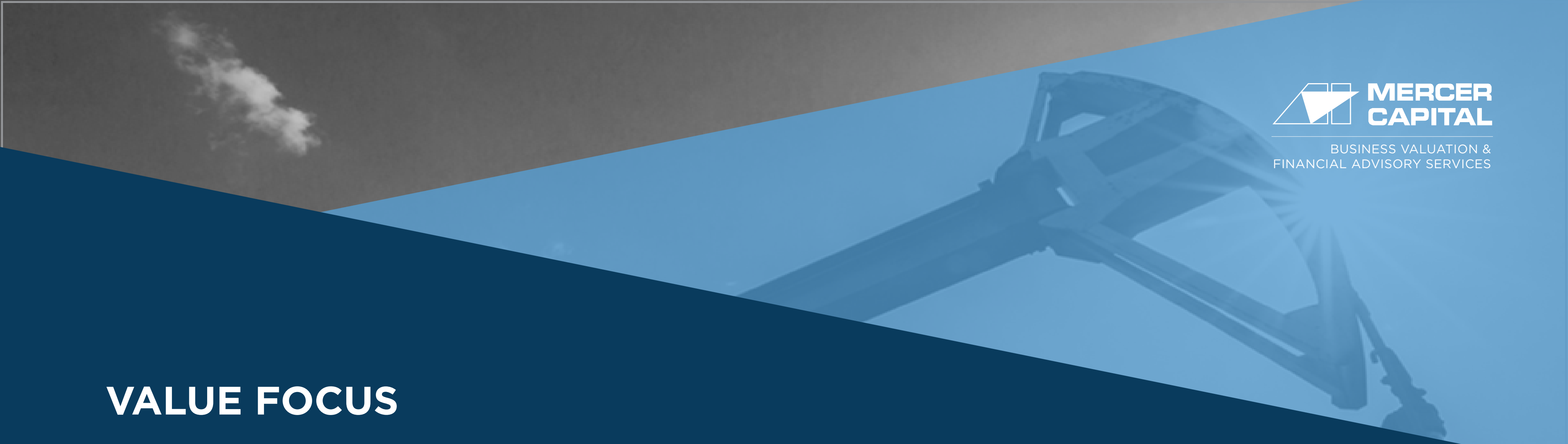

MERCER CAPITAL

BUSINESS VALUATION & FINANCIAL ADVISORY SERVICES

VALUE FOCUS

Exploration & Production

First Quarter 2019 // Region Focus: Eagle Ford

EXECUTIVE SUMMARY

After a sharp decline in crude prices and the stock market in general, the first quarter saw prices bounce back to finish about halfway between their Q4 peak and trough. Concerns about economic slowdowns increased in the fourth quarter, though these have subsided somewhat. The Federal Reserve indicated in March that it would not raise rates for the rest of 2019, further easing concerns. OPEC production declines helped ease supply and raise prices, though U.S. production has continued to grow. Despite this domestic growth, investors have shown a preference for returns and capital discipline, not just surging growth.

Oil and Gas Industry Services

Mercer Capital provides business valuation and financial advisory services to companies in the energy industry.

Services Provided

- Valuation of oil & gas companies
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- Valuations for purchase accounting and impairment testing
- Fairness and solvency opinions
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- Oil Field Services
- Midstream Operations
- Alternative Energy

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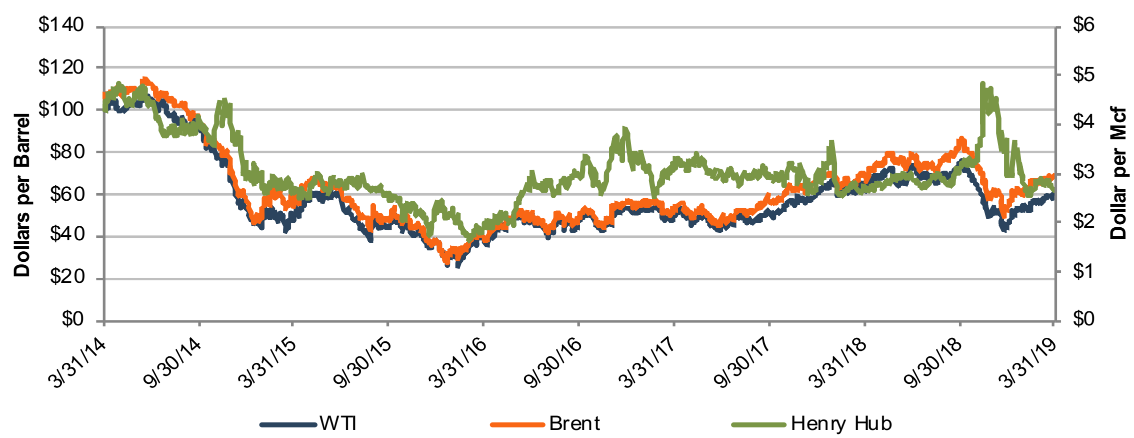
E&P Industry

Oil and Gas Commodity Prices

Nearly a quarter of the way through 2019, prices have rebounded somewhat after a tumultuous end to 2018. First quarter energy prices again moved in opposite directions, with crude prices increasing steadily over the period and natural gas prices decreasing from $2.94 at the start of the year to $2.80 per Mcf by mid-March despite peaking at over $3.50 in mid-January.

Crude Oil and Natural Gas Prices



Source: Bloomberg

E&P Industry

OPEC

OPEC continues to impact prices, as it did in the first quarter by cutting production, but its influence may be waning. The significant production increases in the United States have played a role, and when OPEC decreases supply to raise prices, the U.S. obtains increased market share. In April, the group decided to table its April ministerial meeting until June. This will keep production cuts in place until at least the next meeting, with the group's reported reason being to get a better read on the oil markets and how to manage supplies for the second half of the year. However, there appear to be more structural issues with which OPEC must grapple.

