



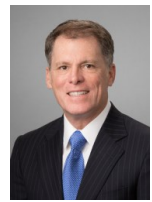
Weekly E&P Update

February 28, 2023

Vol. 8

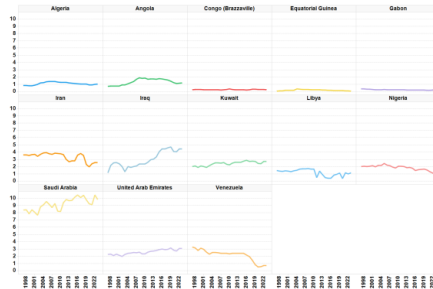
OPEC Oil Production Overview

By Steve Hendrickson
President of Ralph E. Davis Associates



From time to time, I'll see something in the news about the events in OPEC's member countries that makes me realize how often we tend to focus on what's happening in the US and overlook significant trends worldwide. For instance, I recently read about Nigeria's [economic and political problems](#), which are partly due to the considerable decline in oil their production. I was surprised to find out, however, that their production is at its lowest point in over 30 years, and this raised my curiosity about what's happening with oil production in other OPEC countries.

Here's a plot of the average daily oil production (millions of barrels per day, excluding condensate) over the last 20+ years.



CLICK TO ENLARGE
(Source: Energy Information Agency)

And here are a few comments about the latest trends among countries, ordered by their 2022 average daily production.

Saudi Arabia (10.4 mmbopd, 36% of OPEC) - Continues to be the dominant producer and production is near record levels.

Iraq (4.5 mmbopd, 16%) - Production has grown dramatically since the end of the Iraq War in 2011.

UAE (3.1 mmbopd, 11%) - Steady production growth over the last 20 years has brought them to record production.

Kuwait (2.7 mmbopd, 9%) - Steadily growing production is also near record levels.

Iran (2.5 mmbopd, 9%) - Despite significant economic sanctions, [Iran's crude production has remained resilient](#). Most is sold to China and Venezuela.

Angola (1.2 mmbopd, 4%) - Although its production has declined over the last decade, Nigeria's has fallen faster, giving Angola a slight lead as the largest oil producer in Africa.

Nigeria (1.1 mmbopd, 4%) - Under-investment and "industrial-scale oil theft" have [pushed production to a 32 year low](#).

Algeria (1.0 mmbopd, 3%) - Under-investment, a lack of new discoveries and a highly punitive tax regime are pushing oil production lower.

Libya (1.0 mmbopd, 3%) - Ongoing political and internecine conflicts have caused Libyan production to see-saw. Although it could potentially produce almost double its 2022 average, production rates are likely to remain volatile.

Venezuela (0.7 mmbopd, 2%) - Despite having the world's largest oil reserves, Venezuelan production has plummeted. [Under-investment, economic sanctions and loss of talent](#) have reduced production by 75% in just ten years.

Congo, Gabon, Equatorial Guinea (0.6 mmbopd, 2%) - These are relatively minor oil producers, although EQ does produce nearly a 700 million cubic feet of natural gas daily (2021) and significant volumes of condensate.

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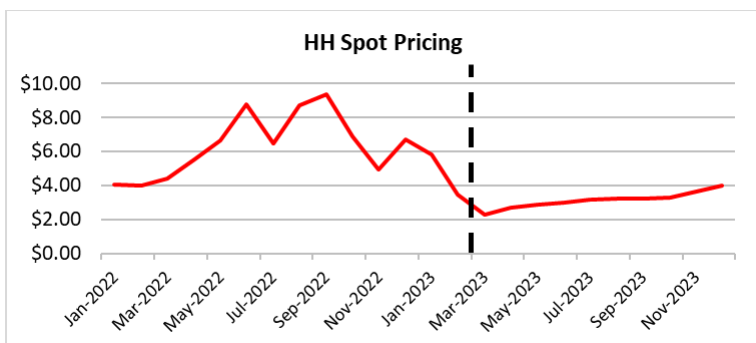
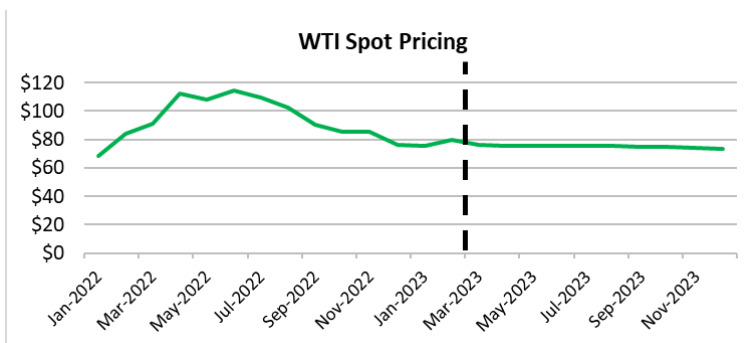
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NYMEX FUTURE PRICING



MONDAY'S MARKET CLOSE

NYMEX WTI CRUDE OIL FUTURES as of February 27, 2023 Close (\$/bbl)

Period	Current	WoW Change	Last Week	1 Yr Ago
2023	\$75.04	(\$3.45)	\$75.98	\$77.05
2024	\$71.30	(\$2.32)	\$72.27	\$72.17
2025	\$67.68	(\$1.35)	\$68.71	\$69.09
2026	\$64.55	(\$0.73)	\$65.65	\$67.17
2027	\$61.81	(\$0.34)	\$62.93	\$66.12

NYMEX HH NATURAL GAS FUTURES as of February 27, 2023 Close (\$/MMBtu)

Period	Current	WoW Change	Last Week	1 Yr Ago
2023	\$3.25	(\$0.14)	\$2.88	\$3.81
2024	\$3.66	(\$0.08)	\$3.54	\$3.37
2025	\$3.87	(\$0.03)	\$3.81	\$3.25
2026	\$4.01	(\$0.03)	\$3.87	\$3.22
2027	\$4.06	(\$0.03)	\$3.89	\$3.30

