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May 2021

EXECUTIVE SUMMARY

API's primary data for May 2021 reinforced how the recoveries in U.S. economic growth and petroleum demand have continued to go hand-in-hand. However, meeting higher demand with steady domestic supply has resulted in higher imports. Positive leading economic indicators reinforce the strength of these observations.

Highlights:

- Total U.S. petroleum demand of 19.8 million barrels per day (mb/d) increased by 1.0% from April and to within 2.8% of its level in May **2019**.
- Gasoline demand exceeded 9.0 mb/d for the first time since 2019, apparently led by demand recovery in urban commuting.
- Refining and petrochemical demand for other oils – naphtha, gasoil, propane/propylene – of 5.3 mb/d was a record high for May and 13.5% above its May 2019 level.
- Increased momentum for refining throughput of 15.8 mb/d and its implied capacity utilization rate of 87.1%.
- Solid U.S. crude oil (11.0 mb/d) and natural gas liquids (NGL) (5.3 mb/d) production despite historically weak drilling activity.
- With a continued increase in demand but steady supply, the U.S. remained a petroleum net importer in May for a third consecutive month.
- Leading economic indicators remained strong and positive in May, including API's Distillate Economic Indicator™ signaling continued industrial production gains (please see the following [chart](#) for details).

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Demand

- **U.S. petroleum demand (19.8 mb/d) rose to within 2.8% of its May 2019 level.**
 - Gasoline demand eclipsed 9.0 mb/d.
 - Distillate demand remained solid at 4.0 mb/d.
 - Jet fuel deliveries rose for the 3rd straight month.
 - Residual fuel oil demand rebounded by 44.2%.
 - Record May petrochemical demand for other oils.

Prices & Macroeconomy

- **Gasoline prices generally rose in May to reflect crude oil prices.**
- **Leading indicators suggest broad economic gains.**

Supply

- **Solid U.S. crude oil and natural gas liquids production and drilling activity.**

International trade

- **U.S. petroleum net imports persisted for a third consecutive month.**

Industry operations

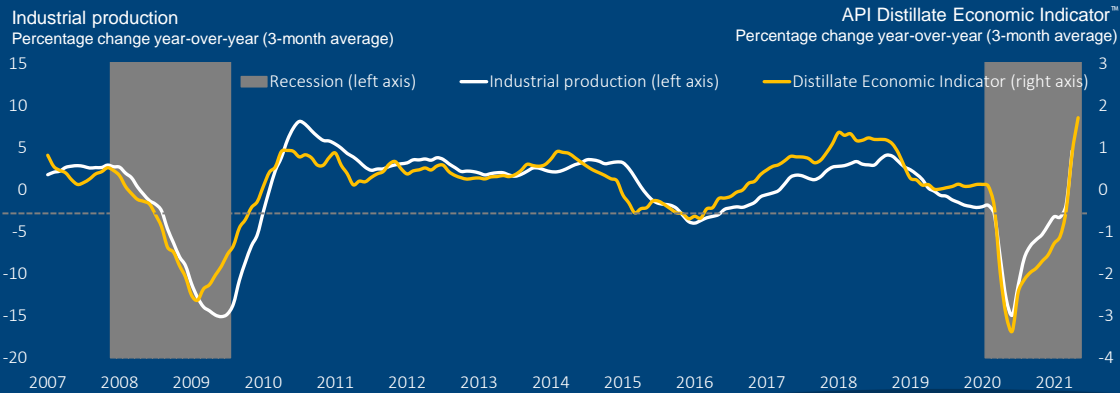
- **Refinery capacity utilization (87.1%) gained momentum.**

Inventories

- **Total petroleum inventories edged up despite lower crude oil stocks.**

API's Distillate Economic Indicator™ - May 2021

The Distillate Economic Indicator™ value of +1.4 for May 2021 and three-month average of +1.7 signaled an acceleration in U.S. industrial production and broader economic activity



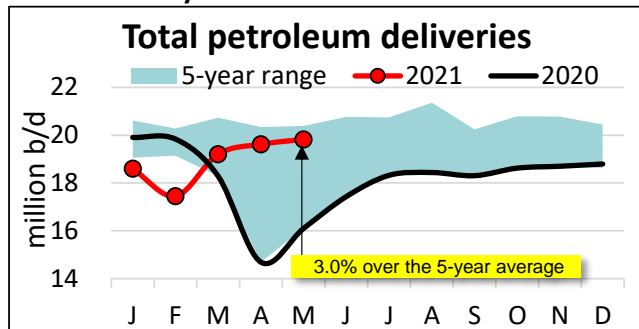
sources: API Monthly Statistical Report; EIA; CME Group; Moody's, Federal Reserve Board; API Team calculations



