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LOS ALAMOS SCIENTIFIC LABORATORY
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P. O. Box 1663
Los Alamos, New Mexico 87544

45
2nd page

IN REPLY
REFER TO: H7-CWC-355

October 30, 1972

1588
THA
8851

Robert Y. Lowery
Nuclear Programming Branch
Weapons Production Division
Albuquerque Operations Office
P.O. Box 5400
Albuquerque, New Mexico 87115

Dear Bob:

On page five of the minutes of the AL-ID meeting the following comments are in order:

Only those wastes above 10 ^{nC}mCi per gram are placed in 30 or 55 gallon drums. The remainder of the material is buried in cardboard boxes or plastic bags.

In paragraph two, the sludge from the waste treatment plant at TA-50 is not mixed with cement but is sent directly to the burial ground in 55 gallon drums. The solid content is about 50%.

I am enclosing a more definitive description of the composition of the tuff at Mesita Del Buey.

In the penultimate paragraph on page five, the statement should read, "the costs have increased from \$14 to \$30 per cubic yard due to the necessity of palletizing and providing for 20 year retrievability.

Sincerely,

C. W. Christenson, H-7

CWC:eam

Xc by H-1 to J. Endess

Called Chris 11-2-72
redial # file
once to Chris
11/2/72



10046

LASL

C. W. Christenson summarized burial and storage operations at the LASL.

There are about 20 pits scattered throughout the LASL where radioactive wastes have been buried, since in the early days the practice was to bury solid wastes at the site where they originated.

At Los Alamos, the bulk of solid radioactive waste comes from laboratories and consists of rubber gloves, glassware, paper towels, and similar materials. These wastes are packaged in 55-gallon steel drums and transported to the solid waste storage area (Technical Area 54) which is a land area known as Mesita del Buey.

Liquid wastes are treated at two main liquid waste treatment plants located at (TA-50) and located at (TA-21). The waste sludge from TA-50 is mixed with cement and transported to Mesita del Buey for storage. The waste treatment plant at TA-21 is located near DP West in Building DP-257 where the sludge goes from a holding tank to a pug mill where cement is added on a continuous basis. This mixture is pumped into 8 ft. x 60 ft. diameter asphalt-lined holes.

The principal contaminant of LASL waste is currently Pu-238. Segregation of waste contaminated with TRU isotopes greater than 10nCi/gm is performed. Although segregation of waste into combustible and noncombustible waste is not being done, wastes are segregated by type and degree of contamination as follows. Separate pits are used for storing a) TRU waste for which the plutonium-239 contamination is greater than 10nCi/gm and is packaged in 55-gallon drums or wooden crates, b) 55-gallon drums filled with sludge from the TA-50 liquid waste treatment plant, c) equipment contaminated with enriched uranium (packaging in plywood crates is not required if the contamination is fixed to the material), d) TRU waste contaminated with plutonium with a contamination level of less than 10nCi/gm, e) waste contaminated with low-level uranium and f) material contaminated with Pu-238 packaged in wooden crates or 55-gallon drums. High level solid wastes are placed in a 1-gallon metal can sealed by a friction lid, placed in a plastic bag, and transported in a transport cask to a disposal shaft where the container is dropped directly from the cask into the shaft.

Mesita del Buey is composed of volcanic ash falls and ash flows. The nearest ground water is about 1,200 ft. below the surface.

The cost of burial including janitorial costs and stacking on pallets where applicable ranges from \$14 per cubic yard to \$30 per cubic yard.

Recently a drum was retrieved which had been buried in 1954 and was badly corroded through. This drum contained treatment plant sludge.