ENVERUS
# Upstream Pulse
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## Use of 3-mile completions hits a record high in 2021

The use of 3-mile laterals is on the rise, with 2021 marking a new annual high. As of April 29, Enverus Prism data tallied 343 such completions last year, and that number is likely to grow as many completions have likely not yet been publicly reported. In comparison, 206 completions with laterals of at least 15,000 ft were reported in 2020, 165 in 2019, 97 in 2018 and 36 in 2017.

**More than 100 laterals of 15,000 ft or more completed in both Marcellus and Midland Basin.**

A bare majority of 2021's 3-milers, 51% or 174, were completed in the Marcellus and Utica In the Marcellus, laterals last year averaged 10,938 ft and 17% of the laterals drilled in the play reached 15,000 ft. In the Utica, the average was 10,347 ft with 19% of horizontals stretching 3 miles. Of the 15 companies completing the long laterals between the two plays, Southwestern Energy and EQT Corp. completed more than 30 3-mile laterals, while Encino Energy, Ascent Energy, Antero Resources, Range Resources and CNX Resources had 15 or more such wells each. *Read more...*

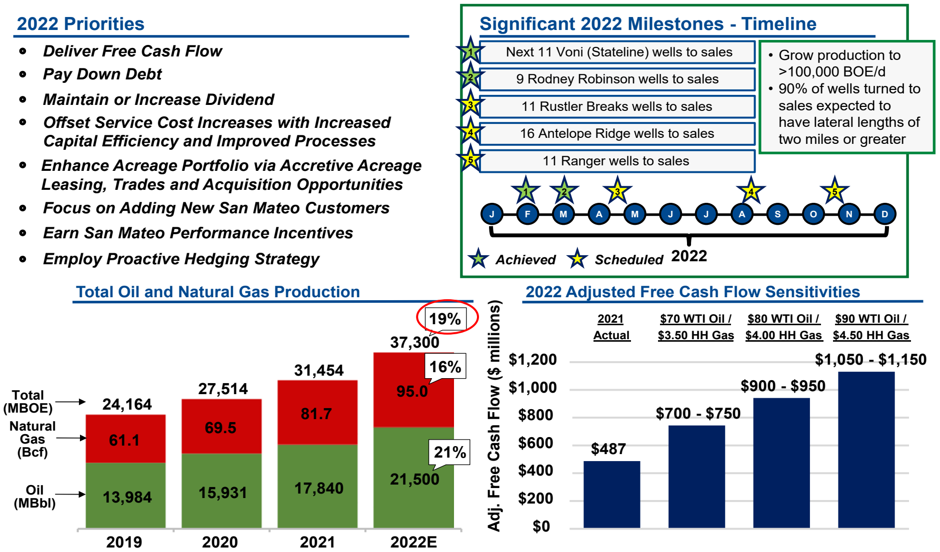
## Matador joins 100,000 boe/d club, expects to retain membership

For the first time in its history, Matador Resources averaged monthly output of over 100,000 boe/d in April after a Q1 in which it completed 26 operated wells in the Delaware Basin that performed "better than expected." Including non-operated wells, Matador turned 38 wells to sales (26.4 net) in the quarter, all with 2-mile laterals or longer. Q1 output of 93,969 boe/d (57% oil) beat guidance by 2% and was up 8% sequentially and 27% YOY.

**Plans to turn 11 operated wells to sales in the Delaware in Q2, all at Rustler Breaks.**

Ten of the operated completions were in the Antelope Ridge area of southern Lea County, New Mexico, including nine on the Rodney Robinson lease, while 11 were on the Voni lease at Stateline in southern Lea County. Test rates were disclosed for five Q1 completions. The Voni #133H and #223H flowed 2,956 boe/d (68% oil) and 2,867 boe/d (36% oil) from the Third Bone Spring carbonate and Wolfcamp B, respectively. In the Wolf/Jackson Trust area of Loving County, Texas, the Barnett Trust #123H delivered an IP of 2,268 boe/d (72% oil) from the Second Bone Spring. And in Lea County's Ranger area, the Uncle Ches #125H and #122H flowed IP24s of 1,520 boe/d (90% oil) and 1,380 boe/d (91% oil) from the Second Bone Spring. *Read more...*

### Matador's 2022 Priorities and Milestones




Source: Matador Resources 04/26/22 presentation via **Enverus docFinder**

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## ABOUT THIS REPORT

**Upstream Pulse** is published every three weeks by **Enverus** and covers the U.S. E&P sector, including discoveries, drilling and completion activity, well results, development plans, regulatory updates and licensing.

