ER Site No. 68: Old Burn Site

ADS: 1334
Operable Unit: Central Coyote Test Area

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Site History

ER Site 68 (Old Burn Site) covers approximately 6.5 acres of United States Air Force(USAF) controlled land. This inactive site is located on the north side of Isleta Road, across from the Kirtland Air Force Base(KAFB) 200-ft shock tube facility, approximately one mile east of the intersection of Lovelace and Isleta Roads. This site lies inside the boundary of ER Site 71.

ER Site 68 was used to test weapons components for fire survivability and contains features associated with those tests such as a permanent burn pad, four excavated pits, four debris mounds, scattered test debris, and a burial pit containing radioactively contaminated materials. The largest site feature is an earth-bermed, 30-ft square burn pan. The burn pan has a concrete slab floor that is level with the local grade and four metal sides that rise 3 feet above the slab floor. The metal sides have been reinforced on the outside by earth berms. A floor drain in the center of the slab floor emptied via a buried pipe and drain valve system to an unlined ditch. The ditch flowed about 120 feet to the southwest where it emptied into an excavated pit/overflow basin. The overflow basin is approximately 50 feet long in a northwest-southeast direction and 35 feet wide in a northeast to southwest direction. Judging by remnants around the edge of the basin, it once apparently had a wood frame and plastic lining. It has been backfilled and a concrete slab was discovered 3.5 feet below grade when the basin was trenched for sampling. The burn pan contains rusted metal test stands, tumbleweeds, and other plant debris and wind-blown sediment. Another rectangular pit with remnants of a burned wood frame and plastic liner is located approximately 175 feet south of the burn pan.

Two irregularly shaped pits are present on the site. One is north of, and the second is south of the burn pan. Their irregular shapes suggest that they might have been borrow pits for the earth material used to construct the berm surrounding the burn pan's metal sides. Although a small amount of insulated electrical wiring and woven canvas straps were excavated in the north pit during the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI)

sampling, no evidence or information has been found to indicate these pits were used for burn tests or as drainage/holding ponds.

Four debris "mounds" were present on the site. Three of these "mounds" were actually piles of debris (metal test stands, metal pans, concrete blocks, metal pipe, epoxy pipe debris, wire, metal grates, and melted metal scraps). Three "mounds" were removed during a housekeeping Voluntary Corrective Measure (VCM) during October 1995. The fourth mound is located about 600-ft north-northeast of the burn pan near an unnamed arroyo. It contains burned metal mesh, wood, scraps, insulating material, and melted aluminum fragments. About 150-ft northeast of the burn pan, two wood utility poles lay on the surface next to a small pile of ceramic pipe debris. This ceramic debris and the fourth debris mound will be removed as part of another housekeeping VCM in FY04.

In FY98 a soil mound approximately 40 feet long, 25 feet wide, and 10-15 feet high was discovered on the north side of the arroyo about 900 feet northeast of the burn pan. No information or records for this feature were found. For convenience, this feature was included in the Site 68 investigation and sampling. This mound was trenched and sampled in February 1999. No evidence for waste disposal was seen with field screening instruments or visually. No contamination was detected in the soil samples submitted for laboratory analysis. Following regulator inspection and approval, the mound was knocked down and the area graded.

Various types of shipping containers, simulated space nuclear power reactors, and mock nuclear weapons were subjected to pool fire tests at Site 68. The test unit would be instrumented for monitoring and placed on a test stand within the burn pan. The pan would be filled with water and a layer of JP-4 fuel would be added and ignited. Approximately 1,500 gallons of fuel would be used for a 30-minute test. After the test, the remaining water was released into the drainage ditch and overflow basin, and the test unit recovered for examination. All materials were brought to the site by truck and power would be provided by portable generators. Tests were conducted from approximately 1965 through 1978. When the current burn facility was constructed at Lurance Canyon around 1981, this site became inactive.

Site 68 was identified during investigations conducted under Comprehensive Environment Assessment and Response Program (CEARP) and during the RCRA Facility Assessment (RFA). A radiation survey of the site conducted in 1983 identified and removed an unspecified amount of thorium contaminated soil. In December 1993, a surface gamma radiation survey conducted at Sites 68 and 71 by RUST Geotech Inc. detected 240 anomalies at Site 68. Most anomalies were depleted uranium (DU) fragments lying an inch or two below the ground surface and originated from testing activities at Site 71. In December 1993, Los Alamos National Laboratory completed an alpha radiation survey at Sites 68 and 71 but did not detect any readings above background. This result was thought to be caused by the large, 200-foot-square sampling grid spacing.

