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UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

September 23, 1960

IN REPLY, PLEASE ADDRESS
CHIEF, U. S. WEATHER BUREAU
WASHINGTON 25, D. C.
AND REFER TO

R-3.7

Dr. Charles Dunham
Director, Division of Biology
and Medicine
U.S. Atomic Energy Commission
Washington 25, D. C.

Dear Dr. Dunham,

In attempting to appreciate the possible reasons for the presence of Tungsten-185 in the equatorial stratosphere long after the Hardtack test series, I have suggested, but not seriously, that the Tungsten is attached to larger particles than has been characteristic of previous test series in the Pacific. The prime difference, as far as I am aware, between the Hardtack tests and earlier ones, besides the production of Tungsten-185, is the loading of non-indigeneous sand on those events in barges. I have no information which would, at this time prove that the particle size should be larger than in earlier tests even if the Hardtack sand loading were unique. If the latter were the case, it might justify further search to see if the particle size is influenced by the weapon environment. Thus, for the above and probably other reasons, it would be highly desirable to obtain information on the environment of all of the nuclear detonations in the Pacific Proving Grounds.

We should like to have the kind of substances and their amounts given in the listing: Very small amounts of material in the weapon which are highly sensitive data need not be provided. In addition, we should appreciate a listing of the water depth for all [redacted]water shots. While it would be desirable to obtain this data on an unclassified basis, we would be willing to accept it as classified information.

Sincerely yours,

Lester Machta
Chief, Special Projects Section
Office of Meteorological Research

Enclosure (1)