



December 17, 2018

Covering the Week of December 7 to December 13, 2018

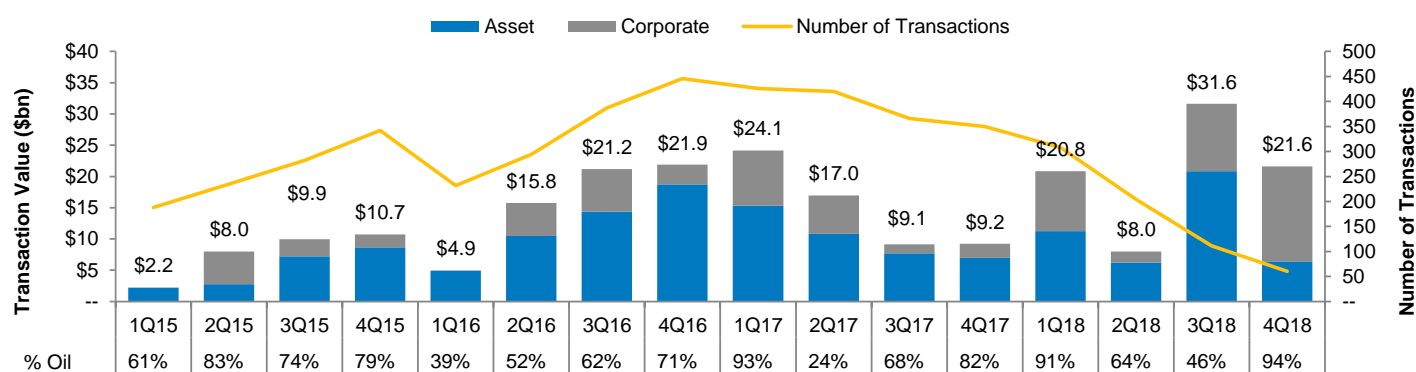
## Week in Review

- Riviera Resources announced the sale of Arkoma Basin properties for \$68 million
- Panhandle Oil and Gas acquired mineral acreage in North Dakota and Oklahoma for \$11 million
- Top 10 Toys for the Season – from BMO toy analyst Gerrick Johnson – watch [here](#)

## Key Industry Indicators

Indicator	Current Value	Week's Change	% Change	Direction
Prompt Oil Price (\$/bbl)	\$52.58	\$1.09	2.1%	↑
Prompt Gas Price (\$/mmbtu)	\$4.12	(\$0.21)	(4.8%)	↓
Wkly Trans. Value (\$mm)	\$79	\$65	nmf	↑
Wkly Trans. Count	5	--	--	—
US Rig Count	1,071	(4)	(0.4%)	↓
US Oil Prod'n (mmbbl/d)	11.6	(0.1)	(0.9%)	↓
US Gas Prod'n (bcf/d) <sup>(1)</sup>	104.5	--	--	—
US Oil Storage (mmbbl)	442.0	(1.2)	(0.3%)	↓
US Gas Storage (tcf)	2.9	(0.1)	(2.6%)	↓

## Quarterly Deal Activity



## Commodities

- Oil ended last week up as OPEC+ finally agreed to a 1.2 mmbpd production cut, while Russia agreed to reduce output by 230 kbpd. Libya lost 315 kbpd of production due to the Sharara Field shutdown – armed protestors were responsible for the force majeure event and no estimate has been given for the field's return. The IEA made headlines by stating that unplanned supply losses from countries such as Iran and Venezuela could cause OPEC to overshoot its mark, leading to a supply deficit possibly in the latter part of 2019. The near-term contract closed up \$1.09, or 2.1%, at \$52.58
- Natural gas ended last week down as natural gas storage decreased by 2.6%. The near-term contract closed down \$0.21, or 4.8%, at \$4.12

## Equity Markets

- S&P E&P<sup>(2)</sup> underperformed last week (3.9)% vs. SPX<sup>(2)</sup> (1.7)%
- The major U.S. equity indexes finished mostly down last week. Consumer discretionary, financials, health care, industrials, materials, real estate, and tech all finished down while consumer staples remained unchanged

## Debt Markets

- No issuers priced this week
- Year-to-date U.S. volume is down 41% year-on-year
- U.S. high yield funds reported an outflow of \$2 billion
- ETFs reported an outflow of \$933 million, while mutual funds reported an outflow of \$1.1 billion
- High yield index yield was 7.28%; high yield energy index yield was 8.56%

Source: BMO Transaction Database, Baker Hughes, BMO Commodity Products Group, Bloomberg, EIA, PLS

Note: Current quarter's data is through the week covered by this issue.

1. EIA U.S. natural gas gross withdrawals and production reported monthly as of September 2018.

2. S&P E&P = S&P Oil & Gas E&P Select Industry, SPX = S&P 500 Index.

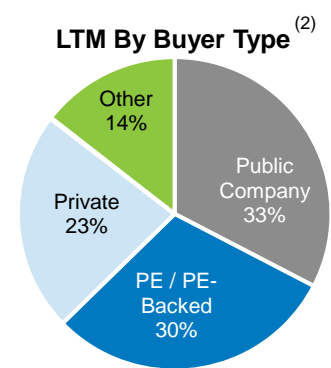
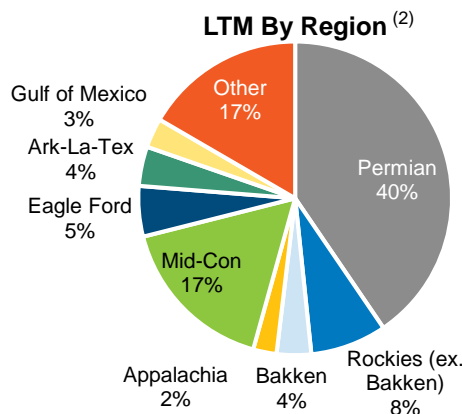
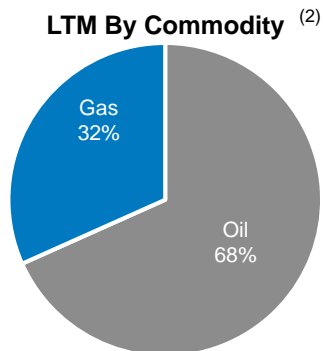


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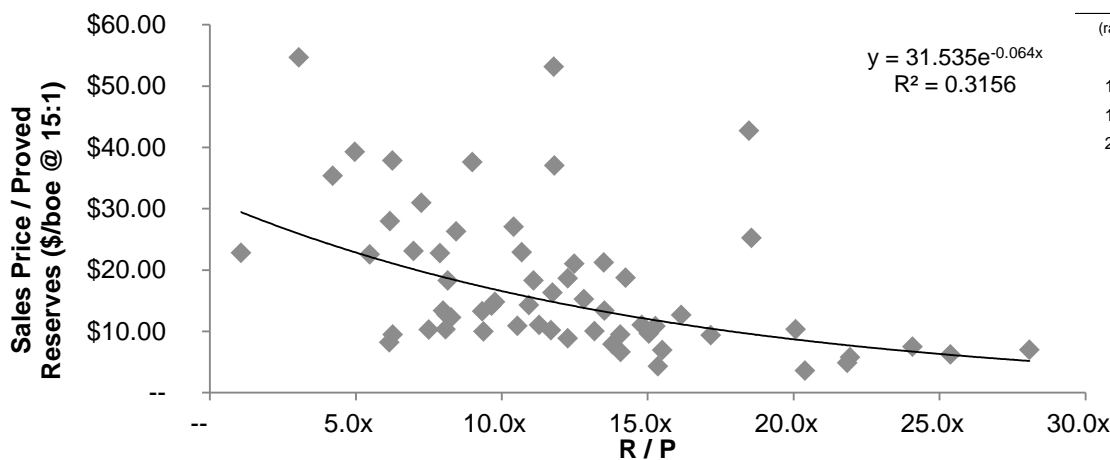
## The 10 Most Recent Asset Transactions Over \$20 Million

Ann'd Date	Buyer	Seller	Area	Asset Description	Value <sup>(1)</sup> (\$mm)	Proved Multiple (\$/boe)	Prod. Multiple (\$/boe/d)	Net Acres (\$/acre)
11-Dec-18	Undisclosed Buyer	Riviera Resources Inc	Mid-Continent	37,000 net acres in the Arkoma Basin	\$68	n.a.	\$17,000	\$1,838
21-Nov-18	Kimbell Royalty Partners	Undisclosed Seller	Multi-Region	16,700 net royalty acres	\$108	n.a.	\$90,588	nfm
19-Nov-18	Lonestar Resources Inc	Sabine Oil & Gas Corp	Eagle Ford	2,706 net acres in Eagle Ford	\$39	\$2.98	\$48,375	\$14,302
19-Nov-18	Aethon III	QEP Resources Inc	Ark-La-Tex	49,700 net acres in Haynesville	\$735	\$4.60	\$14,848	\$14,789
07-Nov-18	Vantage Energy Acq. Corp	QEP Resources Inc	Bakken	102,800 net acres in Williston Basin	\$1,725	n.a.	\$37,500	\$16,780
07-Nov-18	Undisclosed Buyer	Devon Energy	Barnett	100,000 net acres in Barnett Shale	\$50	n.a.	\$12,500	\$500
06-Nov-18	Diamondback Energy	ExL Pet.; EnergyQuest	Permian	3,646 net acres in Midland Basin	\$313	n.a.	\$89,286	\$85,710
05-Nov-18	Centennial Resource Dev.	Undisclosed Seller	Permian	820 net acres in Delaware Basin	\$26	n.a.	n.a.	\$31,707
02-Nov-18	SandRidge Energy	Undisclosed Seller	Mid-Continent	Mississippi Lime and NW STACK assets	\$25	n.a.	\$6,649	n.a.
01-Nov-18	Undisclosed Buyer	Parsley Energy LP	Permian	11,850 net acres in Midland Basin	\$170	n.a.	\$141,667	\$14,346

Blue = BMO provided transaction advisory services    Green = BMO provided acquisition financing or related services  
Purple = BMO provided both transaction advisory services and acquisition financing or related services



## A&D Valuation Trends<sup>(3)</sup>



R / P	Sales Value / Proved Reserves (15:1)	
	(\$ / boe)	(\$ / mcf)
(ratio)		
8x	\$18.85	\$1.26
10x	\$16.58	\$1.11
15x	\$12.02	\$0.80
20x	\$8.71	\$0.58

