



Figure 2. Effect of explosion depth.

of a precise technology. Computer calculations based on experience in the U. S. Plowshare program, however, are becoming increasingly accurate in describing the explosion and predicting the crater dimensions. For example, in one experiment U. S. scientists simultaneously detonated five 1-kiloton nuclear explosives to see if a linear crater with a smooth bottom and even sides could be produced. This was the first such experiment carried out by the United States using nuclear explosives, and information processed by computers was used to determine how deep the explosives should be buried. The experiment was entirely successful, producing a ditchlike crater of the type needed for digging canals or roadways through mountains (Figure 4).

Radioactivity from cratering explosions

In a nuclear explosion radioactivities are produced in varying but predictable amounts. In the U. S. Plowshare program, thermonuclear