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July 2022

EXECUTIVE SUMMARY

- U.S. petroleum demand of 19.8 million barrels per day (mb/d) in July fell from June as well as the same month a year ago, with broad decreases among transportation fuels amid historically high prices.
- U.S. refining (gross inputs 16.7 mb/d; 93.0% capacity utilization rate) sustained consecutive months of historically strong activity levels.
- Domestic crude oil production slipped from June but remained at its highest for the month of July on record since 1920, while natural gas liquids (NGL) production rose to a record 6.0 mb/d for any month on record.
- Driven by record-high total petroleum exports of 9.6 mb/d, the U.S. was a petroleum net exporter of 1.0 mb/d in July.
- Combined commercial and strategic petroleum reserves of crude oil fell to their lowest since 2004.

API's primary data for July included new record-high levels of natural gas liquids production (6.0 mb/d) and U.S. petroleum exports (9.6 mb/d). The record pull for exports coincided with domestic oil prices having fallen to more than \$10 per barrel below international ones, twice their average difference through the first half of 2022. Meanwhile, U.S. crude oil production decreased from June at the same time as the demand for motor fuels downshifted, one month removed from the highest nominal U.S. fuel prices.

These developments resulted in a slight increase in U.S. commercial crude oil inventories. However, this was offset by decreases nearly five times larger in U.S. strategic petroleum reserve (SPR) crude oil holdings. Consequently, U.S. total crude oil inventories fell to their lowest level since 2004.

Leading economic indicators stabilized in July. API's Distillate Economic Indicator™ suggested continued growth of U.S. industrial production and broader economic activity (please see the following [chart](#) for details).

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 - Motor gasoline demand (8.8 mb/d) fell sharply.
 - Distillate demand (3.7 mb/d) fell along with freight trucking.
 - Second highest jet fuel demand since January 2020.
 - Lowest residual fuel oil demand for July since 2017.
 - Other oils at its highest for July on record since 1965.

Prices & Macroeconomy

- Gasoline prices fell along with crude oil prices.
- Leading indicators showed slower industrial growth and weak consumer sentiment.

Supply

- Highest crude oil production for the month of July; record high NGL production.

International trade

- Highest U.S. petroleum exports (9.6 mb/d) on record since 1947.

Industry operations

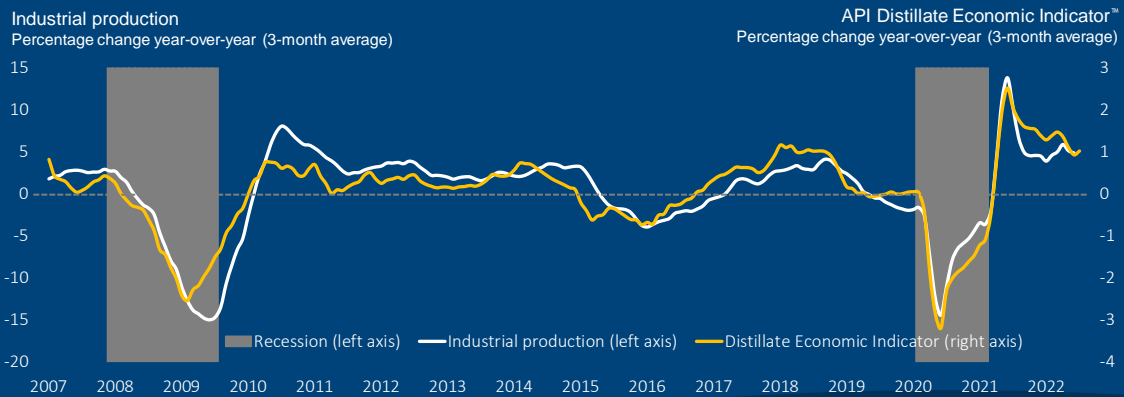
- Strong refining throughput (16.7 mb/d) and capacity utilization rates (93%) continued in July.

Inventories

- Lowest total crude oil inventories since 2004.

