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Q3 2017 U.S. Upstream M&A Review & Outlook

- **Remarkable fall off in Permian deals** driven by high prices, higher execution risks.
- **$4.2 B deals in the STACK** highlight the play's potential as another hot area.
- **Broad buying across U.S.** with multiple regions reporting $100 MM plus transactions.
- **Private equity backed companies** buying. Contrasted with few P/E exits in 3Q17.
- **$290 B required** to drill up 2016, 2017 acquisitions.

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Q3 2017 Top Takeaways

Companies optimize rather than overhaul portfolios

1. **$11.4 B in deals reported in 3Q17,** down ~40% versus $20.1 B in 2Q17; $25.5 B in 1Q17.
2. **109 reported deals in 3Q17;** slight decrease from 120 in 2Q17 & 125 deals in 1Q17. Indicates market participants still active just making more small portfolio adjustments versus transformative deals.
3. **Q3 activity** seemed to show more portfolio adjustments versus larger transformative deals.
4. **STACK was most active area,** Bakken heats up, significant fall off in Permian.
5. **$4.2 B in STACK transaction value** launches as most active U.S. play for recent M&A, mostly on the strength of $3.8 B merger of Silver Run II with Alta Mesa and Kingfisher Midstream.
6. **$2.0 B of Bakken deals;** highest total since the November 2014 oil price collapse. Halcon's $1.4 B sale led region.
7. **$1.3 B worth of Permian A&D** ($735 MM in Midland & $531 MM in Delaware Basin) ties with 1Q16 for lowest total since 1H15. Total Permian deal value down over 90% from 1Q17 high ($18.4 B).
8. **Aggressive Buyers**. QEP (like Concho in 2Q17) continued to pay up for Midland Basin acreage. Cox buy pegged at $51,300/acre, not far off its 2016 deal for $59,000/acre.
9. **Q3 was a broad market**. There were 9 plays (Bakken, Barnett, Delaware, DJ, Eagle Ford, Haynesville, Marcellus, Midland & STACK) that saw a transaction over $100 MM.
10. **$1.9 B in "conventional assets"** changed hands in 3Q17, down from $5.7 B in 2Q17.
11. **Limited P/E Exits**; Only 5% of 3Q17 deal value from P/E portfolio sales, down from nearly 50% in 4Q16 during Permian boom.
12. **Active P/E buyers.** 2 out of top 3 deals in 3Q17 were P/E portfolio companies making acquisitions and spending heavily in the Permian. Overall, P/E was on the buy-side for 42% of deal value this quarter.
13. **Now comes the drilling?** $290 B in capex needed to drill acreage bought since the start of 2016. 2/3 of total needed in the Permian where 379 rigs are already running and >500 permits filed in the last 2-plus weeks.
14. **$40.1 B in global upstream deals** transacted during 3Q17 with $25.7 B from overseas transactions.

Q3 2017 Market Themes

Transformative Deals of The 3th Quarter

M&A

Private Equity Reloading –

- **Oak Ridge acquired Pinedale Field from QEP for $740 MM**; Including 234 MMcfe/d (88% gas, 8% NGLs, 4% oil) 1Q17 volumes from Cretaceous Lance/Mesaverde plus 16,500 net acres (59% WI) & 964 Bcfe YE16 proved reserves (11.3 year R/P). PLS values deal at $3,200/daily Mcfe and $0.77/proved Mcfe assuming no reimbursement.
- Kayne Anderson's **Oak Ridge launched in 2015** with $300 MM. Company moves into Rockies after initial focus on Mid-Con and Ark-La-Tex.
- **Bruin E&P Partners bought operated Bakken assets from Halcon for $1.4 B;** Adds 29,000 boe/d & 104,000 net operated acres with 25,700 net acres (68% WI) in core Fort Berthold Area (McKenzie/Dunn cos). PLS valued PDP at $1.15 B implying $9,790/acre in Fort Berthold.
- **Bruin E&P is backed by ArcLight Capital** and led by former Ursa Resources executives. Focused on Bakken so far with $1.7 B deployed including ~$300 MM acquisition from Enerplus (December 2016).

Permian Deal Flow –

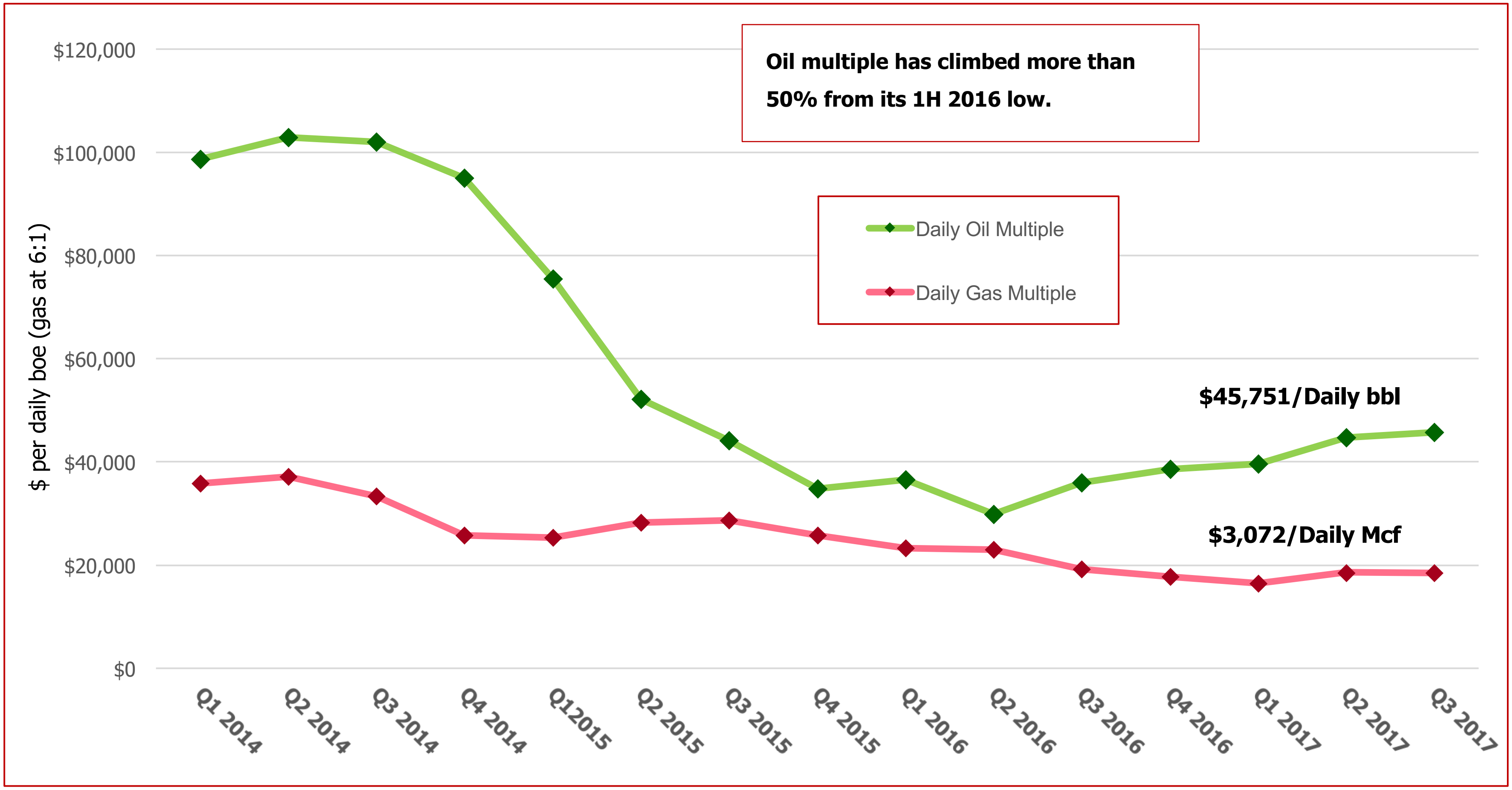
- **QEP bought Midland Basin assets from Cox, Alpine et al for $732 MM;** 13,800 net acres (88% WI, nearly all HBP). Core Martin county near QEP's prior leasehold.
- **Metrics of $51,300/net acre net of PDP.** Looks high, but QEP thought necessary to secure offset leasehold in the core.
- **Permian activity driving other Basin M&A** as companies look to fund recent Basin acquisitions and subsequent drilling capex.
- **QEP sells $740 MM Pinedale sale** to fund Permian pivot.
- **Some companies also looking to become** pure-plays for Wall Street preferences.
- **Halcon pivots,** sells Bakken to focus on prolific Southern Delaware.

