



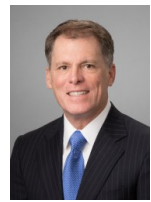
Weekly E&P Update

February 21, 2023

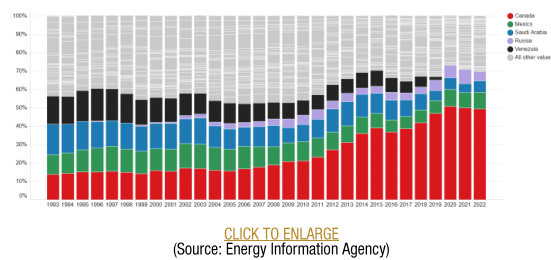
Vol. 7

North American Neighbors Dominate US Petroleum Imports

By Steve Hendrickson
President of Ralph E. Davis Associates

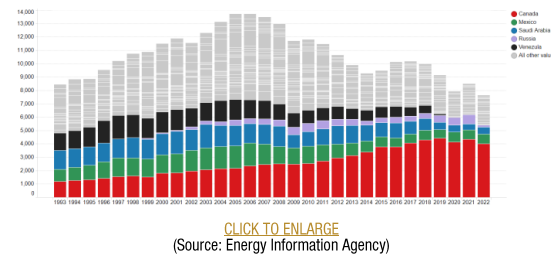


In our "Industry Headlines" this week, the news (as reported by Oilprice.com) that the US was set to receive crude oil imports from Venezuela caught my attention. You may recall when Venezuela accounted for a significant portion of US petroleum imports (crude and products), and Gulf Coast refineries had configured their refineries to handle the type of heavy crude that Venezuela (and to some degree, Mexico) produces. That ended when the US prohibited US persons and companies from engaging in transactions with the Venezuelan state oil company ("PdVSA"). The graph below shows how Venezuelan imports once accounted for almost 18% of total petroleum imports.



with large outstanding debts are also likely to seek an exception to help pay down debts that PdVSA owes them. Although this is an interesting development, it has a small impact on our supply picture.

So where are we getting our crude imports from? Remember that we import and export crude and petroleum products, and not all of our imports are consumed here; likewise, not all of our domestic production is consumed here, either. The graph below shows that while we've reduced our imports significantly, we also moved to source more of them from Canada and Mexico.



Although these prohibitions remain in place, the war in Ukraine and its impact on Russian crude oil supplies to the West has changed the calculus. The Biden administration granted a limited exception in November to allow them to import 100,000 barrels per day, provided that the proceeds of the sales are used solely to pay down debt that PdVSA owes Chevron. Other companies

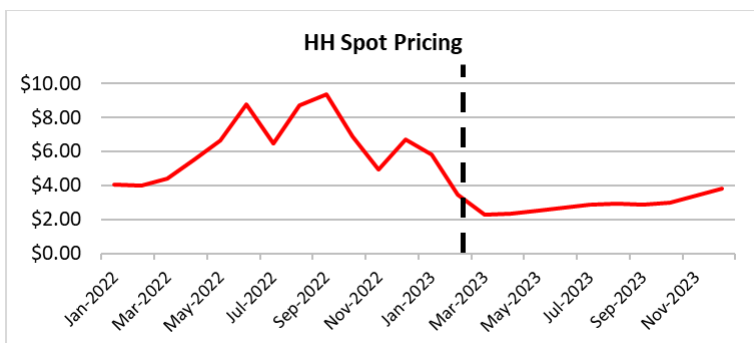
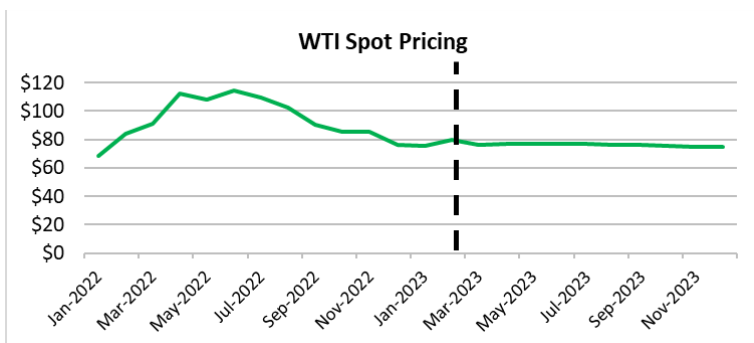
Prior to the invasion of Ukraine, Russia had been a significant source of imports, but that was stopped by sanctions in early 2022. Saudi Arabia, Iraq and Brazil (along with increased domestic production) are making up the shortfall.

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NYMEX FUTURE PRICING



MONDAY'S MARKET CLOSE

NYMEX WTI CRUDE OIL FUTURES as of February 20, 2023 Close (\$/bbl)

Period	Current	WoW Change	Last Week	1 Yr Ago
2023	\$75.98	(\$3.45)	\$79.43	\$77.07
2024	\$72.27	(\$2.32)	\$74.59	\$72.54
2025	\$68.71	(\$1.35)	\$70.06	\$69.82
2026	\$65.65	(\$0.73)	\$66.38	\$68.09
2027	\$62.93	(\$0.34)	\$63.27	\$67.09

NYMEX HH NATURAL GAS FUTURES as of February 20, 2023 Close (\$/MMBtu)

