B | RILEY Advisory Services

AUGUST 2023

Monitor
Oil & Gas

U.S. OIL PRODUCTION SOARS IN 2023

OIL PRICES STEADY ON UNCERTAIN FORECASTS
Oil prices were boosted by positive U.S. economic news but credit downgrades cloud future economic prospects

DEMAND FOR EQUIPMENT WANES
Surplus oil and gas equipment outnumbers buyers due to slowing oil/gas activity and economic uncertainty

PRODUCTION RISES DESPITE RIG DECLINES
Though U.S. oil rigs have declined throughout 2023, the U.S. is slated to set an oil production record for the year

In This Issue

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Advisory Services

Deals are a moving target with a constantly shifting mix of people, numbers and timing. We are here to simplify this process for you. Our associates are experts at analyzing situations and quantifying values you need on the most complex deals, so you can leverage our extensive industry knowledge to close the deal.

Trend Tracker - Inventory

Trends (Since Publication of Prior Monitor in January 2023)	
NOLVs	Increasing ▲
Sales Trends	Increasing ▲
Gross Margin	Increasing ▲
Inventory	Increasing ▲

- **NOLVs:** NOLVs in the first half of 2023 increased compared to 2022 levels as asset utilization and inventory turnover improved amid an increase in industry-wide oilfield activity. High customer demand created a positive pricing environment and provided companies with opportunities to work through or repurpose slower-moving items. Going forward, NOLVs will face headwinds as declining rig counts tend to negatively impact oilfield activity and demand.

- **Sales Trends:** The increasing customer demand trend from 2022 continued for much of the first half of 2023 as completion and production activity started the year off strong. Sales in 2023 also continue to be positively impacted by higher prices. More recently, the activity growth is slowing and nearing a downward trend amid dropping rig counts resulting from lower oil and natural gas prices, increasing interest rates, and economic slowdown concerns.

- **Gross Margin:** Margins generally increased as strong demand allowed for higher pricing that outpaced cost inflation, although increasing labor and operating costs continue to negatively weigh on margins. Market prices of certain input materials eased or even decreased in 2023, which benefited margins.

- **Inventory:** Inventory levels trended upward to support the higher level of sales and, to a lesser extent, to mitigate some lingering supply chain shortages, delays, and disruptions. Cost inflation also continues to contribute to the higher levels of inventory.

Trend Tracker - Machinery/Equipment

Trends (Since Publication of Prior Monitor in January 2023)	
Used Pricing	Decreasing ▼
Used Trade Movement	Decreasing ▼
OEM Pricing	Consistent —
Technological Advancement	Increasing ▲
Auction Activity	Decreasing ▼

- **Used Pricing/Trade Movement:** Used equipment pricing has leveled off and in many cases decreased over the past six months as demand for equipment has decreased. The decrease in rig counts over the last six months has also had a direct effect on used pricing and trade movement as demand has waned. Capital discipline continues to play a major role in used equipment acquisition by operators.

- **OEM Pricing:** OEM pricing has steadied amid the slowdown in the industry due to commodity pricing and activity. Many of the large OEMs have seen a reduction in North American revenues through the first two quarters of 2023 due to declines in demand for new equipment. Some operators report that customers are increasingly requesting discounts in an attempt to exercise capital discipline.

- **Technological Advancement:** The use of innovative technology and data management sources continues to push oilfield operators in the direction of automation. Advancements have been seen in cloud-based data management, automated processes, high-performance equipment, and other areas.

- **Auction Activity:** As demand for equipment has slowed in 2023, so too has auction activity. There continues to be a surplus of used equipment available in the secondary marketplace; however, used equipment sales have slowed due to economical and industry factors.

Overview

U.S. oil prices were on the upswing starting in late June 2023 on positive economic news and overseas oil production cuts, though recent economic trends and unrelenting domestic producers may keep prices grounded. Meanwhile, natural gas prices have declined due to a mild winter, rising production, and high storage levels.

Oil

U.S. oil prices rallied to nearly $80 per barrel in late July 2023 on news that the U.S. economy beat expectations in the second quarter, growing 2.4% despite concerns about a possible recession.

