GEOLOGY

Mohole Drilling Tests

AN AREA planned for the drilling experiments of the Mohole project will be surveyed in August. The survey is a preliminary step toward the drilling of a hole through the earth's crust.

The survey will be conducted in a 40-mile-square area off Guadalupe Island. This Pacific area has been narrowed down from a much larger area originally surveyed off the Mexican coast.

It is now "pretty definitely" planned as the site of experimental drilling in early 1961.

The experimental drilling will test equipment and theory before the big drilling when the earth will be pierced to its mantle. However, the area to be surveyed may not necessarily be used for the final drilling of the Mohole.

The survey will be made from the Orca, a ship of the Scripps Institution of Oceanography in La Jolla, Calif. Willard Bascom will lead the survey. He is project director of the National Academy of Sciences' AMSOC Committee, which is running the Mohole project.

The survey is designed to "reconfirm" the proposed experimental drilling site, a member of the Mohole team reported.

In this area, the mantle lies about three miles below the ocean floor.

Present drilling equipment can go to this depth. If the drilling were done on land there would be few problems. But the mantle is deeper than three miles under the continents. Thus the drilling must be done from a barge. The drilling rig must go through 1,200 feet of water before it hits the ocean bottom.

All the foreseeable problems—such as underwater currents that may bend the drilling rig and surface currents that may move the drilling ship—have been met on paper. "Mathematically," the experimental holes have already been drilled.

The theory and the math will meet their test next year in experimental drilling.

Besides testing theory, the experimental drilling will explore the depth of sediment in various spots. The drilling will also determine whether Mohole should be drilled at or on top of a ridge in the ocean or a valley.

The preliminary drilling will be shallow. It will not come near to piercing the earth's crust. But the preliminary drilling is expected to give man new knowledge about ocean silt and to bring up some material from the earth's upper crust.

Up until now, scientists have relied largely on outcroppings, earthquake waves and explosions for information about the interior of the earth. The slender Mohole drill may change that.

Cores taken from the hole should shed light on the origin of the earth and its evolution. The cores may provide an uninterrupted record of the earth's development for two billion years.

The project takes its name from the Moho, an irregular dividing line between the crust of the earth and its mantle. The crust may be as deep as 32 miles below continents. Under the crust, the mantle extends 1,800 miles. The mantle's rock is believed to be in a plastic state.

In the center of the earth is a nucleus or core with a radius of 2,160 miles.

Science News Letter, July 16, 1960

INVENTION

Gibberellin for Animals

GIBBERELLIN, a non-antibiotic material that increases the growth rate of plants, may be added to animal feed to give better and faster yields.

John R. De Zeeuw, Gerald A. Donovan and William C. Sherman, all of Terre Haute, Ind., were awarded patent No. 2,943,938, one of 932 patents issued in Washington, D. C., for this use of gibberellin. They assigned it to Chas. Pfizer and Co., Inc., of New York.

They said the addition of very small amounts of gibberellin, between one part in a billion and one in a million, is effective in increasing the growth rate of poultry and is also effective for cattle, sheep, pigs, lambs and other farm animals.

The use of various hormones, and of antibiotics, in animal feeds is not new but, according to the inventors, gibberellin, a term they use to include the three compounds known specifically as gibberellins A-1, A-2 and A-3, is much more effective than such previously used materials as penicillin and stilbestrol in promoting growth.

Since it is not an antibiotic, gibberellin does not reduce the incidence of disease, as does penicillin for example, so these other additives may still be necessary in some cases.

Science News Letter, July 16, 1960

INVENTION

Tobacco-less Cigarettes With Improved Taste

CIGARETTES have been made from cornsilk and alfalfa before, but, according to Gerald M. Schaflander of Fresh Meadows, N. Y., they have all had a rather acrid taste. Such smoking mixtures, however, have very little tar and no nicotine at all.

Mr. Schaflander has discovered a means of removing these unpleasant properties according to which the mixture is washed with water and then treated with steam which extracts the chemicals responsible for the acridity. The inventor assigned his patent, No. 2,943,958, to Bantob Products Corp. of New York.

Science News Letter, July 16, 1960

GEOLOGY

Mohole Project Gets $6.70 From Cave Creek

AS THE SCHOOL TERM ended, the 64 children and three teachers of Cave Creek Elementary School 93 in Cave Creek, Ariz., looked at their graph on the progress of Mohole, the project to drill, under the ocean, through the earth's crust.

The hole, several miles deep, is expected to give man his first "look" into the interior of the earth.

The graph of drilling had no notations.

Then the children read a report saying funds were needed for the Mohole project. According to Mrs. Carlene Sampson, the school's head teacher, the youngsters pitched in and contributed a dime each.

The school sent a money order of $6.70 to SCIENCE SERVICE and the funds were transferred to the AMSOC Committee of the National Academy of Sciences in charge of Mohole.

Gordon Lill, chairman of the AMSOC Committee, wrote to the Cave Creek school: "The AMSOC Committee greatly appreciates the kind thoughts of the Cave Creek Elementary School about the Mohole project. We are delighted to have your support and interest."

The Committee has a fund for private contributions that adds considerably to the support provided by the National Science Foundation and the Army. Industrial Distributors (1946) Ltd. of the Union of South Africa is supplying all drilling diamonds free. Christensen Diamond Products Co. of Salt Lake City, Utah, is setting the diamonds free.

But Mohole leadership decided against promoting a "Children for Mohole" campaign. Actually, the Mohole project now has reasonably good prospects for financial support, both private and governmental. But as a project employee said:

"I think this letter is wonderful. Every little $6.70 counts."

Science News Letter, July 16, 1960

CONSERVATION

Home for the Birds Inside a Tractor

THERE IS NO PLACE like home . . . to a wren . . . even if home is inside the brake and clutch housing of a tractor.

Farmer Whitson Moss reported finding a fully occupied wren nest inside his tractor, which is in daily use. The mother wren enters her mobile nest through the clutch and brake pedal holes. She has successfully hatched her eggs amid all the moving machinery.

Apparently mother wren and her brood are none the worse for the precarious experience.

According to the Missouri Conservation Commission, "Wrens are notorious for selecting odd nesting sites." But the nest in the tractor appears to be the oddest of all in the conservation annals of the "Show Me" state.

Science News Letter, July 16, 1960