All dollar amounts in this report are in U.S. dollars unless otherwise stated.

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## Rockies

### Continuous monitoring solution proposed to Colorado regulators

A partnership of Civitas Resources, Highwood Emissions Management and LongPath Technologies have submitted a proposal to the Colorado Department of Public Health and Environment to approve an alternative instrument monitoring method for mitigation of methane leaks from oil and gas sites. The frequency comb laser technology developed by LongPath is the only third-party blind-test-proven continuous leak monitoring platform and provides scalable data for rapid emissions mitigation and ESG/RSG accounting, the company said in an April 25 press release. Under the state's Air Quality Control Commission Regulation 7, monitoring equipment is required at all production facilities and compressor stations in the state.

**LongPath recently expanded its partnership with Apache Corp. in the Permian to 60 facilities.**

"Civitas currently employs LongPath continuous monitoring on several sites in Colorado," Civitas air permitting and compliance manager Kathy Steerman said. "Their data provides a more continuous and comprehensive emissions management program than the widely used [optical gas imaging] inspection work practice. LongPath has demonstrated faster time-to-detect of leaks than monthly OGI surveys, and their system helps us narrow our focus on actual leaks that require repair."

LongPath recently expanded its partnership with Apache Corp. in the Permian Basin to 60 facilities. In early 2021, the company received $5 million in funding from a U.S. Department of Energy program.

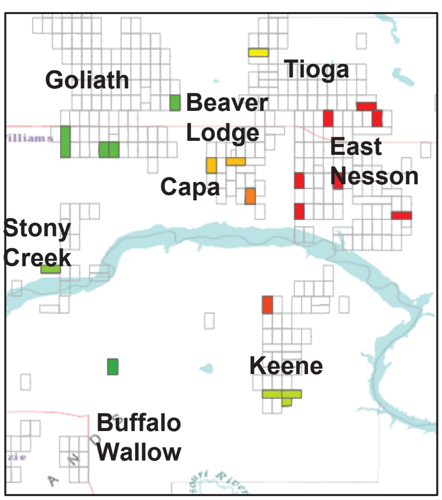
### Hess determines it can't outrun inflation in the Bakken

After averaging Bakken well costs of $5.8 million in 2021, Hess earlier this year expected to keep those costs flat by completely offsetting inflation through lean manufacturing and technology-driven efficiency gains. While these measures and partnerships with key service providers are mitigating some of the effects, Hess now anticipates an additional 3-4% inflationary impact on costs in its 2022 capital program. Bakken well costs are now expected to average $6.2 million this year, a 7% YOY increase.

At the beginning of March, Hess adjusted its 2022 guidance following weather-related impacts in the Bakken. Full-year production guidance was lowered by 5,000-10,000 boe/d to 325,000-330,000 boe/d. Severe winter weather continued into April, leading COO Gregory Hill to predict on an April 27 earnings call that companywide 2022 volumes will come in at the low end of guidance. This warning came despite the company beating both overall and Bakken guidance during Q1 at 276,000 boe/d and 152,000 boe/d, respectively. Companywide production guidance for Q2 is 310,000 boe/d.

During Q1, Hess drilled 19 wells and brought 13 online in the Bakken. In Q2, activity will increase to 22 wells drilled and 18 turned to sales. For the full year, Hess anticipates drilling 90 operated wells and bringing online 85, unchanged from original guidance. Bakken output should be 140,000-145,000 boe/d in Q2 and ramp to 175,000-180,000 boe/d in Q4. Bakken output for full-year 2022 is expected to come in at the low end of Hess' 160,000-165,000 boe/d guidance.

**2022 Bakken Development Well Plan**




- 3 rig program
- ~85 new wells online in 2022
- Continued focus on maximizing DSU value

Source: Hess Corp. 04/27/22 presentation via **Enverus docFinder**

### Grayson Mill drives massive IP90 improvements in Bakken

Since closing on its acquisition of Equinor's Bakken assets at the end of April 2021, Grayson Mill Energy has completed more than 30 wells in the Williston Basin. Initial productivity on the acquired assets has seen a remarkable improvement under Grayson. The 10 wells with three months of production that were completed under Grayson's ownership averaged cumulative 90-day rates of 79,766 boe from 9,673-ft laterals, or 8,246 boe per 1,000 lateral ft. This compares to Equinor's 2019 Williston average of 30,650 boe from 9,668-ft laterals, or 3,150 boe per 1,000 ft.