STACK Opportunity –

- **Silver Run Acquisition Corp II is merging with Alta Mesa and Kingfisher Midstream.** Forms a new STACK pure-play valued at $3.8 B with 20,800 boe/d (69% liquids) and 120,000 net acres, mostly in oily, normally pressured northeast Kingfisher Co., OK with 1,826 net (4,196 gross) drilling locations targeting Meramec/Osage/Oswego.
- **Implied acquisition cost of $14,500/acre**; Riverstone looking to replicate success with Silver Run I (Mark Papa) which bought Centennial in the Delaware (July 2016) and stock up ~75%.

Production Valuation Benchmarks

Current multiples are $45,750/bbl for Oil & $3,070/Mcf for Gas — a 15:1 economic ratio

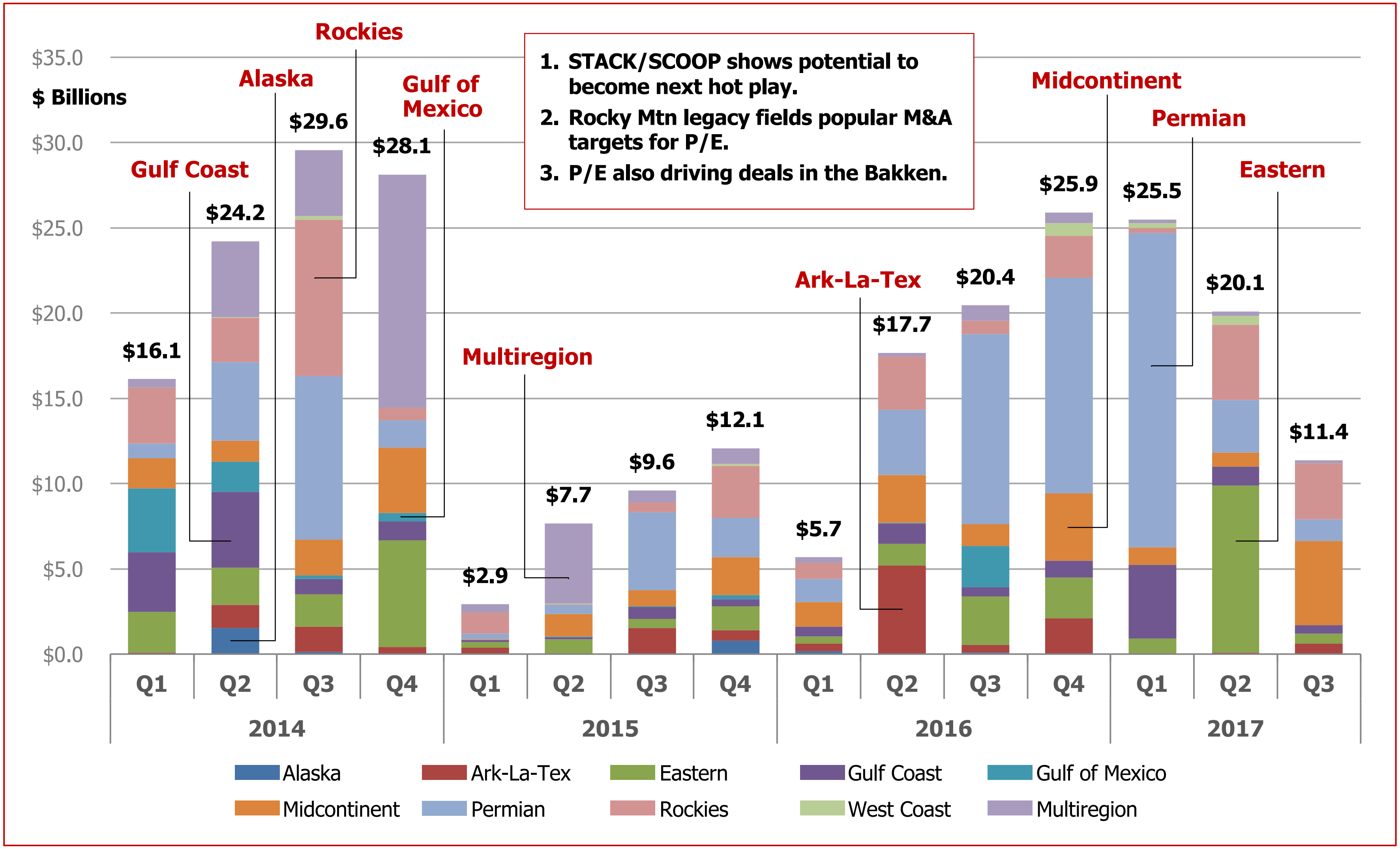


Notes:

1. Quarterly benchmarks derived from standard criteria from US M&A Database.
   a. Conventional Deals
   b. Oil deals >70% oil. Gas deals > 70% gas.
   c. Trailing 6 months
   Gas converted to boe at a 6:1 ratio
2. Deal Value > $10 million

Deal Value by Region Since January 1, 2014

MidCon & Rockies combine to capture 72% of deal value



U.S. Upstream Transactions (Quarterly Analysis)