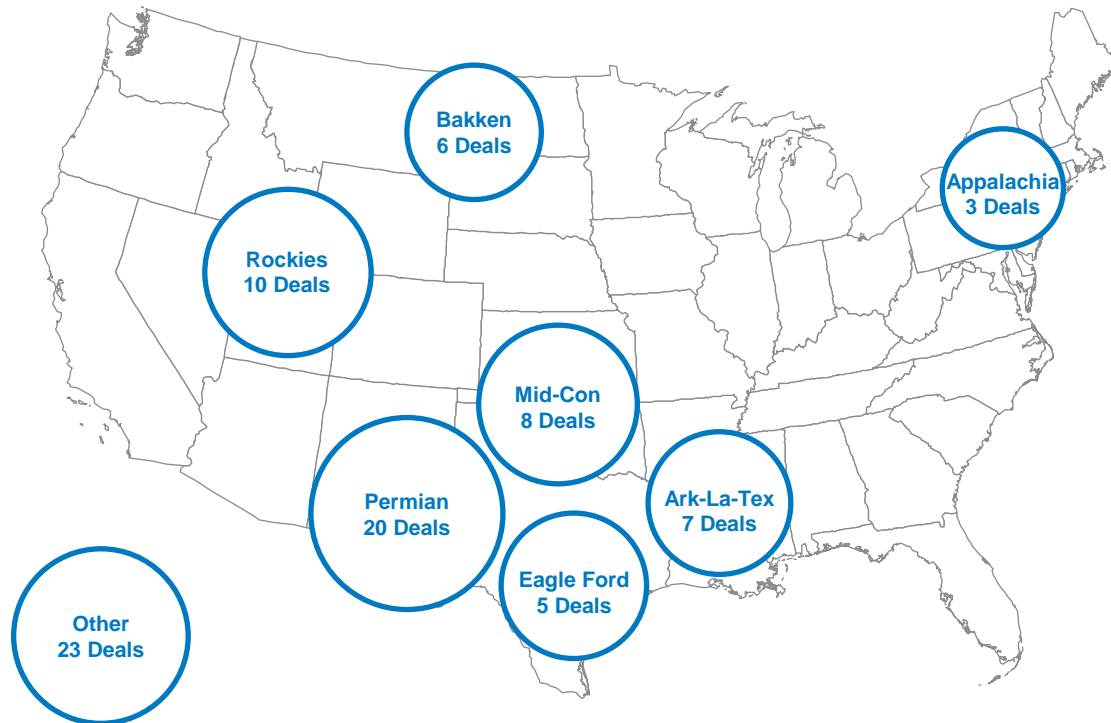
2 Source: BMO Transaction Database, Baker Hughes, BMO Commodity Products Group, Bloomberg, PLS

1. Represents total enterprise value.  
2. Calculated as percentage of total LTM transaction count (number of transactions, not dollar value).  
3. 62 transactions from January 2015 to 2018YTD with transaction value >\$20mm. Adjusted for changes in price outlooks. Recalculated boe reserves are on a 15:1 (gas:oil) basis. Acreage transactions excluded by using deals with PDP of >= 40% of total proved.



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## Select Significant Deals on the Market



## A&D Headlines

- [Riviera Resources Announces Sale of Arkoma Basin Properties for \\$68 Million](#)
- [Panhandle Oil and Gas Inc. Reports Fourth Quarter and Fiscal 2018 Results \(includes A&D announcement\)](#)

## Industry Headlines

- [IEA Says Too Early to Tell If OPEC+ Oil-Supply Cuts Will Succeed](#)
- [Big Oil Doubles Down on Shale Despite Price Drop](#)
- [When It Comes to Natural Gas, US 'Open for Business'](#)
- [US Dominance in Oil Markets Is Only Going to Get Bigger, the IEA Says](#)
- [Mexico Cancels Bidding on Two Oil and Gas Auctions](#)
- [Texas Has Recovered Half of Oil and Gas Jobs Lost to Downturn](#)
- [Colorado, New Mexico and Wyoming Oil, Gas Permitting Soars in November](#)

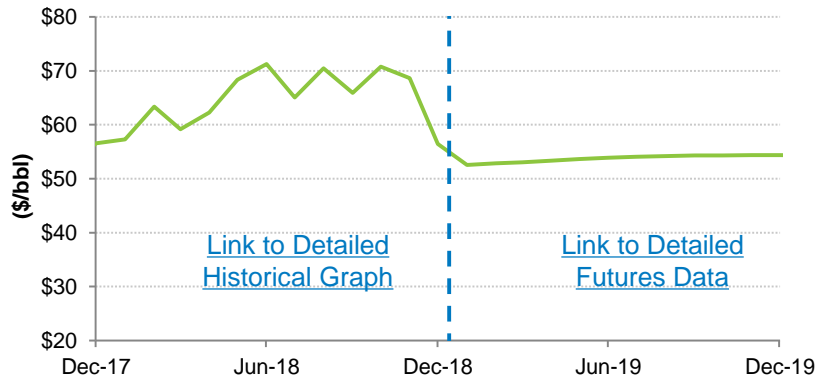
(Click headline to link to the full article)



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## Commodity Prices

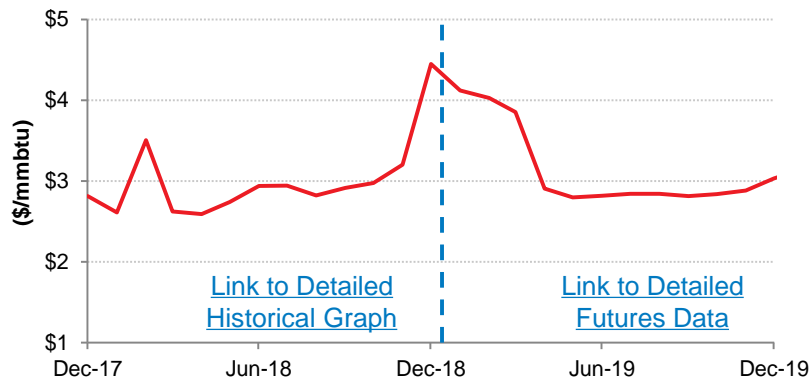
### WTI OIL (HISTORICAL / FORECAST)



**NYMEX WTI Futures as of 13-Dec-18 Close (\$/bbl)**

Period <sup>(1)</sup>	Current	Last Wk.	6 Mo. Ago	1 Yr. Ago
12 Mo. Strip	\$53.75	\$52.68	\$65.38	\$55.28
2019	\$53.75	\$52.68	\$63.89	\$52.83
2020	\$54.09	\$53.50	\$61.00	\$51.12
2021	\$53.42	\$53.35	\$58.80	\$50.11
2022	\$52.82	\$53.12	\$57.10	\$49.70
2023	\$52.58	\$53.14	\$55.90	\$49.71

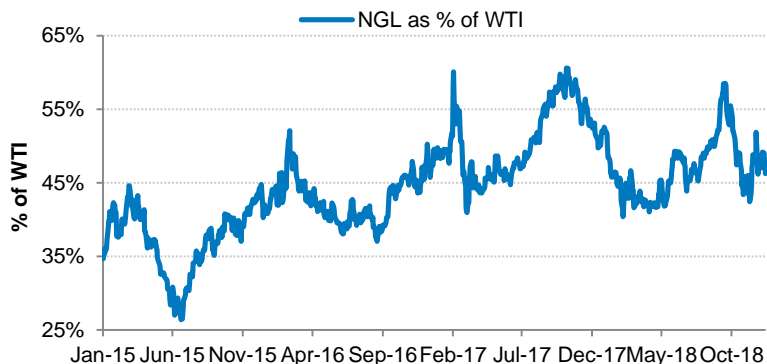
### HENRY HUB NATURAL GAS (HISTORICAL / FORECAST)



**NYMEX Gas Futures as of 13-Dec-18 Close (\$/mmbtu)**

Period <sup>(1)</sup>	Current	Last Wk.	6 Mo. Ago	1 Yr. Ago
12 Mo. Strip	\$3.15	\$3.22	\$2.93	\$2.75
2019	\$3.15	\$3.22	\$2.80	\$2.78
2020	\$2.70	\$2.69	\$2.70	\$2.79
2021	\$2.61	\$2.64	\$2.66	\$2.82
2022	\$2.79	\$2.81	\$2.80	\$2.97
2023	\$2.79	\$2.81	\$2.80	\$2.97

### NGL PRICING<sup>(2)</sup>



**Historical Prices as of 13-Dec-18 Close (\$/gal)**

NGLs	Current	Last Wk.	6 Mo. Ago	1 Yr. Ago
Ethane	\$0.29	\$0.31	\$0.33	\$0.23
Propane	\$0.70	\$0.72	\$0.89	\$0.92
Butane	\$0.73	\$0.70	\$0.97	\$0.97
Iso-butane	\$0.80	\$0.90	\$1.37	\$1.00
Pentane+	\$1.09	\$1.03	\$1.52	\$1.31

Source: BMO Commodity Products Group, Bloomberg, FactSet

- Future prices are calendar year average unless stated otherwise.
- Assumes typical Gulf Coast barrel composition.

