

Weekly E&P Updat



September 26, 2023

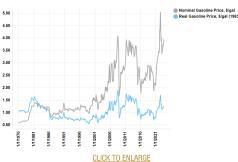
Vol. 38

Gasoline Prices Higher Than Ever?

By Steve Hendrickson President of Ralph E. Davis Associates



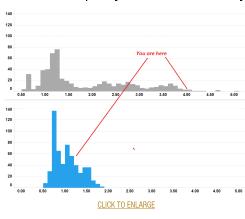
I read a comment the other day (more of a screed, really) that said, "Gasoline prices have never been higher!" This took me a bit by surprise because I still remember 2008 when prices in Houston spiked after <u>Hurricane Ike</u> - but perhaps that was more of a regional event. I decided to take a closer look using data from the FRED database maintained by the Federal Reserve Bank of St. Louis. Below is a plot of the US monthly average gasoline price in \$/gallon, and sure enough, prices have recently been at or near record levels.



 Nominal Gasoline Price, Sigal
 Real Gasoline Price, Sigal (1983)
 Prices of almost everything increase over time, however. This is mainly because central banks (ours included) seek to achieve "maximum employment and price stability". Without a modest level of inflation, disinflation can set in and lead to reduced economic activity as buyers postpone purchases with the expectation that prices will be lower. Once established, disinflation can establish a self-reinforcing feedback loop that can be very hard to undo.

> In the graph above, we also show the price of gasoline in real dollars, indexed to 1983, using the

"core" consumer price index (I chose this index to avoid discounting the nominal values too much). Current prices are pretty much at the long-term average in real dollars. The chart below shows the frequency distribution of monthly prices in nominal and real terms.



So, while it's true that we have yet to see nominal gasoline prices this high, it's also true that they're not exceptionally high by historical standards when we adjust for inflation. Nevertheless, it's easy to see why people become alarmed. When oil prices dropped after the pandemic, nominal prices were much lower, and actual prices were well below \$1.00/gallon. Even low inflation levels will result in continually higher gasoline prices. We'll set new nominal price records before long, even if real prices don't increase.

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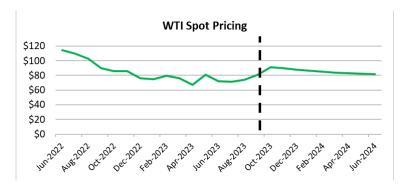
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NYMEX FUTURE PRICING





INDUSTRY METRICS—QUICK SNAPSHOT

MONDAY'S MARKET CLOSE

NYMEX WTI CRUDE OIL FUTURES as of September 25, 2023 Close (\$/bbl)

Period	Current	WoW Change	Last Week	1 Yr Ago
2023	\$88.93	(\$1.51)	\$90.44	\$73.80
2024	\$81.60	(\$1.50)	\$83.10	\$68.04
2025	\$75.40	(\$0.78)	\$76.18	\$64.12
2026	\$71.34	(\$0.09)	\$71.43	\$61.16
2027	\$68.12	\$0.34	\$67.78	\$58.81

NYMEX HH NATURAL GAS FUTURES as of September 25, 2023 Close (\$/MMBtu)

Period	Current	WoW Change	Last Week	1 Yr Ago
2023	\$2.96	(\$0.08)	\$3.04	\$5.56
2024	\$3.40	(\$0.02)	\$3.42	\$4.76
2025	\$3.96	\$0.02	\$3.94	\$4.59
2026	\$4.01	\$0.03	\$3.98	\$4.52
2027	\$3.98	\$0.05	\$3 93	\$4.50

WoW Change

%Change

Last Week

Crude Oil Near-Month Price (\$/bbl)	\$90.55	\$90.67	(\$0.12)	(0.1%)
Natural Gas Near-Month Price (\$/MMBtu)	\$2.66	\$2.70	(\$0.05)	(2%)
Weekly Upstream-Deal Transaction Value (\$MM)	\$32.00	\$1,165.00	(\$1,133.00)	(97%)
Weekly Number of Upstream-Deal Transactions	3	3	0	-
Current Total US Rig Count	630	641	(11)	(2%)
US Field Crude Oil Production (MMbbl/day)	12.9	12.9	0	-
US Field Dry Natural Gas Production (Bcf/day)	105.8	107.3	(1.5)	(1%)

