

percent of the gasoline demand in the Indiana-Illinois district. Through the application of these percentages to the calculated demand in each of the districts, it was determined that Texas refineries would ship 4,605,000 barrels to the east coast district, and 1,097,000 barrels to the Indiana-Illinois district during December 1933, or a total of 5,702,000 barrels to be shipped to other consuming districts in the United States.

The addition of the shipments of 5,702,000 barrels to the required production to the demand of 1,925,000 barrels within the State of Texas gives the total demand for Texas gasoline during December 1933 of 7,627,000 barrels.

Through an examination of refinery operations, it was calculated that of the 7,627,000 barrels, 431,000 barrels would consist of natural gasoline to be blended at refineries, and that 7,196,000 barrels of gasoline would be produced from crude petroleum. Through the same examination of refinery operations it was determined that the average recovery of gasoline from crude petroleum at Texas refineries during December 1933 would be 44 percent. By the application of this ratio to the required production of gasoline, it was determined that it would be necessary to refine 16,355,000 barrels of crude petroleum at Texas refineries during December 1933, it was determined that 61,000 barrels would be crude petroleum of foreign origin, and 16,294,000 barrels of crude petroleum of domestic origin.

In a similar manner, the required gasoline production in other districts was determined, and the quantity of crude petroleum necessary to provide for the manufacture of the required gasoline was determined. An examination of trends in the

movement of crude petroleum from producing districts to refining districts was made, and as a result it was determined that Texas crude petroleum would supply 84.57 percent of the domestic crude oil required in the east coast district during December 1933, 0.26 percent of the domestic crude petroleum required in the Appalachian district, 3.13 percent of the domestic crude petroleum required in the Indiana-Illinois district, 3.55 percent of the domestic crude petroleum required in the Oklahoma-Kansas-Missouri district, and 60.53 percent of the domestic crude petroleum required in the Louisiana-Arkansas district. Applying these percentages to the quantity of crude petroleum required in each of the districts to which Texas crude petroleum is shipped, it was determined that 9,462,000 barrels of Texas crude petroleum would be shipped to the east coast district during December 1933 and that the total of shipments to the other districts listed would be 3,504,000 barrels.

In addition to these requirements for Texas crude petroleum, it was determined from examination of the records of exports and direct uses of petroleum that 801,000 barrels of Texas crude petroleum would be exported or burned directly as fuel during December 1933.

The summation of these items gives the total of 30,061,000 barrels of crude petroleum.

The examination of interregional movements of crude petroleum showed that crude petroleum from Oklahoma, Louisiana, and New Mexico is received within the State of Texas as part of the regular movement of crude petroleum in recognized trade channels. From this study, it was determined that the receipts of such crude petroleum would amount to 2,533,000 barrels. The subtraction of this item

of 2,533,000 barrels from the total required, 30,061,000 barrels, gives the figure of 27,528,000 barrels as the required production of Texas crude petroleum in order to meet consumer demand for petroleum products during December 1933. That amount divided by 31 days in December gives 888,000 barrels daily.

A review of the natural and normal markets served by crude petroleum and petroleum products from each of the producing districts during the years 1931 to 1933 to date, indicates that the required production of Texas crude petroleum is equal to the domestic crude-oil requirements of Texas and east coast refineries. There are other interregional movements from and to Texas, but such movements tend to offset one another, with the result that a definite check as to the accuracy and reasonableness of the calculations may be made by a comparison of the required Texas crude-oil production with the domestic crude-oil requirements of Texas and east coast refineries. The domestic crude-oil requirements of Texas refineries, 16,294,000 barrels, plus the domestic crude-oil requirements of east coast refineries, 11,188,000 barrels, gives a total of 27,482,000 barrels. The required Texas crude-oil production, as calculated in the manner described during December 1933, amounts to 27,528,000 barrels, which provides the necessary check as to reasonableness and accuracy.

In the calculations, according to the method employed, the study of trends in regional distribution and refinery operations is continued currently so as to include most recent data available in order that such recent changes may be reflected in the factors employed in determining the influence of each on the interregional movement of crude pe-

troleum, of gasoline, and to recovery of gasoline from crude petroleum. According to this method, the current changes are determined from the statistical data employed and are reflected in the results of the calculation.

