



December 10, 2018

Covering the Week of November 30 to December 6, 2018

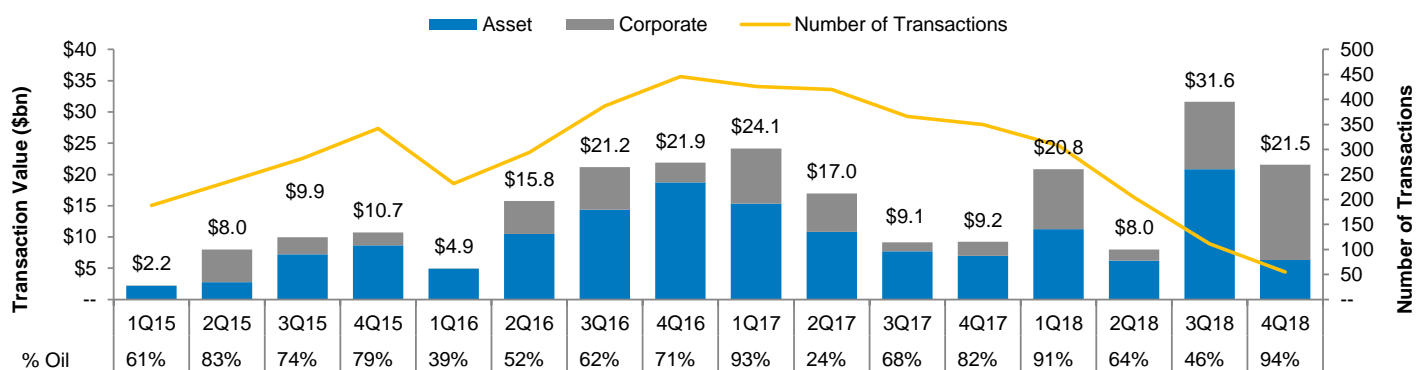
### Week in Review

- OPEC+ reached a modest deal to cut production, stabilizing oil prices
- Berry Petroleum divested non-core East Texas natural gas assets
- Eagle Resources Corporation entered into a joint venture agreement with Freedom Energy Resources to explore and develop conventional oil drilling prospects in the Lodgepole Reef Formation in North Dakota
- The December issue of BMO Calgary's A&D (Canadian) Market Monitor went live last week – read more [here](#)
- 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)	\$51.49	\$0.04	0.1%	↑
Prompt Gas Price (\$/mmbtu)	\$4.33	(\$0.32)	(6.9%)	↓
Wkly Trans. Value (\$mm)	\$14	\$14	nmf	↑
Wkly Trans. Count	5	4	nmf	↑
US Rig Count	1,075	(1)	(0.1%)	↓
US Oil Prod'n (mmbbl/d)	11.7	--	--	—
US Gas Prod'n (bcf/d) <sup>(1)</sup>	104.5	1.9	1.9%	↑
US Oil Storage (mmbbl)	443.2	(7.3)	(1.6%)	↓
US Gas Storage (tcf)	3.0	(0.1)	(2.1%)	↓

### Quarterly Deal Activity



### Commodities

- Oil ended last week up as uncertainty surrounded the level of OPEC production cuts. Russian and Saudi energy ministers met at the G20 summit, and the OPEC Economic Commission Board stated that output needed to be trimmed. Alberta announced that it will cut oil production next year, which caused WCS pricing to rally. A tariff truce was announced between China and the United States. Enbridge had to shut down pipelines after a power outage in Saskatchewan. U.S. crude oil inventories were significantly lower. The near-term contract closed up \$0.04, or 0.1%, at \$51.49
- Natural gas ended last week down despite a colder weather forecast. The near-term contract closed down \$0.32, or 6.9%, at \$4.33

### Equity Markets

- S&P E&P<sup>(2)</sup> underperformed last week (4.7)% vs. SPX<sup>(2)</sup> (1.5)%
- The major U.S. equity indexes finished lower last week. Sector performance was mixed with consumer discretionary, consumer staples, financials, health care, industrials, materials, and tech all finishing lower. Real estate finished up 2.8%

### Debt Markets

- No issuers priced this week
- U.S. high yield funds reported an outflow of \$829 million
- ETFs reported an outflow of \$218 million, while mutual funds reported an outflow of \$611 million
- High yield index yield was 7.38%; high yield energy index yield was 8.63%

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.



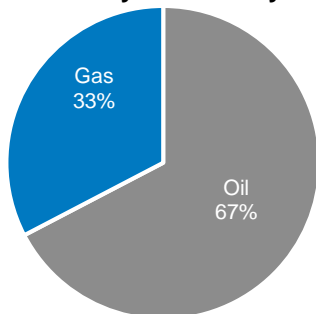
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## The 10 Most Recent Asset Transactions Over \$20 Million

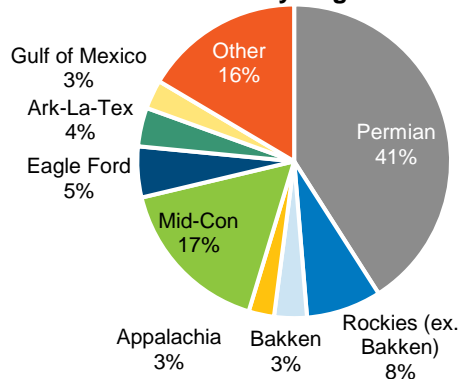
Ann'd Date	Buyer	Seller	Area	Asset Description	Value <sup>(1)</sup> (\$mm)	Proved Multiple (\$/boe)	Prod. Multiple (\$/boe/d)	Net Acres (\$/acre)
21-Nov-18	Kimbell Royalty Partners	Undisclosed Seller	Multi-Region	16,700 net royalty acres	\$108	n.a.	\$90,588	nrf
19-Nov-18	Lonestar Resources Inc	Sabine 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
31-Oct-18	Undisclosed Buyer	New pek	Other	725 net acres in Live Oak Co., TX	\$33	n.a.	\$42,581	\$45,517

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

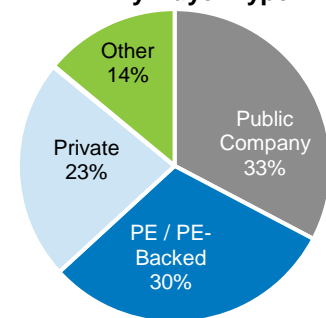
LTM By Commodity <sup>(2)</sup>



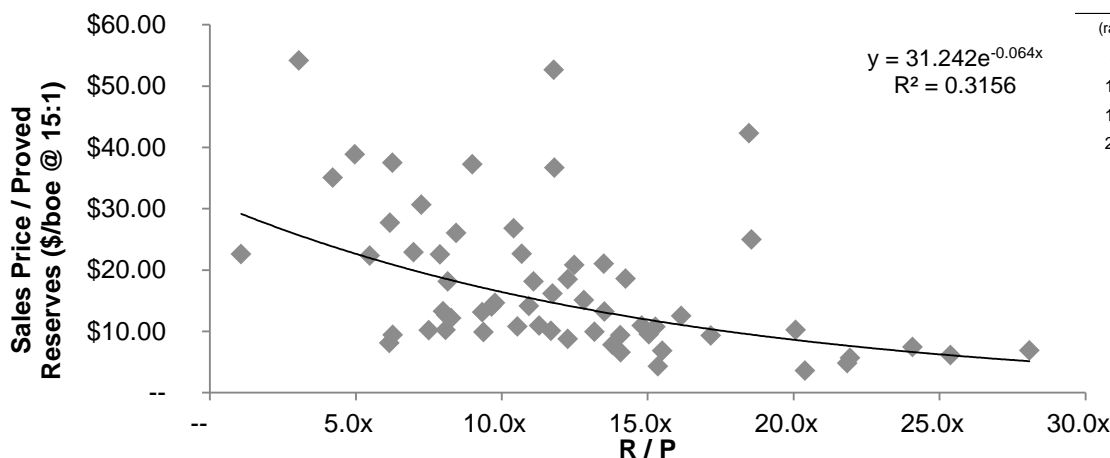
LTM By Region <sup>(2)</sup>



LTM By Buyer Type <sup>(2)</sup>



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



R / P	Sales Value / Proved Reserves (15:1)	
	(\$ / boe)	(\$ / mcf)
(ratio)		
8x	\$18.68	\$1.25
10x	\$16.42	\$1.09
15x	\$11.91	\$0.79
20x	\$8.63	\$0.58

