MERCER CAPITAL

BUSINESS VALUATION & FINANCIAL ADVISORY SERVICES

VALUE FOCUS

Exploration & Production

Fourth Quarter 2022 // Region Focus: Appalachian Basin

EXECUTIVE SUMMARY

Production in the Marcellus & Utica held steady in 2022 despite historically high commodity price volatility driven by the Russian-Ukraine war, the sabotage of the Nord Stream pipelines, and rising LNG exports to Europe to stave-off potential winter heating shortages. The Q4 Appalachian rig count is at a level beyond that needed for production volume maintenance, so there would seem to be at least some potential for Henry Hub price reductions going into 2023. However, the demand for new natural gas supplies to Europe provides a countervailing wind to any potential downward movement in natural gas prices. In the end, the natural gas markets seem to be in the midst of a series of events that promise continued supply and demand shifts with no certainty as to where the market will go in 2023.

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

Mercer Capital serves the following industry segments:

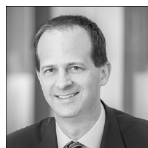
- Exploration & Production
- Oil Field Services
- Midstream Operations
- Alternative Energy
- Downstream
- Retail

Contact Us

Bryce Erickson, ASA, MRICS
214.468.8400
ericksonb@mercercapital.com
Dallas Office

Don Erickson, ASA
214.468.8400
ericksond@mercercapital.com
Dallas Office

J. David Smith, ASA, CFA
713.239.1005
smithd@mercercapital.com
Houston Office



Andrew B. Frew, ASA, ABV
832.966.0345
frewa@mercercapital.com
Houston Office

Sebastian S. Elzein
214.468.8400
elzeins@mercercapital.com
Dallas Office

Thomas G. Kasierski
281.378.1510
kasierskit@mercercapital.com
Houston Office

In This Issue

Oil and Gas Commodity Prices 1

Macro Update

Appalachian Gas Valuations: A Beautiful Future Emerges From An Ugly Past 2

Region Focus: Appalachian Basin 8

Production and Activity Levels 8

Financial Performance 10

Market Valuations & Transaction History 11

Shareholder Value Creation Abounds; ESG Interest Waning 11

Sitio Royalties and Brigham Minerals, Inc. Merge to Create the Largest Public Minerals Owner 12

EQT Corporation Continues to Add to Core Marcellus Asset Base 13

Northern Oil and Gas, Inc. Acquires Non-Operated Appalachian Assets 14

Selected Public Company Information 15

Production 19

Rig Count 20

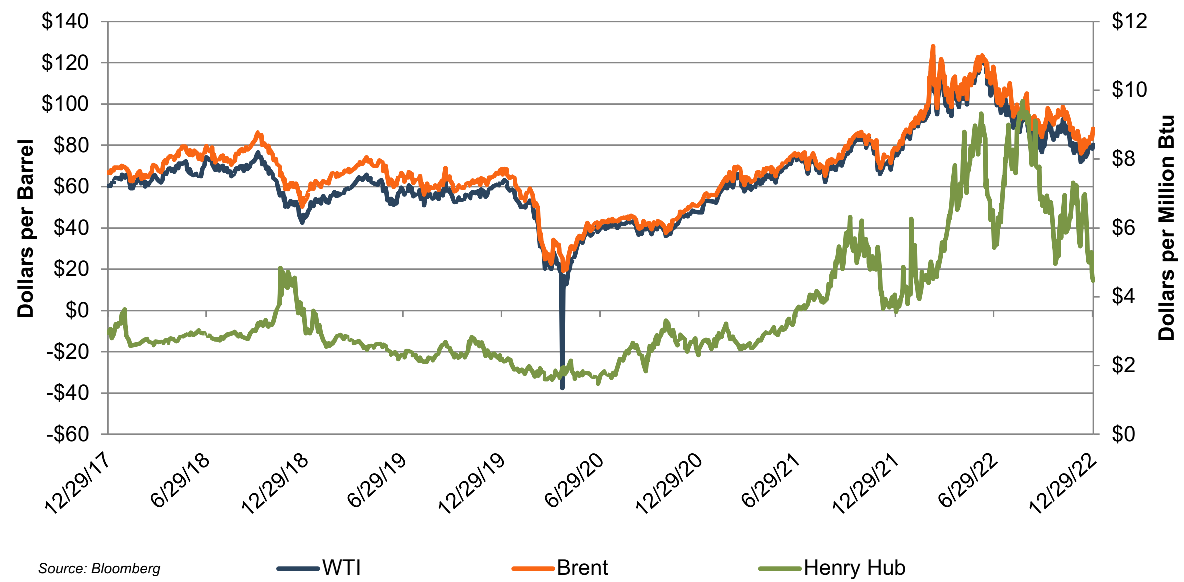
Learn More about Mercer Capital & our Oil and Gas Industry Services at **mer.cr/oilgas**

Copyright © 2023 Mercer Capital Management, Inc. All rights reserved. It is illegal under Federal law to reproduce this publication or any portion of its contents without the publisher's permission. Media quotations with source attribution are encouraged. Reporters requesting additional information or editorial comment should contact Barbara Walters Price at 901.685.2120. Mercer Capital's Industry Focus is published quarterly and does not constitute legal or financial consulting advice. It is offered as an information service to our clients and friends. Those interested in specific guidance for legal or accounting matters should seek competent professional advice. Inquiries to discuss specific valuation matters are welcomed. To add your name to our mailing list to receive this complimentary publication, visit our web site at www.mercercapital.com.

Oil and Gas Commodity Prices

Henry Hub natural gas front-month futures prices have experienced significant volatility over last year. 2022 Prices began on a general upswing before rising sharply as the market reacted to Russia's invasion of Ukraine in late February. As Russia subsequently began leveraging its natural gas supplies against Europe in retaliation of Europe's response to the war in Ukraine, natural gas prices became notably more volatile. They rose from an early March low of $4.56 to an early June high of $9.29 — only to drop back to $5.39 in late June and then hit a 2022 high of $9.42 in late August. By mid-December, Henry Hub had declined, albeit with only lightly reduced volatility, to $5.79.

2022 Oil prices, as benchmarked by West Texas Intermediate (WTI) and Brent Crude (Brent), also started on a steady upward trend that took the WTI from $76/bbl to $88/bbl and the Brent from $79/bbl to $91/bbl, prior to the Russian invasion. As the reality of the Russian-Ukraine war took hold, the oil benchmarks showed a marked uptick in volatility that lasted into mid-May, with prices hitting highs of $120/bbl and $128/bbl and lows of $93/bbl and $96/bbl. Since then, WTI and Brent prices have trended downward, exhibiting more typical volatility than the modest rallies in August and October. As of mid-December, WTI sat at $73/bbl and Brent at $78/bbl.