INDUSTRY METRICS—QUICK SNAPSHOT

	Current	Last Week	WoW Change	%Change
Crude Oil Near-Month Price (\$/bbl)	\$75.60	\$78.07	(\$2.47)	(3%)
Natural Gas Near-Month Price (\$/MMBtu)	\$2.35	\$2.39	(\$0.05)	(2%)
Weekly Upstream-Deal Transaction Value (\$MM)	\$1,838.43	\$215.60	\$1,622.83	753%
Weekly Number of Upstream-Deal Transactions	3	3	0	-
Current Total US Rig Count	753	760	(7)	(0.9%)
US Field Crude Oil Production (MMbbl/day)	12.3	12.3	0	-
US Field Dry Natural Gas Production (Bcf/day)	105.2	105.0	0.2	0.2%
Commercial Crude Oil Stocks-Excluding SPR (MMbbl)	479	471	8	2%
Natural Gas Stocks-Working Gas Underground Storage (Bcf)	2,195	2,266	(71)	(3%)
Total Drilled But Uncompleted Wells (DUC-Last Month)	4,671	4,671	0	-

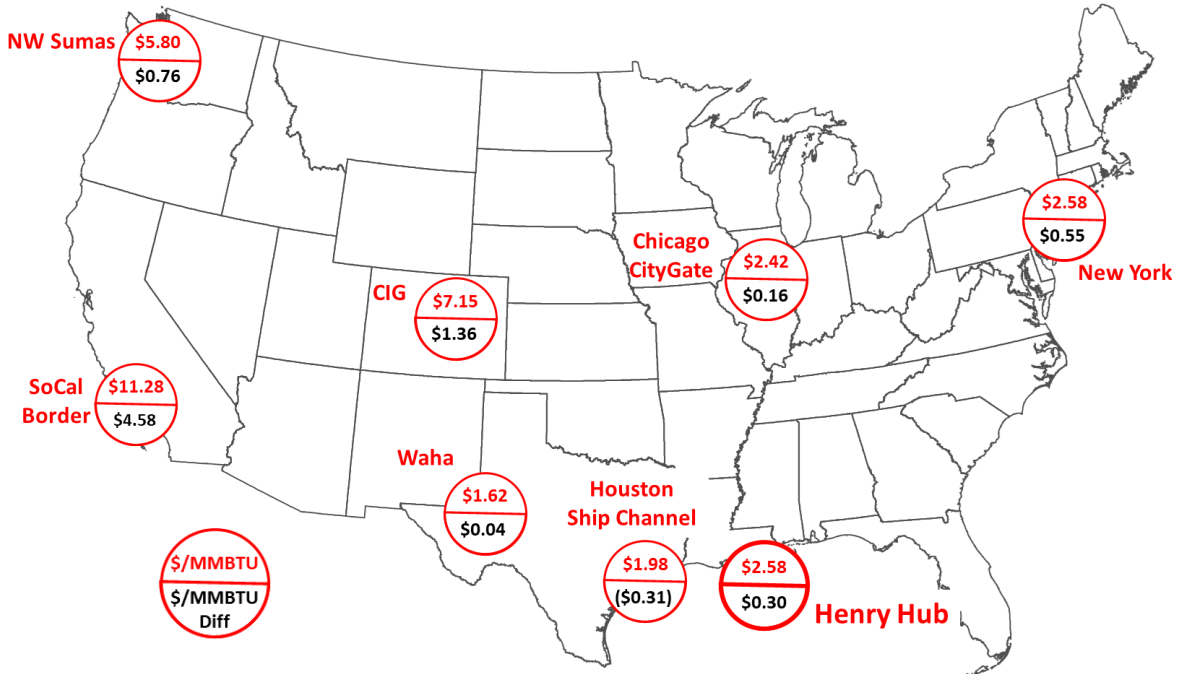
*Source—Energy Information Administration, United States (EIA)

*Source—Baker Hughes North America Rotary Rig Count & PLS M&A Database

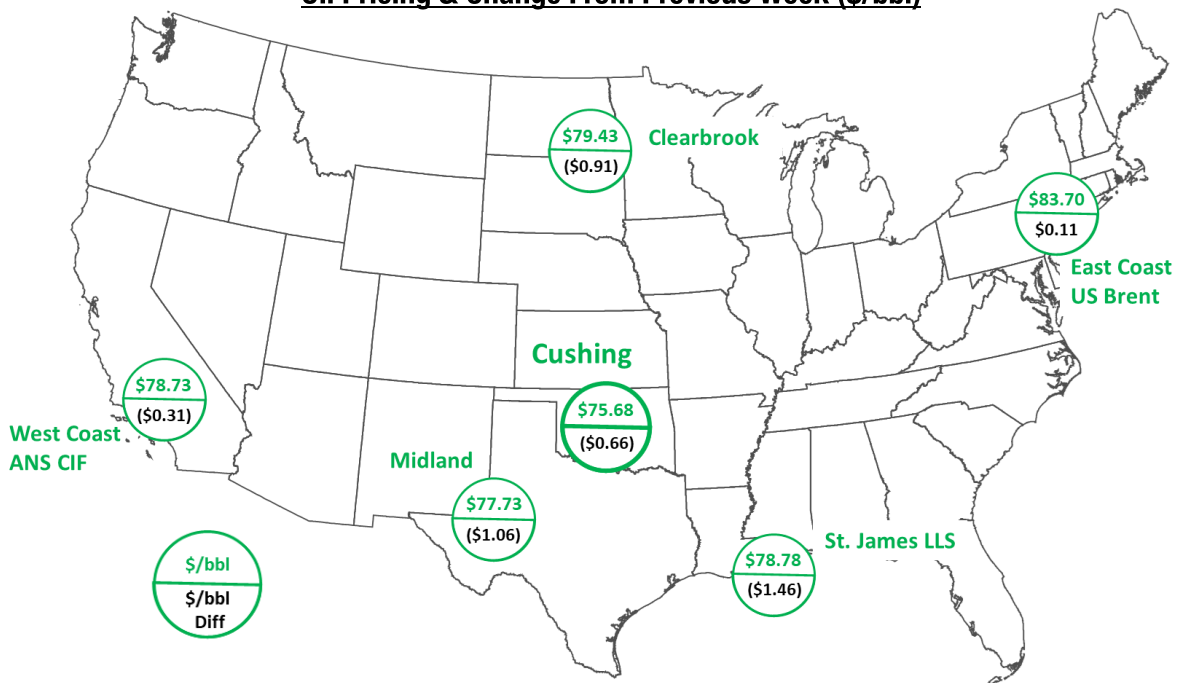


US COMMODITY PRICES CONTINUED

Natural Gas Pricing & Change From Previous Week (\$/MMBtu)



Oil Pricing & Change From Previous Week (\$/bbl)



*Source—Bloomberg LP



SELECTED INDUSTRY HEADLINES

BofA Global Research Reveals Latest Oil Price Forecasts

BofA Global Research now expects Brent to average \$88 per barrel this year, according to a new report, which revealed the BofA Global Research's latest oil price forecasts for 2023 and beyond.

