ER Site No. 64: Gun Site (Madera Canyon)

ADS: 1333
Operable Unit: Canyons Test Area

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Site History

ER Site 64 was used by the DoD to conduct tests on classified weapons components packaged in 155-millimeter (mm) shells that were fired from a portable gun. The site was also used to launch rockets toward suspended targets at ER Site 81 (New Aerial Cable Site). ER Site 64 consists of a concrete inclined structure, a portable shed, four metal velocity-screen towers, six electrical outlet posts, three concrete pads, and an access road that loops around the site.

The inclined structure consists of two concrete slabs. One slab (approximately 10-ft by 10-ft) is positioned upright at a 90-degree angle to the ground surface, and a second slab (approximately 10-ft by 15-ft) is inclined against the first at approximately 60-degrees to the ground surface, forming an angled surface that faces south. This inclined concrete surface probably served as the blast shield during gun firing activities. Instrumentation boxes that were probably the control point for gun-firing experiments are located on the north side of the upright slab. Soil is mounded against the lower portion of the inclined face. A portable shed that housed electrical equipment is adjacent to the concrete structure.

The metal velocity-screen towers are approximately 5-ft wide and 30-ft tall and are mounted at the northeast and southwest ends of two of the three concrete pads elongated northeast-southwest and measuring approximately 6 ft by 25 ft. The concrete pads are spaced approximately 25 ft apart. The third concrete pad (approximately 6 ft by 20 ft) lies to the west of the tower pads. Six electrical outlet posts are arrayed directly northeast of the towers.

Based on information derived from historical aerial photographs, it is believed that ER Site 64 was constructed between October 1967 and June 1971. In consensus with this interpretation, archival records report that the site was active in the late 1960s. Several pieces of equipment are identifiable in a 1971 historical aerial photograph. By 1983, portions of the site were covered with vegetation, but the access loop road around ER Site 64 appears well-traveled. The site roads and general area are periodically used by KAFB operations for wargame activities.

ER Site 64 was used in the late 1960s to conduct tests on classified weapons components that were packaged inside projectiles and fired from a portable 155-mm gun. The gun was located just southwest of the inclined concrete structure and fired projectiles to the southwest. The components were withdrawn from the projectile by a parachute prior to impact so that they could be recovered and examined after the tests. Double-based gun propellant, which frequently contains trace amounts of lead compounds as burn rate modifiers, was used in the tests.

The projectile flight trajectory was to the southwest through the space between the four metal velocity-screen towers toward targets located approximately 2 miles (mi) away. Instrumentation was positioned on the metal velocity-screen towers for the purpose of recording the flight time of the projectile as it passed from the first set of towers to the second set of towers. The flight time and distance between the towers was used to calculate the velocity of the projectile.

Initially, the projectiles impacted on the slope below the western cable anchor for ER Site 81 (New Aerial Cable Site). However, after a component was lost on the slope due to failure of the parachute-ejection system, an earthen-mound impact area was built to the northeast of the initial impact area to catch the 155-mm projectiles.

The earthen-mound impact area was investigated as proposed ER Site 239 . In April 1980, SNL/NM Health Physics personnel conducted a radioactive survey of the proposed site and found no radioactivity above background levels. A UXO/HE survey that was conducted found no contamination. Surface soil samples were collected and analyzed for radionuclides and metals. The analytical results indicated that the site contained no constituents above action levels or background concentrations. This site was removed from consideration as an ER Site in April 1996. No evidence was found to indicate that this site should be included as an ER site.

ER Site 64 was also used to launch Chaparral, HVAR, and Zuni rockets from a portable rocket launch trailer on the west side of the loop road around ER Site 64. The rockets were fired at targets suspended from the aerial cable at ER Site 81 toward an impact area in the southeastern corner of ER Site 81. In March and April of 1982, three Chaparral rockets were fired from ER Site 64 toward ER Site 81. According to one interviewee, HVARs were probably fired during a similar test in October 1983. A comparable series of guided missile tests was conducted at ER Site 64 between October 1 and December 18, 1985.

Constituents of Concern

There are no known contaminants of concern, however a minor amount of lead was possible in some of the rocket exhaust.

Current Hazards

There are no current hazards at this site related to contamination of the surface or subsurface soils. There are no structures or stored materials that remain at the site that could pose a potential hazard.

Current Status of Work

An administrative no further action (NFA) proposal was submitted to the EPA in September 1995, but was deemed to be not appropriate without some soil data. Confirmation soil samples were collected and analyzed for lead in July 1997, and a Confirmatory NFA was submitted to New Mexico Environmental Department (NMED) in September 1997. In December 1999, following review of SNLs response to a Request for Supplemental Information (RSI), NMED indicated that the site was acceptable for NFA. The NFA was approved by NMED in October 2000 after completing the public review and permit modification process.

Future Work Planned

No future work is planned.

Waste Volume Estimated/Generated

To date, no waste has been generated.

Information for ER Site 64 was last updated Jan 22, 2003.