The turn of the year saw Qatar drop out of OPEC after being a member since 1961. While the country produced relatively less crude oil, it has significant production of LNG and was seen as an important diplomatic bridge, capable of negotiating with regional rivals as one of the few member countries not in the Middle East. The departure is largely viewed as symbolic and not likely to cause more groups to leave, though the situation remains tenuous. OPEC has historically had issues with getting all member countries to stick to their agreements as they are economically disincentivized from cutting their production just to not benefit from the increased price it enables.

The largest players in the current supply cut agreement are Saudi Arabia and Russia, who is not even a member of OPEC. OPEC delivered on its promises, though not necessarily intentionally, to decrease supply by 800 thousand barrels per day (bpd). Sanctions and power outages played a role in this reduction, but Saudi Arabia voluntarily dropped its production 220 thousand bpd in March from the prior month. Overall production for OPEC has dropped to its lowest since 2015. It remains to be seen whether this will continue as Russia's interest in maintaining these cuts is not likely long-term, and Saudi Arabia likely will not want to shoulder this burden as all of the others benefit from the increased prices. Supply cuts boost the price which is beneficial to members, though the U.S. appears to be the largest benefactor of both higher prices received as well as increasing market share.

E&P Industry

Outlook for the Rest of 2019

According to the latest ***Short-Term Energy Outlook***, the EIA expects regular retail gasoline prices to average $2.76 per gallon during the upcoming summer driving season, down from $2.85 the prior year. Brent crude spot prices averaged $66 per barrel in March, up $2 from February, and down $4 from the prior year. Prices are expected to trend modestly downward as the EIA forecasts Brent spot prices will be $65 per barrel for 2019 and $62 for 2020. West Texas Intermediate (WTI) crude oil prices will average about $8 dollar per barrel lower than Brent prices for the first half of 2019, before the spread gradually trends down towards $4 in late-2019 and through 2020. More infrastructure is expected to come online to ease these differentials, and production is expected to grow to an average of 12.4 million barrels per day in 2019 and 13.1 million in 2020 fueled mostly by growth in the Permian.

Meanwhile Henry Hub natural gas spot prices averaged $2.95 per MMBtu in March, up 26 cents from February due to colder than normal temperatures across the country. As the temperature warms up, prices are expected to drop, and the EIA forecasts increased production will also cut prices to an average of $2.82 in 2019 and $2.77 in 2020. This is a notable drop from the average of $3.15 in 2018.

Eagle Ford

Location, Location, Location

The economics of oil and gas production varies by region. Mercer Capital focuses on trends in the Eagle Ford, Permian, Bakken, and Appalachia plays. The cost of producing oil and gas depends on the geological makeup of the reserve, depth of reserve, and cost to transport the raw crude to market. We can observe different costs in different regions depending on these factors. This quarter we take a closer look at the Eagle Ford region.

Location is crucial for oil and gas plays, particularly when looking at the acreage multiples paid across various regions. The Eagle Ford Shale has quietly delivered solid results, overshadowed by some of the other shale plays, particularly the Permian to the west. The Eagle Ford's location provides a distinct advantage, however, as it is closer to higher Brent-related pricing seen on the Gulf Coast. Its higher cut of oil also opens it up to Louisiana Light Sweet pricing. Even though the attention on the Permian has increased both acreage multiples and congestion due to transportation issues, it has been less of a concern in the Eagle Ford because the product has a shorter distance to travel to get to market. In a time where Permian differentials were particularly wide in 2018, this pricing advantage was helpful to Eagle Ford Shale producers.

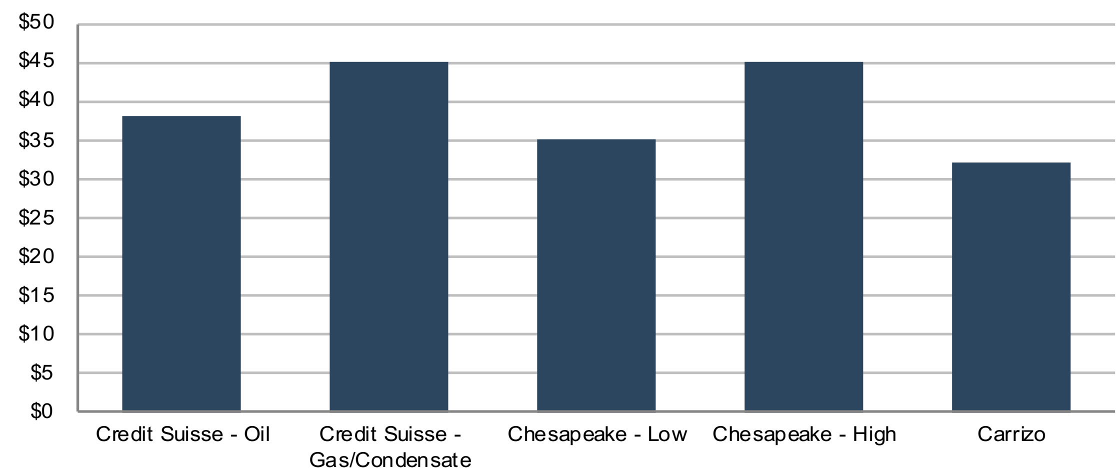
While proximity to better pricing is clearly a boon, location within the region also plays a large role. Less choice areas of the Eagle Ford may have higher breakevens, but overall the play, particularly its oil window, boasts among the lowest costs in the country (particularly for shale plays), challenging the Permian in this respect. These low costs are due to shallower wells, lower cost drilling, higher cuts (more oil and less water produced), and resultant premium commodity pricing near the Gulf Coast. The chart on the next page shows various breakeven estimates for the Eagle Ford in the first quarter. Chesapeake's $35-$45 range illustrates the variance within particular areas of the play.

