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EXECUTIVE SUMMARY

In February, API's industry data showed petroleum demand of 19.8 million barrels per day (Mb/d) at its second highest for the month since 2020, a rebound in oil production and record level exports, with reductions in inventories and domestic refining activities when compared to January 2023.

The monthly growth in U.S. petroleum demand was mostly a result of motor gasoline demand. Motor gasoline demand rose by 4.8% m/m from February, as urban demand increased by over 0.1 Mb/d m/m and rural demand by 0.3 Mb/d. Jet fuel demand weakened from January to February but remained within its 5-year average. And distillates demand fell by 4.4% m/m from January and by 12.0% y/y versus February 2022, apparently due to weaker freight trucking and an unseasonably warm winter, which reduced heating oil demand.

Though prices fell for finished motor gasoline and the U.S. benchmark, and U.S. oil rig count fell, domestic crude oil production picked up, improving by 0.5% m/m and 9.0% y/y. This most likely reflects strong productivity by existing wells, while new well additions assist in off-setting natural production declines.

U.S. total stocks (excluding the Strategic Petroleum Reserve, SPR) fell by 1.7 million barrels a day (Mb/d) as total petroleum net exports showed their second highest reading on record at 10.0 Mb/d and motor gasoline inventories declined by 12.6% m/m.

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Demand

- **U.S. petroleum demand (19.8 Mb/d) was its second highest for February since 2020.**
 - Motor gasoline demand (8.6 Mb/d) at its highest since November 2022.
 - Distillate demand (3.7 Mb/d) was at its lowest for February since 1999.
 - Kerosene-type jet fuel demand (1.4 Mb/d) at its lowest for any month since February 2022.

Prices & Macroeconomy

- Gasoline prices edged up from January but were down 3.0% from last year while crude oil prices fell in February.
- University of Michigan's consumer sentiment index for February improved to a reading of 67.0.

Supply

- U.S. crude oil production rebounded from January; NGL production set a February record.

International trade

- U.S. petroleum net exports (1.1 Mb/d) was at its highest for the month of February since 1973.

Industry operations

- Refining throughput and capacity utilization rates fell in February.

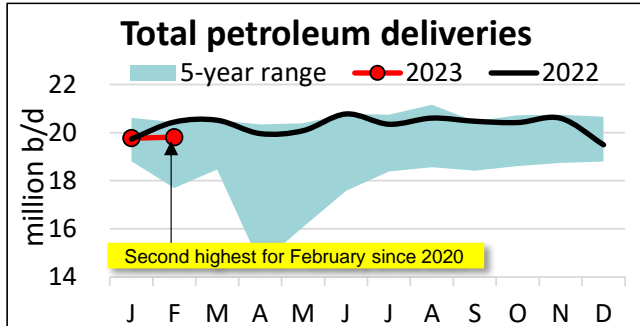
Inventories

- Highest U.S. commercial crude oil inventories since April 2021.

Details by section

Demand

U.S. petroleum demand (19.8 Mb/d) was at its second highest for February since 2020



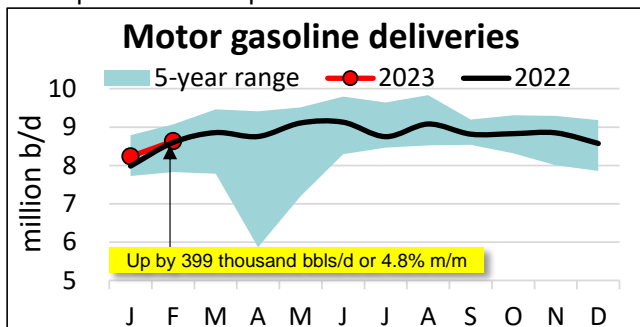
U.S. petroleum demand, as measured by total domestic petroleum deliveries, was 19.8 Mb/d in February, an increase of 45,000 barrels per day (mb/d) from demand in January to its highest reading since November 2022. Compared to February 2022, it was a decrease of 3.1% y/y.

An increase in motor gasoline and residual fuel oil resulted in a slight increase for the month. However, on a yearly basis, reduced petroleum demand was a result of distillates falling 0.5 Mb/d y/y.

