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New extraction technology could provide the key to unlocking scandium deals.

Platina Resources' (ASX: PGM) will advance its trial of vat leaching for scandium extraction at its Platina Scandium Project (PSP) in New South Wales after initial tests highlighted its potential as a cheaper alternative to high pressure acid leaching (HPAL).

Traditionally used for oxide gold and copper ores and sometimes nickel laterite ores, vat leaching of our PSP ore produced encouraging results towards a proof of concept and delivering a smaller, lower cost project better aligned to the low volumes of scandium in the current market.

While conventional HPAL may recover more metal, the technology is more complex, larger scale and requires considerably more capital than vat leaching.

Platina Managing Director Mr Corey Nolan said the establishment of a cheaper, western world supply source of scandium would support the company's international campaign to secure production offtake agreements and enable project financing.

"We have been targeting potential customers in the USA, Europe, Asia and Australia but the key to unlocking a deal is lower prices for scandium oxide that can compete with other aluminium alloys in the market," Mr Nolan said.

"As such, Platina has been assessing a number of smaller scale development options to the HPAL process that formed the basis of our 2018 Definitive Feasibility Study whilst assessing different processing options for the ability to scale up production should demand increase."

Vat Leaching Trial

Initial agglomeration tests of PSP ore were carried out in bottle rolls to establish the right measure of acid, chemical binder, and water relative to the dry ore sample to create suitable characteristics for vat leaching.

A sample of the agglomerates is shown in Figure 1 overleaf. A leach column test in a 144 mm diameter column with a bed depth of 1.4 m showed that the agglomerates were stable in the leach bed after an initial slump, allowing leach solution to percolate through the ore. Scandium extraction was 22% after 31 days, with acid consumption of just over 100 kg acid/t of ore. Based on the linear leaching rate, 50% scandium extraction could be achieved in approximately 24 weeks.

New frontiers. New growth.

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Similarly, acid consumption is linear after the initial few days of leaching, and the calculated acid consumption for 50% scandium extraction is 477 kg per tonne of ore. A counter-current vat leaching arrangement would lower the acid consumption.

A second phase of testwork is planned to confirm these preliminary results and to obtain leach solutions for further processing. The aim will be to determine whether scandium could be recovered using a solvent extraction process similar to that in use at titanium dioxide pigment plants to recover scandium from spent acid. This will provide data to enable an initial economic evaluation of the process to determine its viability.



Figure 1: A sample of the agglomerates showing samples are relatively uniform in size and shape, with good retention of fine material on coarser grains. They remained moist after curing but with negligible retention of excess moisture. A soak test determined that the agglomerates were stable in aqueous environments.

Hybrid project

Platina has also been assessing the technical and economic viability of developing a battery materials processing plant that would produce nickel, cobalt, high purity alumina (HPA) and scandium from ores sourced throughout the Australia/Pacific region and blended with PSP ore. The concept involved designing the plant size to minimise capital expenditure and generate an attractive economic return for investors. The smaller plant size would also reduce technical and financial risks compared to large scale HPAL projects.

Initial modelling of the process option based on published information and historical testwork shows that a processing operation based on a blend of 90% imported limonite rich nickel/cobalt laterite ore and 10% scandium-rich PSP ore at approximately 250 t/d could be feasible. This operation is based on using novel leach and recovery technologies from Australian suppliers. The potential products that could be produced include nickel/cobalt mixed hydroxide, scandium oxide and HPA.

Sources of the imported high-grade nickel/cobalt laterite ores have been identified. State Development Areas on the eastern seaboard with suitable shipping logistics, and access to power and natural gas are being reviewed.

Platina has commenced a process of seeking potential development partners for the concept including working with Traxys.



This announcement was authorised by Mr Corey Nolan, Managing Director of Platina Resources Limited.

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ABOUT PLATINA RESOURCES

Platina is an Australian-based company focused on returning shareholder value by advancing early-stage metals projects through exploration, feasibility, permitting and into development.

The company has interests in the following projects:

- Challa Gold Project (100% interest – on completion) – Platina has entered into a conditional agreement to acquire a 100% interest in the Challa Gold Project located in-between the prolific Mt Magnet and Sandstone gold districts in Western Australia, 500km north-east of Perth.
- Platina Scandium Project – located in central New South Wales, the project is one of the largest and highest-grade scandium deposits in the world, which has the potential to become Australia’s first scandium producer with cobalt, platinum and nickel credits.
- Skaergaard (100% interest) – One of the world’s largest undeveloped gold deposits and one of the largest palladium resources outside of South Africa and Russia, located in Greenland; and
- Munni Munni (30% interest) – Situated in the Pilbara region of Western Australia, the project is one of Australia’s most significant Platinum Group Metal occurrences. Munni Munni also has potential for conglomerate hosted gold and is a joint venture with Artemis Resources Limited.
- Blue Moon (to earn 70% interest) – Located in California, USA. The project has a NI43-101 resource which is open at depth and along strike and has favorable metallurgy.

DISCLAIMER

Statements regarding Platina Resources’ plans with respect to its mineral properties are forward-looking statements. There can be no assurance that Platina Resources’ plans for development of its mineral properties will proceed as currently expected. There can also be no assurance that Platina Resources will be able to confirm the presence of additional mineral deposits, that any mineralisation will prove to be economic or that a mine will successfully be developed on any of Platina Resources’ mineral properties or that Platina will achieve any of the valuation increases shown by the peer group zinc companies.