Between January and March 1995 RUST Geotech located and removed all the point sources identified in the December 1993 survey. Between January and March 1996, the sites were resurveyed and the survey area was expanded south across Isleta Road. Three area sources still required additional clean up after this visit. In May to June 1998, these three areas were excavated; one turned out to be a burial site for contaminated debris. An area approximately 30

by 36 by 4 feet deep was eventually excavated. Approximately 160 cu yds of radioactively contaminated soil and 10 cubic yds of debris (metal pipes, test stands, and concrete) were segregated for disposal. The debris was removed for disposal in May 2000 and the soil was removed for disposal in August 2001. A geophysical survey in late 1998 failed to detect any other possible debris burial areas at Site 68.

In November 1993, KAFB Explosive Ordinance Disposal (EOD) conducted a surface visual survey for Unexploded Ordinance / High Explosives (UXO/HE) at the site and found numerous artillery shells and ordnance debris that was related to the anti-aircraft shell testing at ER Site 57A.

Soil samples collected in 1989 during the CEARP investigation indicated that soil in the overflow basin might contain Semi-Volatile Organic Compounds (SVOC)s and elevated lead concentrations. This sampling indicated that the potential Constituents of Concern (COC)s were: DU, thorium, beryllium, lead, and SVOCs (fuel residues).

An RFI Workplan was submitted to New Mexico Environmental Department (NMED) in October 1994 and sampling began in FY96. NMED requested supplemental information for the RFI Workplan on August 26, 1997, responses were submitted on November 26, 1997. RFI fieldwork, including sampling of the soil mound northeast of the burn pan, was completed in FY98-99, but lead contamination in excess of risk-based action levels was confirmed in the overflow basin soil. Additional characterization and a VCM to remove the contaminated soil are planned for FY04-05.

Remaining Activities: RFI and VCM data will be evaluated followed by verification sampling and risk assessments to document that the site does not pose a threat to human health and the environment. A draft No Further Action (NFA) proposal will then be submitted and finalized after comment resolution, followed by closure of the site.

Constituents of Concern

Metals
Volatile Organic Compounds (VOCs)
Semivolatile Organic Compounds (SVOCs)
Radionuclides

Current Hazards

There are open trenches and an open excavation on the site south of the burn pan structure. These areas are surrounded by orange snow fencing and posted with "soil contamination" signs. The area is currently an RMMA due to the presence of the residual radionuclides in the soil of the overflow basin and the 30 by 36 by 4 foot deep Rad VCM excavation (primarily depleted uranium [DU, U-238]). Because of surface disturbance and grading following the Moonlight Shot radioactive fallout dispersion testing at surrounding Site 71, DU fragments or DU-contaminated soil may be present in the subsurface (below 6-inches.) Because this area is also within the gun fan for munitions testing at Site 57A to the west, UXO is present on the surface

and in the subsurface. There may be structures or stored materials that remain at the site that are a potential hazard.

Current Status of Work

RFI Work Plan submitted to U.S. Environmental Protection Agency (EPA) in November 1994.

Two VCMs to remove radioactive point and area sources were completed in March 1995 and March 1996, respectively. Three area sources remaining from the 1996 VCM were excavated. The 160 cu yds of radioactively-contaminated soil was taken to NTS for disposal in August 2001.

The planned RFI field work was completed in FY98. A VCM is necessary to excavate, characterize, and dispose of lead and radionuclide-contaminated soil in the overflow basin for the burn pan.

Future Work Planned

A Voluntary Corrective Action will be conducted at this SWMU to remove contaminated soil in the overflow basin and characterize waste. The three mounds and scattered debris will be removed from the site at the same time the overflow basin VCM is conducted. The NFA proposal will be written and submitted to NMED following this VCA.

Waste Volume Estimated/Generated

Seventeen drums of radioactive waste were generated in the combined rad VCMs of Sites 68/71 in 1995 and 1996. The 1998 VCM generated another 143 drums of radioactively contaminated soil, 160 cu yds of contaminated soil (stored in soil piles) and 10 cu yds of debris. An estimated 5 cu yds of non-hazardous waste will be generated when the three mounds and scattered site debris are removed.

Information for ER Site 68 was last updated Jan 29, 2003.