Macro Update

Appalachian Gas Valuations: A Beautiful Future Emerges From An Ugly Past

Reprint of Bryce Erickson's *Forbes.com* **column.**

Originally published December 30, 2022

Three years ago, I wrote an article about the state of valuations for Appalachian gas companies. I used imagery from Sergio Leone's classic: The Good, The Bad, and The Ugly as a theme. At the time bad and ugly dominated over the good. Henry Hub prices were hovering around $2 per mcf. Valuations were depressed and Appalachian gas producers were struggling. Clint Eastwood would have lost that climactic gunfight if that world had remained.

It has not remained.

Today's solid earnings and strong balance sheets are a far cry from what they were then. Stock prices have risen alongside a fresh confidence that $4 and $5 gas prices will be sustainable for a while. Mercer Capital's sector statistics tell the story. This is an archived snapshot of these producers in 2019:

					Pricing as of December 26, 2019		
	Ticker	12/26/2019 Enterprise Value	YOY % Change in Stock Price	EBITDAX Margin	EV / EBITDAX	Daily Production (mboe/d)	Price Per Flowing Barrel
Appalachia							
Range Resources Corp	RRC	$4,396	-53.84%	-30.7%	nm	377	$11,669
EQT Corp	EQT	$7,952	-44.81%	32.5%	5.6x	685	$11,600
Cabot Oil & Gas Corp	COG	$8,265	-26.32%	67.7%	5.3x	393	$21,021
Antero Resources Corp	AR	$7,816	-70.72%	15.4%	11.3x	543	$14,403
Gulfport Energy Corp	GPOR	$2,584	-53.88%	67.7%	2.3x	234	$11,065
Southwestern Energy Co	SWN	$3,673	-35.79%	31.0%	3.4x	355	$10,333
Group Median			*-49.3%*	*31.8%*	*5.3x*	*385*	*$11,635*

Source: Cap IQ

This is the end of 2022:

					Pricing as of December 28, 2022		
Company Name	Ticker	12/28/2022 Enterprise Value	YOY % Change in Stock Price	EBITDAX Margin	EV / EBITDAX	Daily Production (mboe/d)	Price Per Flowing Barrel**
Appalachia							
Range Resources Corporation	RRC	$8,000	29.4%	43.3%	3.9x	359	$22,263
EQT Corporation*	EQT	17,017	46.5%	46.0%	3.2	908	18,751
Coterra Energy Inc.	CTRA	21,134	22.1%	74.3%	3.1	473	44,691
Antero Resources Corporation	AR	14,213	64.0%	41.7%	3.8	540	26,343
Southwestern Energy Company	SWN	11,396	17.3%	18.5%	4.2	811	14,054
Group Median			*29.4%*	*43.3%*	*3.8x*	*540*	*$22,263*

Source: Cap IQ

** EQT does not report quarterly production; Daily production based on Capital IQ estimates*

Macro Update (cont.)

A lot has changed in the past three years that has strengthened and stabilized stock prices, margins, earnings multiples, and production multiples alike. The Appalachian public comp group saw markedly strong stock price performance over the past year (through December 28th), led by Antero and EQT. The remaining members of the comp group showed more modest 1-year price increases. Stock prices dipped in mid-September but reversed direction immediately following the sabotage of the Nord Stream pipelines in the Baltic Sea that transport Russian natural gas to northern Europe.

Antero and EQT led the way among this group for several reasons. For Antero, one reason appears to have been its lack of hedging for 2023, which has allowed it greater exposure to the uptick in gas prices and has allowed Antero to be aggressive in paying down debt. EQT, on the other hand, does have more near-term hedging ceilings to deal with. However, its strength is in its operational efficiencies, whereby their recent literature demonstrates breakeven operating expenses at $1.37 per mcf. This is among the lowest in the industry and allows them to accumulate cash flow.

Today's future for this group looks very bright indeed.

The Past

In 2020 it looked like the bad and ugly would hang around indefinitely.

Within about 70 days of my Appalachian gas article being published, the world was whipsawed between the COVID-19 outbreak and the OPEC+ impasse between Saudi Arabia and Russia. Energy markets went into a tailspin. It looked like the bad and the ugly would continue to reign, and they did especially for Marcellus gas producers. Incredibly, Henry Hub prices dropped below $2 for much of the first and second quarter of 2020. Entire economies froze in their tracks as they tried to absorb this new reality. Infrastructure along with it; the Atlantic Coast Pipeline was canceled on July 5th. Then the Biden administration came to power and rhetoric opposing fossil fuels escalated. Producers like Antero, EQT, and Range were stuck in neutral and fighting to increase production and financial efficiency amid the continuing low-price environment. 2020 was spent stuck in the proverbial mud.

However, beneath the surface, some structural and fundamental shifts were starting to take place. First, production growth slowed. This was not only in response to temporary demand drops due to the economic shocks of COVID. It was also a response to tight debt markets that were pulling back on exposure to the sector. Capex was harder to get funded. The market's message was clear: make the most of what you have now. The era of shale growth was ending,

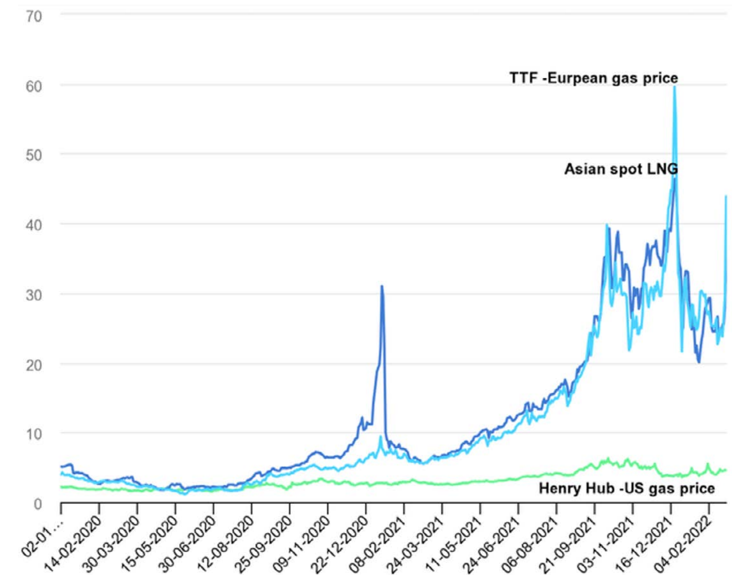
Macro Update (cont.)

and the era of production efficiency and moderation was taking shape. This dynamic coincided with the larger past 40 years of steady growth – known by some as the period of Great Moderation – that was ending. The new world would be shaped by production constraints.