API's Distillate Economic Indicator™ - July 2022

The Distillate Economic Indicator™ value of +1.0 for July 2022 and three-month average of +1.0 showed continued growth of U.S. industrial production and broader economic activity



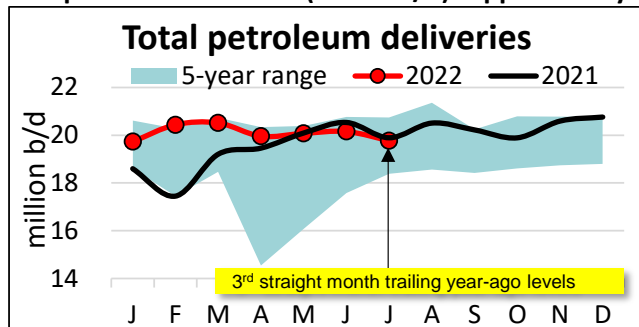
sources: API Monthly Statistical Report; EIA; CME Group; Moody's, Federal Reserve Board; API Team calculations



Details by section

Demand

U.S. petroleum demand (19.8 mb/d) slipped in July



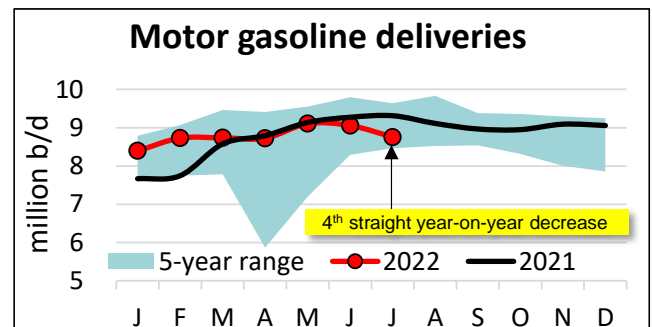
U.S. petroleum demand, as measured by total domestic petroleum deliveries, was 19.8 mb/d in July. This reflected a seasonal decrease of 1.9% from June and also was down by 0.6% y/y compared with July 2021. This was the third straight month in which demand trailed its year-ago levels. However, demand through the first seven months of the year remained up by 3.9% y/y versus the same period a year ago.

Gasoline

Motor gasoline demand (8.8 mb/d) fell sharply

Consumer gasoline demand, measured by motor gasoline deliveries, was 8.8 mb/d in July. With the summer driving season, this reflected decreases of 3.4% from June and 6.0% y/y compared with July

2021. In five of the past seven years, motor gasoline demand has decreased between June and July, but the percentage monthly drop in July 2022 exceeded twice the average decreases in 2016-2019, consistent with having had the highest nominal gasoline prices on record for the month of July.



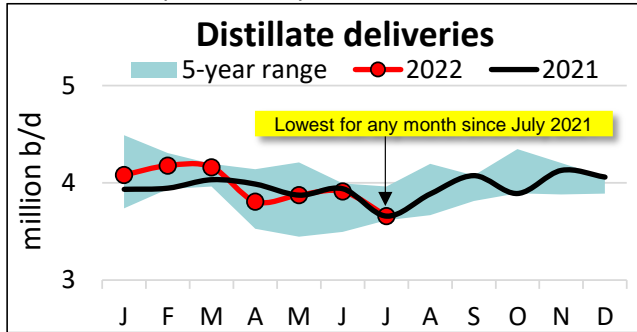
Deliveries of reformulated-type gasoline (consumed primarily in urban areas) fell by 5.2% y/y to 2.9 mb/d, while those of conventional gasoline (consumed mainly in rural areas) decreased by 6.4% y/y to 5.9 mb/d.

Distillate Fuel Oil

Distillate demand (3.7 mb/d) fell with freight trucking

Distillate deliveries of 3.7 mb/d decreased by 6.5% m/m from June and by 0.0% y/y compared with July 2021 to their lowest for any month since July 2021.