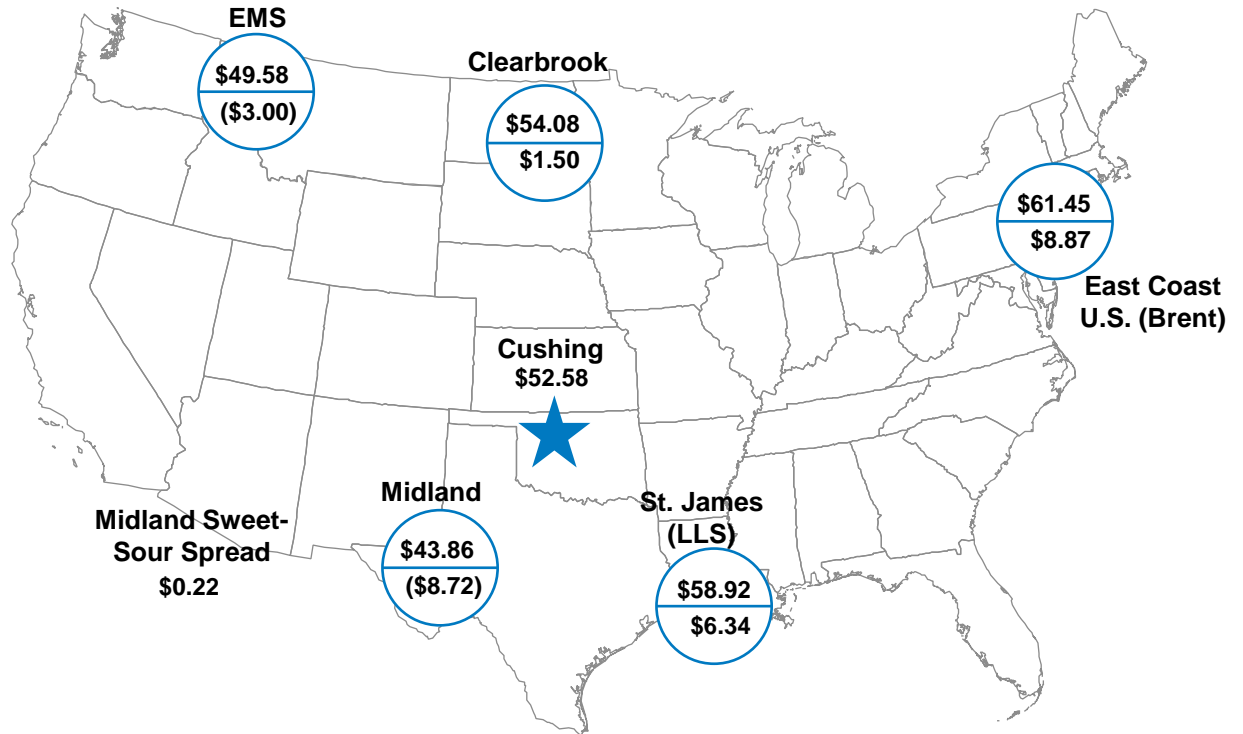


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## Commodity Prices (cont'd)

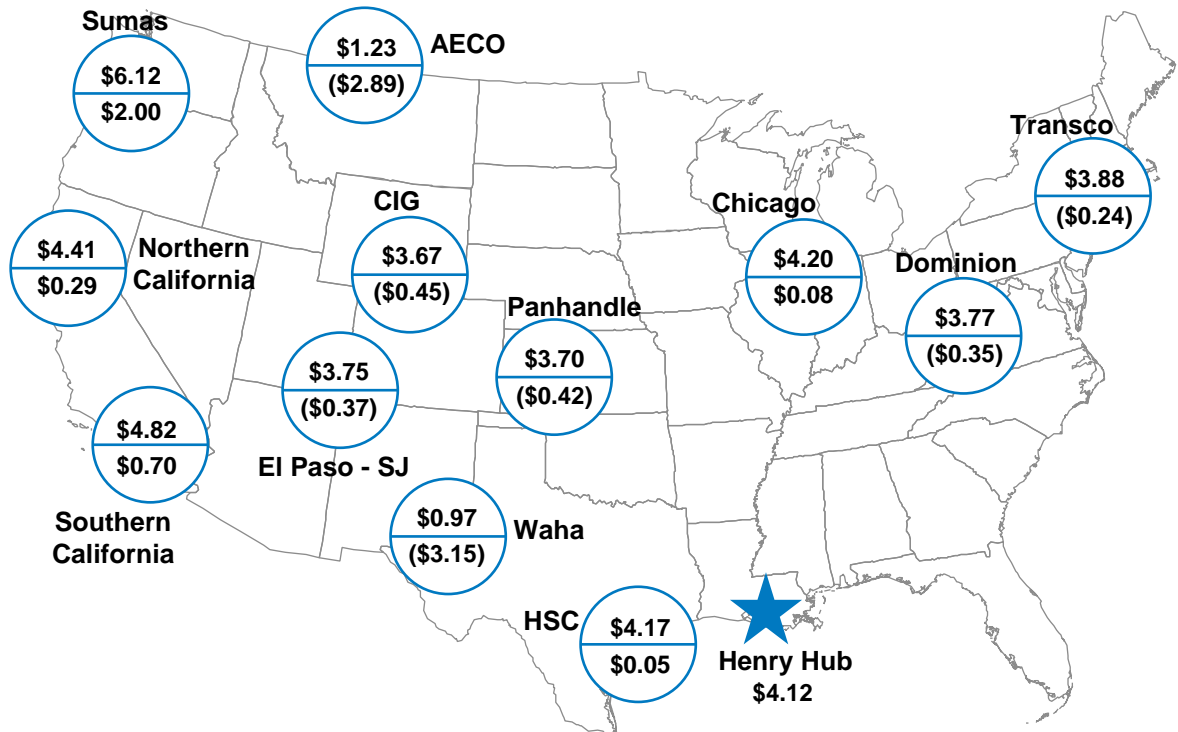
OIL PRICING & DIFFERENTIALS TO CUSHING WTI (\$ / BBL) – AS OF 13-DEC-18

### Legend



NATURAL GAS PRICING & DIFFERENTIALS TO HENRY HUB (\$ / MMBTU) – AS OF 13-DEC-18

### Legend



Source: BMO Commodity Products Group, Bloomberg

Note: Prices and differentials are for prompt month futures except for Clearbrook which is based on spot prices.



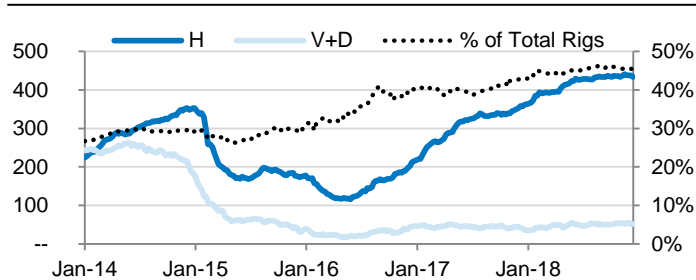
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## Permian Snapshot

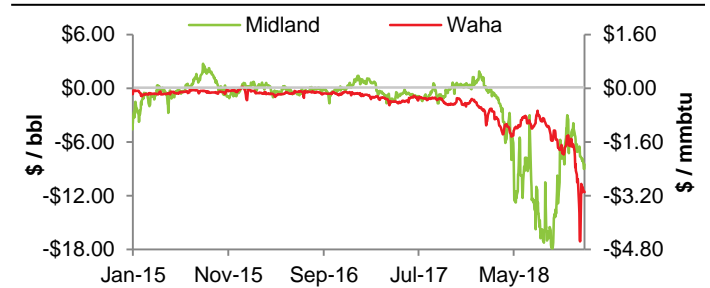
Item	Value	Wkly Change	Last Week
Rig Count	486	↓ (3)	489
Permitting Activity	240	↓ (123)	363

Item	Value	Wkly Change	Last Week
Oil Differential	(\$8.50)	↓ (\$0.40)	(\$8.10)
Gas Differential	(\$3.10)	↓ (\$0.18)	(\$2.93)

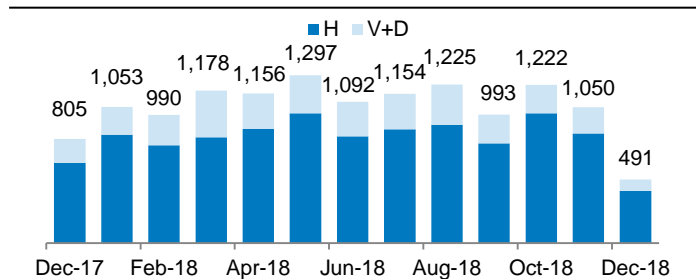
### RIG COUNT



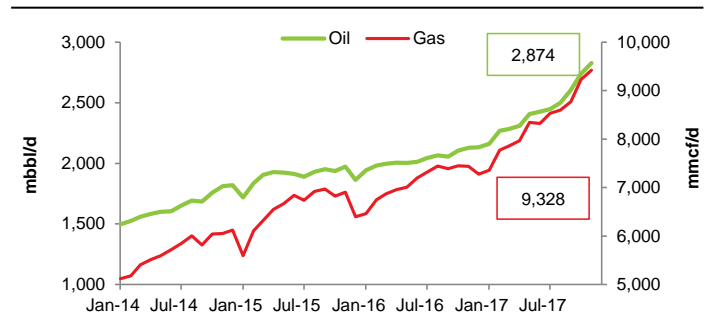
### DIFFERENTIALS



### PERMITTING ACTIVITY BY MONTH



### GROSS PRODUCTION

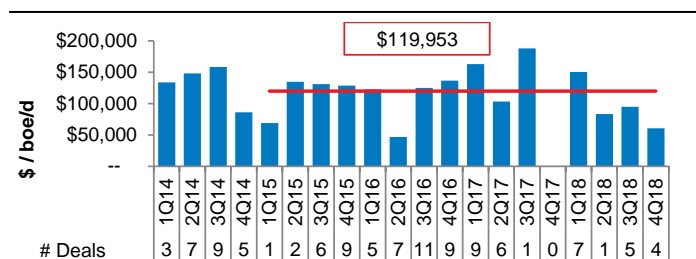


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

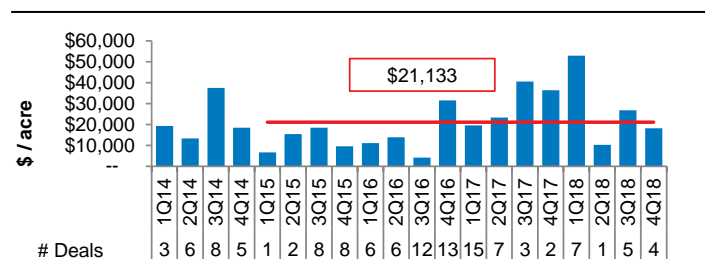
Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(1)</sup> (\$mm)	Proved Multiple (\$/boe)	Prod. Multiple (\$/boe/d)	Net Acres (\$/acre) <sup>(2)</sup>
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05-Nov-18	Centennial Resource Dev.	Undisclosed Seller	820 net acres in Delaware Basin	\$26	n.a.	n.a.	\$31,707
01-Nov-18	Undisclosed Buyer	Parsley Energy LP	11,850 net acres in Midland Basin	\$170	n.a.	\$141,667	\$14,346
17-Oct-18	Earthstone Energy Inc	Sabalo Energy	20,800 net acres in Midland Basin	\$976	\$10.73	\$87,143	\$46,923
25-Sep-18	Undisclosed Buyer	W&T Offshore	Royalty interests in 25,493 net acres	\$57	n.a.	n.a.	nmf
				<b>Mean</b>	<b>\$308</b>	<b>\$10.73</b>	<b>\$106,032</b>
				<b>Median</b>	<b>\$170</b>	<b>\$10.73</b>	<b>\$89,286</b>

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### TRANSACTION PRODUCTION MULTIPLES<sup>(3)</sup>



### TRANSACTION ADJUSTED NET ACRE MULTIPLES<sup>(3,4)</sup>



Source: BMO Transaction Database, Baker Hughes, BMO Commodity Products Group, Bloomberg, Drilling Info, PLS

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- \$/acre multiple not adjusted for value associated with production.
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- Production valued at \$45,000/boepd in 2014, \$30,000/boepd in 2015, \$35,000/boepd in 2016 & 2017, and \$40,000/boepd in 2018.