Commercial Crude Oil Stocks-Excluding SPR (MMbbl)	418	421	(2)	(0.5%)
Natural Gas Stocks-Working Gas Underground Storage (Bcf)	3,269	3,205	64	2%
Total Drilled But Uncompleted Wells (DUC-Last Month)	4,749	4,787	(38)	(0.8%)

Current

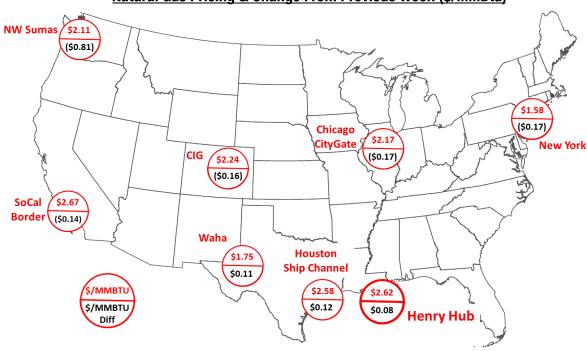
^{*}Source—Energy Information Administration, United States (EIA)
*Source—Baker Hughes North America Rotary Rig Count & PLS M&A Database

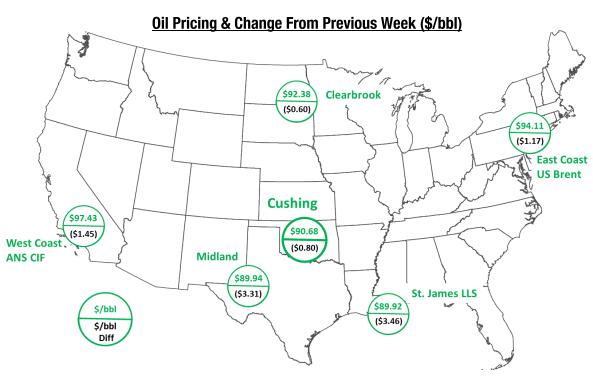




US COMMODITY PRICES CONTINUED

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





*Source—Bloomberg LP





SELECTED INDUSTRY HEADLINES

Rise in Refinery Outages, Tighter Supplies Pushing up US Fuel Prices

U.S. oil refiners that cranked up processing this year amid soaring demand for gasoline and diesel are being hit by outages weighing on their ability to rebuild thin fuel stockpiles and helping drive up fuel prices.

Emptying Oil Tanks at Key US Storage Hub Signal Tight Market

Oil markets are flashing signs of tightness as stockpiles at the largest US storage hub plunge toward critical levels.

Oil Prices Rise as Tight Supply Outlook Offsets Demand Woes

Oil prices rose recently after flirting with \$95 a barrel earlier in the session, as expectations of a supply deficit stemming from extended output cuts by Saudi Arabia and Russia as well as weak shale production outweighed concerns about demand.

A Growing Number of Wall Street Analysts Think Oil Could Hit \$100 a Barrel

Oil hitting \$100 is becoming a popular forecast among Wall Street analysts as Goldman Sachs became the latest firm to lift its crude target for the next 12 months.

Crude Oil Prices Climb After Russia Bans Gas and Diesel Exports

Oil prices climbed recently, trading near the highest level in 10 months seen earlier this week, after news that Russia has banned the export of diesel and gasoline which has pushed up prices in Europe.

Natural Gas Prices Forecast: Weather and EU's LNG Dependence Shape Gas Market

With steady LSEG-reported US natural gas output, the market is shaped by trade dynamics, EU strategies, and a cautiously bullish geopolitical forecast.

US Energy Regulator Recommends Revising Reliability Standards for Extreme Weather

The Federal Energy Regulatory Commission recently recommended revising reliability standards for power grid and natural gas infrastructure to avoid issues during extreme weather, as part of findings from a report on winter storm Elliott in 2022.

Natural Gas Futures Prices Flounder After EIA Storage Print Confirms Market Expectations (LOGIN CREDENTIALS REQUIRED)

The U.S. Energy Information Administration (EIA) recently reported a 64 Bcf injection into domestic natural gas storage for the week ended Sept. 15, a tighter-than-normal figure that aligned with market expectations.

Mild Winter Could Push Natural-gas Prices Below \$2 per million BTUs in First Quarter of 2024

Bank of America recnetly said that while the heatwave in Texas almost halved the U.S. natural gas storage surplus, a mild winter could still drive stocks to records and push prices below \$2 per MMBtu in the first guarter of 2024.