Eagle Ford

Location, Location, Location (continued)

The Eagle Ford has areas where the cost of supply is as low as $20 to $30 per barrel **according to Greg Leveille**, Chief Technology Officer of ConocoPhillips. EOG Resources, the largest operator in the region, has noted similar supply costs as well. **According to Thomas Tunstall**, senior researcher with UTSA's Institute of Economic Development, "EOG has some of the choicest leases in the Eagle Ford. They have indicated publicly that they can make money at $30 per barrel." This has a considerable impact particularly with WTI prices currently trading around double that figure. Costs could be lower for operators in 2019 who are focused on producing from existing DUC wells such as Murphy Oil.

1Q19 Eagle Ford Breakeven (Estimates)



Source: Company Reports & Investor Presentations

Eagle Ford

Free Cash Flow vs. Growth Potential

Operators in the Eagle Ford have enjoyed the reliable production inherent in a later life-stage play. Along with the pricing benefits as previously noted, companies that have operated in the region for a while have been able to benefit from experience. Todd Abbott, Marathon Oil's VP of Resource Plays South, attributed the company's success in the region to drilling innovation and efficiency and repeatability of a stable drilling program. **He further noted**, "We are completing wells in a quarter of the time it took us to complete them in 2012." This notion was furthered by ConocoPhillips' CTO Leveille who touted innovations in well-spacing and stacking, which have allowed the company to achieve a 20% field-level recovery factor in the Eagle Ford Shale.

Technical innovations and experience have led to free cash flow for operators, which is something investors have been seeking. In fact, according to Marathon's Abbott, the Eagle Ford has been able to effectively subsidize its efforts in regions such as the Permian and Oklahoma Stack as it is generating the free cash flow that the others are consuming. It also allows for diligence in capital spending, where investors have also begun to **prioritize capital efficiency over capital expenditure**. Key producers in the region (EOG, BPX, and Chesapeake) are consolidating acreage to be more strategic about their capex, seeking to maximize wells and minimize spending. As noted in the table below, total capex can decline while number of wells increases.

Capex Metrics in the Eagle Ford

Trend Metrics	EOG	BPX	Chesapeake	Carrizo
2019 Total Capex Budget (Includes Eagle Ford)	$6.1 - 6.5 Billion	$2 Billion	$1.2 - 1.3 Billion	$550 Million
Change from 2018	*+8%*	*+45%*	*-12%*	*-29%*
Eagle Ford 2019 Well Program Estimate (Net)	300 Wells	NA	208 Wells	90 Wells
Change from 2018 Wells Estimate	*+15.4%*	*NA*	*+48.6%*	*+23.3%*
Breakeven Prices in Eagle Ford per barrel $	NA	NA	$35 - 45	$32
Net Acreage in Eagle Ford (Most Recent Estimate)	579,000	194,000	655,000	76,500

Source: Company Reports & ShaleExperts.com

Eagle Ford

End of the Eagle Ford?

While there is plenty of current production in addition to cash flow, there are concerns about the longevity of the region. Even regional giant EOG is looking to diversify. **On a recent earnings call**, EVP of Exploration & Production, Ezra Yacob, noted expanding exploration in those areas will "help increase the quality of our inventory" and "should hopefully shallow the decline that these unconventional plays are kind of known for." The company still plans to drill about the same number of wells in the region in 2019, after posting a 9% crude oil production increase. The Eagle Ford represented 43% of EOG's crude production last year, so diversifying to other regions doesn't necessarily indicate a bearish view. Instead, it seems to be in line with the strategy alluded by Marathon, using the cash flow generated in the Eagle Ford to pay for growth in other plays.

Like other shale plays, the Eagle Ford struggles with steep decline curves and production replacement, thus impacting rates of return. Economic critics of the shale plays warn of the "treadmill" effect of replacing production and the costs to do so. There is validity to this. While new drilling techniques allow for more efficiency as noted earlier, these follow on wells in pad drilling are also susceptible to productivity problems known as **parent-child well interference**. Carrizo and Equinor have changed their frac designs to attempt to counter this, and the downside risk to operators investing in the play is whether or not they will be able to flatten their production declines enough to keep Eagle Ford wells economical for longer periods of time. Many companies have questioned where Eagle Ford assets fit in their long-term plans. As discussed in more detail later, some operators are leaving the region, and Sanchez Energy, a long time region producer, was recently **delisted from the NYSE**.

Despite the older nature of the play, many people around the industry believe there is plenty of value still under the subsurface in south Texas. Director at BMO Capital Markets Max van Adrichem **called the Eagle Ford a good alternative** to "some of the more mature basins which may not have enough running room to get you through 5 to 10 years." Martin Thalken, Chairman and CEO of pure-play Eagle Ford operator Protégé Energy III, supports this line of thinking. **He commented** the Eagle Ford "is still in the early innings" on applications like primary EOR and refracturing. John Thaeler, CEO of Vitruvian Exploration IV also employed a baseball analogy, **saying** "the dry gas Eagle Ford is just in the second inning." **Marathon's Abbott agrees**, "We believe there is a lot of running room left in the Eagle Ford for Marathon and the rest of the industry."

Also, in a time where oil and liquid production (as opposed to reserve accumulation) is the energy industry's focus, the Eagle Ford Region is, according to the EIA, the second most prolific oil region in the United States from a myriad of standpoints: (i) overall oil production, (ii) per rig production, and even (iii) DUC well count.

Eagle Ford

Rig Counts and Production

According to calculations based on data from **Baker Hughes**, rig counts in North America decreased 4.2% in the last three months, but increased 3.6% over the last twelve months. The Eagle Ford Shale had the highest annual increase at 15.5%, but its 82 rigs only represent 8.0% of total rigs in North America. Despite a 4.5% decline in the past three months, the Permian Basin continues to lead the way with 464 rigs, representing about 45% of the total. By comparison, the Eagle Ford has the second most rigs, just ahead of Appalachia at 79 and the Bakken with 56.