Second, industry began to onshore again in the U.S. Over the course of decades past, industrial investment flowed out of the US mostly due to lower labor costs elsewhere. Low-cost gas has upturned that equation. Over $200 billion is in process of being spent on new and expanded US chemical related factories that use gas as a raw material for making chemicals, more than offsetting higher labor costs. Tens of billions more started going into steel making and other manufacturing plants seeking lower-cost electricity. Companies ranging from BAE Systems to Samsung to John Deere began shifting back onshore to the U.S. Every major car maker shifted plans to spend billions in the US to build EV factories.

Thirdly, around the same time, another shift was happening. Executive compensation moved more in line with investors. Management incentives moved further away from production incentives and more towards financial performance and capital efficiency metrics. While prices were still hovering around $2 per mcf, equity investors demanded changes and wanted cash flow statements to "shift priorities" so to speak. LNG export capability was coming online and equity investors wanted to be ready for it.

Otherwise, 2021 slugged along with these dynamics churning in the background, oftentimes very quietly. Gas prices started to drift upward, and business, airline, and driving activities all picked up. One very interesting market dynamic, however, was the rising overseas gas prices compared to Henry Hub which widened as the year went along.



Source: IEA

By the end of 2021, the table had been set for 2022's resurgence.

© 2023 Mercer Capital // Business Valuation & Financial Advisory Services // www.mercercapital.com

Macro Update (cont.)

The Present

Although the Russian Invasion of Ukraine has been the headliner, other trends and framework were being set-up in the second half of 2021. Europe realized it had made a grave mistake, that will need to partially be fixed with Appalachian natural gas.

Now, in Europe, prices remain incredibly high, particularly for early 2023. When the cold weather finally hits, there remain concerns Europe could quickly burn through its gas reserves, potentially still leading to extreme tightness in supplies throughout the winter. Gas at around €115 per megawatt hour is still equivalent to almost $180 per barrel in oil terms. Contracts for January have been above $230 per barrel equivalent.

In addition, Europe has exhausted almost every available source of gas, from increased LNG imports to asking Norway to maximize production for months. At this point, there is little in the way of supply additions expected globally until the middle of this decade. The EU will boost its ability to import LNG through floating terminals in Germany and the Netherlands, but they'll be competing for the same limited pool of supply. And without Russian gas, the EU will need even more LNG over the next 12 months.

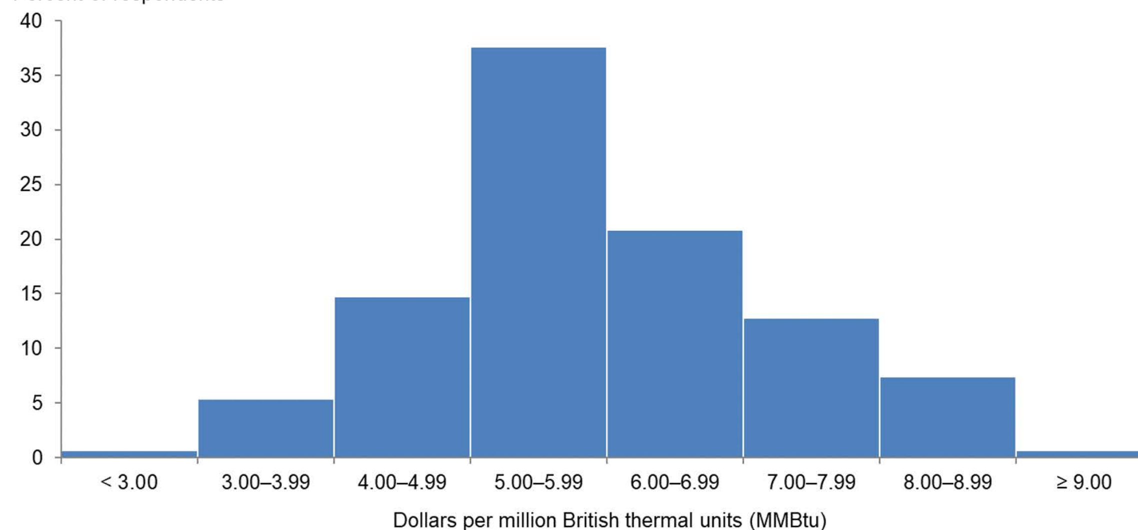
Germany finished construction of its first import terminal for LNG, a crucial milestone in its efforts to end its energy dependency on Russia. However, Europe could still face a 30bn cubic-meter shortfall during next summer's key storage refilling period if Russia halts all pipeline deliveries and Chinese demand for liquefied natural gas increases as it lifts coronavirus restrictions, according to the International Energy Agency.

The US will supply some of that LNG when more export facilities are built. One important happening in March 2023 will be the reopening of the Freeport LNG terminal which has been closed for several months due to an accident there. In normal times that terminal handles around 15% of US LNG exports.

That leaves hidden demand to fill that had not been apparent until this year. In fact, a few weeks ago Russian Deputy Prime Minister Alexander Novak told state television that Russia may cut oil production by between 5%-7% in early 2023 in response to the price cap imposed by Western countries on its crude oil and refined products. This is bound to have a ripple effect. U.S. natural gas prices have been above $4 per mcf all year and above $5 per mcf since March with a few brief spikes above $9. Appalachian Basin pricing is also tightening closer to NYMEX futures.

Macro Update
(cont.)

There have been modest increases in rigs and drilling from both E&Ps and contractors, but this is mostly in the high single or low double-digit variety. This is being done amid confidence that price increases this past year won't be temporary:



Appalachian production held steady in 2022 despite historically high commodity price volatility driven by the Russian-Ukraine war, the sabotage of the Nord Stream pipelines, and rising LNG exports to Europe to stave-off potential winter heating shortages.

On an interesting note, valuations for the publics are remarkably tight. Price to earnings ratios are between 5.0 – 5.5x with the exception of EQT. Other metrics have risen and are healthier than they were, but P/E ratios are the tightest. Earnings are king right now.

Macro Update (cont.)

The Future

Europe is going to de-industrialize and thus energy demand will diminish as they move heavier towards a service economy. The EU made a mistake relying on Russia and did not diversify. Now they are paying the price for it. The world got complacent on cheap oil and gas due, in part, to the shale revolution.

Now supply markets are on edge. Saudi Aramco CEO Amin Nasser warned recently that LNG gas supply is a "hiccup" away from exposing how fraught the markets really are, and that "there is no spare capacity available on the market. These are all long-term contracts. So, it's a much bigger issue for gas and LNG than crude. Solar, wind, and other renewables are not ready, yet, to shoulder a bigger portion of the energy requirement." Charif Souki, Chairman of the Board at Tellurian, thinks $4-5 mcf gas should be here to stay, with plenty of the commodity at this price. The main problem will be the infrastructure to transport it.

