Elements 95 + 96

~~Artificial Elements~~

724912

BEST COPY AVAILABLE

November 21, 1945

Dr. Jacques Cattell
The Science Press Printing Company
Lancaster, Pennsylvania

Dear Doctor Cattell:

The following is a statement concerning the elements 95 and 96 as requested in your telegram to Professor Ernest O. Lawrence on November 19, 1945.

THE PRODUCTION OF ELEMENTS 95 AND 96

The 60" Cyclotron in the Radiation Laboratory of the University of California at Berkeley, has been employed to effect the transmutation of Uranium Mass 238 and Plutonium Mass 239 into elements of atomic numbers 95 and 96 respectively. In order to accomplish this task, the instrument was completely rebuilt by the group in Crocker Laboratory, during the summer and fall of 1944 so that nuclear particles could be accelerated to higher energies than had been previously available. The Cyclotron was put back into operation in January 1945 and initially was capable of producing deuterons and alpha particles at measured energies of 20 and 40 million electron volts respectively. During the next few months, Uranium 238 and Plutonium 239 were bombarded with 40 million electron volt helium ions. Element 95 was found to be produced in the Uranium targets and element 96 in the bombarded Plutonium sample. The identity of these two new elements was established by their chemical and radioactive properties. This phase of the work was done by the Chemistry Group at the Metallurgical Laboratory at the University of Chicago. Recently, the energy of the deuterons and and alpha particles has been increased to measured values of 22

1173405

and 4 million electron volts respectively.

Glenn T. Seaborg,
Metallurgical Laboratory, University
of Chicago, Chicago, Illinois
(On Leave from Dept. of Chemistry,
University of California, Berkeley, Calif.)

Joseph G. Hamilton,
Radiation Laboratory, University of
California, Berkeley, California

JGH:mm

cc: G.T. Seaborg
[illegible]
J. O'Malley
[illegible]
File

1173406