Details by section

Demand

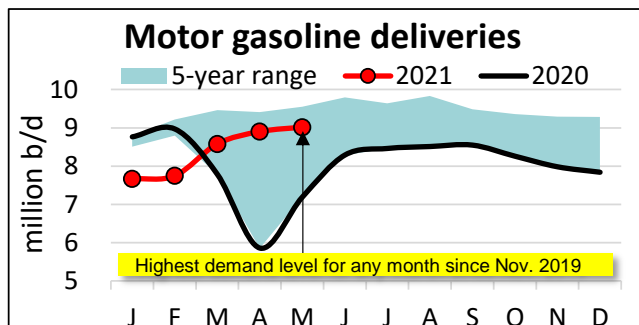
U.S. petroleum demand (19.8 mb/d) rose to within 2.8% of its May 2019 level



In May, U.S. petroleum demand, as measured by total domestic petroleum deliveries, was 19.8 mb/d. This reflected an increase of 1.0% from April and was 3.1% over the five-year average.

Gasoline

Gasoline demand eclipsed 9.0 mb/d

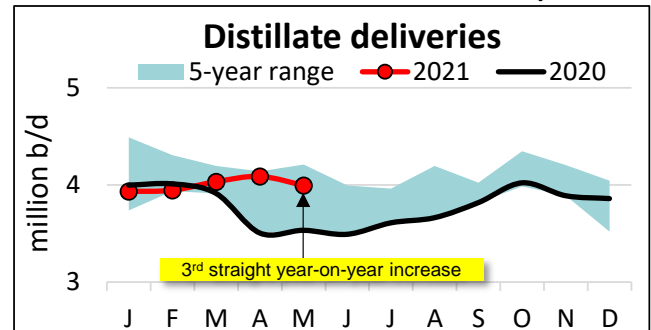


Consumer gasoline demand, measured by motor gasoline deliveries, eclipsed 9.0 mb/d in May. This represented an increase of 1.3% from April but remained 5.1% below its May 2019 level of 9.5 mb/d.

Deliveries of reformulated-type gasoline (consumed primarily in urban areas) rose by 20 thousand barrels per day (kb/d) or 0.7% from April, while those of conventional gasoline (mainly in rural areas) increased by 273 kb/d (4.5% m/m). These relative changes suggested that urban area commuting has risen as workplaces re-open post-pandemic.

Distillate Fuel Oil

Distillate demand remained solid at 4.0 mb/d



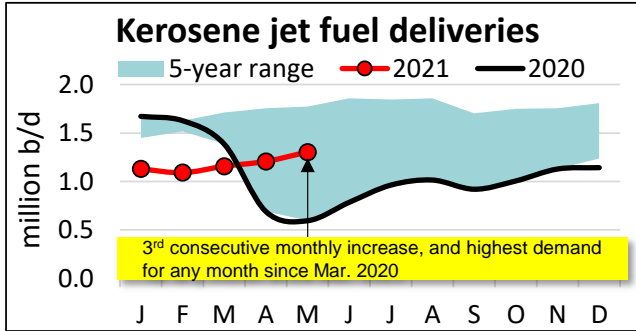
In May, distillate deliveries of 4.0 mb/d decreased by 2.3% from April but sustained their sixth highest level on record for the month of May since 1945.

[DAT IQ industry trendlines](#) showed mixed truck

freight activity in May, with spot load posts up by 3.4% from April.

Kerosene Jet Fuel

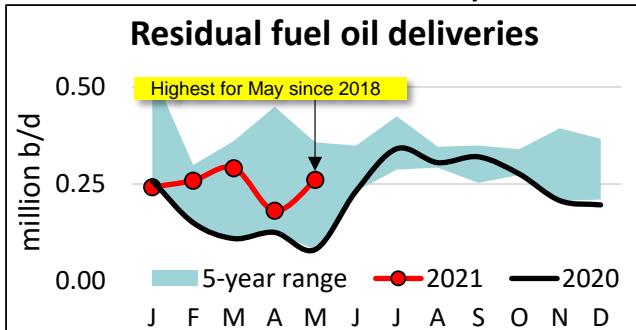
Jet fuel deliveries rose for the 3rd straight month



'K-Jet' deliveries were 1.3 mb/d in May, which was an increase of 8.0% from April but 26.4% below its May 2019 level. However, [Flightradar24](#) high-frequency data showed the number of scheduled flights slipped by 1.2% m/m in May, so that jet fuel deliveries likely indicate an anticipation of higher summer air travel.

