

## Stibnite: the future of mine permitting

Posterity could view the permitting of Perpetua Resources' Stibnite gold-antimony project in central Idaho, USA, as heralding a new generation of mining company:



One that predicates its desire to dig holes in the ground on the greater environmental good that a project facilitates, a total value approach which benefits from all minerals present, with ESG financing to make it happen, and one with a significant number of women in senior management roles. These individual elements may not be new or unique in mining companies, but together they signal a changing of the guard.

*"It is difficult to permit projects in the US, but if you can demonstrate that you can not only reclaim but restore an area, it is easier to get public support and local government support in your communities. This is truly a whole new way of looking at mining as it shows creativity, how advanced mining has become and how you can use mod-*

*ern mining techniques in a way that has changed the way people look at mining,"* Perpetua resources president and CEO Laurel Sayer told *Mining Journal*.

As part of its mine build on a brownfield site, Perpetua—formerly Midas Gold—plans to restore the local habitat including restoration of a fish passage which has been blocked for 80 years and other legacy impacts of prior mining in the region.

*"We made the commitment from the beginning to set our goals to restore to standards much higher than required by law. We are changing the ethos of what is expected of domestic mining. The opportunity here is unique to show that a brownfield site, the environment and industry can*

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*“Goldman Sachs, for example, has set aside specific ESG financing instruments. While I was with Newmont they looked at green bonds but at that point it wasn’t cost effective from a cost of capital point of view, plus there are risks as green bonds may be tied to achieving a carbon emissions reduction. Fortunately, Idaho has the lowest carbon footprint energy source in the nation. We do expect to see people investing alongside the unique environmental value of the project and undertaking this kind of rehabilitation could become a condition of finance in the future”*

*work together to provide a real sustainable approach. This is where the industry is going in this country,” Mckinsey Lyon, VP external affairs, told Mining Journal.*

The company is currently in the midst of permitting. The end of 2020 saw the US Forest Service finish the comment period for draft environmental impact statement during which it received over 10,000 comments of which, the company said, 85% were positive towards the project. Perpetua anticipates having a draft record of decision (ROD) at the end of the third quarter and a ROD by the end of this year.

Towards year end, Perpetua is likely to start arranging financing for the US\$1.3 billion development and its ESG benefits and environmental credentials are likely

to be front and centre of the financing process, much as they are in the permitting process, particularly given the financial expertise Sayer and Perpetua have access to.

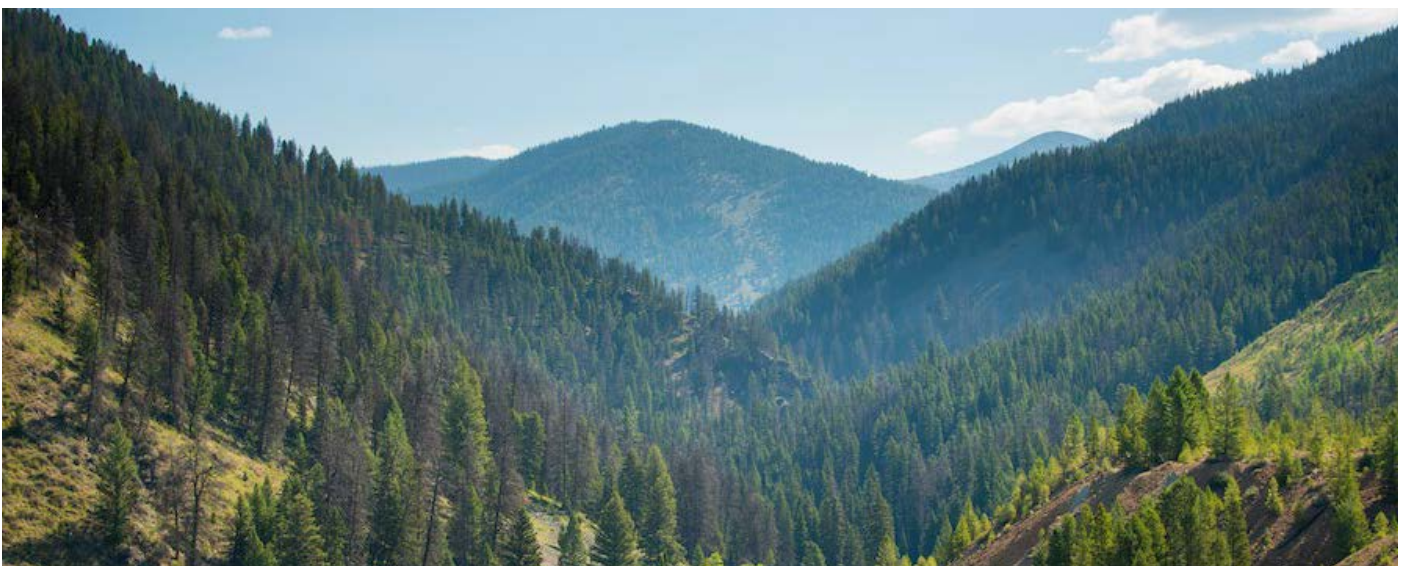
New York-based investment management firm Paulson & Co became the largest shareholder in 2020 at 44.12% after exercising its convertible notes. In February, Perpetua appointed Endeavour Financial as its advisor and hired Jessica Largent as VP investor relations, who previously held finance leadership roles at Newmont, Turquoise Hill Resources and Rio Tinto.

