

Mayfield (1985)

Los Alamos

Los Alamos National Laboratory
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memorandum

TO: John Warren, HSE-7, MS E516

DATE April 4, 1985

THRU Thomas C. Gunderson, HSE-8 Group Leader, MAIL STOP/TELEPHONE
MS K490

K490/7-0819

FROM: Don Mayfield, HSE-8 *D. L. Mayfield*

SYMBOL HSE8-85-353

SUBJECT: MONTHLY REPORT: A-411 WASTE DISPOSAL AREA SURVEILLANCE, MARCH 1985

SUMMARY

Preliminary data from the 1985 surveys at Area U and Area V were reviewed during March. Contamination is present at both sites, but it is neither concentrated nor extensive enough to warrant remedial action to protect public health. Surface stabilization, however, is warranted to reduce infiltration into the absorption beds.

AREA U

Traces of enriched U, $^{239,240}\text{Pu}$, ^{227}Ac daughters, and ^3H in the soil samples are associated with external penetrating radiation levels that range up to 10 times background on the absorption bed surfaces at Area U. These levels will not deliver a significant dose to remedial action workers. Samples within the fence were taken no deeper than 30 cm, but contaminants should be expected in the underlying tuff and throughout the absorption materials, i.e., from the bed surface to more than 120 cm deep. The ^3H concentrations from nearby observation holes are high enough to suggest that other contaminants may have been moved downward into the tuff under the influence of waste water.

AREA V

Very limited soil and vegetation sampling results available from Area V indicate low levels of ^3H , U, and $^{239,240}\text{Pu}$ are present. The historical record suggests that ^{90}Sr may also be present. Surface soil samples (0-30 cm deep) indicate traces of ^3H , U, and $^{239,240}\text{Pu}$. Samples of absorption bed materials (30-120 cm deep) and tuff (below 120 cm) indicate traces of U from 0.9 to 4.0 meters deep and $^{239,240}\text{Pu}$ from the surface to 17.7 meters deep. The vertical distribution of Pu suggests that other contaminants may have moved downward in the tuff under the influence of waste water. Since ^{90}Sr compounds are as a rule, more soluble in water than corresponding U and Pu compounds, traces of ^{90}Sr should be expected through the absorption bed materials and in tuff to at least 17.7 meters.

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