

## SAMPLE COLLECTION AND RETURN

The contingency sample was taken in full view of the sequence camera just outside Quad IV of the lunar module (Fig. 2) and took about 3 minutes 35 seconds to collect. The sample bag was filled with two scoops for a total of approximately 1 kilogram. The areas scooped have been accurately located on a pre-extravehicular lunar module window photograph from study of the sequence film data. Both scoops included small rock fragments visible on the surface from the lunar module windows prior to sampling. The handle of the scoop apparatus was shoved by Armstrong 15 to 20 centimeters into the surface very near the area of the first contingency scoop. The ease of penetration in this place may be, in part, a result of disturbance to the regolith by scooping. The contingency sample container was stowed in a Beta-cloth bag during the return trip and accompanied the astronauts to the Crew Reception Area of the LRL.

The bulk sample consisted of 15 kg of rock and soil, loaded into one of the ALSRC's. A total of 14 minutes was required by Armstrong to collect the bulk sample. Five minutes was spent sealing the box. Armstrong went out of the television field of view three times during bulk sampling, twice to the left for a total of 1 minute 11 seconds and once to the right for 35 seconds. Seventeen or 18 scoop motions were made in full view of the television camera, and at least five were made within the field of view of the sequence camera. The total number of scoops was 22 or 23. Nine trips back to the MESA were made to empty the scoop. The average number of scoop motions to fill the scoop was two and one-half. The ALSRC was sealed on the lunar surface and accompanied the astronauts into the MQF aboard the U.S.S. Hornet. The bulk sample ALSRC was flown from the MQF to Hawaii where it was transferred to a range instrumentation aircraft for transfer to Houston.

The two core-tube samples were collected by Aldrin in 5 minutes 50 seconds. Both were taken in the vicinity of the Solar Wind Composition Experiment.

The documented sample consisted of approximately 20 selected, but not photographed; grab samples (about 6 kilograms) collected by Armstrong in the final three and one-half minutes of the extra-vehicular activity. Collection of these specimens was made out to a distance of 10 to 15 meters in the area south of the +Z-axis footpad near the east rim of the large double crater. Armstrong was out of the television field of view to the west 25 percent of the time during this activity.

The two core tubes were single-layered in the Documented Sample ALSRC and the container was sealed on the lunar surface. After splashdown the ALSRC was flown to Johnston Island where it and the mission films were placed aboard a C-141 aircraft and flown to Houston.