Period	Current	WoW Change	Last Week	1 Yr Ago
2023	\$2.88	(\$0.14)	\$3.02	\$3.80
2024	\$3.54	(\$0.08)	\$3.62	\$3.39
2025	\$3.81	(\$0.03)	\$3.84	\$3.26
2026	\$3.87	(\$0.03)	\$3.90	\$3.20
2027	\$3.89	(\$0.03)	\$3.92	\$3.23

INDUSTRY METRICS—QUICK SNAPSHOT

	Current	Last Week	WoW Change	%Change
Crude Oil Near-Month Price (\$/bbl)	\$78.07	\$79.94	(\$1.87)	(2%)
Natural Gas Near-Month Price (\$/MMBtu)	\$2.39	\$2.58	(\$0.19)	(7%)
Weekly Upstream-Deal Transaction Value (\$MM)	\$215.60	\$250.00	(\$34.40)	(14%)
Weekly Number of Upstream-Deal Transactions	3	1	2	200%
Current Total US Rig Count	760	761	(1)	(0.1%)
US Field Crude Oil Production (MMbbl/day)	12.3	12.3	0	-
US Field Dry Natural Gas Production (Bcf/day)	105.0	104.4	0.6	0.6%
Commercial Crude Oil Stocks-Excluding SPR (MMbbl)	471	455	16	4%
Natural Gas Stocks-Working Gas Underground Storage (Bcf)	2,266	2,366	(100)	(4%)
Total Drilled But Uncompleted Wells (DUC-Last Month)	4,671	4,577	94	2%

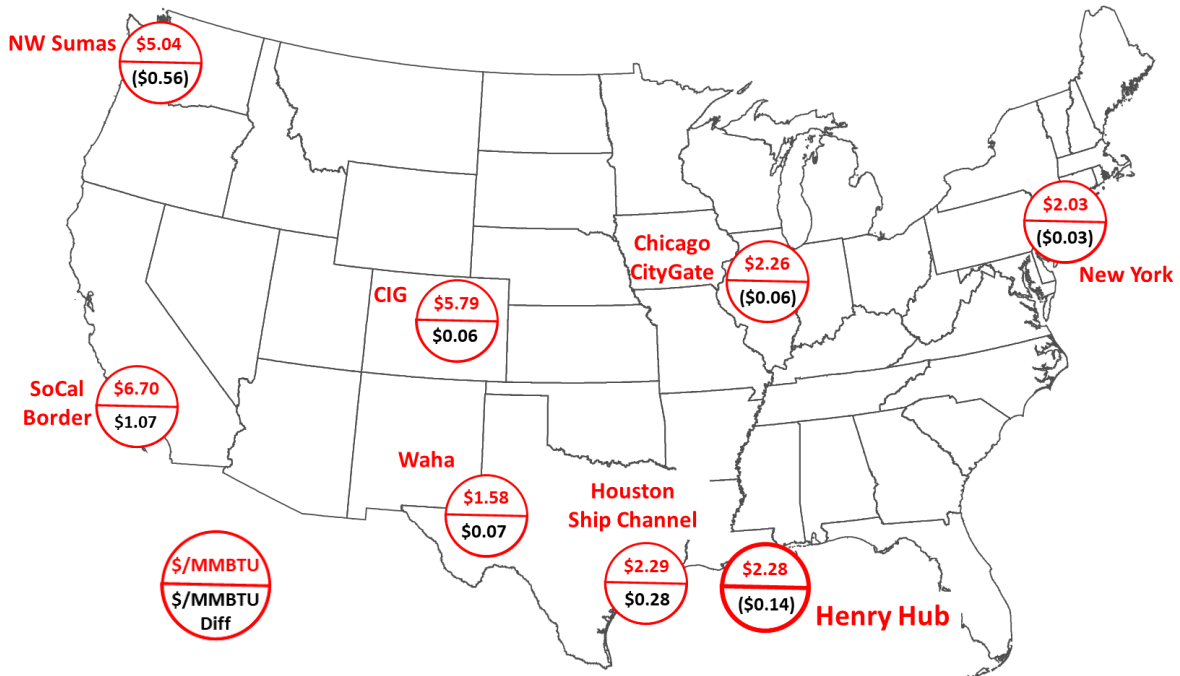
*Source—Energy Information Administration, United States (EIA)