Gasoline

Motor gasoline demand (8.6 Mb/d) at its highest since November 2022

Though motor gasoline demand, measured by motor gasoline deliveries, had the smallest year-over-year increase for the month since 2011, consumer gasoline demand (8.6 Mb/d) in February reflected an increase of 4.8% m/m from January, compared with an average increase of 3.6% for the same period for the past decade



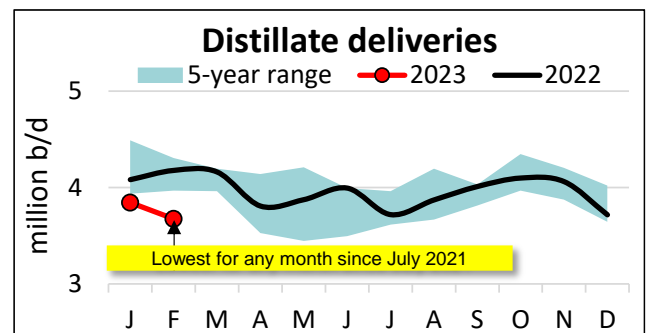
Deliveries of reformulated-type gasoline (consumed primarily in urban areas) rose by 3.8% m/m to 2.9

Mb/d - its highest for the month since 2019. And conventional gasoline (consumed mainly in rural areas) deliveries increased by 5.4% m/m to 5.8 Mb/d. These observations likely reflect a continuation of essential driving and an increase in miles driven in urban areas.

Distillate Fuel Oil

Distillate demand (3.7 Mb/d) was at its lowest for February since 1999

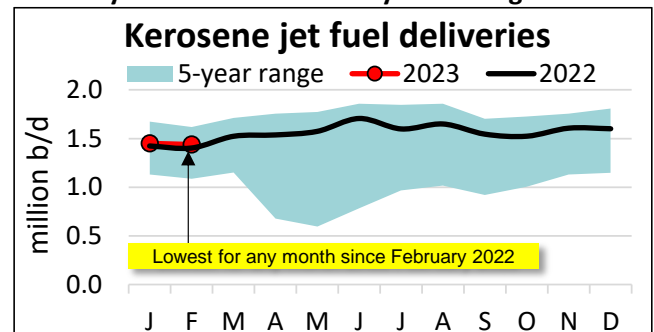
Distillate deliveries of 3.7 Mb/d in February fell by 4.4% m/m from January and 12.0% y/y compared with February 2022 to their lowest for the month since 1999.



[DAT iQ industry trendlines](#) showed that the quantity of spot trucks decreased by 9.7% m/m, while the number of spot load posts decreased by 17.4% m/m, which together showed that the relative number of loads to be shipped decreased by more than that of trucks available in February, which was consistent with reports that U.S. freight volumes [fell](#).

Kerosene Jet Fuel

Kerosene-type jet fuel demand (1.4 Mb/d) in February fell but still within 5-year average



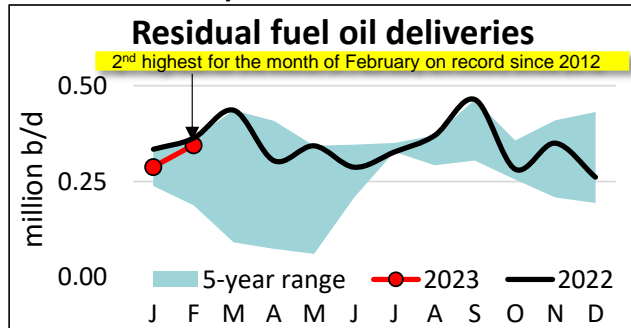
Kerosene-type jet fuel deliveries of 1.4 Mb/d in February fell by 0.8% m/m from January, compared with an average seasonal increase of 0.2% m/m

between January and February over the past decade. Jet fuel demand of 1.4 Mb/d represented an increase y/y of 2.6% y/y and was at its highest monthly point versus pre-pandemic levels.

High-frequency data from [Flightradar24](#) and [TSA](#) showed that the total numbers of flights and air passengers increased by 7.5% y/y and 18.3% y/y, respectively. Reports by the Airlines Reporting Corporation (ARC) states a [return](#) of air passenger demand to pre-pandemic seasonality trends. While North American air cargos had a [soft-start](#) to 2023, and recorded a decrease in demand, per the International Air Transport Association (IATA).