RRC Concerned Texas May Not Be Able To Maximize Federal Funds To Plug Orphaned Wells

The Railroad Commission of Texas has filed comments on draft guidance issued by the U.S. Department of the Interior (DOI) for utilizing formula grants to plug orphaned oil and gas wells.

Remote Oil, Gas Workforce Will Play Larger Role In Future

The remote workforce in the oil and gas industry will play a larger and larger role in the years to come and that that remote work "is an established reality now and it's not going away", according to recent reports.

Argentina "Awakens" Vaca Muerta Shale To Increase Oil And Natural Gas Production

In a windswept desert southwest of Buenos Aires, black steel tubes the length of school buses extend in a line toward the horizon. The scene is the clearest sign yet that one of the world's biggest shale plays finally has a shot at living up to its promise.

France Seeks Pro-Nuclear Alliance For EU Energy Talks

France is planning a meeting with 12 other European Union countries, with the aim of building an alliance of states to advocate for nuclear power in EU energy policies.

Kazakh Oil Starts Flowing To Germany Via Russian Pipeline Network

Crude oil from Kazakhstan started flowing via the Russian pipeline network to Poland for further delivery to Germany, Russian pipeline monopoly operator Transneft said recently.

Russian Oil And Gas Companies Sold Far Beyond G-7 Price Cap

Russian companies got far more money from selling the country's oil than previously thought in the weeks that followed the imposition of a price cap on the nation's exports, according to recent reports.

Where Is the Safest Offshore Region for Oil, Gas Right Now?

Two perspectives can be taken on the topic; one can look at the overall absence of risk, and the other looks at regions with an ongoing presence of risk, yet there is an absence of direct threats or incidents, according to Dryad Global.

Oil Breaks Longest Losing Streak Since December

Oil snapped its longest losing streak this year, with investors piling back into the commodity after futures approached oversold territory and bearish data showing US crude supplies swelling to the highest level since May 2021.

Bay Off Southern Greece Becomes Cog In Russia Oil Supply Chain

Millions of barrels of Russian crude and fuels have been switched between tankers just a few miles off the coast of Greece, one of a series of workarounds that traders have used to overcome European Union sanctions against Moscow.

Ecuador Calls Force Majeure On Almost All Of Its Oil Production

Ecuador's oil production is expected to be offline for at least three weeks, the country's government said recently after declaring a force majeure following a Marker River bridge collapse that triggered a closure of crude oil and gas pipelines.



SELECTED RECENT TRANSACTIONS

Diamondback Energy, Inc. Announces Fourth Quarter And Full Year 2022 Financial And Operating Results; Increases Base Dividend

Diamondback Energy, Inc. recently announced financial and operating results for the fourth quarter and full year ended December 31, 2022, which includes entering into definitive agreements to divest certain Midland and Delaware Basin assets in Texas.

Chesapeake Energy Corporation Announces Sale Of Second Eagle Ford Package For \$1.4 Billion

Chesapeake Energy Corporation recently announced that it has executed an agreement to sell a portion of its remaining Eagle Ford asset to INEOS Energy for \$1.4 billion.

Verde Bio Holdings, Inc. Announces Acquisition Of Haynesville Shale Mineral And Royalty Interest

Verde Bio Holdings, Inc. recently announced that it has entered into an agreement to acquire revenue producing mineral and royalty interests in the prolific Haynesville Shale of Northern Louisiana, held by a private seller for a purchase price of \$425,000 in cash.

Foothills Exploration Acquires Certain Leases and Wells In Oklahoma

Foothills Exploration recently announced that it had managed to complete the acquisition of some wells and leases in Comanche County in Oklahoma.

Vital Energy Announces Midland Basin Acquisition

Vital Energy, Inc. recently announced the signing of a definitive purchase and sale agreement to acquire the assets of Driftwood Energy Operating, LLC, inclusive of all leasehold interests and hedges, in exchange for 1,578,948 shares of Vital common stock and \$127.6 million of cash.

Surge Energy America Announces Recent Acreage Acquisitions and Finalization of Houston Corporate Office Move

Surge Energy US Holdings Company recently announced it has recently added incremental acreage to the Company's portfolio. Additionally, earlier this month the company finalized the previously announced move of its corporate office.

Alliance Resource Partners, L.P. Announces \$72.3 Million Mineral Acquisition

Alliance Resource Partners, L.P. recently announced a \$72.3 million acquisition of oil & gas mineral interests in the Permian Basin from JC Resources LP.

INPEX Sells Eagle Ford Tight Oil Production And Development Assets To Repsol

Japan's INPEX Corporation has sold its Eagle Ford assets to Repsol Oil & Gas USA, a subsidiary of Spanish energy company Repsol.

Elk Range Royalties Announces Acquisition in the Permian Basin and Launch of Elk Range Royalties II

Elk Range Royalties, LP recently announced it has closed an acquisition of Permian Basin mineral and royalty interests pursuant to a purchase and sale agreement with Tower Rock Oil & Gas and its affiliates.

Arena Energy Acquires Gulf of Mexico Shelf Properties from Cox Operating, LLC

Arena Energy, LLC recently announced it has closed on the acquisition of Cox Operating, LLC's interest in two fields located in the shallow waters of the Gulf of Mexico.

Matador Resources Company Announces Strategic Bolt-on Delaware Basin Acquisition

Matador Resources Company recently announced that a wholly-owned subsidiary of Matador has entered into a definitive agreement to acquire Advance Energy Partners Holdings, LLC.

