Glencore Technology simplifies leaching processes to treat complex ore

Throughout the years, Glencore Technology has been at the forefront of developing processes and technology that improve efficiencies and keeps mining operations viable.

For the past 30 years, Glencore Technology has been dedicated to marketing these innovations around the world, along with continuing to develop technology used in the metals and mineral processing industries.

With orebodies becoming increasingly more complex to process, innovative solutions are required to maximise value from orebodies while producing an efficient solution to extract the ore.

What makes Glencore Technology unique is our ability to provide an end-to-end solution. We work with clients from the initial stage of test work, to understanding the problem and identifying an innovative solution, through to standing beside them and commissioning the technology, and finally achieving the desired outcome.

An example of this ingenuity is one of Glencore Technology’s newest innovations, the Albion Process™, which was developed in 1994 and has made the task of treating complex ores much simpler.

The Albion Process™ uses oxidative leaching after ultra-fine grinding using our IsaMill™ technology, to recover precious metals from complex ores.

Coupled with Glencore Technology’s HyperSparge™ technology, the Albion Process™ is able to deliver on its reputation as low cost and low risk, incorporating all of Glencore Technology’s expertise from more than 20 years of development history to create the leaching technology.

While leaching isn’t used to extract minerals at our north Queensland operations, where we use traditional flotation methods, the process of oxidative leaching was developed based on challenges to extract zinc at our McArthur River Mine operations in the Northern Territory.

Initially used in Glencore’s zinc processing operations, the Albion Process™ technology has since taken off and is also used in gold processing with two large sites in the Dominican Republic and Armenia using the technology for their highly complex orebodies. By using the Albion Process™, these sites now have a more efficient and simple way of recovering gold. While other technologies can perform similar work, they tend to involve far more complex processes and are not as economical as the Albion Process™.

Without technology such as the Albion Process™, a lot of projects that Glencore Technology have been involved in may not have taken-off. Considered as ‘enabling technology’, some orebodies would have been considered uneconomical by using other processes, but are able to be mined and processed thanks to the Albion Process™.

The first stage of the Albion Process™ is ultra-fine grinding of the concentrate, using the energy efficient IsaMill™ technology. After the concentrate has been finely ground, the slurry is then leached, in agitated vessels and oxygen is introduced to the leach slurry to oxidise the sulphide minerals using Glencore Technology’s HyperSparge™ supersonic injection lances.

The HyperSparge™ is a cost efficient system, which uses less power and reagent consumption when compared to other methods, that delivers air, oxygen or other process gases into tanks or vessels for leaching or oxidation processes.

The HyperSparge™ technology is also versatile, and is able to be adopted and used in industries other than mining, including wastewater treatment and fermentation for brewing, food and beverage and pharmaceuticals.

As proven with the grouping of the IsaMill™, Albion Process™ and HyperSparge™ technologies, one of the major advantages of Glencore Technology’s innovations is that they are able to work together, and by doing so are making a big impact in providing innovative solutions to complex situations.

These innovations are also applied, tried and tested at Glencore’s own operations and others around the world, significantly maximising the value of finite mineral assets and contributing towards supplying vital resources to the world.