

VALUE FOCUS

Exploration & Production

Fourth Quarter 2021 // Region Focus: Appalachian Basin

EXECUTIVE SUMMARY

The fourth quarter of 2021 marked a recent milestone in a long upward march for energy prices. WTI closed the year above \$75 (compared to \$48 at the end of 2020), while the Henry Hub spot price closed at \$3.82 per mmbtu (compared to \$2.36 at the end of 2020). Stating the obvious, commodity prices were more economically attractive to producers in the latter half of the year as compared to the previous 6 to 8 quarters. The XLE index, which primarily tracks the broader energy sector, was up over 50% for 2021. Rig counts, although deployed with more caution than in the past, rose along with prices in 2021. Crude oil and natural gas production in the U.S. followed suit, despite the appearance of the Omicron COVID variant, which raised uncertainty in the markets and sparked a price decline in December. However, while the effects of COVID may have slightly dampened the trajectory of energy prices late in 2021, there is little to suggest that overall demand for oil and gas has receded as well.



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
- Transaction advisory for acquisitions and divestitures
- Valuations for purchase accounting and impairment testing
- Fairness and solvency opinions
- Litigation support for economic damages and valuation and shareholder disputes

Industry Segments

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- Exploration & Production
- Oil Field Services
- Midstream Operations
- Alternative Energy
- Downstream
- Retail

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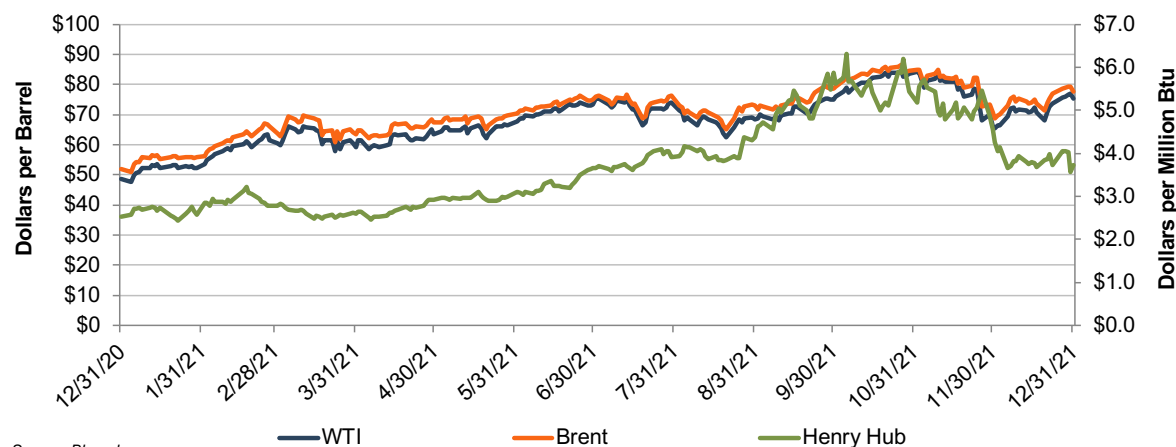
Oil and Gas Commodity Prices

Commodity Price Volatility Returns

Oil prices slowly and steadily rose through the first two quarters of 2021 as the vaccine rollout and lower COVID case counts spurred economic activity. Oil prices were more volatile in the third quarter as the Delta variant caused an increase in COVID cases and concerns regarding the economic recovery. U.S. COVID cases peaked in early September, though, giving oil prices a boost during the latter part of the quarter. The net result is that WTI front-month futures prices began and ended Q3 at about the same place – approximately \$75/bbl. The upward price momentum continued in the fourth quarter as WTI futures prices nearly reached \$85/bbl in October. This optimism was short-lived as the discovery of the new Omicron variant sent oil prices plunging in November. Prices rebounded in December as research has shown that, while highly transmissible, the Omicron variant typically results in less severe illness relative to previous variants. As of December 14th, WTI front-month futures price settled at \$70.52/bbl. Going forward, the EIA **expects prices to be flat to down** in the near term as “growth in production from OPEC+, of U.S. tight oil, and from other non-OPEC countries will outpace slowing growth in global oil consumption, especially in light of renewed concerns about COVID-19 variants.”

Natural gas prices steadily increased during the first three quarters of the year, which the EIA primarily attributes to “growth in liquefied natural gas (LNG) exports, rising domestic natural gas consumption for sectors other than electric power, and relatively flat natural gas production.” In the fourth quarter of 2021, natural gas prices were relatively volatile as inventories were lower than recent averages, though mild weather late in the quarter resulted in less gas used for heating.

Crude Oil and Natural Gas Prices



Source: Bloomberg

Macro Update

The close of 2021 marked the end of a long upward march for the energy sector. With oil closing up the year above \$75 (compared to \$48 at the end of 2020) and gas pushing towards \$4 per mmbtu (compared to \$2.36 at the end of 2020), the commodity markets driving the energy sector were much more economically attractive to producers. The XLE index, which primarily tracks the broader energy sector, was up over 50% for 2021 and was by far the best performing sector. Rig counts, although with more cautious deployment than in the past, rose along with prices and increased by 235 for the year (586 at year-end 2021 vs. 351 at year-end 2020). Crude production rose to 11.7 million bbl/day with room to grow as inventories were about 7% below the five-year average. OPEC+ also signaled a continuation of its publicized scheduled output. All of this growth is coming alongside the ascent of wind and solar. The Omicron variant raises uncertainty about the markets and took a cut into prices in December. However, while COVID may dampen growth in demand, most analysts believe the pandemic will not stop it.

Prices & Production

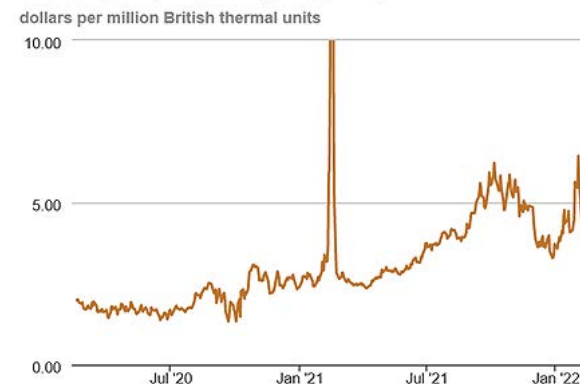
“We expect Brent prices will average \$71/bbl in December and \$73/bbl in the first quarter of 2022 (1Q22). For 2022 as a whole, we expect that growth in production from OPEC+, of U.S. tight oil, and from other non-OPEC countries will outpace slowing growth in global oil consumption, especially in light of renewed concerns about COVID-19 variants. We expect Brent prices will remain near current levels in 2022, averaging \$70/bbl.”