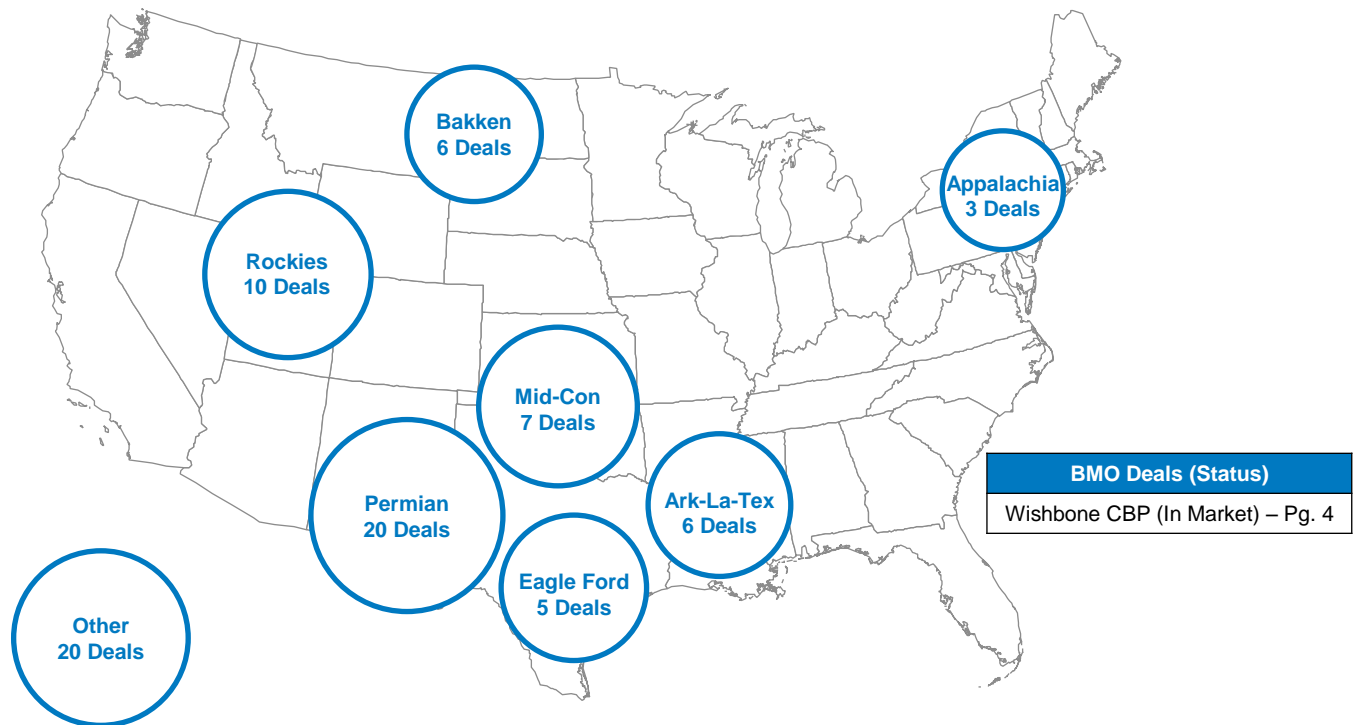
2 Source: BMO Transaction Database, Baker Hughes, BMO Commodity Products Group, Bloomberg, PLS

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

- [Berry Petroleum Sells Non-Core East Texas Natural Gas Assets](#)
- [Eagle Resources, Freedom Energy Have Entered into North Dakota Drilling JV](#)

## Industry Headlines

- [Oil's Price Slide Threatens U.S. Shale Production](#)
- [The U.S. Pipeline Industry Is Booming](#)
- [Permian Basin Gas Flaring Has Nearly Doubled in a Year](#)
- [Meet the New Permian, It's Double the Size of the Old One](#)
- [U.S. Becomes Net Oil Exporter for First Time in 75 Years](#)
- [OPEC+ Reaches Modest Deal to Cut Production, Stabilize Oil Prices](#)
- [Mexico's New President Throws Down Gauntlet to Oil Majors](#)

(Click headline to link to the full article)



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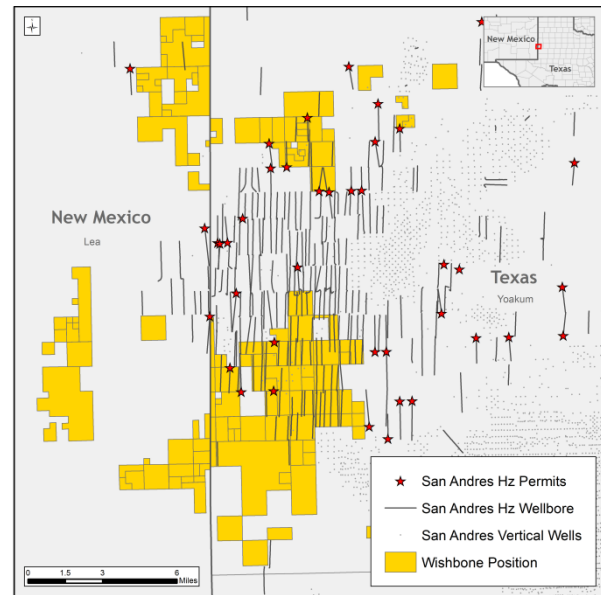
## Currently on the Market from CIBC and BMO: Wishbone CBP Divestiture

### ASSET OVERVIEW

- Opportunity to acquire ~37,206 net contiguous acres in the core of the San Andres horizontal play in Northern Central Basin Platform
  - Operated average WI/NRI of 77%/58%
  - Approaching 50% HBP with minimal annual drilling commitments
  - 96% operated by production
- Net production of ~8,100 boe/d (November 2018E)
  - 80% oil, 13% NGL
- 100%+ ROR oil play in the highly coveted Permian Basin
  - Future drilling opportunities have reserve models of 385 to 700 Mboe (80% oil)
- Position has largely been de-risked through active development by Wishbone and offset operators
- Extensive inventory of high return drilling remains with over 344 San Andres horizontal drilling locations
  - 5,000' laterals – 323 locations
  - 7,500' laterals – 21 locations
- Controlled surface lands/water infrastructure creates high margins and empowers the buyer to be a play consolidator
- WTS barrels and crude pipeline infrastructure in place with no takeaway issues

### PROCESS OVERVIEW

- VDR available now



### ASSET HIGHLIGHTS

#### Improved Horizontal San Andres Performance

- Highly oil-saturated, oil-wet, dolomite reservoir located in the core area of very active development in the horizontal San Andres play
- Over the last four years, operators have developed a significant understanding of the reservoir and operational characteristics defining the play
- Recent drilling activity has yielded improved well performance
  - Time to peak production is less than 60 days
  - Initial peak 30-day rates of 400-700 bo/d
- Operators continue to commit significant capital to the play with multiple active drilling rigs and 54 horizontal San Andres permits

#### Wishbone's Premier Position

- Contiguous leasehold, adjacent to the prolific Wasson and Brahaney fields offering the best combination of reservoir quality, quantity, and oil saturations in the core of the horizontal San Andres play
- Position has largely been de-risked through active development by Wishbone and offset operators
- Most recent quarter (2Q18) annualized cash flow of \$60 MM can easily support a one rig drilling program
- Acreage is approaching 50% HBP with minimal annual drilling commitments

#### High Return Inventory

- Extensive inventory of high return drilling remains with over 344 San Andres horizontal drilling locations
- Well economics of greater than 100% ROR compete with other top Permian plays
- Future drilling opportunities have reserve models of 385 to 700 Mboe (80% oil)
- Spacing of 4 to 8 wells per section supported by volumetrics with a recovery factor of 12-15% of OOIP; further supported by an independent Von Gonten report
- Stacked potential in San Andres could add additional drilling locations
- Successful step-out completion helps prove play continuity in northern area

#### Integrated Water Infrastructure

- Owned and operated SWD system and fresh water source wells keep operating expenses low and enhance well economics
- Water infrastructure generates additional income
- Infrastructure provides flow assurance for disposal and source water
- 1,385 acres of owned surface acreage allows buyer to expand system
- Ample existing disposal capacity of 178,000 bw/d with excess available for third-party or commercialization

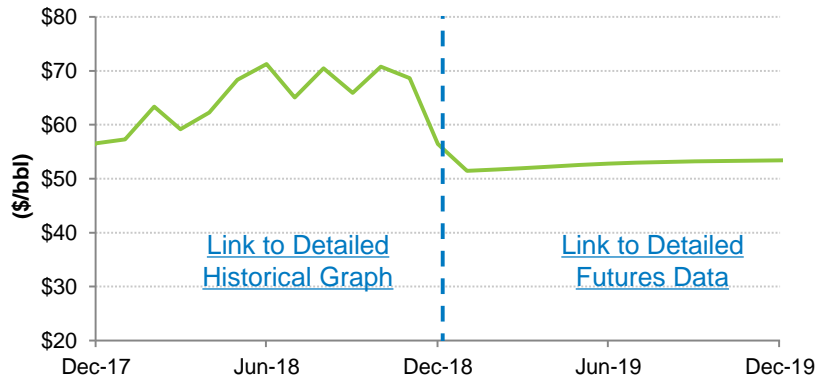
Source: Wishbone CBP Divestiture announcement



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### Commodity Prices

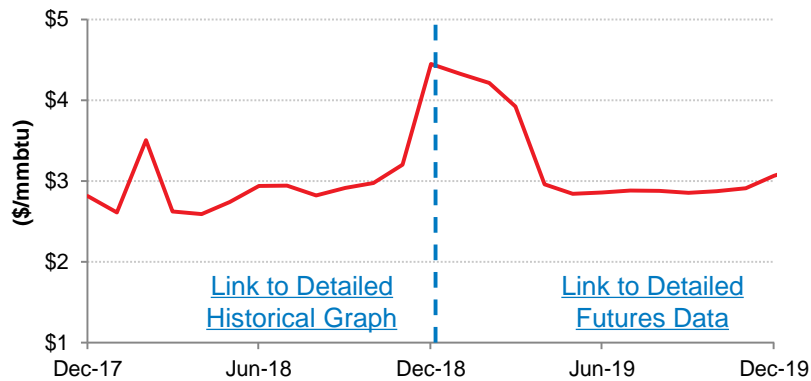
#### WTI OIL (HISTORICAL / FORECAST)