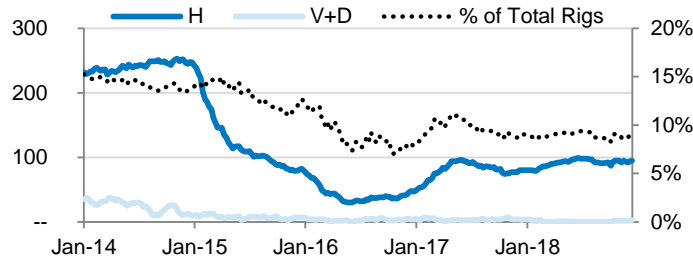
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## Eagle Ford Snapshot

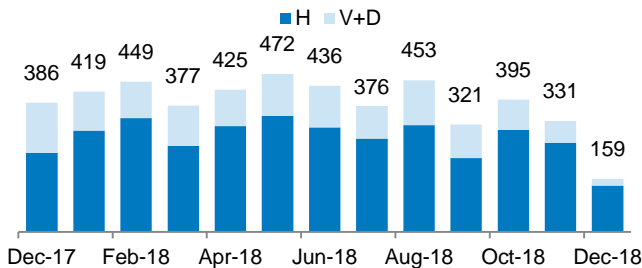
Item	Value	Wkly Change	Last Week
Rig Count	98	↑	96
Permitting Activity	104	↑	59

Item	Value	Wkly Change	Last Week
Oil Differential	\$6.85	↑	\$6.80
Gas Differential	\$0.06	↓	(\$0.02)

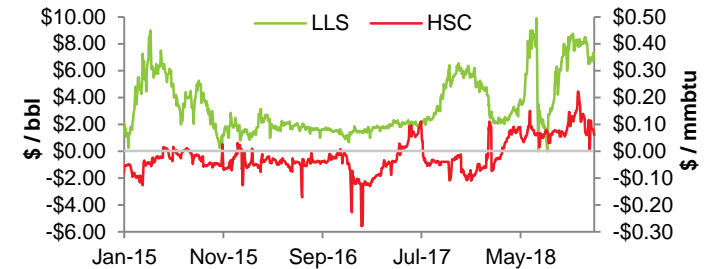
### RIG COUNT



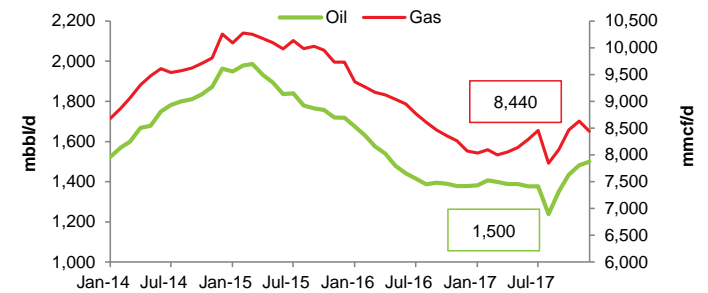
### PERMITTING ACTIVITY BY MONTH



### DIFFERENTIALS



### GROSS PRODUCTION

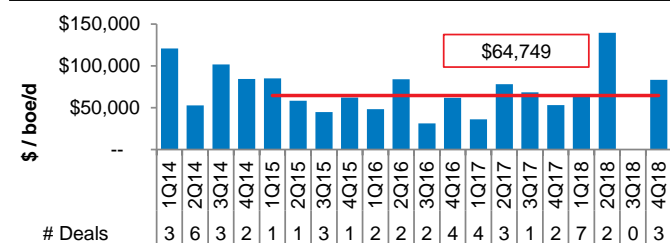


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

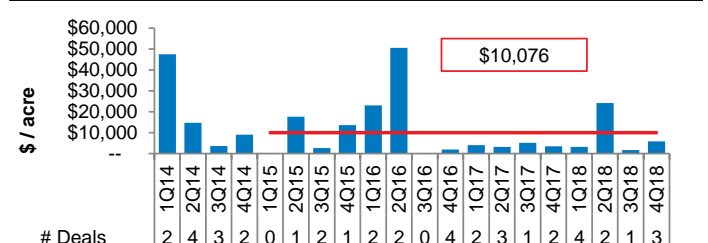
Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(1)</sup> (\$mm)	Proved Multiple (\$/boe)	Prod. Multiple (\$/boe/d)	Net Acres (\$/acre) <sup>(2)</sup>
19-Nov-18	Lonestar Resources Inc	Sabine Oil & Gas Corp	2,706 net acres in Eagle Ford	\$39	\$2.98	\$48,375	\$14,302
20-Sep-18	WildHorse	Undisclosed Seller	20,305 net Eagle Ford/Austin Chalk acres	\$35	n.a.	n.a.	\$1,743
07-Sep-18	Undisclosed Buyer	Viking Minerals LLC	1,191 net royalty acres in Eagle Ford	\$28	n.a.	n.a.	nmf
31-Jul-18	EP Energy Corp	Undisclosed Seller	Additional working interests in Eagle Ford	\$31	n.a.	n.a.	n.a.
26-Jul-18	BP	BHP Billiton	Permian, Eagle Ford, and Haynesville	\$10,500	n.a.	n.a.	n.a.
			<b>Mean</b>	<b>\$2,127</b>	<b>\$2.98</b>	<b>\$48,375</b>	<b>\$8,022</b>
			<b>Median</b>	<b>\$35</b>	<b>\$2.98</b>	<b>\$48,375</b>	<b>\$8,022</b>

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### TRANSACTION PRODUCTION MULTIPLES<sup>(3)</sup>



### TRANSACTION ADJUSTED NET ACRE MULTIPLES<sup>(3,4)</sup>



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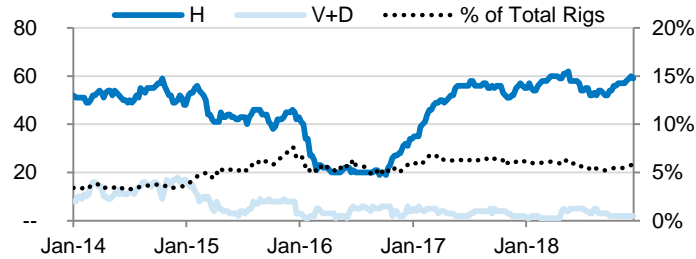
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## Ark-La-Tex Snapshot

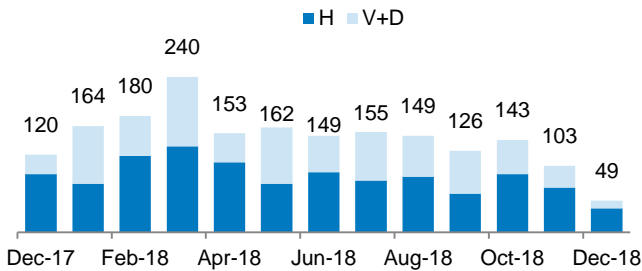
Item	Value	Wkly Change	Last Week
Rig Count	61	↓	(1) 62
Permitting Activity	12	↓	(26) 38

Item	Value	Wkly Change	Last Week
Oil Differential	\$6.85	↑	\$0.05 \$6.80
Gas Differential	--	■	-- --

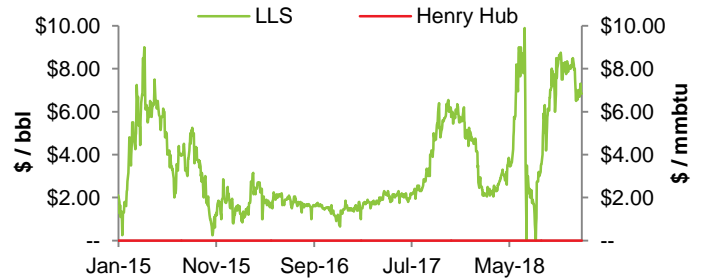
### RIG COUNT



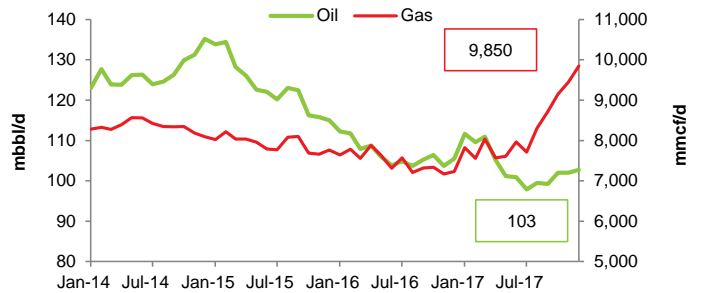
### PERMITTING ACTIVITY BY MONTH



### DIFFERENTIALS



### GROSS PRODUCTION

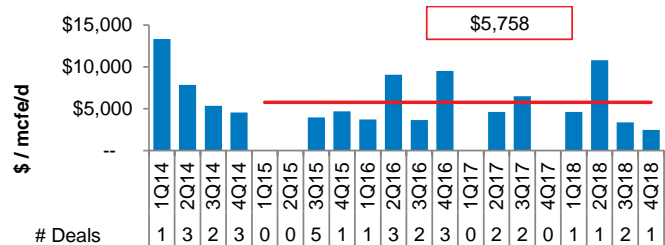


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

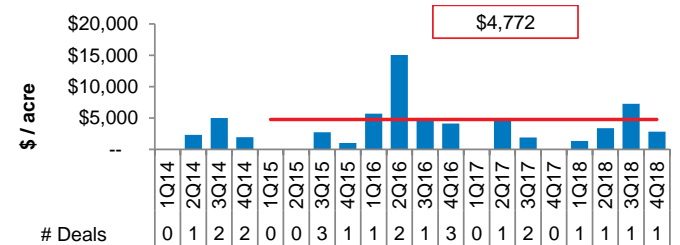
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19-Nov-18	Aethon III	QEP Resources Inc	49,700 net acres in Haynesville	\$735	\$0.77	\$2,475	\$14,789
05-Sep-18	Viking Energy Group	Multiple Sellers	Texas and Louisiana assets	\$100	n.a.	n.a.	n.a.
05-Sep-18	Equinor	Texegy LLC	60,000 net acres in Austin Chalk	\$75	n.a.	n.a.	\$1,250
06-Aug-18	Mission Creek Resources	Bonanza Creek Energy Inc	11,132 net acres in the Cotton Valley	\$117	\$1.69	\$6,500	\$10,510
26-Jul-18	BP	BHP Billiton	Permian, Eagle Ford, and Haynesville	\$10,500	n.a.	n.a.	n.a.
				<b>Mean</b>	<b>\$2,305</b>	<b>\$1.23</b>	<b>\$4,487</b>
				<b>Median</b>	<b>\$117</b>	<b>\$1.23</b>	<b>\$10,510</b>

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### TRANSACTION PRODUCTION MULTIPLES<sup>(3)</sup>



### TRANSACTION ADJUSTED NET ACRE MULTIPLES<sup>(3,4)</sup>



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- \$/acre multiple not adjusted for value associated with production.
- Red line denotes average since 01-Jan-15. Calculated as the weighted average of each quarter's transactions.
- Production valued at \$3,000/mcfepd in 2014, and \$2,000/mcfepd in 2015, 2016, 2017, and 2018.