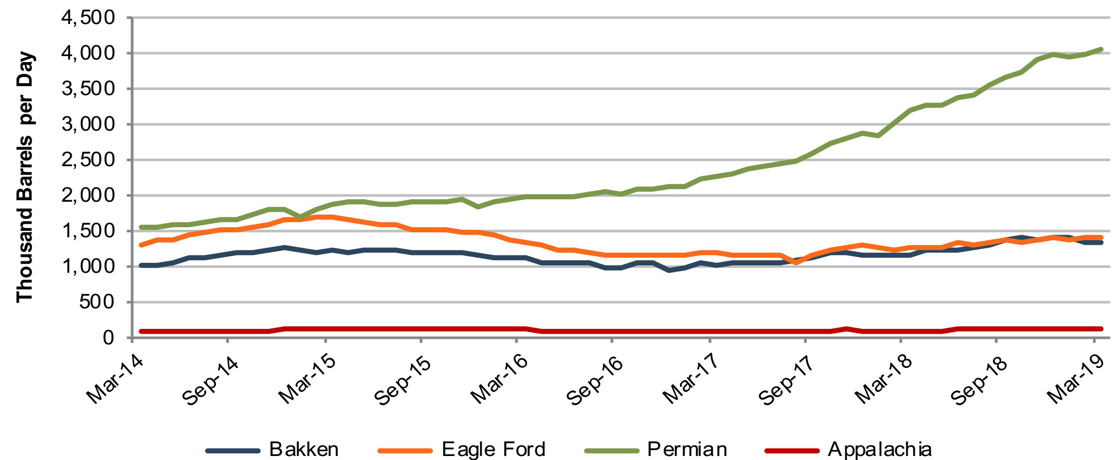
Despite the increase in rig counts, production increases over the past year for both oil (14.4%) and gas (8.3%) have trailed production gains seen in other regions. This is likely due to the older nature of the play, and its stage in the production cycle. The lack of production growth does not mean there is low production, however. It continues to provide solid production, with crude oil production on par with the Bakken, and significantly above Appalachia, which is known for its natural gas. The Eagle Ford also leads the Bakken in terms of natural gas production.

Much of the attention, particularly in Texas, has been on crude as opposed to natural gas. Despite this, the graph on the next page shows natural gas production in the Permian has increased significantly in the past year. As noted earlier, the Eagle Ford's location, specifically its proximity to the Henry Hub in Louisiana, may be a reason why the chasm between the amounts of natural gas produced in the two regions hasn't increased further than it has. Much like crude, operators focused on natural gas in the Eagle Ford have benefitted from higher pricing as well as lower costs. **According to Michael J. Wieland**, President and CEO of Laredo Energy VI LP, the economics of dry gas in the Eagle Ford are particularly strong. Wieland further estimated finding and development costs to be 50 cents per thousand cubic feet (Mcf) and netbacks of about $2/Mcf. SilverBow Resources' EVP and CFO, Gleeson Van Riet, **said** the company has drilled 20 of the top 50 Eagle Ford gas wells and that the play is the best place to be in the U.S. for natural gas because it has the best prices, good infrastructure, and is located in the demand growth area. SilverBow (formerly Swift Energy) is the Eagle Ford's only public pure-play in dry gas. Whether an operator focuses on crude oil, natural gas, or both, neither seems to be in short supply in the region. Natural gas produced in the basin will be very competitive in the oncoming LNG market growth on the Texas coast as well.

Eagle Ford

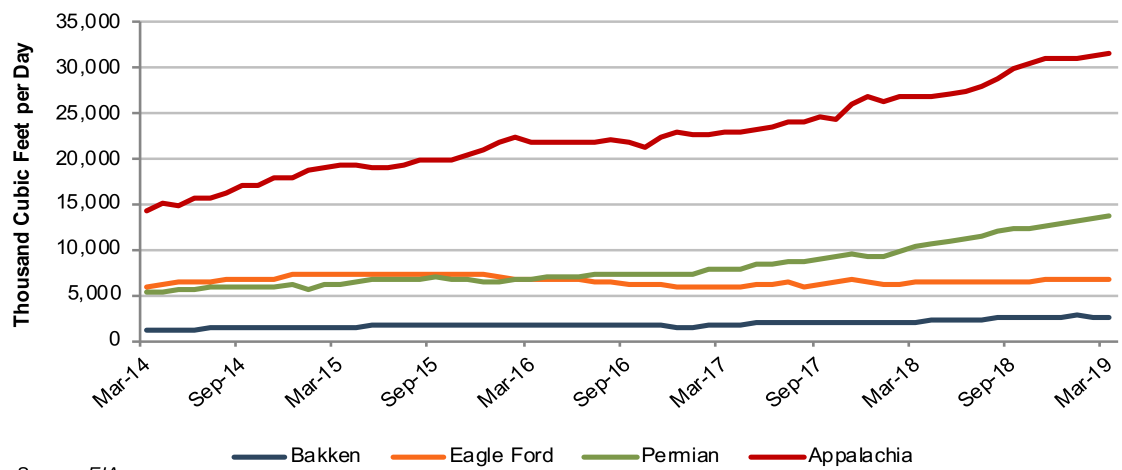
Rig Counts and Production (continued)