**NYMEX WTI Futures as of 06-Dec-18 Close (\$/bbl)**

Period <sup>(1)</sup>	Current	Last Wk.	6 Mo. Ago	1 Yr. Ago
12 Mo. Strip	\$52.68	\$52.20	\$63.71	\$55.20
2019	\$52.68	\$52.20	\$62.18	\$53.20
2020	\$53.50	\$53.15	\$59.22	\$51.79
2021	\$53.35	\$53.49	\$56.89	\$50.94
2022	\$53.12	\$53.67	\$55.20	\$50.54
2023	\$53.14	\$53.97	\$53.97	\$50.53

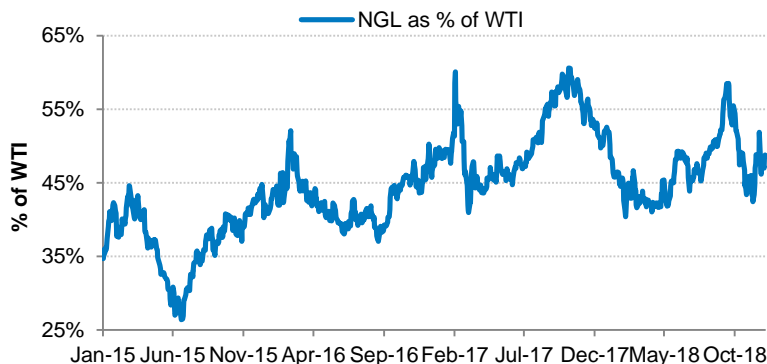
#### HENRY HUB NATURAL GAS (HISTORICAL / FORECAST)



**NYMEX Gas Futures as of 06-Dec-18 Close (\$/mmbtu)**

Period <sup>(1)</sup>	Current	Last Wk.	6 Mo. Ago	1 Yr. Ago
12 Mo. Strip	\$3.22	\$3.24	\$2.89	\$2.91
2019	\$3.22	\$3.22	\$2.78	\$2.84
2020	\$2.69	\$2.66	\$2.69	\$2.81
2021	\$2.64	\$2.64	\$2.66	\$2.83
2022	\$2.81	\$2.81	\$2.81	\$2.98
2023	\$2.81	\$2.81	\$2.81	\$2.98

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



**Historical Prices as of 06-Dec-18 Close (\$/gal)**

NGLs	Current	Last Wk.	6 Mo. Ago	1 Yr. Ago
Ethane	\$0.31	\$0.34	\$0.32	\$0.22
Propane	\$0.72	\$0.69	\$0.87	\$0.98
Butane	\$0.70	\$0.68	\$0.91	\$1.00
Iso-butane	\$0.90	\$0.87	\$1.35	\$1.03
Pentane+	\$1.03	\$0.98	\$1.49	\$1.31

Source: BMO Commodity Products Group, Bloomberg, FactSet

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

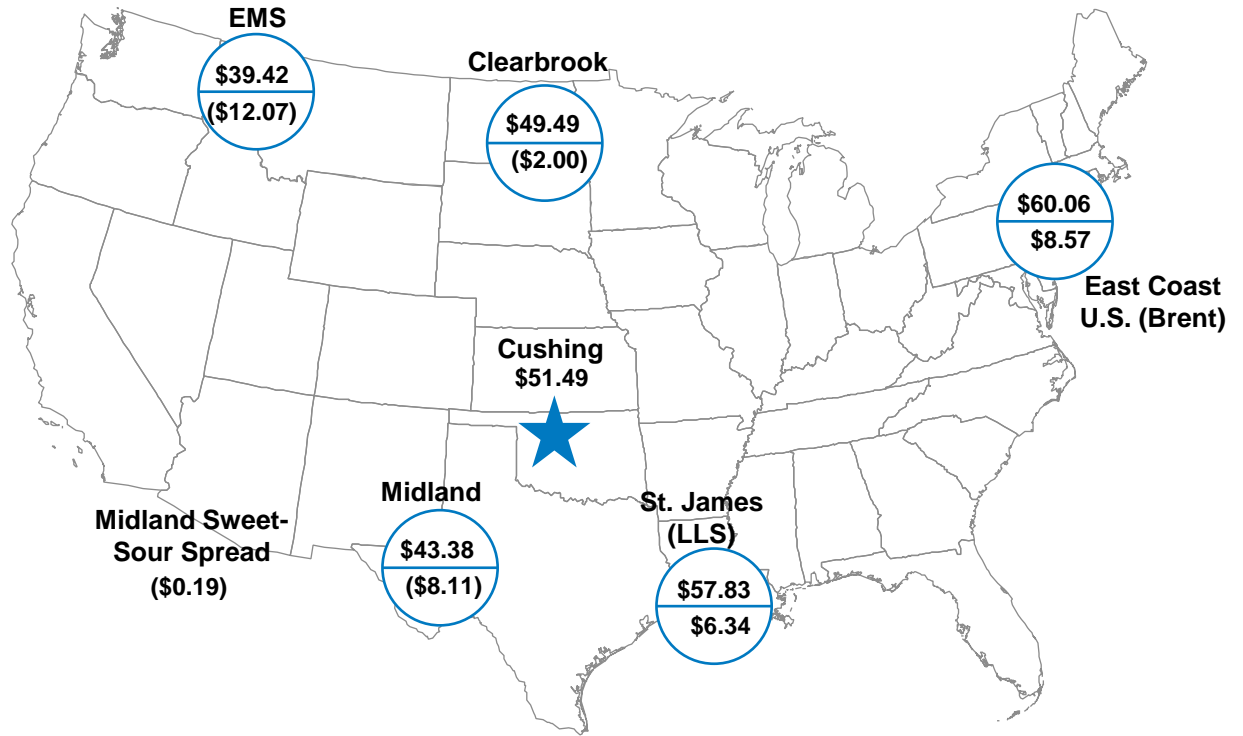


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## Commodity Prices (cont'd)

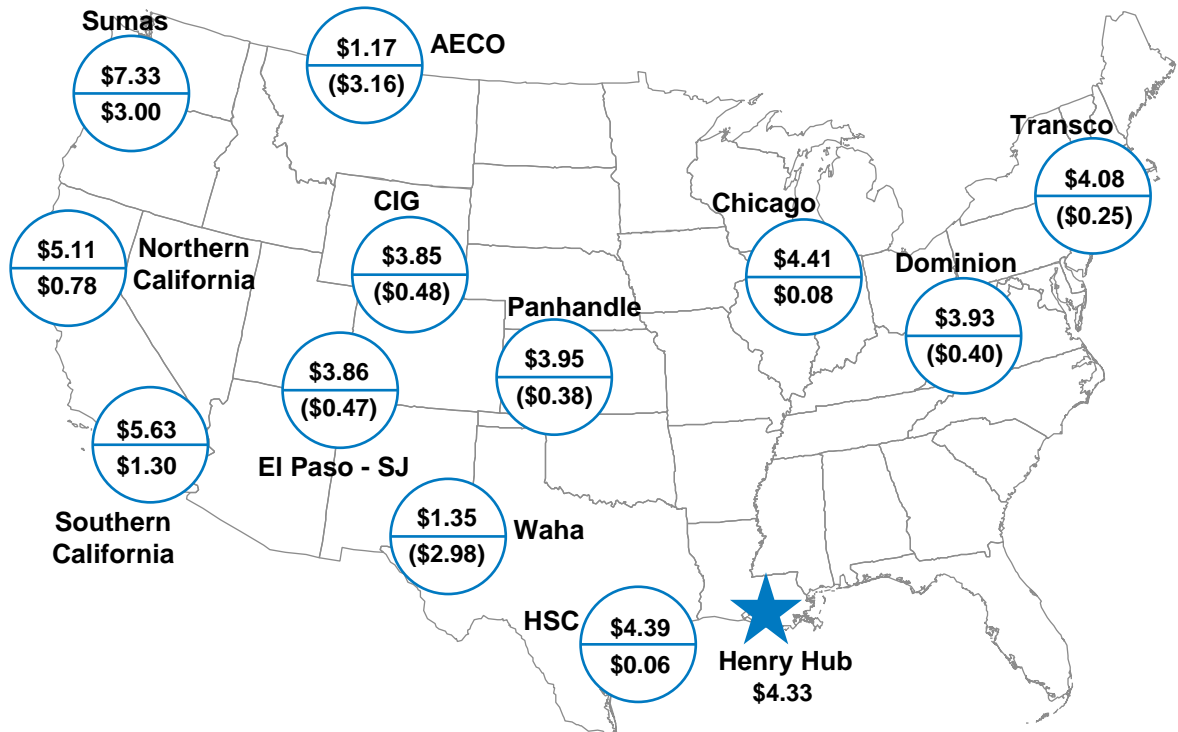
OIL PRICING & DIFFERENTIALS TO CUSHING WTI (\$ / BBL) – AS OF 06-DEC-18

### Legend



NATURAL GAS PRICING & DIFFERENTIALS TO HENRY HUB (\$ / MMBTU) – AS OF 06-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.



