

To: U.S. House of Representatives Natural Resources Committee – Goodyear, Arizona Critical Minerals Hearing - July 21, 2023.

From: United States Antimony Corporation per L.J. Bardswich, P.E., Director

Antimony was included on the United States Geological Survey (USGS) listing of critical minerals in 2017 “mainly because of its use in military applications.” Antimony is also on the European Union Critical Minerals list. The USGS states that the leading uses of antimony were as follows: flame retardants, 40%; metal products, including antimonial lead and ammunition, 36%; and nonmetal products, including ceramics and glass and rubber products, 24%.

It is understood that 90% of the world’s supply of antimony comes from China either as a product of their mines or from mines in other countries but is smelted and refined in China. There are presently no primary antimony mines in the US. The proposed re-opening of the antimony mine in Stibnite, Idaho (which was the primary source of antimony for all the allies during World War II), has a two-year construction time frame to production **after permitting is finalized**. United States Antimony Corporation (USAC) with head office and a small smelter and refinery in Thompson Falls, Montana has particular expertise in the production and refining of antimony products. Canada’s largest mining company trucks a waste product from their lead/zinc smelter to the Thompson Falls facilities where antimony is recovered. Small mines in Mexico supply antimony ores to a larger USAC smelter in Madero, Mexico. USAC products include antimony metal ingots, antimony trioxide and antimony trisulphide.

Metal and/or trioxide can be used in flame retardants, antimonial lead and in many non-metal-products. **Antimony trisulphide is required for primers for ammunition and tracer bullets** (recycling of this antimony is obviously not an option). Presently, USAC, from mines in Mexico, is the only approved North American mine source of antimony for the production and supply of antimony trisulfide to the Department of Defense/Defense Logistics Agency (DOD) for primers in munitions. All the major munition manufacturers in the USA have evaluated and approved the use of antimony trisulfide produced at the Thompson Falls, MT plant (using proprietary methods developed over the last 12 years) sourced from Mexican mines. However, these mines are in remote areas of Mexico, generally controlled by the cartels, and with poor roads and other infrastructure. The safety of miners, technical personnel and management is of great concern, and the lack of infrastructure, especially roads, inhibits the optimal

operation of these mines. United States government assistance in encouraging the Mexican government to provide protection to their citizens and to improve their roads to these small mining communities would be extremely helpful.

USAC continues with the search for additional antimony trisulphide sources in Idaho, Montana, Nevada, Alaska, and Canada. Most antimony showings are either too small, have erratic mineralization, or have deleterious impurities which make them uneconomic and difficult (or unsuitable) to meet DOD specifications. An exception is the Beaverbrook antimony mine in Newfoundland, Canada, however it has been purchased by a China-based corporation. (Prospectors in Alaska also report the presence of China-based parties seeking sources of antimony, but this has not been confirmed). If the search for an economic deposit becomes successful, the track record of mining companies obtaining permits on federal lands in the United States, on a timely basis, is extremely poor. The situation in Canada has recently improved but remains very time consuming. Small, high-grade deposits are easier to permit and are being mined in Mexico (utilizing lower labor costs than in the US). There may be some deposits on private land or State land in the US which may be feasible, however, to date none have been identified.

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- (a) USGS Citation Information

Publication Year	2017
Title	Antimony
DOI	10.3133/pp1802C
Authors	Robert R. Seal, Klaus J. Schulz, John H. DeYoung, David M. Sutphin, Lawrence J. Drew, James F. Carlin, Byron R. Berger
Publication Type	Report
Publication Subtype	USGS Numbered Series
Series Title	Professional Paper
Series Number	1802
Index ID	pp1802C
Record Source	USGS Publications Warehouse
USGS Organization	Eastern Mineral and Environmental Resources Science Center