How Carbon-neutral LNG Descended into a 'Shadow Market'

Carbon-neutral LNG is here to stay, an oil and gas analyst at the King Abdullah Petroleum Studies & Research Center said at the World Petroleum Congress, but first the industry must repair its shady reputation.

Tracking the Energy Transition: Equinor Makes Wind History, and BP Stays on Track

Wind power keeps rising across the globe, while new solar plant developments light up Louisiana and Texas.

Lack of Clarity and Consistency on Al Use and ESG Disclosure Standards Slow Efficiency in Reporting

Given the challenging environment in which corporations make disclosures around their operations, including their ESG initiatives, it's unclear if the impact of artificial intelligence on this process will help or hurt





SELECTED RECENT TRANSACTIONS

W&T Offshore Acquires Eight Oil, Gas Producing Assets in Gulf of Mexico

W&T Offshore, Inc. has completed the acquisition of working interests in eight shallow water oil and gas producing assets in the central and eastern shelf region of the Gulf of Mexico from an undisclosed private seller.

Santos to Divest Half of Working Interest in 148 Leases at Alaska North Slope

Australian oil and gas major Santos said recently it would divest half of its working interest in 148 exploration leases in the Langiappe area on the Alaska North Slope in a farm-down agreement with two U.S.-based companies.

Momentum Minerals Operating II, LP Closes Permian Basin Mineral and Royalty Acquisition

Momentum Minerals has closed the acquisition of a Permian Basin mineral and royalty package from Post Oak Crown Minerals, LLC and Post Oak Legacy Assets I, LLC, both of which are affiliates of Post Oak Energy Capital, LP

Vital Energy acquires Permian Basin Assets from Henry, Maple and Tall City

Vital Energy has signed agreements valued at about \$1.17 billion to expand its acreage in the Permian Basin, where dealmaking is gathering pace as drillers tap the largest U.S. oil patch to quickly replenish their depleting reserves.

Magnolia Oil & Gas Announces Bolt-On Asset Acquisition in Giddings

Magnolia Oil & Gas Corporation announced recently that the Company has entered into a definitive purchase agreement to acquire certain oil and gas producing properties including leasehold and mineral interests in Giddings for \$300 million, subject to customary purchase price adjustments.

Viper Energy Partners LP, A Subsidiary Of Diamondback Energy, Inc., Announces Acquisition

Viper Energy Partners LP, recently announced it has entered into a definitive purchase and sale agreement to acquire certain mineral and royalty interests from affiliates of Warwick Capital Partners and GRP Energy Capital in exchange for approximately 9.02 million Viper common units and \$750 million of cash, subject to customary adjustments.

Phoenix Capital Group Purchases Assets in North Dakota

Phoenix Capital Group, a leading oil and gas mineral rights acquisition company, has announced the purchase of roughly 2,530 net acres of land in Mountrail County, North Dakota valued at roughly \$9 million.

Crescent Energy to Acquire Additional Interests in its Operated Western Eagle Ford Position

Crescent Energy Company recently announced that it has entered into a definitive purchase agreement to acquire incremental working interest in its operated Western Eagle Ford assets for total consideration of \$250 million in cash, subject to customary purchase price adjustments.

Dorchester Minerals, L.P. Completes Acquisition of Mineral and Royalty Interests

Dorchester Minerals, L.P. announced that it has completed an acquisition of mineral and royalty interests totaling approximately 3,355 gross acres and 568 net royalty acres located in three counties in Texas.

Permian Resources To Buy Earthstone In \$4.5 bln Deal

Permian Resources said it would buy Earthstone Energy in an all-stock transaction valued at about \$4.5 billion, including debt, boosting the shale producer's presence in the Delaware Basin.

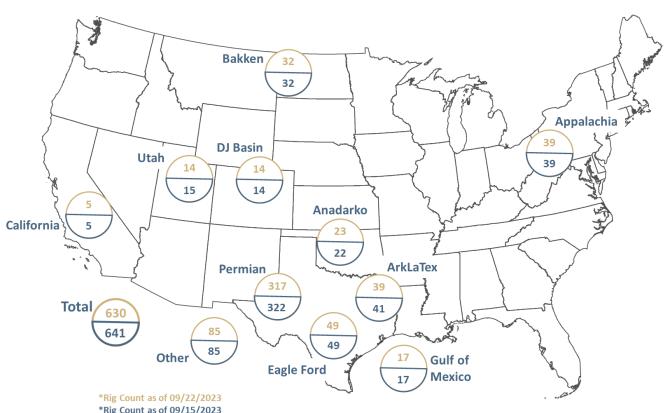
Crescent Point Announces Sale Of Its North Dakota Assets

Crescent Point Energy Corp. is pleased to announce that it has entered into an agreement with a private operator to sell its North Dakota assets for US\$500 million.





