

~~CONFIDENTIAL~~  
DATE 1/4/56

THIS DOCUMENT CONSISTS OF 2 PAGES  
THIS IS COPY 5 OF 5A

Mound Laboratory, Miamisburg, Ohio

RECORD COPY  
Do Not Remove From Library

January 4, 1956

MOUND LABORATORY-MONSANTO  
Central File No. 56-1-17

Mr. E. C. McCarthy

Mound Laboratory

TRIP REPORT: LOS ALAMOS, NEW MEXICO  
DECEMBER 5-8, 1955  
FRANK C. MEAD, JR.

Released through the  
MOUND LSDR PROJECT  
(funded through DOE's OPENNESS INITIATIVE)  
Record Copy held at Mound Facility

IONIUM

J. W. Barnes of the J. Division, Los Alamos, was contacted concerning the ionium program. During the discussion with Barnes, it was pointed out that the specifications for the ionium as given us by Los Alamos were picked out of the air. It was stated that if we could not meet them, they would change them to suit us, particularly for the spring tests. They had no analyses for rare earths and common element impurities on the ionium Mallinckrodt prepared for them early in 1955.

It was agreed that Mound would ship the ionium to Los Alamos in as concentrated nitric acid solution as possible in polythene bottles. These polythene bottles would be packed in vermiculite in stainless steel containers. In this way all of the packaging would be done for them and the containers would not be opened prior to use at the tests.

The amount to be placed in each container is as follows:

- 6 bottles with 3-4 gr Io in each bottle
- 2 sets of 6 bottles with 8-10 gr Io in each bottle
- 3 sets of 6 bottles with 13-15 gr Io in each bottle

This would amount to a total of approximately 400 grams of ionium. A two to three milliliter sample of each batch of product will be shipped to J. W. Barnes at Los Alamos for analysis by him. We are to notify Barnes at what time we will be ready to package the first of the ionium as he would like to come to Mound at that time.

They have approximately 15 grams of ionium which was produced by Mallinckrodt which will be shipped to us for health physics work and for spiking simulated feed.

The word "Ionium" is considered at Los Alamos to be unclassified, but its use is classified.

GROUP 1  
Excluded from automatic  
downgrading and  
declassification

ALMDS6011700293

MOUND DECLASSIFICATION REVIEW	
1ST REVIEW DATE: 2/25/78	DETERMINATION (CIRCLE NUMBER(S))
AUTHORITY: OAC OADC OADD	1. CLASSIFICATION RETAINED
NAME: J. W. FLANDERS	2. CLASSIFICATION CHANGED TO: _____
2ND REVIEW DATE: 2/25/92	3. CONTAINS NO DOE CLASSIFIED INFO
AUTHORITY: ADG	4. COORDINATE WITH: _____
NAME: J. W. Flanders	5. CLASSIFICATION CANCELLED
	6. CLASSIFIED INFO BRACKETED
	7. OTHER (SPECIFY): _____

~~RESTRICTED DATA~~  
This document contains restricted data as defined in the Atomic Energy Act of 1946. Its transmission to the Director of its contents in any manner to an unauthorized person is prohibited.

January 4, 1956

DEVELOPMENT WORK FOR DETONATOR PROGRAM

In talking to Spaulding, Van Vessel and Meyers at GM X-7, they indicated that they would be very pleased to have us do development work on allyl resins, glues and on the recrystallization of PETN.

The development work on the allyl resins would be of a fundamental nature, designed along the lines to give better plastic parts for the detonators. This possibly could lead to the publication of several papers on the subject in a few years. It would probably be desirable to discuss the planning of such a program with the Springfield Plastics Division personnel.

Glue is used to hold together various parts of the detonators. It was suggested by Spaulding that development work on glues of this type would be very much in order. Some glues will withstand high temperatures; others low temperatures, some will work in dry climate; others in a humid atmosphere. They are actually looking for a glue that will hold up under all conditions.

The crystallization of PETN has an effect on the threshold voltage necessary for setting off the detonators. They would like to know what causes the difference in threshold voltage among the various batches of recrystallized PETN and what can be done to eliminate this difference.

Spaulding seemed very interested in Mound doing the above development work and was very pleased that we discussed the subject with him.

Frank C. Mead, Jr.

/c/jw

Distribution: Copy 1 - Mr. E. C. McCarthy  
2 - Mr. D. L. Scott  
3 - Dr. A. W. Martin  
4 - Dr. F. C. Mead, Jr.  
5 - Central Files ←