– EIA, December 7, 2021

The steady climb of prices in 2021 reflected a rebound in demand that exceeded earlier expectations. It also reflected a more cautious approach to increasing growth capital expenditures and production. However, that may not last much longer as forecasts increasingly suggest capital spending for upstream producers will pick up in 2022.

Perhaps even more impactful for upstream producers has been the rise of natural gas prices in 2021. After languishing for so long, prices not only exceeded \$3.00 per mmbtu, but rose to over \$5.00 for a brief period.

Natural gas spot prices (Henry Hub)



Source: Graph by the U.S. Energy Information Administration (EIA), based on data from Natural Gas Intelligence

Note: Henry Hub prices reported for February 16 and 17, 2021, exceeded the published range, averaging \$16.96/MMBtu and \$23.61/MMBtu, respectively.



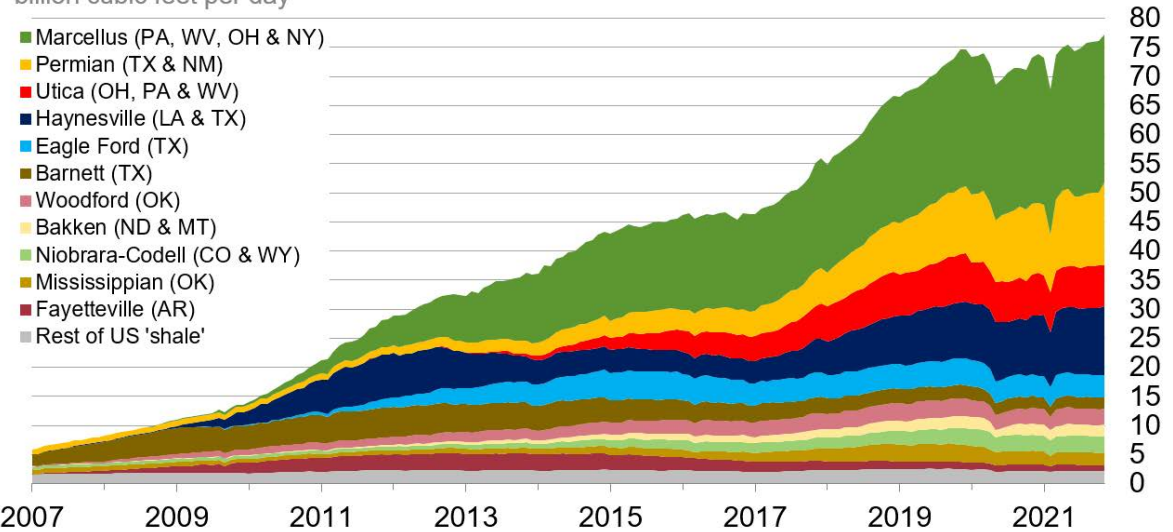
Macro Update (cont.)

Prices & Production (cont.)

Excluding the temporary spike in mid-February due to Winter Storm Uri, these price levels have been unseen for many years and are anticipated to remain near \$4.00/mmbtu in 2022, however, volatility is expected to be higher as well. Production has increased, particularly in Appalachia, and has now reached pre-pandemic levels.

Monthly dry shale gas production

billion cubic feet per day



Source: Graph by the U.S. Energy Information Administration (EIA) based on state administrative data collected by Enverus. Data are through November 2021 and represent EIA's official tight gas estimates, but are not survey data. State abbreviations indicate primary state(s).
 Note: Improvements to play identification methods have altered production volumes of between various plays.

Perhaps production efforts will be less restrained in 2022 than the past few years. According to the *Dallas Fed Energy Survey*, 75% of companies surveyed plan to spend more in 2022 than the prior year vs. 49% in the same survey given at the end of 2020. Cowen & Co. says the E&P companies it tracks plan to spend 13% more in 2022 vs. 2021 after significant drops of 48% in 2020 and 12% in 2019. Much of this growth vigor is fueled by smaller

Macro Update (cont.)

Prices & Production (cont.)

E&P companies that have struggled so much in recent years. However, there is still a lot of uncertainty with inflation and other issues which are keeping larger companies more conservative with their capital, as reflected in comments like this:

“Supply-chain issues continue to create logistical challenges, and it is difficult to plan and/or coordinate upstream operational activity. Labor shortages have contributed to this issue as well. Pandemic worries are definitely impacting the oil demand side, with resultant uncertainty with respect to commodity pricing and supply forecasting.”

– **Dallas Fed Respondent**

For larger companies, debt reduction and quality asset acquisitions are a higher priority as opposed to riding the drill bit.

LNG Delays - But Rest Assured, It Is Coming

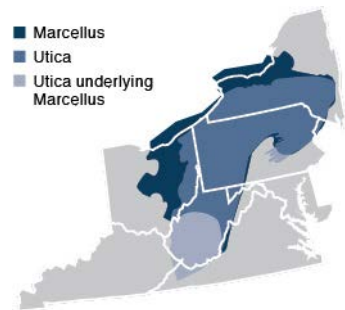
One of the outlets for rising U.S. natural gas production has been the **development of LNG** facilities along the Gulf Coast. At the end of 2020 there were five (5) facilities under construction. Unfortunately, as of the end of 2021, construction on only one of those terminals was finished. There are still four (4) terminals under construction and none of the 13 other approved terminals had started construction yet. This has inhibited LNG exports as a major outlet for natural gas production. The pandemic has delayed bringing online over eight (8) Bcfd of processing capacity, and the Biden administration has not facilitated this effort either. However, more processing capacity is anticipated to come online in 2022, which should help continue the growth in exports of natural gas from the U.S.