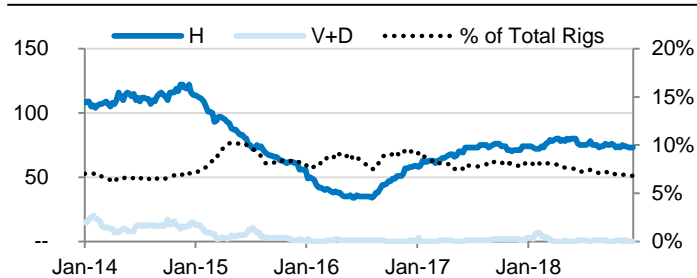


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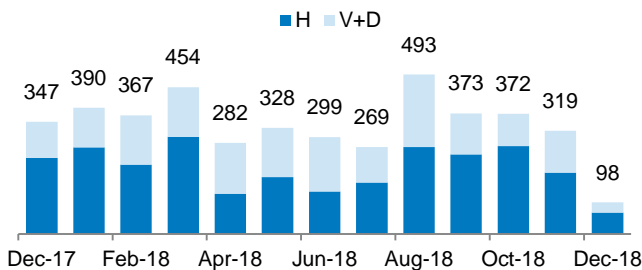
## Appalachia Snapshot

Item	Value	Wkly Change	Last Week
Rig Count	73	█ --	73
Permitting Activity	31	↓ (48)	79

### RIG COUNT

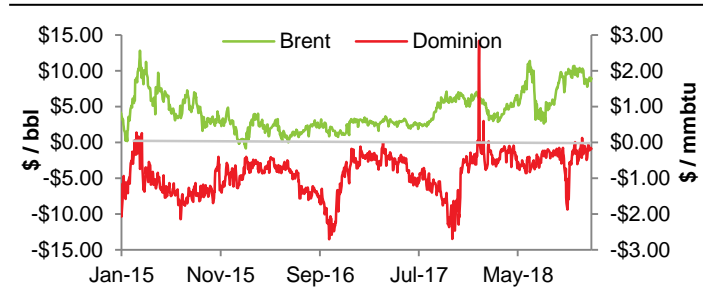


### PERMITTING ACTIVITY BY MONTH

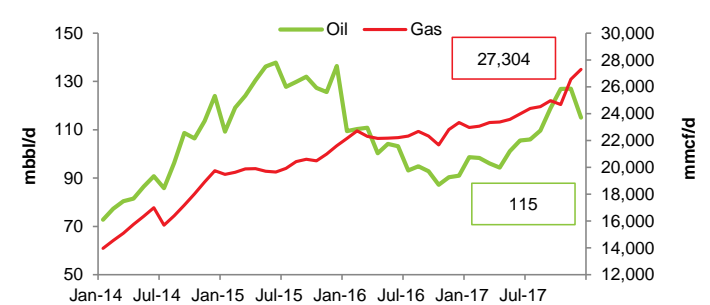


Item	Value	Wkly Change	Last Week
Oil Differential	\$8.87	↑ \$0.30	\$8.57
Gas Differential	(\$0.18)	↓ (\$0.04)	(\$0.15)

### DIFFERENTIALS



### GROSS PRODUCTION

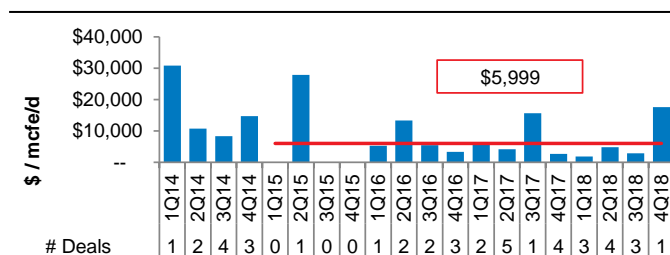


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

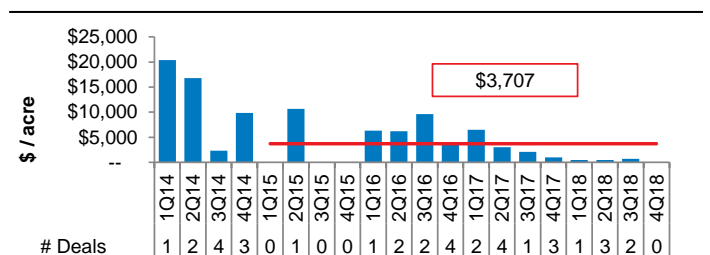
Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(1)</sup> (\$mm)	Proved Multiple (\$/mcf)	Prod. Multiple (\$/mcf/d)	Net Acres (\$/acre) <sup>(2)</sup>
15-Oct-18	Undisclosed Buyer	Range Resources Corp	Overriding royalty interests in Appalachia	\$300	n.a.	\$17,649	n/mf
27-Aug-18	PennEnergy Resources	Rex Energy Corp	141,026 net acres in PA and OH	\$601	\$0.58	\$2,781	\$4,258
26-Jul-18	Encino Acquisition Partners	Chesapeake	938,000 net acres in the Utica	\$1,900	\$0.66	\$2,960	\$2,026
29-Jun-18	Ascent Resources LLC	Utica Minerals; Undisclosed	35,400 acres in the Utica	\$700	n.a.	\$15,217	\$19,774
29-Jun-18	Ascent Resources LLC	CNX Resources; Hess	78,000 acres in the Utica	\$800	n.a.	\$4,762	\$10,256
			<b>Mean</b>	<b>\$860</b>	<b>\$0.62</b>	<b>\$8,674</b>	<b>\$9,079</b>
			<b>Median</b>	<b>\$700</b>	<b>\$0.62</b>	<b>\$4,762</b>	<b>\$7,257</b>

Blue = BMO provided transaction advisory services    Green = BMO provided acquisition financing or related services  
Purple = BMO provided both transaction advisory services and acquisition financing or related services

### TRANSACTION PRODUCTION MULTIPLES<sup>(3)</sup>



### TRANSACTION ADJUSTED NET ACRE MULTIPLES<sup>(3,4)</sup>



Source: BMO Transaction Database, Baker Hughes, BMO Commodity Products Group, Bloomberg, Drilling Info, PLS

Note: Current quarter's data is through the week covered by this issue.

- Represents total enterprise value. Excludes transactions with deal value <\$20 million.
- \$/acre multiple not adjusted for value associated with production.
- Red line denotes average since 01-Jan-15. Calculated as the weighted average of each quarter's transactions.
- Production valued at \$3,000/mcfepd in 2014, and \$2,000/mcfepd in 2015, 2016, 2017, and 2018.



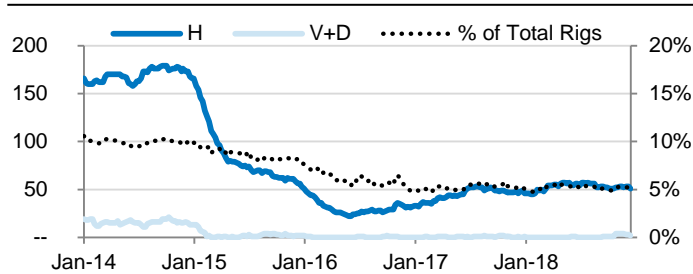
December 17, 2018

## Bakken Snapshot

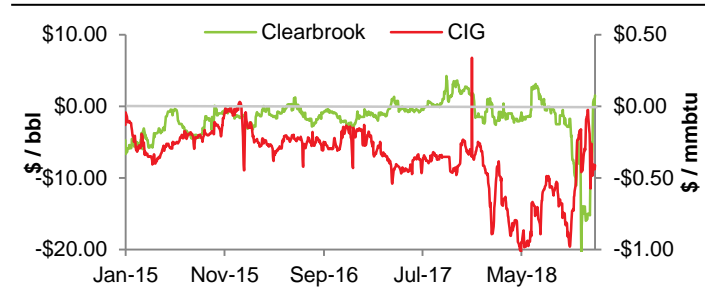
Item	Value	Wkly Change	Last Week
Rig Count	53	↓ (3)	56
Permitting Activity	16	↓ (3)	19

Item	Value	Wkly Change	Last Week
Oil Differential	\$1.50	↑ \$3.50	(\$2.00)
Gas Differential	(\$0.41)	↑ \$0.06	(\$0.47)