The upward oil pricing trend follows a modest rally since late June largely due to the Organization of Petroleum Exporting Countries and its allies (collectively referred to as OPEC+) adhering to existing oil production cuts through 2023 and the group's de facto leader, Saudi Arabia, recently volunteering further cuts.

The bullish outlook for oil prices was clouded somewhat in August by Fitch Ratings' downgrade of the U.S.'s credit rating from the top rating of AAA to AA+, with the ratings agency citing political polarization in the country and the federal government's high debt load. Lower credit ratings have the potential to impact economic growth and oil demand. Additionally, in August, various small and mid-sized U.S. banks were downgraded by Moody's, another rating agency.

Prior to the recent oil price increases, the average monthly price of West Texas Intermediate crude ("WTI"), the U.S.'s benchmark grade of crude oil, generally fell from June to December 2022, going from approximately $115 per barrel, a price that was boosted by supply concerns as a result of Russia's invasion of Ukraine in February 2022, to approximately $76 per barrel due to tepid economic growth and a potential recession stemming from interest rate increases designed to combat high inflation.

While the production cuts by OPEC+ have the potential to boost oil prices, U.S. oil producers are on pace to set a U.S. oil production record, which would partially offset the group's cuts. Per the U.S. Energy Information Administration ("EIA"), the U.S. is set to produce over 12.8 million barrels of oil per day in 2023, which would handily beat the country's previous record of over 12.3 million barrels per day set in 2019. Another record is expected to follow in 2024. Though OPEC+ accounts for a plurality of world oil production, the U.S. is the world's top producer of crude oil.

Overview

The EIA notes that overall global liquid fuels production is slated to increase by 1.2 million barrels per day in 2023, primarily because of growth from non-OPEC producers, particularly the U.S., as well as Norway, Canada, Brazil, and Guyana. Russia's production will likely decrease by 200,000 to 300,000 barrels per day this year, while OPEC's liquid fuels production will fall by 600,000 barrels per day due to the aforementioned cuts.

U.S. officials had objected to OPEC+'s production cuts due to their potential to exacerbate inflation, particularly considering sanctions placed on Russian oil exports by various countries in retaliation for the Russia's invasion of Ukraine.

Per the EIA, global oil inventory trends will transition from a buildup during the first half of 2023 to regular declines until the fourth quarter of 2024. This will likely place upward pressure on global oil prices through 2024. However, ongoing concerns about weakening global economic prospects could limit oil demand somewhat and ease price increases.

Natural Gas

The EIA notes that the price of natural gas at the benchmark Henry Hub in Louisiana averaged $2.50 per million British thermal units ("MMBtu") every month since February 2023, well below the average of $6.42 per MMBtu in 2022.

The decline is a result of an increase in dry natural gas production, lower-than-average consumption as a result of mild winter weather in much of the U.S., and high storage levels.

The average price of natural gas at the Henry Hub has declined on a monthly basis since August 2022, when the price was $8.81 per MMBtu, spurred partly by the war in Ukraine and its aftermath, which resulted in the U.S. diverting natural gas to Europe to make up for the continent's loss of Russian natural gas due to sanctions and apparent sabotage to a pipeline running from Russia to Europe. The price of natural gas at the Henry Hub averaged $2.49 per MMBtu as of August 1, 2023.

The EIA expects natural gas prices to rise in the coming months at the Henry Hub, as relatively flat production and a seasonal usage increase reduce the existing natural gas surplus. Henry Hub natural gas prices are expected to average over $2.80 MMBtu in the second half of 2023, up from approximately $2.40 per MMBtu in the first half. Natural gas storage inventories at the end of June 2023 were 14% above the five-year average (from 2018 to 2022). By the end of October, which marks the end of the storage injection period, inventories are expected to be around 7% above the five-year average.

Overview

Power Generation

The EIA notes that electric power generation fired by natural gas has increased over the past two summers due to higher-than-normal temperatures, which increased overall electricity generation to meet air-conditioning demand.

This trend continued in the summer of 2023, with natural gas-fired generation accounting for 46% of all U.S. power generation in July and an estimated 47% in August.

Though electricity generated by solar technology only represented 3.4% of U.S. electricity generation in 2022, the technology's future appears bright, with solar power expected to account for 23% more of the U.S. power grid this summer versus last summer, per the EIA.

