

We continued our route towards the southeast, over a plain partly covered with sand, and at the distance of two miles passed the pit-crater of Kalanokamo: this is the fourth from the crater of Kilauea in a southeast direction.

By the term "pit-crater," is meant that description of crater of which there is no appearance whatever until one is close upon it, and which never throws out lava. The formation of these might be occasioned by the undermining of the part beneath them. It will be seen, on viewing the map, that some of them have only a small part of their bottom covered with lava. The most probable conjecture, in relation to their origin, that occurred to us while moving over the ground was, that a stream of lava had passed underneath, and running off had left large cavities, into which the superincumbent rock above, not having support, had fallen, and when this had sunk sufficiently low, the lava had flowed in and filled the bottom. Some of these pit-craters are from eight hundred to one thousand feet deep, but none that I saw had the appearance of eruption within themselves.

There is another description of craters, which may be called cone-craters. These are hills of scoria and ashes, formed by the ejection of masses, which appear to be of the same description of lava as the clinkers of Mauna Loa, though they more nearly resemble the dregs from a furnace.

The first cone-crater we met with was about a mile beyond Kalauohana, and is called Puukehulu. This I ascended, and measured its height, which was eight hundred feet above the plain: it was nearly a perfect cone, both within and without, and covered with trees both outside and in. The ashes were in some places so light and dry, that I sank in them up to my knees. From the top of this cone I had a fine view of the surrounding country, and was enabled to see all the pit and cone-craters. There were eight pit-craters in sight: four between us and Kilauea, one at the foot of Puukehulu, and three more, further off, to the east-southeast: two cone-craters lay to the east of us. The steam was rising from the crevices along the line of the last eruption.

From this situation, angles were obtained on them all, and connected with the stations around Kilauea. Mr. Drayton, who had been over the route, sent me a map which he had constructed from his own observations, on which I was enabled at once to mark out my own position accurately.

The map of the southeast portion of Hawaii was constructed from the combined observations of Mr. Drayton and myself, with the addition of some cracks and eruptions from Dr. Pickering's notes. The country