Pipe Line and Marine Transportation

Increased movement of crude oil from fields to refineries placed a heavy load on transportation facilities. Pipe lines operated at maximum capacity to keep a steady flow of petroleum moving. Installation of new lines is now under way to handle larger volumes of heavy crude from the Santa Maria Valley.

In addition to our own tankships (requisitioned by the War Shipping Administration in April of 1942) Union operated eight Government-owned vessels. Two tankships from our original fleet were requisitioned for sale to a member of the United Nations during the year. Partial payments for these have been received. Full compensation is awaiting Government determination of the fair value of the ships. The same situation exists in the case of the Union Oil tankship sunk in 1942. So far we have received partial payment equivalent to 75% of the construction cost of the vessel.

Research

War demands stimulated development of new fuels, lubricants, and corrosion preventives for exacting military use. Many of these products have a postwar future, particularly in commercial aircraft. Work of a military nature connected with revolutionary methods of plane propulsion resulted in discovery of new types of chemical synthesis, which may have application in such apparently unrelated fields as production of nylon fibers.

Research technicians studied secondary recovery methods of water-flooding for replacing the wasted natural energy with which oil is pushed up out of the ground. Experiments indicate that only 30 to 35 per cent of the original oil content of the average California field can be recovered under present production methods. Applied to a major field like Santa Fe Springs, around one billion barrels of oil remain in the underground reservoirs awaiting the day when an economic method of extraction is discovered.

Extensive research activities were also conducted in oil shale and tar sand processes, as possible future supplies of materials from which high test fuels and chemicals may be produced.

New methods of separating natural gas fractions were also studied. It is indicated that while a large portion of natural gas will continue to be used for domestic fuel, it will also have value for conversion to liquid fuels and chemicals.