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

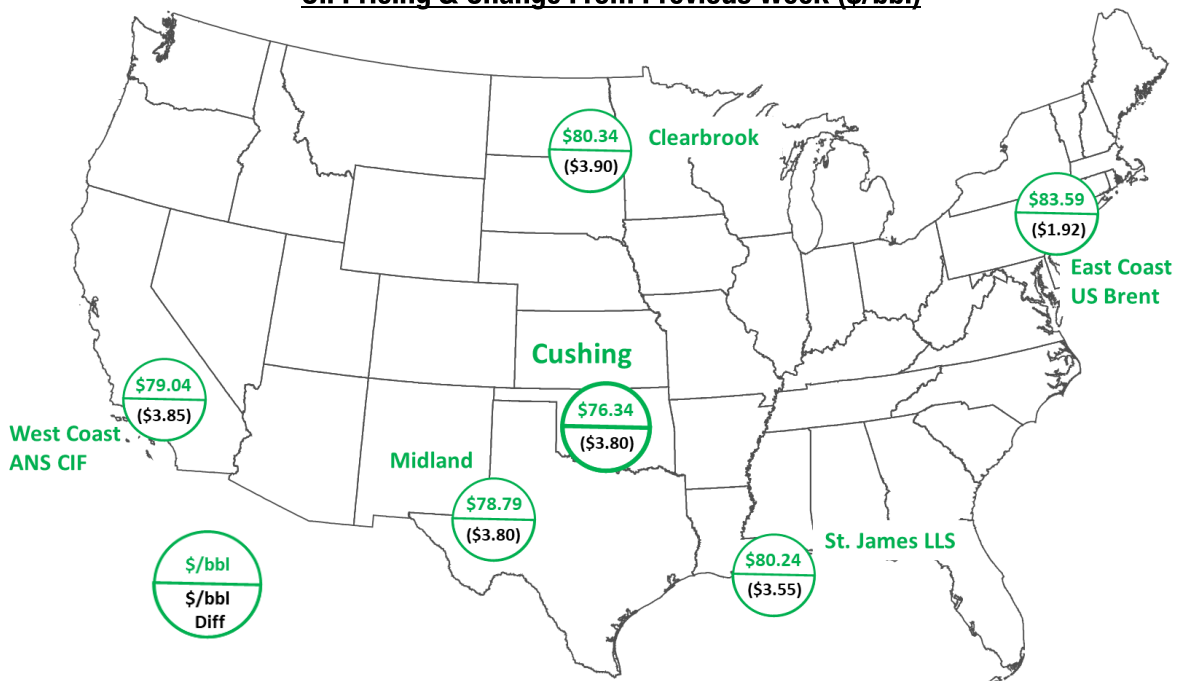


US COMMODITY PRICES CONTINUED

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



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



*Source—Bloomberg LP



SELECTED INDUSTRY HEADLINES

Oil Rises 1% On China Demand Hopes And Supply Concerns

Oil prices rose over 1% on Monday, buoyed by optimism over Chinese demand, continued production curbs by major producers and Russia's plans to rein in supply.

India's January Crude Imports Hit 6-Month-High On Russian Inflows

India's crude imports rose to a six-month-high in January, government data showed recently, as refiners in the world's third-biggest oil importer and consumer snapped up cheaper Russian supply.

Why Is The Price Of Oil Rising?

Tight supply, Russia's war in Ukraine and OPEC+ production cuts are pushing the price of oil higher.

Europe's Thirst For U.S. Crude To Stay High In 2023

Europe's thirst for U.S. crude oil is expected to remain elevated, VP of Midstream for Chevron Corp said recently on the sidelines of the Argus Americas Crude summit.

Largest Single-Phase Storage Facility In China To Open On Friday, Can Hold 4.25m Tons Of Crude Oil

Chinese state-owned oil and gas giant China National Offshore Oil Corp recently announced that it has completed the largest single-phase storage facility in China so far, which can hold 4.25 million tons of crude oil.

Russian Oil Flows To China Hit Highest Levels Since Ukraine Invasion (LOGIN CREDENTIALS REQUIRED)

Russian exports of discounted crude and fuel oil to China have jumped to record levels as the re-opening of the world's biggest energy importer gathers pace after the dismantling of Covid Zero.

Is There A Chance OPEC+ Enters Maximum Production Mode In 2023?

There is a low probability that OPEC+ enters maximum production mode this year, according to recent reports.

Coming Western Economic Data Will Guide Crude Pricing (LOGIN CREDENTIALS REQUIRED)

Focus shifts from Russia and China to economic indicators from Europe and the United States to determine whether conditions support higher oil prices.

Ministers Discuss Natural Gas Markets And Global Energy Crisis At IEA Meeting

Forty governments took part in a Special IEA Ministerial meeting on natural gas markets and supply security, discussing additional ways to work together to limit the impacts from the global energy crisis triggered by Russia's invasion of Ukraine and proposing measures to support affected countries.

U.S. To Receive 3 Million Barrels Of Venezuelan Crude Oil In February

The United States is on track to receive nearly 3 million barrels of crude oil from Venezuela this month, according to shipping documents seen by Reuters.

Oil Demand To Hit New Record This Year As China Reopens, IEA Says (LOGIN CREDENTIALS REQUIRED)

After economic hibernation during the pandemic, the world is back on track to burn more crude than ever.

Oil Inches Higher On U.S. President's Day

Crude oil prices are gaining recently as sentiment shifts to the supply and demand picture after being weighed down last week by U.S. inflation data.

Swiss Company That Counts Microsoft As A Customer Says It's Removed CO2 From The Air And Put It In The Ground

Swiss company Climeworks recently announced that it has successfully taken carbon dioxide out of the air and put it in the ground where it will eventually turn into rock in a process that has been verified by an independent third-party auditor.



SELECTED RECENT TRANSACTIONS

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.

WildFire Energy Announces Eagle Ford Acquisition From Chesapeake Energy Corporation

WildFire Energy recently announced the acquisition of approximately 377,000 net acres and approximately 1,350 wells in the Brazos Valley region of its Eagle Ford asset from Chesapeake Energy Corporation.

