# AREA E

## General Information

Area E is located at TA-33, 1.9 km (1.2 mi) south of the guard station (see Fig. E-1). It is located between LASL coordinates S.292+50 and S.295+00 and E.250+00 and E.245+00. Specifically, the coordinates of the fenced area in clockwise direction beginning with the northeast corner are: S.292+96, E.249+16; S.294+36, E.249+15; S.294+35, E.247+15; and S.292+91, E.247+16. Location by township and range is SE 1/4 sec. 24, T. 18 N., R. 6 E. It has an approximate acreage of 0.69. (Ref. 33)

## Geology and Hydrology

Area E lies on a point formed by Chaquehui Canyon and one of its tributaries. It is on the mesa approximately 122 m (400 ft) above the bottom of the canyon. The surface of the mesa slopes gently to Chaquehui Canyon approximately 6 m (20 yards) to the south of Area E.[8] The soil cover is very thin and supports little or no vegetation. The joint pattern is variable and joints are not prominent or persistent.[8] The Tshirege member of the Bandelier tuff crops out within a few feet of the burial ground.

## Pit Descriptions

### Background

The history of Area E is not well known. According to Engineering Drawing ENG-R-~~3644~~ 2457, underground Chamber 3, TA-33-29, was destroyed in 1950. Pits 1 - 4 were used. It is not clear whether Pits 5 and 6 were used. According to Engineering Drawing ENG-R-~~2457~~ 3644 Pit 1 was inactive July 1951; Pit 2 was reported November 7, 1962,[106] as open; Pit 3 was closed September 1951; and Pit 4 was still active when Engineering Drawing ENG-R-3644 was drawn in the sixties. A 1963 USGS report[8] states that the area was used between 1949 and 1955.

### Mode of Disposal

Chamber 3, HP-29, is probably constructed similarly to Chamber 2, HP-6, at Area D. It has been back-filled. Underground chambers HP-70 and HP-71 are north of the Area E fence. These chambers were not used and remain open today.

The pits are probably shallow. The USGS reported in 1963[8] that there were four pits, each 1 (1.8-2.1) m (6-7 ft) deep. Pit 1, located along the west fence line, is approximately 5 m (15 ft) wide and 23 m (75 ft) long. Pit 2, located along the south fence line, is approximately 5 m (15 ft) wide and 14 m (45 ft) long. Pit 3, located near the southeast corner, is approximately 1.5m(5ft) in diameter. Pit 4, located near the southeast along the east fence line, is approximately 5 m (15 ft) wide and 30 m (100 ft) long. Pit 5 and Pit 6 intersect. They are located west and north of Pit 4. Pit 5 is approximately ~~3.7~~ 4 m (12 ft) wide and 24 m (80 ft) long. Pit 6 is approximately ~~3.7~~ 4 m (12 ft) wide and 19 m (63 ft) long.

### Type of Waste

"Area E at TA-33 has been used as a storage area and for burial of low-level radioactive contaminated equipment."[106] The Area contains several hundred kg of $^{238}U$. (Ref.8) Another source[108] also states the burial pits contain $^{238}U$ and $^{238}U$ alloys.

Chamber 3, HP-29 is contaminated by the device which was fired in it. Pit 1 contains LC, LE miscellaneous pollonium-beryllium fired targets with a total of 240 ~~curies of~~ $^{240}$. Pit 2 contains

Wally, 60 curies ~~of~~ $^{60}$ . Pit 3 contains a GI can of beryllium dust immersed in kerosene. Pit 4 contains Button and miscellaneous hot material. There is no information available on the contents of Pit 5 or Pit 6 (Ref: Engineering Drawing ENG-R-3644).

## Studies and Monitoring

February 28, 1952,[198] two 50-g soil samples were taken from Chaquehui Canyon west of Area E. They were analyzed for polonium. The approximate values for both in counts per minute (50% geometry) were 100.

The analysis of soil samples (H thru M, Fig. D-2) was reported on November 15, 1952.[195] Samples L and M were probably taken in the same place as the February 28th samples. The analysis was for polonium. Sample L had 22 c/m/25 g; and Sample M had 17 c/m/25 g. Samples H thru K showed no polonium.

A fire was reported early in the morning of April 15, 1953, in Pit 4 at Area E.[199] Shortly after 8:00 a.m. H-Division, W-3 and Fire Department personnel arrived.

> It was apparent that some oily rags covered with loose earth were smouldering and causing small quantities of smoke to rise. The Fire Department was then called in to flood the small smouldering portion of the pit with water. Respirators and coveralls were worn during the initial inspection and water application.[199]

On April 20, 1954,[200] soil samples were collected for uranium analysis by the fluorophotometric method. "New Hot Point" on Fig. E-2 probably includes Area E. Sample 7 and sample 15 (each 25 ml samples) had values of 35 mcgs/sample and 22.7 mcgs/sample, respectively.

A preliminary survey of local wind conditions with primary emphasis on terrain effects under relatively light wind conditions was reported May 2, 1955.[197] Area E is referred to as Burial Area 7.

> This area is located on the west rim of a canyon oriented generally north-south and opening to the south... Dominant flow in Burial Area during the major part of the afternoon will be from the south-southwest. These conditions will be fairly persistent and a high degree of confidence could be placed in continuation of an observed direction of flow.[197]

In 1962[106] it was observed that

> At the time of... inspection, the area was enclosed with a three-strand barbed-wire fence, with six signs on the fence indicating that the area is contaminated. The gate was open and the area is becoming a junk yard. [It was suggested] (1) The gate should be repaired and kept locked. (2) New signs should be placed on the

each side. The signs should read 'contaminated area - do not enter,' and should use the radiation symbol and radiation colors. (3) The open pit on the south side of the area [Pit 2] is full and should be covered with at least two feet of dirt. (4) The material in the area should be monitored, and if not needed it should be sent to the contaminated waste disposal area on Mesita del Buey. If the material is of value it should be sent to decontamination...and (5) The wooden building just outside the gate should be cleaned out and monitored.[106]

A 1963 USGS report stated "The fill probably should be compacted and mounded to minimize erosion and ponding of water around the pits."[8]