**Flow tested a Williams County, North Dakota, well at 5,499 boe/d (84% oil).**

Grayson's results have been highlighted by two wells between Williams and McKenzie counties, North Dakota. In Williams County, Grayson completed the Maria 3-10F XW #1H with a 9,809-ft effective lateral fractured with 1,206 lb/ft of proppant and 31 bbl/ft of fluid. During a 24-hour test, the well produced 5,499 boe/d (84% oil), or 560 boe/d per 1,000 ft, from the Middle Bakken on a 52/64-inch choke at 1,770 psi FCP. In the first three months, the well delivered a cumulative 105,395 boe (1,171 boe/d), or 10,745 boe per 1,000 ft.

In McKenzie County, the Garmann 19-18F #5H was completed with a 9,334-ft effective lateral stimulated with 1,019 lb/ft of proppant and 31 bbl/ft of fluid. On test, the well flowed an IP24 of 4,662 boe/d (68% oil), or 499 boe/d per 1,000 ft, from the Middle Bakken on a 46/64-inch choke at 2,098 psi FCP. This well was flow tested in March and has not been online three months.

EnCap-backed Grayson Mill is running two rigs in the Williston Basin and has received seven drilling permits for the basin in the last 90 days. The company also has two active operated wells in the Powder River Basin.

## Eastern

### Prices may be booming, but Appalachia is maintaining

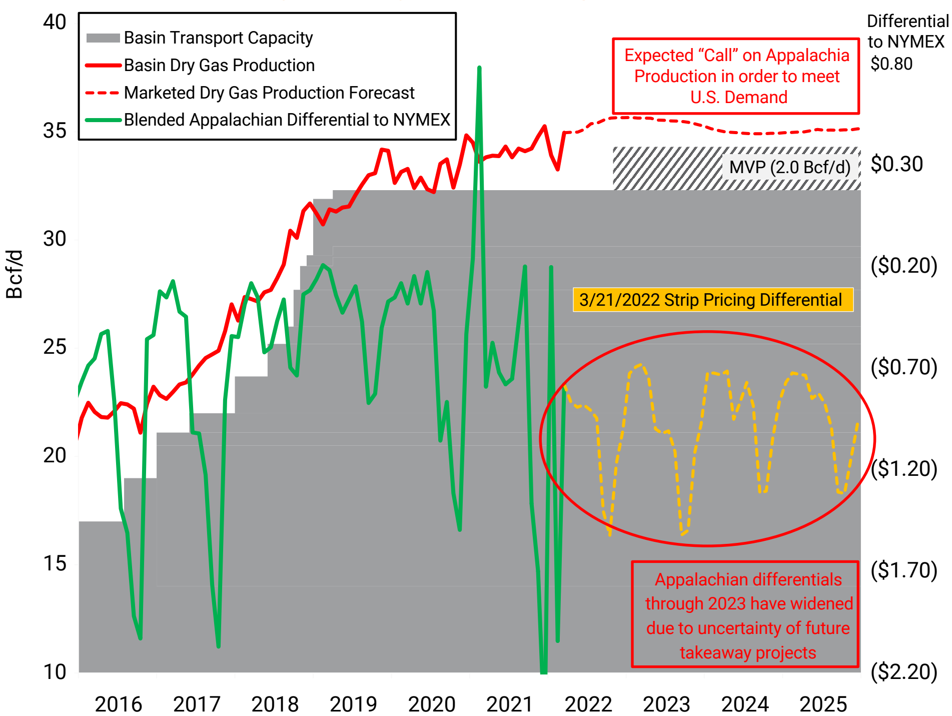
Despite a robust increase in natural gas prices coming into 2022, the vast majority of Utica and Marcellus operators who disclosed 2022 plans intend to pursue maintenance programs. While production profiles will remain relatively flat, capex is on the rise amid inflation and D&C programs primarily will have fewer wells than in 2021. Drilling of longer laterals will offset the reduced number of wells to support production levels. Infrastructure constraints continue to limit growth potential in Appalachia.

Marcellus pure-plays, which include Range Resources, Antero Resources, EQT, Ascent Resources Utica and CNX Resources, will all spend more at midpoint, excluding Antero, with capex up 4-25% YOY. Antero's spend at midpoint would be flat.

Range Resources plans to spend $460-480 million in 2022, with 93% allocated to D&C. The company spent $414 million in 2021. Production guidance has been set at 2.12-2.16 Bcfe/d compared to 2.13 Bcfe/d in 2021. Range's 2022 operational plan will once again be front-loaded, with more than 60% of spending occurring in H1. Range started the year with three rigs and two completion crews and will exit with one of each. It intends to complete and bring online 63 wells, including nine on its less-drilled dry gas acreage in northeast Pennsylvania, where no wells were brought online in 2021. The company did not provide completion information for 2021.

