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July 15, 1960

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Colonel George A. Kay, USAF
Assistant Chief of Staff
Defense Atomic Support Agency
Department of Defense
Washington 25, D. C.

Dear Colonel Kay:

Reference is made to letter, DASARA-3 922.10, of June 29, 1960 requesting the latest data available by shot for W^{183} and Rh^{102} production during HARDTACK I.

These data are given in the attached tables. No changes in these values have been made within the past year. The activity of Rh^{102} is based on particular decay schemes assumed by the investigators. Drs. Martell and Kalkstein of AFCRC have used a Rh^{102} production in Orange shot of "about 3 megacuries".

Sincerely yours,

Alfred D. Starbird
Brigadier General, USA
Director of Military Application

Attachments:
1. Cy 1A of HARDTACK I - LASL Table
2. Cy 1A of HARDTACK I - LRL Table

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
SINGLE REVIEW AUTHORIZED BY: Sinisgalli 3/31/94	DETERMINATION [CIRCLE NUMBER(S)]
REVIEWER (ADD):	1. CLASSIFICATION RETAINED
NAME: HRSchmidt	2. CLASSIFICATION CHANGED TO:
DATE: 4/1/94	3. CONTAINS NO DOE CLASSIFIED INFO
	4. COORDINATE WITH:
	5. CLASSIFICATION CANCELLED
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Enclosure (3)

[redacted]

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W^{185} AND Rh^{102} PRODUCTION IN HARDTACK I, LASL SHOTS

Shot	Rh^{102} (dpm* $\times 10^{-15}$)	Shot	W^{185} *** (Atoms $\times 10^{-23}$)
Cactus	16.9	Yellowwood	78.75 (81.8)
Koa	25.6	Rose	0.25 (0.246)
Walnut	14.7	Total	79.0
Yellowwood	2.96		
Oak	41.9		
Pisonia	3.64		
Butternut	5.00		
Elder	8.41		

Total No. Atoms Rh^{102} in above shot**: 2.668×10^{23}

Total Atoms Produced in Orange Shot**: about 2.8×10^{24}

* At shot time, activities given are beta and positron dpm.
** Using the LRL decay scheme for Rh^{102}, 71% electron capture and 29% positron and beta emission.
*** The total is the latest reported value. Values in parentheses were reported previously.

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W^{185} AND Rh^{102} PRODUCTION IN HARDTACK I, 1[illegible] SHOTS

Shot	Rh^{102} (Atoms X10^{-20})	W^{185} (Atoms X10^{-23})
Fir	200	370
Sycamore	0.013	14.5
Maple	9.1	0.032
Aspen	57	1.04
Redwood	61	1.10
Hickory	20	-
Cedar	76	90
Dogwood	32	-
Poplar	220	105
Juniper	2.8	-
Olive	38	-
Pine	53	410

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