

A-85-012  
GROUP CMR-4 MONTHLY REPORT -- E. S. Robinson, Acting Group Leader -- August 25, 1949

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UNCLASSIFIEDPROJECT & PERSONNELPROGRESSCMR-4-8  
Preparation of Foils of Active  
Material.

Evans, Povelites .

Data on foils prepared since July 21, 1949:

<u>Foil No.</u>	<u>Material</u>	<u>Am't (as metal)</u>
AM-128-9	Normal U	9.00 mg.
AM-128-10	" "	7.14 mg.
AM-128-11	" "	8.35 mg.
AM-128-12	" "	7.99 mg.
AM-128-13	" "	8.65 mg.
AM-128-14, 15, 16	" "	290.0 mg.
AM-128-17	" "	28.3 mg.
AM-128-18	" "	80.3 mg.
AM 128-19	" "	157.5 mg.
AM 128-20	" "	118.7 mg.
AM 128-21	" "	319.0 mg.
AM 128-22	" "	245.5 mg.
AM 128-23	" "	201.3 mg.
AM 128-24	" "	269.8 mg.
AM 128-25	" "	35.3 mg.
BF 401-C-29	25	88.4 mg.
BF 401 C-30	25	14.5 mg.
RM 401 R-3-6	25	10.7 mg.
RM 401 H-10	25	2.25 g.
BF 401-21E	25	3.14 mg.
BF 401-21EB	25	9.7 mg.
RM 401-E1	25	84.9 mg.
RM 401-E2, 3, 4	25	42.2 mg.
RM 401-E5	25	0.68 mg.
RM 401-E6	25	4.24 mg.
285 F-1	28	6.0 mg.
Bi-1	Bi	129.3 mg.
Bi-2	Bi	119.9 mg.

CMR-4-13

Americium Production Design.

Briesmeister, Hoover, Penneman

Approximately 81 mgs. of americium ~~was~~ ex-  
tracted from 446 g. of plutonium.A total of 1500 g. of plutonium metal  
scraps has been divided into seven lots  
for dissolution and processing for americium.

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CMR-4-14

Plutonium Chemistry Involved  
in Transplutonic Production.

Lane, Penneman, Stephanou

The absorption spectra of neodymium solu-  
tions are being measured using a Jarrell-  
Ash grating. Pronounced shifts in intensity  
and location of absorption maxima are ob-  
served on comparison of acid neodymium solu-  
tions with carbonate solutions.PUBLICLY RELEASABLE  
LANL Classification Group  
DS 6/20/51

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The optical properties of americium oxalate have been determined by E. Staritzky, CMR-1. The compound is monoclinic and isomorphous with rare earth oxalates and Pu(III) oxalate. The intense absorption band observed in acid solution at ca. 508 m $\mu$  is resolved into three distinct bands in the oxalate crystals. The position and intensity of the bands vary when viewed with light polarized in different directions, two of the bands disappearing entirely when the direction of vibration is along the symmetry axis. The refractive indices are unaccountably lower than those for Pu(III) oxalate, contrary to the expected trend observed with the rare earths.

The purification of 81 mgs. of americium is proceeding.

CMR-4-15  
Preparation of BF<sub>3</sub> Counters.  
(Filling).

Six counters were filled with BF<sub>3</sub> (82% B<sup>10</sup>) as follows:

Evans, Povelites

One to 80 mm. Hg.  
Three to 205 mm. Hg.  
One to 302 mm. Hg.  
One to 1301 mm. Hg.

CMR-4-24  
Geiger Counting of Tritium.

A vacuum system has been constructed for the separation of tritium from contaminants and the analysis of tritium by an ion chamber method. Actual results await the construction of the ion chambers.

Goldblatt

CMR-4-28  
Separation of Tritium and  
Hydrogen.

The line for the separation of H<sub>2</sub>-T<sub>2</sub>-HT mixtures has been rebuilt and is ready for testing. New provisions are pressure warning device and current cut-off stop-cocks in path of purified T<sub>2</sub> provision for samples of purified gas for gas density measurements. The thermal conductivity bridges have been modified and installed.

Dunn, Mosley, Potter,  
Robinson

A "Servo"-operated current control has been constructed and is ready to be tested.