Whitehawk Energy Announces Agreement To Acquire Core Haynesville Shale Natural Gas Mineral And Royalty Assets For Up To \$105 Million

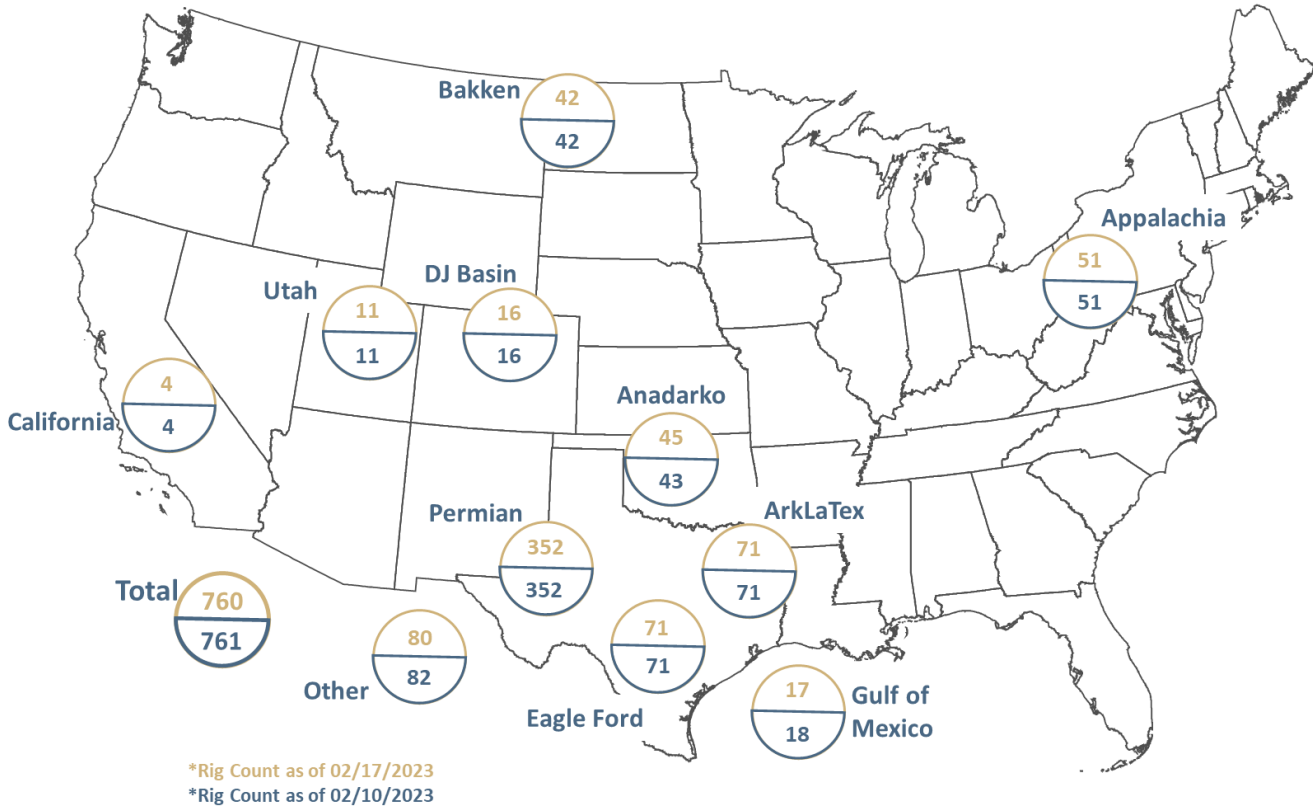
WhiteHawk Energy, LLC recently announced a definitive agreement to acquire up to \$105 million of natural gas mineral and royalty assets primarily located in northwestern Louisiana.

Permian Resources Announces Portfolio Optimization Transactions

Permian Resources Corporation recently announced that it has entered into a series of portfolio management transactions, comprising of a bolt-on acquisition, a divestiture of non-operated production and acreage and a divestiture of a portion of its water infrastructure assets in Reeves County, Texas.



