



## ER Site No. 87: Building 9990 Firing Site

ADS: 1332

Operable Unit: Foothills Test Area

Site History .....	1
Constituents of Concern.....	2
Current Hazards .....	2
Current Status of Work.....	2
Future Work Planned .....	3
Waste Volume Estimated/Generated .....	3

Primary Contact: [Dick Fate](#)

Office Phone: 284-2568

### Site History

ER Site 87, Building 9990 (Firing Site), is located off of Demolition Road, approximately 1.3 miles due east of the intersection with Coyote Springs Road. The site is on U.S. Forest Service (USFS) withdrawn land that is permitted to the DOE by the USAF, in a box canyon that opens to the southwest. In the central part of the canyon, where Building 9990 is located, the terrain is relatively flat, sloping gently to the southwest. Bedrock is exposed at the surface of the surrounding ridges. A thin veneer of regolith (broken/eroded rock fragments and sand-sized material with minor or no true soil) and alluvial sediment partially covers some of the ridge slopes and much of the canyon bottom near the central arroyo. Vegetation in the area is spotty in distribution and primarily comprised of junipers, sage brush, desert grasses, and cedar scrub. The size of the site is approximately 90 acres. The outer boundary of the site is based on both the unexploded ordinance (UXO) survey and the surface gamma radiation survey.

A gravel road that branches off Demolition Road to the northeast provides access to the Building 9990 area. Within the box canyon area another gravel road branches off the access road and forms a loop around the Building 9990 area. This road is primarily a fire barrier or a fire line. Several smaller buildings and concrete pads are also present in the area, primarily at the northeast end of the canyon. The actual test site is located on the immediate north side of the building. It has not been used for large explosive tests since 1986. The north-facing wall was reinforced with steel plating. A butler building (9990A) was erected just north of the former firing site in late 1986. The surrounding canyon area and ridge slopes are littered with various pieces of metal shrapnel. The testing group that operated the facility moved out, and it has been inactive since July 1994.

The test facility was active from 1969 to May 1994. All of the explosive tests were conducted in the area immediately north of Building 9990. Some of the tests described below threw shrapnel for distances greater than 1200 ft, based on the surface radiation survey results and visual inspection of the area. The topography of the area has largely contained the distribution of

shrapnel. Tests included:

w

- Explosive generator and electromagnetic launcher research;
- Electromagnetic launcher tests;
- Containment tests involving detonating mock-up warheads that contained significant quantities of depleted uranium (DU) (one test was not contained);
- Neutron generator proof tests and "stand-off tests" to test weapon components performance;
- Davis gun tests;
- Box tests where high explosives (HE) were packed around a gas cylinder, placed in an aluminum box and detonated;
- And flyer plate tests involving accelerating aluminum plates into the nose of a mock warhead to assess damage.

## Constituents of Concern

The materials that may have been dispersed/released during some tests within the area of ER Site 87 include:

- HE combustion by-products from Comp B, HMX, Teteryl, PBX9404, nitromethane, LX-04, Octol, nitrocellulose, and baratol
- DU
- Toluene, acetone, and methanol (these evaporated off a concrete pad and are not expected to be present)
- Metals (beryllium, barium, chromium, copper, lead, silver, and zinc)

## Current Hazards

Slightly elevated levels of metals, explosives, Th-232, U-235, and U-238 remain in the surface soils. Preliminary risk assessments indicate that the levels would not pose an unacceptable risk. There may be structures or stored materials that remain at the site that are a potential hazard.

## Current Status of Work

This site is included in the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan for OU 1332.

A UXO surface clearance survey was performed at ER Site 87. One live HE shell and ordnance debris were found. The shell and debris were subsequently removed.

A surface radiation survey was conducted and over 1400 radioactive fragment/soil areas were detected. Two rad Voluntary Corrective Measures (VCMs) were performed to remove radioactive fragments in FY95.

A housekeeping Voluntary Corrective Action was conducted in 2000 to remove test debris and metal fragments from the areas surrounding the firing site. RCRA Facility Investigation sampling was conducted to assess the site.

### **Future Work Planned**

A housekeeping Voluntary Corrective Action is planned for 2003 to remove test debris and metal fragments from an additional area surrounding the firing site. RCRA Facility Investigation sampling results are being evaluated and used to determine if further actions are required at the site. If no further characterization or remediation is required, a no further action (NFA) proposal for the site will be submitted to the NMED.

### **Waste Volume Estimated/Generated**

Twenty-seven drums of radioactive waste have been generated and removed from the site.

**Information for ER Site 87 was last updated Jan 29, 2003.**