Regulatory Prognostications

Speaking of which, **we were discussing** some potential policy impacts of a Biden administration in late 2020 as the U.S. national election was approaching. Several of those potential policies have come to pass, such as permit rejections, the stoppage of the Dakota Access Pipeline, and a decline in drilling on federal lands. One thing that has not borne out is the projections by some of a decline in oil production of as much as 2.0 mmbbl/d by 2025. Production has held strong so far as prices increased in 2021. Considering the volatility in both regulation and markets, that's pretty good in the prediction department.

Appalachian Basin

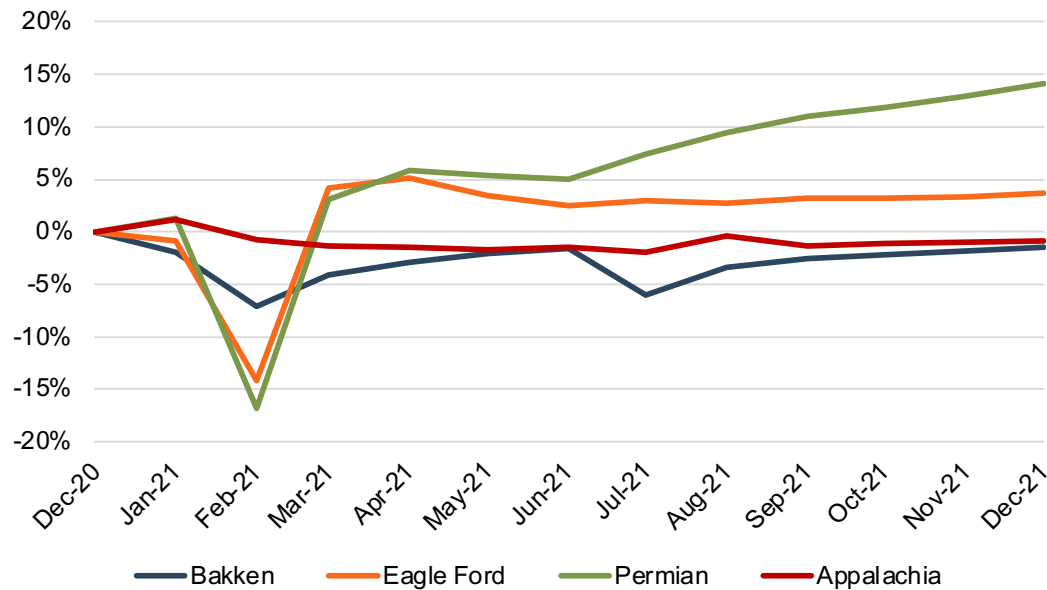
Production and Activity Levels



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 Bakken.

Estimated Appalachian production (on a barrels of oil equivalent, or “boe,” basis) decreased approximately 1% year-over-year through December. Production in the Permian and Eagle Ford increased 14% and 4% year-over-year, respectively, while the Bakken’s production declined 1%. Despite a much-improved commodity price environment, Appalachian production was very stable, driven by producers’ capital discipline and the fact that the region was largely unaffected by Winter Storm Uri that disrupted power supplies throughout Texas in February 2021.

1-Year Change in Production



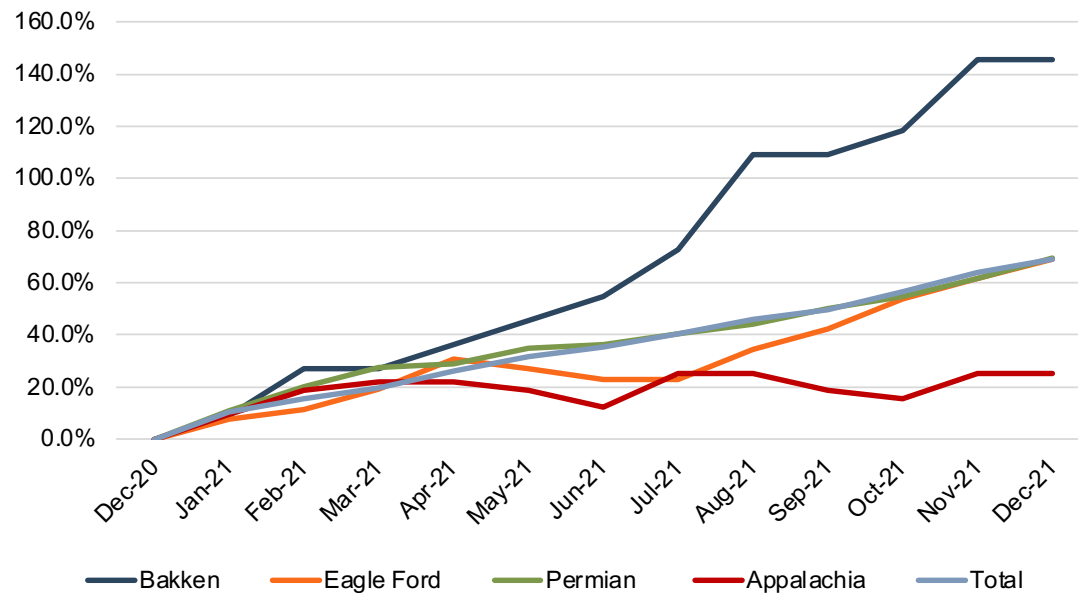
Source: EIA

Production and Activity Levels (cont.)

There were 40 rigs in the Marcellus and Utica as of December 31st, up 21% from December 18th, 2020. Bakken, Eagle Ford, and Permian rig counts were up 145%, 69%, and 68%, respectively, over the same period.

One may wonder why Appalachia production has been relatively flat while the region's rig count has increased. The answer has to do with legacy production declines and new well production per rig. Based on data from the U.S. Energy Information Administration ("EIA"), the Marcellus and Utica need roughly 37 rigs running to offset existing production declines. Relative to last year, most of Appalachia's additional rigs came online in January and February, and the total rig count has generally ranged between 36 and 40 since then (in line with the maintenance level). As such, production growth will likely be modest without additional rigs.

