

## REPRODUCIBILITY OF MULTI-TON ANFO AND TNT DETONATIONS

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Ammonium Nitrate/Fuel Oil (ANFO) has been used as the explosive source for nuclear blast simulation tests since 1975. Several large blast tests have been conducted, including Pre DICE THROW, DICE THROW, MISERS BLUFF, MILL RACE, and DISTANT RUNNER. As a result of these tests, an extensive array of pressure-distance and impulse-distance data have been accumulated.

There are sufficient data now available to ask and answer the question, How reproducible are ANFO detonations? Composite pressure-distance and impulse-distance curves have been generated along with their associated error bands. In addition, the absolute yield of each event has been determined. Similar computations are made for several test series utilizing TNT in a target sphere configuration. Comparisons are made between the reproducibility of the ANFO and TNT sources. ANFO appears to be slightly more reproducible than TNT. Moreover the equivalent weight of ANFO relative to TNT (over the pressure range of 1 to 1000 psi) is determined to be 0.71, as opposed to the current value of 0.83.