(1) Determined by allocating costs in proportion to value of products.
(2) Cost per gallon for all products.

The quantity of each product secured from refining a 42 gallon barrel of crude petroleum is obtained by applying the average per cent of yield shown for the five large refining companies in California to a barrel of crude petroleum. The f.o.b. refinery price is secured by deducting the freight and marketing expenses from the sale price, and the refinery realization for each product is the products obtained by multiplying the quantity of that product refined from a barrel of crude by the f.o.b. refinery realized price. The percentage of realization is the quotient resulting from dividing the realization for each product by the total realization for all products. The total cost for each of the principal products produced is obtained by multiplying the total cost of refining a barrel of crude petroleum—that is, $1·259—by the percentage of realization for each product, as shown in column 4; while the cost per gallon for each product is secured by dividing the total cost of the quantity secured from a barrel of crude oil by the quantity produced.

In 1925 a publication in book form entitled "Accounting for the Petroleum Industry" was issued by David F. Morland, Associate of the Institute of Chartered Accountants in England and Wales, and Raymond W. McKee, member of the American Institute of Accountants, supported by J. Hugh Jackson, Professor of Accounting in the Harvard Graduate School of Business Administration. Extracts from this publication under the heading of "Cost Finding" set out some reasons why the Federal Trade Commission method of basing costs is directly related to the actual costs of refining gasoline:—

The fact that each of the products has a different value in the world's markets, and requires in its manufacture both a different constituent element of the crude oil and a different operating process, indicates that in allocating to such products the cost of their production, not only the quantities produced, but the values of such quantities, must be considered.

The fact that the gasoline content of crude petroleum is usually the main objective of refiners, and that the posted market price for crude oil is graduated according to its specific gravity, indicates that the gasoline extracted carries with it a portion of the cost of the crude oil entirely disproportionate to the quantity of gasoline recovered. The same is true in varying degree in the case of kerosene, lubricating oil stock, and the other products; for as each successive product is removed, the residuum sustains a decrease in value which is attributable to two factors:—

1. Decrease in Quantity.
2. Lower value of remaining constituent elements.

From the foregoing facts it would appear that we have reason for the general statement that the cost of crude oil should be allocated to each of its constituent elements in the proportion that the product of the quantity and value of such commodity bears to the similar total for all the constituent commodities.

A further effect of this procedure (Federal Trade Commission Method) is to cause each of the products obtained to absorb a share of the evaporation loss from refining, in proportion to the marketable value of good production. This result is substantiated by the facts; for the production of gasoline, the product with the highest value and the one which will therefore bear the highest share per gallon of the evaporation loss, is responsible in processing for a large part of the loss.