Black Mountain Energy Secures Earthstone Energy Oil And Gas Field, New Mexico

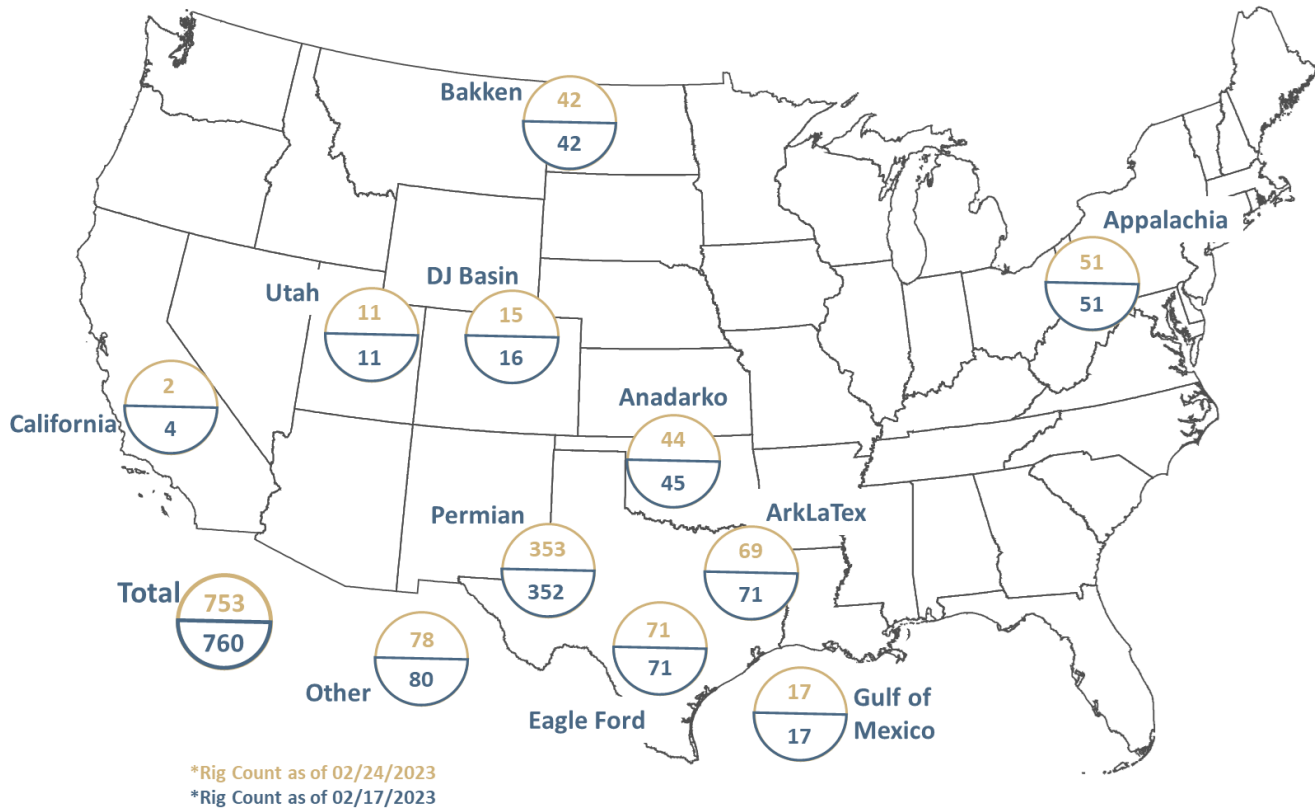
Black Mountain Energy has recently agreed to acquire 100 per cent of NYSE-listed Earthstone Energy's interest in an existing oil and gas field in the Permian Basin in New Mexico.

Vitol's VTX To Acquire Delaware Basin Resources

Vitol Inc.'s US upstream company, VTX Energy Partners LLC, has agreed to acquire Delaware Basin Resources, Midland, Tex., and associated surface and water businesses. A purchase price was not disclosed.



