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LUNAR LANDSCAPE

The Lunar Landscape Platform is a unique simulation of the lunar area immediately surrounding the landing site of Surveyor I. Details of the craters, fragments, rocks and surface disturbances caused by landing have been reproduced from the thousands of photos and other data returned by the Surveyor camera. The Lunar Landscape was made by the U.S. Army Service especially for the U.S. Pavilion.

The Lunar Landscape displayed in the U.S. Pavilion shows the principal topographic features within a radius of five meters around the Surveyor I landing site.

Surveyor I made its soft landing on the moon about 35 miles from the large Crater Flamsteed in the Oceanus Procellarum. This part of Oceanus Procellarum is partially enclosed within a circle of hills and small mountains on the rim crest of an ancient crater. This crater is about 100 km in diameter. The terrain within 1 to 2 km surrounding the landing site, as reproduced from the Surveyor photographs, is a gently rolling surface studded with large and small craters. The lunar surface in this same vicinity is littered with coarse blocks and fragments. The majority of the angular blocks appear to rest on the surface with perhaps 80 to 90% of their bulk above ground. Many of the round blocks appear to be partially buried.

Two of these blocks which lie within the 5 meter radius of the site showed up in detail in the Surveyor photographs and have been reproduced as closely as possible on the Lunar Landscape. The larger, slightly more

Lunar Landscape - 2.

than 0.5 meters across, is located southwest of the Surveyor camera. It is angular in shape and shows a very pronounced set of fractures. Another striking feature shown in the photos and reproduced on the landscape is that it lies in a swarm of similar, smaller fragments. At least 50 separate pieces could be identified in this group. The impression is that the main piece has broken up, perhaps on impact with the surface. The second, slightly smaller block lies to the southeast. It is distinctly rounded on its upper side, although it is faceted in places and has overhangs on the side facing the Surveyor camera.

Surveyor's TV camera was able to record the depression made by the crushable pads at the initial touch down. Measurements of shadows of the depression indicate a depression depth of about $3/4$ inch. Pictures of each foot pad confirm the scientific opinion of an overall symmetry of impact. The 3 footpads appear to have landed in a granular material, to have extended laterally during impact, forcing the surface material away, and then to have drawn back on a rebound to their final position, leaving a disturbed region of the surface. At both pads 2 and 3 there is a throw-out pattern including, apparently, some fine-grained material to a distance of a foot or two from the edge of the pad. Nearer the pad, the surface material is pushed up by the impact to form a raised rim. The basic grain size is quite small. Pad 2 movements caused some small deformation in an irregular pattern of cracks or fissures on the surface adjacent to the pad. Measurements indicated that the base of the pad,

Lunar Landscape - 3.

assuming it is uncrushed, lies about 1 inch below the adjacent undisturbed surface.

The small craters close to the spacecraft which could be observed either have low rounded rims or are apparently rimless. They are relatively closely spaced.

The simulation of color and texture is as accurate as can be determined from the photographs and measured data. The color of the Lunar Landscape corresponds closely to a Surveyor I photograph taken with color filters and published in the National Geographic, October, 1966. The material used on the surface is volcanic rock from sunset crater in Arizona, which most closely resembles moon surface material.