After incurring $749 million in 2021 capex, Antero has set a maintenance-level 2022 budget of $740-775 million. It will spend $675-700 million on D&C activity, compared to $627 million last year, and has allocated $65-75 million for land. Antero plans to run three rigs and two completion crews to drill 70-80 wells with laterals averaging 13,600 ft—3% longer than last year—and to complete 60-65-wells. Antero drilled and completed 68 wells in 2021. Unlike last year when the company completed 60% of its wells in the first half, 2022 completions will be weighted toward the back half to the tune of 65%. The ramp-up will coincide with the startup of Shell's ethane cracker in Beavery County, Pennsylvania, which will improve Antero's ethane recovery. The maintenance-level program for 2022 will keep full-year average production flat at 3.2-3.3 Bcfe/d, including 175,000-185,000 bbl/d of liquids. ***Read more...***

### Appalachian Takeaway Capacity to Remain Tight




Source: Antero Resources 03/22/22 presentation via **Enverus docFinder**

## Rockies

### Colorado's oil & gas production falls 10% and 5% in 2021

After hitting an annual peak of 526,845 bo/d in 2019, Colorado's oil production has fallen for the last two years. In 2021, the state produced 420,729 bo/d, down 10% YOY and the lowest annual total since 2017. Weld County, the largest-producing county in the state, produced 359,418 bo/d, down 12% compared to 2020. The second-largest producer, Adams County, saw volumes increase 7% to 22,199 bo/d. Larimer and Rio Blanco counties were the next largest producers at 8,857 bo/d and 8,483 bo/d, respectively. Rio Blanco is in the Piceance Basin, while the other three top producing counties are in the DJ Basin.

**Weld, the highest-producing county in the state, sees 12% YOY drop in oil to 359,418 bo/d.**

"What we're seeing now is the effects of the production decline curve. A well is its most productive in the first 18 months after its completed, then you begin to see a pretty substantial decline curve," Colorado Oil & Gas Association president and CEO Dan Haley said. "So, wells drilled in 2018 and 2019, when we were hitting production highs, are producing less now, and we're not keeping up with new drilling due to the permitting overhaul at the state and changes in the overall business model emerging from COVID."

Excluding coalbed methane, Colorado's natural and coalbed gas production dropped 5% YOY in 2021 at 5.37 Bcf/d. Unlike oil, natural gas production grew in 2020 compared to 2019 to a peak of 5.67 Bcf/d. Last year, Weld County produced 2.75 Bcf/d, down 3% YOY, while Garfield, the second-largest natural gas producing county, dropped 12% to 1.12 Bcf/d. The next largest producers were La Plata and Rio Blanco at 618 MMcf/d (down 7% YOY) and 324 MMcf/d (up 8% YOY), respectively. La Plata is in the San Juan Basin, while Garfield is in the Piceance.

## Eastern

### Prices may be booming, but Appalachia is maintaining From PG.4

EQT Corp. has set its 2022 capex guidance at $1.30-1.45 billion, a 25% YOY increase at midpoint from 2021 spending of $1.1 billion. Production is forecast to average 5.34-5.62 Bcfe/d under what EQT is calling a maintenance program. The company intends to run one to two top-hole rigs, two to three horizontal rigs and two to three frac crews to drill 81-101 net horizontal wells and turn 88-110 net wells to sales. EQT turned 98 wells to sales in 2021 and produced 5.09 Bcfe/d.

Out of 10 producers examined, Seneca Resources is the only one expecting to grow production.

Ascent laid out a production maintenance capex program for 2022, as the company prioritizes cash flow over growth. Capex has been set at $710-770 million, with $625-675 million for D&C and $85-95 million for land. In 2021, Ascent incurred capital expenditures, excluding $48 million in capitalized interest, of $624 million, with $566 million for D&C and $58 million for land. After averaging 1.9 Bcfe/d (91% gas) in 2021, volumes this year will be 2.0-2.1 Bcfe/d (92-94% gas). Ascent plans to run an average of 3.5 rigs this year to drill 80-85 wells. It will turn 75-80 wells to sales, with laterals averaging 13,800 ft. In 2021, Ascent averaged 3.9 rigs and drilled and completed 72 wells, with laterals averaging 13,329 ft.

