Technology Notes

TRANSPORTATION

Oil Tank Hovers to New Location

An oil storage tank 50 feet in diameter, 30 feet high, with a capacity of 360,000 gallons, has been moved 1,000 feet from one site to another at Manchester, England by floating it on a cushion of air and towing it along by tractor. During the operation, the tank traversed two stretches of rough ground, a railroad line and a road. It was turned 180 degrees at its new site.

The move is part of a $3 million modernization scheme for Esso Petroleum Company's Mode Wheel Terminal. A second tank is to be moved shortly.

The use of air cushion avoids the need for careful preparation required for conventional methods where the tank is moved on rollers or bogies.

The principle is similar to that used in hovercraft. Air is blown under the tank to a pressure of 60 pounds per square foot. The air is prevented from escaping by a reinforced rubber skirt fitted round the base of the tank. As air pressure is gradually increased, the tank slowly lifts from the ground, and can then be maneuvered quite readily.

NULCEAR TECHNOLOGY

Rolling Food Irradiator

Nuclear radiation processing of food to retard spoilage has been the subject of intensive research, especially by the Army, for many years. Three radiation-processed foods—wheat, potatoes and bacon—have been approved for unlimited public consumption by the U.S. Food and Drug Administration.

With that beginning step now behind, the Atomic Energy Commission is working on acquainting commercial food processors with the techniques of nuclear protection against microbes, insects and uncontrolled ripening of fruits and vegetables.

A truck-mounted food irradiator is now on its way around the country to enable firms to evaluate the process at their own plants and on their own products.

The eight-ton irradiator uses a cesium 137 radiation source to kill or inhibit the microorganisms in food that is passed by it.

Control of the exposure to gamma rays from the cesium is entirely automatic once the packaged food is placed in the machine. The unit is one of 10 demonstration irradiators operated by the AEC.

It will be shown at stops in Pennsylvania in September, then North Dakota and Washington, arriving in California in early spring.

GEOLOGY

Bauxite on the Vineyard

Discovery of four bauxite pebbles on Martha's Vineyard, an island just south of Cape Cod, Mass., has led to speculation that a large body of the aluminum ore may lie beneath sediments in southeastern continental Massachusetts.

Formerly, the farthest north that bauxite deposits were known to exist was western Virginia. However, reports Clifford A. Kaye of the U.S. Geological Survey, "undiscovered deposits probably remain, particularly on the coastal plain between Georgia and New York, where bauxite may lie buried beneath the blanket of younger sediments."

The pebbles from Martha's Vineyard, he writes in the Sept. 1 SCIENCE, have fossil remains of plants in them, suggesting that they were formed under water, a notion contrary to accepted theories of bauxite formation.

RADIO-TELEPHONE

Noise and Fading Cut

Radio-telephone communications are plagued by fading and noise caused by atmospheric disturbances. New devices developed at Bell Telephone Laboratories, however, bring normal quality up almost to the level of trans-Atlantic cable communications, according to BTL spokesmen.

Noise is reduced by a device known as a compandor (compressor-expandor). It reduces the variations in loudness of the speaker's voice so that his speech is at an almost constant level. That means that all of his words can be amplified the same amount and be loud enough to be heard over any electronic noise in the background. At the receiver end, the loudness range in the speaker's voice is restored to normal.

Although ocean cables and satellites are used now on heavy traffic overseas telephone routes, radio-telephones are still important in less-used routes.