In contrast, coal's share of the power grid this year is expected to be 18% less than in 2022. Natural gas accounts for the largest share of the power grid, totaling 39.8% in 2022.

As a result of federal legislation incentivizing and mandating renewable energy projects and products, such as 2022's Inflation Reduction Act, as well as declining renewable energy costs and technological innovation, the EIA expects U.S. solar-generating capacity to grow anywhere from 325% to 1,019% by 2050 versus 2022 levels, while wind-generating capacity will likely grow 138% to 235%.

Meanwhile, the power-generating capacity fueled by natural gas is expected to grow only 20% to 87% by 2050. However, the EIA expects U.S. production of natural gas to continue to grow, as international demand for the commodity is expected to remain strong in the coming years, particularly in countries without renewable energy capacity. The EIA projects that the U.S. will remain a net exporter of petroleum products and natural gas through 2050.

Rig Counts

U.S. RIG COUNT - AUGUST 11, 2023

	Current Week	Weekly Change	Prior Week	12-Month Change	12 Months Prior
Location					
Land	632	(3)	635	(110)	742
Inland Waters	4	(1)	5	1	3
Offshore	18	(1)	19	0	18
Total	654	(5)	659	(109)	763
Type					
Oil	525	0	525	(76)	601
Gas	123	(5)	128	(37)	160
Miscellaneous	6	0	6	4	2
Total	654	(5)	659	(109)	763
Directional	53	0	53	14	39
Horizontal	579	(6)	585	(114)	693
Vertical	22	1	21	(9)	31
Total	654	(5)	659	(109)	763
State					
Alaska	9	0	9	0	9
California	2	0	2	(5)	7
Colorado	14	0	14	(7)	21
Louisiana	48	(2)	50	(16)	64
New Mexico	113	0	113	9	104
North Dakota	35	0	35	(2)	37
Ohio	12	0	12	1	11
Oklahoma	40	1	39	(25)	65
Pennsylvania	19	(2)	21	(4)	23
Texas	312	(2)	314	(60)	372
Utah	15	0	15	3	12
West Virginia	12	0	12	(1)	13
Wyoming	21	0	21	1	20

Source: Baker Hughes

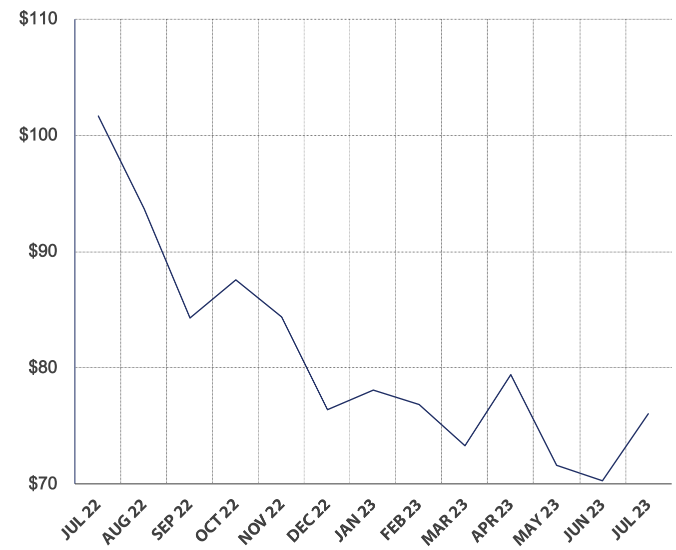
	Current Week	Weekly Change	Prior Week	12-Month Change	12 Months Prior
Major Basins					
Ardmore Woodford	1	1	0	0	1
Arkoma Woodford	1	0	1	(5)	6
Barnett	0	0	0	(3)	3
Cana Woodford	20	0	20	(5)	25
DJ-Niobrara	14	0	14	(3)	17
Eagle Ford	53	(1)	54	(19)	72
Granite Wash	1	0	1	(6)	7
Haynesville	44	0	44	(25)	69
Marcellus	31	(2)	33	(4)	35
Mississippian	0	0	0	(1)	1
Permian	327	(2)	329	(19)	346
Utica	12	0	12	0	12
Williston	35	0	35	(4)	39

The U.S. drilling rig count for the week of August 11, 2023 totaled 654 rigs, which represents decreases of five and 109 rigs versus the prior week and year, respectively, according to data from Baker Hughes. Though the number of rigs operating in the U.S. has recovered significantly since the peak of the COVID-19 pandemic, which resulted in rig the rig count falling to a record low, the rig count average has continuously declined on a monthly basis in 2023.