RIG ACTIVITY BY US REGION

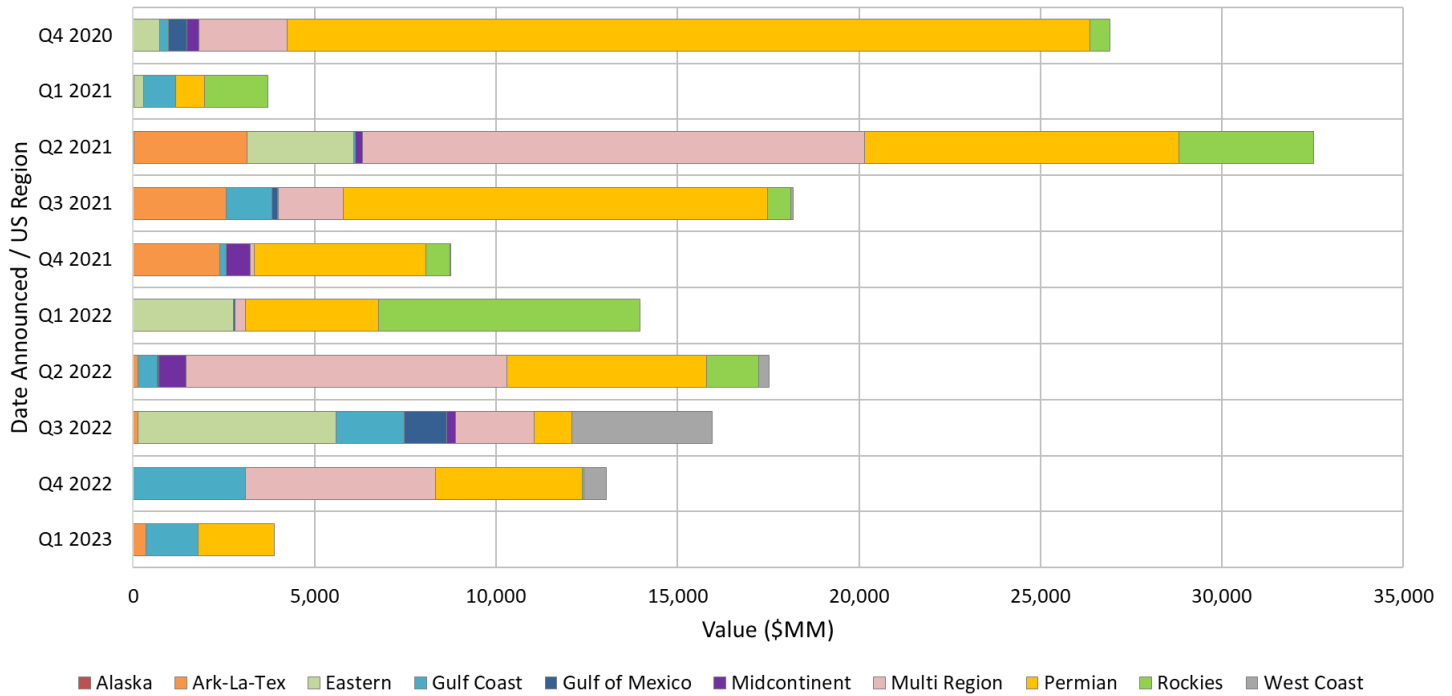


	Week Ending 02/17/2023			Week Ending 02/10/2023		Week Ending 02/18/2022
U.S. Rig Breakouts	Count	+/-	Count	+/-	Count	
Oil	607	(2)	609	87	520	
Gas	151	1	150	27	124	
Not Specified	2	0	2	1	1	
Directional	42	(1)	43	11	31	
Horizontal	700	0	700	111	589	
Vertical	18	0	18	(7)	25	
Land (Inc Others)	741	0	741	111	630	
Inland Waters	2	0	2	(1)	3	
Offshore	17	(1)	18	5	12	
US Total	760	(1)	761	115	645	

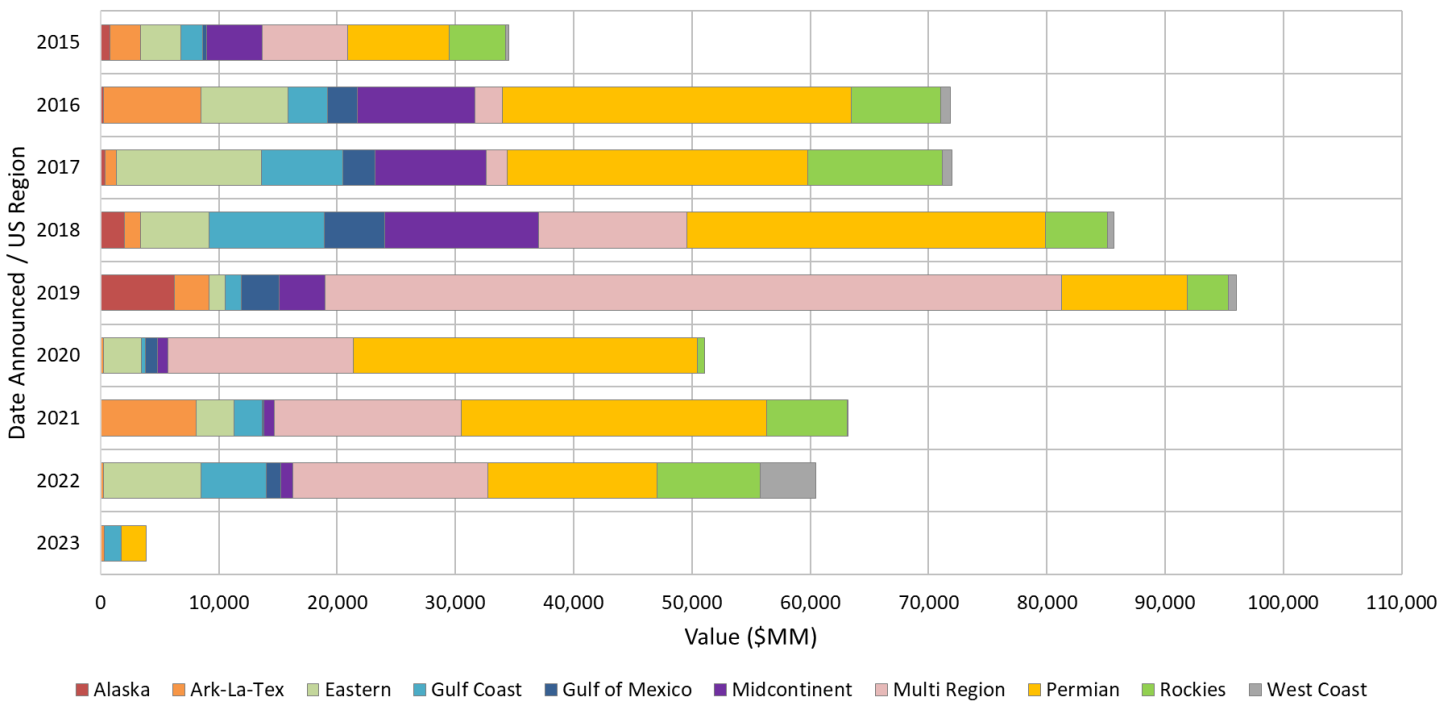
*Source—Baker Hughes Weekly Rig Counts



DEAL VALUE BY US REGION (BY QUARTER)