There are risks. No business is without these and, putting aside the risk of Putin causing a world war, the primary one is a glut of gas hitting the world market. Qatar is a huge supplier and is investing heavily to produce more. They signed a big contract to supply Germany with LNG. Since that gas only starts to flow in 2026 it is no threat in the near term and is only a small part of German and global needs. Domestically, all the drilling for oil at high prices this past year (adding over 100 rigs) has produced a lot of associated gas. East Daley Capital Analytics forecasts 4.6 Bcf/d from now to the end of 2023. However, East Daley is bullish on LNG in the long haul for Europe and the rest of the world.

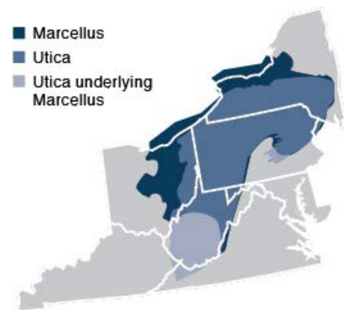
The current Appalachian rig count is at a level beyond that needed for production volume maintenance, so there would seem to be at least some potential for Henry Hub price reductions going into 2023. However, the demand for new natural gas supplies to Europe provides a countervailing wind to any potential downward movement in natural gas prices. In the end, the natural gas markets seem to be amid a series of events that promise continued supply and demand shifts with no certainty as to where the market will go in 2023.

In the meantime, the cautious efficiency is paying off for Appalachian gas producers, and with the wounds from 2019-2020 healing, the future looks very good indeed.

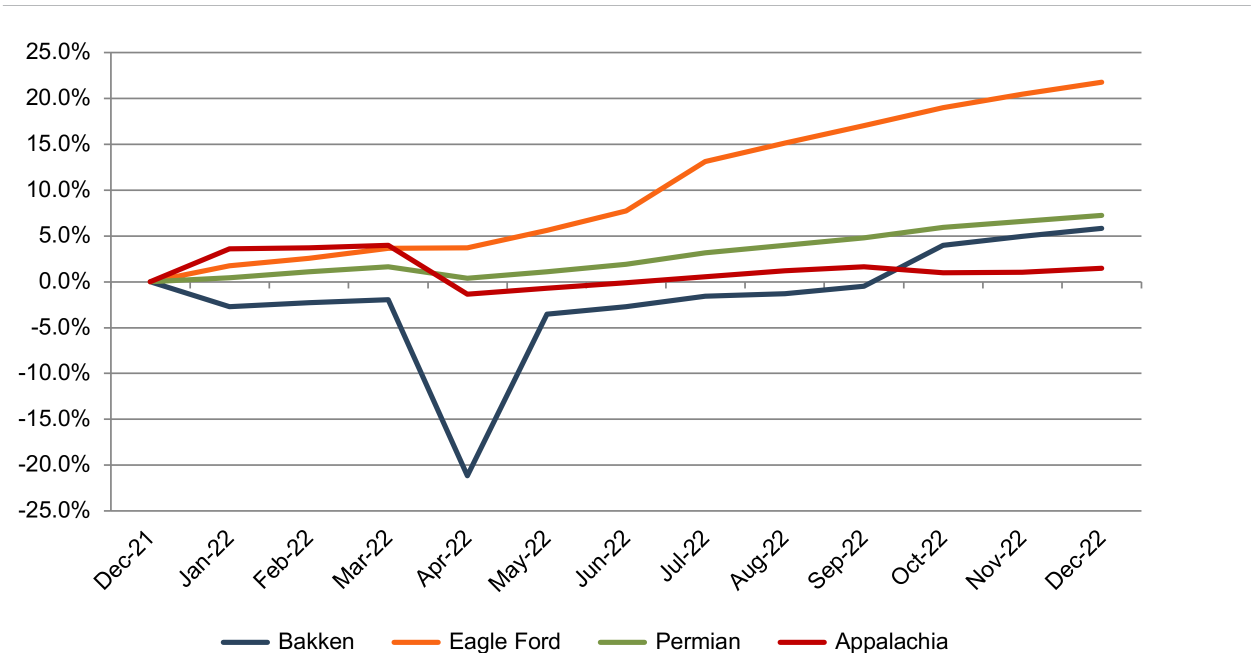
Appalachian Basin

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 Appalachian Basin.

Production and Activity Levels



Estimated Appalachian production (on a barrels of oil equivalent, or "boe" basis) decreased approximately 1% year-over-year through late December. Production in the Eagle Ford, Permian, and Bakken increased 16%, 11%, and 5% year-over-year, respectively. Despite a much-improved year-over-year commodity price environment, Appalachian production was fairly stable, largely due to high price volatility over the year, which left the markets uncertain as to where prices would be going forward.

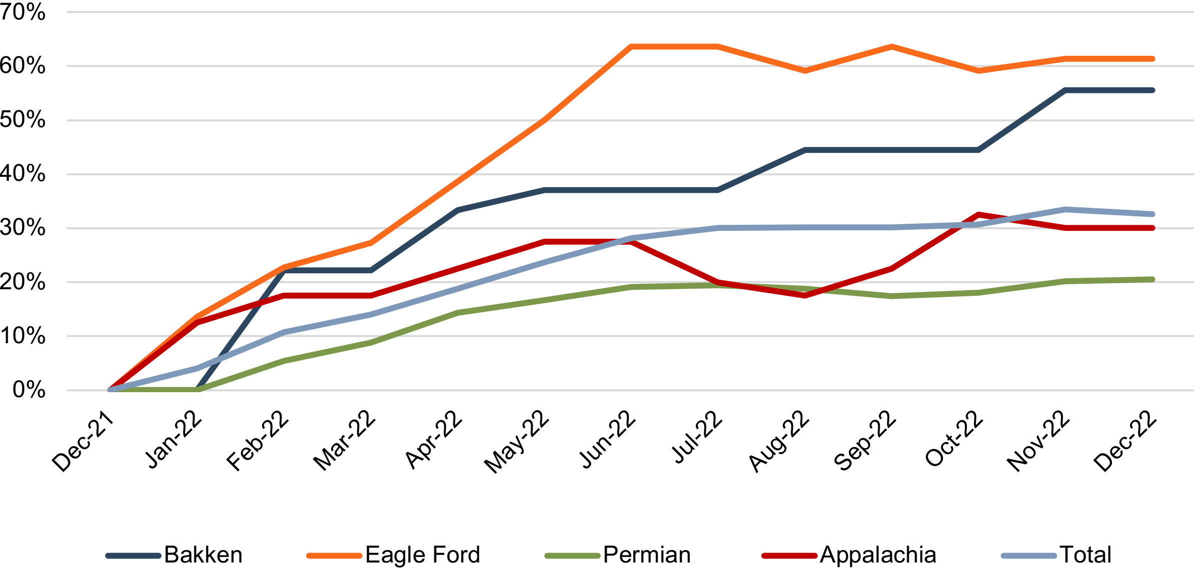


Source: EIA

Production and Activity Levels (cont.)