RIG ACTIVITY BY US REGION

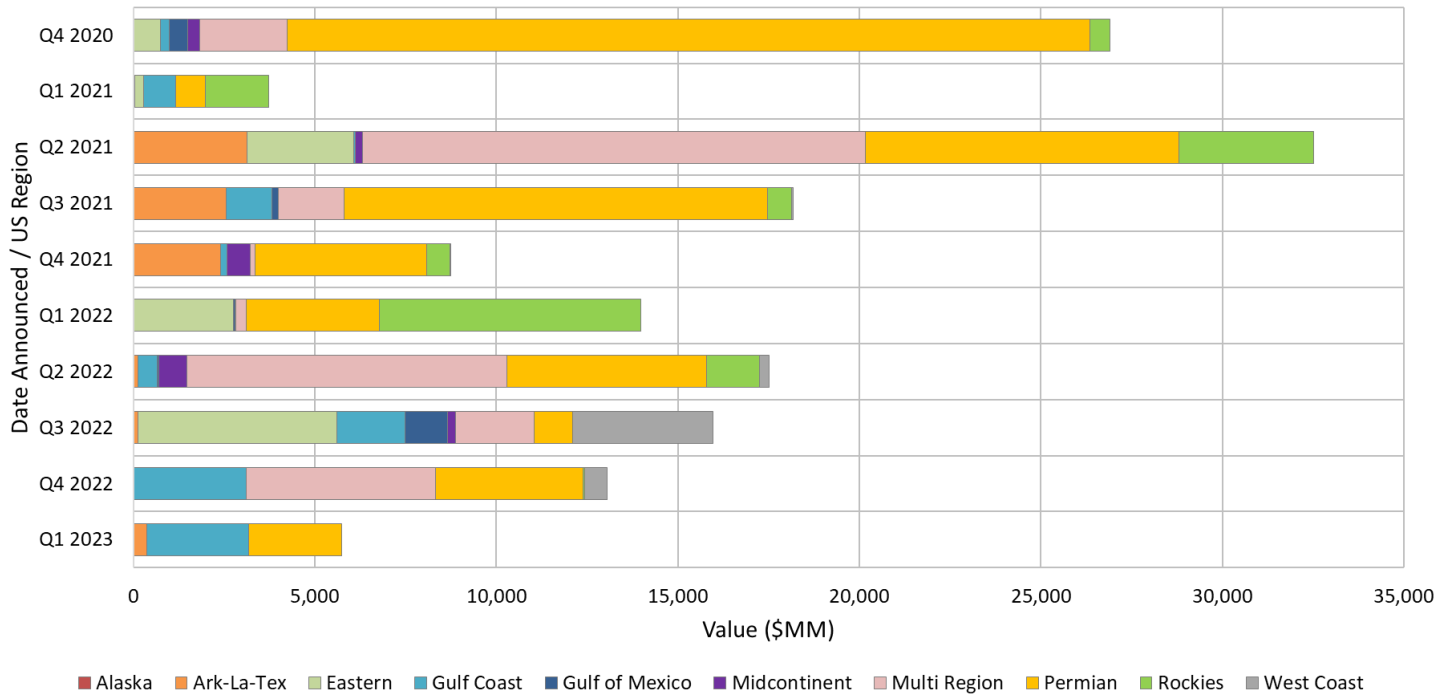


	Week Ending 02/24/2023		Week Ending 02/17/2023		Week Ending 02/25/2022
U.S. Rig Breakouts	Count	+/-	Count	+/-	Count
Oil	600	(7)	607	78	522
Gas	151	0	151	24	127
Not Specified	2	0	2	1	1
Directional	44	2	42	13	31
Horizontal	693	(7)	700	100	593
Vertical	16	(2)	18	(10)	26
Land (Inc Others)	734	(7)	741	99	635
Inland Waters	2	0	2	(1)	3
Offshore	17	0	17	5	12
US Total	753	(7)	760	103	650

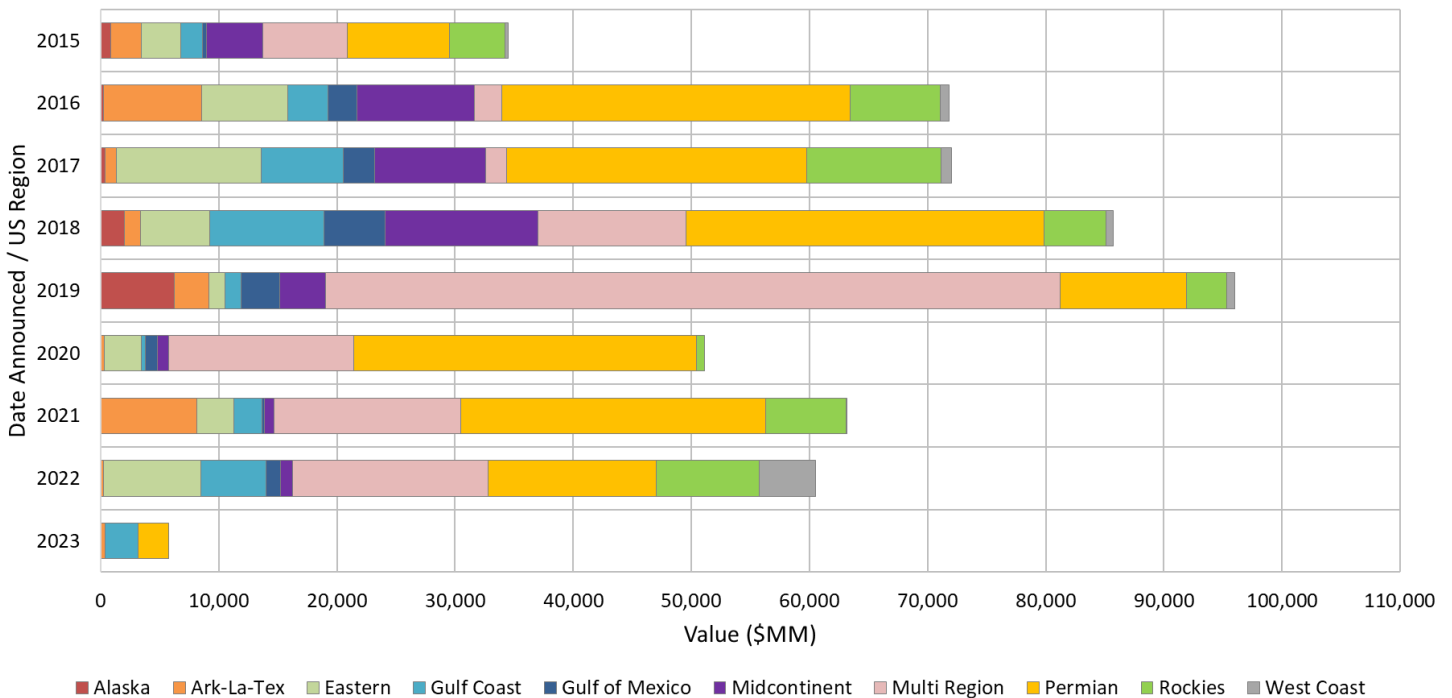
*Source—Baker Hughes Weekly Rig Counts



DEAL VALUE BY US REGION (BY QUARTER)