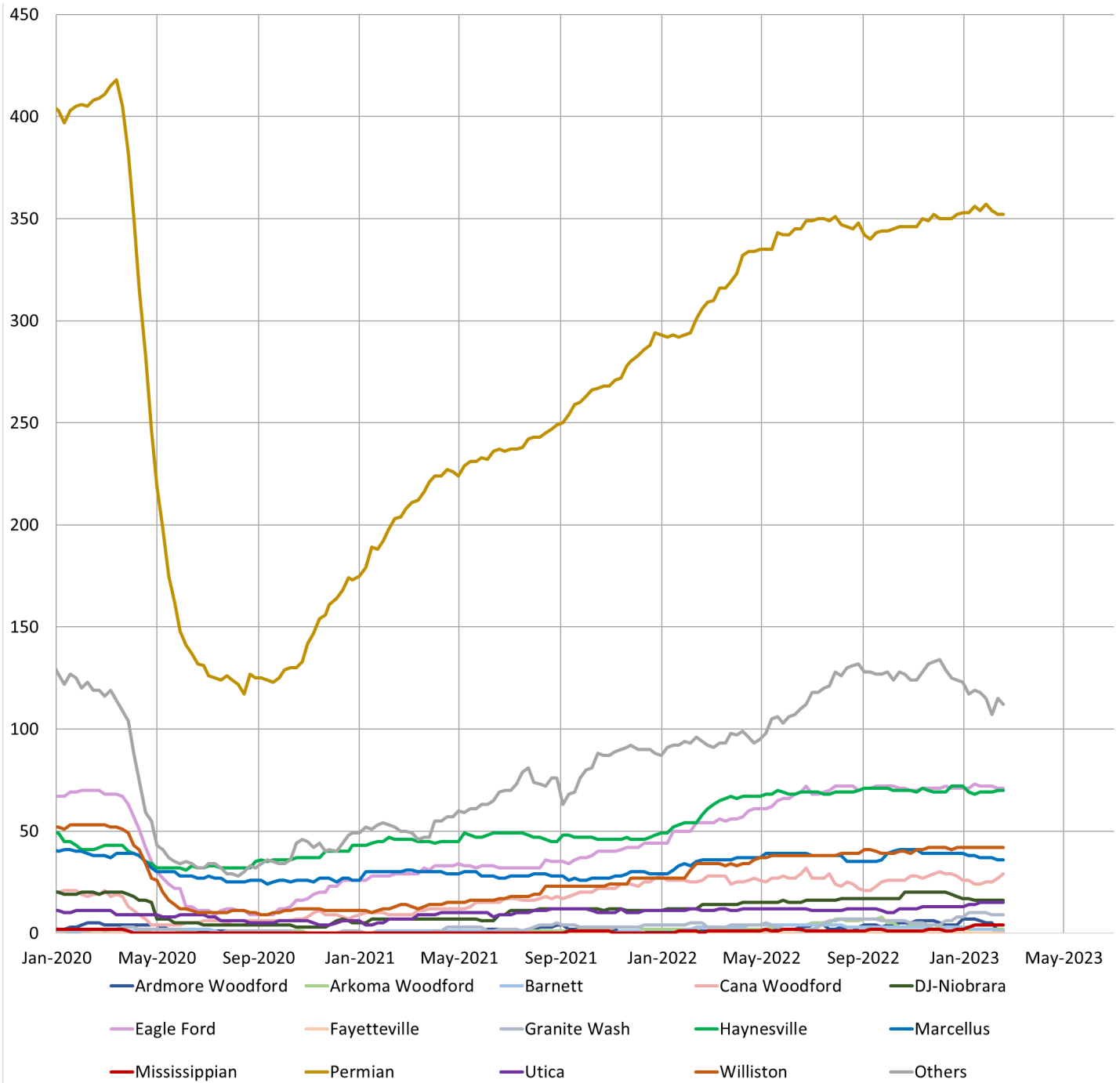
DEAL VALUE BY US REGION (BY YEAR)



