

REPORT OF THE  
NATIONAL PETROLEUM COUNCIL COMMITTEE  
ON PETROLEUM PRODUCTIVE CAPACITY

MAY 5, 1955

CHAIRMAN OF THE COMMITTEE: L. F. McCOLLUM

NATIONAL PETROLEUM COUNCIL

OFFICERS

Walter S. Hallanan, Chairman  
James V. Brown, Secretary-Treasurer

R. G. Follis, Vice-Chairman

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NATIONAL PETROLEUM COUNCIL  
COMMITTEE ON PETROLEUM PRODUCTIVE CAPACITY (1954)

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Shreveport, Louisiana

A. Jacobsen  
Amerada Petroleum Corporation  
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Monterey Oil Company  
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Ralph O. Rhoades  
Gulf Oil Corporation  
Pittsburgh, Pennsylvania

P. C. Spencer  
Sinclair Oil Corporation  
New York, New York

William M. Vaughey  
Independent Petroleum Assn.  
of America  
c/o Vaughey and Vaughey  
Jackson, Mississippi

Wm. K. Warren  
Warren Petroleum Corporation  
Tulsa, Oklahoma

Robert E. Wilson  
Standard Oil Company (Indiana)  
Chicago, Illinois

Jack Woodward  
Texas Independent Producers &  
Royalty Owners Assn.  
Dallas, Texas

Houston, Texas  
April 22, 1955

Mr. Walter S. Hallanan, Chairman  
National Petroleum Council  
Suite 601, 1625 K Street, N. W.  
Washington 6, D. C.

Dear Mr. Hallanan:

On July 14, 1954, Mr. H. A. Stewart, Acting Director, Oil and Gas Division, United States Department of the Interior, in a letter addressed to you, stated:

"It is desirable that Government have more recent information on the productive capacity of crude oil and natural gas liquids. Therefore, it will be appreciated if the National Petroleum Council will undertake to make another study of the U. S. availability and production of petroleum, as of July 1, 1954, furnishing the data, by the PAD Districts, on availability of crude oils, natural gas liquids, and all oils; similar data on production; and on the reserve producing capacity."

Pursuant to this request, which is attached as Exhibit A, a Committee was created to assemble the requested data. The data for the districts were compiled by separate Subcommittees, made up essentially of the same individuals who so ably performed similar services in connection with the two prior NPC availability studies. The procedures used were similar to those under which data were compiled as at January 1, 1951 and January 1, 1953 respectively.

The estimates of petroleum availability determined by the Committee are shown in Exhibit B, together with the production and indicated reserve productive capacity in July 1954.

The Committee estimates that the availability of crude oil and natural gas liquids in July 1954 was 9,096,000 barrels daily, an increase of 937,000 barrels daily from the previous estimate as of January 1953. As shown by the following summary, the estimated rate of increase in availability from January 1953 to July 1954 was considerably more rapid than in the earlier period from January 1951 to January 1953, principally in District 3 and in District 4, where substantial additional pipeline capacity provided larger market outlets.

U. S. Petroleum Availability, Thousand Barrels Daily

<u>Crude Oil</u>	<u>Jan. 1951</u>	<u>Jan. 1953</u>	<u>July 1954</u>	<u>Annual Rate of Change</u>	
				<u>Jan. 1951- Jan. 1953</u>	<u>Jan. 1953- July 1954</u>
District 1	54	49	43	- 2	- 4
District 2	1,083	1,238	1,380	78	95
District 3	4,161	4,686	5,224	262	359
District 4	350	394	561	22	111
District 5	<u>1,079</u>	<u>1,098</u>	<u>1,123</u>	<u>9</u>	<u>16</u>
Total Crude Oil	6,727	7,465	8,331	369	577
Gas Liquids	<u>573</u>	<u>694</u>	<u>765</u>	<u>61</u>	<u>48</u>
All Oils	7,300	8,159	9,096	430	625

The availability of crude oil has been affected recently by important technological developments as well as by the more rapid rate of development drilling. In the years 1951 and 1952, oil well completions at the rate of 23,450 annually were sufficient to offset the

decline in capacity of old wells and to add to crude oil availability annually some 369,000 barrels daily. In the following eighteen months oil well completions at the rate of about 26,900 annually were estimated to offset the decline in capacity of old wells and to add to crude oil availability at an annual rate of 577,000 barrels daily. The rate of increase in availability was more rapid than the rate of increase in oil well completions. This difference in rate of increase is considered to be due in large part to technological factors. Among such factors are: pressure maintenance operations in some new fields, water flooding and gas injection for secondary recovery in some older fields, and the increasing use of formation fracturing techniques to stimulate the rate of production of wells.