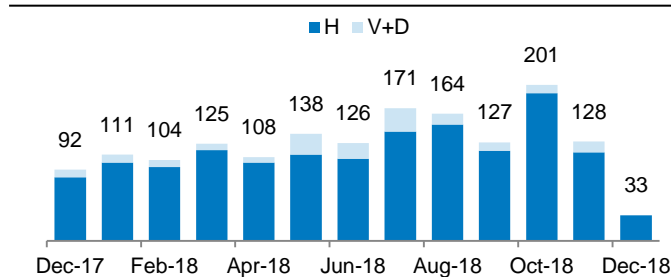
### RIG COUNT



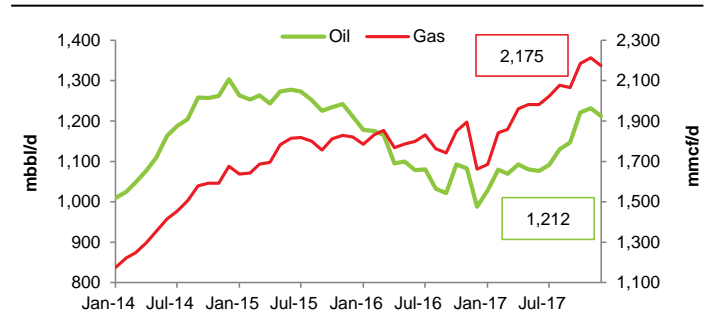
### DIFFERENTIALS



### PERMITTING ACTIVITY BY MONTH



### GROSS PRODUCTION

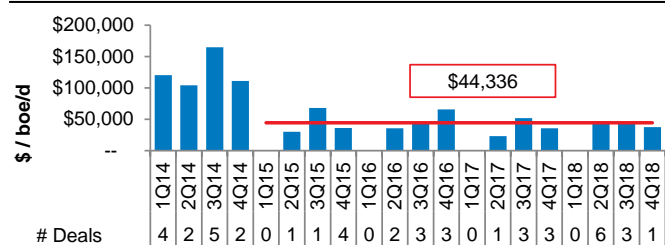


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

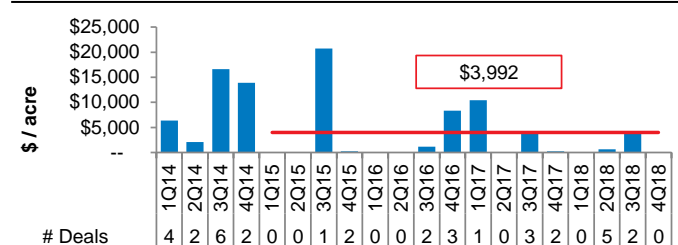
Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(1)</sup> (\$mm)	Proved Multiple (\$/boe)	Prod. Multiple (\$/boe/d)	Net Acres (\$/acre) <sup>(2)</sup>
07-Nov-18	Vantage Energy Acq. Corp	QEP Resources Inc	102,800 net acres in Williston Basin	\$1,725	n.a.	\$37,500	\$16,780
31-Jul-18	Northern Oil and Gas	W Energy Partners	10,600 net acres in Williston Basin	\$288	n.a.	\$42,708	\$27,196
18-Jul-18	Northern Oil and Gas	Pivotal Petroleum Partners LP	Producing assets in Williston Basin	\$152	n.a.	\$37,032	n.a.
12-Jul-18	PetroShale Inc	Slawson Exploration Co	1,981 net acres in Williston Basin	\$55	\$6.04	\$100,000	\$27,764
06-Jul-18	Energy Resources 12 LP	Bruin E&P Partners LLC	2.8% non-operated WI in Bakken assets	\$83	n.a.	n.a.	n.a.
			<b>Mean</b>	<b>\$461</b>	<b>\$6.04</b>	<b>\$54,310</b>	<b>\$23,913</b>
			<b>Median</b>	<b>\$152</b>	<b>\$6.04</b>	<b>\$40,104</b>	<b>\$27,196</b>

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Purple = BMO provided both transaction advisory services and acquisition financing or related services

### TRANSACTION PRODUCTION MULTIPLES<sup>(3)</sup>



### TRANSACTION ADJUSTED NET ACRE MULTIPLES<sup>(3,4)</sup>



Source: BMO Transaction Database, Baker Hughes, BMO Commodity Products Group, Bloomberg, Drilling Info, PLS

Note: Current quarter's data is through the week covered by this issue.

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- Production valued at \$45,000/boepd in 2014, \$30,000/boepd in 2015, \$35,000/boepd in 2016 & 2017, and \$40,000/boepd in 2018.

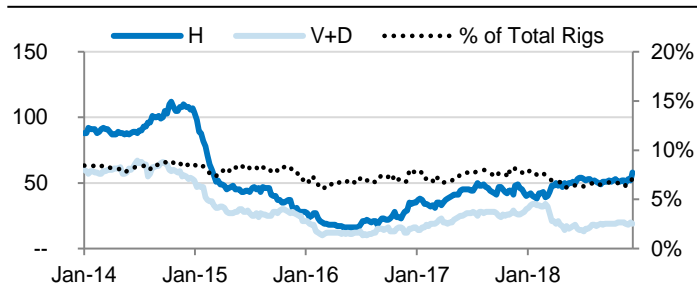


December 17, 2018

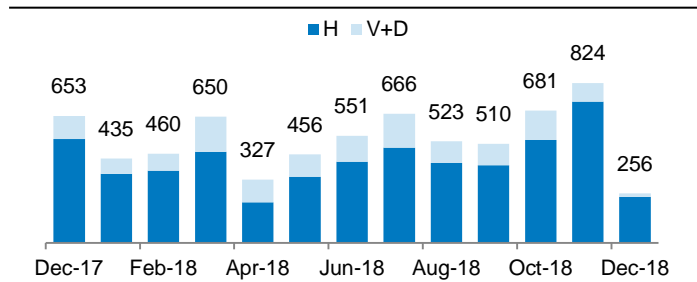
## Rockies (excl. Bakken) Snapshot

Item	Value	Wkly Change	Last Week
Rig Count	77	↑	72
Permitting Activity	148	↓	184

### RIG COUNT

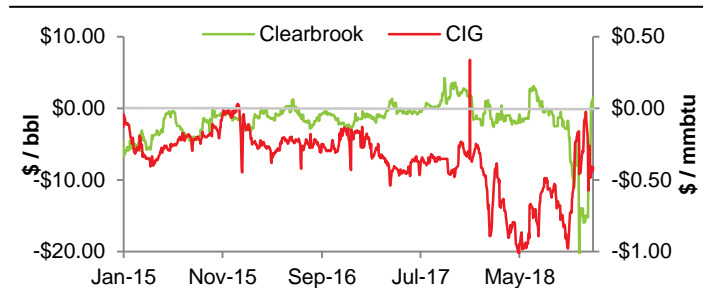


### PERMITTING ACTIVITY BY MONTH

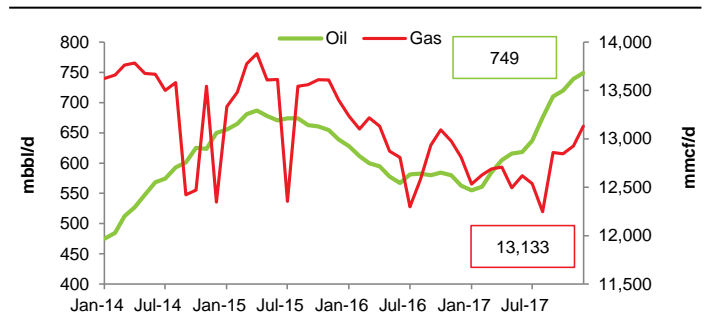


Item	Value	Wkly Change	Last Week
Oil Differential	\$1.50	↑	(\$2.00)
Gas Differential	(\$0.41)	↑	(\$0.47)

### DIFFERENTIALS



### GROSS PRODUCTION

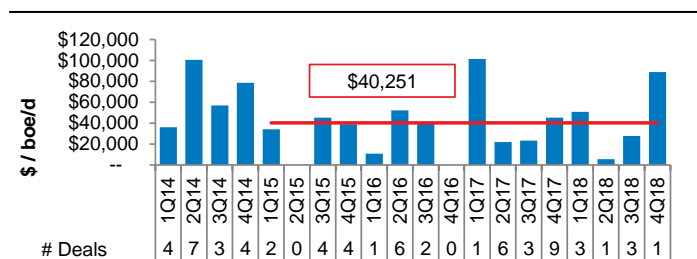


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

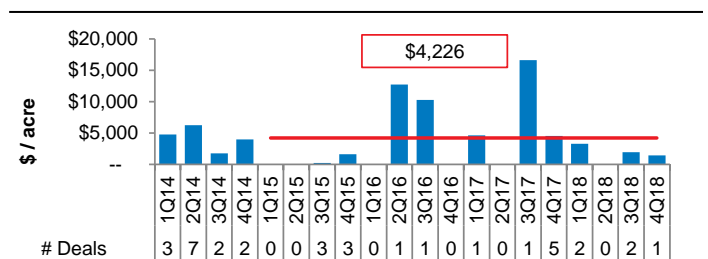
Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(1)</sup>	Proved Multiple	Prod. Multiple	Net Acres	
				(\$mm)	(\$/boe)	(\$/boe/d)	(\$/acre) <sup>(2)</sup>	
01-Oct-18	DJR Energy LLC	EnCana	182,000 net acres in San Juan Basin	\$480	n.a.	\$88,889	\$2,637	
28-Aug-18	Vermilion Energy Inc	Massif Oil & Gas LLC	55,000 acres in Powder River Basin	\$150	n.a.	\$56,604	\$2,727	
28-Aug-18	Rebellion Energy II LLC	Liberty Resources II LLC	19,000 net acres in Powder River Basin	\$100	n.a.	n.a.	\$5,263	
09-Aug-18	Undisclosed Buyer	Ultra Petroleum	~8,000 net acres in the Uinta	\$75	n.a.	\$37,500	\$9,375	
10-Jul-18	Middle Fork Energy Part.	QEP Resources Inc	~230,000 net acres in the Uinta	\$155	\$1.54	\$17,222	\$674	
				<b>Mean</b>	<b>\$192</b>	<b>\$1.54</b>	<b>\$50,054</b>	<b>\$4,135</b>
				<b>Median</b>	<b>\$150</b>	<b>\$1.54</b>	<b>\$47,052</b>	<b>\$2,727</b>

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Purple = BMO provided both transaction advisory services and acquisition financing or related services

### TRANSACTION PRODUCTION MULTIPLES<sup>(3)</sup>



### TRANSACTION ADJUSTED NET ACRE MULTIPLES<sup>(3,4)</sup>



Source: BMO Transaction Database, Baker Hughes, BMO Commodity Products Group, Bloomberg, Drilling Info, PLS

Note: Current quarter's data is through the week covered by this issue.

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- Production valued at \$45,000/boepd in 2014, \$30,000/boepd in 2015, \$35,000/boepd in 2016 & 2017, and \$40,000/boepd in 2018.