Residual Fuel Oil

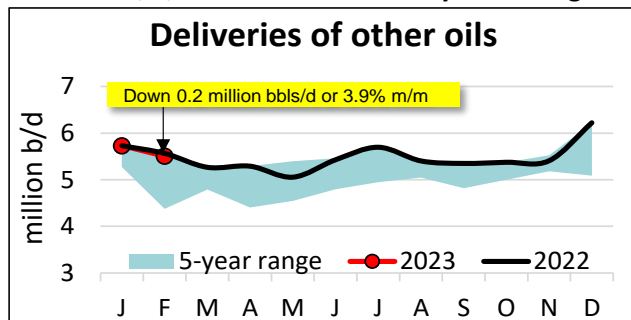
Second highest residual fuel oil demand for the month of February on record since 2012



Residual fuel oil, which is used as a marine bunker fuel, and internationally in electric power production, space heating, and industrial applications saw demand in February of 0.3 Mb/d in February, an increase of 19.8% m/m from January to its second highest volume for the month of February on record since 2012 but a decrease of 5.0% y/y compared with a year ago. The year-on-year decrease was consistent with reports on a [slow-down](#) in U.S. freight movement.

Other Oils – Naphtha, Gasoil, Propane & Propylene

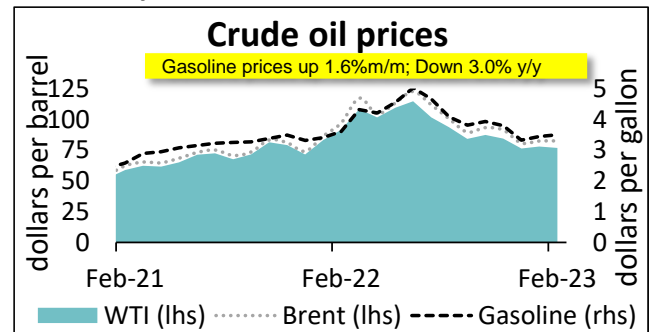
Strong other oils’ demand in February (5.5 Mb/d) fell 0.2 Mb/d, but was within the 5-year average



Deliveries of refinery and petrochemical liquid feedstocks – that is, naphtha, gasoil, and propane/propylene (“other oils”) – were 5.5 Mb/d in February, which was a decrease of 3.9% m/m from January and a fall of 1.0% compared with February 2022. A [slow-down](#) in U.S. manufacturing corroborates underlies these data, petrochemical demand remains resilient.

Prices

Gasoline prices edged up from January but were down 3.0% from last year while crude oil prices fell in February



In February, West Texas Intermediate (WTI) crude oil prices decreased by 1.7% m/m to \$76.83 per barrel. Brent crude oil spot prices rose by 0.1% m/m to \$82.56 per barrel, which implied a Brent-WTI crude oil price differential of \$5.73 per barrel in February, up \$5.49 per barrel from last February.

Crude oil remained the top input cost in making gasoline per [EIA](#). The U.S. average conventional gasoline price was \$3.50 per gallon in February, up by 1.6% m/m from \$3.45 per gallon in January per [EIA](#).

Macroeconomy

February Purchasing Managers Index contracted; consumer sentiment improved

The Institute for Supply Management’s manufacturing Purchasing Managers Index ([PMI](#)) had a reading of 47.7 in February – 0.3 percentage points lower than in January. Index values below 50.0 suggest a contraction in the overall economy, and the manufacturing PMI fell below that threshold in February for the third straight month after a 30-month period of expansion. Within the index, there were monthly increases in the measures of new orders, prices, backlog of orders,

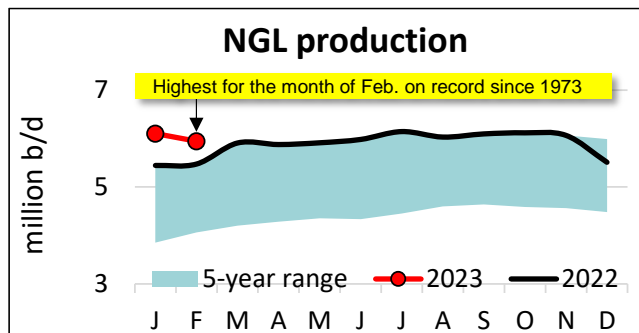
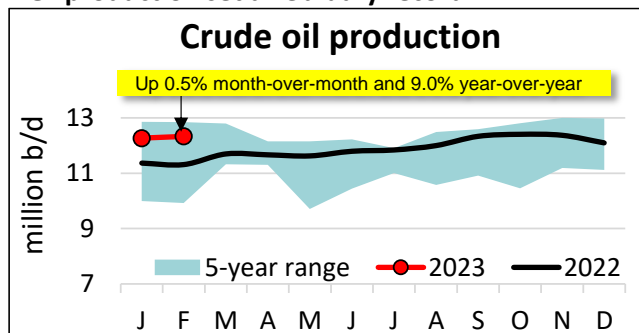
new export orders, and imports. And there were monthly decreases in measures of employment, production, inventories, supplier deliveries, and customers' inventories. Two manufacturing industries - Transportation equipment and Petroleum & Coal Products – that were surveyed reported growth in February, while 15 industries reported contractions in February compared with January.