Daily Production of Crude Oil



Source: EIA

Daily Production of Natural Gas



Source: EIA

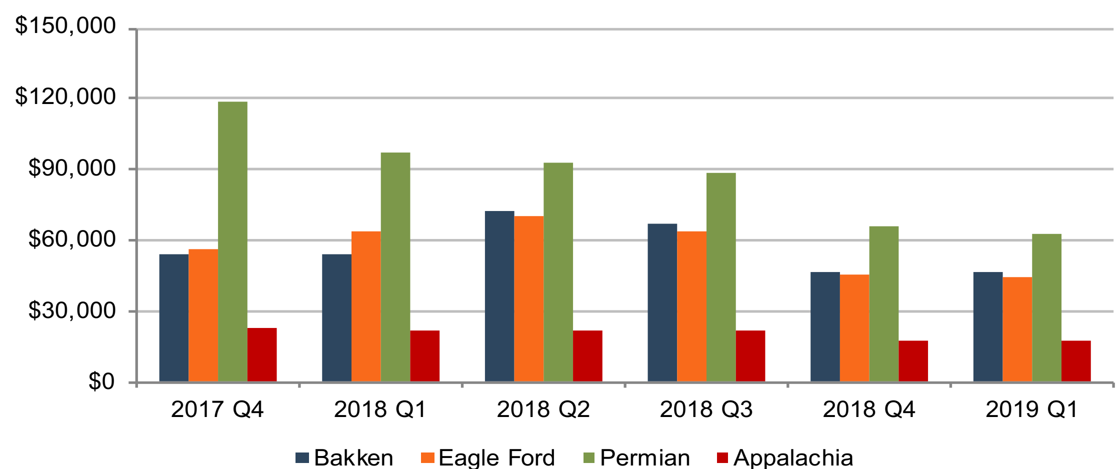
Eagle Ford

Valuation Implications

To further understand the current production profile of the Eagle Ford and oil and gas plays in general, we can compare them to a typical company. In the early stages, companies retain earnings to fund growth opportunities as the return on investment can be quite high. As the company matures, however, there are fewer high return investments to be made, and companies tend to pay more dividends. Returns shift from capital appreciation from retained earnings to a yield in the form of dividends paid as a reward for years of investment. The Eagle Ford is in the stage of paying dividends.

As has been the case for some time now, operators in the Permian continue to lead the other regions in terms of EV/production multiples, also known as price per flowing barrel. The Bakken was about on par with the Permian at the end of 2018, but it slid back towards the Eagle Ford, which edged up over the past three months. Multiples continue to trail levels seen in the past as enterprise values have been somewhat lower and production figures have increased.

Price per Flowing Barrel



Source: Bloomberg

Eagle Ford

Market Valuations & Transaction Activity

Over the last twelve months, the Eagle Ford Region has experienced steady growth and healthy transaction activity. **According to the Society of Petroleum Engineers**, crude production from the south Texas play climbed steadily throughout the year and continued to achieve its highest marks ever. New, upstart independents came back to the region, including one led by the former head of Occidental Petroleum, as investors looked beyond the neighboring Permian Basin with its crowded top-tier acreage and pipelines. Additionally, operators began joining forces to increase the scale of their operations, headlined by Chesapeake Energy's merger with WildHorse Resource Development.

The region's strengths–such as its low cycle times, high oil cuts, and Louisiana Light Sweet crude and Brent oil pricing–have facilitated free cash flow and made the area attractive to both investors and operators. As long as entry costs and well costs remain reasonable, the Eagle Ford Shale has strong potential for continued economic growth. Details of recent transactions in the Eagle Ford Shale, including some comparative valuation metrics, are shown on the next page.

Transactions in the Eagle Ford

Announced Date	Buyer	Seller	Deal Value ($MM)	$ / Acre	$ / Boepd
3/18/19	Inpex Corp	Gulftex Energy	–	nm	–
2/18/19	Undisclosed Buyer	Harvest Oil & Gas Corp.	$52	nm	–
2/7/19	Kimbell Royalty Partners LP	Encap Investments	$151	$12,402	$94,563
11/21/18	Kimbell Royalty Partners LP	Undisclosed Seller	$108	$6,455	$90,588
11/19/18	Lonestar Resources Ltd.	Sabine Oil & Gas Corp , Alerion Gas Axa LLC	$39	$12,549	$48,375
10/31/18	Undisclosed Buyer	Pioneer Natural Resources Co.	$132	$45,517	$42,581
10/30/18	Chesapeake Energy Corp	WildHorse Resource Development	$3,977	$9,469	$84,617
10/29/18	Denbury Resources Inc.	Penn Virginia Corp	$1,700	$20,224	$77,273
10/11/18	Oracle Energy Corp.	Undisclosed Seller	–	nm	–
9/20/18	WildHorse Resource Development	Undisclosed Seller	$43	$1,387	$1,102,564
8/21/18	Magnolia Oil & Gas	Harvest Oil & Gas Corp.	$191	$1,675	$39,792
8/21/18	Undisclosed Buyer	Harvest Oil & Gas Corp.	$4	nm	–
7/27/18	BP Plc	BHP Billiton Limited	$10,500	$22,340	$55,263
7/5/18	Sumitomo Corporation, Summit Discovery Resources LLC	IOG Capital LP	–	nm	–
6/4/18	Osprey Energy Acquisition Corp.	Royal Resources	$894	$3,562	$187,657
6/1/18	Venado Oil & Gas Llc	Texas American Resources Co.	$300	$12,951	$62,500
4/4/18	USG Energy Producer Holdings	Comstock Resources Inc.	$125	$12,626	$49,135
4/2/18	Protege Energy III LLC	Contango Oil & Gas Co.	$21	$20,000	$168,000
Median			**$132**	**$12,549**	**$77,273**
Average			**$1,216**	**$13,935**	**$161,762**

Source: Shale Experts
**Does not include every transaction in each region for 2018-2019*

Eagle Ford

Market Valuations & Transaction Activity (continued)

Chesapeake Closes Acquisition of WildHorse for Nearly $4 Billion

Chesapeake has made several major transactions over the last nine months. In the middle of 2018, **the company sold its entire stake in the Utica Shale**, and experts speculated that the company would put the sales proceeds towards an acquisition in the Eagle Ford or Powder Basin area. Chesapeake did just that when it closed a deal with Houston-based WildHorse Resource Development with a transaction value of $3.977 billion. For perspective, WildHorse was the fourth most active driller in the Eagle Ford in 2018 while Chesapeake was the fifth.