The count for oil rigs remained consistent at 525 units versus the prior week but decreased 76 rigs versus the prior year. Despite the decline, U.S. oil production is on pace to set a record in 2023. The count for natural gas rigs totaled 123 rigs, decreasing five and 37 units versus the prior week and year, respectively.

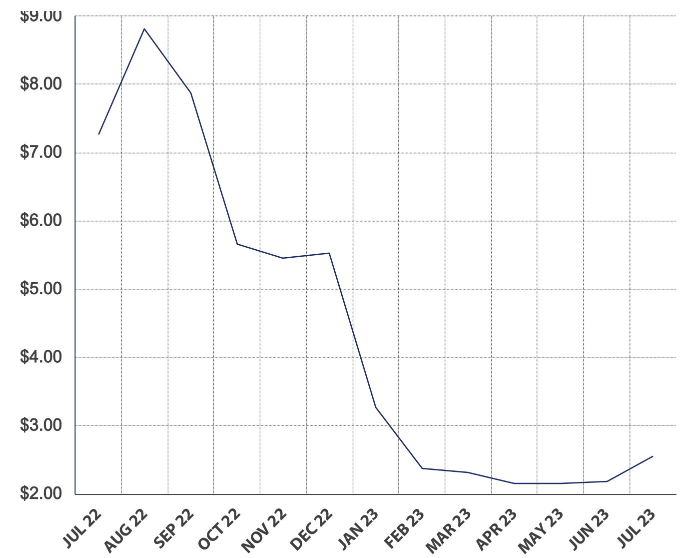
Oil and Natural Gas Prices

1 Average Monthly WTI Crude Oil Prices
July 2022 to July 2023
($ Per Barrel)



Source: EIA

2 Average Monthly Henry Hub Natural Gas Prices
July 2022 to July 2023
($ Per MMBtu)

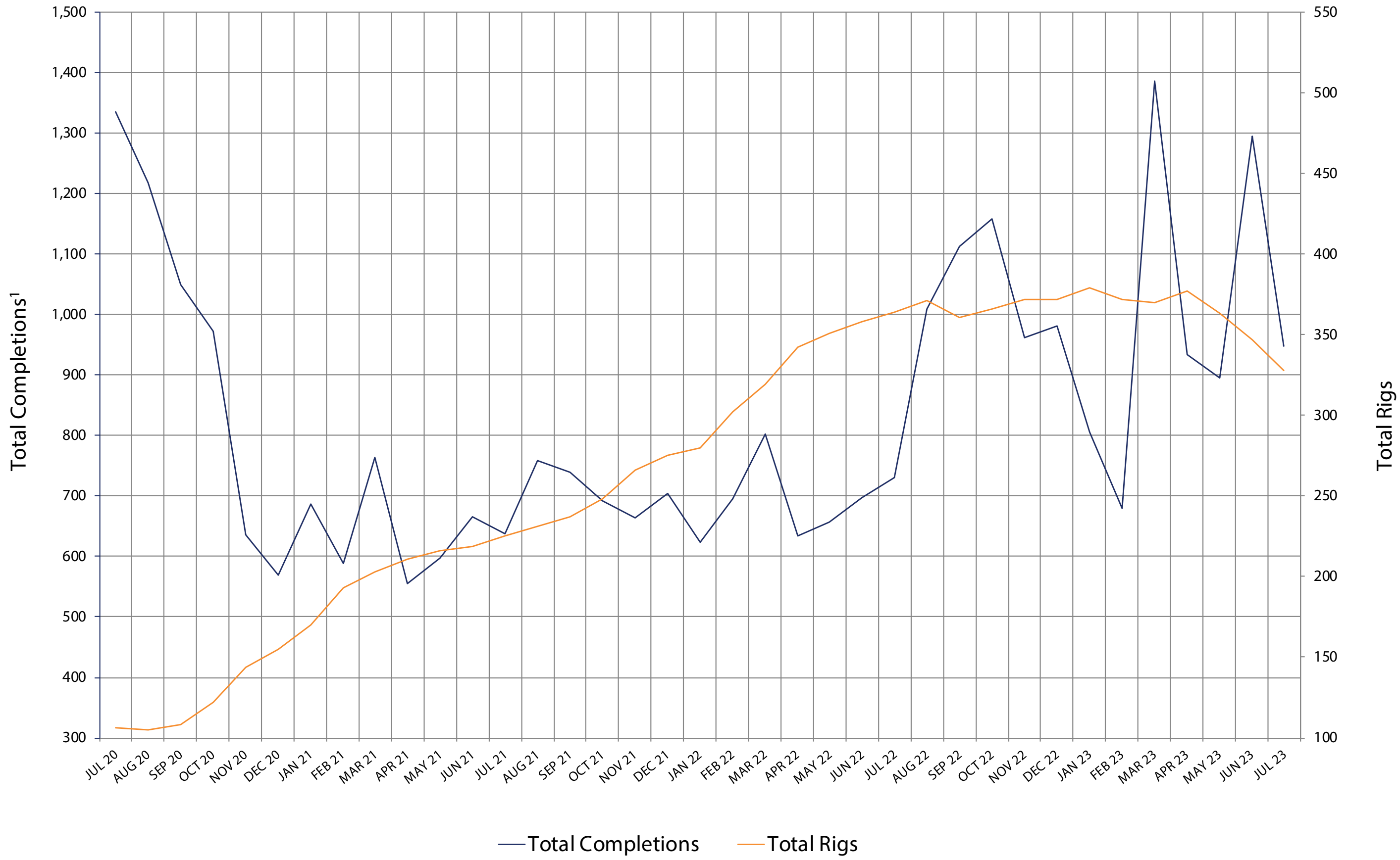


Source: EIA

Texas Drilling Activity

Drilling rigs active in Texas tapered off throughout 2023, in line with trends in other parts of the country, while completion activity spiked in March and June. The U.S. is on pace to produce a record amount of oil this year, led by Texas, perennially the top oil-producing state, despite recent declines in the drilling rig count.