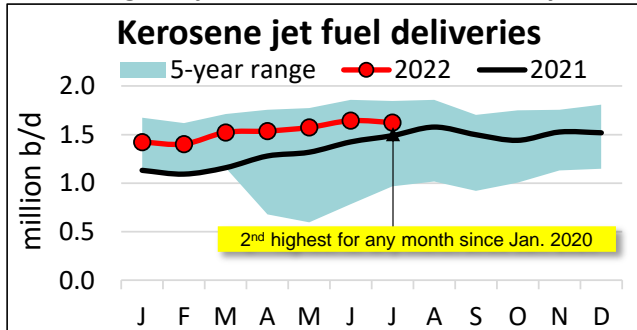
Distillate demand has fallen between June and July in five of the past seven years.



DAT iQ industry trendlines showed that the quantity of spot loads available for transport in July fell by 26% m/m from June, and the number of spot trucks available for hire fell by 9.3% m/m.

Kerosene Jet Fuel

Second highest jet fuel demand since January 2020

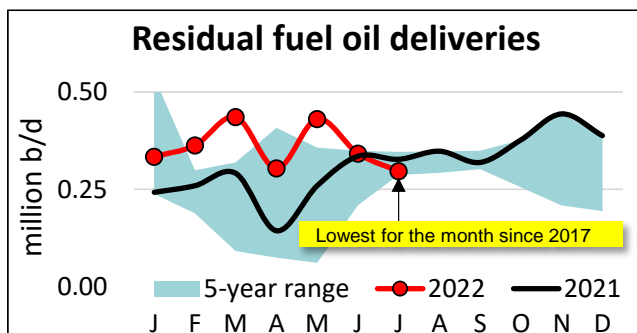


Kerosene-type jet fuel deliveries of 1.6 mb/d in July fell by 1.3% m/m from June but were up by 9.0% y/y versus July 2021 to their second highest level for any month since January 2020.

High-frequency data from Flightradar24 and TSA showed that the total number of passenger and cargo flights increased by 2.0% m/m from June and 10.7% y/y versus July 2021. Meanwhile, while air passenger volumes slipped by 0.2% m/m but similarly were up by 11.1% y/y. The International Air Transport Association (IATA) also reported air cargo has remained stable and resilient.

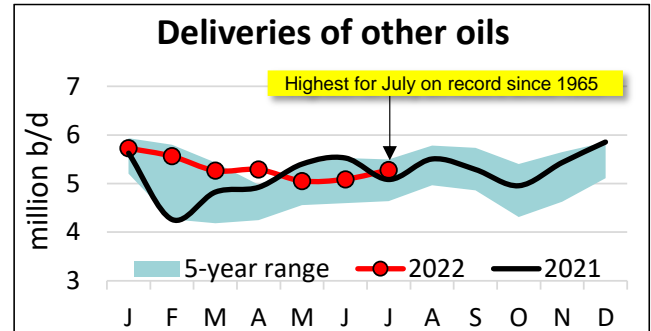
Residual Fuel Oil

Lowest residual fuel oil demand for July since 2017



Deliveries of residual fuel oil, which is used as a marine bunker fuel and internationally in electric power production, space heating and industrial applications, were 0.3 mb/d in July, which reflected decreases of 13.2% m/m from June and of 9.2% y/y versus July 2021.

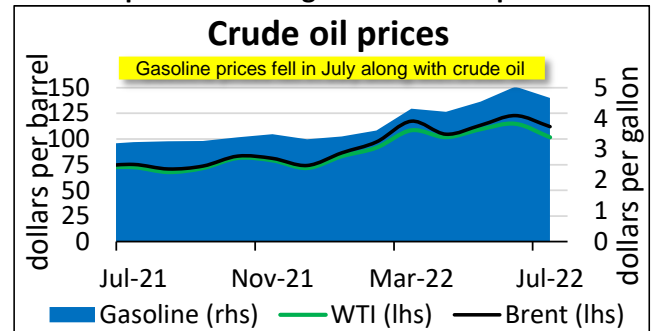
Other Oils – Naphtha, Gasoil, Propane & Propylene
Highest for July on record since 1965



Deliveries of refinery and petrochemical liquid feedstocks – that is, naphtha, gasoil, and propane/propylene (“other oils”) – were 5.3 mb/d in July, their highest level for July on record since 1965. This reflected increases of 3.8% m/m from June and 3.9% y/y versus July 2021.

