Corp	146	103	NA	NA	33.3		3,100	Haynesville Shale	100%	NA	68.30	2.90
	6/14/18	Diversified Gas & Oil Plc	EQT Corporation	575	575	NA	NA	192.6		2,985	APP (Multiple)	77%	NA	65.50	2.92
	5/9/18	Undisclosed Buyer	Vanguard Natural Resources LLC	60	60	NA	NA	17.0		3,530	Multiple	>50%	NA	68.69	2.79
	5/4/18	Carbon Natural Gas Co	Carbon Appalachian Co LLC	57	57	247	0.23	35.6		1,601	APP (Multiple)	99%	19.0	67.78	2.75
	3/14/18	XPR Resources LLC	Rex Energy Corp	17	17	NA	NA	8.2		2,098	APP (Marcellus)	100%	NA	59.77	2.92
	3/13/18	Rio Grande E&P	Amplify Energy Corp	20	20	52	0.38	16.0		1,250	South Texas	88%	9.0	59.69	2.91
	3/7/18	Fleur de Lis Energy LLC	Devon Energy	553	553	1,126	0.49	200.0		2,765	Barnett	81%	15.4	59.12	2.93
	1/24/18	El Dorado Resources Inc	SilverBow Resources Inc	35	35	28	1.25	9.5		3,684	STX (Eagle Ford)	57%	8.1	62.66	3.02
	2/12/18	Tanos Energy Holdings III LLC	WildHorse Resource Development Corp	217	217	412	0.53	46.9		4,627	N. Louisiana	96%	24.1	57.17	2.78
	2/6/18	Camino Natural Resources LLC	Chesapeake	170	40	NA	NA	9.0		4,444	SCOOP/STACK	70%	NA	60.79	2.84
	1/31/18	Diversified Gas & Oil Plc	CNX Resources Corp	85	85	383	0.22	54.0		1,574	APP (Marcellus)	99%	19.5	62.97	2.95
	1/31/18	Diversified Gas & Oil Plc	Lake Fork Resources LLC	95	95	296	0.32	52.8		1,799	APP (Marcellus)	99%	15.3	62.97	2.95
	12/21/17	Alta Resources LLC	Ultra Petroleum	115	115	NA	NA	30.0		3,833	APP (Marcellus)	100%	NA	57.17	2.63
	12/14/17	FourPoint Energy LLC	EnerVest Management Partners	188	152	NA	NA	39.0		3,897	MC (Granite Wash)	60%	NA	56.55	2.73
	12/14/17	Undisclosed Buyer	Samson Resources II LLC	34	34	NA	NA	9.0		3,778	RM (Green River)	>50%	NA	56.55	2.73
	12/12/17	Banpu Public Co Ltd	Warren Resources Inc	105	105	292	0.36	57.5		1,826	APP (Marcellus)	100%	13.9	56.75	2.73
	12/11/17	Eclipse Resources	Travis Peak Resources LLC	94	20	NA	NA	6.5		3,001	APP (Utica)	100%	NA	57.63	2.81
	10/31/17	Hilcorp Energy Co	Anadarko	350	350	1,599	0.22	96.0		3,646	RM (Green River)	75%	45.6	54.04	2.96
	10/26/17	LOGOS Resources II LLC	WPX Energy Inc	169	169	NA	NA	73.0		2,315	RM (San Juan)	>50%	NA	52.67	2.97
	10/5/17	Banpu Public Co Ltd	Reliance Energy Limited; Carrizo	210	210	NA	NA	100.0		2,100	APP (Marcellus)	100%	NA	48.96	3.05
	10/4/17	Exaro Energy III LLC	Linn Energy LLC	200	200	226	0.88	66.0		3,030	RM (Green River)	70%	9.4	48.96	3.05
	9/29/17	Carbon Appalachian Co LLC	Undisclosed Seller	41	41	NA	NA	37.4		1,104	APP (Marcellus)	99%	NA	48.96	3.07