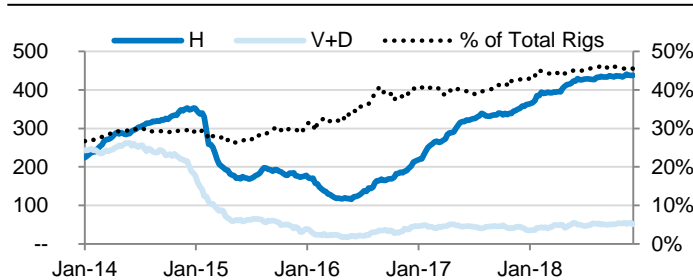


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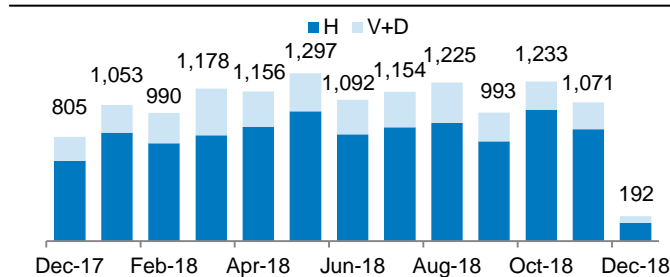
## Permian Snapshot

Item	Value	Wkly Change	Last Week	Item	Value	Wkly Change	Last Week
Rig Count	489	↓	(4)	493	Oil Differential	(\$8.10)	↓ (\$0.50) (\$7.60)
Permitting Activity	305	↑	82	223	Gas Differential	(\$2.93)	↑ \$1.64 (\$4.56)

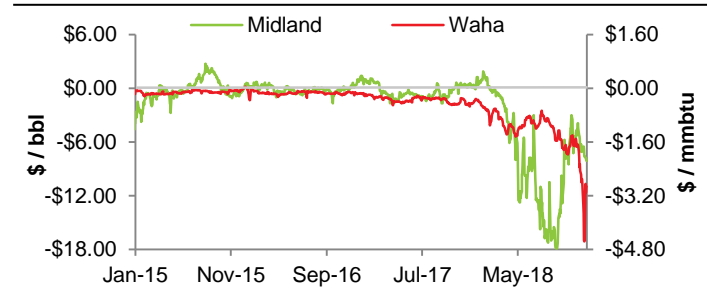
### RIG COUNT



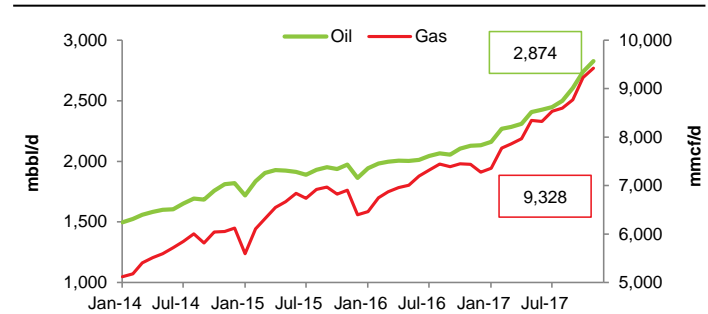
### PERMITTING ACTIVITY BY MONTH



### DIFFERENTIALS



### GROSS PRODUCTION

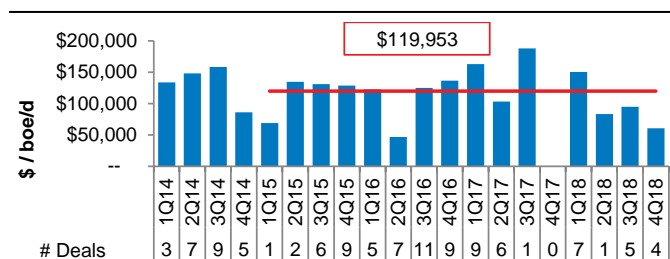


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

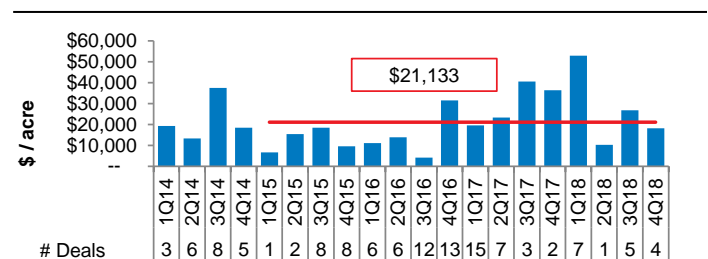
Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(1)</sup> (\$mm)	Proved Multiple (\$/boe)	Prod. Multiple (\$/boe/d)	Net Acres (\$/acre) <sup>(2)</sup>
06-Nov-18	Diamondback Energy	ExL Pet.; EnergyQuest	3,646 net acres in Midland Basin	\$313	n.a.	\$89,286	\$85,710
05-Nov-18	Centennial Resource Dev.	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>

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 10-Jan-15. Calculated as the weighted average of each quarter's transactions.
- 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.



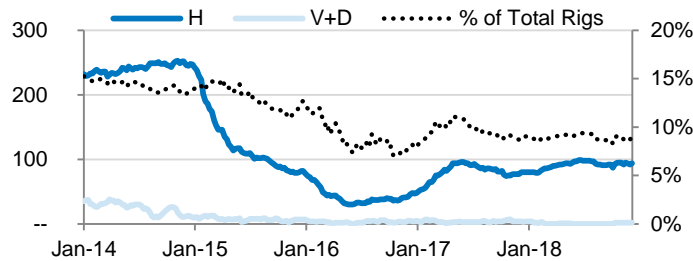
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## Eagle Ford Snapshot

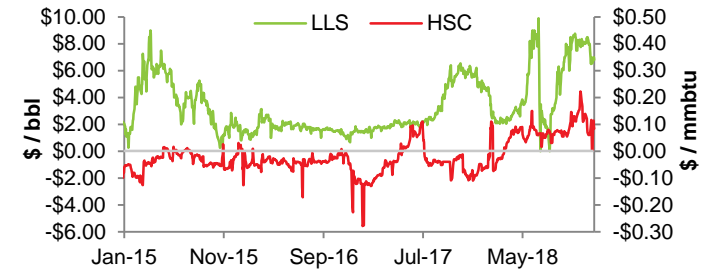
Item	Value	Wkly Change	Last Week
Rig Count	96	↑ 2	94
Permitting Activity	63	↓ (16)	79

Item	Value	Wkly Change	Last Week
Oil Differential	\$6.80	↑ \$0.15	\$6.65
Gas Differential	\$0.08	↑ \$0.08	\$0.00