Prices

Gasoline prices fell along with crude oil prices



In July, West Texas Intermediate (WTI) crude oil prices decreased by 11.5% m/m to \$101.62 per barrel. By contrast, Brent crude oil spot prices decreased by 8.8% m/m to \$111.93 per barrel, which implied a Brent-WTI crude oil price differential of \$10.31 per barrel in July, up from \$7.67 per barrel in June to the largest difference since May 2019.

Crude oil remained the top input cost in making gasoline per EIA. The U.S. average conventional gasoline price was \$4.67 per gallon in July, down by

7.2% m/m from June but still up by 27.5% y/y compared with July 2021 to a record-high nominal level for the month, per [EIA](#).

Macroeconomy

Leading indicators showed slower industrial growth and weak consumer sentiment

API's Distillate Economic Indicator™, which is based primarily on diesel/distillate supply, demand, and inventories, had a reading of +1.0 in July and also a three-month average of +1.0, suggesting that U.S. industrial production and broader economic activity have continued to grow.

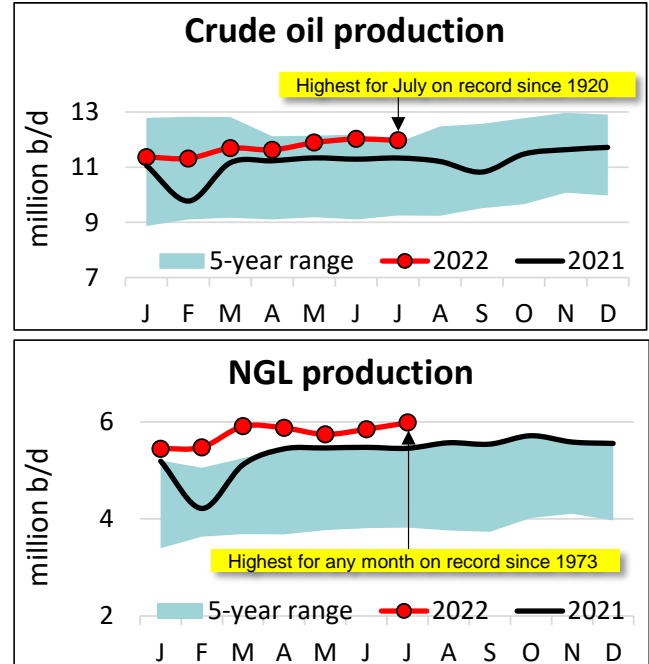
The Institute for Supply Management's manufacturing Purchasing Managers Index (PMI) had a reading of 52.8 in July, a 0.2 percentage point decrease from June. Index values above 50.0 suggest an expansion in the overall economy, and the manufacturing PMI exceeded that threshold for a 26th consecutive month. Within the index, there were monthly increases in the index's measures of employment, inventories, customers' inventories, new export orders, and imports. And there were monthly decreases in the index's measures of production, prices, supplier deliveries, new orders, and backlog of orders. Eleven manufacturing industries surveyed reported growth in July. Seven industries reported contractions in July compared with June: Wood Products; Furniture & Related Products; Paper Products; Miscellaneous Manufacturing; Fabricated Metal Products; Food, Beverage & Tobacco Products; and Chemical Products.

The [University of Michigan's consumer sentiment index](#) rose to 55.1 in early July from readings of 51.1 in July and 50.0 in June. The improvement was driven by lower price inflation expectations, due in part to lower energy prices.

According to the [Bureau of Labor Statistics \(BLS\)](#), the unemployment rate fell to 3.5% in July. Non-farm payrolls increased by a preliminary estimate of 528,000 m/m, suggesting the labor market has remained tight.

