

C. M. Cooper

OH. 47

August 5, 1943

M-2

OH. 47-2

John Chipman

AUG 11 1943

Brush Beryllium Company

A.M. P.M.
7 8 9 10 11 12 1 2 3 4 5 6

WCH

On August 2nd, I visited Brush Beryllium Company along with Major Hadlock and Major Russell. Brush representatives in the conference were Dr. C. B. Sawyer, President, and Messrs. Kjellgren, Christiansen, Fletcher and Zavarine.

Production of Tuballoy at Brush ceased on July 31st. Furnaces previously used for Tuballoy will be remodelled for manufacture of Beryllium, thus releasing melting furnaces at the Loraine plant for production of beryllium fluoride. This shift will make their metal production capacity 600 pounds per month of which 500 lbs. will be available to the project.

It was agreed that the Engineers would place an order with Brush for 2000 lbs. of metal and 200 lbs. of Beryllium Fluoride, delivery to be made within four months from receipt of order.

Two grades of metal were discussed, crude lumps (crushed to 3" and smaller) and recast ingots approximately 2" x 2" x 10". The actual cost of recasting is about \$10.00 per pound, principally because of metal losses. The prices of the two grades are to be \$44.65 and \$55.00 respectively. It is anticipated that nearly all of the metal will be delivered as crude lump and that this can be used successfully for the purposes intended. It was stated that the crude material contains about 0.5 percent magnesium, which is reduced in recasting to 0.04 percent. It may also contain slag inclusions consisting of Magnesium and Beryllium Fluorides which are also removed in remelting. In other respects, the compositions of the two grades are the same.

In setting up specifications for chemical purity, the need for high purity was stressed. At the same time, it was realized that there is very little information on purity of the current product and that analytical methods are far from standardized. The principle followed was that the purity should be at least as good as the beryllium previously furnished. The following limits were agreed upon:

~~CLASSIFICATION CANCELLED ON~~

~~ADVISED TO~~

BY AUTHORITY OF JR Patton

BY Hevme DATE 7/29/86

Box 128, Folder 4

~~RESTRICTED~~

~~UNCLASSIFIED~~

Be (min.)	99.5	98.0
Fe	0.10%	0.10
Al	0.08	0.08
Mg.	0.04	1.0
Si	0.03	0.03
Mn	0.05	0.05
Cn	0.05	0.05
Ni	0.05	0.05

Other elements, specifically boron, to be as low as in metal previously furnished.

It was agreed that Metallurgical Laboratory would cooperate with Brush in developing analytical methods and standards. (Mr. Greninger will discuss this further with Mr. Boyd).

Prospects for larger production of Be were discussed. It was pointed out that our need for Be was contingent upon development of certain other programs, as well as, the outcome of casting experiments. Further expansion of Brush capacity would require building new plants for production of Fluoride and metal. Their new oxide plant should be completed late this month and this will produce 1 ton per day of oxide. Of this only 500 lbs. per day is earmarked for other purposes and the remainder is equivalent to about 15,000 pounds per month of Beryllium metal. It was agreed that Brush would initiate preliminary design work for a plant to produce 5 tons per month of metallic Be.

It is highly desirable that our plans for the use of Beryllium be developed as far in advance as possible. If there is any great probability of our needing 10 or 12 tons in 6 or 8 months, we might be justified in financing plant construction as a gamble against such need.

TECHNICAL DIVISION
J. Chipman, Section Chief

JC:MP

cc A. B. Greninger
Major Peterson
S. K. Allison
G. E. Boyd
Reading File
J. C. File

~~CLASSIFICATION CANCELLED ON~~
~~CHANGED TO~~
BY AUTHORITY OF JR Patten
BY DeVine DATE 7/29/86
Box 128, Folder 4

~~CONFIDENTIAL~~