1-Year Change in Rig Count

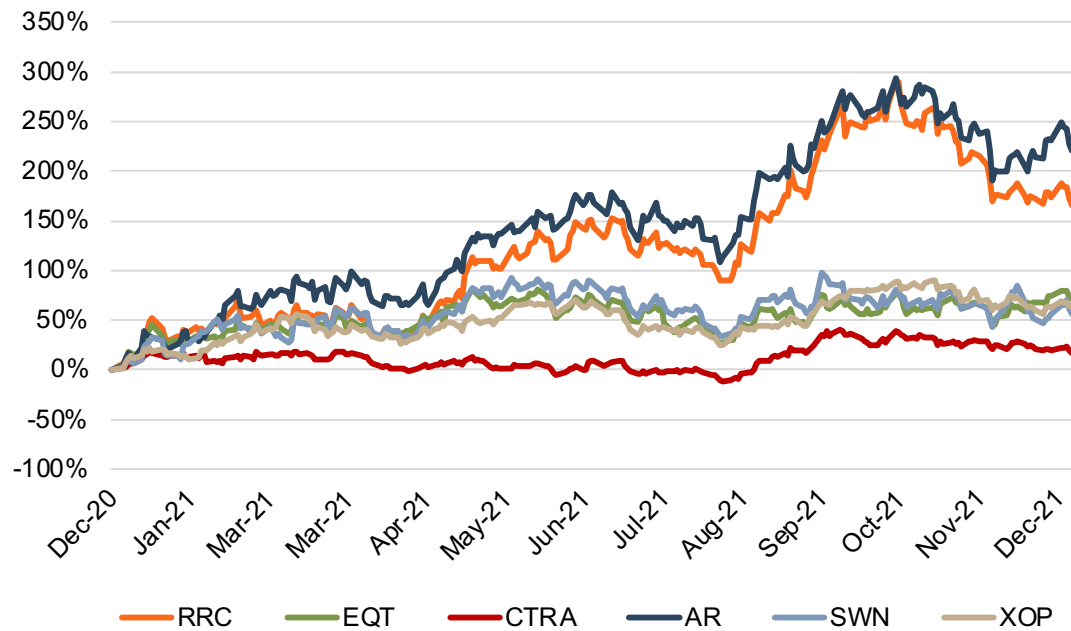


Source: Baker Hughes

Financial Performance

The Appalachia public comp group saw relatively strong stock price performance over the past year (through December 31st). The beneficial commodity price environment was a significant tailwind to smaller, more leveraged producers like Antero Resources and Range Resources, whose stock prices increased 221% and 166%, respectively, during the past year, outperforming the broader E&P sector (as proxied by XOP, which rose 64% during the same period). Larger, less leveraged players like EQT and Coterra (formerly Cabot) were laggards, with their stock prices increasing by 72% and 17%, respectively, though we note that EQT did outperform the XOP.

1-Year Change in Stock Price



Source: S&P Capital IQ Pro.

Senator Warren Lashes Out Over High Natural Gas Prices

In late November, Massachusetts Senator Elizabeth Warren wrote a **strongly worded letter** to eleven natural gas producers, including Appalachia E&Ps EQT, Coterra, Antero Resources, Ascent Resources, Southwestern, and Range Resources. According to Senator Warren's **press release**, the purpose of the letter was to "[turn] up the heat on big energy companies' greed as they jack up natural gas prices, exporting record amounts to boost profits while Americans foot the bill" despite the fact that natural gas producers are simply price-takers, selling a commodity into a competitive market with essentially no control over prices.

It is true that LNG exports from the U.S. have **increased dramatically** over the past several years. However, that has been driven by the construction and completion of LNG export facilities, resulting in part by **continued resistance** to pipelines that would connect the Marcellus and Utica regions to East Coast population centers. And while Senator Warren criticized producers for their greed, "putting their massive profits, share prices and dividends for investors ... ahead of the needs of American consumers," she did not thank E&P companies for their previous largesse (or lack of capital discipline) in which natural gas prices were often below \$2/mmbtu and numerous natural gas producers went bankrupt.

EQT **publicly responded** to Senator Warren's letter. Despite the recent run-up in natural gas prices "as the economic engines of the world have reignited," the company cited that current prices are "significantly below the 20-year average of approximately \$5.70 per Mcf." As a result of the shale revolution, "the United States consumer has benefited from, and continues to benefit from, some of the lowest natural gas prices in the world." The remainder of EQT's response was largely focused on natural gas's green credentials. Toby Rice, EQT's CEO, wrote that the United States led the world in CO2 emissions reduction from 2005 to 2020 largely as result of replacing coal power plants with natural gas power plants. If the world wants to reduce emissions, there are no alternatives with the scale and speed of switching power generation from coal to gas. But with 91% of coal-fired power generation located outside the United States, the transition will require exports of U.S. natural gas to countries without their own supply.

Market Valuations & Transaction History

Activity in 2021 was
Muted Relative to 2020

Transactions in the Appalachian Basin 2021

Announced Date	Buyer	Seller	Deal Value (\$MM)	\$ / Acre	\$ / Mcfe/d
5/6/21	EQT Corp	Alta Resources Development, LLC	\$2,925	\$9,750	\$2,925
3/23/21	LOLA Energy	Undisclosed Seller	Undisclosed	nm	nm
2/3/21	Northern Oil and Gas, Inc.	Reliance Industries Limited	126	2,045	1,053
Median			\$1,526	\$5,898	\$1,989
Average			\$1,526	\$5,898	\$1,989

Source: Shale Experts

The three transactions in the Marcellus & Utica basins over the past year were just a trickle compared to the 16 transactions reported in the prior year for the Appalachian basins.

The number of transactions in 2020 was more than double the seven transactions in 2019, driven in part by the relative price stability of natural gas as compared to oil which would naturally tend to favor M&A activity in these gas-heavy basins. One key observation of the transactions in 2020 was that companies were making critical decisions regarding where to operate on a forward-looking basis. Companies, such as Shell, took the position of divesting their Appalachia assets, while other companies, such as EQT, chose to augment their Appalachian footprint. The table below summarizes transaction activity in the Marcellus & Utica in 2020.

Transactions in the Appalachian Basin 2020

Announced Date	Buyer	Seller	Deal Value (\$MM)	\$ / Acre	\$ / Mcfe/d
11/17/20	Rising Phoenix Royalties	Undisclosed Seller	Undisclosed	nm	nm
11/6/20	Undisclosed Buyer	EOG Resources, Inc.	130	2,826	2,321
10/27/20	EQT Corp	Chevron Corp	735	2,194	1,633
9/18/20	Smart Sand Inc	Eagle Materials Inc.	2	nm	nm
9/11/20	Pin Oak Midstream LLC	Laurel Mountain Energy LLC	Undisclosed	nm	nm
9/4/20	Rising Phoenix Royalties	CNX Resources	Undisclosed	nm	nm

Source: Shale Experts

Market Valuations & Transaction History (cont.)