The [University of Michigan's consumer sentiment index](#) showed readings of 67.0 in February (preliminary) and 63.4 in March, up from 64.9 in January. The preliminary survey noted that, despite the index having improved by more than 6% versus its reading a year ago, the overall index worsened “primarily on the basis of persistently higher prices, creating downward momentum for sentiment leading into the financial turmoil.”

According to the [Bureau of Labor Statistics \(BLS\)](#), the unemployment rate increased to 3.6% in February from 3.4% in January. Non-farm payrolls rose to a preliminary estimate of 311,000 m/m.

Supply

U.S. crude oil production rebounded from January; NGL production set a February record



U.S. crude oil production of 12.3 Mb/d in February improved by 0.5% from January. Compared to

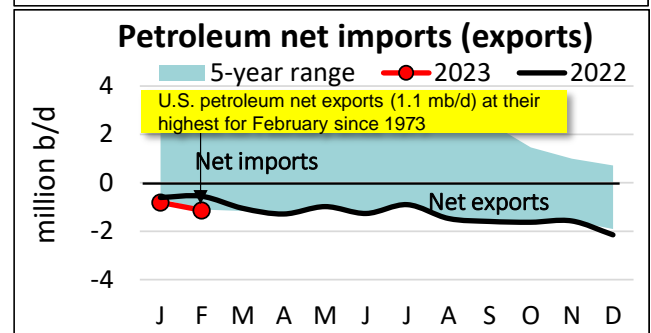
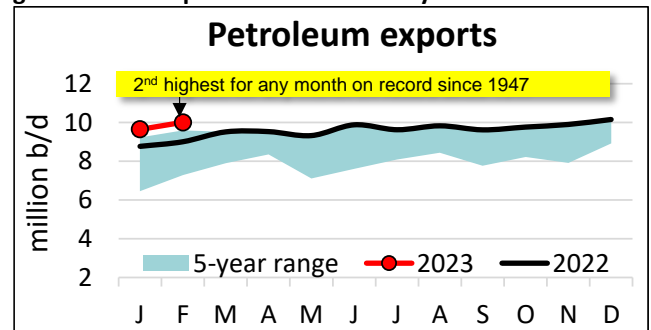
February 2022, crude oil production was up by 1.0 Mb/d y/y.

A day-weighted average of active oil-directed rigs from [Baker Hughes](#) reflected 603 rigs in February, a 1.8% m/m (11 rigs) decrease from January.

While a day-weighted average of natural gas-directed drilling of 152 rigs in February fell by 2.0% m/m (3 rigs) from January. The extraction of natural gas liquids (NGLs) depends on the relative values of ethane, propane, and butane, which historically have tended to correspond with those of crude oil. NGL production of 5.9 Mb/d in February – its highest for the month on record since 1973 – increased by 8.6% y/y from February 2022. However, levels declined 2.6% m/m from January, which is the third largest monthly decline for the month since 2013. The largest decline in NGL production for the month, which was 18.6%, occurred in February 2021. In February 2021, we saw the disruption of refining and petrochemical plant activities from a historical cold snap.

International trade

U.S. petroleum net exports (1.1 Mb/d) were two times greater than export levels in February 2022