Supply

Highest crude oil production for the month of July; record high NGL production



U.S. crude oil production of 12.0 mb/d in July decreased by 0.4% m/m from June but was up by 5.5% y/y compared with July 2021 to its highest for the month of July on record since 1920.

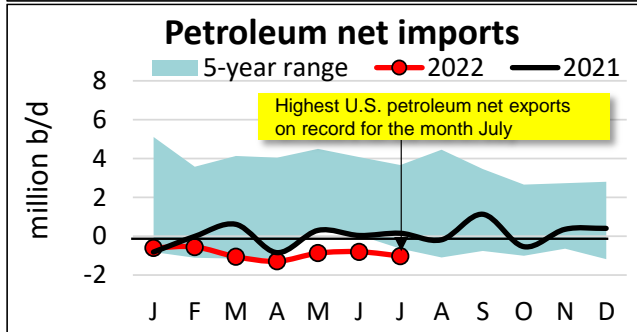
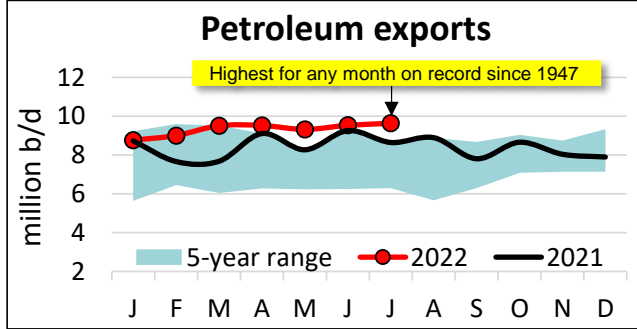
However, the July level remained 1.0 mb/d below the highest U.S. crude oil production, which reached almost 13.0 mb/d in November 2019.

[Baker Hughes](#) reported 600 active oil-directed rigs in July, a 2.2% m/m (13 rigs) increase from June, but remained 22.9% lower than the 778 rigs that ran in July 2019.

Natural gas-directed drilling of 155 rigs in July edged up from June by one rig. The extraction of natural gas liquids (NGLs) depends to the relative values of ethane, propane, and butane, which historically have tended to correspond with those of crude oil. NGL production rose by 2.4% m/m to 6.0 mb/d, its highest level on record since 1973.

International trade

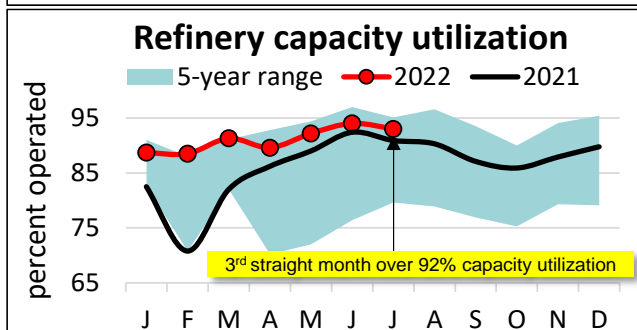
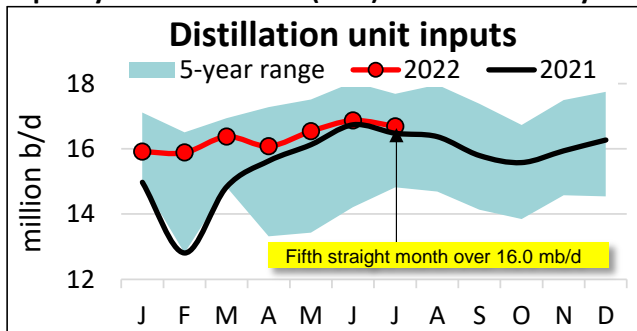
Highest U.S. petroleum exports (9.6 mb/d) on record since 1947



U.S. petroleum exports – crude oil and refined products – of 9.6 mb/d in July were the highest on record for any month since 1947. Combined with a 1.4% m/m decrease in petroleum imports, the U.S. was a petroleum net exporter of 1.0 mb/d in July and averaged net exports of 0.9 mb/d through the first seven months of 2022.