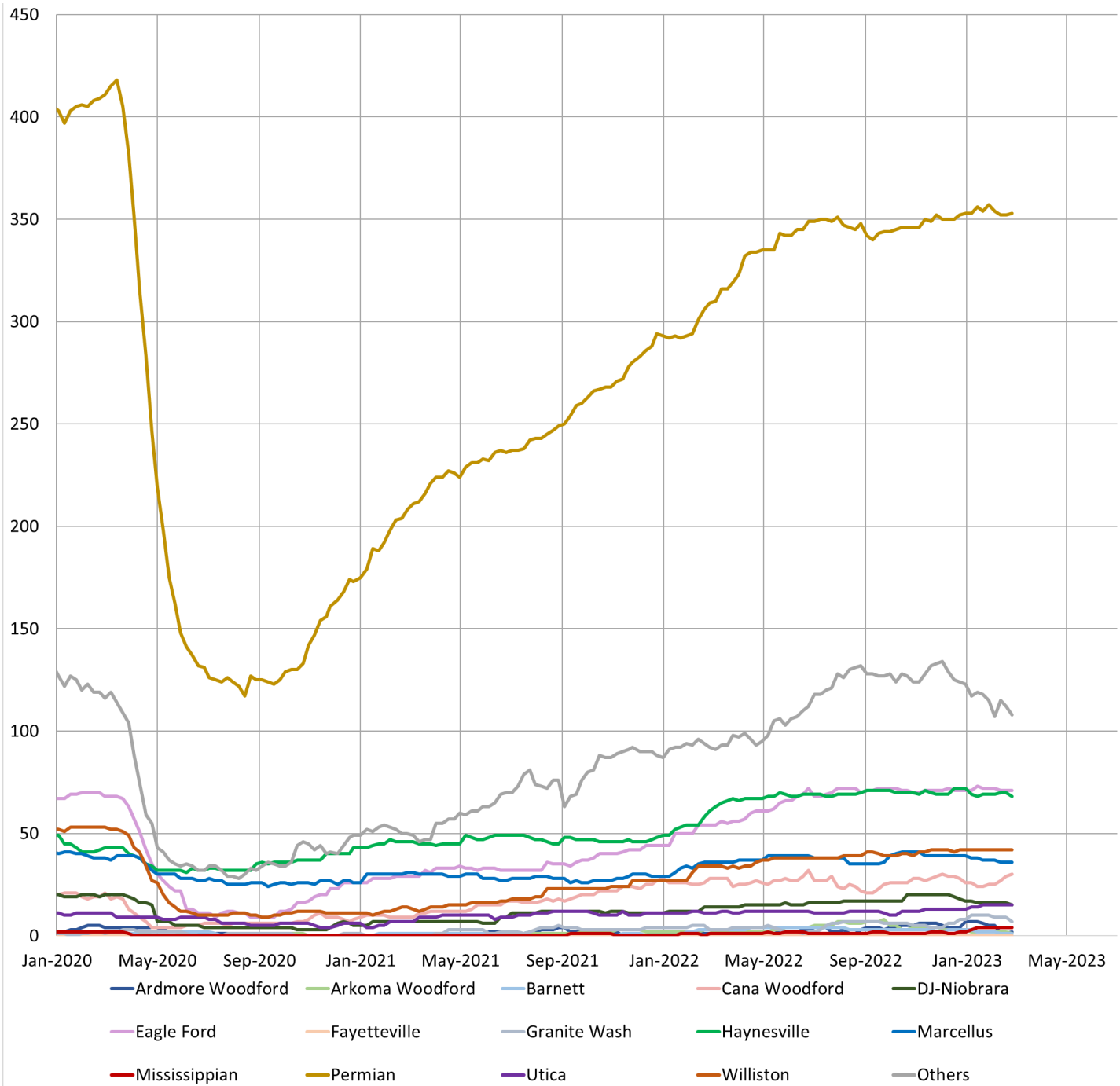
DEAL VALUE BY US REGION (BY YEAR)



*Source—PLS M&A Database (Charts exclude terminated deals)