Residual Fuel Oil

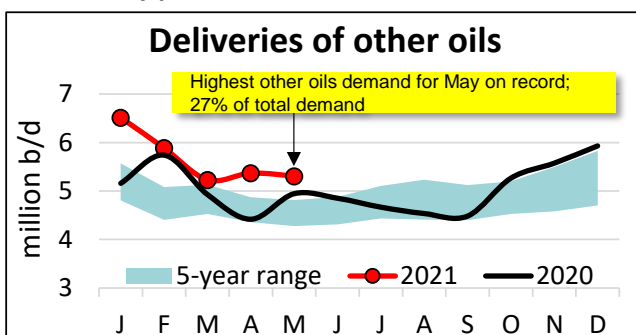
Residual fuel oil demand rebounded by 44.2%



Deliveries of residual fuel oil, which is used in electric power production, space heating, industrial applications and as a marine bunker fuel, were 261 kb/d in May. This was an increase of 44.2% from April and its highest for May since 2018.

Naphtha & Gasoil "Other Oils"

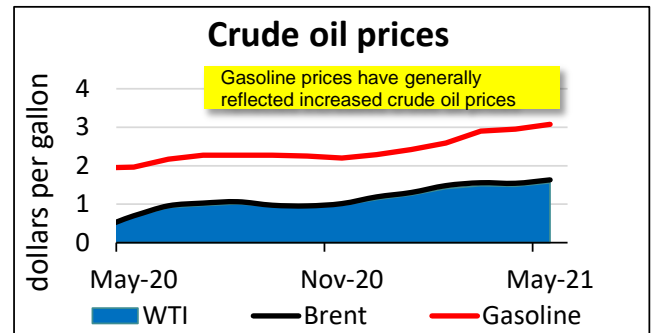
Record May petrochemical demand for other oils



Deliveries of liquid feedstocks, such as naphtha, gasoil, and propane/propylene ("other oils") used primarily in refining and petrochemical manufacturing, were 5.3 mb/d in May – its highest on record for May and 13.5% over its May 2019 level. This was broadly consistent with indications of solid refinery throughput (see [here](#)) and petrochemical production (per the [American Chemistry Council](#)).

Prices

Gasoline prices generally rose in May to reflect crude oil prices



In May, West Texas Intermediate (WTI) crude oil prices increased to \$65.17 per barrel (\$1.55 per gallon), a 5.6% increase m/m and 64.6% year-to-date. By comparison, Brent crude oil spot prices averaged \$68.53 per barrel (\$1.63 per gallon), and the Brent-WTI price differential increased by 8.7% m/m to \$3.36 per barrel.

As crude oil remained the top input cost in making gasoline per [EIA](#), relatively strong crude oil prices corresponded with increased gasoline prices for a sixth consecutive month in May. The U.S. average conventional gasoline price was \$3.08 per gallon in May, up by 4.3% (\$0.13 per gallon) from April and 22.2% year-to-date (\$0.51 per gallon), according to [AAA](#). This was the first month since October 2014 that regular gasoline prices exceeded \$3.00 per gallon.

Macroeconomy

Leading indicators suggest broad economic gains

API's Distillate Economic Indicator™, which is based primarily on diesel/distillate supply, demand, and inventories, had a reading of +1.4 in May and a three-month average of +1.7, which suggested U.S.

industrial production and broader economic activity continued to accelerate.