RIG ACTIVITY BY US REGION



^{*}Rig Count as of 09/15/2023

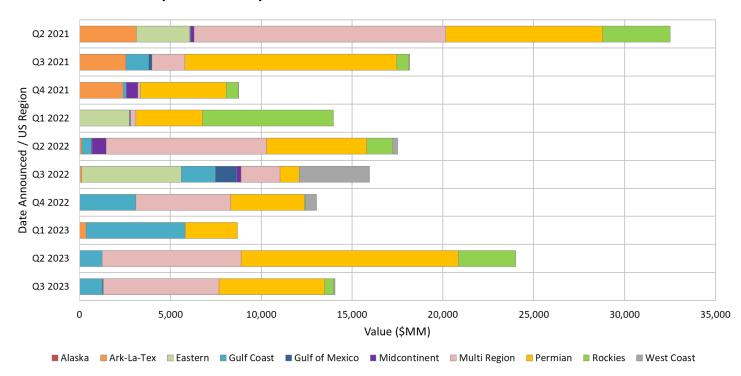
	Week Ending 09/22/2023		Week Ending 09/15/2023		Week Ending 09/23/2022
U.S. Rig Breakouts	Count	+/-	Count	+/-	Count
Oil	507	(8)	515	(95)	602
Gas	118	(3)	121	(42)	160
Not Specified	5	0	5	3	2
Directional	56	(1)	57	10	46
Horizontal	558	(9)	567	(135)	693
Vertical	16	(1)	17	(9)	25
Land (Inc Others)	608	(11)	619	(136)	744
Inland Waters	3	0	3	(1)	4
Offshore	19	0	19	3	16
US Total	630	(11)	641	(134)	764

*Source—Baker Hughes Weekly Rig Counts

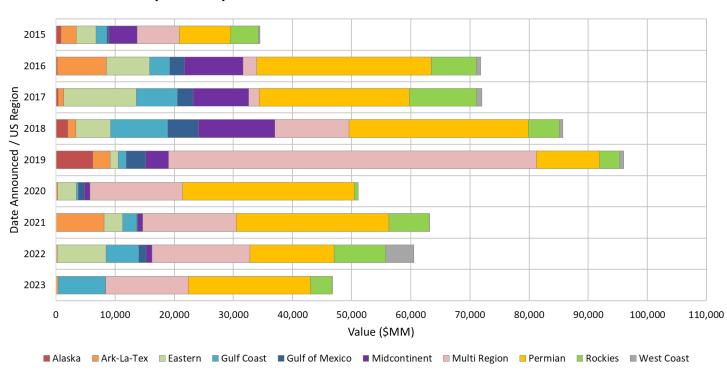




DEAL VALUE BY US REGION (BY QUARTER)



DEAL VALUE BY US REGION (BY YEAR)

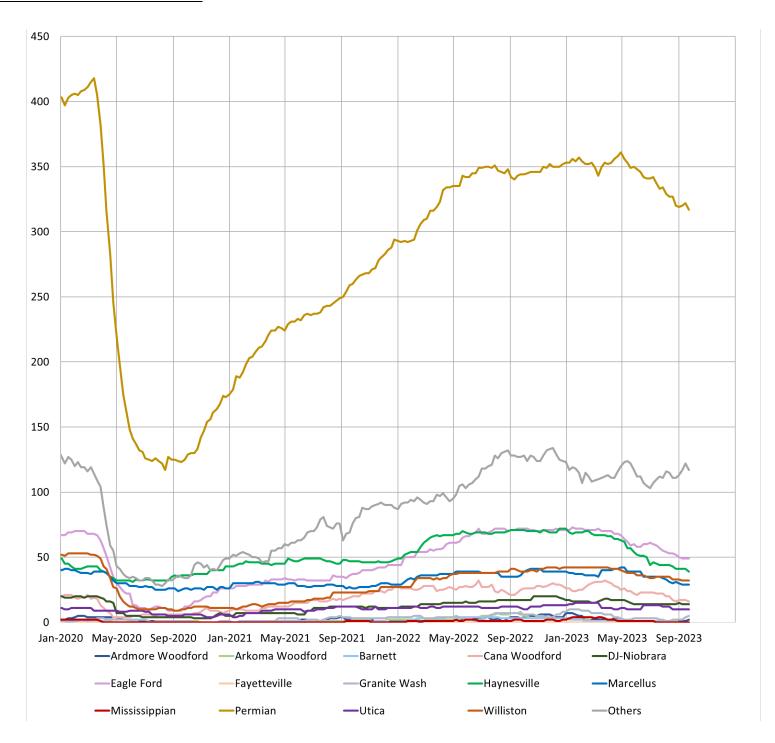


*Source—PLS M&A Database (Charts exclude terminated deals)





