

NOTES ON EXPLORATORY TRIP TO SOUTHEASTERN
PART OF MONUMENT, JULY 16-17, 1958

THE LAVA TREES OF TRENCH MORTAR FLAT

The greater portion, if not all, of the lava trees of Trench Mortar Flat lie to the south of the Monument access road. In this rather localized area extending approximately 500 yards east and west and 100 yards north and south, the writer examined and counted just over 80 molds. Many are in a good state of preservation.

It may be readily noted that the lava trees appear to be "exposed" or only partially engulfed by the lava and spatter on the northeast and in some cases, on the east sides of the molds. This fact, plus structural evidence on the lava composing the molds themselves, seems to indicate that the lava flowed from the direction opposite to the exposed sides of the molds.

Below the cinders and ash, which cover most of the Trench Mortar Flat, there lies an old, weathered pahoehoe flow. Outcrops of this flow may be seen at the surface, especially in the area northeast of the lava trees and north of the access road. Many of these outcrops are highly weathered lava tubes of small size.

Of the many lava trees examined, several were measured and photographed. Trunk diameters vary from four inches to two feet. In the best specimens, numerous branch and some root molds are not only visible, but very well preserved.

Following are data from three lava trees:

1. Lava tree, pictured on "Tree Molds" panel in exhibit room of visitor center.

Length of inclined mold to right (from top of mold to cinders at bottom of hole): 9 feet 8 inches. Diameter of trunk: approximately 23 inches. There are 6 root or branch molds. The hole at the top connects with the mold to the left.

Length of left mold from top to cinders at bottom of hole: 4 feet 2 inches. The diameter averages 15-3/4 inches. There are 4 branch molds visible. The overall height of the lava tree (above ground level) is 51 inches.

2. Single, vertical lava tree, showing signs of possibly having been broken into. This mold possesses an interesting "crust" of lava four inches thick on the exposed side and as much as 12 inches on the opposite side, the side toward the direction of the flow. This mold is shown in Personal slide D-19.

The mold height above ground level is 32 inches. The length of the mold, from top to level of cinders in hole is 44 1/2 inches. The average diameter is 11 1/2 inches near the bottom. Three branch impressions exist.

3. The third mold, illustrated as Personal slide D-20, has two trunk impressions. The mold to the left is 19 inches in diameter and 54 inches high; the one at the right is 4 to 5½ inches in diameter.

Judging from the appearance of the trunk and branch molds of these lava trees, the original trees appear to have been conifers, possibly limber pines (?).

Though no effort was made to determine the origin of the flow responsible for the creation of the lava trees, it may be possible that the flow originated from a nearby fissure, since a depression is discernable just a few yards south of the "forest" of lava trees. The state of weathering of the flow and the mantle of cinders apparently blown over the area at a later period make interpretation difficult.