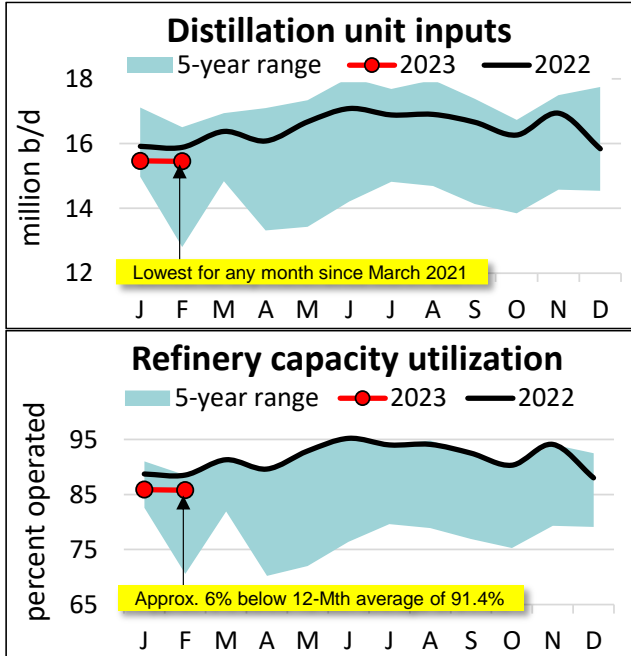


U.S. petroleum exports of 10.0 Mb/d, including 4.2 Mb/d of crude oil and 5.8 Mb/d of refined products, in February increased by 0.4 Mb/d m/m from January. Petroleum net exports were at the highest level for the month of February and at the second highest level for all months on record since 1947. At

the same time, U.S. petroleum imports rose by only twenty-eight thousand barrels a day m/m in February. In sum, the U.S. was a petroleum net exporter of 1.1 Mb/d in February.

Industry operations

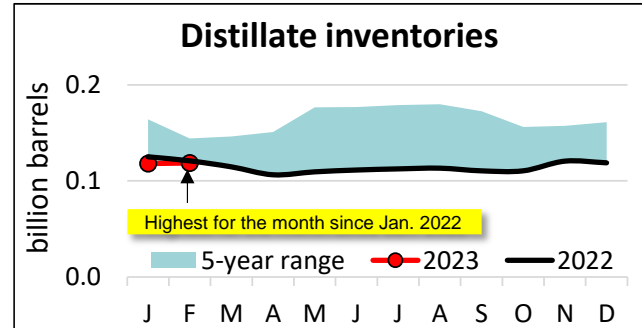
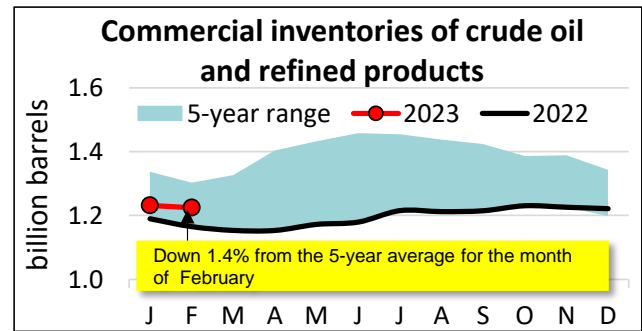
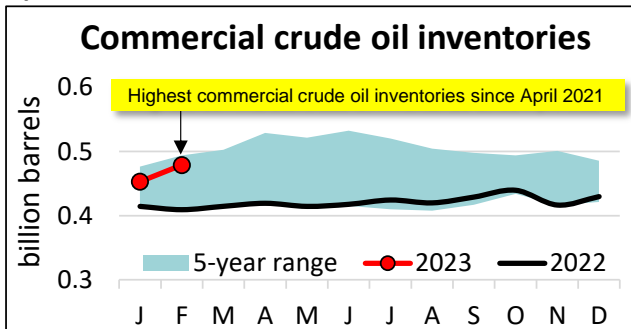
Refining throughput and capacity utilization rates fell in February



In February, U.S. refinery throughput, measured by gross inputs into crude distillation units, was 15.5 Mb/d and implied a capacity utilization rate of 85.8%. The throughput fell by 0.1% m/m (13, 000b/d) and by 2.7% y/y (0.4 Mb/d) to its lowest point for any month since March 2021.

Inventories

Highest U.S. commercial crude oil inventories since April 2021



U.S. crude oil inventories of 478.8 million barrels in February grew by 5.7% m/m (26.0 million barrels) from January and by 17.0% y/y (69.7 million barrels) from 409.1 million barrels in February 2022. This was the largest monthly rise in inventories for any given month since April 2020.

U.S. Strategic Petroleum Reserve (SPR) inventories remained stable in February at 371.6 million barrels, their lowest since December 1983. Consequently, the U.S. ending stocks of crude oil (including commercial and SPR) decreased by 13.9% y/y in February to 850.6 million barrels.

Distillate inventories have been closely monitored amid a [global shortage](#). U.S. distillate inventories remained below their historical five-year range in February. In terms of days of supply, distillate inventories were at approximately 32.4 days of supply as of February 28, compared with 33.5 days of supply in February 2019 per [EIA](#).

