

CURATORIAL
NEWSLETTER

Date: May 24, 1976

No. 9


Michael B. Duke
Lunar Sample Curator

Current ongoing activities in the Curatorial Facility include routine sample preparation in response to PI requests, core dissection, description and sample preparation, and restudy of the Apollo 11 sample collection. The Apollo 11 redescription is nearly complete and will be followed by an Apollo 12 reexamination. We anticipate that a new Apollo 11 catalog will be published in August. At that time, we will encourage new requests for Apollo 11 samples.

Apollo 12 and Apollo 15 samples are being distributed in PCA (petrography-chemistry-age) mode to complete the basic characterization of those missions. PI requests to participate in survey mode basic characterization studies are being reviewed.

The dissection of 60010 is nearing completion. The Apollo 17 double drive tube (74001, 74002) from Shorty Crater is given highest priority for the next cores to be opened. This double drive tube penetrated the orange and black soil profile at Station 4, which previously has been sampled only at the top and bottom of the drive tubes.

These drive tubes may be crucial to the understanding of the origin of the orange soil, which still is the subject of vigorous controversy. You might want to consider their availability when planning your proposal work statement for the next program year. We would hope to have enough samples distributed to have a good session at the spring Lunar Science Conference.

We recently have completed a successful simulation of K. Horai's core thermal conductivity experiment. The development of this experiment has taken several years, but we now are in a position to begin determination of the conductivity of several Apollo 17 drill core sections. The experiment examines the heat flow in entire core tubes so is a rather delicate experiment in terms of the protection of the core from damage. The experiment will take about 6 weeks per core section.

We have been examining the possibility of obtaining higher resolution X-radiographs of the cores, as suggested originally by N. Coch. Jim Keith has devised apparatus which equalizes the density of the X-rays over the whole radiograph. The indications are that substantially improved resolution is possible, which may be useful in determining details of regolith deposition processes.

Plans are complete and samples now are being prepared for Bicentennial displays in the National Air and Space Museum (NASM) and the National Museum of Natural History (NMNH) in Washington, D.C. The NASM will feature a touchable lunar sample (a piece of the hardest lunar rock, 70215) which will be positioned immediately below Charles Lindbergh's "Spirit of St. Louis." Both museums will have lunar sample science displays. Don't forget to stop by if you are in Washington, D.C. The NASM display will open around July 4th; the NMNH will be open a little before that.

Please transmit sample requests before June 8 if you wish to have them considered at the next meeting of the Lunar Sample Analysis Planning Team.