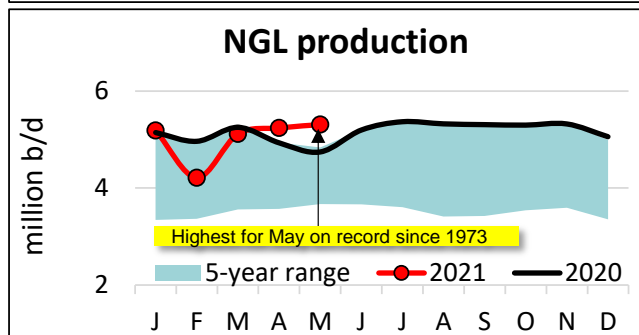
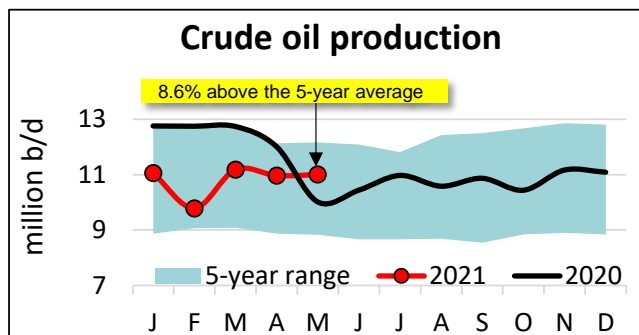
The Institute for Supply Management’s manufacturing Purchasing Managers Index (PMI) had a reading of 61.2 in May, a 0.5 percentage point increase from April’s 48-year monthly historical high. Index values above 50.0 suggest an expansion, and the manufacturing PMI has exceeded that threshold for 12 consecutive months. Within the index, slowing growth was registered for new orders, production, and employment. Supplier deliveries also slowed, and the backlog of orders grew. Of the 18 manufacturing industries surveyed, 16 reported growth in May.

The [University of Michigan’s consumer sentiment index](#) indicated weaker consumer sentiment in May (82.9) compared with April (88.3). The survey attributed May’s decrease to higher consumer goods prices and broader inflation expectations.

According to the [Bureau of Labor Statistics \(BLS\)](#), non-farm payrolls increased by 559,000, and the unemployment rate declined by 0.3% to 5.8% in May. Despite employment gains this year, the May increase fell below the consensus estimate of +675,000 jobs, and [continued weekly claims](#) for unemployment insurance benefits for the week ended May 22 remained at 15.3 million.

Supply

Solid U.S. production and drilling activity



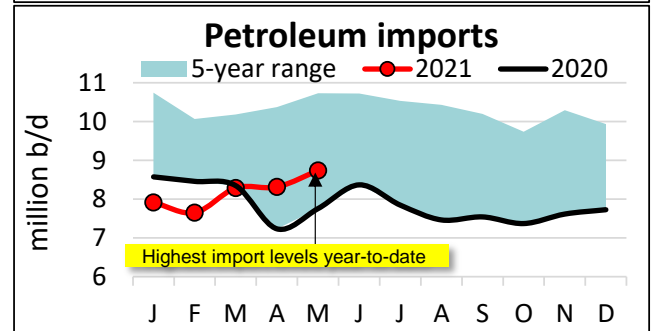
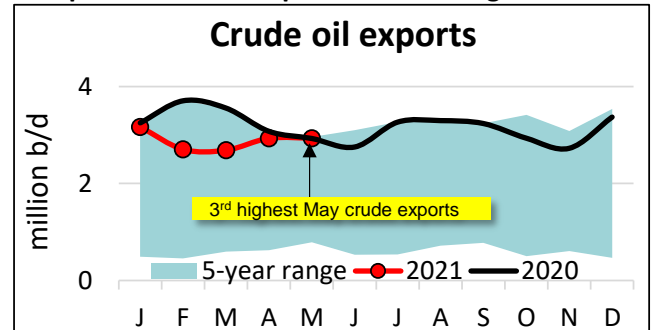
In May, U.S. crude oil production held at 11.0 mb/d, a marginal 0.4% m/m increase due to steady [rig productivity](#) on increased [drilling activity](#).

[Baker Hughes](#) reported 353 active oil-directed rigs in May, a 3.6% m/m increase and 32.2% increase from 267 rigs in May 2020.

By comparison, natural gas-directed drilling in May rose by 6.8% m/m and 26.3% y/y. Rig productivity helped to support natural gas marketed production of about 102 billion cubic feet per day in May per [EIA](#), which corresponded with the extraction of 5.3 mb/d of natural gas liquids (NGLs) by API estimates. This increase of 0.1 mb/d from April indicated solid NGL demand as industrial production continued to recover, as well as increased fractionation amid higher [composite](#) NGL prices.