The consideration for the transaction consisted of either 5.989 shares of Chesapeake common stock or a combination of 5.336 shares of Chesapeake common stock and $3 cash, in exchange for each share of WildHorse common stock. Chesapeake intended to finance the cash portion of the WildHorse acquisition, which was expected to be between $275 million and $400 million, through its revolving credit facility.

In a statement, Chesapeake's CEO, Doug Lawler said: "In 2018, Chesapeake Energy continued to build upon our track record of consistent business delivery and transformational progress through both financial and operating improvements. The addition of the WildHorse assets to our high-quality, diverse portfolio, combined with our operating expertise and experience, provides another oil growth engine with significant oil inventory for years to come and gives us tremendous flexibility and optionality to help achieve our strategic goals." Following the deal, Chesapeake is now the top acreage holder in the Eagle Ford with approximately 655,000 nets acres, pro forma.

New Kids on the Block

At the DUG Eagle Ford conference in San Antonio, Stephen Chazen, former Occidental executive, noted "General investors want reasonable growth, earnings per share, and free cash flow." After leaving Occidental, Chazen became Chairman, President and CEO of Magnolia Oil & Gas, a recently formed small independent company. Magnolia Oil generated free cash flow in excess of capital on acquisition spending and ended 2018 with $136 million of cash on the balance sheet, an increase of approximately $100 million compared to the end of the third quarter. These kinds of results show that the region has been a cash flow generator for the year and has been a main driver for most of the recent and anticipated transaction activity, especially **companies under $1 billion in market capitalization**. The cash flows allow smaller players to compete as the market is less interested in upstart companies in the high growth stage.

Eagle Ford

Market Valuations & Transaction Activity (continued)

Anticipated Large Operator Divestitures in 2019

As alluded to earlier, several larger operators in the Eagle Ford area are potential candidates for divestiture. Following Q4 2018 earnings calls, five operators indicated that they are open to selling all or parts of their Eagle Ford assets in 2019. After purchasing Newfield, Encana Corp now considers the Eagle Ford as non-core. Pioneer Natural Resources has been actively selling pieces of their Eagle Ford asset since 2018, and Norway's Equinor announced plans to potentially do the same. Matador will outspend cash flow this year and may plug that gap with an Eagle Ford asset sale. Earthstone is trying to convert itself into a Permian-only player, and **reports from Shale Experts** expect they will be looking to offload their Eagle Ford assets in the near-term. Collectively, the net acreage under consideration totals over 100,000 net acres.

Equinor has an ownership interest in the Eagle Ford Shale formation located in south Texas through a joint venture with Repsol. Through transactions in 2013 and 2015, Equinor obtained full operatorship in the joint venture and increased its working interest to 63%. The company's net acreage position in the Eagle Ford at the end of 2018 was approximately 71,000 net acres and production of 43,000 boe/d. **In a recent interview**, Al Cook, the company's head of strategy, said that Equinor is looking to add to its large position in Appalachia in an attempt to chase natural gas-rich acreage. This move is consistent with trends **we identified last quarter** in our transaction analysis of the Appalachia Region.

Divestitures are also a natural part of the consolidation cycle as top producers commit and less successful operators exit the play. As noted earlier, it is less dependent on size, and more on expertise and focus (core vs. non-core). The good news for these exiting producers is that they are getting better prices as they leave. Where they cashed out around $8,000 per acre a year or more ago, many are getting closer to $18,000 per acre now. Even gas heavy producers are more optimistic as the Eagle Ford is the single most proximate play to many oncoming LNG facilities in south Texas.

Appendix A

Selected Public Company Information

Mercer Capital tracks the performance of Exploration and Production companies across different mineral reserves in order to understand how the current pricing environment affects operators in each region. We created an index of seven groups to better understand performance trends across reserves and the industry. The current pricing multiples of each company in the index are summarized below.

					as of 3/31/2019		
Company Name	Ticker	3/31/2019 Enterprise Value	YOY % Change in EV	EBITDAX Margin	EV/ EBITDAX	Daily Production (mboe/d)	Price per Flowing Barrel*
Global Integrated							
Exxon Mobil Corp	XOM	$383,660	5.95%	14.8%	9.3x	3,919	$97,900
Royal Dutch Shell PLC	RDS/A	$311,652	14.75%	14.1%	5.7x	3,755	$82,990
Chevron Corp	CVX	$260,202	2.85%	21.9%	7.5x	3,100	$83,924
Occidental Petroleum Corp	OXY	$56,793	-1.90%	54.0%	5.9x	720	$78,897
BP PLC	BP	$193,165	11.12%	11.2%	5.8x	3,953	$48,865
Group Median			**5.95%**	**14.8%**	**5.9x**	**3,755**	**$82,990**
Global E&P							
Marathon Oil Corp	MRO	$17,714	-4.95%	68.9%	4.2x	424	$41,825
Hess Corp	HES	$24,064	20.58%	44.0%	8.6x	283	$85,070
ConocoPhillips	COP	$84,640	4.06%	42.5%	5.5x	1,352	$62,626
Anadarko Petroleum Corp	APC	$40,397	-10.94%	53.6%	6.0x	729	$55,408
Noble Energy Inc	NBL	$18,959	-12.85%	46.7%	8.4x	363	$52,268
Apache Corp	APA	$22,184	-3.00%	58.1%	5.2x	492	$45,124
Murphy Oil Corp	MUR	$8,300	29.03%	67.8%	4.9x	193	$43,096
Group Median			**-3.00%**	**53.6%**	**5.5x**	**424**	**$52,268**

Source: Bloomberg L.P.