Through the same method of calculation the production of crude oil required in other oil-producing States to meet consumer demand was estimated.

The following is a statement of the production, refining, consumption, etc., of petroleum and the refined products thereof, in the State of Texas, and the exports and shipments to other States of petroleum and refined products thereof from the State of Texas for the year 1932, such statement being based upon official figures and data in the Bureau of Mines which I believe to be accurate.

Supply and demand of petroleum and products thereof in Texas in 1932

[Figures in Barrels]

Supply within Texas:

Production of crude oil-----	312,478,000
production of natural gasoline-----	8,836,000
Imports of crude oil ¹ -----	945,000
Receipts of crude oil from other States ¹ -----	23,353,000
Decrease in stocks of crude oil and refined products--	15,137,000

Total demand for Texas oils----- 360,749,000

Demand within Texas:

Gasoline -----	17,883,000
Lubricants (3 percent of above)	
Gas, oil, and fuel oils (1931): ²	
Railroads -----	* 17,144,000

¹ Imports and receipts from other States of refined products are negligible.

² No figures for gas, oil, and fuel-oil consumption in Texas for 1932 are available, but the 1932 figures will closely approximate the 1931 figures.

³ Total deliveries to railroads, some portion of which, possibly 20 percent (3,428,000 barrels) is actually used outside of State.

Demand within Texas—Continued.

Gas, oil, and fuels oils (1931)—Contd.

Steamships.....	⁴ 12, 483, 000	
Other.....	⁵ 16, 518, 000	
		46, 145, 000
Other refined products.....	⁶ 23, 564, 000	
Crude as such plus losses.....		1, 221, 000
Refining losses.....		5, 233, 000
		<hr/>
Total demand within Texas.....		94, 582, 000
Shipped from Texas:		
Exports:		
Crude.....	7, 680, 000	
Refined products.....	21, 684, 000	
		<hr/>
		29, 364, 000
Deliveries to other States:		
Crude.....	143, 170, 000	
Refined products.....	93, 633, 000	
		<hr/>
		236, 803, 000
		<hr/>
Total shipped from Texas.....		266, 167, 000
		<hr/>
Total demand for Texas oils.....		360, 749, 000

Summary

Oil used within Texas.....	94, 582, 000 barrels, or	26 percent
Oil shipped out of Texas.....	266, 167, 000 barrels, or	74 percent
Total.....	360, 749, 000 barrels, or	100 percent

To arrive at a fair figure for the percentage of Texas oil which is consumed outside of Texas as against the total consumption of Texas oil by consumers other than the oil industry, the following deductions from the figures for demand within Texas are reasonable and proper:

Oil delivered to ships at Texas ports for bunker fuel.....	12, 483, 000
Oil consumed by the oil industry in production and refining of petroleum.....	14, 284, 000
Refinery losses.....	5, 233, 000
	<hr/>
Total deduction.....	32, 000, 000

⁴ Delivered at Texas ports for bunker fuel—all consumed outside of Texas.

⁵ Of this amount 14,284,000 barrels are consumed in the production of, and refining of petroleum.

⁶ Some minor refined products such as kerosene, asphalt, etc., included in this figure, leave Texas possibly as much as 15 percent of the total, which would amount to 3,535,000 barrels.

The fuel oil delivered to railroads within Texas and consumed outside of Texas (footnote 3 above) and the kerosene, asphalt, etc., which leave Texas (footnote 5 above) which together total almost 7,000,000 barrels are not deducted above because of uncertainty as to exact quantity.

With this modification of the foregoing tabulation "Supply and demand of petroleum and products thereof in Texas in 1932", the following summary is true:

Oil used within Texas by consumers other than the oil industry---	62, 582, 000 barrels, or 18 percent
Texas oil used outside of Texas---	278, 650, 000 barrels, or 82 percent
Total-----	341, 232, 000 barrels, or 100 percent

The monthly statistics of the Bureau of Mines assembled for the first 8 months of 1933 do not indicate that any material change has occurred during the present year in the percentages of oil used within Texas and Texas oil used outside of Texas.

EDWARD B. SWANSON.

Subscribed and sworn to before me this 9th day of December 1933.

[SEAL]

FRANK JONES.

My commission expires January 10, 1933.