3 Texas - Total Completions versus Rigs[1]
July 2020 to July 2023

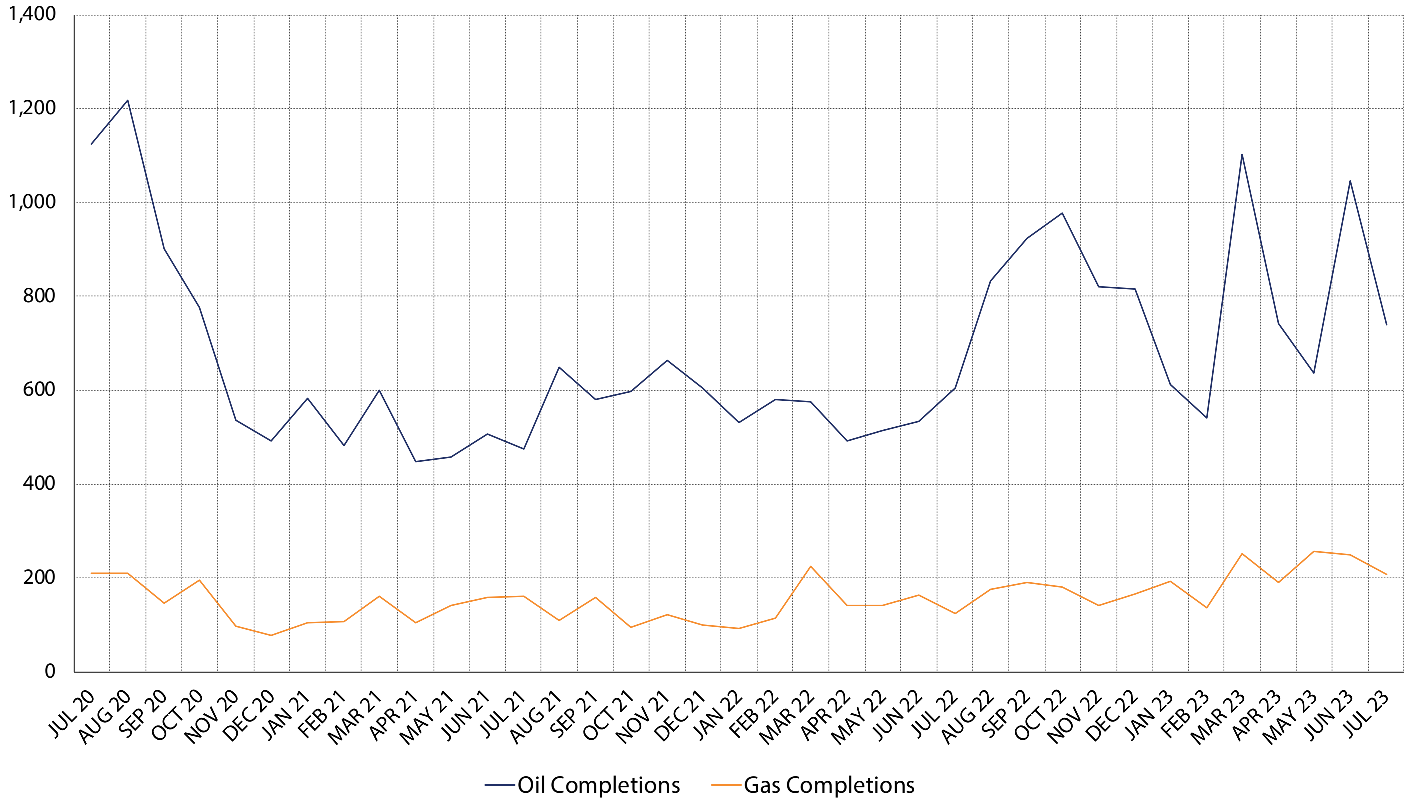


Note:
(1) Includes new drill, re-enter, and re-completions

Source: Railroad Commission of Texas

Texas Completion Activity

4 Texas - Oil versus Gas Completions[1]
July 2020 to July 2023



Note:
(1) Includes new drill, re-enter, and re-completions

Source: Railroad Commission of Texas

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Energy Production

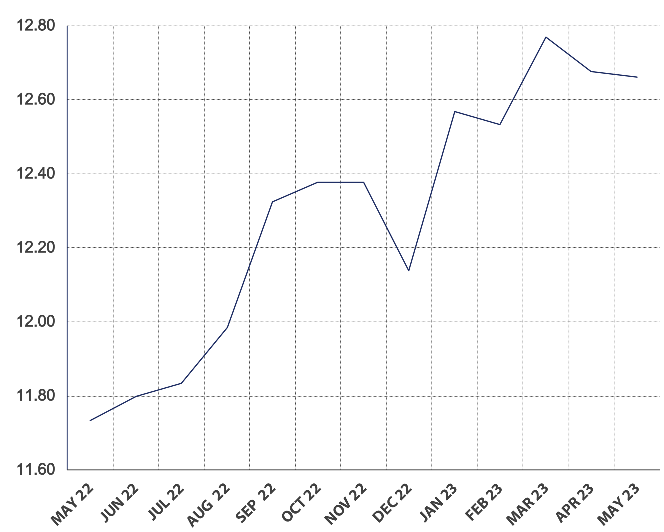
While OPEC+ has vowed to cut oil production through the year, the U.S. is producing more oil than ever, with the country set to break its oil production record in 2023, when an estimated 12.8 million barrels per day will be produced. Another production record is forecast by the EIA to follow in 2024.

In 2020, the U.S. became a net petroleum exporter for the first time since at least 1949, per the EIA. U.S. petroleum imports peaked in 2005, falling thereafter as domestic production increased and met a larger share of the country's needs. Annual U.S. petroleum imports generally increased from 1954 to 2005.

U.S. dry natural gas production is on pace to set a new record in 2023, with production slated to reach 102.35 billion cubic feet per day, per the EIA's Short-Term Energy Outlook issued in July 2023. This follows two consecutive records set in 2021 and 2022.

