



THE FIRST CHICAGO EXHIBIT

OF

MOON ROCKS

OCTOBER 10 - NOVEMBER 9

The Sea of Tranquility, where the Apollo 11 Astronauts collected the samples. (National Aeronautics and Space Administration Apollo 8 photo.)

Historic rock samples collected on the Apollo 11 moon landing in the Sea of Tranquility will be on public display for the first time in the Chicago area at Field Museum from October 10 through November 9 during regular Museum hours. A special Members' Preview of the moon rocks will take place from 12 Noon to 9 p.m. on October 9, following a press preview. This exciting exhibit was made possible through the cooperation of the University of Chicago and the National Aeronautics and Space Administration (NASA). Financial assistance for the exhibit was provided by The Field Foundation of Illinois.

The exhibit will include information on preliminary studies of these specimens, supplemented by a photo display and meteorites from the Museum's great collections for comparison with the moon samples. The photo display will include moon landing photos of Astronauts Neil Armstrong, Edwin Aldrin, and Michael Collins; scientists studying the moon samples, and enlargements of the actual moon rocks.

Scientists expect to find many long-sought answers to questions about the origin and nature of the moon as research continues. Preliminary studies of the lunar rocks have already suggested some interesting answers to the questions man has asked about the moon.

Preliminary studies indicate that long after the Earth formed and was a cooler, solid body, the moon passed near it and was caught in its gravitational field. Other theories had suggested the moon and Earth (and perhaps Mars) condensed together out of a hot mass of matter as it swirled around the primitive sun, or that the moon was torn out of the Earth by the gravitational pull of a passing star. Significant differences in chemical composition of rocks from the moon and those found on Earth indicate the two bodies did not have a common origin.

Rocks similar to basalt, or gabbro, but with significant differences in chemical composition, minerals, and textural features were found at Tranquility Base. The lunar rocks have too much titanium and too little sodium in

them to be identical with the common basalts or gabbros found on Earth. Before Apollo 11 we expected to find a dead, airless planet made of rock like basalt or gabbro since these rock types best fit the color, density and light reflectivity observed on the moon.

"Glass beads," the origin of which is presently unknown, were one of the distinguishing characteristics of the rock samples from the moon. No similar beads are found on Earth. It is possible that they were formed in the vacuum of the moon from molten rock splattered by meteorite impacts or volcanic activity. Red glow spots, probably due to small lava outpourings, have been seen through telescopes several times in the last 10 years.

The craters on the moon are considered to be the result of two processes: large meteorites impact the moon's surface and explode. This triggers the melting of rock below the explosion crater causing lava to flow out onto the crater bottom.

Prior to the Apollo 11 success, chance encounters with meteors have provided the only samples available for study from outside the Earth. The moon is pitted with the craters caused by the impact of meteors and its surface should have many meteorite fragments scattered over it.

Further study of these moon rock samples will probably confirm many of these tentative conclusions. Undoubtedly, they will also create a great many new, unanswered, questions. The samples on display at the Museum are to be used by several scientists affiliated with the University of Chicago and Argonne National Laboratory in research projects approved by NASA which relate to special problems presented by this material.

The principal investigators on the various research teams are Professor Joseph V. Smith, Professor Edward Anders, Professor Stefan Hafner, Professor Robert N. Clayton, Professor Anthony Turkevitch and Dr. George Reed. Dr. Reed is with Argonne National Laboratories. The other scientists are from the University of Chicago.



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