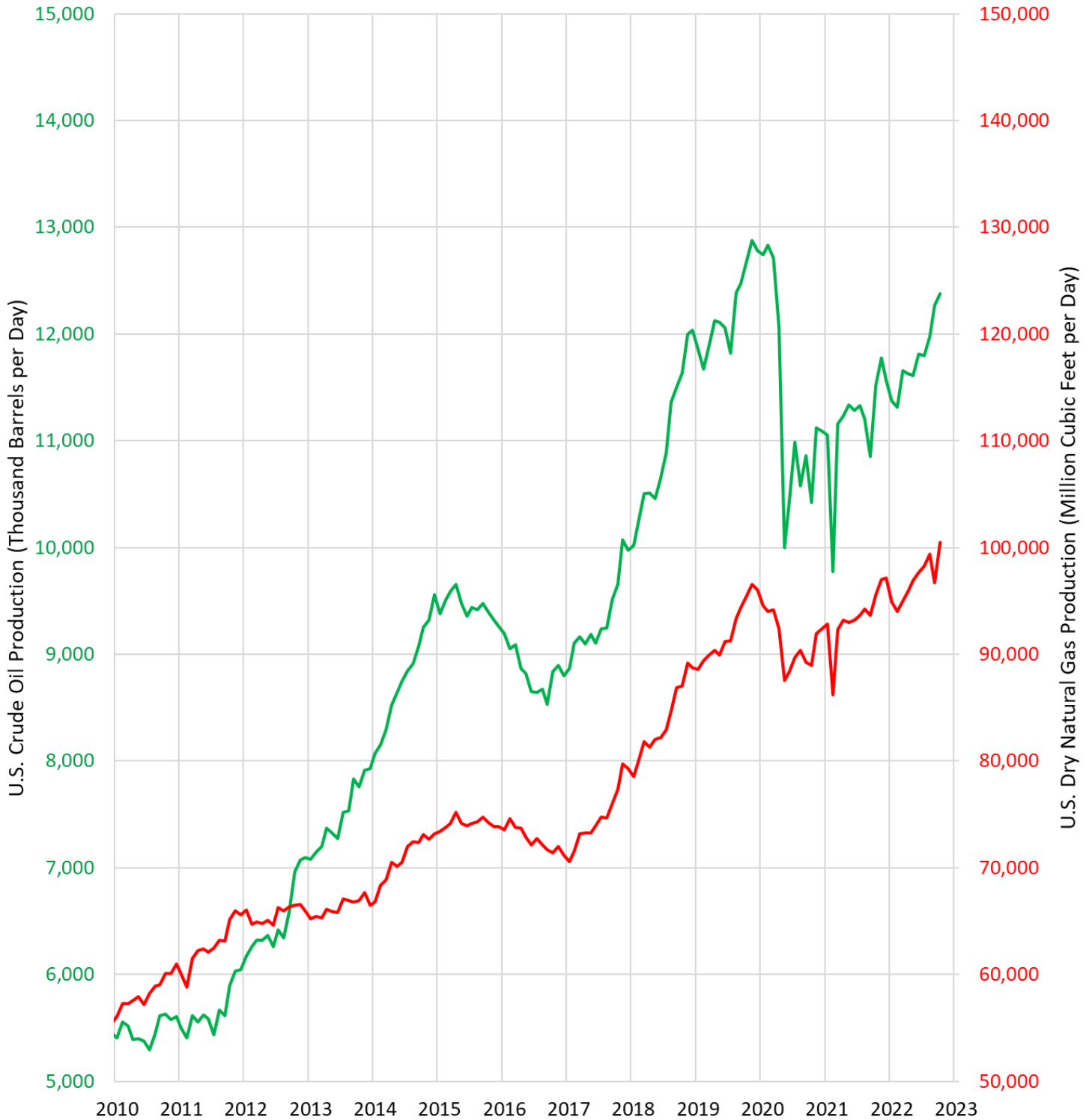
RIG ACTIVITY BY US REGION



*Source—Baker Hughes Weekly Rig Counts



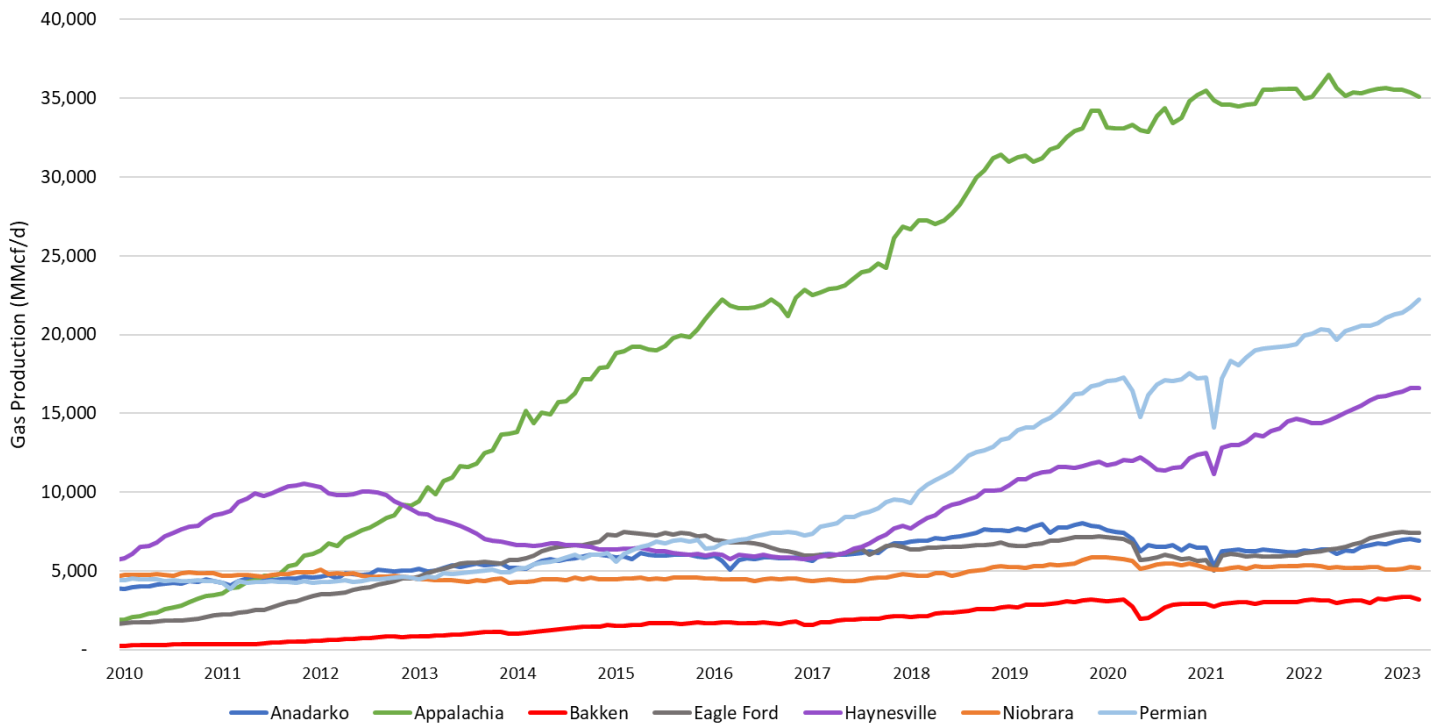
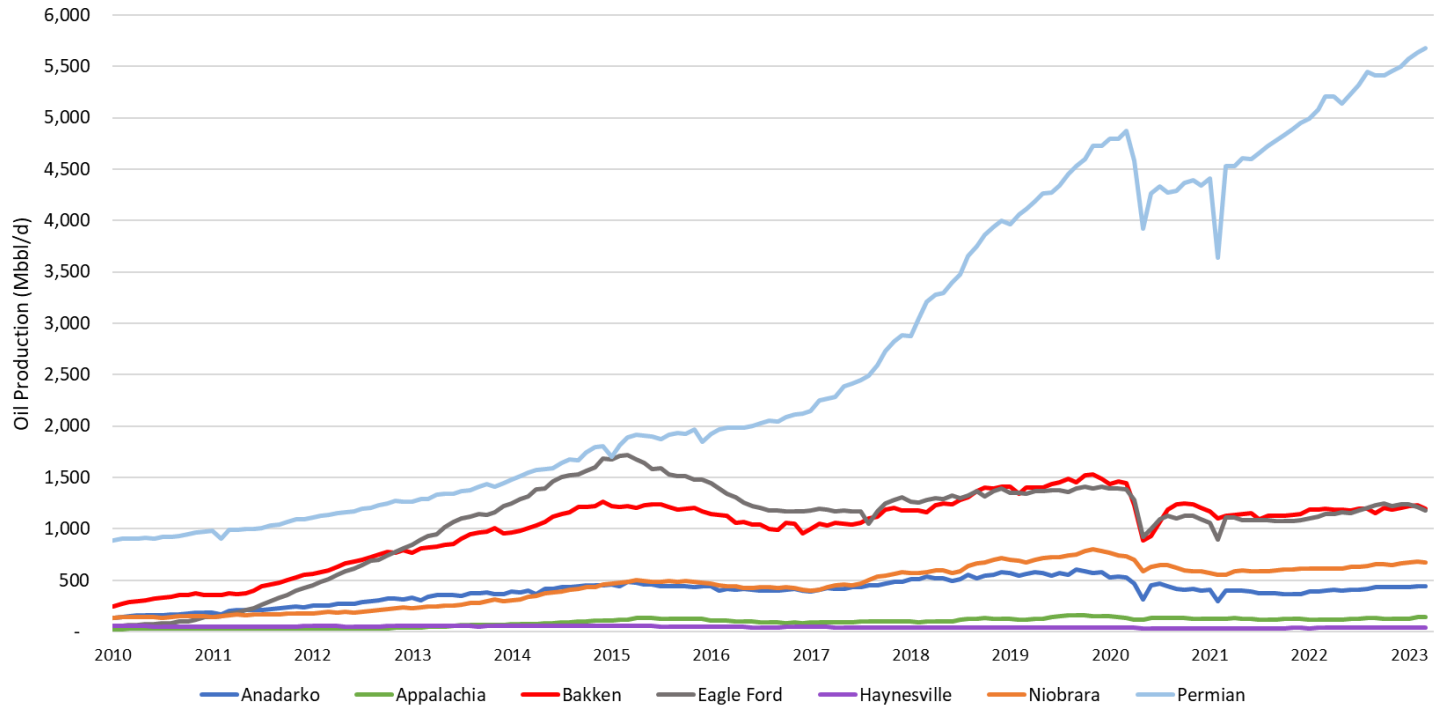
US DAILY CRUDE (MMbbl) & DRY NATURAL GAS PRODUCTION (MMcf)



