

Environmental Restoration Project



ER Site No. 6: Gas Cylinder Disposal Pit (Bldg 9966) - Thunder Range

ADS: 1335

Operable Unit: Southwest Test Area

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

Primary Contact: [Dick Fate](#)

Office Phone: 284-2568

Site History

ER Site 6 lies on U.S. Department of Energy controlled land in the southern part of Thunder Range approximately 1 mi west of the Solar Power Facility and 550 ft west of the west end of the large Shock Tube at [ER Site 89](#). The site covers approximately 1.4 ac of land at a mean elevation of 5,402 ft above sea level.

The nearest well to ER Site 6 is Chemical Waste Landfill Monitor Well 5, which is located approximately 0.5 mi north of ER Site 6. Well completion records indicate that the well was drilled in April 1994 to a total depth of 558 ft. The well was screened between 533 and 553 ft below ground surface in alluvial sediments, and depth to groundwater was 481 ft below ground surface in December 1995.

ER Site 6 was identified during investigations conducted under the Comprehensive Environmental Assessment and Response Program (CEARP) and the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA). The CEARP stated that "in the mid- to late-1970s some gas cylinders were buried in a 6- to 8-ft pit about 3/4 mi south of Building 9966." However, this location was not confirmed by other sources. One source states that the disposal pit was adjacent to Building 9964. A second source states that the pit was 400 yards (approximately 1/4 mi) west-southwest of Building 9966. A third source describes the pit as being 100 yards west of the Lead Firing Site ([ER Site 91](#)). This last location was verified in the field by the presence of a shallow pit at this location that appeared to have been partially backfilled. The specific contents of these cylinders were not known, but they were recalled to be poisonous by some interviewees. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) finding was positive for federal facility site discovery and identification findings, preliminary assessment, and preliminary site inspection. Planned future action for the site called for the use of geophysical techniques to collect additional information

on the location of subsurface materials at the site. The SNL/NM remediation report for ER Site 6 summarizes results of the geophysical survey.

In addition to the CEARP inspection, the EPA conducted an RFA. The RFA report notes that "used gas cylinders were piled outside and adjacent to Building 9966 in Coyote Test Field. The cylinders have since been removed. The content of the cylinders are unknown but were thought to be toxic. The number of cylinders and the size of the area in which they were placed is unknown." Dates cited in the RFA report are in agreement with the CEARP (mid- to late-1970s). The RFA report concluded that the potential for release could not be determined because of a lack of information regarding the waste managed.

ER Site 6 contained an approximately 30- by 30- by 6-ft-deep pit that was reportedly excavated in the early 1970s as part of the waste management and disposal activities associated with the shock tube and explosive experiments at Thunder Range. The pit at ER Site 6 was reported to have been used to destroy pressurized gas cylinders. Gas cylinders were placed in the pit and punctured by metallic charges so that the contents could escape. The empty cylinders were then removed from the pit for disposal. The pit at ER Site 6 was backfilled sometime in the late 1970s. There are no known records of disposal of radioactive materials at the site.

A second pit, ER Site 6A, was identified about 1/2 mile to the south of the original pit. It is in an arroyo co-located at the south end of [ER Site 55](#), the Red Towers Site. The site covers approximately 1.0 ac of land.

ER Site 6A was identified during investigations conducted under the CEARP and the RFA. The CEARP stated that "in the mid- to late-1970s about 300 gas cylinders were buried in a pit somewhere in the arroyo east of Technical Area III. The contents of these cylinders were not known, but they were recalled to be poisonous by some interviewees." The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) finding was positive for federal facility site discovery and identification findings, preliminary assessment, and preliminary site inspection. Planned future action for the site called for the use of geophysical techniques to collect additional information on the location of subsurface materials at the site. The SNL/NM remedial action report for ER Site 6A summarizes results of the geophysical survey.

In addition to the CEARP inspection, the EPA conducted an RFA. The RFA does not differentiate between ER Sites 6 and 6A. However, the location of ER Site 6A was specifically identified by former SNL/NM employees during the VCM activities at Site 6. According to these individuals, cylinder bottles were buried in an arroyo south of Thunder Range (shock tubes). This location was verified in the field by the presence of a large depression in the drainage in question and by the presence of fragments of gas cylinder bottles in the same area. Later, an electromagnetic geophysical survey conducted in March 1995 over the area revealed the presence of several large buried metallic anomalies. The RFA report notes that "used gas cylinders were piled outside and adjacent to Building 9966 (ER Site 6) in Coyote Test Field. The cylinders have since been removed. The content of the cylinders are unknown, but were thought to be toxic. The number of cylinders and the size of the area in which they were placed is unknown." Dates cited in the RFA report are in agreement with the CEARP (mid- to late-1970s).

The RFA report concluded that the potential for release could not be determined because of a lack of information regarding the waste managed.

ER Site 6A actually contained two pits (approximately 50- by 75-ft each) that were reportedly used as burial sites for gas cylinders that were destroyed at ER Site 6. Site 6A was reportedly the location of the burial of intact cylinders as well. The contents of the pressurized gas cylinders is unknown. ER field notes describe Site 6A as a disturbed area on the south margin of [ER Site 55](#) that contained some buried wood and metal debris. There are no known records of disposal of radioactive materials at the site.

Constituents of Concern

Unknown

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

Two Voluntary Corrective Measures (VCMs) to remove any remaining hazardous material were completed in 1995. A confirmatory sampling no further action (NFA) was proposed in 1996. In the request for supplemental information (RSI) for this NFA proposal, New Mexico Environment Department (NMED) requested analytical data from soils from the bottoms of the pits. Six boreholes were drilled at sites 6 and 6A and samples were collected from the pit bottoms. The data were evaluated and summarized in an RSI response submitted to NMED in January 2000. NMED indicated that Site 6 and 6A are appropriate for NFA petition on April 25, 2001. The NFAs for Site 6 and 6A were approved by NMED on November 19, 2001 after completing the public review and permit modification process.

Future Work Planned

No future work is planned for this site.

Waste Volume Estimated/Generated

Two, twenty cubic yard roll-offs of nonregulated waste were generated from the VCMs in 1995. These were metal debris that were either recycled, (aluminum and steel) or where shipped to a solid Waste landfill (scrap lumber and plastic).

Information for ER Site 6 was last updated Jan 22, 2003.