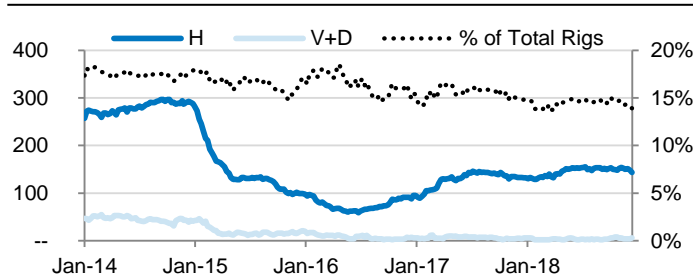


December 17, 2018

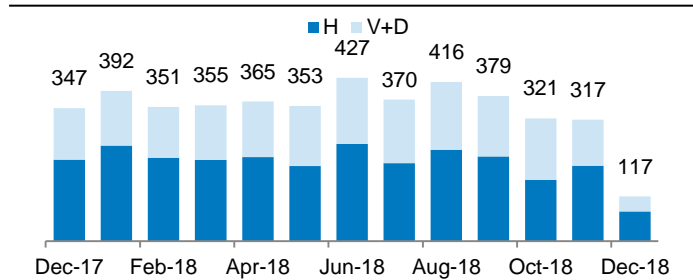
## Mid-Continent Snapshot

Item	Value	Wkly Change	Last Week
Rig Count	150	↓ (2)	152
Permitting Activity	53	↓ (27)	80

### RIG COUNT

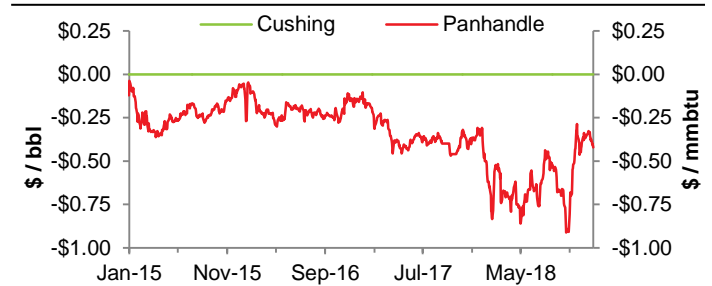


### PERMITTING ACTIVITY BY MONTH

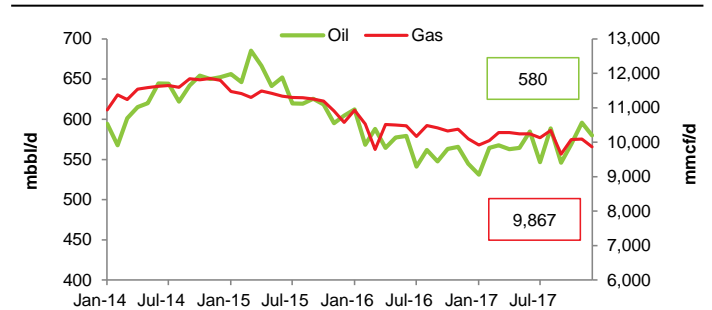


Item	Value	Wkly Change	Last Week
Oil Differential	--	█	--
Gas Differential	(\$0.42)	↓ (\$0.04)	(\$0.38)

### DIFFERENTIALS



### GROSS PRODUCTION

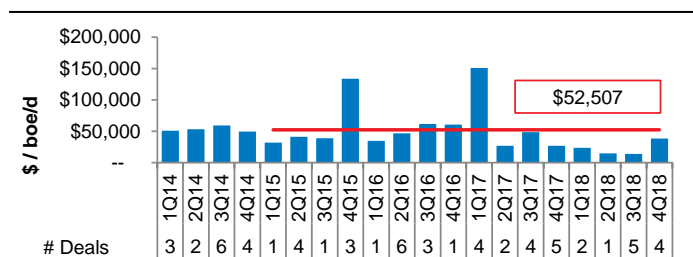


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

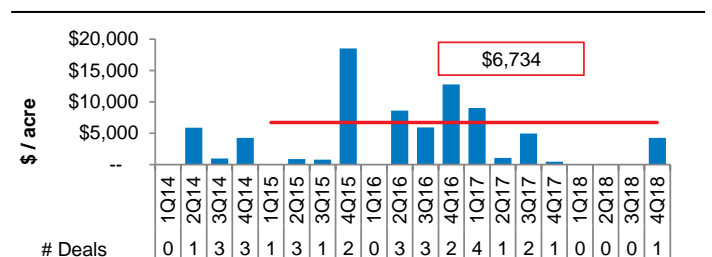
Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(1)</sup> (\$mm)	Proved Multiple (\$/boe)	Prod. Multiple (\$/boe/d)	Net Acres (\$/acre) <sup>(2)</sup>	
11-Dec-18	Undisclosed Buyer	Riviera Resources Inc	37,000 net acres in the Arkoma Basin	\$68	n.a.	\$17,000	1,838	
02-Nov-18	SandRidge Energy	Undisclosed Seller	Mississippi Lime and NW STACK assets	\$25	n.a.	\$6,649	n.a.	
31-Oct-18	Casillas Petroleum Corp	Sheridan Production Partners	29,600 net acres in SCOOP assets	\$260	n.a.	\$78,078	\$8,784	
04-Sep-18	Flywheel Energy LLC	Southwestern Energy	915,000 net acres in Fayetteville Shale	\$1,865	\$3.04	\$15,629	\$2,038	
06-Aug-18	Franco Nevada Corp	Continental Resources Inc	Mineral rights JV in the SCOOP/STACK	\$220	n.a.	n.a.	nmf	
				<b>Mean</b>	<b>\$488</b>	<b>\$3.04</b>	<b>\$29,339</b>	<b>\$4,220</b>
				<b>Median</b>	<b>\$220</b>	<b>\$3.04</b>	<b>\$16,314</b>	<b>\$2,038</b>

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Purple = BMO provided both transaction advisory services and acquisition financing or related services

### TRANSACTION PRODUCTION MULTIPLES<sup>(3)</sup>



### TRANSACTION ADJUSTED NET ACRE MULTIPLES<sup>(3,4)</sup>



Source: BMO Transaction Database, Baker Hughes, BMO Commodity Products Group, Bloomberg, Drilling Info, PLS

Note: Current quarter's data is through the week covered by this issue.

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- Production valued at \$45,000/boepd in 2014, \$30,000/boepd in 2015, \$35,000/boepd in 2016 & 2017, and \$40,000/boepd in 2018.



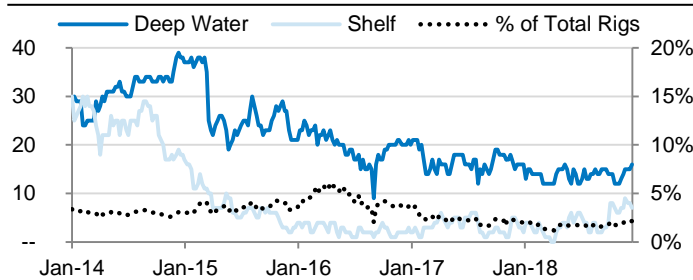
December 17, 2018

## Gulf of Mexico Snapshot

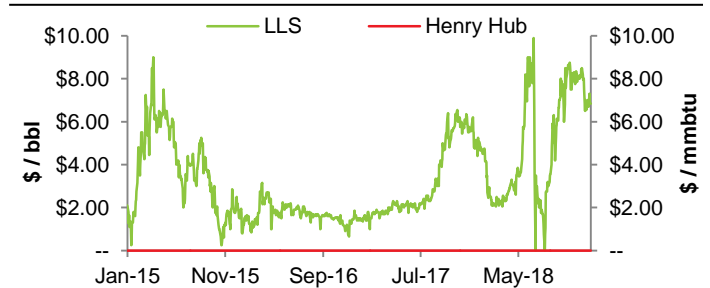
Item	Value	Wkly Change	Last Week
Rig Count	23	█ --	23
Permitting Activity	6	█ ↓ (4)	10

Item	Value	Wkly Change	Last Week
Oil Differential	\$6.85	█ ↑ \$0.05	\$6.80
Gas Differential	--	█ --	--

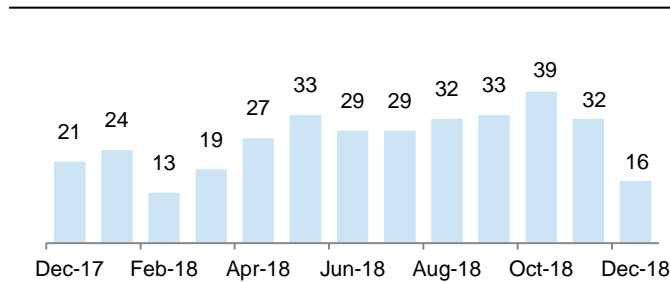
### RIG COUNT



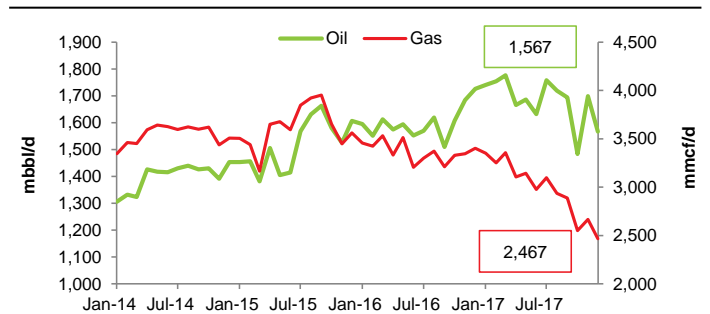
### DIFFERENTIALS



### PERMITTING ACTIVITY BY MONTH<sup>(1)</sup>



### GROSS PRODUCTION

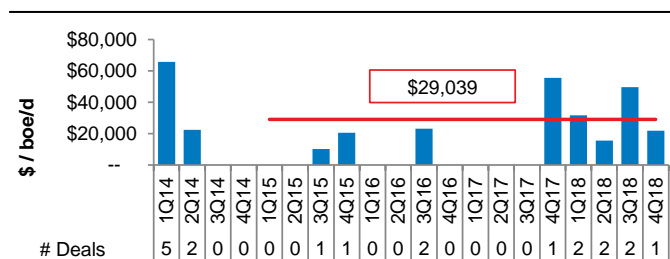


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

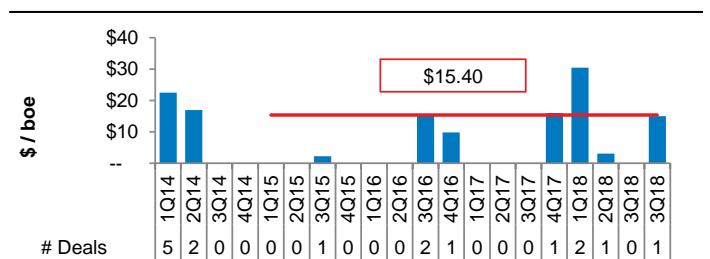
Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(2)</sup> (\$mm)	Proved Multiple (\$/boe)	Prod. Multiple (\$/boe/d)	Net Acres (\$/acre) <sup>(3)</sup>
10-Oct-18	Murphy	Petrobras	Gulf of Mexico joint venture	\$900	\$15.00	\$21,951	n.a.
04-Sep-18	Talos Energy Inc	Whistler Energy II LLC	Leases in Green Canyon federal waters	\$91	n.a.	\$60,667	n.a.
27-Apr-18	Stone Energy	Shell; ExxonMobil; Anadarko	GOM Ram Powell assets	\$234	n.a.	\$38,361	n.a.
28-Mar-18	W&T Offshore	Cobalt International Energy	9.375% non-op WI in the Heidelberg unit	\$31	\$23.92	\$9,345	n.a.
12-Mar-18	Total	Cobalt International Energy	Non-op interest in 13 blocks	\$25	n.a.	n.a.	n.a.
				<b>Mean</b>	<b>\$256</b>	<b>\$19.46</b>	<b>\$32,581</b>
				<b>Median</b>	<b>\$91</b>	<b>\$19.46</b>	<b>\$30,156</b>

Blue = BMO provided transaction advisory services    Green = BMO provided acquisition financing or related services  
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### TRANSACTION PRODUCTION MULTIPLES<sup>(4)</sup>



### TRANSACTION PROVED RESERVE MULTIPLES<sup>(4)</sup>



Source: BMO Transaction Database, Baker Hughes, BMO Commodity Products Group, Bloomberg, Drilling Info, PLS

Note: Current quarter's data is through the week covered by this issue.

