LOS ALAMOS SCIENTIFIC LABORATORY
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OFFICE MEMORANDUM

TO : John Warren, H-7, MS-517 DATE: March 23, 1978

FROM : Margaret Anne Rogers, H-12

SUBJECT : UPDATE OF LA-6848-MS, VOLS I & II, "HISTORY AND ENVIRONMENTAL SETTING OF LASL NEAR SURFACE LAND DISPOSAL FICILITIES FOR RADIOACTIVE WASTE (AREAS A,B,C,D,E,F,G,AND

SYMBOL : H12-78-10

MAIL STOP: 490

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Would you please review sections I.C.; II.; AREA G, II; AREA G,IV: AREA G, V; AREA G, Pit 9; AREA G, Pit 13; AREA G, Pit 19; AREA G, Pit 20; AREA G, Pit 22; AREA G, Disposal Shafts; AREA G, Trenches A and B of Vol. I and Appendixes A, B, C, D, F, and G of Vol. II for corrections and additions. I would appreciate copies of any memos or other documentation (not cited in the report) pertaining to the above. The update will include additional information for the period July 1976 - July 1978.

Would you also comment on Carl Buckland's comment:

"4. Page G-13, Table G-IV
I believe the Curie content for ^{239}Pu should be corrected for the ^{241}Pu contribution in weapon grade plutonium. Using the referenced Ci/g number of 0.072, the pits have ∿5111 g and shafts ∿639 g. The corrected Ci/g value for weapon grade plutonium is .519 Ci/g based on 93.6% 239, 6% 240, and .4% 241. (241 is by far the isotope providing the highest specific activity per unit of weight which is 112 Ci/g). The corrected Curie content than becomes ∿2653 Ci for pits and ∿332 Ci for shafts."

MAR:tj

.4% ^{241}Pu ≅ .415 Ci/g

Following decay to ^{241}Am ≅ .0137 Ci/g

.936 ^{239}Pu ≅ .0573
.060 ^{240}Pu ≅ .0135
.004 ^{241}Pu ≅ .415 .0137

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Margaret Asne,

Both numbers, .072 and .519, are correct; th
consider two different things. The .072 value is
correct if just alpha decay is considered. Thu
we use this value routinely in determining the 10 n C
The difference between the two is for the beta
decay ($^{241}Pu \xrightarrow[t_{1/2}=14.3y]{\beta^-} {}^{241}Am$).

After about 150 years, the decay value
will be about .08 Ci/g, the difference being
from ^{241}Am, and it will be all alpha.