The rate at which oil may be recovered efficiently from proved reserves has been increased by the more rapid rate of development drilling and the technological factors mentioned above. In the long-run, availability will also be influenced by the rate of discovery and development relative to production.

The reserve capacity figures for all petroleum liquids, shown in Exhibit B as 2,212,000 barrels daily, represent the difference between availability and production in July 1954. Production and, consequently, reserve productive capacity are both affected by seasonal factors, inventory changes and also by the level of imports.

July is normally a month of relatively low demand compared with January when peak winter requirements occur, thus materially affecting reserve productive capacity. The following summary illustrates these problems by comparing demand, production, imports, availability, and reserve capacity in January 1953 and July 1954:

	Thousand Barrels Daily		
	Jan. 1953	July 1954	Change
Demand	8,643	7,485	-1,158
Stock Change	<u>- 287</u>	<u>+ 438</u>	<u>+ 725</u>
Required New Supply	8,356	7,923	- 433
Imports			
Crude Oil	616	724	+ 108
Products	<u>518</u>	<u>314</u>	<u>- 204</u>
Total	1,134	1,038	- 96
Production			
Crude Oil	6,551	6,242	- 309
Gas Liquids	<u>653</u>	<u>642</u>	<u>- 11</u>
Total	7,204	6,884	- 320
Domestic Availability	<u>8,159</u>	<u>9,096</u>	<u>+ 937</u>
Domestic Reserve Capacity	955	2,212	+1,257

It will be noted that seasonal factors made demand, production and product imports lower in July 1954 than in January 1953. By January 1955 petroleum demand in the United States was 9,301,000 barrels daily, some 24 per cent higher than in July 1954, indicating the extent to which demand can fluctuate in a short period of time. The effect of such fluctuations on reserve productive capacity is obvious.

The increase in domestic availability of all oils from 8,159,000 barrels daily in January 1953 to 9,096,000 barrels daily in July 1954 demonstrates the ability of the petroleum industry to carry forward the active discovery and development of domestic resources. These resources are needed to meet increasing petroleum requirements and to provide a margin of spare capacity for national security. With favorable economic circumstances and incentives the industry should be able to continue providing the domestic availability so necessary for economic progress and national security.

Respectfully submitted,

L. F. McCollum, Chairman  
NPC Committee on Petroleum  
Productive Capacity (1954)

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Exhibit A

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
OIL AND GAS DIVISION  
WASHINGTON 25, D. C.

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July 14, 1954

Mr. Walter S. Hallanan  
Chairman, National Petroleum Council  
1625 K Street, N. W.  
Washington, D. C.

Dear Mr. Hallanan:

On May 28, 1953, the National Petroleum Council submitted a report on the United States availability and production of petroleum as of January 1953.

It is desirable that Government have more recent information on the productive capacity of crude oil and natural gas liquids. Therefore, it will be appreciated if the National Petroleum Council will undertake to make another study of the U. S. availability and production of petroleum, as of July 1, 1954, furnishing the data, by the PAD Districts, on availability of crude oils, natural gas liquids, and all oils; similar data on production; and on the reserve producing capacity.

The Council is requested to submit a report with such recommendations as the Council deems appropriate.

Sincerely yours,

/s/ H. A. Stewart

H. A. Stewart  
Acting Director

U. S. AVAILABILITY AND PRODUCTION OF PETROLEUM, JULY 1954  
(Thousands Barrels Daily)

<u>District</u>	<u>Availability</u>			<u>Production</u>			<u>Reserve Productive Capacity</u>		
	<u>Crude</u>	<u>Nat. Gas</u>	<u>All</u>	<u>Crude</u>	<u>Nat. Gas</u>	<u>All</u>	<u>Crude</u>	<u>Nat. Gas</u>	<u>All</u>
	<u>Oil</u>	<u>Liquids</u>	<u>Oils</u>	<u>Oil</u>	<u>Liquids</u>	<u>Oils</u>	<u>Oil</u>	<u>Liquids</u>	<u>Oils</u>
1. East Coast	43	12	55	43	12	55	0	0	0
2. Mid-Continent	1,380	127(1)	1,507	1,126	88(1)	1,214	254	39	293
3. Southwest	5,224	521	5,745	3,673	451	4,124	1,551	70	1,621
4. Rocky Mountains	561	12	573	431	9	440	130	3	133
5. California	<u>1,123(2)</u>	<u>93</u>	<u>1,216</u>	<u>969(2)</u>	<u>82</u>	<u>1,051</u>	<u>154</u>	<u>11</u>	<u>165</u>
Total	8,331	765	9,096	6,242	642	6,884	2,089	123	2,212

(1) Includes liquids extracted from natural gas produced in District 3 and transported by interstate pipelines.

(2) Includes Elk Hills with availability and production of 158 thousand and 22 thousand barrels per day, respectively.

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