Arkoma, Merge & STACK/SCOOP activity drive up Midcon deal count

M&A

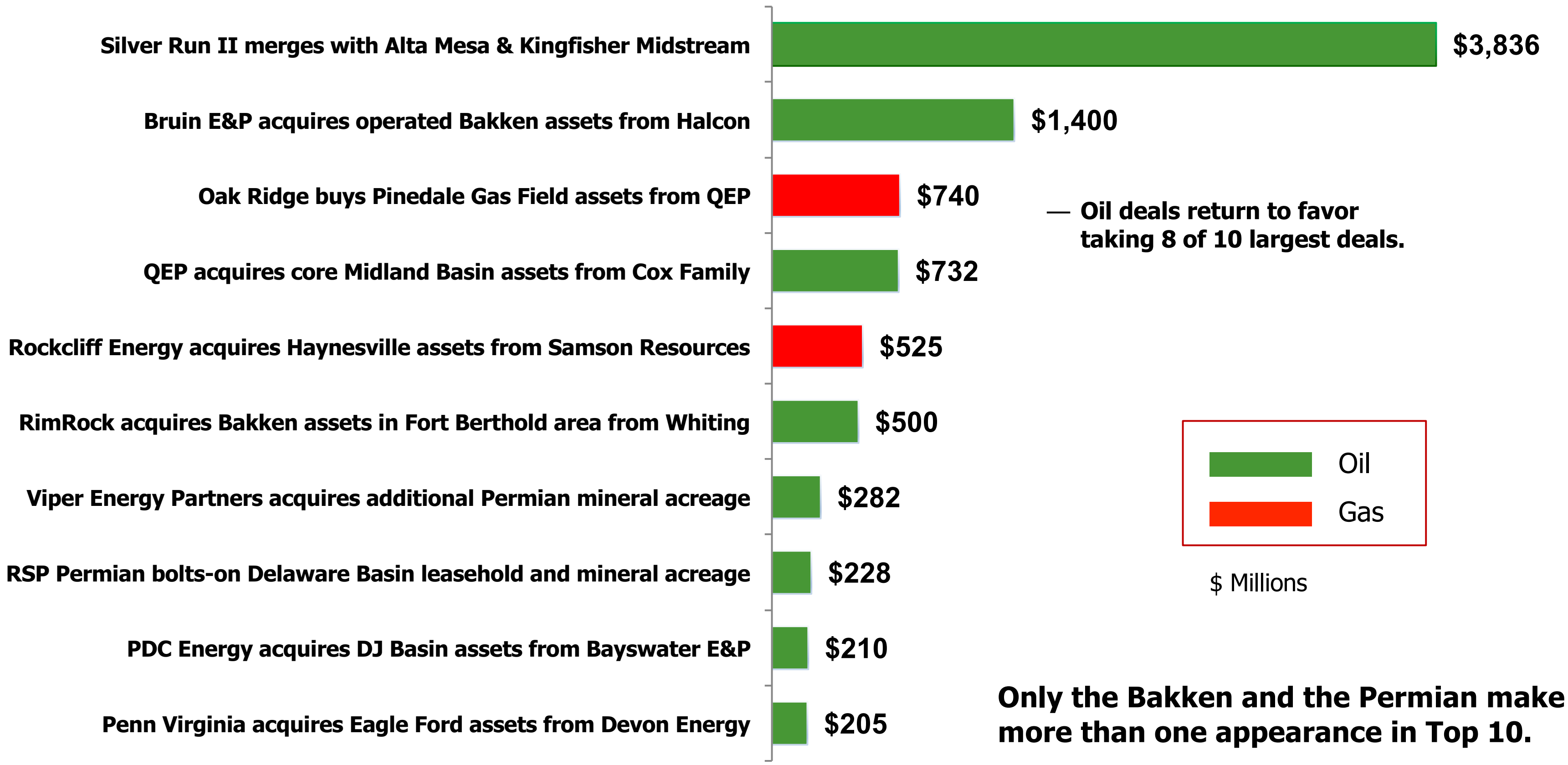
Deal Values ($B)	**2014**						**2015**						**2016**						**2017**				
Region	**Q1**	**Q2**	**Q3**	**Q4**	**YE Total**	**% of Total**	**Q1**	**Q2**	**Q3**	**Q4**	**YE Total**	**% of Total**	**Q1**	**Q2**	**Q3**	**Q4**	**YE Total**	**% of Total**	**Q1**	**Q2**	**Q3**	**YTD Total**	**% of Total**
Alaska	$0.0	$1.5	$0.1	$0.0	$1.6	2%	$0.0	$0.0	$0.0	$0.8	$0.8	3%	$0.2	$0.0	$0.1	$0.0	$0.2	0%	$0.0	$0.0	$0.0	$0.0	0%
Ark-La-Tex	$0.1	$1.4	$1.5	$0.4	$3.4	3%	$0.4	$0.0	$1.5	$0.6	$2.5	8%	$0.5	$5.2	$0.5	$2.1	$8.3	12%	$0.0	$0.1	$0.6	$0.7	1%
Eastern	$2.4	$2.1	$1.9	$6.3	$12.7	13%	$0.3	$0.9	$0.6	$1.4	$3.1	10%	$0.4	$1.2	$2.8	$2.4	$6.8	10%	$0.9	$9.8	$0.6	$11.3	20%
Gulf Coast	$3.5	$4.5	$0.9	$1.1	$10.0	10%	$0.1	$0.1	$0.7	$0.4	$1.4	4%	$0.6	$1.2	$0.5	$1.0	$3.3	5%	$4.3	$1.1	$0.5	$5.9	10%
Gulf of Mexico	$3.7	$1.8	$0.2	$0.5	$6.2	6%	$0.0	$0.0	$0.0	$0.2	$0.3	1%	$0.0	$0.0	$2.4	$0.0	$2.4	3%	$0.0	$0.0	$0.0	$0.0	0%
Midcontinent	$1.8	$1.2	$2.1	$3.8	$8.9	9%	$0.0	$1.3	$0.9	$2.2	$4.5	14%	$1.5	$2.8	$1.3	$4.0	$9.5	14%	$1.0	$0.8	$4.9	$6.8	12%
Permian	$0.9	$4.6	$9.6	$1.6	$16.6	17%	$0.3	$0.5	$4.6	$2.3	$7.7	24%	$1.3	$3.8	$11.2	$12.6	$29.0	42%	$18.4	$3.1	$1.3	$22.8	40%
Rockies	$3.3	$2.6	$9.2	$0.7	$15.8	16%	$1.2	$0.1	$0.6	$3.1	$4.9	15%	$1.0	$3.1	$0.8	$2.5	$7.4	11%	$0.3	$4.4	$3.3	$8.0	14%
West Coast	$0.0	$0.0	$0.2	$0.0	$0.2	0%	$0.0	$0.0	$0.0	$0.1	$0.1	0%	$0.0	$0.0	$0.0	$0.7	$0.7	1%	$0.3	$0.5	$0.0	$0.8	1%
Multiregion	$0.5	$4.5	$3.9	$13.7	$22.5	23%	$0.5	$4.7	$0.7	$0.9	$6.8	21%	$0.3	$0.2	$0.9	$0.6	$2.0	3%	$0.2	$0.3	$0.2	$0.6	1%
Total	**$16.1**	**$24.2**	**$29.6**	**$28.1**	**$98.0**	**100%**	**$2.9**	**$7.7**	**$9.6**	**$12.1**	**$32.3**	**100%**	**$5.7**	**$17.7**	**$20.4**	**$25.9**	**$69.7**	**100%**	**$25.5**	**$20.1**	**$11.4**	**$57.0**	**100%**

Deal Count*	**2014**						**2015**						**2016**						**2017**				
Region	**Q1**	**Q2**	**Q3**	**Q4**	**YE Total**	**% of Total**	**Q1**	**Q2**	**Q3**	**Q4**	**YE Total**	**% of Total**	**Q1**	**Q2**	**Q3**	**Q4**	**YE Total**	**% of Total**	**Q1**	**Q2**	**Q3**	**YTD Total**	**% of Total**
Alaska	-	2	3	1	6	1%	-	-	3	2	5	2%	-	-	1		1	0%	-	-	-	0	0%
Ark-La-Tex	4	7	4	10	25	6%	3	4	7	4	18	6%	4	6	4	10	24	6%	5	9	8	22	6%
Eastern	10	8	9	6	33	7%	3	6	2	4	15	5%	7	7	5	11	30	7%	12	15	7	34	10%
Gulf Coast	19	21	22	13	75	17%	12	14	12	11	49	17%	15	14	15	19	63	15%	19	12	22	53	15%
Gulf of Mexico	8	4	6	4	22	5%	1	1	3	3	8	3%	2	5	4	2	13	3%	1	1	8	10	3%
Midcontinent	26	20	18	19	83	18%	3	18	7	17	45	15%	15	24	12	22	73	18%	22	16	27	65	18%
Permian	15	18	21	19	73	16%	8	5	17	24	54	18%	10	29	32	32	103	25%	45	35	14	94	27%
Rockies	17	19	28	22	86	19%	19	11	16	24	70	24%	11	31	12	22	76	18%	11	19	19	49	14%
West Coast	2	2	4	1	9	2%	2	1	1	3	7	2%	4			2	6	1%	4	4	1	9	3%
Multiregion	11	10	7	10	38	8%	2	8	6	6	22	8%	5	11	4	5	25	6%	6	9	3	18	5%
Total	**112**	**111**	**122**	**105**	**450**	**100%**	**53**	**68**	**74**	**98**	**293**	**100%**	**73**	**127**	**89**	**125**	**414**	**100%**	**125**	**120**	**109**	**354**	**100%**

* Deal Count includes deals with undisclosed value.

Top 10 US E&P Transactions (3Q17 Disclosed Values)