- Price per Flowing Barrel is EV/ daily production ($/boe/d)
- Companies included in the Guideline Group were selected from a broader guideline group. The selected companies' market caps exceed $1 billion and revenues exceed $500 million.
- We have reviewed 10-K's and annual reports from guideline companies to ensure companies continue to operate in the regions and groups we have identified. The only change from our prior edition is to move EQT Corp from the North American E&P group to the Appalachia Region.

Appendix A

Selected Public Company Information

					as of 3/31/2019		
Company Name	Ticker	3/31/2019 Enterprise Value	YOY % Change in EV	EBITDAX Margin	EV/ EBITDAX	Daily Production (mboe/d)	Price per Flowing Barrel*
North American E&P							
Ultra Petroleum Corp	UPL	$2,319	-20.50%	61.7%	4.7x	112	$20,667
Encana Corp	ECA	$13,969	-1.89%	49.9%	4.7x	570	$24,510
Devon Energy Corp	DVN	$17,366	-32.68%	18.5%	7.7x	522	$33,236
Enerplus Corp	ERF	$2,253	-25.30%	58.2%	4.0x	97	$23,175
QEP Resources Inc	QEP	$4,348	-3.79%	-31.6%	-7.7x	77	$56,374
WPX Energy Inc	WPX	$8,018	-5.92%	71.7%	5.6x	159	$50,451
EQT Corp	EQT	$10,778	-54.39%	-5.6%	-39.5x	684	$15,763
Chesapeake Energy Corp	CHK	$14,570	0.42%	23.4%	6.3x	481	$30,314
Group Median			**-13.21%**	**36.7%**	**4.7x**	**320**	**$27,412**
Bakken							
Continental Resources Inc/OK	CLR	$22,597	-20.52%	73.7%	6.5x	332	$68,095
Whiting Petroleum Corp	WLL	$5,179	-13.22%	65.7%	4.1x	130	$39,819
Oasis Petroleum Inc	OAS	$4,843	1.11%	30.7%	8.5x	90	$53,551
Crescent Point Energy Corp	CPG	$4,908	-29.32%	-60.6%	-3.4x	172	$28,463
Group Median			**-16.87%**	**48.2%**	**5.3x**	**151**	**$46,685**

Source: Bloomberg L.P.

- Price per Flowing Barrel is EV/ daily production ($/boe/d)
- Companies included in the Guideline Group were selected from a broader guideline group. The selected companies' market caps exceed $1 billion and revenues exceed $500 million.
- We have reviewed 10-K's and annual reports from guideline companies to ensure companies continue to operate in the regions and groups we have identified. The only change from our prior edition is to move EQT Corp from the North American E&P group to the Appalachia Region.

Appendix A

Selected Public Company Information

					as of 3/31/2019		
Company Name	Ticker	3/31/2019 Enterprise Value	YOY % Change in EV	EBITDAX Margin	EV/ EBITDAX	Daily Production (mboe/d)	Price per Flowing Barrel*
Appalachia							
Range Resources Corp	RRC	$6,648	-13.91%	-27.3%	-7.6x	388	$17,130
Cabot Oil & Gas Corp	COG	$12,274	1.43%	62.0%	9.4x	404	$30,362
Antero Resources Corp	AR	$9,009	-23.54%	23.6%	8.6x	535	$16,824
Gulfport Energy Corp	GPOR	$3,342	-9.82%	61.9%	3.8x	231	$14,467
Southwestern Energy Co	SWN	$4,656	-39.86%	33.5%	3.7x	352	$13,232
Group Median			**-13.91%**	**33.5%**	**3.8x**	**388**	**$16,824**
Permian Basin							
Concho Resources Inc	CXO	$26,611	5.53%	87.4%	7.7x	329	$80,830
Parsley Energy Inc	PE	$8,133	-23.72%	72.4%	6.8x	130	$62,724
Diamondback Energy Inc	FANG	$21,406	51.69%	73.9%	14.1x	284	$75,276
Halcon Resources Corp	HK	$783	3.32%	76.4%	4.4x	23	$33,484
Laredo Petroleum Inc	LPI	$1,678	-39.66%	50.1%	3.1x	72	$23,320
Pioneer Natural Resources Co	PXD	$26,655	-10.80%	34.3%	8.8x	338	$78,941
Cimarex Energy Co	XEC	$7,777	-22.30%	70.9%	4.7x	265	$29,309
Group Median			**-10.80%**	**72.4%**	**6.8x**	**265**	**$62,724**

Source: Bloomberg L.P.

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- Companies included in the Guideline Group were selected from a broader guideline group. The selected companies' market caps exceed $1 billion and revenues exceed $500 million.
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Appendix A

Selected Public Company Information

Company Name	Ticker	3/31/2019 Enterprise Value	YOY % Change in EV	EBITDAX Margin	EV/ EBITDAX (as of 3/31/2019)	Daily Production (mboe/d) (as of 3/31/2019)	Price per Flowing Barrel* (as of 3/31/2019)
Eagle Ford							
Carrizo Oil & Gas Inc	CRZO	$3,024	-4.70%	70.0%	4.5x	69	$44,014
SM Energy Co	SM	$4,482	-2.76%	94.8%	2.9x	129	$34,691
EOG Resources Inc	EOG	$59,738	-10.12%	48.1%	7.3x	816	$73,169
Group Median			**-4.70%**	**70.0%**	**4.5x**	**129**	**$44,014**
Overall Median			**-4.95%**	**50.1%**	**5.6x**	**338**	**$44,014**

Source: Bloomberg L.P.