Activity in 2021 was Muted Relative to 2020 (cont.)

Transactions in the Appalachian Basin 2020 (cont.)

Announced Date	Buyer	Seller	Deal Value (\$MM)	\$ / Acre	\$ / Mcfe/d
8/31/20	Rising Phoenix Royalties	Undisclosed Seller	Undisclosed	nm	nm
8/12/20	Southwestern Energy Co.	Montage Resources Corp.	857	2,641	1,475
8/11/20	JP Morgan Securities	Antero Resources	220	nm	3,667
7/27/20	CNX Resources	CNX Midstream Partners	357	nm	nm
7/8/20	Undisclosed Buyer	Harvest Oil & Gas Corp	21	29	700
6/15/20	Sixth Street Partners LLC	Antero Resources	402	nm	nm
5/14/20	Diversified Gas & Oil	EQT Corp	125	nm	14
5/4/20	National Fuel Gas Co.	Royal Dutch Shell	541	1,353	2,437
4/14/20	Diversified Gas & Oil	Carbon Energy Corp.	110	nm	2
1/24/20	KeyBank	EdgeMarc Energy	70	2,188	1,489
Median			\$175	\$2,191	\$1,489
Average			\$297	\$1,872	\$1,526

Source: Shale Experts

The decline in transaction activity in 2021 most likely indicates that anyone looking to get into or out of the Appalachian basins effectively did so in 2020, or held back on pursuing opportunities due to the sharp increase in natural gas price volatility in 2021. However, that is not to say that the activity in 2021 was any less interesting. Notable changes in the statistics between the transactions in 2020 and 2021 include a sizable increase in the median and average deal values, price per acre, and price per production unit. Based on the much smaller sample size in 2021, the magnitude of these differences probably doesn't mean too much. But one metric, production per acre (or MMcf/Acre), on an annualized basis, could be indicative of a greater focus on obtaining more productive assets in 2021 than the transactions observed in 2020. The table on the next page summarizes the estimated annualized production per acre, including the median and average values, for the transactions in 2020 and 2021.

Market Valuations & Transaction History (cont.)

Activity in 2021 was Muted
Relative to 2020
(cont.)

Estimated Annualized Production Per Acre for Transactions 2020-2021

Announced Date	Buyer	Seller	Deal Value (\$MM)	\$ / Acre	\$ / Mcfe/d
5/6/21	EQT Corp	Alta Resources Development, LLC	300,000	1,000	1.22
3/23/21	LOLA Energy	Undisclosed Seller	22,000	85	1.41
2/3/21	Northern Oil and Gas, Inc.	Reliance Industries Limited	61,800	120	0.71
Median			61,800	120	1.22
Average			127,933	402	1.11
11/17/20	Rising Phoenix Royalties	Undisclosed Seller	na	na	na
11/6/20	Undisclosed Buyer	EOG Resources, Inc.	46,000	56	0.44
10/27/20	EQT Corp	Chevron Corp	335,000	450	0.49
9/18/20	Smart Sand Inc	Eagle Materials Inc.	na	na	na
9/11/20	Pin Oak Midstream LLC	Laurel Mountain Energy LLC	na	na	na
9/4/20	Rising Phoenix Royalties	CNX Resources	na	na	na
8/31/20	Rising Phoenix Royalties	Undisclosed Seller	na	na	na
8/12/20	Southwestern Energy Co.	Montage Resources Corp.	324,500	581	0.65
8/11/20	JP Morgan Securities	Antero Resources	na	60	na
7/27/20	CNX Resources	CNX Midstream Partners	na	na	na
7/8/20	Undisclosed Buyer	Harvest Oil & Gas Corp	713,401	29	0.02
6/15/20	Sixth Street Partners LLC	Antero Resources	na	na	na
5/14/20	Diversified Gas & Oil	EQT Corp	na	9,000	na
5/4/20	National Fuel Gas Co.	Royal Dutch Shell	400,000	222	0.20
4/14/20	Diversified Gas & Oil	Carbon Energy Corp.	na	59,400	na
1/24/20	KeyBank	EdgeMarc Energy	32,000	47	0.54
Median			329,750	222	0.47
Average			308,484	7,761	0.39

Source: Shale Experts

Market Valuations & Transaction History (cont.)

EQT Corporation Adds to Core Marcellus Asset Base

Buyers in 2021 seemed to target producing, rather than prospective, assets, as indicated by the median and average annualized MMcf/Acre metrics. Irrespective of the smaller transaction count (sample size) in recent history, the minimum production density metric in 2021 (0.71 MMcf/Acre) was nearly 9% greater than the maximum metric observed in the 2020 transactions (0.65 MMcf/Acre), and 52% and 82% higher than the median (0.47 MMcf/Acre) and average (0.39 MMcf/Acre) metrics, respectively, observed among the transactions in 2020. Again, this back-of-the-napkin statistical analysis may fall far short of being arguably significant, technically speaking, but it's pretty interesting as far as an eyeball test is concerned.

On May 6, EQT Corporation (NYSE:EQT) **announced** that it entered into a purchase agreement with Alta Resources Development, LLC ("Alta"), pursuant to which EQT would acquire all of the membership interests in Alta's upstream and midstream subsidiaries for approximately \$2.93 billion. EQT intended to finance the acquisition with \$1.0 billion in cash, drawing upon its revolving credit facility and/or through one of more debt capital market transactions, and stock consideration consisting of approximately 105 million EQT common shares, representing \$1.93 billion. The asset was comprised of approximately 300,000 core acres positioned in the northeast Marcellus region. Net production as of the transaction date was approximately 1.0 Bcfe per day, comprised of 100% dry gas. The transaction also included 300-miles of owned and operated midstream gathering systems and a 100-mile freshwater system with 255 million gallons of storage capacity. Toby Rice, President and CEO of EQT, stated that the acquisition represents an attractive entry into the northeast Marcellus while accelerating the company's deleveraging path, providing attractive free cash flow per share accretion for EQT shareholders and adding highly economic inventory to the company's robust portfolio. Mr. Rice also noted the transaction increases the company's long-term optionality, and should accelerate its path back to investment grade metrics while simultaneously achieving its shareholder return initiatives.