Rig counts continued to climb in all four basins over the last year. Growth rates in the Appalachian and Permian basins were more modest, while rates for the Bakken and Eagle Ford basins were notably higher. The Appalachian rig count rose 30% from 40 to 52 rigs. Among the oil-focused basins, the Eagle Ford led with a 71% increase from 42 to 72 rigs. The Bakken followed with a 56% increase (27 to 42 rigs), while the Permian had the lowest increase with a 24% increase (283 to 350 rigs).

1-Year Change in Rig Count



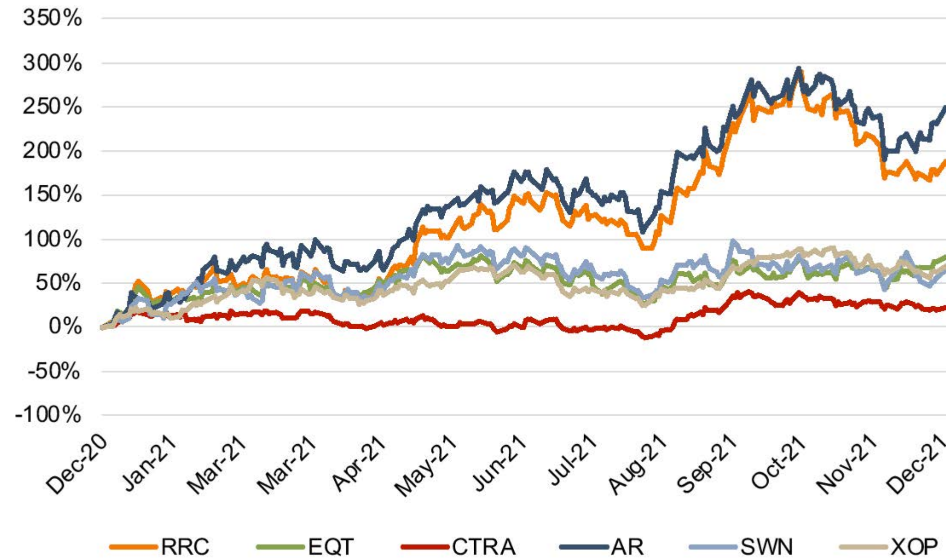
Source: Baker Hughes

Financial Performance

The Appalachian public comp group saw markedly strong stock price performance over the past year (through December 12th), led by Antero and EQT with price increases of 90% and 77% as of December 12th. The remaining members of the comp group showed more modest 1-year price increases of 12% to 38%. Prices peaked in early June for all members, except EQT, with year-to-date increases of 71% to 171%. EQT's stock price peaked in mid-September at a year-to-date increase of 143%. Stock prices fell sharply beginning in mid-September but reversed direction immediately following the sabotage of the Nord Stream pipelines in the Baltic Sea that transport Russian natural gas to northern Europe.

Antero and EQT led the way among this group for several reasons. For Antero, one reason appears to be its lack of hedging for 2023, which allowed it greater exposure to the uptick in gas prices and to aggressively pay down debt. EQT, on the other hand, does have more near-term hedging ceilings to deal with. However, its strength is in its operational efficiencies, whereby their recent literature demonstrates breakeven operating expenses at $1.37 per mcf. This is among the lowest in the industry and allows them to accumulate cash flow.

1-Year Change in Stock Price



Source: S&P Capital IQ Pro.

Market Valuations & Transaction History

Shareholder Value Creation Abounds; ESG Interest Waning

Through November 2021, there were three M&A deals in the Marcellus and Utica shales, compared to 16 in the same period in 2020, as companies that were looking to get into or out of the Appalachian basins effectively did so in 2020. The following table summarizes transaction activity in the Marcellus and Utica shales in 2021:

Transactions in the Appalachian Basin 2021

Announced Date	Buyer	Seller	Deal Value ($MM)	Acreage	$ /Acre	$ / Mcfe/d	MMcf/Acre (Annual)
5/6/21	EQT Corp	Alta Resources Development, LLC	$2,925	300,000	$9,750	$2,925	1.22
3/23/21	LOLA Energy	Undisclosed Seller	Undisclosed	22,000	nm	nm	1.41
2/3/21	Northern Oil and Gas, Inc.	Reliance Industries Limited	126	61,800	2,045	1,053	0.71
Median			**$1,526**	**61,800**	**$5,898**	**$1,989**	**1.22**
Average			**$1,526**	**127,933**	**$5,898**	**$1,989**	**1.11**

Source: Shale Experts and company filings

M&A activity picked up in 2022, with twice as many transactions announced so far as shown in the following table.

Transactions in the Appalachian Basin 2022

Announced Date	Buyer	Seller	Deal Value ($MM)	Acreage	$ /Acre	$ / Mcfe/d	MMcf/Acre (Annual)
11/22/22	IOG Capital LP, IOG Resources II, LLC	National Fuel Gas Co. Seneca Resources	Undisclosed	Undisclosed	nm	nm	na
9/8/22	EQT Corp.	Tug Hill Operating, Xcl Midstream	5,200	90,000	57,778	6,500	3.25
9/6/22	Sitio Royalties	Brigham Minerals, Inc.	4,800	85,710	56,003	63,100	0.32
6/21/22	Undisclosed	Riverbend Oil & Gas	1,800	Undisclosed	nm	6,821	na
1/25/22	Chesapeake Energy Corp	Tug Hill Operating, Chief E&D Holdings	2,600	113,000	23,009	3,114	2.70
1/5/22	Repsol S.A.	Rockdale	222	48,000	4,625	nm	na
Median			**$2,600**	**87,855**		**$6,661**	**2.70**
Average			**$2,924**	**84,178**		**$19,884**	**2.09**

Source: Shale Experts and company filings

Market Valuations & Transaction History (cont.)

Sitio Royalties and Brigham Minerals, Inc. Merge to Create the Largest Public Minerals Owner

What has caused the slight rebound in M&A activity in the Marcellus and Utica shales? Companies are focusing on asset quality, strong balance sheets, prudent capital structures, and free cash flow growth. Below we examine the two largest transactions that occurred in, but were not limited to, the Marcellus and Utica shales, during 2022.