International trade

U.S. petroleum net imports for 3rd straight month

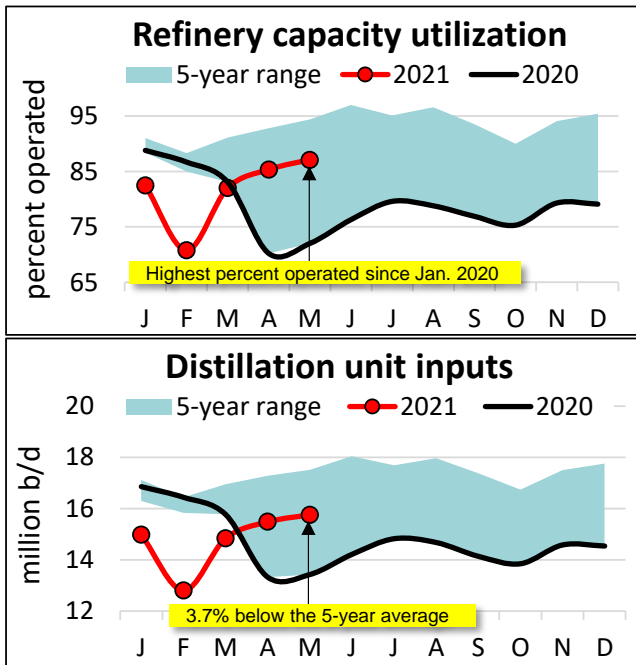


The U.S. remained a petroleum net importer in May and for a third consecutive month. Net imports of 0.6 mb/d persisted in May due to a monthly increase in total petroleum exports to 8.2 mb/d (+0.2 mb/d m/m) outpaced by increased petroleum imports of 8.7 mb/d (+0.4 mb/d m/m).

Within the totals, the increased exports were driven mainly by refined products (+0.3 mb/d m/m), while the increased imports were driven by higher crude oil imports (+0.2 mb/d m/m).

Industry operations

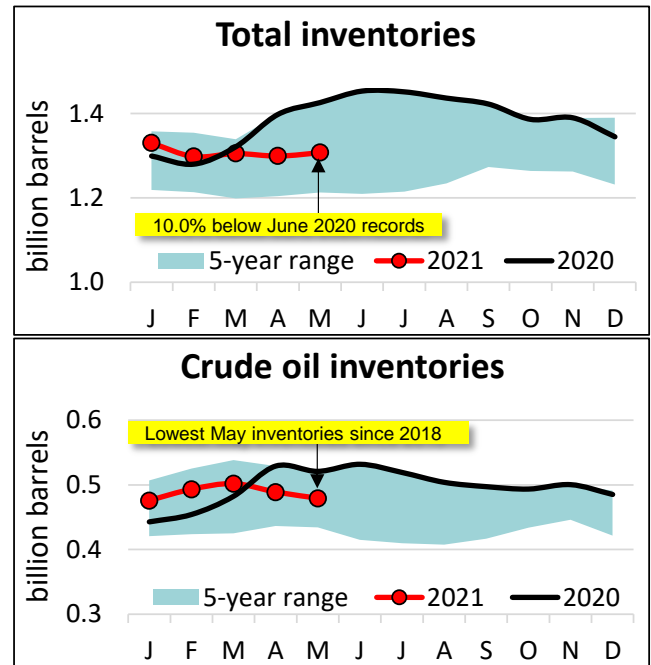
Refinery capacity utilization (87.1%) gained momentum



U.S. refinery throughput was 15.8 mb/d in May, which as an increase of 1.7% from April but 7.8% below its May 2019 level. The implied capacity utilization rate of 87.1% for May increased by 1.8 percentage points from April to its highest levels since January 2020 and reflected ongoing refining activity recovery with increased product demand.

Inventories

Total petroleum inventories edged up despite lower crude oil stocks



U.S. total petroleum inventories, including crude oil and refined products (but excluding the Strategic Petroleum Reserve) increased by 0.1% m/m to 1.31 billion barrels in May from revised April estimates. Total inventories increased despite lower crude oil inventories, which fell by 2.0% m/m to 479.3 million barrels.