Market Valuations & Transaction History (cont.)

Northern Oil and Gas, Inc. Acquires Non-Operated Appalachian Assets

On February 3, Northern Oil and Gas (NYSEAM:NOG) **agreed to acquire certain non-operated natural gas assets** in the Appalachian basin from Reliance Marcellus, LLC (“Reliance”), a subsidiary of Reliance Industries, Ltd., for total consideration of \$175 million in cash and approximately 3.25 million warrants to purchase shares of NOG common stock at an exercise price of \$14.00 per share. The transaction was expected to be funded through a combination of equity and debt financings and anticipated to be leverage neutral on a trailing basis and leverage accretive on a forward basis. At the effective date of July 1, 2020, the acquired assets were producing approximately 120 MMcfe/d of natural gas equivalents, net to Northern Oil and Gas. The assets were expected to produce approximately 100,110 MMcfe/d (or approximately 19,000 Boe/d) in 2021, net to Northern Oil and Gas, and consisted of approximately 64,000 net acres containing approximately 102.2 net producing wells, 22.6 net wells in process, and 231.1 net undrilled locations in the core of the Marcellus and Utica plays.

Furthermore, an inventory of 94 gross highly-economic, work-in-progress (“WIP”) wells was slated for completion over the following five years by EQT. As of the transaction announcement, approximately \$50 million of net development capital had already been deployed on the WIP wells, which was not subject to reimbursement by Northern Oil and Gas. The acquisition complemented Northern Oil and Gas’s then-existing approximate 183,000 net acreage portfolio in the Williston and Permian basins. As of year-end 2020, the acquired assets held an estimated 493 Bcf of proved reserves, of which approximately 55% were comprised of PDP reserves, with PV-10 of \$269 million (at strip pricing as of January 20, 2021).

Nick O’Grady, Northern Oil and Gas’s CEO, commented, “This transaction furthers our goal of becoming a national non-operated franchise with low leverage, strong free cash flow and a path towards returning capital to shareholders. With this transaction, we expect increased opportunities to efficiently allocate capital and diversify risk, our commodity mix and geographic footprint.”

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 12/31/2021	
Company Name	Ticker	12/31/2021 Enterprise Value	YoY % Change in Stock Price	EBITDAX Margin	EV/ EBITDAX	Daily Production (mboe/d)	Price per Flowing Barrel*	
Global Integrated								
Exxon Mobil Corp	XOM	\$312,385	48.4%	20.4%	5.5x	3,696	\$84,528	
Royal Dutch Shell PLC	RDS/A	\$223,443	23.5%	20.9%	4.1x	3,194	\$69,961	
Chevron Corp	CVX	\$256,284	39.0%	25.4%	6.5x	3,091	\$82,907	
BP PLC	BP	\$141,486	29.8%	19.0%	4.8x	2,930	\$48,284	
Equinor ASA	EQNR	\$87,297	60.4%	50.1%	2.0x	1,948	\$44,814	
Group Median			39.0%	20.9%	4.8x	3,091	\$69,961	
Global E&P								
Marathon Oil Corporation	MRO	\$16,316	146.2%	67.0%	4.3x	345	\$47,272	
Hess Corporation	HES	\$29,941	40.2%	57.5%	7.1x	351	\$85,393	
ConocoPhillips	COP	\$109,212	80.5%	44.2%	5.3x	1,556	\$70,188	
Occidental Petroleum Corporation	OXY	\$65,213	67.5%	56.2%	4.5x	1,158	\$56,294	
APA Corporation	APA	\$18,817	89.5%	57.5%	4.1x	383	\$49,073	
Murphy Oil Corporation	MUR	\$7,042	115.8%	61.3%	4.1x	161	\$43,654	
Group Median			85.0%	57.5%	4.4x	367	\$52,684	

Source: Bloomberg L.P.

- Price per Flowing Barrel is EV/daily production (\$/boe/d)
- We review 10-K's and annual reports from guideline companies to ensure companies continue to operate in the regions and groups we have identified.

Appendix A

Selected Public Company Information

							as of 12/31/2021	
Company Name	Ticker	12/31/2021 Enterprise Value	YoY % Change in Stock Price	EBITDAX Margin	EV/ EBITDAX	Daily Production (mboe/d)	Price per Flowing Barrel*	
Bakken								
Continental Resources, Inc.	CLR	\$23,299	174.6%	82.9%	5.2x	327	\$71,220	
Whiting Petroleum Corporation	WLL	\$2,510	158.72%	37.4%	4.4x	91	\$27,513	
Oasis Petroleum Inc.	OAS	\$2,913	239.96%	9.3%	20.9x	58	\$50,114	
Group Median			174.6%	37.41%	5.2x	91	\$50,114	
Appalachia								
Range Resources Corporation	RRC	\$7,037	166.12%	30.5%	6.4x	333	\$21,110	
EQT Corporation	EQT	\$13,683	71.6%	11.6%	17.6x	846	\$16,173	
Coterra Energy Inc	CTRA	\$17,597	16.7%	69.4%	7.3x	427	\$41,208	
Antero Resources Corporation	AR	\$11,349	221.1%	39.3%	4.4x	552	\$20,573	
Southwestern Energy Company	SWN	\$10,293	56.4%	13.6%	11.4x	560	\$18,368	
Group Median			71.6%	30.5%	7.3x	552	\$20,573	
Permian Basin								
Diamondback Energy, Inc.	FANG	\$26,748	122.8%	68.2%	6.1x	371	\$72,120	
Centennial Resource Development, Inc.	CDEV	\$2,532	298.7%	53.9%	4.6x	61	\$41,251	
Callon Petroleum Company	CPE	\$5,625	259.0%	44.0%	6.3x	95	\$59,498	
Laredo Petroleum, Inc.	LPI	\$2,389	205.2%	36.5%	4.7x	81	\$29,522	
Pioneer Natural Resources Company	PXD	\$48,198	59.7%	39.4%	6.9x	616	\$78,226	
Group Median			205.2%	44.0%	6.1x	95	\$59,498	

Source: Bloomberg L.P.

