## BENEFITS TO THE WARFIGHTER FROM DTRA HARD TARGET DEFEAT AIR-DELIVERED WEAPON TESTING

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DTRA has constructed numerous hard-target structures including reinforced concrete structures and tunnels since the 1990's. These targets, considered to be national assets, to aircrews present opportunities for air-delivery of current weapon systems on realistic targets. The goal is to plan and execute effective attack tactics against realistic targets under controlled test conditions. The data gathered has provided realistic examples of tactics and lessons learned. DTRA has worked with Air Force units to assist with determining their needs and develop a test program to set the standard as to what is possible to achieve with the current weapon systems which the warfighter has today. DTRA has worked with aircrews on the following platforms: F-117s, DET 1 53 TEG at Holloman AFB; F-15s and F-16s, 422 TES at Nellis AFB, and B-2s, 509th Bomb Wing at Whiteman AFB. DTRA has provided quick test feedback to the units involved in the tests. The data has also been used to benchmark and improve the algorithms and models used in the IMEA (Integrated Munitions Effects Assessment) planning tool and weapon penetration modeling tools.