ERID 58138

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
LOS ALAMOS, NEW MEXICO 87544

OFFICE MEMORANDUM

TO : Dean D. Meyer, Group Leader, H-1 (4) DATE: February 10, 1972

FROM : Carl Buckland, Leader, General Monitoring Section, H-1

SUBJECT: SUMMARY OF RECORDS SEARCH FOR RADIOACTIVITY REMAINING IN TA-1, ACID WASTE LINES, TA-10, TA-45 AND ACID CANYON BELOW TA-45

SYMBOL : H-1

TA-1 Structures and Acid Waste Lines

A 'notice of completion' was signed by C. Stallings on December 1, 1955, witnessed by A. Burch, D. Meyer, C. Princell, C. Blackwell and C. Buckland. This notice completed at least eight years of building removal and clearance in TA-1, starting sometime early in 1957. The files contain numerous status quo memoranda documenting conditions prior to, during, and subsequent to demolition of individual structures. In addition to this, there are letters of final clearance for about five different phases of demolition. Such letters were more comprehensive in nature and usually included several structures. Some of the early letters of clearance, such as a December 6, 1957 memorandum, had certain qualifying remarks that were not cleared or action taken until subsequent correspondence. In other words, the superstructure of many buildings was razed first. Contaminated floors, basements and acid waste lines were not removed in some cases until a year after razing the superstructure. All of the contaminated objects on top or under the surface of the ground were removed from the J-2 building area and the eastern sector of TA-1 located east of a north-south fence line located about 100 feet west of old H-Building by September 9, 1959. During this phase, acid waste lines read as follows:

J-2 line - 8.2 mr/hr. Leaks in the vicinity of Finch Street had occurred. The records show that this is the only place where soil surrounding the pipe was contaminated. Count was minimal. Soil removed to the contaminated dump.

Main acid line - Dirt at hub connection "D" Building to "Boiler House" - 500 c/m alpha.

ML to Q - 3.7 mr/hr

North of Q - 8 mr/hr and 1000 c/m

F-Vault to H-Bldg. manhole - 3.5 mr/hr and 2500 c/m

H- to main line - 2.5 mr/hr

Some sanitary lines - up to 4000 c/m

Received by ER-RPF
AUG 24 1992
ASM

14123

All of these pipes were removed, in addition to contaminated concrete floors and even the utility tunnel that ran from "D" to the boiler house.

TO: Dean D. Meyer DATE: February 16, 1973

No contamination could be detected in this tunnel, although insulation on the steam pipes leading from the boiler house to Q basement was contaminated from an old radium spill. All of this was removed. The final clearance letter (9/15/69) on this phase read, "I would like to repeat the statement that to the best of our knowledge, no radioactive contamination remains in TA-1 north or south of Trinity, east of the north-south exclusion fence or within the J-2 area". All detectable count was removed as measured with hand alpha and beta-gamma survey instruments. No soil samples exist, with the exception of "D" Building site. I have no records on "D" Building as my section was not involved.

Western area west of the north-south exclusion fence was completed as mentioned previously, by 12/1/65. Again, the superstructure was removed, followed by cement flooring and walls. Highly contaminated cement in excess of 2500 c/m was transported to the contaminated dump. Cement reading 2500 c/m or less was bulldozed or carried in trucks to a small draw dubbed "Bailey Canyon" (after the bridge was removed). Hundreds of truckloads were dumped into this canyon and then mostly covered with dirt. The majority of the concrete was not contaminated at all or was well below 2500 c/m (all normal and enriched uranium contamination).

On December 10, 1964, Zia commenced removing contaminated acid waste lines west of the north-south exclusion fence from manhole #235. The records show that this manhole and lines extending from it were all removed. A few pipes were found that read up to 15,000 c/m. In the vicinity of manhole #174, many pipes, some of which were contaminated, were all removed. Most of these pipes were not on any map in existance then or now. All of the lines leading to old Sigma Building were removed. By 9/28/65, all of the TA-1 acid waste lines had been removed, including the abandoned line that ran under the concrete slab south of "C" Shop. By 11/23/65, a sanitary sewer leading from "C" Shop to the intersection of Finch and 29th Street was removed since 2000 to 5000 c/m alpha was found in this pipe. Forty more feet of line beyond this point was excavated and monitored and found free from contamination.

