

Small-Scale Crater Tests in Weak Concrete and Sand

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ABSTRACT

A series of small-scale crater tests were performed in concrete and sand in an effort to understand the cratering process in large-scale field blasts. The surface orientation of these tests varied from flat to a 30° slope. In comparison to previous crater experiments in competent oil shale, the crater tests in concrete produced craters similar to those in oil shale after scaling the measurements for differences in the mass of explosives among the experiments. Material strengths and the degree of brittleness had a significant effect on the size and shape of the crater. The small-scale sand tests resulted in some crater features that were similar to large explosive tests in alluvium and soil.