On September 6, Sitio Royalties Corp. (NYSE: STR) ("Sitio") and Brigham Minerals, Inc. (NYSE: MNRL) ("Brigham") announced a definitive agreement to combine, in an all-stock merger, with an aggregate enterprise value of approximately $4.8 billion based on the closing share prices of Sitio and Brigham on September 2, 2022. The combination brings together two of the largest public companies in the oil and gas mineral and royalty sector. Upon completion of the merger, the combined entity will retain the name Sitio Royalties Corp.

Under the terms of the merger agreement, Brigham shareholders will receive a fixed exchange ratio of 1.133 shares of common stock in the combined company for each share of Brigham common stock owned. Sitio's shareholders will receive one share of common stock in the combined company for each share of Sitio common stock, based on ownership on the closing date. Brigham's and Sitio's Class A shareholders will receive shares of Class A common stock in the combined company, and Brigham's Class B and Sitio's Class C shareholders will receive shares of Class C common stock in the combined company. Upon completion of the transaction, the former Sitio shareholders will own approximately 54% and the former Brigham shareholders will own approximately 46% of the combined entity on a fully diluted basis.

Robert Rosa, CEO of Brigham, commented:

> *Our merger with Sitio creates the industry leading powerhouse in the minerals space … with approximately 100 rigs running across all of our operating basins and greater than 50 activity wells to continue to drive production and cash flow growth.*

The **Sitio-Brigham deal press release** discusses operational cash cost synergies, a balanced capital allocation framework that aligns with shareholder interests to drive long-term returns, enhanced margins, and increased access to capital. But, as a **recent Forbes article** points out, despite Kimmeridge Energy, which owns approximately 43.5% of Sitio, being a heavy promoter of ESG in the shale business, the press release has only a slight mention of ESG. The only direct mention of ESG is in the last bullet point of the strategic rationale behind the deal.

© 2023 Mercer Capital // Business Valuation & Financial Advisory Services // www.mercercapital.com

Market Valuations & Transaction History (cont.)

EQT Corporation Continues to Add to Core Marcellus Asset Base

On September 8, EQT Corporation (NYSE:EQT) ("EQT") announced that it entered into a purchase agreement with THQ Appalachia I, LLC ("Tug Hill") and THQ-XcL Holdings I, LLC ("XcL Midstream") whereby EQT agreed to acquire Tug Hill's upstream assets and XcL Midstream's gathering and processing assets for total consideration of $5.2 billion. The purchase price consists of cash of $2.6 billion and 55 million shares of EQT common stock worth $2.6 billion. Transaction highlights include:

- ~90,000 core net mineral acres offsetting EQT's existing core leasehold in West Virginia
- 95 miles of owned and operated midstream gathering systems connected to every major long-haul interstate pipeline in southwest Appalachia
- Combined upstream and midstream assets at 2.7x next-twelve-month ("NTM") EBITDA
- Upstream-only valuation of 2.3x NTM EBITDA
- 300 untapped drilling locations in the Marcellus and Utica shales

The deal is the largest U.S. upstream deal since Conoco Phillips purchased Shell's Permian Basin assets for $9.5 billion in September 2021.

EQT President and CEO Toby Rice commented:

> *The acquisition of Tug Hill and XcL Midstream checks all the boxes of our guiding principles around M&A, including accretion on free cash flow per share, NAV per share, lowering our cost structure and reducing business risk, while maintaining an investment grade balance sheet.*

The Tug Hill/XcL Midstream transaction piggybacks EQT's **May 2021 $2.93 billion acquisition** of all of the membership interests in Alta Resources Development, LLC's ("Alta') upstream and midstream subsidiaries. Consistent with his comments on the Tug Hill/Xcl Midstream deal, Mr Rice commented at the time that the Alta deal would provide attractive free cash flow per share accretion to EQT shareholders.

As was the case with the Sitio-Brigham deal, Forbes points out that the **EQT-Tug Hill- XcL Midstream press release provides** only a token reference to ESG in a quote by the CEO of Quantum Energy Partners, the .private equity backers of Tug Hill and XcL Midstream.

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 12/31/2022		
Company Name	**Ticker**	**12/31/2022 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	$476,212	80.3%	21.4%	5.0x	3,782	$125,911
Shell PLC	SHEL	250,049	27.6%	20.1%	3.2	2,840	88,044
Chevron Corp	CVX	356,226	53.0%	23.6%	5.9	3,023	117,833
BP PLC	BP	147,152	27.9%	17.3%	3.3	2,283	64,446
Equinor ASA	EQNR	99,570	33.4%	56.7%	1.2	2,084	47,790
Group Median			**33.4%**	**21.4%**	**3.3x**	**2,840**	**$88,044**
Global E&P							
Marathon Oil Corporation	MRO	$20,180	64.9%	69.7%	3.7x	344	$58,693
Hess Corporation	HES	50,820	91.6%	52.5%	8.5	367	138,588
ConocoPhillips	COP	153,575	63.5%	44.9%	4.3	1,780	86,285
Occidental Petroleum Corporation	OXY	87,257	117.3%	57.6%	4.1	1,230	70,930
APA Corporation	APA	21,334	73.6%	59.7%	3.1	406	52,527
Murphy Oil Corporation	MUR	9,230	64.7%	62.6%	3.7	183	50,316
Group Median			**69.2%**	**58.6%**	**3.9x**	**386**	**$64,812**

Source: Capital IQ

- Price per Flowing Barrel is EV/daily production ($/boe/d) EBITDAX & Daily Production figures include quarterly estimates per Capital IQ as available
- 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.
- CLR taken private effective 11/22/2022; CLR market data reflects day before close

Appendix A

Selected Public Company Information

Company Name	Ticker	12/31/2022 Enterprise Value	YoY % Change in Stock Price	EBITDAX Margin	EV/ EBITDAX (as of 12/31/2022)	Daily Production (mboe/d) (as of 12/31/2022)	Price per Flowing Barrel* (as of 12/31/2022)
Bakken							
Continental Resources, Inc.*	CLR	$31,440	64.6%	74.5%	3.8x	416	$75,666
Chord Energy Corp	CHRD	5,466	8.6%	49.6%	3.1	172	31,690
Group Median			**36.6%**	**62.07%**	**3.4x**	**294**	**$53,678**
Appalachia							
Range Resources Corporation	RRC	$8,086	40.3%	43.3%	5.3x	367	$22,008
EQT Corporation	EQT	17,139	55.1%	46.0%	5.6	874	19,603
Coterra Energy Inc	CTRA	21,292	29.3%	74.3%	3.1	631	33,754
Antero Resources Corporation	AR	14,276	77.1%	41.7%	4.9	549	26,004
Southwestern Energy Company	SWN	11,485	25.5%	18.5%	3.5	781	14,699
Group Median			**40.3%**	**43.3%**	**4.9x**	**631**	**$22,008**
Permian Basin							
Diamondback Energy, Inc.	FANG	$31,123	26.8%	80.1%	4.3x	389	$80,025
Permian Resources Corporation	PR	7,745	57.2%	74.1%	4.8	146	52,956
Callon Petroleum Company	CPE	4,654	-21.5%	57.9%	2.6	107	43,659
Laredo Petroleum, Inc.	LPI	1,978	-14.5%	58.3%	1.7	75	26,207
Pioneer Natural Resources Company	PXD	58,031	25.6%	51.3%	4.6	663	87,484
Group Median			**25.6%**	**58.3%**	**4.3x**	**146**	**$52,956**