Broad coverage; Seven different U.S. unconventional plays hit top 10

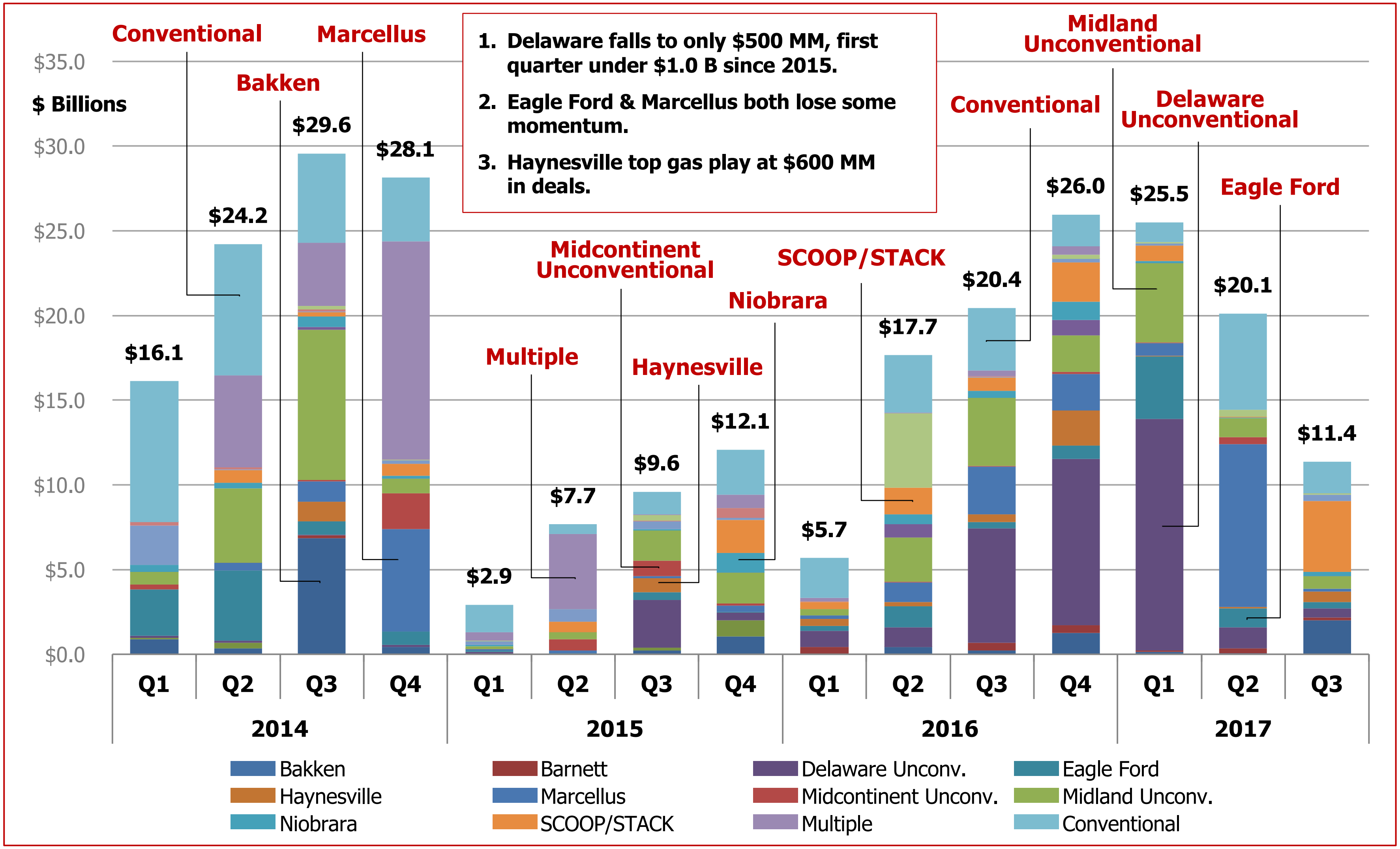


— Oil deals return to favor taking 8 of 10 largest deals.

Only the Bakken and the Permian make more than one appearance in Top 10.

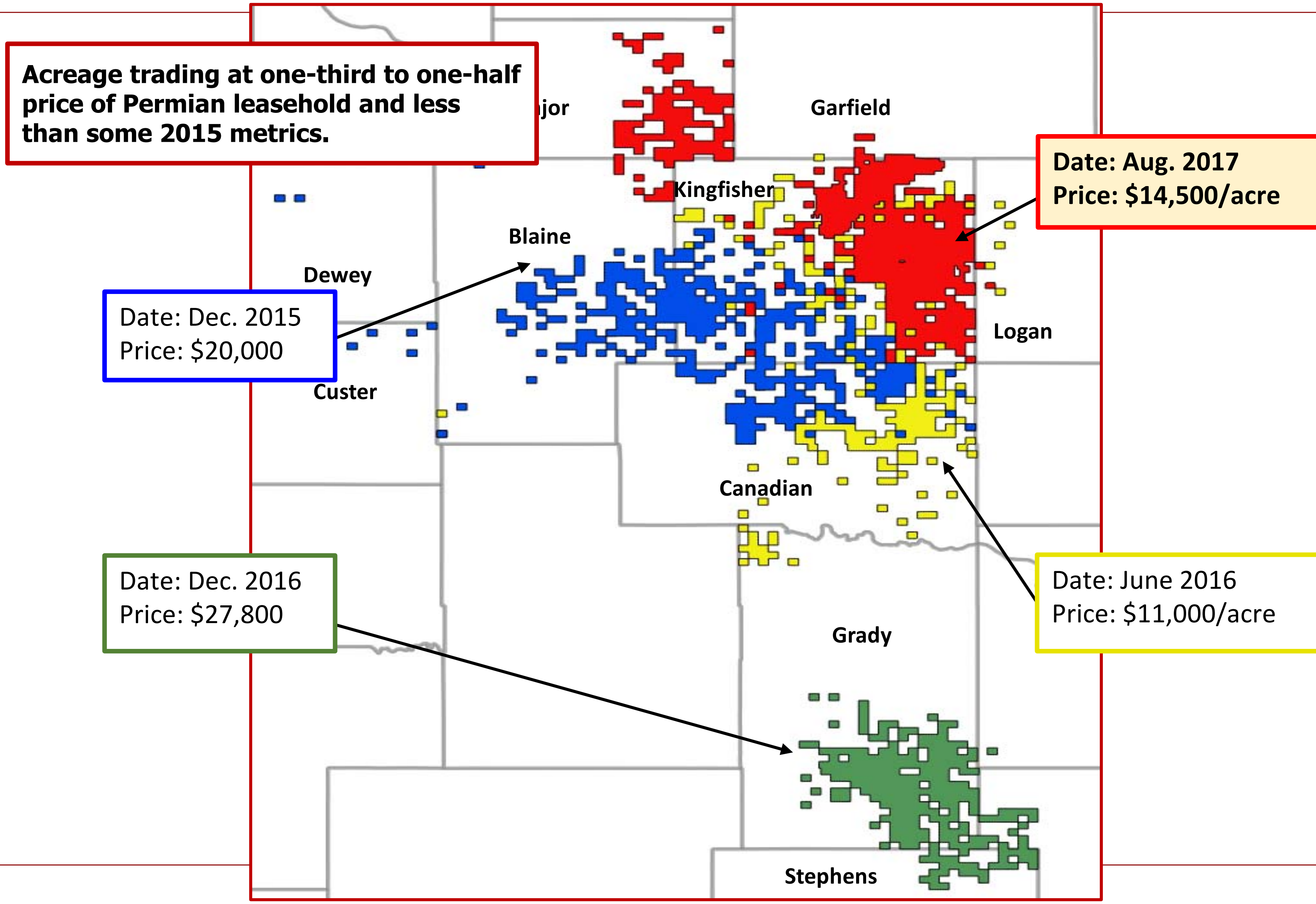
Total U.S. Deal Value by Play

STACK and Bakken only unconventional plays to break the $1.0 B mark



STACK/SCOOP at the Center of Considerable Industry Attention

Core assets still trading at only one-third to one-half price of Permian leasehold though



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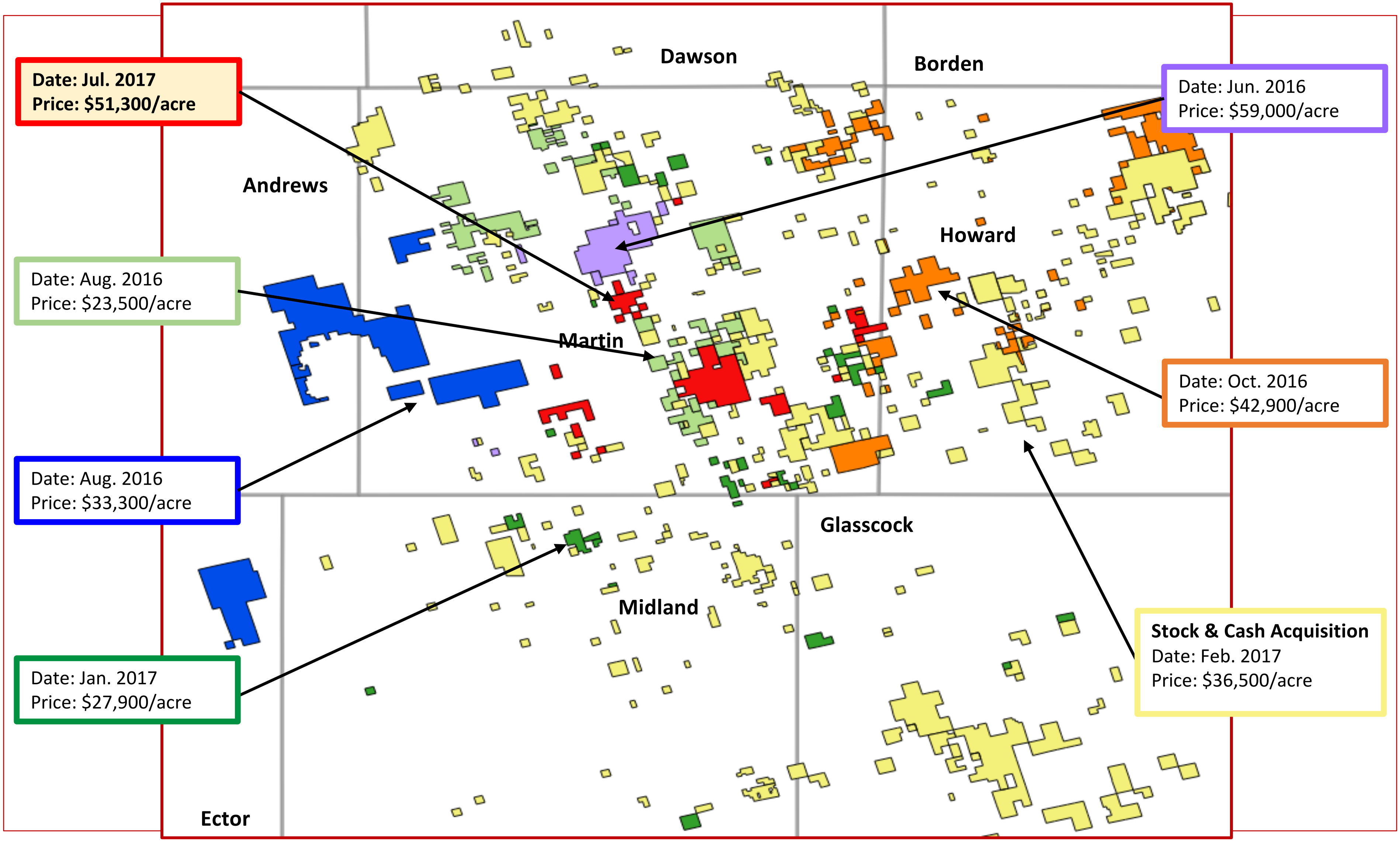
High Land Costs to Secure Permian Acreage May Deter some Potential Buyers

