

Global Geoscience picks Rhyolite Ridge pathway

NEVADA-focused Global Geoscience is angling to become the first company in the world to recover lithium using vat leaching, and has completed the first stage of the Rhyolite Ridge prefeasibility study to outline the best way to develop what could become a major, low-cost lithium-boron operation.

The company has examined a variety of recovery options, including vat, heap and agitated tank leach, and has narrowed its focus to vat leaching with an on-site acid plant, a design supported a higher grade pregnant leach solution that offers lower operating costs despite an increase in the up-front capital costs.

The junior said a key saving should be the ability to use the steam generated from the process to supply its own zero-carbon emission power, and even sell an excess 20-30 megawatts of electricity into the grid.

The credits from the use of steam and power generation should help reduce the costs of sulphuric acid for the vat leaching process to between US\$20-30/t.

Further, the design being contemplated uses less water and a smaller area at surface.

The use of mechanical evaporators over solar evaporation ponds should provide a higher degree of control over a simplified downstream process, a smaller footprint, lower water use and overall lower costs.

Dry stacking of vat leach rejects will also lower the capital costs and the requirement for a tailings dam.

Managing director Bernard Rowe said that recent trade-off studies demonstrated a clear path forward for the project, and highlighted the potential for Rhyolite Ridge to be a major, low-cost producer of lithium and boron "in an environmentally sustainable manner".

"Sulphuric acid is an important economic driver for the project, and the combination of vat leaching together with an on-site acid plant will substantially lower the cost of acid, thus reducing the overall operating costs," he said.

"An acid plant will produce large amounts of steam that can be used for heating in the processing plant and for generation of electricity via steam-driven turbines with excess power available for selling into the grid.

"Steam produced from the acid plant negates the high input costs normally associated with mechanical evaporation.

"Vat leaching, coupled with mechanical evaporation, produces the most concentrated pregnant leach solution with consistent composition, thus simplifying downstream processing."

The full PFS is expected to be completed mid-year and will consider additional ways of lowering processing costs and speeding up payback times.

Shares in Global Geoscience were up 2.1% in morning trade to A48c, valuing the company at \$642 million.