- Price per Flowing Barrel is EV/daily production (\$/boe/d)
- We review 10-K's and annual reports from guideline companies to ensure companies continue to operate in the regions and groups we have identified.

Appendix A

Selected Public Company Information

							as of 12/31/2021	
Company Name	Ticker	12/31/2021 Enterprise Value	YoY % Change in Stock Price	EBITDAX Margin	EV/ EBITDAX	Daily Production (mboe/d)	Price per Flowing Barrel*	
Eagle Ford								
EOG Resources, Inc.	EOG	\$52,675	78.1%	55.4%	4.8x	827	\$63,681	
Magnolia Oil & Gas Corporation	MGY	\$3,689	167.3%	76.8%	4.5x	66	\$56,069	
SilverBow Resources, Inc.	SBOW	\$741	310.0%	48.9%	3.7x	35	\$21,475	
Group Median			167.3%	55.4%	4.5x	66	\$56,069	
OVERALL MEDIAN			89.5%	44.2%	4.8x	383	\$49,073	

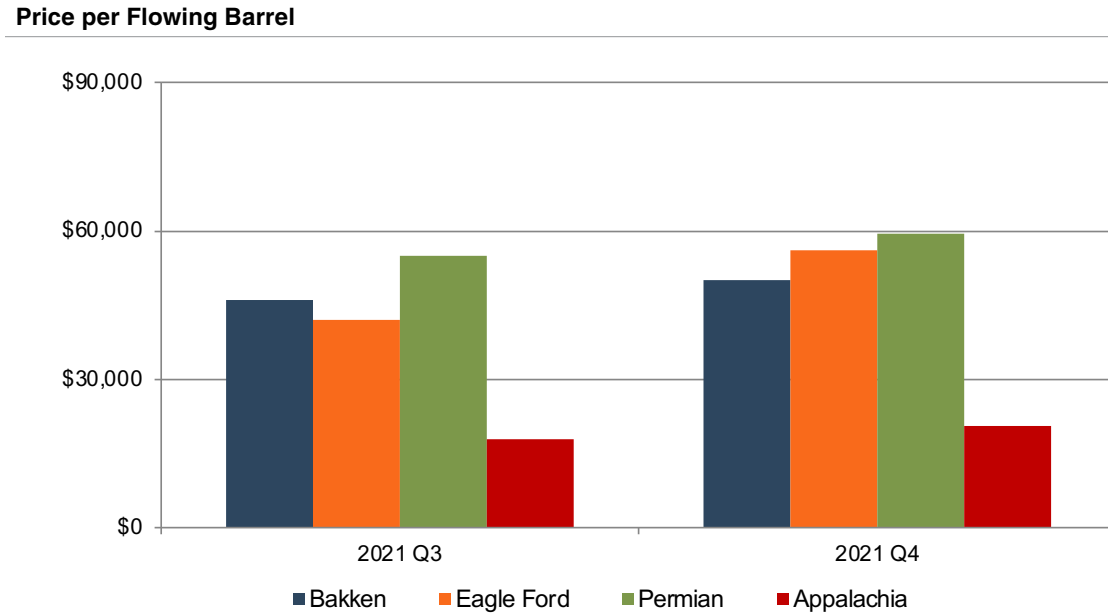
Source: Bloomberg L.P.

- Price per Flowing Barrel is EV/daily production (\$/boe/d)
- We review 10-K's and annual reports from guideline companies to ensure companies continue to operate in the regions and groups we have identified.

Appendix A

Selected Public Company Information

The following graph depicts the median of EV/production multiples, also known as price per flowing barrel, for Q4 2021, as compared to the median multiples for Q3.



Source: Bloomberg

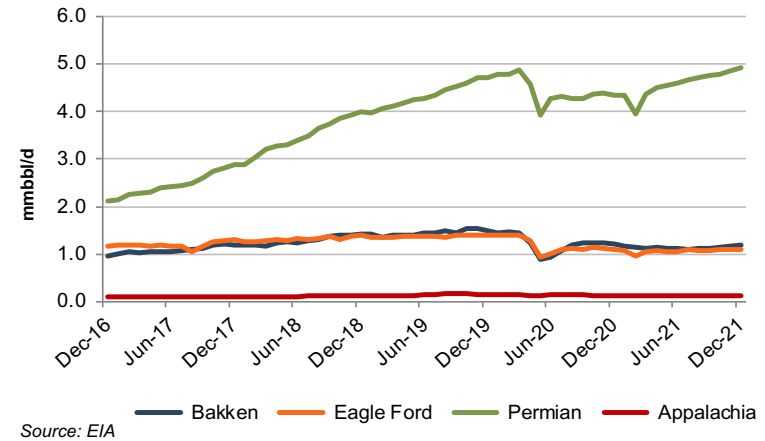
- Price per Flowing Barrel is EV/ daily production (\$/boe/d)
- This is simply a graphic depiction of median figures of our selected public companies for each region. This should be interpreted solely in the context of relative valuation between the various basins over time. Bloomberg aggregates this raw data, and Mercer Capital does not represent or warrant these figures as indicative of valuation multiples attributable to E&P companies or other interests.

Appendix B

Production

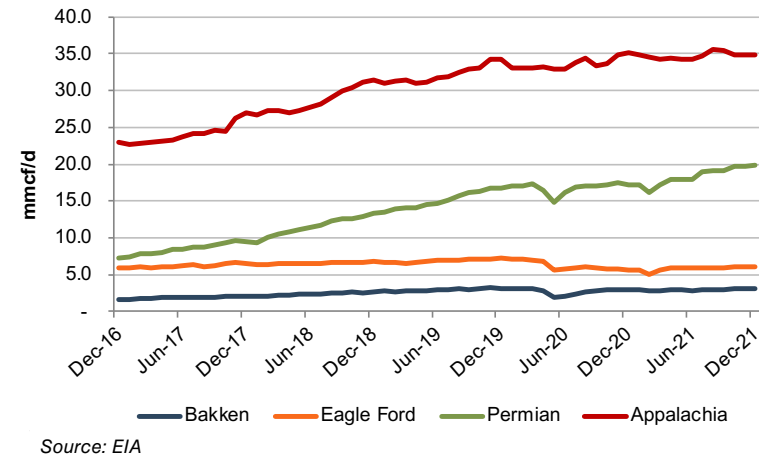
Daily Production of Crude Oil

Oil production in the Bakken, Eagle Ford, and Appalachia declined over the last year by 8.9%, 2.6%, and 12.5%, respectively. The Permian, however, experienced significant production growth of 11.4% year-over-year.



