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COMMITTEE ON THE PEACEFUL USES
OF OUTER SPACE

INFORMATION FURNISHED IN CONFORMITY WITH ARTICLE XI OF THE
TREATY ON PRINCIPLES GOVERNING THE ACTIVITIES OF STATES IN
THE EXPLORATION AND USE OF OUTER SPACE, INCLUDING THE MOON
AND OTHER CELESTIAL BODIES

Letter dated 6 November 1969 from the Permanent Representative
of the United States of America to the United Nations
addressed to the Secretary-General

Addressing the Committee on the Peaceful Uses of Outer Space on 8 September, Dr. Thomas O. Paine, Administrator of the National Aeronautics and Space Administration, described the preliminary scientific results of the Apollo 11 lunar landing mission.

With reference to the provisions of article XI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, I have the honour to inform you herewith of further details concerning provisions for the analysis of lunar materials returned by the Apollo 11 mission, and to request that a copy of this letter be circulated as a document of the Outer Space Committee.

To assure protection against the possibility of contamination of the earth by alien organisms, in conformity with article IX of the Treaty, all of the material collected from the moon's surface and brought to earth in sealed containers on 25 July was placed under quarantine in the Lunar Receiving Laboratory at the Manned Spacecraft Center near Houston, Texas, for fifty days. Laboratory tests on animal and plant life have shown no ill effects. Release of the samples was approved by the Inter-agency Committee on Back Contamination, set up to review NASA safeguards against the possibility of contamination of the earth by alien organisms brought back from the moon.

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As of 13 October, slightly less than 10 kilogrammes of rock slices, chips, and fine materials have been distributed to 106 Principal Investigators in the United States and to 36 Principal Investigators in 8 other countries. Each of principal investigators or his representative was required to accept his sample personally at the Lunar Receiving Laboratory after his plans for safeguarding the material had been approved by administrative, scientific and security officials of the Manned Spacecraft Center. Material remaining after the experiments have been completed will be returned to NASA.

Preliminary findings indicated that the lunar material, which lay on the moon's surface for 20-160 million years, includes in addition to dust and fine particles two basic rock types: fine and medium-grained and igneous rocks crystallized 3-4 billion years ago and rocks formed of cemented pieces of such rocks. The planned investigations of this material will include almost every type of measurement that has been made of terrestrial igneous rocks or meteorites.

Measurements of the physical properties of the lunar material will help in understanding optical and infrared observations of the moon from earth and in carrying out future seismic experiments. Studies of microscopic fission tracks and tracks induced by cosmic rays will assist in understanding the radiation history of the moon. Mineralogy and petrology studies will show how much water was present when the rocks were formed and what processes were involved in their erosion. Chemical analyses will focus on the elemental composition of lunar material. Determinations of isotopic compositions and ratios of strontium lead and the rare gas elements will indicate the times of crystallization of the igneous rocks. Isotopic ratios and rare gas content will indicate the length of time that rocks have lain on the lunar surface. Biologists and organic chemists will determine the structures and relative abundances of any compounds of carbon indigenous in and deposited on the lunar surface as well as the origin of such compounds.

Investigators plan to report results of their analyses early next year at a NASA-sponsored conference of Principal and Co-Investigators.

Accept, Excellency, etc.

(Signed) Charles W. YOST