Source: Capital IQ

- Price per Flowing Barrel is EV/daily production ($/boe/d) EBITDAX & Daily Production figures include quarterly estimates per Capital IQ as available
- 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.
- CLR taken private effective 11/22/2022; CLR market data reflects day before close

© 2023 Mercer Capital // Business Valuation & Financial Advisory Services // www.mercercapital.com

Appendix A

Selected Public Company Information

Company Name	Ticker	12/31/2022 Enterprise Value	YoY % Change in Stock Price	EBITDAX Margin	EV/ EBITDAX (as of 12/31/2022)	Daily Production (mboe/d) (as of 12/31/2022)	Price per Flowing Barrel* (as of 12/31/2022)
Eagle Ford							
EOG Resources, Inc.	EOG	$76,126	45.8%	47.2%	5.5x	927	$82,116
Magnolia Oil & Gas Corporation	MGY	4,302	24.3%	79.0%	3.2	77	55,726
SilverBow Resources, Inc.	SBOW	1,269	29.9%	62.7%	3.1	55	23,099
Ranger Oil Corporation	ROCC	1,874	50.2%	68.6%	2.4	46	40,961
Group Median			**37.9%**	**65.6%**	**3.1x**	**66**	**$48,344**
OVERALL MEDIAN			**45.8%**	**56.7%**	**3.7x**	**416**	**$52,956**

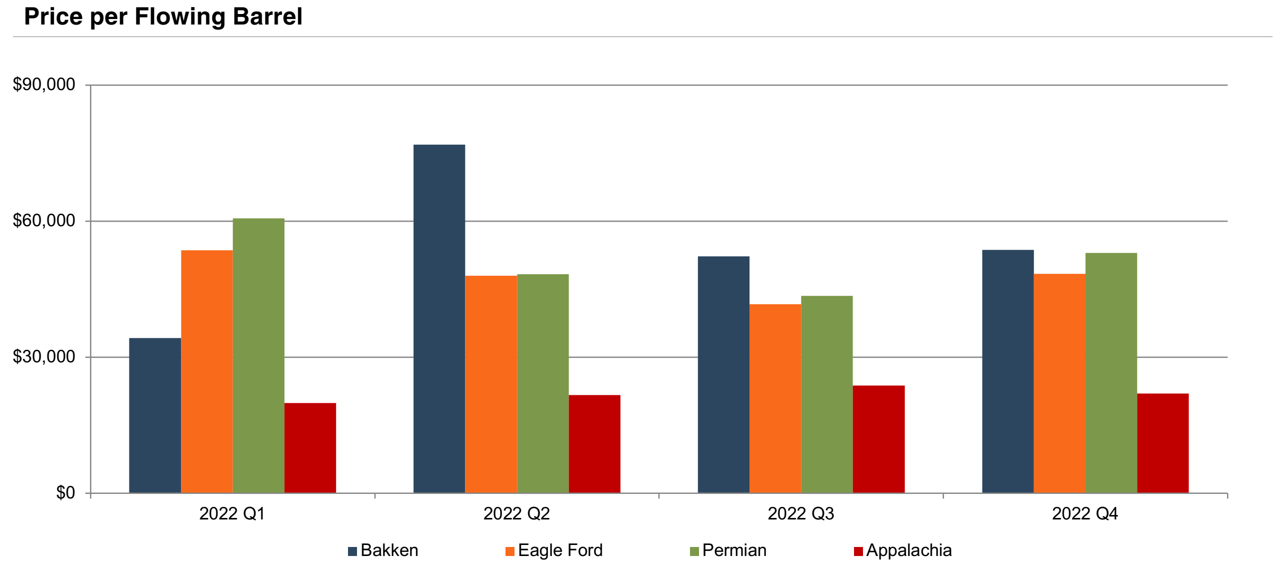
Source: Capital IQ

- Price per Flowing Barrel is EV/daily production ($/boe/d) EBITDAX & Daily Production figures include quarterly estimates per Capital IQ as available
- 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.
- CLR taken private effective 11/22/2022; CLR market data reflects day before close

Appendix A

Selected Public Company Information

The following graph depicts the median of EV/production multiples, also known as price per flowing barrel, for Q1 through Q4 2022.

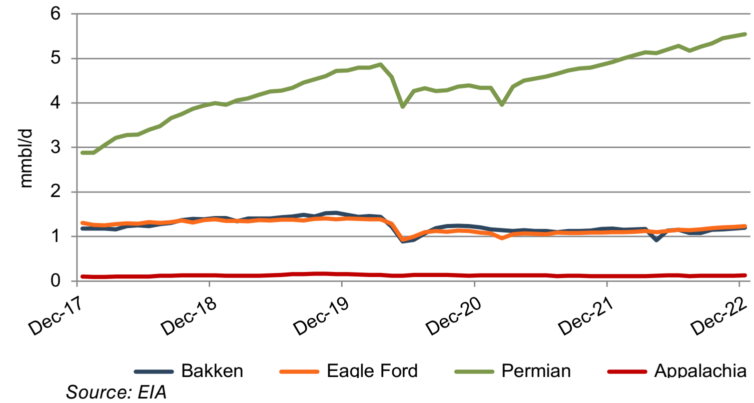


Appendix B

Production

Daily Production of Crude Oil

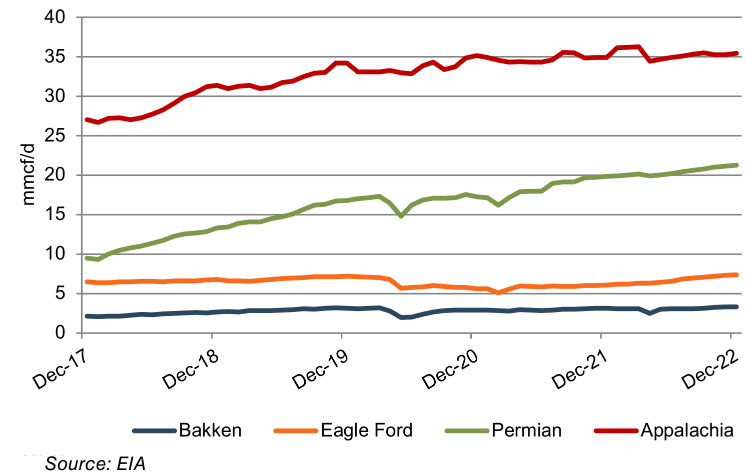
Oil production in the Eagle Ford and Permian both increased by 12.5% over the last year, while oil production in the Appalachian basins increased 10.4%. Year-over-year growth in oil production trailed in the Bakken at 1.9%.