	9/18/17	Zarvona Energy LLC	Trinity River Resources LP	50	50	126	0.40	22.2		2,252	East Texas	51%	15.5	48.96	3.15
	9/6/17	Tellurian Inc	Rockcliff Energy II LLC	85	12	NA	NA	4.0		3,000	Haynesville Shale	100%	NA	49.26	3.07
	8/31/17	Ascent Resources	Carrizo	62	22	NA	NA	3.9		5,641	APP (Utica)	52%	NA	47.87	3.07
	8/15/17	Carbon Appalachian Co LLC	Undisclosed Seller	22	22	NA	NA	7.5		2,867	APP (Marcellus)	100%	NA	49.23	3.02
	8/8/17	Corterra Energy LLC	Continental Resources Inc	68	35	41	0.87	10.7		3,300	MC (Arkoma)	100%	10.4	50.00	2.97
	8/1/17	Rockcliff Energy II LLC	Samson Resources II LLC	525	525	NA	NA	90.0		5,833	Haynesville Shale	85%	NA	50.07	2.92
	7/27/17	Scout Energy Partners	ConocoPhillips	200	200	NA	NA	48.0		4,167	TX Panhandle	91%	NA	46.19	3.04
	7/24/17	Oak Ridge Natural Resources LLC	QEP Resources Inc	740	740	964	0.77	234.0		3,162	RM (Green River)	88%	11.3	46.69	3.01
	7/11/17	Undisclosed Buyer	Rice Energy Inc	175	175	NA	NA	76.0		2,303	Barnett	85%	NA	45.48	3.05
	7/1/17	AVAD Energy Partners	Anadarko Petroleum Corp	80	80	NA	NA	28.0		2,857	RM (Utah)	100%	NA	47.52	3.07
Per Mcfe		Median						\$0.44		\$3,001					
		Simple Average						\$0.55		\$3,065					

MAJORITY OIL ALL U.S. FROM \$10 MILLION TO \$2 BILLION

Announced	Date	Buyer	Seller	Total Price* (\$MM)	Reserve Price (\$MM)	Proved Reserves (MMboe)	Value* (\$ / boe)	Production (Mboe /d)	Net (\$ / boe /d)	Value* (\$ / boe /d)	Region	Proved R/P		Oil * *		Gas * *
												% Oil				
	6/28/18	Royale Energy	Undisclosed Seller	12	12	NA	NA	0.2		63,158	Multiple	91%	NA	68.30	2.90	
	6/25/18	Whiting Petroleum; Riverbend O&G	Oasis Petroleum Inc	283	159	NA	NA	4.4		36,148	Bakken	80%	NA	65.06	2.91	
	6/20/18	Eagle Energy Partners I LLC	Samson Oil & Gas Limited	40	40	6	6.42	0.9		44,444	Rockies	89%	19.0	64.07	2.94	
	6/8/18	Samson Resources II LLC	Undisclosed Seller	16	16	NA	NA	0.5		35,333	Rockies	60%	NA	64.54	2.89	
	5/24/18	Callon	Cimarex	570	273	NA	NA	6.8		40,000	PER	73%	NA	69.05	2.96	
	5/16/18	Polaris Production Partners LLC	Nighthawk Energy plc	18	18	1	16.36	0.9		20,089	Rockies	>50%	3.4	70.12	2.84	
	5/2/18	Carbon California Co LLC	Seneca Resources Corp	43	43	18	2.44	0.9		47,778	West Coast	79%	53.6	65.12	2.86	
	4/26/18	Comstock	Arkoma Drilling LP; Williston Drilling LP	620	500	31	16.35	13.8		36,145	Bakken	74%	6.1	65.53	2.86	
	4/26/18	Stanolind Oil & Gas III LP	EQT Corporation	64	64	NA	NA	2.3		27,826	PER	56%	NA	65.53	2.86	
	4/26/18	Northern Oil and Gas	Salt Creek Oil and Gas LLC	60	50	NA	NA	1.4		36,232	Bakken	75%	NA	65.53	2.86	