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

Disposition and Supply	May			Year-to-Date		
	2021 ²	2020	% Change	2021 ³	2020	% Change
Disposition:						
Total motor gasoline.....	9,012	7,188	25.4	8,389	7,706	8.9
Finished reformulated.....	2,711	2,056	31.9	2,542	2,343	8.5
Finished conventional.....	6,301	5,133	22.8	5,847	5,363	9.0
Kerosene-jet.....	1,305	596	119.0	1,180	1,193	(1.1)
Distillate fuel oil.....	3,994	3,533	13.0	3,999	3,791	5.5
≤ 500 ppm sulfur.....	3,948	3,521	12.1	3,973	3,755	5.8
≤ 15 ppm sulfur.....	3,902	3,460	12.8	3,928	3,732	5.2
> 500 ppm sulfur.....	46	12	283.3	26	36	(27.8)
Residual fuel oil.....	261	81	222.2	247	145	70.3
All other oils (including crude losses)	5,305	4,521	17.3	5,091	4,780	6.5
Reclassified ⁴	(58)	183	na	54	143	na
Total domestic product supplied.....	19,819	16,103	23.1	18,961	17,757	6.8
Exports.....	8,171	6,818	19.9	8,059	8,797	(8.4)
Total disposition.....	27,990	22,921	22.1	27,020	26,554	1.8
Supply:						
Domestic liquids production						
Crude oil (including condensate).....	11,007	10,019	9.9	10,818	12,044	(10.2)
Natural gas liquids.....	5,309	4,745	11.9	5,028	5,010	0.4
Other supply ⁵	1,021	794	28.6	1,035	974	6.2
Total domestic supply.....	17,337	15,557	11.4	16,881	18,028	(6.4)
Imports:						
Crude oil (excluding SPR imports).....	5,921	6,087	(2.7)	5,765	6,166	(6.5)
From Canada.....	3,323	3,230	2.9	3,584	3,694	(3.0)
All other.....	2,598	2,857	(9.1)	2,181	2,472	(11.8)
Products.....	2,820	1,670	68.9	2,426	1,908	27.1
Total motor gasoline (incl. blend.comp)....	1,041	487	113.8	826	515	60.4
All other.....	1,779	1,183	50.4	1,600	1,393	14.9
Total imports.....	8,741	7,757	12.7	8,191	8,074	1.4
Total supply.....	26,078	23,314	11.9	25,071	26,102	(3.9)
Stock change, all oils.....	(1,912)	393	na	(1,949)	(453)	na
Refinery Operations:						
Input to crude distillation units.....	15,752	13,425	17.3	14,804	15,159	(2.3)
Gasoline production.....	9,810	7,477	31.2	9,135	8,349	9.4
Kerosene-jet production.....	1,292	505	155.8	1,162	1,199	(3.1)
Distillate fuel production.....	4,672	4,821	(3.1)	4,434	4,955	(10.5)
Residual fuel production.....	206	167	23.4	200	200	(0.0)
Operable capacity.....	18,091	18,641	(3.0)	18,112	18,907	(4.2)
Refinery utilization ⁶	87.1%	72.0%	na	81.7%	80.2%	na
Crude oil runs.....	15,280	12,958	17.9	14,341	14,609	(1.8)

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)

	May 2021	April 2021	May 2020	% Change From	
				Month Ago	Year Ago
Stocks (at month-end, in millions of barrels):					
Crude oil (excluding lease & SPR stocks).....	479.3	488.9	521.0	(2.0)	(8.0)
Unfinished oils.....	92.1	95.6	88.9	(3.7)	3.6
Total motor gasoline.....	235.9	232.0	258.2	1.7	(8.6)
Finished reformulated.....	0.0	0.0	0.0	(0.0)	(58.3)
Finished conventional.....	19.5	20.0	24.0	(2.5)	(18.7)
Blending components.....	216.4	212.0	234.2	2.1	(7.6)
Kerosene-jet.....	43.1	38.8	40.4	11.1	6.8
Distillate fuel oil.....	133.2	137.9	175.9	(3.4)	(24.3)
≤ 500 ppm sulfur.....	124.0	129.1	165.7	(4.0)	(25.2)
≤ 15 ppm sulfur.....	120.5	126.3	162.1	(4.6)	(25.7)
> 500 ppm sulfur.....	9.2	8.8	10.2	4.5	(9.6)
Residual fuel oil.....	32.4	32.3	39.4	0.3	(17.7)
All other oils.....	293.2	281.8	301.8	4.1	(2.8)
Total all oils.....	1,309.2	1,307.3	1,425.5	0.1	(8.2)