In summary, all of the TA-1 acid lines were removed by 1967, with the exception of a plugged strip under Central, Rose and Canyon Road. All of the line from TA-45 back of the Catholic Church property and around south of the high school was removed up to Canyon Road. There is a plugged strip under Canyon and Trinity. All pipe under the Episcopal Church property was removed. John Enders has data on what remains in the vicinity of the hospital and HRL. Pipe down stream in the vicinity of the high school read up to 2500 c/m (dried residue) alpha and .2 mr/hr, to give you some idea of the activity in the line under Trinity and Canyon.

TO: Dean D. Meyer

DATE: February 13, 1[illegible]

TA-10 Bayo Canyon

Some of the first structures to be cleared in Bayo were released on February 8, 1960. On March 13, 1960, seven structures were burned at four different locations in the canyon. Building 6 residue read 1 to 12 mr/hr (burned in place). Building 4 residue read 8 mr/hr (burned about 25 yards north of original location). Recommendation of 3/14/60 stated that residue should be removed for burial. Although I find no subsequent mention of this suggestion, I feel certain that the recommendation was followed in the final clearance of the canyon. (Finally found mention of removal in 8/19/63 correspondence)

The first structure (TA-10-48) to be dismantled in place was started on 3/25/63 and provides our first ghost. TA-10-48 was a burial pit. A high point of radiation was located at 16 feet in depth. At 26 feet, the level dropped to 1.5 mrad/hr at contact with the dirt. A core sample one foot deeper than the 26-foot level read 600 d/m/dry gram of soil (.27 nanocuries/gram). Samples taken at 4 feet read 0 to 40 d/m of ^{90}Sr/dry gram of soil. No alpha. Pit was refilled with clean dirt at the levels reported here.

Pit 44 was dug to 15 feet and 1.5 mrad/hr. Core samples at 2.5 feet read 4500 d/m ^{90}Sr/dry gram. Pit was refilled at this point.

Five large pine trees and their roots, reading up to 6 mrad/hr on the ground by the base, were removed from the vicinity of the tank farm. Numerous leach beds and plumbing occupied this tank farm. Complete excavation was apparently impossible or at least impractical. At 20 feet, 1.5 mrad/hr was still found. At this point, the pit was filled with uncontaminated concrete taken from the dismantled firing bunkers.

A specific mention was made concerning a thorough excavation search around Building 1 for hidden pipes. It was also mentioned that the area in the firing pads was dug out to a point that only background radiation could be detected on a GM instrument. Twenty-five Indians were than hired to search for debris in a 2500-foot radius from the firing sites. They picked up 90 truck loads of debris.

The final report, dated 8/19/63, stated that the area was free of significant radioactive contamination and did not present a health hazard.

A typical post-cleanup survey of the site on 7/22/66 turned up the following after weathering:

> Lead chunk - 20 mr/hr beta ^{90}Sr. Lead was subsequently melted. Air activity above the lead during melting read 1.4×10^{-12} µCi/cc. (Limit of 3×10^{-11} µCi/cc soluble for uncontrolled area) Residue left in pan after melting still read 20 mr/hr.

TO: Dean C. Meyer

DATE: February 16, 1973

TA-45 and Acid Canyon

The first survey of acid canyon, for purposes of cleanup, was made on August 31, 1965.

On October 4, 1966, work commenced towards removing TA-45 structures in what was called Phase A of the cleanup. All of the superstructure and concrete foundations were removed by 1/5/67 when operations were terminated due to weather. Excerpts from a 1/11/67 memorandum state that "The entire building and concrete slab (TA-45-1) were removed to the dump, as was the dirt from the end of the building where waste water had drained on the ground for several years". Also, "The surface south and west of the lab. building (TA-45-2) was removed to a depth of one foot and placed in the dump because of earlier spills in this area. The remaining soil shows no detectable radioactive material". Also, "The drain lines within the fenced area were removed and packaged and manholes dug out and removed". Some work of removing the cliff face below TA-45 had started (2000 c/m mentioned). 94 loads of debris from Acid Canyon were placed in pit 4 of area C as fill dirt. Phase A was completed as signified by a letter of completion dated 4/12/67, 10 AM, as initiated by C. Stallings and accepted by B. Wingfield, B. Penland and D. Zarecor.

In letters dated 6/21/67 and 7/11/67, completion of Phase B is reported. This included the removal of all old acid drain pipes, wiers, rocks, tuff and other debris found contaminated in All of Acid and Pueblo Canyon. It was reported that a small amount of contamination (less than 500 c/m alpha) remains in inaccessible places. This is probably an estimate. As I remember, every surface that had accessible detectable alpha count by hand survey instrument was removed.

Carl Buckland

Carl Buckland

CB:cd

Xc: Leo Chelius
File