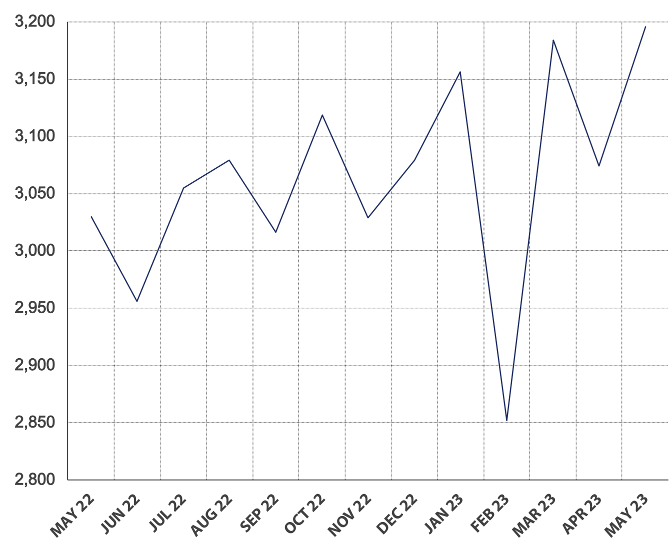
Natural gas production is expected to continue to grow as demand for liquefied natural gas ("LNG") rises among overseas buyers, particularly with the war in Ukraine dragging on, and as the U.S. continues to add the infrastructure to process, store, transfer, and ship LNG, which represents natural gas cooled into a condensed liquid state, allowing it to be shipped long distances.