Daily Production of Natural Gas

Natural gas production in the Bakken, Permian, and Appalachia all increased over the last year 5.1%, 12.4%, and 6.4%, respectively. Natural gas production in the Eagle Ford was essentially flat, with growth of just 0.2%, year-over year.



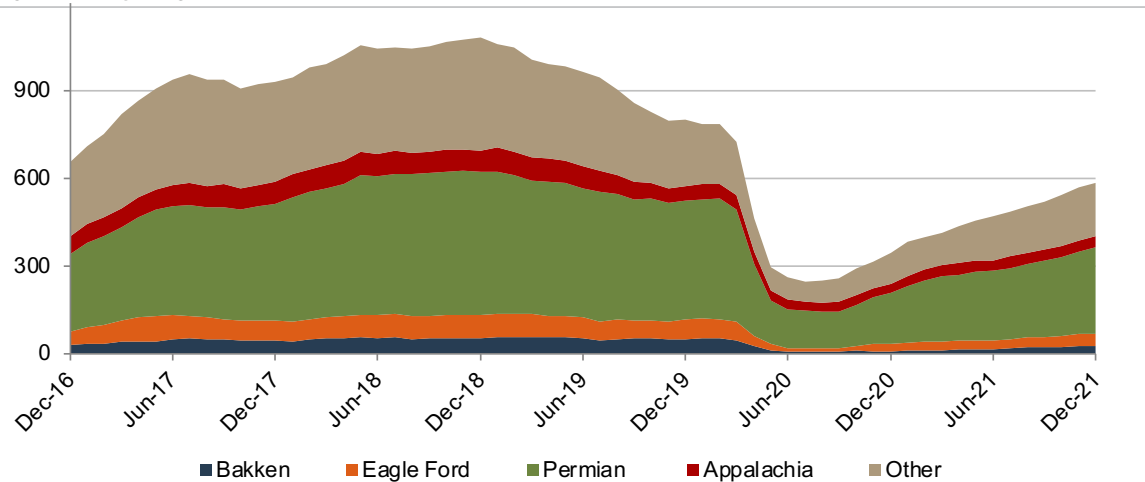
Appendix C

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 U.S. as of December 31, 2021 stood at 586, nearly 69% higher than the 347 count as of December 31, 2020, and 12.7% greater than the count in September 2021. The rig count in the Appalachian basins increased from 32 to 40 rigs over the last year as energy prices increased.

Rig Count by Region



Source: Baker Hughes

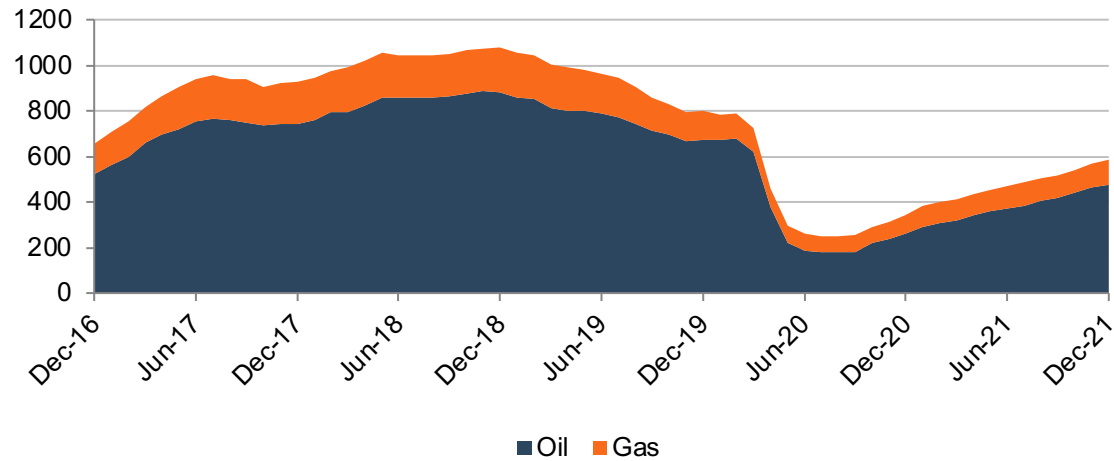
Source: Baker Hughes

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

Appendix C

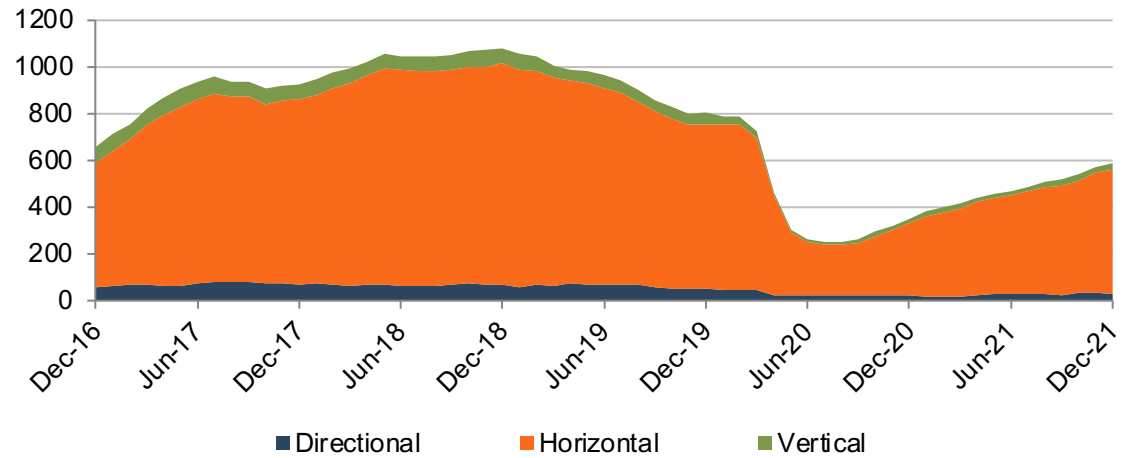
Rig Count

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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