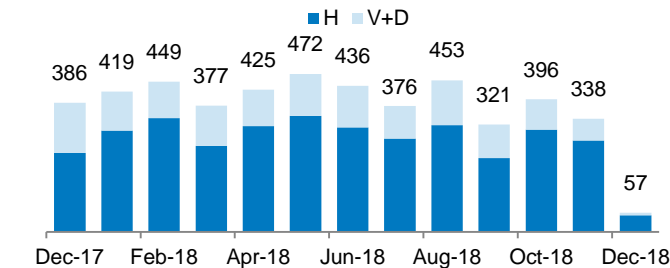
### RIG COUNT



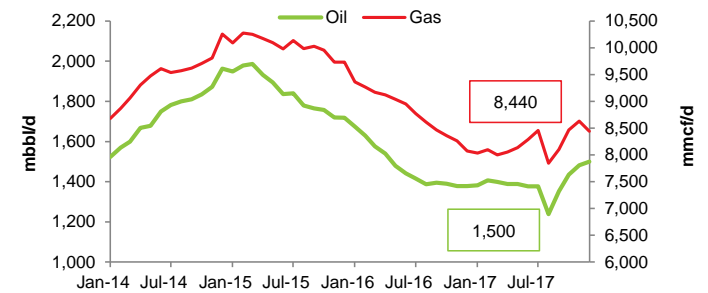
### DIFFERENTIALS



### PERMITTING ACTIVITY BY MONTH



### GROSS PRODUCTION

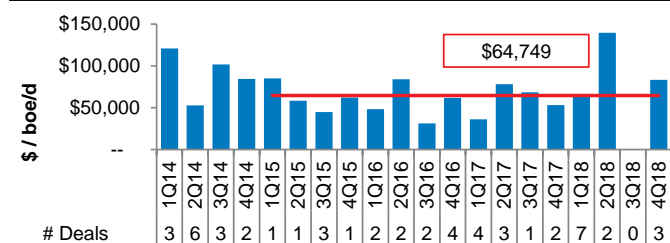


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

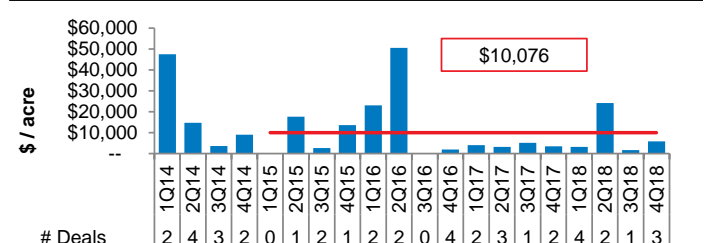
Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(1)</sup> (\$mm)	Proved Multiple (\$/boe)	Prod. Multiple (\$/boe/d)	Net Acres (\$/acre) <sup>(2)</sup>
19-Nov-18	Lonestar Resources Inc	Sabine Oil & Gas Corp	2,706 net acres in Eagle Ford	\$39	\$2.98	\$48,375	\$14,302
20-Sep-18	WildHorse	Undisclosed 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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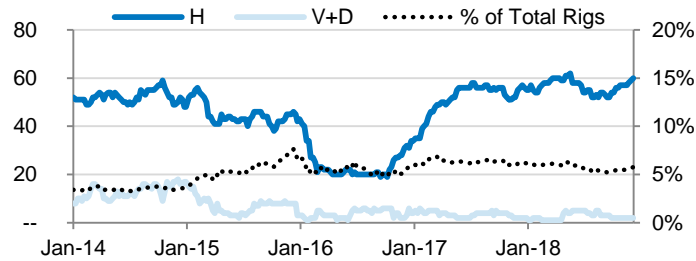
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## Ark-La-Tex Snapshot

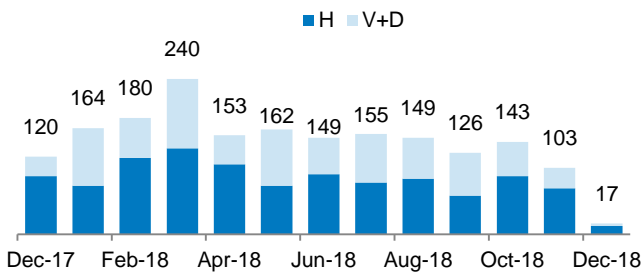
Item	Value	Wkly Change	Last Week
Rig Count	62	↑	61
Permitting Activity	18	↑	9

Item	Value	Wkly Change	Last Week
Oil Differential	\$6.80	↑	\$6.65
Gas Differential	--	▬	--

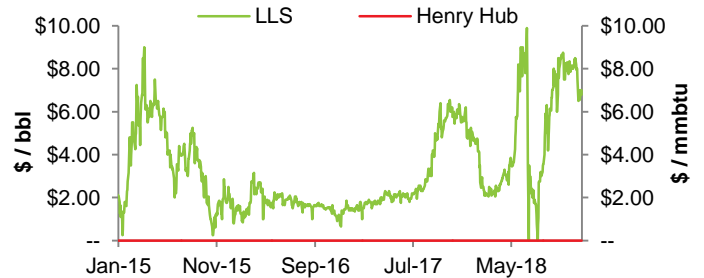
### RIG COUNT



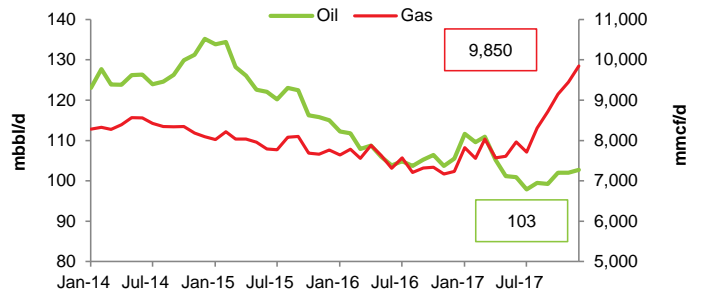
### PERMITTING ACTIVITY BY MONTH



### DIFFERENTIALS



### GROSS PRODUCTION

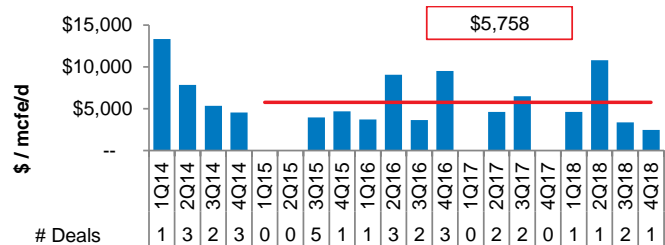


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

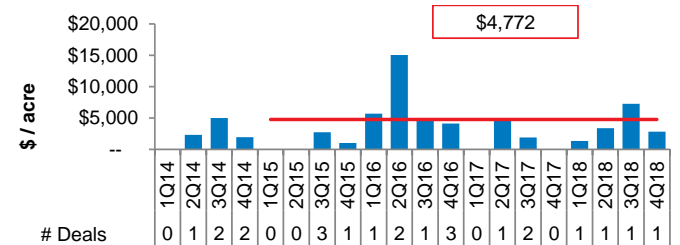
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19-Nov-18	Aethon III	QEP Resources Inc	49,700 net acres in Haynesville	\$735	\$0.77	\$2,475	\$14,789
05-Sep-18	Viking Energy Group	Multiple Sellers	Texas and Louisiana assets	\$100	n.a.	n.a.	n.a.
05-Sep-18	Equinor	Texegy LLC	60,000 net acres in Austin 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>

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.



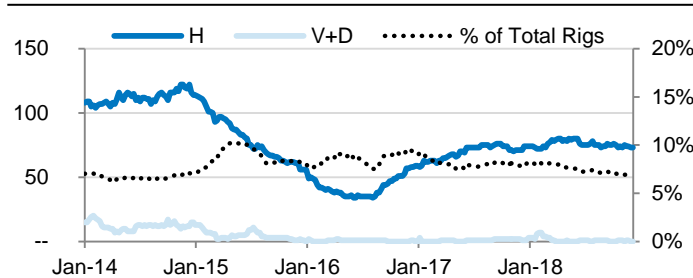
December 10, 2018

## Appalachia Snapshot

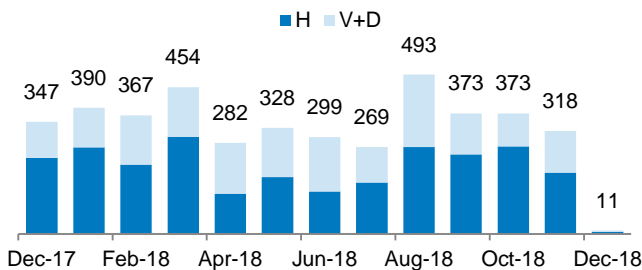
Item	Value	Wkly Change	Last Week
Rig Count	73	█ --	73
Permitting Activity	23	█ (67)	90

Item	Value	Wkly Change	Last Week
Oil Differential	\$8.57	↑ \$0.51	\$8.06
Gas Differential	(\$0.15)	↑ \$0.33	(\$0.48)

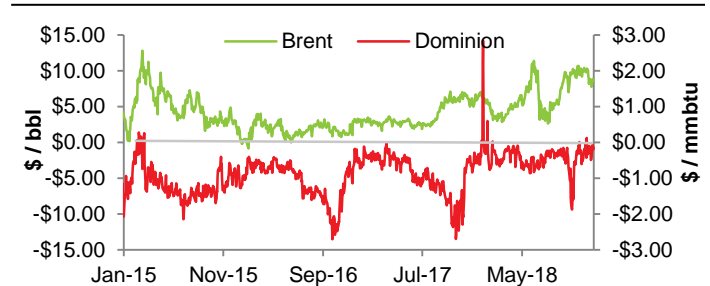
### RIG COUNT



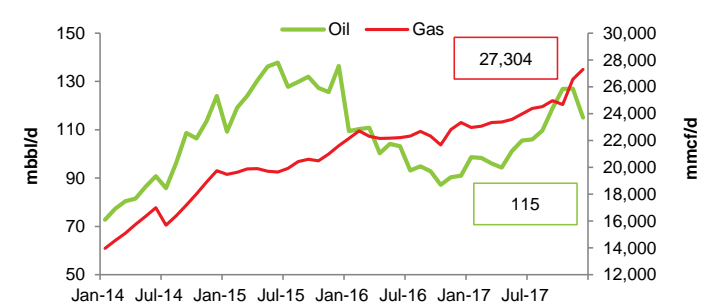
### PERMITTING ACTIVITY BY MONTH



### DIFFERENTIALS



### GROSS PRODUCTION

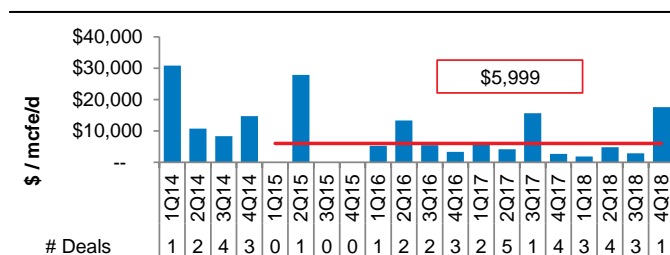


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

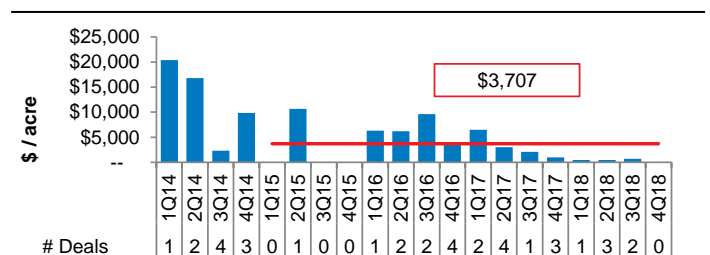
Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(1)</sup>	Proved Multiple	Prod. Multiple	Net Acres	
				(\$mm)	(\$/mcf)	(\$/mcf/d)	(\$/acre) <sup>(2)</sup>	
15-Oct-18	Undisclosed Buyer	Range Resources Corp	Overriding royalty interests in Appalachia	\$300	n.a.	\$17,649	n/m	
27-Aug-18	PennEnergy Resources	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>

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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.