Source: EIA

Daily Production of Natural Gas

The Eagle Ford led the analyzed regions in natural gas production growth at 21.8% over the last year, while natural gas production increased in the Bakken, Permian, and Appalachia by 5.8%, 7.2%, and 1.5%, respectively.



Source: EIA

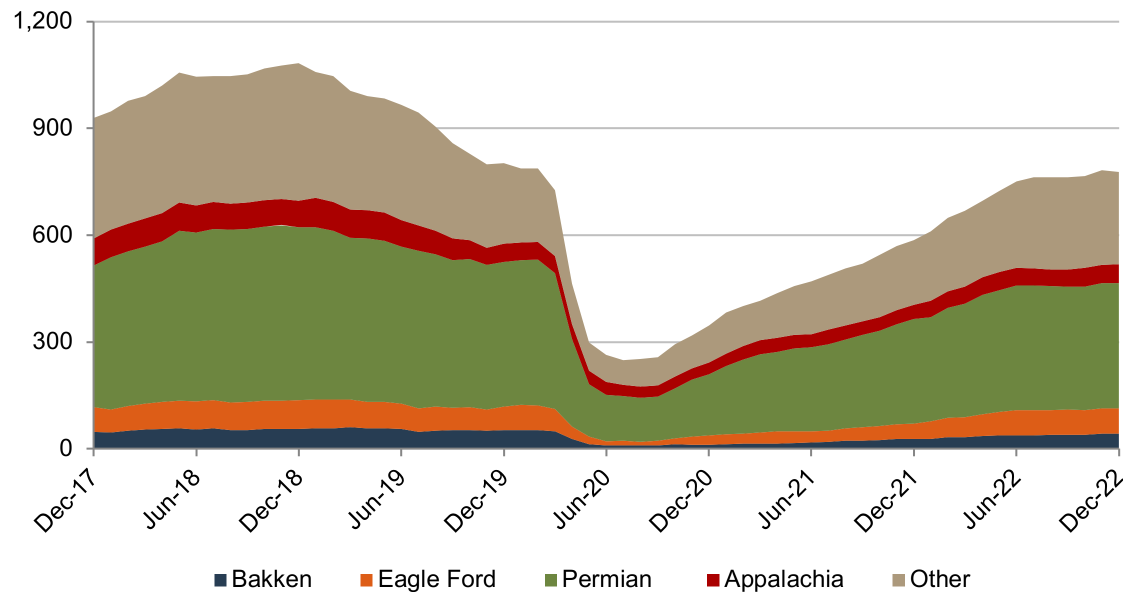
Appendix C

Rig Count

Baker Hughes collects and publishes information regarding active drilling rigs in the U.S. 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. during December 2022 was 777, which represents a 32.6% increase from 586 in December 2021, and 1.8% greater than 763 in September 2022. The rig count in the Marcellus & Utica increased by 30.0% year-over-year, from 40 to 52 rigs.

Rig Count by Region

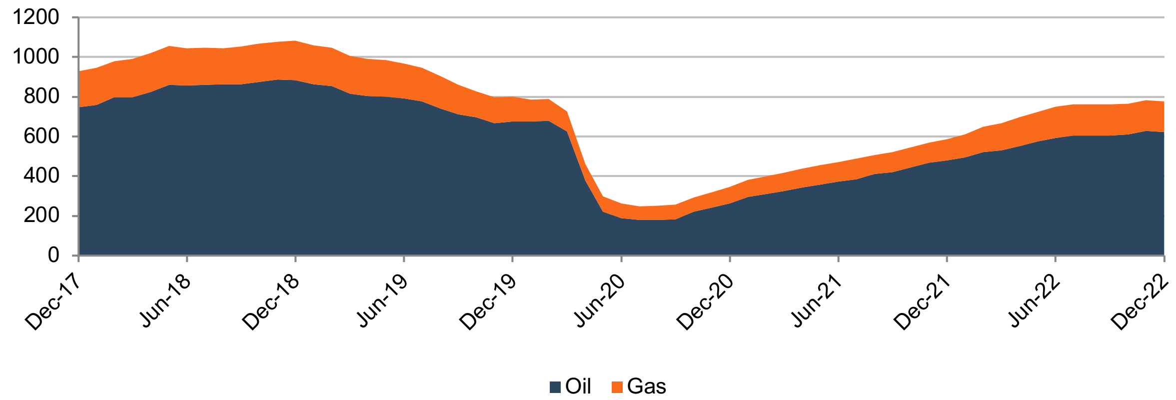


Source: Baker Hughes

Appendix C

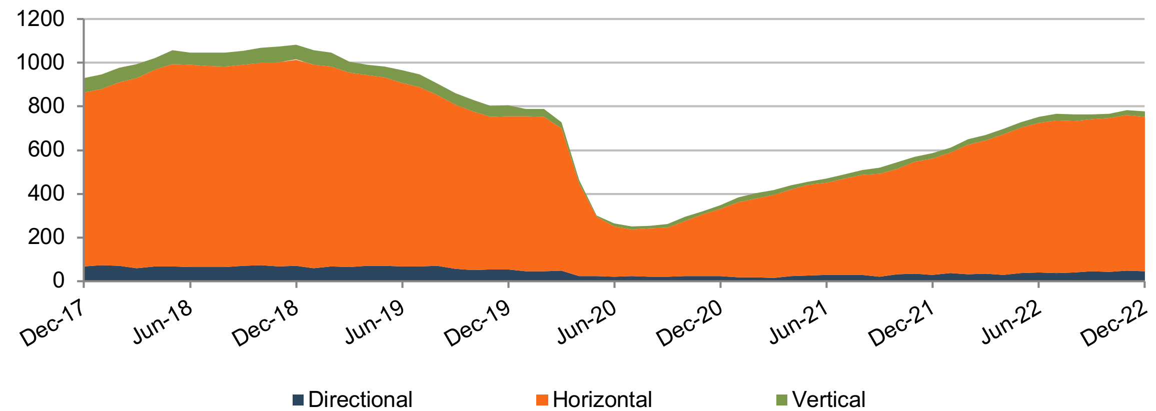
Rig Count

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



Source: Baker Hughes

U.S. Rig Count by Trajectory



Source: Baker Hughes

Mercer Capital

www.mercercapital.com