

# The Department of Defense starts the Invest in Critical Minerals Strategy with the Letter “A”

written by Dean Bristow | December 21, 2022

What’s old is new again. How many times have we seen an old, either abandoned or suspended mining operation, all of a sudden come back into relevance? This seems to be happening more often as supply chains and global political maneuvering have sparked a race to “onshore” as many things as possible. However, today was a new one for me – antimony. It’s not necessarily at the top of the list of critical materials, as everyone seems to be focusing on the big five (lithium, manganese, nickel, cobalt, graphite) for EV batteries along with copper.

But here are some little know facts that may change your mind about antimony, which is on the U.S. Department of the Interior’s critical minerals list. Antimony trisulfide is essential to national defense as a key component for munitions and primers used in every branch of the armed services. Additionally, every military uniform is coated with antimony to provide fire protection and minimize infrared detection. It is also a useful material for the energy transition as a glass clarifier in solar panels or as a metal strengthener to wind turbine components. More recently, antimony is gaining recognition as a battery metal for its role in liquid metal battery technology. Yet, the U.S. has no domestic antimony production at present. Even more challenging, roughly 90% of global antimony production is controlled by China, Russia, and Tajikistan. Not exactly, the names you want at the top of your

list of a “must have” commodity.

This explains why a domestic mining company was just [awarded a Technology Investment Agreement](#) of up to US\$24.8 million under Title III of the Defense Production Act (“DPA”). That’s right, the Department of Defense has stepped up to the plate to work with [Perpetua Resources Corp.](#) (NASDAQ: PPTA | TSX: PPTA) to complete environmental and engineering studies necessary to obtain a Final Environmental Impact Statement, a Final Record of Decision, and other ancillary permits to sustain the domestic production of antimony trisulfide capability for defense energetic materials. All of this would be for the [Stibnite Gold Project](#) where Perpetua Resources is focused on the exploration, site restoration and redevelopment of gold-antimony-silver deposits in the Stibnite-Yellow Pine district of central Idaho.

The Stibnite Project is one of the highest-grade, open pit gold deposits in the United States and is designed to apply a modern, responsible mining approach to restore an abandoned mine site and produce both gold and the only mined source of antimony in the United States. Further advancing Perpetua Resources’ ESG and sustainable mining goals, the Project will be powered by the lowest carbon emissions grid in the nation and a portion of the antimony produced from the Project will be supplied to Ambri, a US-based company commercializing a low-cost liquid metal battery essential for the low-carbon energy transition.

There’s a lot of interesting things at play here but before you get too excited about this project, it should be noted that there is a lot of work to be done because of all the work that wasn’t done back in the 1930’s and 1940’s. In the absence of modern environmental knowledge and regulation, and later to meet wartime demands, the first generation of miners at Stibnite placed mill tailings wherever they could in the Meadow Creek Valley. By the time mining operations ceased in the 1950’s, more

than four million cubic yards of tailings had been placed in the upper valley. In 1959, government officials ordered the mine to breach the tailings containment and Meadow Creek flowed through, rather than around, the tailings. Over the next 20 years, an estimated 10,000 cubic yards of tailings were eroded by wind and water and washed downstream into the East Fork of the South Fork of the Salmon River system.

Not surprisingly, the proposed Stibnite Gold Project is in the sixth year of review under the National Environmental Policy Act. However, Perpetua expects that current cash resources, combined with the full DPA agreement, would provide the Company with sufficient liquidity to complete permitting and early restoration activities on the current timeline as well as additional liquidity to begin advancing construction readiness. Once back in production, Stibnite is expected to average ~35% of U.S. antimony demand. Plus, the gold component of the mine has pretty appealing economics as well with a 2020 feasibility study suggesting an NPV (5%) of US\$1.3 billion using US\$1,600/oz gold price, average annual gold production of ~465,000 ounces at a very impressive AISC of <US\$450/oz leading to average annual EBITDA >US\$550 million.

I harken back to a saying used by Tom Hanks' character in "A League of Their Own" (although that isn't the original source, it's just one of the more notable ones) "If it were easy, everyone would do it". Reclaiming and resuscitating the Stibnite Gold project is not an easy task. But Perpetua definitely has momentum on its side and a very influential supporter in the form of the Department of Defense. It would appear they have as good a chance as any to restore commercial operations at what is arguably a very important (and potentially lucrative) asset.