- 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.



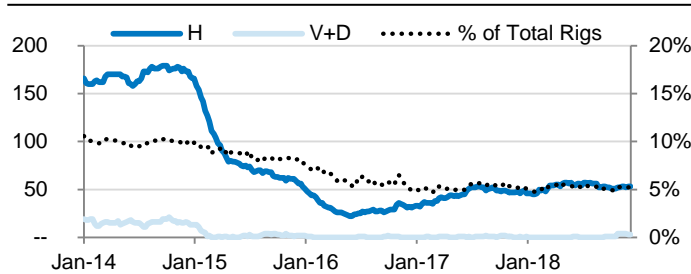
December 10, 2018

## Bakken Snapshot

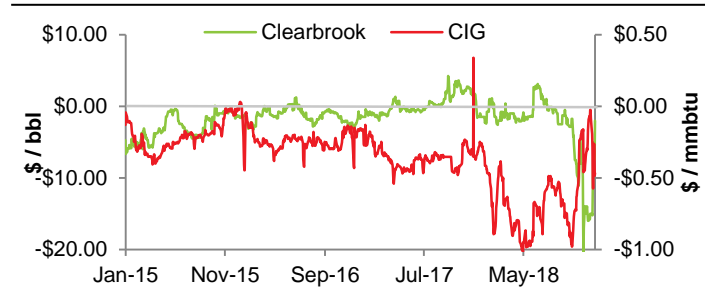
Item	Value	Wkly Change	Last Week
Rig Count	56	█ --	56
Permitting Activity	7	█ (21)	28

Item	Value	Wkly Change	Last Week
Oil Differential	(\$2.00)	↑ \$9.50	(\$11.50)
Gas Differential	(\$0.47)	↑ \$0.05	(\$0.52)

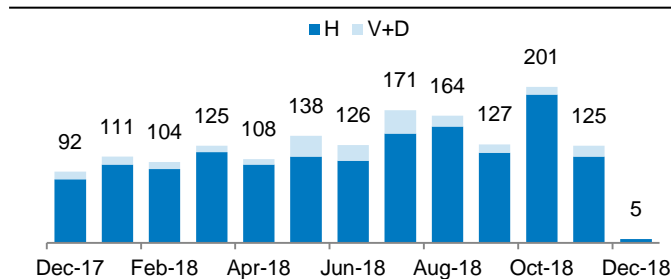
### RIG COUNT



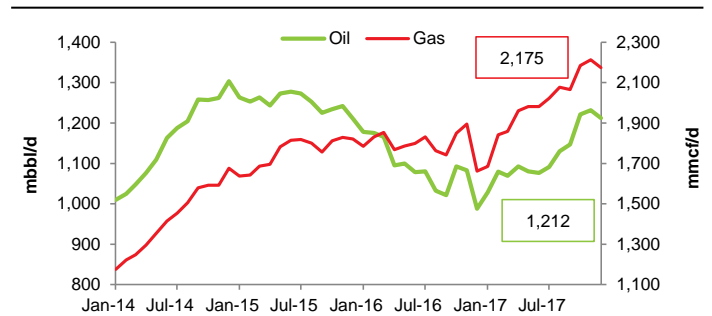
### DIFFERENTIALS



### PERMITTING ACTIVITY BY MONTH



### GROSS PRODUCTION

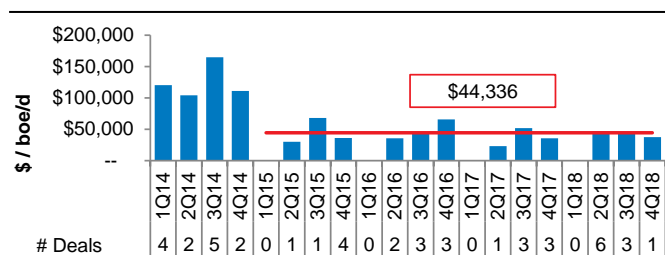


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

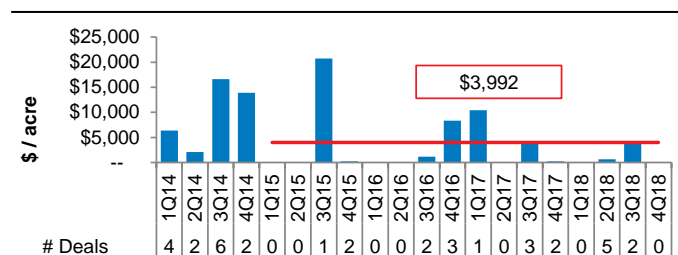
Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(1)</sup> (\$mm)	Proved Multiple (\$/boe)	Prod. Multiple (\$/boe/d)	Net Acres (\$/acre) <sup>(2)</sup>
07-Nov-18	Vantage Energy Acq. Corp	QEP Resources Inc	102,800 net acres in Williston Basin	\$1,725	n.a.	\$37,500	\$16,780
31-Jul-18	Northern Oil and 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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### 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 \$45,000/boepd in 2014, \$30,000/boepd in 2015, \$35,000/boepd in 2016 & 2017, and \$40,000/boepd in 2018.



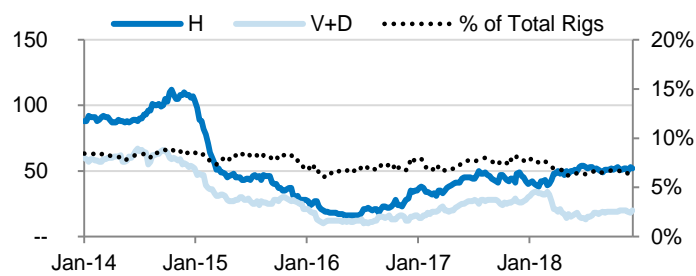
December 10, 2018

## Rockies (excl. Bakken) Snapshot

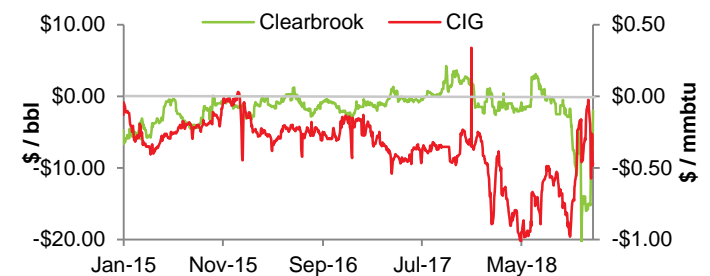
Item	Value	Wkly Change	Last Week
Rig Count	72	↑ 1	71
Permitting Activity	172	↑ 17	155

Item	Value	Wkly Change	Last Week
Oil Differential	(\$2.00)	↑ \$9.50	(\$11.50)
Gas Differential	(\$0.47)	↑ \$0.05	(\$0.52)

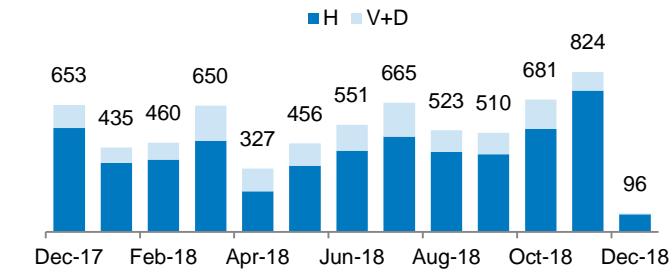
### RIG COUNT



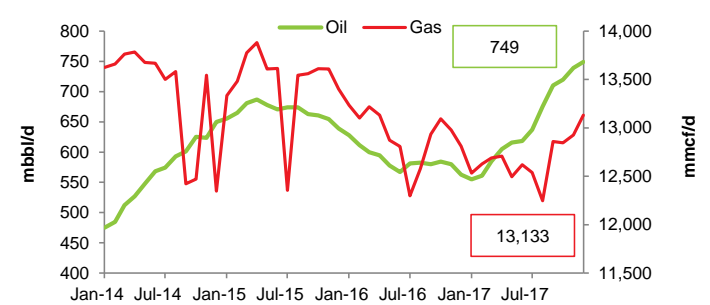
### DIFFERENTIALS



### PERMITTING ACTIVITY BY MONTH



### GROSS PRODUCTION

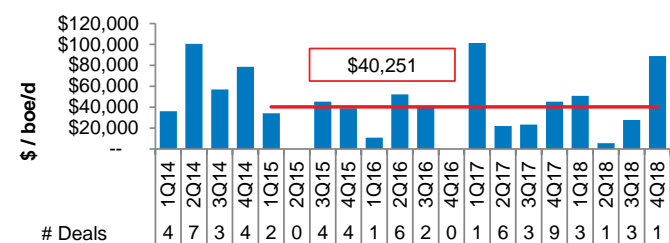


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(1)</sup>	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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### 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.

