020 to 111 mo Lathbl COMMESION

Collection

IN REPLY REFER TO: 1 2930

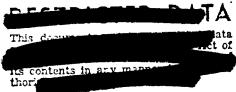


UNIVERSITY OF CALIFORNIA

LOS ALAMOS SCIENTIFIC LABORATORY (CONTRACT W-7405-ENG-36) P.O. Box 1663 LOS ALAMOS, NEW MEXICO

July 11, 1952

Major Joseph A. Kelly, Jr Uright Air Development Center Wright-Patterson Air Force Base Dayton, Ohio



Dear Joe:

126815

I have been endeavoring to obtain some answers to your questions concerning prompt gamma, thermal and blast effects to be expected on aircraft at like Shot. I hope what I have to offer will be of some assistance to you.

Prompt Gemma

As you were previously informed, there will be no effect from prompt games at distances of interest to you.

Thermal Radiation

The present thinking on this subject is based on the results of Greenhouse "George" multiplied by two (2) so as to take into consideration the heavy dust obscuration which prevailed at that shot. While it is not possible to say how opaque this dust was, nevertheless it is reasonable to assume that the radiation was cut approximately in half - one certainly does not know that the effect is less than this.

An additional unknown factor is the effect on the thermal radiation of the reflection of the fireball from the ground. If the reflection were perfect, the energy density in the fireball should be increased in proportion to the volume of the reflected pert and the intensity of the radiated energy should vary similarly. This might tend to counteract the effect of dust obscuration.

CLASSIFICATION CANCELLES

The best guess at present is to use the following by Authority of Doe/or relationship:

 $R = 0.4 \text{ w}^{0.9}$

This is a conservative figure but probably best for your purposes.

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July 11,

precise, I believe they will give you information of the right order of regnitude. I will be back here the 21st in case you went me to try to obtain additional information for you.

Yours very truly,

JIIIJ:mps

John H. Lofland, Jr

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