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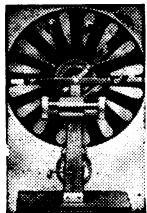


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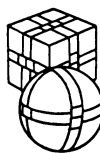
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GEOLOGY

Search for Mohole Site

See Front Cover

➤ WITH 140 MILLION square miles of ocean to choose from, scientists are trying to find the exact spot to drill through the earth's crust from a floating ship.

Huge stretches of ocean are now being surveyed to find where the rock (mantle) underlying the earth's crust bulges closest to the ocean surface. The study is part of Project Mohole, an attempt to penetrate the earth's outer skin sometime in 1964.

The ocean was chosen as a drilling site because the crust is much thinner there than under the continents.

The most promising drilling areas at the present time are off the Puerto Rican coast in the Atlantic and a Pacific counterpart

near the Hawaiian Islands. If drilling had to begin tomorrow, "we would drill north of the Puerto Rico trench," a Project Mohole spokesman told SCIENCE SERVICE.

The Puerto Rico trench is a gaping underwater canyon skirting Puerto Rico and other islands in the Antilles chain.

A test hole was drilled in April, 1961. It penetrated more than 12,000 feet below the ocean's surface off the coast of Mexico. The drill passed more than 500 feet of soft ocean-bottom layer before burying itself in an underlying layer of basalt.

Fossils of the sea life that lived about 20 million years ago and were buried in the soft layers are shown on this week's cover.

• Science News Letter, 82:158 September 8, 1962

RADIOLOGY

Fallout Limits Grazing

➤ FALLOUT from nuclear bomb tests has increased the value and use of stored surplus grains, SCIENCE SERVICE learned.

Dairy cattle in Utah are feeding on stored fodder today rather than fresh pasturage because of alarmingly high levels of radioactive fallout from atom bomb tests found in Utah milk during July.

Dairy cattle in other states also may be shifted from pasture grazing to dry feed to reduce radiation intake in their populations, the U.S. Public Health Service has announced.

The switch in dairy cattle feed in Utah was recommended by the State Department of Public Health when levels in Utah milk of iodine-131, an element of fallout known to cause thyroid cancer, were found to be several times above the acceptable limits recommended by the Federal Radiation Council.

In addition, the milk industry in Utah voluntarily diverted fresh milk to manufactured milk products in order to protect the population. (Iodine-131 has a half-life of eight days so that in six to seven weeks, about the time it takes for manufactured milk products to reach the consumer, its radioactivity virtually has decayed.)

In Minnesota and Iowa, dairy industries and the state health agencies have developed plans for similar countermeasures to reduce intake of iodine-131. In both states in July there were days when iodine-131 levels went above the daily limit; but the averages for the entire month were within acceptable levels. Kansas, Missouri, Nebraska and North Dakota also had days in which iodine-131 levels were high. In Wyoming and Utah, however, the monthly averages were almost four to six times so-called safe limits. Wyoming authorities undertook no counter-measures.

While storing milk and removing dairy cattle from pasture feeding does cut down exposure to the iodine-131 substantially, it does not reduce strontium-90 or strontium-89, elements of fallout known to cause bone cancer and leukemia. Strontium-90 levels in

milk in many states have shown an increase in June and July of this year, the U. S. Public Health Service latest report on fallout reveals. (Strontium-90 has a half-life of 27 years. Exposure to it, therefore, is for a lifetime. The half-life of strontium-89 is about 37 days.)

Techniques have been developed to effectively remove strontium-90 from milk; and the process could be put into operation on relatively short notice.

• Science News Letter, 82:158 September 8, 1962

SPACE

Venus Probe Launched; Will Near Planet in Dec.

➤ MARINER II, the U.S. space probe scheduled to pass close to Venus in mid-December, was successfully launched on Aug. 27.

Only a small course correction was needed to place the satellite on a path that would bring it within 10,000 miles of the next planet sunward from earth fifteen weeks after launch. This correction was well within the capabilities of the auxiliary rocket, which was activated by radio.

The spacecraft, which weighs 447 pounds, is a project of the National Aeronautics and Space Administration, under the management of the California Institute of Technology's Jet Propulsion Laboratory.

The probe is designed to transmit information on six scientific experiments, four involving conditions in space and two concerning Venus. It is carrying a microwave radiometer to determine the surface temperature of the planet, not now known, and an infrared radiometer to scrutinize the cloud structure.

Also aboard are a device to measure magnetic fields, devices to measure charged particles in space and cosmic dust, and a solar plasma spectrometer to measure the intensity of low-energy protons from the sun.

• Science News Letter, 82:158 September 8, 1962