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



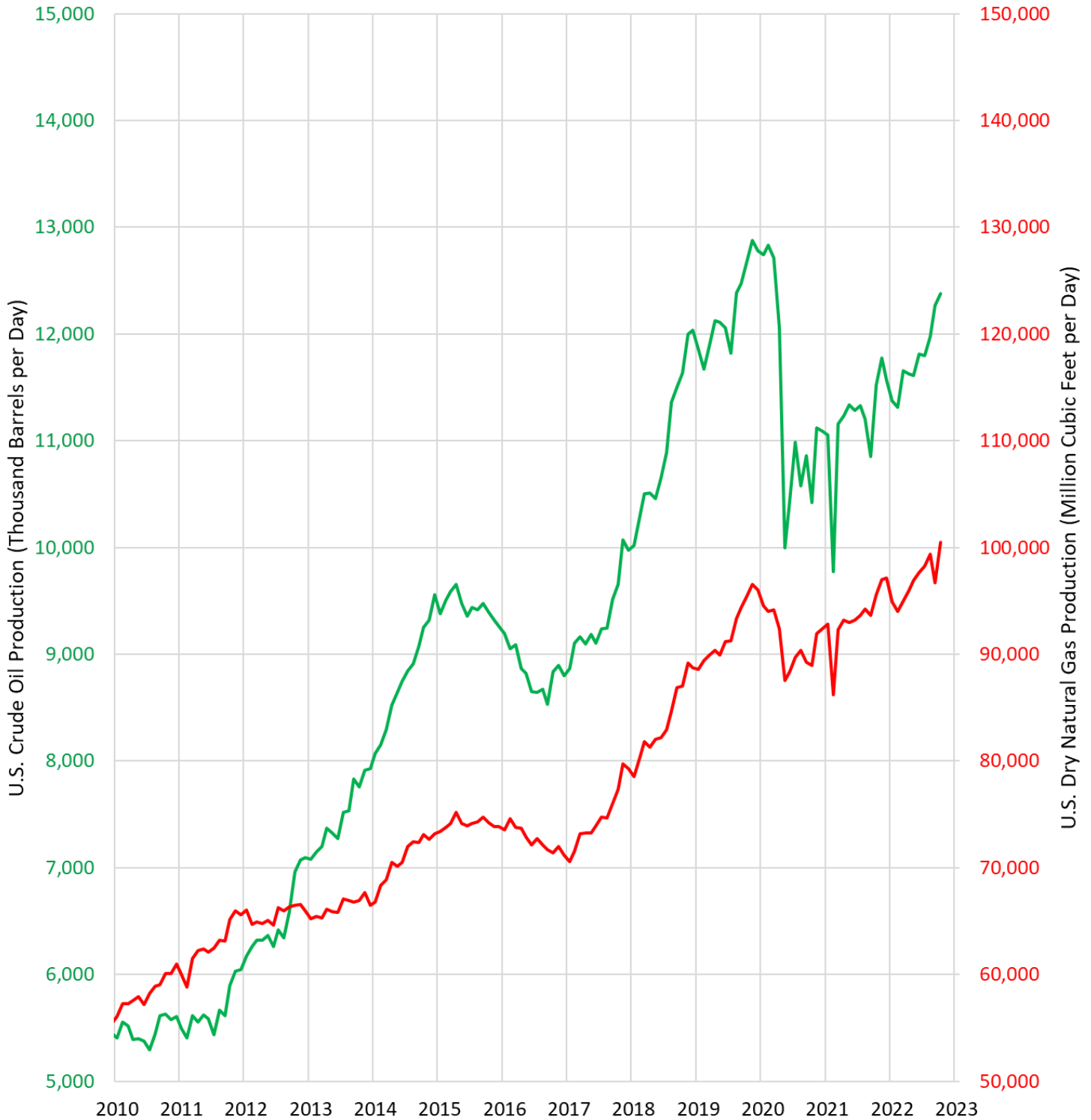
RIG ACTIVITY BY US REGION



*Source—Baker Hughes Weekly Rig Counts



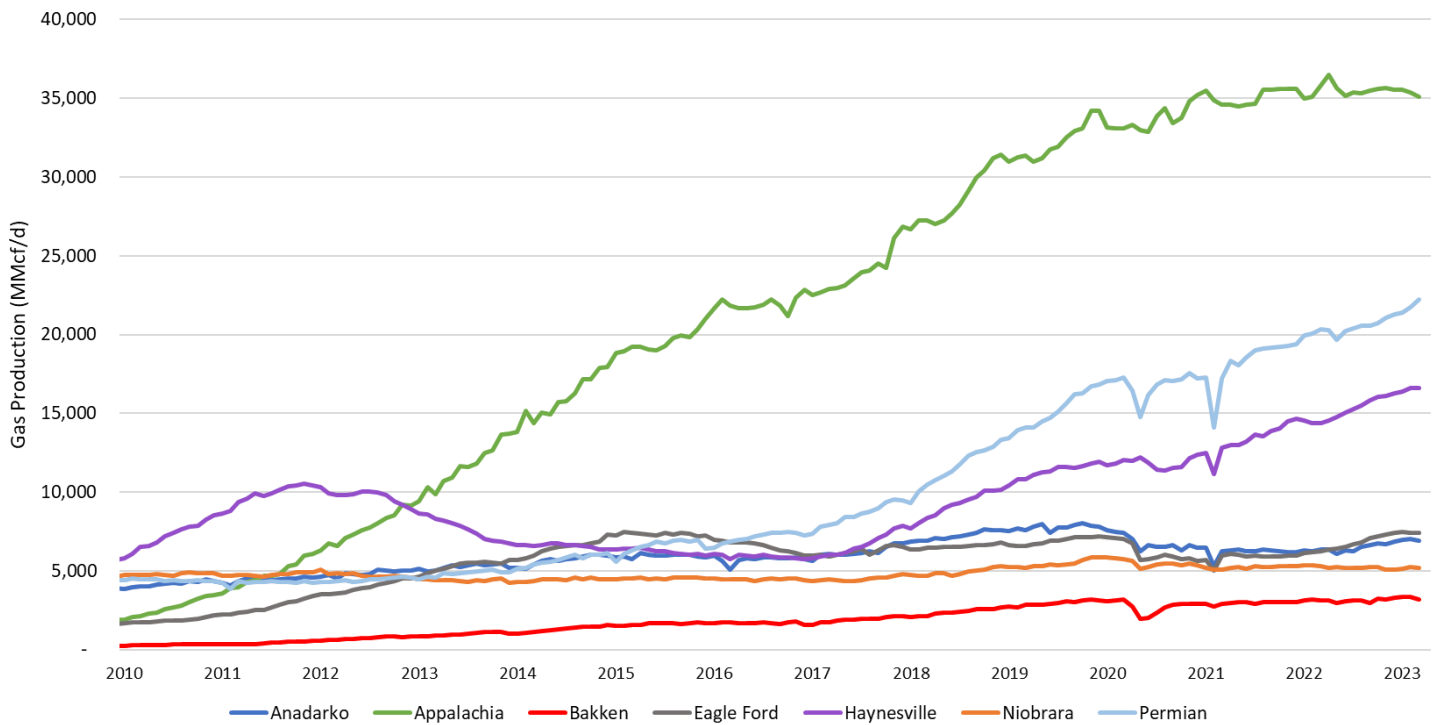
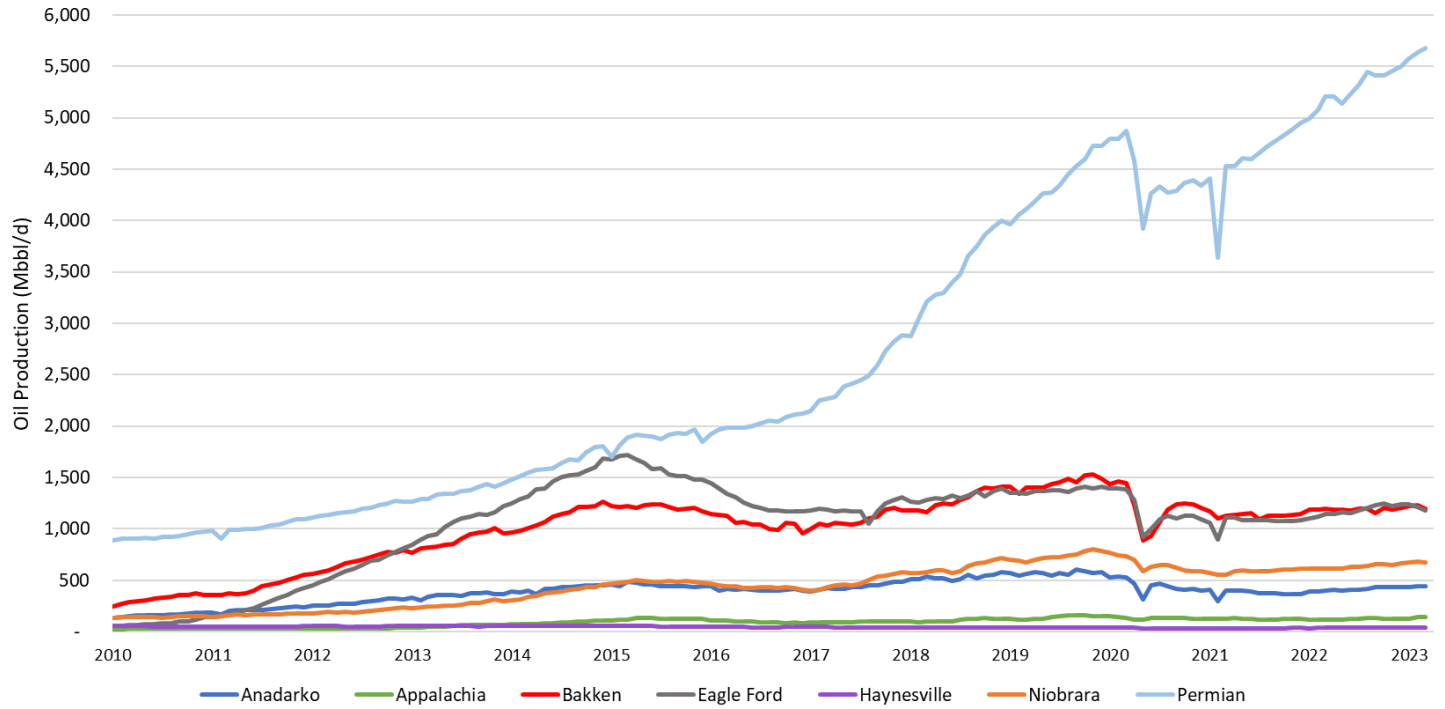
US DAILY CRUDE (MMbbl) & DRY NATURAL GAS PRODUCTION (MMcf)



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



HISTORICAL PRODUCTION OF SELECTED US SHALE REGIONS



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



UPCOMING EVENTS

February 2023

<u>GoM Energy Transformation Conference</u>	February 21	Houston, TX
<u>Houston Producers Forum Poker Tournament</u>	February 23	Houston, TX

March 2023

<u>CERAWeek 2023</u>	March 6-10	Houston, TX
<u>4th American LNG Forum</u>	March 13-14	Houston, TX
<u>Qnections 2023</u>	March 27-29	Las Vegas, NV
<u>DUG Haynesville Conference & Exhibition</u>	March 28-29	Shreveport, LA

April 2023

<u>US Men's Clay Court Championship 2023</u>	April 1-9	Houston, TX
<u>World Oilman's Minerals & Royalty Conference (MARC)</u>	April 10-11	Houston, TX
<u>2023 World Oilman's Poker Tournament</u>	April 26-28	Las Vegas, NV
<u>World Oilman's Tennis Tournament (WOTT)</u>	April 26-29	Houston, TX

May 2023

<u>Offshore Technology Conference 2023</u>	May 1-4	Houston, TX
<u>DUG Permian Basin & Eagle Ford Conference & Exhibition</u>	May 22-24	Fort Worth, TX

*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.