QEP paid a premium to secure assets from private sellers in the heart of the Midland Basin



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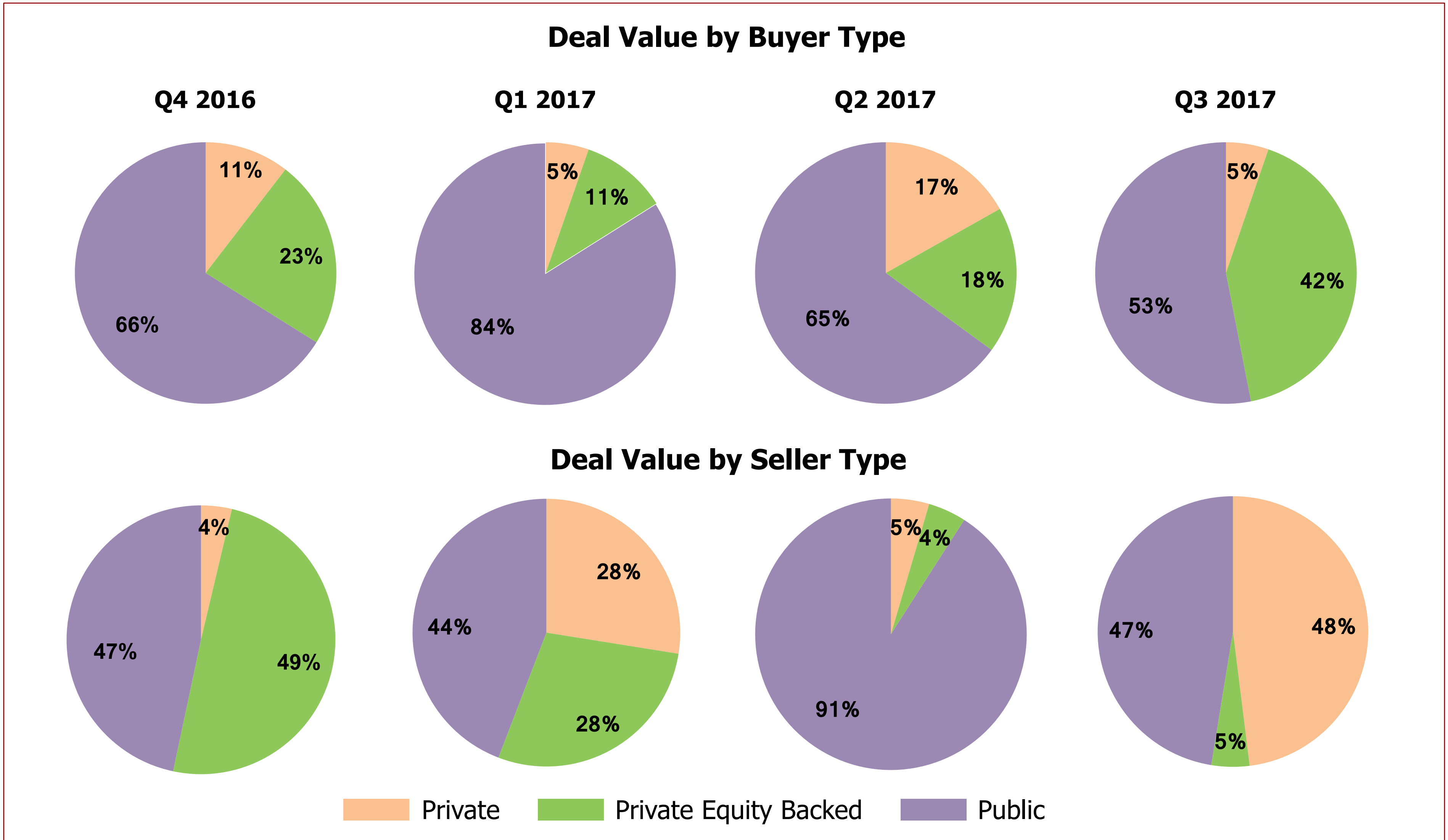
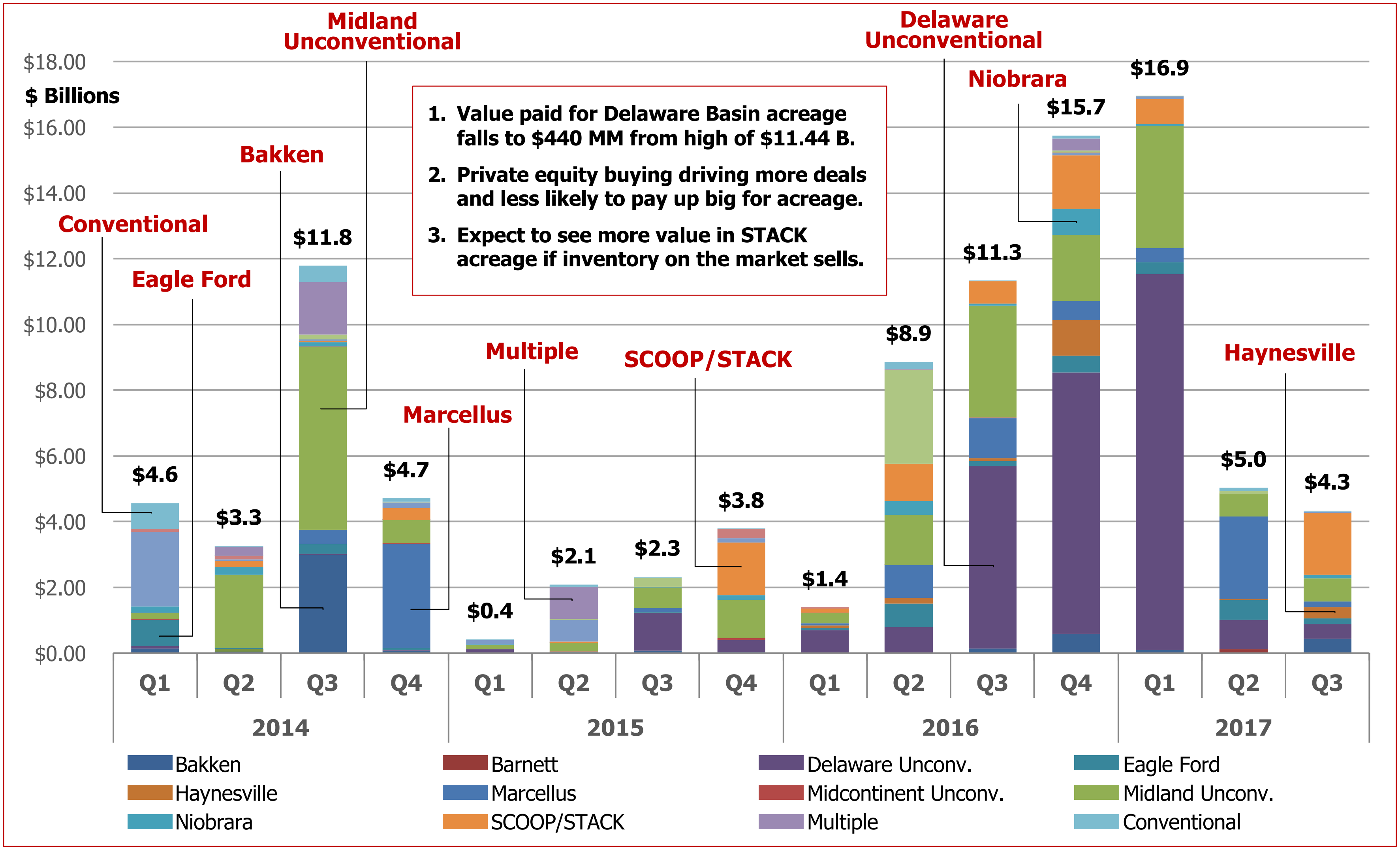
U.S. Deal Values By Buyer/Seller Peer Groups