RIG ACTIVITY BY US REGION







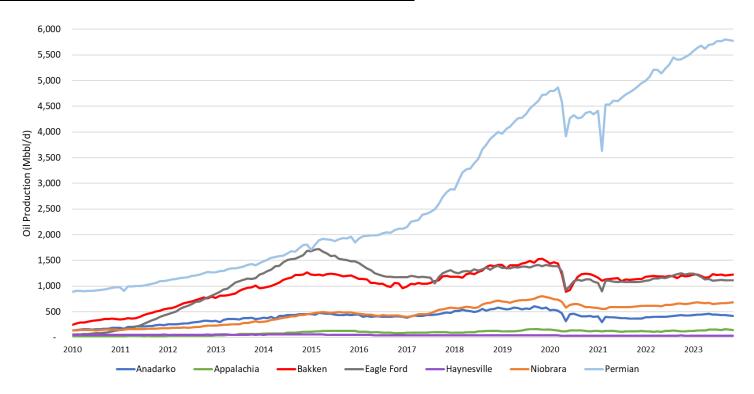
US DAILY CRUDE (MMbbl) & DRY NATURAL GAS PRODUCTION (MMcf)

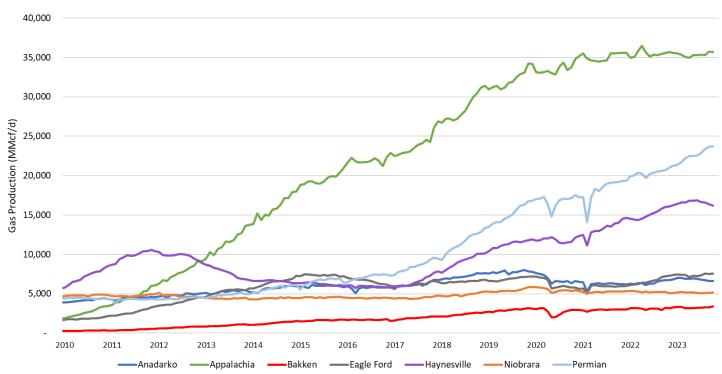






HISTORICAL PRODUCTION OF SELECTED US SHALE REGIONS









UPCOMING EVENTS

September 2023	
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World Oilman's Overnight Poker Tournament (WOOP)	September 28-29	Lake Charles, LA
October 2023		
Hart Energy—Energy Capital Conference	October 2	Dallas, TX
Hart Energy—A&D Strategies and Opportunities Conference	October 3	Dallas, TX
Qnect On Demand	October 5	Houston, TX
37th Annual CITGO - MDA Corporate Golf Challenge	October 8-9	Houston, TX
2023 National Conference of Bankruptcy Judges (NCBJ)	October 11-14	Austin, TX
<u>Tulsa Octoberfest</u>	October 19-22	Tulsa, OK
Small Steps Golf Classic	October 30	Houston, TX
<u>Digital Wildcatters—FUZE</u>	October 30-31	Houston, TX
November 2023		
IPAA Annual Meeting	November 6-8	San Antonio, TX
AICPA Oil & Gas Conference	November 8-10	Las Vegas, NV
Accounting and Financial Reporting Conference	November 16	Tulsa, OK
OSU Oil and Gas Accounting Conference	November 17	Tulsa, OK
Boys & Girls Club 8th Annual Sporting Clays Tournament	November 17	Houston, TX





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 three years of reserves engineering experience in conventional and unconventional reservoirs. Before RED, David was a Petroleum Engineer at a lower middle market A&D advisory firm where he handled the technical processes for marketed assets. He began his career with an operator in Dallas, where he contributed to its engineering, operations, and A&D teams. David holds an M.B.A. from The University of Texas Permian Basin and a B.S. in Petroleum Engineering from The University of Oklahoma.