CNX has set 2022 capex at $470-500 million, which is up 4% YOY at midpoint. The company plans to turn 31 wells to sales compared to 45 in 2021. Production will be flat at 1.63 Bcfe/d.

In the non-pure-play, but gas-focused category are Southwestern Energy and Chesapeake Energy. In the case of Chesapeake, the company will spend less in the Marcellus than it will in the Haynesville, but Marcellus TILs will outnumber that of the Ark-La-Tex play. The company plans to spend $425-525 million in the Marcellus to run four to five rigs and drill and turn to sales 80-95 wells this year. Production guidance has been set at 1.9-2.0 Bcfe/d. Chesapeake drilled 83 wells in Appalachia in 2021 and produced 1.3 Bcfe/d. It recently acquired Chief Oil & Gas, which has boosted its scale in the region.

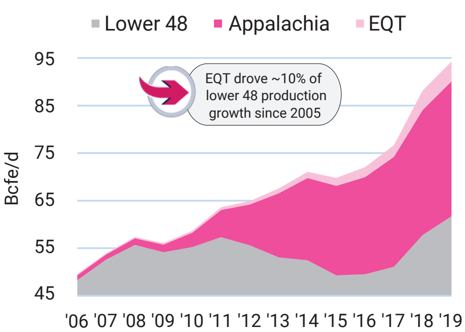
In 2022, Southwestern plans to drill 70-75 wells, complete 70-75 and turn 60-65 to sales in Appalachia, with laterals averaging more than 14,000 ft. In 2021, the company drilled 74 wells and turned 78 to sales, with laterals averaging 14,332 ft. The 2022 program aims to keep Southwestern's Appalachian volumes relatively flat compared to last year's average of 3.0 Bcfe/d. The majority of Southwestern's $1.66-1.74 billion D&C budget, or 55%, will go to the Haynesville and 45% will go to Appalachia.

Multi-basin player Coterra Energy plans a 5% YOY increase in Marcellus capex at $539-583 million. The company plans to turn 75-84 wells to sales this year compared to 92 last year. Management says that it intends to return to growth in the region in 2023.

Utica and SCOOP player Gulfport Energy will spend $216 million on D&C in the Utica this year and turn 17 wells to sales, which is the same number as 2021. Utica D&C spending would be up $30 million YOY. TIL lateral lengths will average 15,200 ft compared to 12,500 ft in 2021. Production in the play will be flat at 750 MMcfe/d.

Out of 10 companies examined, the only one planning growth is Seneca Resources. The company, which starts its fiscal year Oct. 1, plans single- to middle-digit growth and has set guidance at 932 MMcfe/d to 1 Bcfe/d. Seneca plans to spend $425-500 million on E&P development in fiscal 2022 compared to $381 million last year. Guidance includes modest amounts of activity in California. Longer laterals to offset few new wells in 2022.

#### EQT Largest Appalachian Producer




Source: EQT Corp. 04/28/22 presentation via **Enverus docFinder**

## Permian

### Ring Energy lays groundwork for post-Q1 production growth

Permian pure-play Ring Energy delivered production above the high end of its 8,500-8,700 boe/d guidance by placing wells online ahead of schedule and optimizing production through field compressor installations, which boosted natural gas sales. Nonetheless, Q1 sales volumes fell 3% sequentially to an average of 8,870 boe/d (85% oil) because of natural declines, weather-related disruptions and a limited number of wells brought online. The company's continuous one-rig drilling program did not kick off until late January, but Q2 will see the positive impacts of new wells from the program.

Continuous one-rig drilling program kicked off in late January, will benefit Q2 production.

In Q1, Ring drilled six wells on the Central Basin Platform and two on the Northwest Shelf. Four CBP wells were turned to sales, and four ESP-to-rod-pump conversions were performed on the NWS.

"Our operations teams continue to perform efficiently and effectively maintaining our base production and bringing on new development wells ahead of schedule," CEO Paul McKinney said. "The combination of stronger than anticipated sales, improved commodity prices and our continued focus on driving cost efficiencies enabled us to not only generate free cash flow for a 10th consecutive quarter, but also allowed us to pay down $10 million in debt during the quarter."

Ring anticipates average sales volumes of 9,000-9,600 boe/d (87% oil) in 2022, which would be up 9% YOY at midpoint. The company plans to drill 25-33 wells and complete 25-30, primarily on the NWS. Further conversion activity, which lowers operating costs, is also planned. Ring is running one rig in Yoakum County, Texas, and has received permits for six wells in the past 90 days.

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