Industry operations

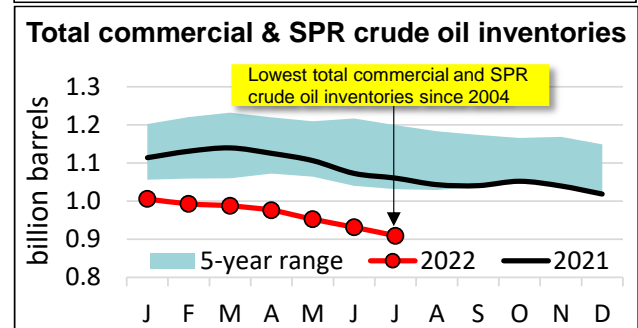
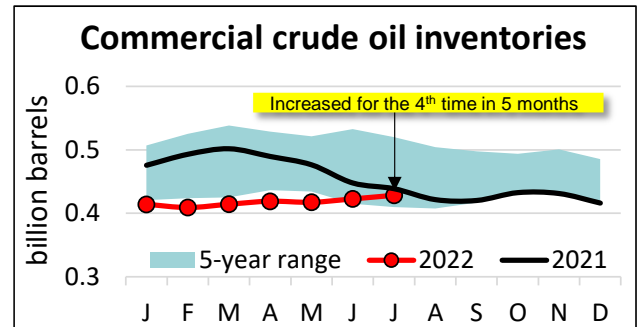
Strong refining throughput (16.7 mb/d) and capacity utilization rates (93%) continued in July



In July, U.S. refinery throughput, measured by gross inputs into crude distillation units, was 16.7 mb/d and implied a capacity utilization rate of 93.0%. The throughput fell by 1.1% m/m, and capacity utilization slipped by 1.0 percentage point from June. However, throughput in July remained over 16.0 mb/d for a fifth straight month, and capacity utilization was over 92% for a third straight month.

Inventories

Lowest total crude oil inventories since 2004



U.S. crude oil inventories rose by 1.3% m/m from June but were down 2.4% y/y vs. July 2021 to 428.4 million barrels, the lowest for the month since 2018. Total crude oil inventories, including the Strategic Petroleum Reserve, however, fell by 2.4% m/m and 14.3% y/y to their lowest level since 2004.

ESTIMATED UNITED STATES PETROLEUM BALANCE¹
(Daily average in thousands of 42 gallon barrels)