Counting Riverstone's investment in Alta Mesa, P/E funds half of deals reported 3Q17



Total U.S. Deal Value Allocated to Acreage by Quarter

Acreage value slumps to $4.3 B as buying shifts away from Permian and companies tackle inventory



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U.S. Acreage Valuation Across Unconventional Plays

Deals greater than $50 MM during 3Q17

Date	Buyers	Sellers	Value ($MM)	US Play	Oil/Gas	$/Daily BOE	$/Acre	Oil 12-M Strip	Gas 12-M Strip
08/16/17	Silver Run II	Alta Mesa; Kingfisher	$3,836	STACK	Oil	$38,170	$14,472	$48.32	$3.02

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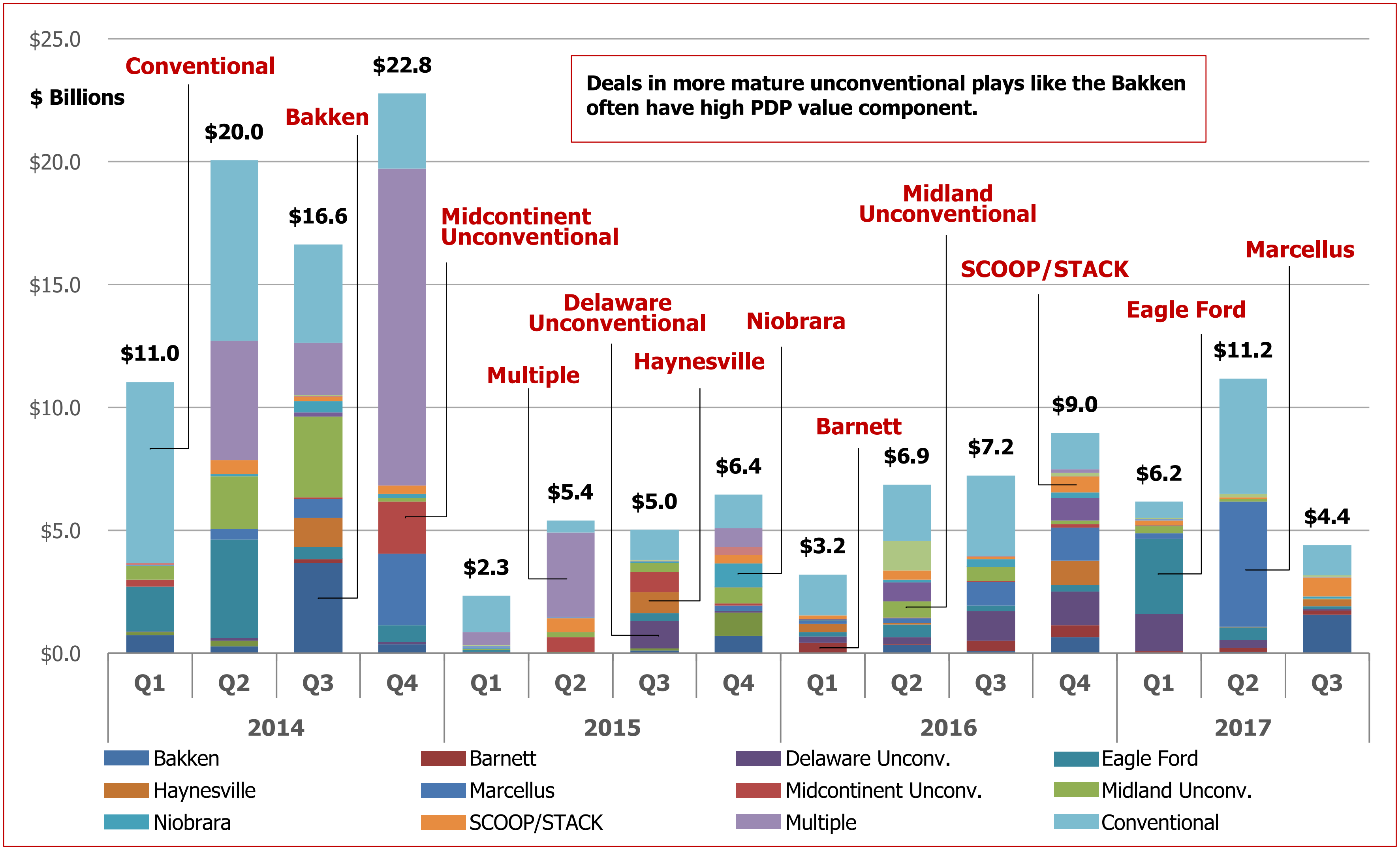
U.S. Total Deal Value Allocated To PDP (Quarterly Analysis)

PDP value falls on fewer deals and less conventional buying



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U.S. Deal Value By Play (Quarterly Analysis)

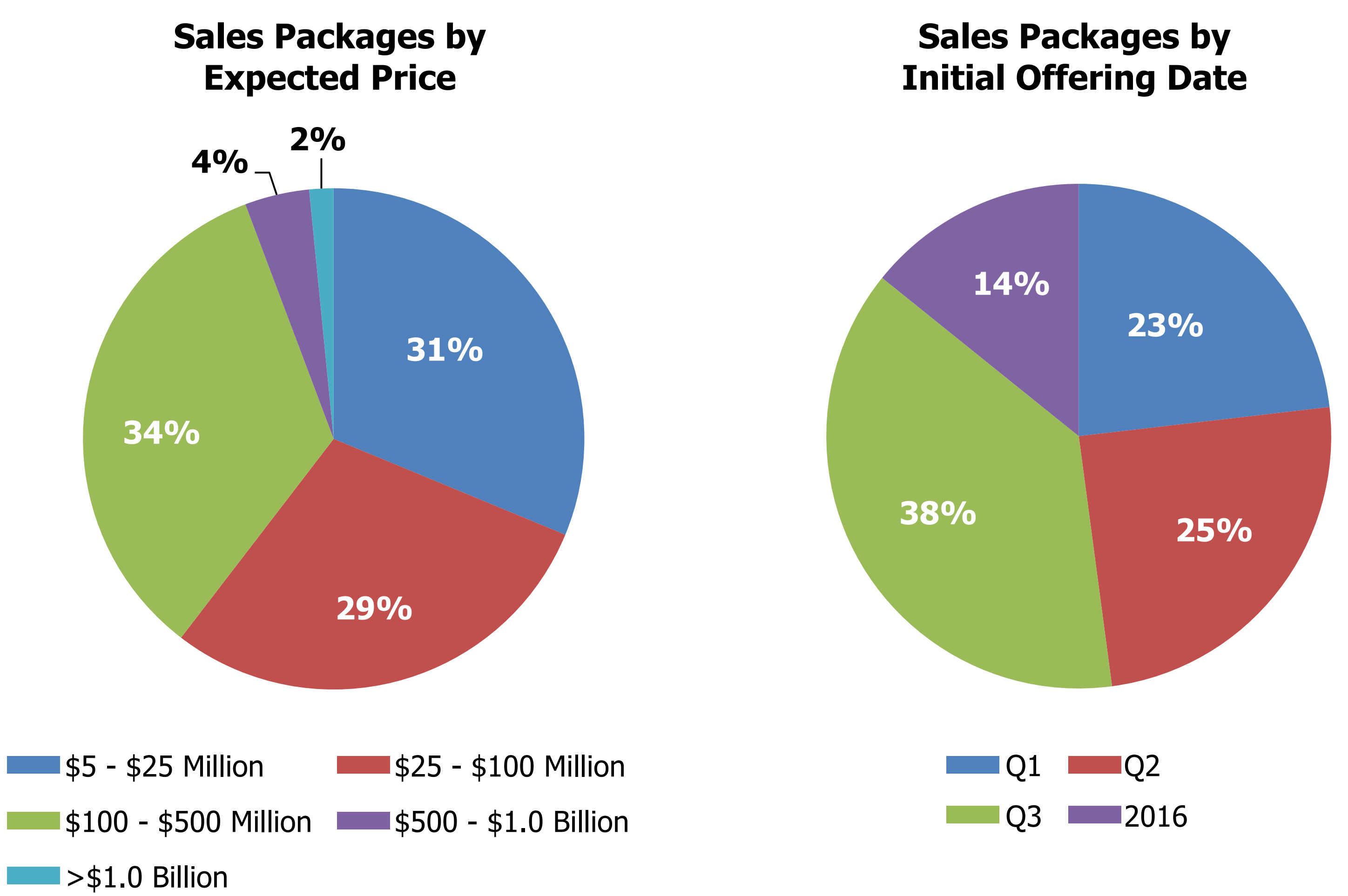
Broad based buying w/ less larger transformative deals reported in 3Q17