1. Represents total enterprise value. Excludes transactions with deal value <\$20 million.
2. \$/acre multiple not adjusted for value associated with production.
3. Red line denotes average since 01-Jan-15. Calculated as the weighted average of each quarter's transactions.
4. 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.



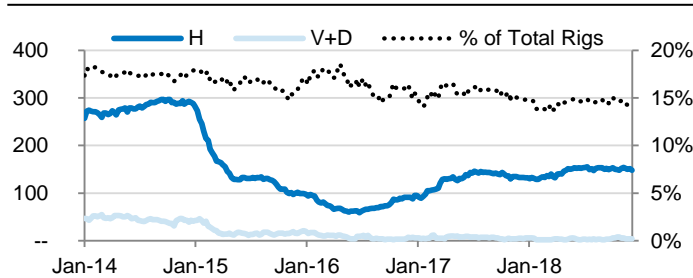
December 10, 2018

## Mid-Continent Snapshot

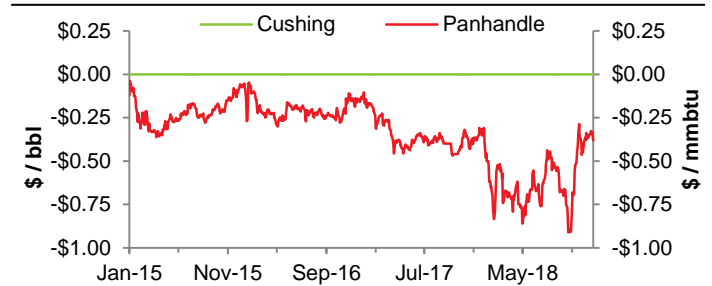
Item	Value	Wkly Change	Last Week
Rig Count	152	↓ (3)	155
Permitting Activity	68	↑ 12	56

Item	Value	Wkly Change	Last Week
Oil Differential	--	█	--
Gas Differential	(\$0.38)	↓ (\$0.06)	(\$0.33)

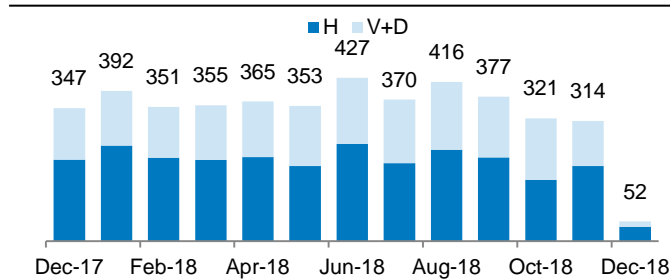
### RIG COUNT



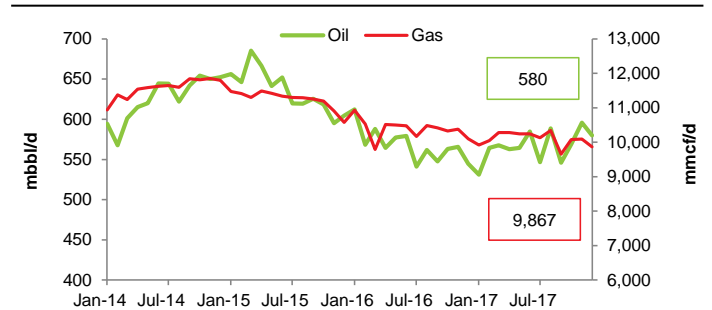
### DIFFERENTIALS



### PERMITTING ACTIVITY BY MONTH



### GROSS PRODUCTION

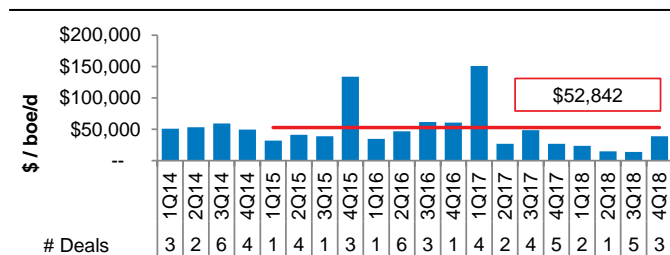


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

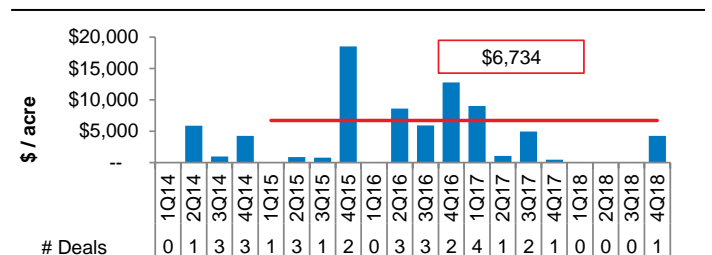
Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(1)</sup> (\$mm)	Proved Multiple (\$/boe)	Prod. Multiple (\$/boe/d)	Net Acres (\$/acre) <sup>(2)</sup>
02-Nov-18	SandRidge Energy	Undisclosed Seller	Mississippi Lime and NW STACK assets	\$25	n.a.	\$6,649	n.a.
31-Oct-18	Casillas Petroleum Corp	Sheridan 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
02-Aug-18	Sanguine Gas Exploration	Vanguard Natural Res.	9,530 net acres in the Arkoma Basin	\$23	\$4.79	\$24,981	\$2,403
			<b>Mean</b>	<b>\$479</b>	<b>\$3.91</b>	<b>\$31,334</b>	<b>\$4,408</b>
			<b>Median</b>	<b>\$220</b>	<b>\$3.91</b>	<b>\$20,305</b>	<b>\$2,403</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

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



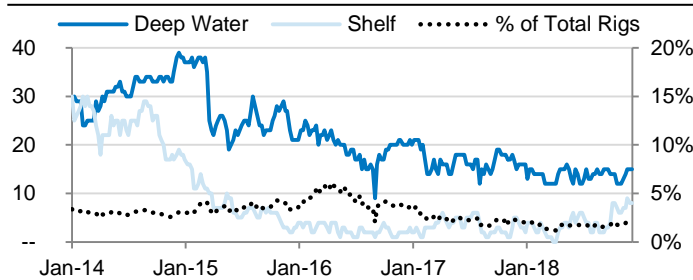


December 10, 2018

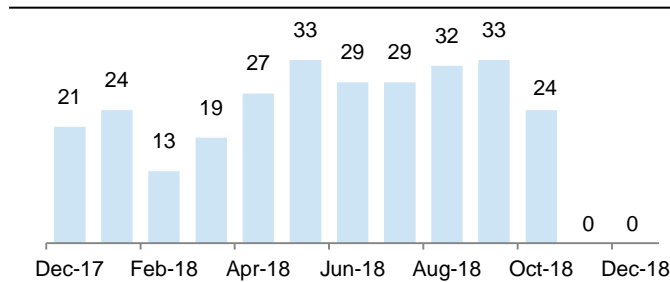
## Gulf of Mexico Snapshot

Item	Value	Wkly Change	Last Week
Rig Count	23	█ --	23
Permitting Activity	0	█ --	0

### RIG COUNT

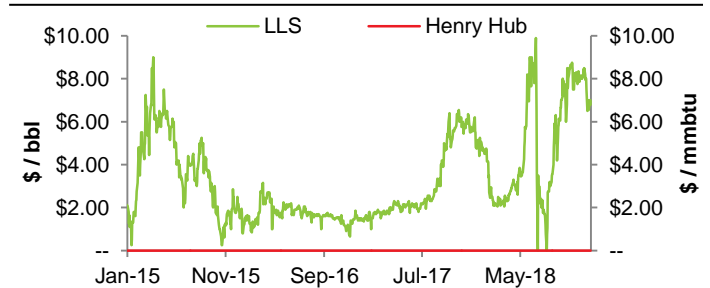


### PERMITTING ACTIVITY BY MONTH<sup>(1)</sup>

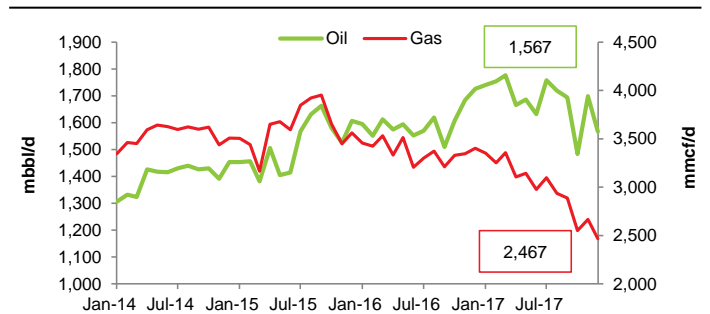


Item	Value	Wkly Change	Last Week
Oil Differential	\$6.80	↑ \$0.15	\$6.65
Gas Differential	--	█ --	--