Disposition and Supply	July			Year-to-Date		
	2022 ²	2021	% Change	2022 ³	2021	% Change
Disposition:						
Total motor gasoline.....	8,752	9,313	(6.0)	8,730	8,652	0.9
Finished reformulated.....	2,885	3,044	(5.2)	2,793	2,726	2.5
Finished conventional.....	5,867	6,269	(6.4)	5,937	5,926	0.2
Kerosene-jet.....	1,624	1,490	9.0	1,534	1,272	20.6
Distillate fuel oil.....	3,658	3,658	0.0	3,951	3,909	1.1
≤ 500 ppm sulfur.....	3,610	3,653	(1.2)	3,930	3,893	0.9
≤ 15 ppm sulfur.....	3,603	3,644	(1.1)	3,923	3,851	1.9
> 500 ppm sulfur.....	48	5	860.0	21	16	31.3
Residual fuel oil.....	297	327	(9.2)	346	265	30.6
All other oils (including crude losses)	5,282	5,083	3.9	5,322	5,103	4.3
Reclassified ⁴	153	23	na	204	137	na
Total domestic product supplied.....	19,766	19,894	(0.6)	20,086	19,338	3.9
Exports.....	9,633	8,647	11.4	9,331	8,485	10.0
Total disposition.....	29,399	28,541	3.0	29,417	27,823	5.7
Supply:						
Domestic liquids production						
Crude oil (including condensate).....	11,974	11,347	5.5	11,645	11,120	4.7
Natural gas liquids.....	5,986	5,455	9.7	5,782	5,205	20.0
Other supply ⁵	1,181	1,181	0.0	1,195	1,110	7.7
Total domestic supply.....	19,141	17,983	6.4	18,622	17,435	6.8
Imports:						
Crude oil (excluding SPR imports).....	6,565	6,395	2.7	6,318	5,975	5.7
From Canada.....	3,643	3,670	(0.7)	3,768	3,713	1.5
All other.....	2,922	2,724	7.2	2,549	2,262	12.7
Products.....	2,047	2,401	(14.7)	2,110	2,429	(13.2)
Total motor gasoline (incl. blend.comp).....	633	937	(32.4)	670	872	(23.2)
All other.....	1,414	1,464	(3.4)	1,439	1,558	(7.6)
Total imports.....	8,612	8,796	(2.1)	8,427	8,404	0.3
Total supply.....	27,753	26,779	3.6	27,050	25,839	4.7
Stock change, all oils.....	(1,646)	(1,762)	na	(2,367)	(1,984)	na
Refinery Operations:						
Input to crude distillation units.....	16,692	16,482	1.3	16,363	15,400	6.3
Gasoline production.....	9,473	9,933	(4.6)	9,481	9,379	1.1
Kerosene-jet production.....	1,689	1,423	18.7	1,609	1,239	29.8
Distillate fuel production.....	5,056	4,854	4.2	4,901	4,579	7.0
Residual fuel production.....	185	234	(20.9)	237	203	16.4
Operable capacity.....	17,944	18,129	(1.0)	17,943	18,120	(1.0)
Refinery utilization ⁶	93.0%	90.9%	na	91.2%	85.0%	na
Crude oil runs.....	16,236	15,852	2.4	15,861	14,896	6.5

1. Total supply, i.e., production plus imports adjusted for net stock change is equal to total disposition from primary storage. Total disposition from primary storage less exports equals total domestic products supplied. Information contained in this report is derived from information published in the API *Weekly Statistical Bulletin* and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2. Based on API estimated data converted to a monthly basis.

3. Data for most current two months are API estimates. Other data come from U.S. Energy Information Administration (including any adjustments).

4. An adjustment to avoid double counting resulting from differences in product classifications among different refineries and blenders.

5. Includes unaccounted-for crude oil, withdrawals from the SPR when they occur, processing gain, field production of other hydrocarbons and alcohol, and downstream blending of ethanol.

6. Represents "Input to crude oil distillation units" as a percent of "Operable capacity".

R: Revised. na: Not available.

ESTIMATED UNITED STATES PETROLEUM BALANCE¹
(Daily average in thousands of 42 gallon barrels)

	July 2022	June 2022	July 2021	% Change From	
				Month Ago	Year Ago
Stocks (at month-end, in millions of barrels):					
Crude oil (excluding lease & SPR stocks).....	428.4	422.8	438.9	1.3	(2.4)
Unfinished oils.....	86.0	88.4	91.5	(2.7)	(6.0)
Total motor gasoline.....	223.9	221.1	230.8	1.3	(3.0)
Finished reformulated.....	0.0	0.0	0.0	(0.3)	38.9
Finished conventional.....	17.9	17.9	17.9	0.0	0.2
Blending components.....	206.0	203.2	212.9	1.4	(3.2)
Kerosene-jet.....	40.9	40.9	43.8	0.0	(6.6)
Distillate fuel oil.....	111.6	110.8	142.0	0.7	(21.4)
≤ 500 ppm sulfur.....	104.5	103.0	133.1	1.5	(21.5)
≤ 15 ppm sulfur.....	101.5	99.7	129.5	1.8	(21.6)
> 500 ppm sulfur.....	7.1	7.8	9.0	(9.0)	(21.0)
Residual fuel oil.....	29.2	28.6	29.1	2.1	0.3
All other oils.....	256.2	261.9 R	292.7	(2.2)	(12.5)
Total all oils.....	1,176.2	1,174.5 R	1,268.9	0.1	(7.3)