Largent believes Stibnite could obtain 60-70% of the finance through debt and that the environmental aspects of the project could make it an attractive investment for ESG funds and possibly green bonds.

*“We are casting a wide net and looking at ESG financing due to the rehabilitation element of the project,” Largent told Mining Journal.*

Going beyond the legal rehabilitation requirements is an approach an increasing number of projects are taking to help secure environmental permits. In Antioquia, Colombia, AngloGold Ashanti plans to restore degraded tropical dry forest as part of its Quebradona copper-gold project. In Chile, the permitting of new tailings dams could be conditional on companies undertaking the rehabilitation or reprocessing of historical tailings dam liabilities. Reprocessing tails is included in the Stibnite project plan.

With financial institutions increasingly concerned about their reputations and ESG impacts of their investments, they are likely to encourage companies seeking finance to have a more far-reaching scope to



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the environmental aspects of the projects they seek finance for.

Miners are increasingly adopting a full value approach to mining whereby they seek to exploit the full suite of minerals available in a deposit, both for environmental efficiency as well as seeking to maximise revenue streams. Full value mining was a keynote topic at the March Prospectors and Developers Association Conference. For Stibnite, this means exploiting antimony as well as gold.

Stibnite's proven and probable reserves contain some 149 million pounds of antimony—in addition to 4.8 million ounces of gold and 6.4Moz of silver—a product with wide-ranging industrial uses from flame retardants to flame creators in the form of munitions. Its ability to strengthen alloys and make them corrosion resistant sees it used in wind and hydro turbines, solar panels, large storage batteries, spaceships, cell phones, semiconductors, plastics and cable sheathing.

In addition to a second revenue stream, the ability to float the antimony into a commercial concentrate provides Perpetua with a permitting benefit given that the mineral is on the US government's list of critical metals. US president Joe Biden issued an executive order in February on securing America's critical supply chains as a policy of his administration with antimony being a key mineral in three out of the four areas the president directed federal officials to focus on. In production, Stibnite would be the only US domestic source of production, capable of supplying 35% of US demand in a market dominated by Chinese and Russian supply.

The company recently relocated its head office from Canada to state capital Boise and dual-listed on NASDAQ to boost its US credentials.



*"I don't see government lifting any regulations to speed up any NEPA or regulatory process, but that doesn't mean [the processes] cannot be streamlined and having government agencies doing it in a timely fashion. I can see there could be importance put on certain projects to get critical minerals permits processed,"* said Sayer.

Marcelo Kim of Paulson & Co told *Mining Journal*: *"We differentiate ourselves on the critical minerals and the restoration aspect. We are real about conservation and restoring the site. We are dealing with new administration which is going to be favorable to mining projects that have the right commodities, but have to be very careful. A pure gold project in a greenfield site may be difficult to permit, but we are brownfields and it needs restoration and will produce antimony."*

The December 2020 Stibnite feasibility used a \$3.50/lb price for antimony, which represented about 5% of project revenue. The price is currently about \$5/lb and is expected to continue trending higher.

The ability to sell a stream on antimony could be another string in the company's financing efforts, although Perpetua is wary of locking in a price when its pricing expectations are bullish. *"Gold is driving the project economics but if antimony prices continue going up that could change. There has been a 90% increase in the antimony price over the last 12 months so, would we want to sign up a stream given where the price could go?"* said Largent.

Most antimony is processed in China. In the US, US Antimony has a processing plant in Montana and there is a non-active facility in Idaho that could potentially be used. Given its presence on the US critical minerals list, export to China is unlikely to be where Stibnite's product ends up.

*"We have a clean source of antimony, so we won't have issues placing it. We will assess the market in the context of the critical minerals supply chain risk. It could go directly to the Dept of Defense. There is certainly a non-financial aspect to the decision-making,"* said Sayer.

Shares in Perpetua Resources are trading at C\$8.95, valuing the company at \$425 million.

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