5 U.S. Crude Oil Production (Million Barrels Per Day)



Source: EIA

6 U.S. Dry Natural Gas Production (Billion Cubic Feet)



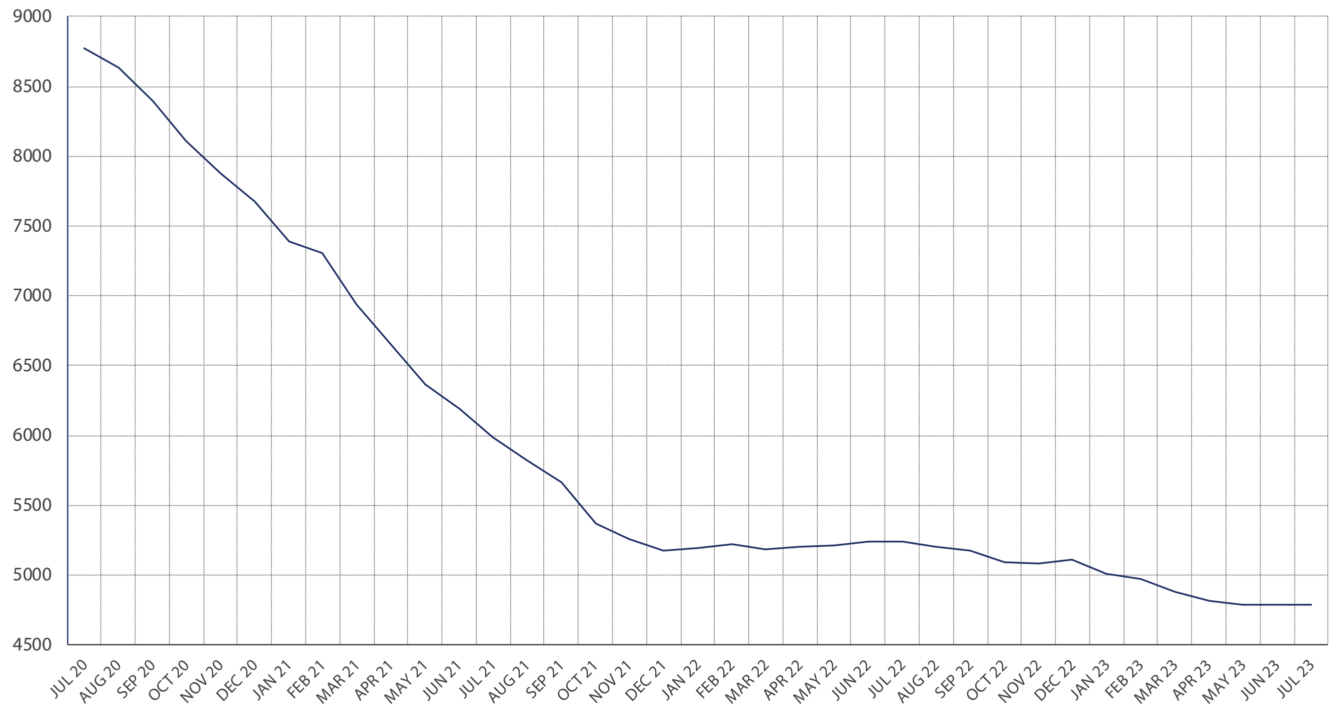
Source: EIA

Drilled But Uncompleted Wells

The number of drilled but uncompleted wells ("DUCs") in the U.S. has declined nearly every month in 2023. This continues a trend since 2020, when the number of DUCs fell precipitously, though the recent decline has not been as steep. The number of DUCs in the U.S. averaged 4,787 in July 2023, per the EIA.

DUCs represent oil and natural gas wells that have been drilled but have not yet undergone casing, cementing, and other procedures that are necessary to create a fully functional well. DUCs enable producers to bring production online quickly in response to rising energy prices.

7 Drilled But Uncompleted Wells
July 2020 to July 2023



Source: EIA

Monitor Information

B. Riley Advisory Services' Oil & Gas Monitor relates information covering the oil and gas sectors, including industry trends and their relation to our valuation process. Due to the dynamic nature of the oil and gas industry, timely reporting is necessary to understand an ever-changing marketplace. B. Riley Advisory Services strives to contextualize important indicators in order to provide a more in-depth perspective of the market as a whole. B. Riley Advisory Services welcomes the opportunity to make our expertise available to you in every possible way. Should you need any further information or wish to discuss recovery ranges for a particular segment, please feel free to contact your B. Riley Advisory Services Business Development Officer.

The information contained herein is based on a composite of B. Riley Advisory Services' industry expertise, contact with industry personnel, liquidation and appraisal experience, and data compiled from a variety of respected sources believed to be reliable. B. Riley Advisory Services does not make any representation or warranty, expressed or implied, as to the accuracy or completeness of the information contained in this issue. Neither B. Riley Advisory Services nor any of its representatives shall be liable for use of any of the information in this issue or any errors therein or omissions therefrom.

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- Saltwater disposal wells