- Price per Flowing Barrel is EV/ daily production ($/boe/d)
- Companies included in the Guideline Group were selected from a broader guideline group. The selected companies' market caps exceed $1 billion and revenues exceed $500 million.
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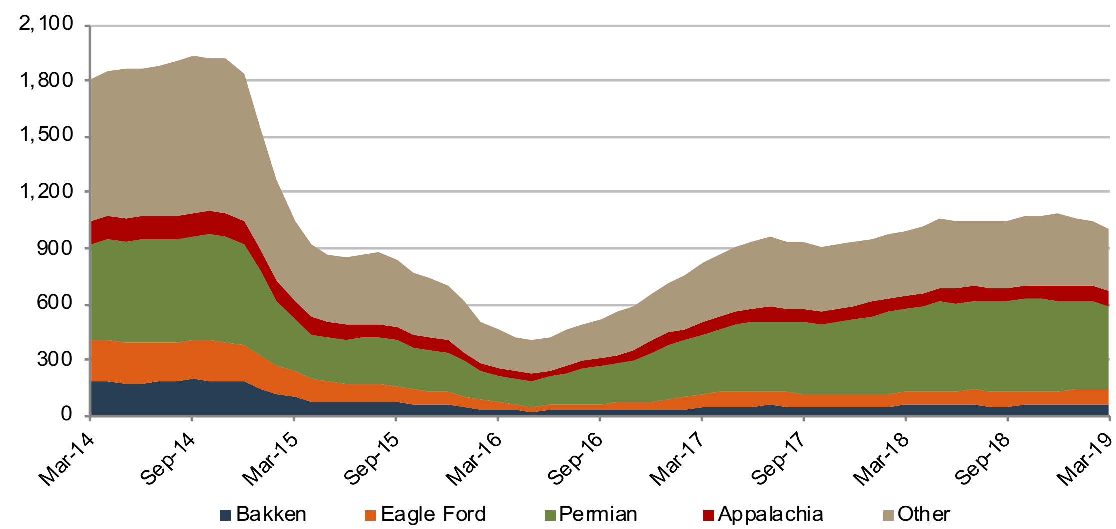
Appendix B

Rig Count

Baker Hughes collects and publishes information regarding active drilling rigs in the United States and internationally. The number of active rigs is a key indicator of demand for oilfield services & equipment. Factors influencing rig counts include energy prices, investment climate, technological changes, regulatory activity, weather, and seasonality.

The number of active rigs in the United States as of March 31, 2019 stood at 1,003, a 1.5% increase from March 31, 2017, but a 7.1% decline from year-end 2018. Activity in the Eagle Ford followed a similar pattern. The increase reflects a pickup in drilling activity from the increase of oil prices from $60/bbl to begin 2018, to over $76 in early October, followed by a sharp decline to close the year. Crude prices have improved in the first quarter of 2019, but rig counts have declined. With changing dynamics within the industry, well counts and DUCs are beginning to play a more prominent role as a measure of activity over purely looking at rig counts.

Rig Count by Region



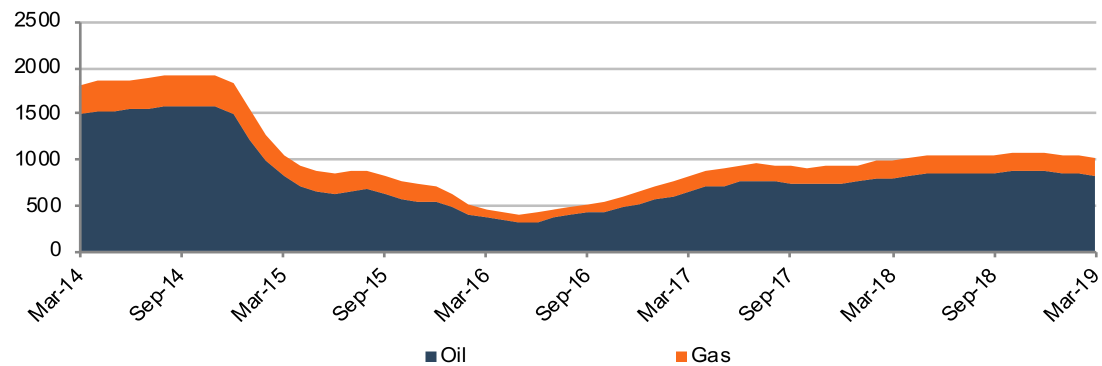
Source: Baker Hughes

[1] Calculations based on monthly crude oil and gas production and EIA drilling report by region.

Appendix B

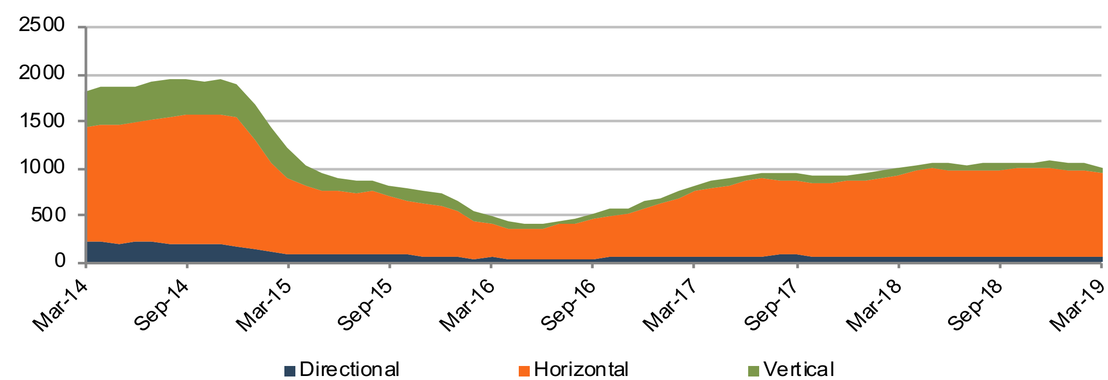
Rig Count

U.S. Rig Count by Oil vs. Natural Gas



Source: Baker Hughes

U.S. Rig Count by Trajectory



Source: Baker Hughes

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