*Source—Energy Information Administration, United States (EIA)



HISTORICAL PRODUCTION OF SELECTED US SHALE REGIONS



*Source—Energy Information Administration, United States (EIA)



UPCOMING EVENTS

March 2023

[CERAWeek 2023](#)

March 6-10

Houston, TX

[4th American LNG Forum](#)

March 13-14

Houston, TX

[Qnections 2023](#)

March 27-29

Las Vegas, NV

[DUG Haynesville Conference & Exhibition](#)

March 28-29

Shreveport, LA

April 2023

[US Men's Clay Court Championship 2023](#)

April 1-9

Houston, TX

[World Oilman's Minerals & Royalty Conference \(MARC\)](#)

April 10-11

Houston, TX

[2023 World Oilman's Poker Tournament](#)

April 26-28

Las Vegas, NV

[World Oilman's Tennis Tournament \(WOTT\)](#)

April 26-29

Houston, TX

May 2023

[Offshore Technology Conference 2023](#)

May 1-4

Houston, TX

[DUG Permian Basin & Eagle Ford Conference & Exhibition](#)

May 22-24

Fort Worth, TX

June 2023

[Society Of Petroleum Evaluation Engineers \(SPEE\) Annual Meeting](#)

June 17-20

Newport, RI

*Denotes an Opportune Sponsored Event



ABOUT RALPH E. DAVIS ASSOCIATES

Ralph E. Davis Associates LLC (RED) is an industry-leading petroleum engineering and geosciences firm committed to satisfying the individual needs of clients. We accomplish this by holding ourselves to the highest standards of integrity and professionalism to deliver honest, direct and actionable insights to help clients achieve their strategic objectives. We distinguish ourselves by combining reservoir engineering, geoscience evaluation techniques and advanced data analytics with economic analyses to provide our clients with individual, customized solutions.

Banks, bondholders, private equity firms, financial institutions and law firms around the world trust in RED's diverse services and unrivaled upstream oil and gas expertise to deliver comprehensive solutions that help clients make informed decisions. We add value to every engagement by employing a team approach, leveraging Opportune LLP's experienced bench of experts in transactional due diligence, tax advisory, investment banking, restructuring and valuation.

We offer technical and economic analyses to deliver our clients a complete, independent, accurate and detailed assessment of the value of their assets. We apply a robust set of technical capabilities to assist our clients. Our capabilities include:

- Reservoir engineering and geosciences
- Economic forecasting and reporting
- Data analytics and geospatial analysis

KEY CONTACTS



Steve Hendrickson is the President of Ralph E. Davis Associates, an Opportune LLP company. Steve has over 35 years of professional leadership experience in the energy industry with a proven track record of adding value through acquisitions, development and operations. Steve is a licensed professional engineer in the state of Texas, and holds an M.S. in Finance from the University of Houston and a B.S. in Chemical Engineering from The University of Texas at Austin. He recently served as a board member of the Society of Petroleum Evaluation Engineers (SPEE) and is a registered FINRA representative.



John Beaird is Vice President of Ralph E. Davis Associates, an Opportune LLP company. John has 39 years of oil and gas management, reservoir engineering, and petroleum economics evaluation experience. Recent relevant experience includes the Permian, Western Gulf, Tx-La-Miss Salt, Mid-Continent, Denver-Julesburg, Wind River, Williston Basin, and Appalachian Basins. John is a registered Petroleum Engineer in the State of Texas and holds a B.S. in Petroleum Engineering from Louisiana Tech University. He is also an active member of the Society of Petroleum Evaluation Engineers (SPEE).



Yvonne Trujillo is a Senior Petroleum Engineer at Ralph E. Davis Associates, an Opportune LLP company. Yvonne has over 25 years experience in the oil and gas industry with extensive expertise in reserves engineering, SEC and PRMS/SPE reporting and economics and asset evaluation in conventional and unconventional reservoirs in the U.S. Lower 48. Yvonne earned a B.S. in Mechanical Engineering at Simon Bolivar University in Caracas, Venezuela and an M.S. in Petroleum Engineering at the University of Houston.



David Edwards is a Petroleum Engineer at Ralph E. Davis Associates, an Opportune LLP company. David has over two years of reserves engineering experience. Before RED, David was a Petroleum Engineer at Energy Advisors Group where he handled the technical processes for marketed conventional and unconventional assets across the Lower 48. He began his career with Longfellow Energy where he contributed to its engineering, operations, and A&D teams. David holds an MBA from The University of Texas Permian Basin and a B.S. in Petroleum Engineering from The University of Oklahoma.