- Valves
- Tubular goods

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- 100-day operating plans
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Experience

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- Derivatives & Hedging (ASC 815)
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- Long-lived asset impairment (ASC 360)
- Stock Compensation (ASC 718)
- Property transferred for services (IRC 83 (b))
- Stock purchases treated as asset acquisitions (IRC 338)
- Compensation (IRC 409A)
- Transfer Pricing (IRC 482)

In addition, B. Riley Advisory Services maintains experts within the oil and gas industry, such as Dan Daitchman and Taylour Bennett.

Dan Daitchman is a Managing Director with B. Riley Advisory Services. He has over 12 years of financial advisory and consulting experience helping clients resolve complex financial issues. He specializes in transaction and advisory services related to enterprises, derivatives, fractional equity interests, pre-deal diligence, and intangible assets. These services are used for strategic planning, transaction financing, financial statement reporting, capital raising, tax, litigation, bankruptcy, fairness opinions, solvency opinions, and merger and acquisition advisory. Prior to joining B. Riley Advisory Services, Dan spent four years as a financial analyst with Hilco Valuation Services and one year as an analyst in the Alternative Investment Products group at US Bancorp. Dan earned his BS in Finance and Real Estate from Marquette University and an MBA in Finance from DePaul University. He is also an Accredited Senior Appraiser with the American Society of Appraisers.

Taylour Bennett has valued more than $2 billion in assets and businesses, providing valuation, advisory, and litigation services to clients. Throughout his career, Taylour has specialized in valuing and providing services to firms within the energy complex. Taylour is actively involved in Young Professionals in Energy and is working toward his designation as an Accredited Senior Appraiser, and as a Chartered Financial Analyst. Prior to joining B. Riley Advisory Services, Taylour served as a finance intern at Chick-Fil-A. Taylour received his BA and MS in Finance from Texas Tech University.

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