Deal Values ($B)	2014						2015						2016						2017				
Play	**Q1**	**Q2**	**Q3**	**Q4**	**YE Total**	**% of Total**	**Q1**	**Q2**	**Q3**	**Q4**	**YE Total**	**% of Total**	**Q1**	**Q2**	**Q3**	**Q4**	**YE Total**	**% of Total**	**Q1**	**Q2**	**Q3**	**YTD Total**	**% of Total**
Bakken	$0.9	$0.3	$6.8	$0.4	$8.5	9%	$0.0	$0.0	$0.2	$1.1	$1.3	4%	$0.0	$0.4	$0.2	$1.2	$1.9	3%	$0.2	$0.0	$2.0	$2.2	4%
Barnett	$0.0	$0.0	$0.2	$0.0	$0.2	0%	$0.0	$0.0	$0.0	$0.0	$0.0	0%	$0.4	$0.0	$0.4	$0.5	$1.3	2%	$0.1	$0.3	$0.2	$0.5	1%
CBM	$0.1	$0.4	$0.0	$0.0	$0.5	0%	$0.0	$0.0	$0.2	$1.0	$1.2	4%	$0.0	$0.0	$0.0	$0.0	$0.0	0%	$0.0	$0.0	$0.0	$0.0	0%
Delaware Unconv.	$0.1	$0.1	$0.0	$0.1	$0.4	0%	$0.1	$0.0	$2.8	$0.4	$3.3	10%	$1.0	$1.2	$6.8	$9.8	$18.7	27%	$13.7	$1.2	$0.5	$15.5	27%
Eagle Ford	$2.7	$4.1	$0.8	$0.8	$8.4	9%	$0.1	$0.0	$0.5	$0.1	$0.6	2%	$0.3	$1.2	$0.4	$0.8	$2.7	4%	$3.7	$1.1	$0.4	$5.2	9%
Haynesville	$0.0	$0.0	$1.2	$0.0	$1.2	1%	$0.0	$0.0	$0.9	$0.0	$0.9	3%	$0.4	$0.3	$0.5	$2.1	$3.2	5%	$0.0	$0.1	$0.6	$0.7	1%
Marcellus	$0.0	$0.5	$1.2	$6.1	$7.7	8%	$0.1	$0.1	$0.1	$0.4	$0.7	2%	$0.2	$1.2	$2.8	$2.1	$6.3	9%	$0.8	$9.6	$0.2	$10.6	19%
Midcontinent Unconv.	$0.3	$0.0	$0.1	$2.1	$2.5	3%	$0.0	$0.7	$0.9	$0.1	$1.7	5%	$0.0	$0.0	$0.0	$0.1	$0.2	0%	$0.0	$0.4	$0.0	$0.4	1%
Midland Unconv.	$0.7	$4.4	$8.9	$0.9	$14.8	15%	$0.2	$0.4	$1.8	$1.8	$4.2	13%	$0.4	$2.6	$4.0	$2.2	$9.2	13%	$4.7	$1.1	$0.7	$6.5	11%
Mississippian Lime	$0.0	$0.0	$0.2	$0.0	$0.2	0%	$0.0	$0.0	$0.0	$0.0	$0.0	0%	$0.0	$0.8	$0.0	$0.9	$1.7	2%	$0.0	$0.0	$0.0	$0.0	0%
Niobrara	$0.4	$0.3	$0.6	$0.2	$1.6	2%	$0.0	$0.0	$0.1	$1.1	$1.3	4%	$0.0	$0.6	$0.4	$1.1	$2.1	3%	$0.1	$0.0	$0.2	$0.4	1%
SCOOP/STACK	$0.0	$0.8	$0.3	$0.7	$1.7	2%	$0.0	$0.6	$0.0	$1.9	$2.6	8%	$0.4	$1.6	$0.8	$2.3	$5.1	7%	$0.9	$0.1	$4.2	$5.2	9%
Utica	$2.3	$0.0	$0.0	$0.2	$2.6	3%	$0.2	$0.7	$0.4	$0.1	$1.5	5%	$0.0	$0.0	$0.0	$0.2	$0.3	0%	$0.1	$0.0	$0.4	$0.5	1%
Powder River Unconv.	$0.2	$0.1	$0.1	$0.0	$0.4	0%	$0.0	$0.0	$0.1	$0.6	$0.7	2%	$0.0	$0.0	$0.0	$0.0	$0.1	0%	$0.0	$0.0	$0.0	$0.0	0%
Other	$0.0	$0.0	$0.2	$0.0	$0.2	0%	$0.0	$0.0	$0.3	$0.0	$0.4	1%	$0.0	$4.4	$0.0	$0.2	$4.6	7%	$0.1	$0.4	$0.1	$0.6	1%
Multiple	$0.0	$5.4	$3.7	$12.9	$22.0	22%	$0.5	$4.4	$0.1	$0.8	$5.8	18%	$0.2	$0.0	$0.3	$0.5	$1.1	2%	$0.0	$0.0	$0.0	$0.0	0%
Conventional	$8.3	$7.8	$5.3	$3.8	$25.1	26%	$1.6	$0.6	$1.3	$2.7	$6.2	19%	$2.4	$3.4	$3.7	$1.9	$11.3	16%	$1.1	$5.7	$1.9	$8.7	15%
Total	**$16.1**	**$24.2**	**$29.6**	**$28.1**	**$98.0**	**100%**	**$2.9**	**$7.7**	**$9.6**	**$12.1**	**$32.3**	**100%**	**$5.7**	**$17.7**	**$20.4**	**$26.0**	**$69.7**	**100%**	**$25.5**	**$20.1**	**$11.4**	**$57.0**	**100%**

Deal Values ($B)	2014						2015						2016						2017				
Play	**Q1**	**Q2**	**Q3**	**Q4**	**YE Total**	**% of Total**	**Q1**	**Q2**	**Q3**	**Q4**	**YE Total**	**% of Total**	**Q1**	**Q2**	**Q3**	**Q4**	**YE Total**	**% of Total**	**Q1**	**Q2**	**Q3**	**YTD Total**	**% of Total**
Unconventional Total	$7.8	$16.5	$24.3	$24.4	$72.9	74%	$1.3	$7.1	$8.3	$9.4	$26.1	81%	$3.3	$14.3	$16.7	$24.1	$58.4	84%	$24.4	$14.4	$9.5	$48.3	85%
Conventional Total	$8.3	$7.8	$5.3	$3.8	$25.1	26%	$1.6	$0.6	$1.3	$2.7	$6.2	19%	$2.4	$3.4	$3.7	$1.9	$11.3	16%	$1.1	$5.7	$1.9	$8.7	15%
Total	**$16.1**	**$24.2**	**$29.6**	**$28.1**	**$98.0**	**100%**	**$2.9**	**$7.7**	**$9.6**	**$12.1**	**$32.3**	**100%**	**$5.7**	**$17.7**	**$20.4**	**$26.0**	**$69.7**	**100%**	**$25.5**	**$20.1**	**$11.4**	**$57.0**	**100%**

