

PREFACE TO THE SECOND EDITION

The rock and soil samples returned to earth by the crew of Apollo 11 are historically unique in two respects. Not only were they the first documented rock samples returned from an extra-terrestrial body, but they were also the subjects of the first concentrated effort by the world's scientific community to fully characterize a suite of rock samples.

With the return of the Apollo 11 samples, a team of scientists, the Preliminary Examination Team (PET)*, was formed and given the task of characterizing the rocks and soils. Their task was to sort, classify and describe the samples so that they could be allocated to an eager group of principal investigators prior to the return of Apollo 12. Five weeks after the samples were received in the LRL, the first Apollo 11 Sample Catalogue was compiled and published.

In June of 1975, the Apollo 11 Re-examination Team was formed to compile data for a revised Apollo 11 Sample Information Catalogue. The basic aim of this group was to re-examine the Apollo 11 samples applying the experience gained during five subsequent missions, document them, and publish this information along with historical, chemical, and age data in a revised catalogue.

The first step in the re-examination process was a thorough search of all available documentation pertaining to the early processing of the samples. Because of the short time allotted to Preliminary Examination, this type of information was sketchy, at best, and for the most part, non-existent. What information could be obtained was summarized into a sample history for each generic sample. During this part of the re-examination process any contaminating conditions that were peculiar to a certain rock or group of rocks which had been documented or could be inferred, was compiled.

Next, a listing of the chemical and age data for each generic sample was compiled from analyses published as of June 1976. In instances where no chemical data was available, an allocation from the sample was scheduled so that major element analyses could be obtained.

Pristine samples were examined in a nitrogen processing cabinet where they were dusted, photographed (one to six views) and described with a binocular microscope. An attempt was made to reconstruct the original rock (or a part of it) from the remaining pristine pieces and existing documentation, and to locate these pieces on photographs taken by the PET before splitting.

In some cases this was successful; in other cases, the low percentage of remaining sample and the lack of rock subdivision photography made reconstruction of the rock pieces impossible. Because the photographs taken

during the PET examinations were of dusty rocks, few pieces could be "fitted" into the original rock photographs with any reasonable degree of confidence.

All rocks larger than 5gm. currently stored in the Returned Sample Laboratory were examined in the same manner as above. Before these samples were repackaged, they were viewed by the person who made the binocular description of the pristine samples to ensure consistency.

**For definitions of terms and acronyms, see Appendix A.*

Thin sections of the rocks were examine, described and photographed, and a modal analysis was performed.

This catalogue should serve as a reference and an aid in dealing with the Apollo 11 sample items within. It should provide the user with all of the information available as of June 1976. It is sincerely hoped that this revised edition of the Apollo 11 Sample Information Catalogue will prove to be useful until the passage of time and the advancement of science have made it obsolete.

Additional information concerning the Apollo 11 samples and their processing history may be found in the Curator's files. Especially useful are the sample data packs that include considerable photographic documentation.