

ENGINEERING

# Petroleum War Production

➤ THE AMERICAN petroleum industry is fully prepared to meet any and all foreseeable military emergencies with which this nation may be confronted, Frank M. Porter, president of the American Petroleum Institute, declared at a meeting recently. Domestic production can easily be increased some 20%, he said.

Domestic production of fuel oils can be stepped up immediately to over 6,000,000 barrels a day, he stated. This increase can be made without injury to the producing formations. The average daily production

from fields in the United States was 4,921,000 barrels through the first quarter of the present year.

Since termination of World War II, American interests have developed tremendous new petroleum reserves in Canada, South America and the Middle East. Petroleum for these would be available provided they are given proper military protection. Even without them, enough petroleum can be produced to meet both military and essential civilian uses, he predicted.

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ENGINEERING

# Estonia's Oil Shale

➤ FACTS about the oil shale industry of Estonia, now behind the Iron Curtain, are revealed in a publication by the Engineering Experiment Station of Ohio State University. Liquid fuels from Estonian shale play an important part in Soviet programs.

The facts were gathered by Prof. O. Krumin, of the station staff, from scattered papers published in various languages, information from the Estonian Bureau of Mines, the U. S. Bureau of Mines, and many other sources. The facts are interpreted by him in light of visits to the mines in 1939 and 1940. The publication is pronounced unofficially by Dr. Simon Klosky, of the Bureau of Mines and an authority on European oil shale, to be of special value at the present time.

Russia has many known deposits of petroleum but their development has lagged as far as is known. Russia has also plentiful supplies of oil shale, distributed widely, according to Dr. Klosky. But the Estonian supply is probably the largest and most highly developed oil shale area under Soviet control today.

Estonian oil shale, Prof. Krumin states in his report, is called "kukersite" after the village where it was discovered. Information about it dates back more than 150 years. The Russian government, during World War I, took steps for its commercial utilization with only minor success. During the German occupation in the World War II era, output was increased considerably and aided Hitler in his campaigns. However, the actual industrial research, the mining of the shale and the production of oil on an industrial scale began after World War I when Estonia was an independent state.

The productive area of the Estonian oil shales is approximately 75 miles long and 18 miles wide. Most of the mining is underground work at a depth of about 60 feet. German estimates, made during World War II, set a figure of 5,000,000,000 tons of

oil shale reserves, enough to supply the peacetime needs of what was then Germany for 300 years.

A particularly important fact about Estonian oil shale is that it is said to contain recoverable uranium, number one essential in atomic energy. If so, then the large quantities of spent shale dumped around

the Estonia oil shale plants will become a valuable and easily available source for extraction of uranium, Prof. Krumin declares.

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PHYSICS

# Test Aerial Camera With Moving-Eye Lens

➤ A MOVING lens for aerial cameras which follows the landscape just as the eye does is being tried out by the Air Materiel Command at Wright Field in Dayton, Ohio. If it works it might well cut down on the bulkiness of many of the newer cameras used in aerial photography.

In the newly designed camera, during each exposure the lens moves across the focal plane shutter at the speed at which the ground is passing by under the plane. Compensation is effective up to 500 miles per hour and at ranges as close as 150 feet. The camera is expected to be most effective for side oblique photography at low altitudes and under poor light.

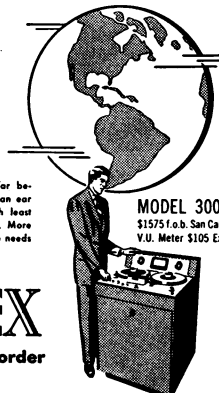
The moving lens, if it works out, would allow for longer time exposures and thus would permit doing away with the complicated and bulky equipment necessary for extremely short exposures.

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