	4/9/18	California Resources Corp	Chevron	511	511	64	7.99	13.3		38,435	West Coast	55%	13.2	62.88	2.86	
	4/9/18	Vitesse Energy LLC	Formation Energy LP	190	150	NA	NA	4.2		35,714	Bakken	75%	NA	62.88	2.86	
	4/4/18	Petro-Hunt LLC	SM Energy	192	192	29	6.67	6.1		31,475	Bakken	83%	12.9	62.07	2.86	
	4/4/18	TRP Energy LLC	SM Energy	100	30	2	15.00	1.0		30,000	PER	76%	5.5	62.07	2.86	
	4/4/18	Presidio Petroleum LLC	Midstates Petroleum Co Inc	58	58	9	6.63	3.9		14,872	MC	60%	6.1	62.07	2.86	
	4/2/18	NextEra Energy Inc	Comstock	125	90	9	10.20	2.5		35,718	STX (Eagle Ford)	80%	9.6	61.15	2.84	
	3/28/18	Protege Energy III	Contango	21	5	NA	NA	0.1		37,967	STX (Eagle Ford)	95%	NA	62.19	2.88	
	3/15/18	Sundance Energy	Pioneer; Reliance; Newpek LLC	222	61	66	3.38	1.8		34,006	STX (Eagle Ford)	72%	99.7	59.88	2.86	
	2/26/18	Undisclosed Buyer	PDC	40	40	9	4.30	2.3		17,762	APP (Utica)	51%	11.3	61.20	2.84	
	2/20/18	Luxe Energy II; Colgate Energy	Concho Resources Inc	280	33	NA	NA	1.0		33,577	PER	70%	NA	59.78	2.79	
	2/14/18	Scout Energy Partners	Linn Energy LLC	120	120	14	8.30	6.3		18,968	PER	76%	6.3	58.49	2.75	
	2/12/18	WildHorse Resource Development Corp	Hawkwood Energy Operating LLC	19	2	NA	NA	0.1		40,000	STX (Eagle Ford)	80%	NA	57.17	2.78	
	2/8/18	Undisclosed Buyer	Eagle Energy Inc	27	27	NA	NA	1.0		26,970	STX (Eagle Ford)	>50%	NA	58.40	2.80	
	2/6/18	Halcon Resources Corp¹	BTA Oil Producers LLC	104	8	NA	NA	0.2		35,000	PER	54%	NA	60.79	2.84	
	2/6/18	Halcon Resources Corp	Shell	200	39	NA	NA	1.1		35,000	PER	54%	NA	60.79	2.84	
	2/5/18	Enduring Resources IV LLC	WPX Energy Inc	700	700	NA	NA	22.6		30,973	Rockies	69%	NA	60.93	2.84	
	2/1/18	ConocoPhillips	Anadarko	400	400	NA	NA	11.2		35,628	Alaska	>50%	NA	63.28	2.94	
	1/31/18	Lilis Energy Inc	OneEnergy Partners LLC	65	17	NA	NA	0.4		40,000	PER	86%	NA	62.97	2.95	
	1/29/18	Liberty Mutual Investments	ExL Petroleum Management LLC	207	71	NA	NA	2.0		35,550	PER	65%	NA	62.76	3.05	
	1/25/18	Revolution Resources LLC	Gastar Exploration Inc	108	108	19	5.60	2.8		37,906	MC (Hunton)	77%	18.5	63.58	3.04	
	1/16/18	Silverpeak Strategic Partners	Linn Energy LLC	132	53	NA	NA	1.5		36,579	Rockies	84%	NA	61.97	2.91	
	1/9/18	Northwoods Energy LLC	SM Energy	500	65	NA	NA	2.2		29,768	Rockies	69%	NA	62.01	2.84	
	1/5/18	Undisclosed Buyer¹	Centennial Resource Development Inc	141	8	NA	NA	0.2		32,298	PER	65%	NA	60.65	2.81	
	1/2/18	Penn Virginia	Hunt Oil	86	66	12	7.17	1.9		35,027	STX (Eagle Ford)	86%	17.6	59.74	2.88	