### DIFFERENTIALS



### GROSS PRODUCTION

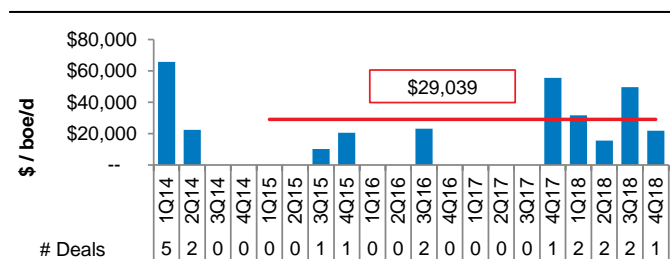


### TRANSACTION ACTIVITY (EXCLUDES CORPORATE DEALS)

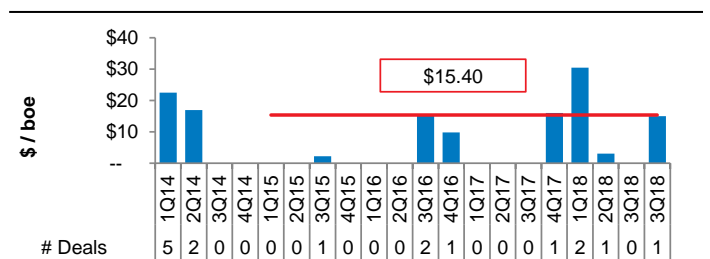
Ann'd Date	Buyer	Seller	Asset Description	Value <sup>(2)</sup> (\$mm)	Proved Multiple (\$/boe)	Prod. Multiple (\$/boe/d)	Net Acres (\$/acre) <sup>(3)</sup>	
10-Oct-18	Murphy	Petrobras	Gulf of Mexico joint venture	\$900	\$15.00	\$21,951	n.a.	
04-Sep-18	Talos Energy Inc	Whistler Energy II LLC	Leases in 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>n.a.</b>
				<b>Median</b>	<b>\$91</b>	<b>\$19.46</b>	<b>\$30,156</b>	<b>n.a.</b>

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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.
- 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.





December 10, 2018

[Click event to open](#)

## Upcoming Industry Events

### December 2018

[Dec 12](#) [IPAA Leaders in Industry Luncheon](#)

### January 2019

[Jan 15](#) [Houston Producers Forum Luncheon](#)

[Jan 18](#) [ADAM-Houston Monthly Luncheon](#)

[Jan 24](#) [IPAA Private Capital Conference](#)

[Jan 31](#) [SPE A&D Symposium](#)

### February 2019

[Feb 5-7](#) [SPE Hydraulic Fracturing Technology Conference](#)

[Feb 11-15](#) [NAPE Summit Week](#)

[Feb 15](#) [ADAM-Houston Monthly Luncheon](#)

[Feb 19](#) [Houston Producers Forum Luncheon](#)

[Feb 19-20](#) [DUG Haynesville](#)

### March 2019

[Mar 5-7](#) [IADC/SPE Drilling Conference](#)

[Mar 15](#) [ADAM-Houston Monthly Luncheon](#)

[Mar 19](#) [Houston Producers Forum Luncheon](#)

[Mar 26-28](#) [International Petroleum Technology Conference](#)

### April 2019

[Apr 8-10](#) [IPAA Oil & Gas Investment Symposium](#)

[Apr 15-17](#) [DUG Permian](#)

[Apr 16](#) [Houston Producers Forum Luncheon](#)

[Apr 19](#) [ADAM-Houston Monthly Luncheon](#)

### May 2019

[May 6-9](#) [Offshore Technology Conference](#)

[May 13-17](#) [SPE Electric Submersible Pumps Symposium](#)

[May 14-15](#) [DUG Rockies](#)

[May 14](#) [Houston Producers Forum Luncheon](#)

[May 16](#) [IADC Drilling Onshore Conference & Exhibition](#)

[May 17](#) [ADAM-Houston Monthly Luncheon](#)

### June 2019

[Jun 5-6](#) [Midstream Texas Conference & Exhibition](#)

[Jun 18](#) [Houston Producers Forum Luncheon](#)

[Jun 18-20](#) [DUG East](#)

[Jun 19-20](#) [IADC World Drilling Conference & Exhibition](#)

[Jun 21](#) [ADAM-Houston Monthly Luncheon](#)

[Jun 24-26](#) [IPAA Midyear Meeting](#)

### July 2019

[Jul 16](#) [Houston Producers Forum Luncheon](#)

[Jul 19](#) [ADAM-Houston Monthly Luncheon](#)

### August 2019

[Aug 16](#) [ADAM-Houston Monthly Luncheon](#)

[Aug 20](#) [IPAA Oil & Gas Overview Course](#)

[Aug 20](#) [Houston Producers Forum Luncheon](#)

[Aug 21-22](#) [Summer NAPE](#)

### September 2019

[Sep 17](#) [Houston Producers Forum Luncheon](#)

[Sep 20](#) [ADAM-Houston Monthly Luncheon](#)

[Sep 24-26](#) [DUG Eagle Ford](#)

[Sep 30-Oct 2](#) [SPE Annual Technical Conference and Exhibition](#)

### October 2019

[Oct 9](#) [IPAA Leaders in Industry Luncheon](#)

[Oct 15](#) [Houston Producers Forum Luncheon](#)

[Oct 18](#) [ADAM-Houston Monthly Luncheon](#)

[Oct 22-23](#) [A&D Strategies and Opportunities Conference](#)

### November 2019

[Nov 15](#) [ADAM-Houston Monthly Luncheon](#)

[Nov 19](#) [IPAA Oil & Gas for Newcomers](#)

[Nov 19](#) [Houston Producers Forum Luncheon](#)

[Nov 19-21](#) [DUG Midcontinent](#)



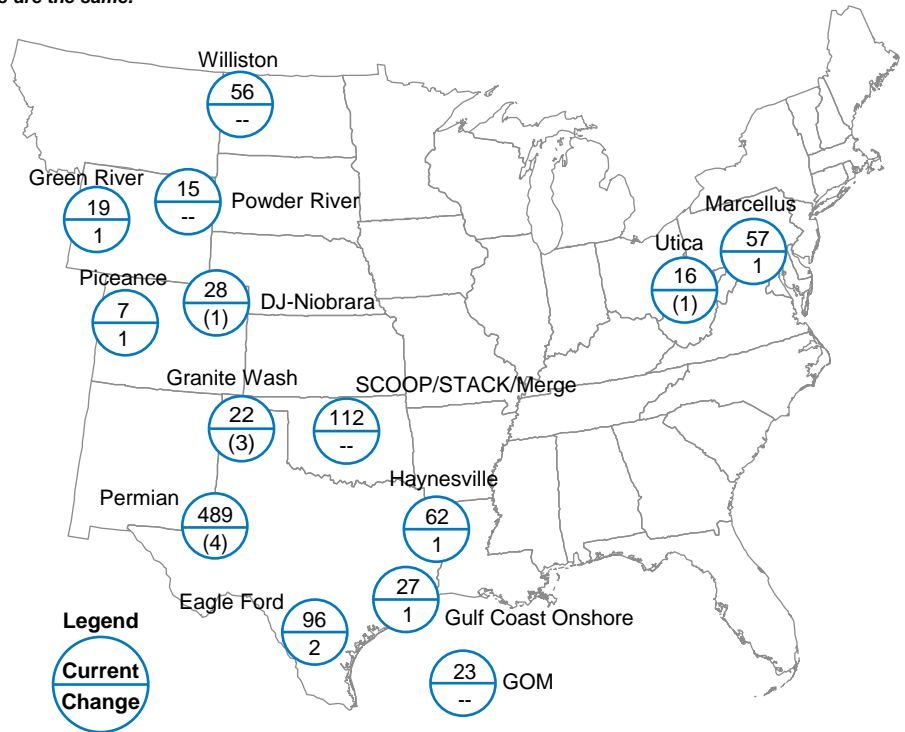
December 10, 2018

## 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>1,075</b>	<b>(1)</b>	<b>1,076</b>	<b>931</b>
Oil	877	(10)	887	751
Gas	198	9	189	180
Miscellaneous	--	--	--	--
Directional	72	4	68	71
Horizontal	933	(1)	934	796
Vertical	70	(4)	74	64

Basin	This Week	Change	Last Week	Last Year
Permian	489	(4)	493	400
SCOOP/STACK/Merge	112	--	112	100
Granite Wash	22	(3)	25	17
Eagle Ford	96	2	94	84
Haynesville	62	1	61	58
Marcellus	57	1	56	45
Utica	16	(1)	17	27
Williston	56	--	56	47
DJ-Niobrara	28	(1)	29	23
Green River	19	1	18	23
Powder River	15	--	15	13
Piceance	7	1	6	8
Gulf Coast Onshore	27	1	26	18
GOM	23	--	23	20
Alaska	7	1	6	5
Other	39	--	39	43
Mid-Con	18	--	18	21
Rockies	3	--	3	5
Western	15	--	15	14
Eastern	3	--	3	3



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Source of rig count stats: Baker Hughes