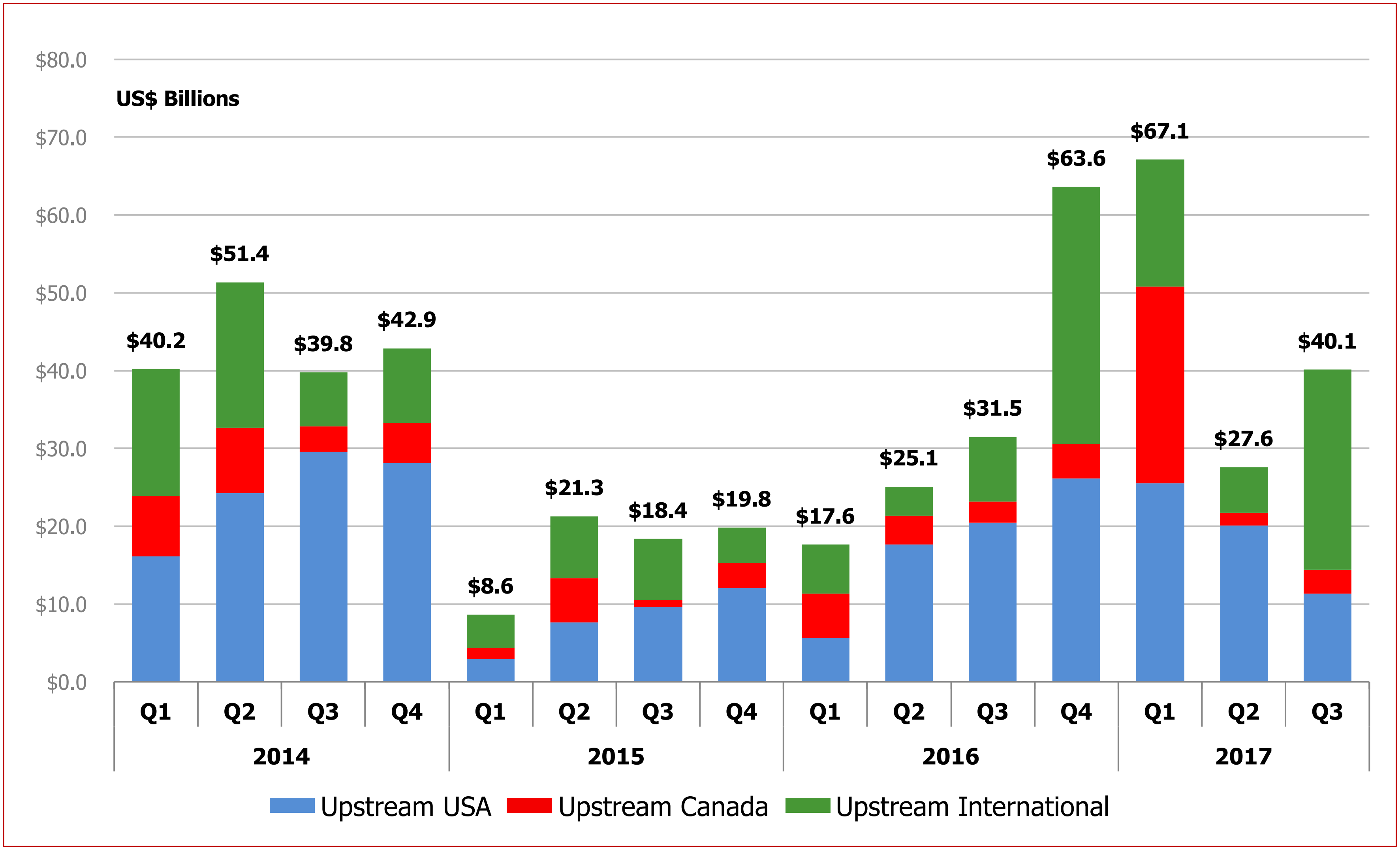
Deals on the Market

~$150 B in potential deals available based on expected asset value



Global Upstream Deal Value (Material Deals Reporting Price)

Peaked at $67.1 B in 1Q17 with strong showing across U.S., Canada & International



***Excludes $82 B Shell/BG merger in 2015**

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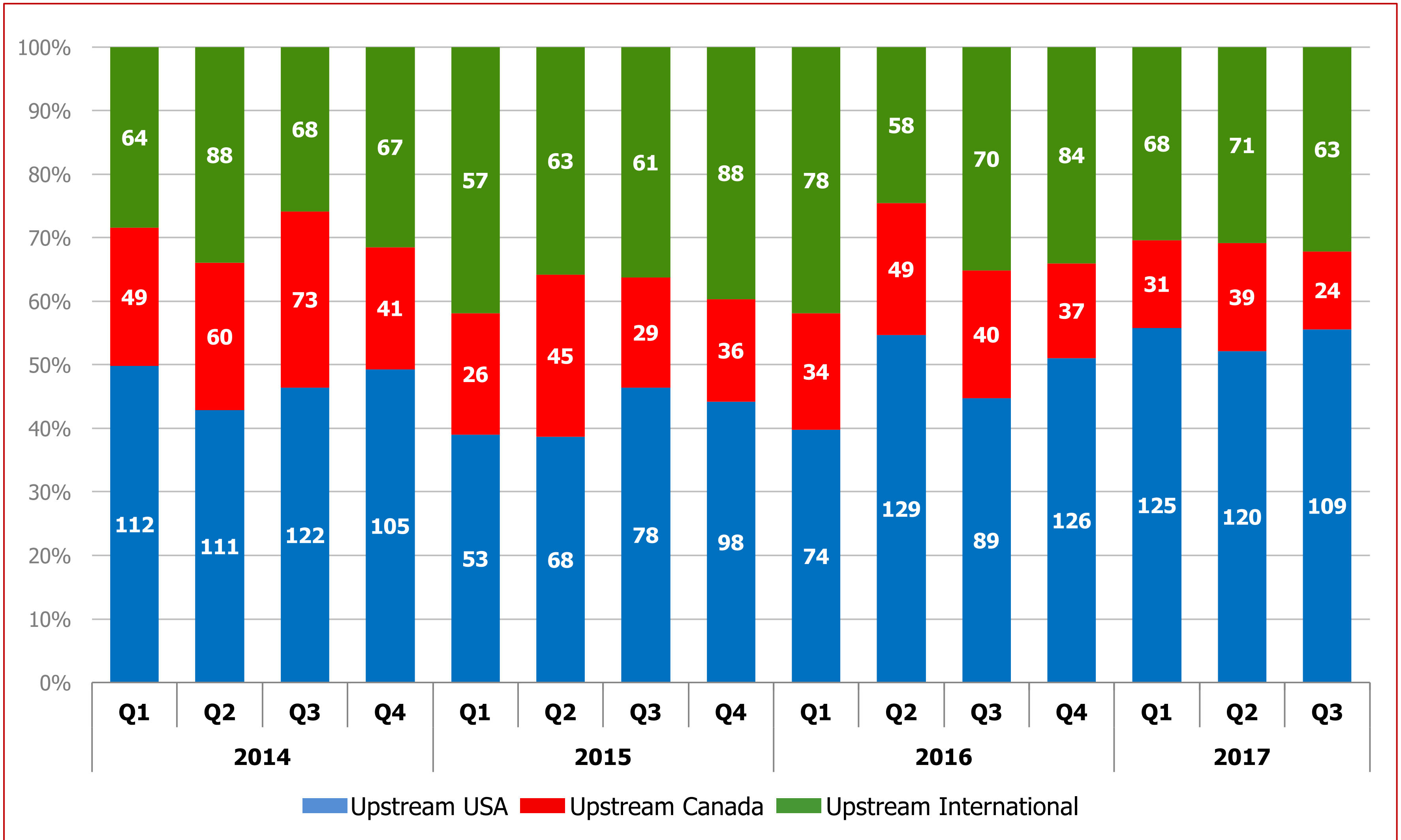
Global Upstream Deal Counts

Few big Canada/International deals drive swings in value while pace of deals holds steady



Top 10 Global Upstream Deals

International markets led by corporate M&A, spinoffs