- Permits include directional and unidentified drilling permits.
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- Red line denotes average since 01-Jan-15. Calculated as the weighted average of each quarter's transactions.



December 17, 2018

[Click event to open](#)

## Upcoming Industry Events

### January 2019

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<a href="#">Jan 15</a>	<a href="#">Houston Producers Forum Luncheon</a>
<a href="#">Jan 18</a>	<a href="#">ADAM-Houston Monthly Luncheon</a>
<a href="#">Jan 24</a>	<a href="#">IPAA Private Capital Conference</a>
<a href="#">Jan 31</a>	<a href="#">SPE A&amp;D Symposium</a>

### February 2019

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<a href="#">Feb 5-7</a>	<a href="#">SPE Hydraulic Fracturing Technology Conference</a>
<a href="#">Feb 11-15</a>	<a href="#">NAPE Summit Week</a>
<a href="#">Feb 15</a>	<a href="#">ADAM-Houston Monthly Luncheon</a>
<a href="#">Feb 19</a>	<a href="#">Houston Producers Forum Luncheon</a>
<a href="#">Feb 19-20</a>	<a href="#">DUG Haynesville</a>

### March 2019

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<a href="#">Mar 5-7</a>	<a href="#">IADC/SPE Drilling Conference</a>
<a href="#">Mar 15</a>	<a href="#">ADAM-Houston Monthly Luncheon</a>
<a href="#">Mar 19</a>	<a href="#">Houston Producers Forum Luncheon</a>
<a href="#">Mar 26-28</a>	<a href="#">International Petroleum Technology Conference</a>

### April 2019

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<a href="#">Apr 8-10</a>	<a href="#">IPAA Oil &amp; Gas Investment Symposium</a>
<a href="#">Apr 15-17</a>	<a href="#">DUG Permian</a>
<a href="#">Apr 16</a>	<a href="#">Houston Producers Forum Luncheon</a>
<a href="#">Apr 19</a>	<a href="#">ADAM-Houston Monthly Luncheon</a>

### May 2019

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<a href="#">May 6-9</a>	<a href="#">Offshore Technology Conference</a>
<a href="#">May 10</a>	<a href="#">Petroleum Resources Economics Conference</a>
<a href="#">May 13-17</a>	<a href="#">SPE Electric Submersible Pumps Symposium</a>
<a href="#">May 14-15</a>	<a href="#">DUG Rockies</a>
<a href="#">May 14</a>	<a href="#">Houston Producers Forum Luncheon</a>
<a href="#">May 16</a>	<a href="#">IADC Drilling Onshore Conference &amp; Exhibition</a>
<a href="#">May 17</a>	<a href="#">ADAM-Houston Monthly Luncheon</a>

### June 2019

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<a href="#">Jun 5-6</a>	<a href="#">Midstream Texas Conference &amp; Exhibition</a>
<a href="#">Jun 18</a>	<a href="#">Houston Producers Forum Luncheon</a>
<a href="#">Jun 18-20</a>	<a href="#">DUG East</a>
<a href="#">Jun 19-20</a>	<a href="#">IADC World Drilling Conference &amp; Exhibition</a>
<a href="#">Jun 21</a>	<a href="#">ADAM-Houston Monthly Luncheon</a>
<a href="#">Jun 24-26</a>	<a href="#">IPAA Midyear Meeting</a>

### July 2019

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<a href="#">Jul 16</a>	<a href="#">Houston Producers Forum Luncheon</a>
<a href="#">Jul 19</a>	<a href="#">ADAM-Houston Monthly Luncheon</a>

### August 2019

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<a href="#">Aug 16</a>	<a href="#">ADAM-Houston Monthly Luncheon</a>
<a href="#">Aug 20</a>	<a href="#">IPAA Oil &amp; Gas Overview Course</a>
<a href="#">Aug 20</a>	<a href="#">Houston Producers Forum Luncheon</a>
<a href="#">Aug 21-22</a>	<a href="#">Summer NAPE</a>

### September 2019

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<a href="#">Sep 17</a>	<a href="#">Houston Producers Forum Luncheon</a>
<a href="#">Sep 20</a>	<a href="#">ADAM-Houston Monthly Luncheon</a>
<a href="#">Sep 24-26</a>	<a href="#">DUG Eagle Ford</a>
<a href="#">Sep 30-Oct 2</a>	<a href="#">SPE Annual Technical Conference and Exhibition</a>

### October 2019

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<a href="#">Oct 9</a>	<a href="#">IPAA Leaders in Industry Luncheon</a>
<a href="#">Oct 15</a>	<a href="#">Houston Producers Forum Luncheon</a>
<a href="#">Oct 18</a>	<a href="#">ADAM-Houston Monthly Luncheon</a>
<a href="#">Oct 22-23</a>	<a href="#">A&amp;D Strategies and Opportunities Conference</a>

### November 2019

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<a href="#">Nov 15</a>	<a href="#">ADAM-Houston Monthly Luncheon</a>
<a href="#">Nov 19</a>	<a href="#">IPAA Oil &amp; Gas for Newcomers</a>
<a href="#">Nov 19</a>	<a href="#">Houston Producers Forum Luncheon</a>
<a href="#">Nov 19-21</a>	<a href="#">DUG Midcontinent</a>

### December 2019

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<a href="#">Dec 17</a>	<a href="#">Houston Producers Forum Luncheon</a>
<a href="#">Dec 20</a>	<a href="#">ADAM-Houston Monthly Luncheon</a>



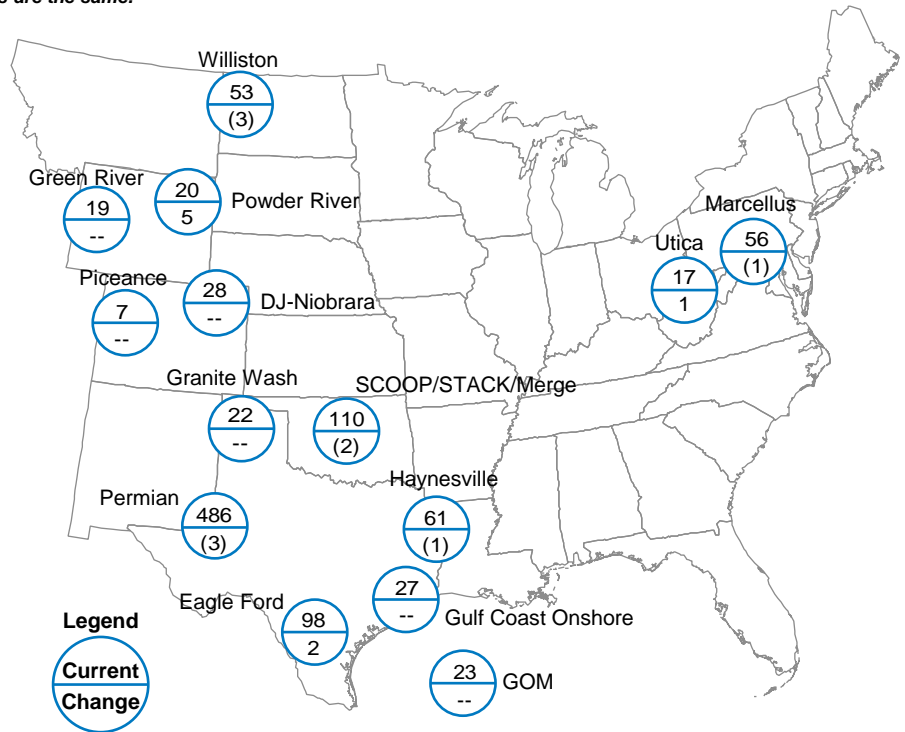
December 17, 2018

## Rig Count Summary

BMO uses updated basin outlines, and the resulting rig counts, to more accurately represent current basin knowledge. The data below reflect these changes and is different than those shown by Baker Hughes. The totals are the same.

	This Week	Change	Last Week	Last Year
<b>Total Rigs</b>	<b>1,071</b>	<b>(4)</b>	<b>1,075</b>	<b>930</b>
Oil	873	(4)	877	747
Gas	198	--	198	183
Miscellaneous	--	--	--	--
Directional	73	1	72	69
Horizontal	927	(6)	933	801
Vertical	71	1	70	60

Basin	This Week	Change	Last Week	Last Year
Permian	486	(3)	489	397
SCOOP/STACK/Merge	110	(2)	112	98
Granite Wash	22	--	22	19
Eagle Ford	98	2	96	83
Haynesville	61	(1)	62	59
Marcellus	56	(1)	57	48
Utica	17	1	16	27
Williston	53	(3)	56	48
DJ-Niobrara	28	--	28	23
Green River	19	--	19	24
Powder River	20	5	15	12
Piceance	7	--	7	7
Gulf Coast Onshore	27	--	27	18
GOM	23	--	23	19
Alaska	6	(1)	7	5
Other	38	(1)	39	43
Mid-Con	18	--	18	20
Rockies	3	--	3	6
Western	15	--	15	14
Eastern	2	(1)	3	3



## Contacts

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**Aaron Moeller**  
Analyst

**Jennifer Boudreaux**  
Analyst

**Chelsea Neville**  
Transactions Coordinator

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Source of rig count stats: Baker Hughes