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

Disposition and Supply	February			Year-to-Date		
	2023 ²	2022	% Change	2023 ³	2022	% Change
Disposition:						
Total motor gasoline.....	8,632	8,598	0.4	8,422	8,274	1.8
Finished reformulated.....	2,883	2,726	5.8	2,828	2,573	9.9
Finished conventional.....	5,749	5,872	(2.1)	5,595	5,702	(1.9)
Kerosene-jet.....	1,439	1,402	2.6	1,445	1,413	2.3
Distillate fuel oil.....	3,675	4,177	(12.0)	3,764	4,126	(8.8)
≤ 500 ppm sulfur.....	3,628	4,163	(12.9)	3,738	4,099	(8.8)
≤ 15 ppm sulfur.....	3,614	4,155	(13.0)	3,724	4,091	(9.0)
> 500 ppm sulfur.....	47	14	235.7	27	27	0.0
Residual fuel oil.....	345	363	(5.0)	315	348	(9.5)
All other oils (including crude losses)	5,507	5,564	(1.0)	5,624	5,651	(0.5)
Reclassified ⁴	212	332	na	215	253	na
Total domestic product supplied.....	19,810	20,436	(3.1)	19,787	20,065	(1.4)
Exports.....	10,003	9,002	11.1	9,816	8,877	10.6
Total disposition.....	29,813	29,438	1.3	29,603	28,942	2.3
Supply:						
Domestic liquids production						
Crude oil (including condensate).....	12,331	11,316	9.0	12,297	11,344	8.4
Natural gas liquids.....	5,944	5,475	8.6	6,026	5,460	20.0
Other supply ⁵	1,053	1,201	(12.4)	1,058	1,214	(12.9)
Total domestic supply.....	19,328	17,992	7.4	19,381	18,018	7.6
Imports:						
Crude oil (excluding SPR imports).....	6,734	6,154	9.4	6,632	6,275	5.7
From Canada.....	3,611	3,825	(5.6)	3,595	3,881	(7.4)
All other.....	3,123	2,330	34.1	3,037	2,394	26.9
Products.....	2,132	2,297	(7.2)	2,219	2,023	9.7
Total motor gasoline (incl. blend.comp).....	566	581	(2.6)	567	498	13.9
All other.....	1,566	1,716	(8.7)	1,652	1,525	8.3
Total imports.....	8,866	8,451	4.9	8,851	8,298	6.7
Total supply.....	28,194	26,444	6.6	28,232	26,316	7.3
Stock change, all oils.....	(1,619)	(2,994)	na	(1,370)	(2,626)	na
Refinery Operations:						
Input to crude distillation units.....	15,454	15,886	(2.7)	15,461	15,903	(2.8)
Gasoline production.....	9,106	9,386	(3.0)	9,066	9,055	0.1
Kerosene-jet production.....	1,564	1,504	4.0	1,570	1,511	3.9
Distillate fuel production.....	4,581	4,666	(1.8)	4,617	4,654	(0.8)
Residual fuel production.....	257	218	17.9	266	242	10.3
Operable capacity.....	18,003	17,941	0.3	18,009	17,941	0.4
Refinery utilization ⁶	85.8%	88.5%	na	85.9%	88.6%	na
Crude oil runs.....	14,973	15,376	(2.6)	14,964	15,416	(2.9)

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)

	February 2023	January 2023	February 2022	% Change From	
				Month Ago	Year Ago
Stocks (at month-end, in millions of barrels):					
Crude oil (excluding lease & SPR stocks).....	478.8	452.8	409.1	5.7	17.0
Unfinished oils.....	89.2	83.8	85.4	6.4	4.5
Total motor gasoline.....	239.6	236.8	250.4	1.2	(4.3)
Finished reformulated.....	0.0	0.0	0.0	(0.2)	(29.2)
Finished conventional.....	17.1	16.5	18.6	3.6	(8.1)
Blending components.....	222.5	220.3	231.8	1.0	(4.0)
Kerosene-jet.....	37.7	35.8	39.9	5.3	(5.4)
Distillate fuel oil.....	122.4	117.9	120.8	3.8	1.3
≤ 500 ppm sulfur.....	114.8	110.5	114.2	3.9	0.6
≤ 15 ppm sulfur.....	112.3	108.0	111.8	4.0	0.5
> 500 ppm sulfur.....	7.6	7.4	6.7	2.7	13.6
Residual fuel oil.....	30.6	31.7	27.5	(3.5)	11.1
All other oils.....	226.1	264.0 R	232.3	(14.3)	(2.7)
Total all oils.....	1,224.4	1,222.8 R	1,165.5	0.1	5.1