	12/20/17	Venado Oil & Gas LLC	Cabot	765	583	57	10.19	15.7		37,218	STX (Eagle Ford)	87%	10.0	57.17	2.63	
	12/19/17	Scout Energy Partners	Linn Energy LLC	122	122	NA	NA	5.2		23,462	MC	74%	NA	56.99	2.72	
	12/14/17	Axia Energy II	EP Energy Corp	180	50	NA	NA	1.5		33,580	Rockies	70%	NA	56.55	2.73	
	12/12/17	EP Energy Corp	Carrizo	245	110	NA	NA	3.4		32,335	STX (Eagle Ford)	81%	NA	56.75	2.73	
	12/11/17	Oasis Petroleum Inc	Forge Energy LLC	946	170	NA	NA	3.5		48,571	PER	78%	NA	57.63	2.81	
	12/5/17	Bill Barrett Corporation	Fifth Creek Energy Co LLC	649	87	113	0.77	2.9		30,000	Rockies	88%	106.6	56.25	2.90	
	11/28/17	Royale Energy	Sunny Frog Oil LLC	15	15	9	1.72	0.6		26,087	West Coast	100%	41.5	56.89	3.05	
	11/27/17	Verdad Oil & Gas Corp	Carrizo	140	81	NA	NA	2.4		33,576	Rockies	84%	NA	56.87	2.95	
	11/20/17	Finley Resources Inc	Bill Barrett Corporation	110	110	12	9.17	2.3		47,069	Rockies	93%	14.1	56.08	3.01	
	11/20/17	Statoil	Earthstone Energy Inc	27	27	NA	NA	0.8		35,433	Bakken	82%	NA	56.08	3.01	
	11/8/17	SRC Energy Inc	Noble Energy	608	103	18	5.69	4.1		25,000	Rockies	50%	12.0	56.82	3.06	
	11/8/17	Exponent Energy III	Mid-Con Energy Partners LP	25	25	3	9.19	0.5		46,296	MC	100%	13.8	56.82	3.06	
	11/1/17	Approach Resources Inc	Amistad Energy Partners	18	18	NA	NA	0.6		32,818	PER	51%	NA	54.12	2.94	
	10/30/17	Rosehill Resources Inc¹	Whitehorse Energy & Siltstone Resources	78	1	NA	NA	0.0		28,250	PER	45%	NA	53.90	2.99	
	10/23/17	Valorem Energy LLC	Linn Energy LLC	285	249	NA	NA	8.0		31,106	Bakken	79%	NA	52.08	3.08	
	10/13/17	Perdure Petroleum LLC	Chaparral	170	170	72	2.35	5.7		29,825	MC	100%	34.7	52.69	3.03	
	9/25/17	PDC	Bayswater Exploration & Production	210	70	NA	NA	2.2		31,918	Rockies	60%	NA	48.96	3.05	
	9/20/17	Riverbend Oil & Gas LLC	Halcon Resources Corp	110	83	35	2.36	2.3		36,567	Bakken	88%	42.4	48.96	3.11	
	9/14/17	Elk Petroleum Ltd	Resolute Energy Corporation	160	160	31	5.13	5.9		26,945	Rockies	95%	14.4	48.96	3.08	
	8/15/17	RimRock Oil & Gas	Whiting Petroleum	500	280	NA	NA	7.8		35,979	Bakken	90%	NA	49.23	3.02	
	7/31/17	Penn Virginia	Devon Energy	205	105	NA	NA	3.0		35,000	STX (Eagle Ford)	64%	NA	50.07	2.94	
	7/26/17	QEP Resources Inc¹	JM Cox Resources LP; Alpine Oil	732	22	44	0.51	0.6		34,992	PER	71%	189.8	46.69	3.00	
	7/11/17	Bruin E&P Partners LLC	Halcon Resources Corp	1,400	1,030	105	9.82	28.8		35,780	Bakken	90%	10.0	45.48	3.05	
Per boe			Median				\$6.65			\$35,027						
			Simple Average				\$7.22			\$34,219						