Jervois to integrate Pressure Oxidation Leach Circuit into SMP Refinery

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Highlights

- - Flowsheet optimisation for Jervois’ São Miguel Paulista nickel-cobalt refinery determines integration of a pressure oxidation (“POX”) leach circuit

  - POX leach circuit will debottleneck capacity and provide greater flexibility to refinery feed options

  - Jervois plans to process sulphide concentrate from its Idaho Cobalt Operations (“ICO”) in the United States as well as third-party concentrates

  - Jervois is in discussions with potential third-party suppliers

  - ICO remains on schedule for initial production from mid 2022; site construction adjusted to separated concentrate products to maximise optionality of SMP Refinery copper capacity, and enhance restart economics

  - Jervois on track to become a vertically integrated producer capable of refining cobalt and nickel.

TheNewswire - 18 January 2021 - Jervois Mining Ltd. (“Jervois” or the “Company”) (ASX:JRV) (TSXV:JRV) (OTC:JRVMF) advises that it plans to integrate a pressure oxidation leach circuit (“POX”) into the São Miguel Paulista nickel-cobalt refinery (“SMP Refinery”) in Brazil.

Jervois paid the first tranche towards its acquisition of SMP Refinery in December after announcing plans to acquire the refinery in September 2020. The acquisition aims to complement its 100%-owned Idaho Cobalt Operations (“ICO”) in the United States, transforming Jervois into a vertically integrated producer capable of refining cobalt and nickel.

It appointed Elemental Engineering (“Elemental”) to commence sysCAD modelling of the SMP Refinery flowsheet for optimization of product integration, including hydroxides and carbonate products, oxides and sulphide concentrates as part of a Feasibility Study (“FS”) for SMP’s restart. Elemental is an Australian based firm with significant nickel and cobalt refining experience.

As a result of Elemental’s work, Jervois has determined it shall integrate a POX leach circuit at the SMP Refinery. The inclusion of the POX autoclave offers a number of advantages compared to roasting concentrates, namely high metal recovery, low overall operating costs, enhanced ESG metrics due to lower emissions and energy usage, improved refined product purity and compact installation footprint on site. Preliminary POX sighter testwork at SGS Perth Western Australia in conjunction with Elemental’s work returned satisfactory results.

Whilst POX will be higher capital than roasting alternatives, it is commercially demonstrated technology with low technical risk, allowing Jervois to leverage its recently appointed commercial team, led by Greg Young based in the United States. A POX autoclave better compliments the refinery flowsheet, unlocks sunk capital by debottlenecking the existing leach capacity and adds significant flexibility to future refinery feed options.

Jervois will process sulphide concentrate produced from ICO via this integrated POX leach circuit.

Jervois’ commercial team are actively pursuing supply contracts for nickel and cobalt intermediate products. The introduction of a POX autoclave opens up greater capacity to leach other hydroxide and carbonate feed products to maximize existing refinery capacity.

Third-party concentrates can also be potentially introduced into the POX to process with Jervois’s ICO concentrates. Early discussions with potential third-party suppliers of sulphide based concentrates have been positive, with the Company now openly engaging with suppliers to optimize the sizing and economics of front-end pre-treatment.

As part of this, a decision has been made to reserve the maximum amount of copper capacity at SMP Refinery for third parties. A consequence is that ICO construction is being advanced on the basis of the production of separated cobalt and copper concentrates. Jervois’s engineering advisers DRA Global and M3 Engineering completed the ICO BFS on both bulk and separated concentrate flowsheets. Construction plans are being implemented based on the production of cobalt concentrate (containing gold and low in copper), and a copper concentrate. Commercial terms were obtained for both separated products as part of the BFS.

Jervois and Companhia Brasileira de Alumínio (“CBA”) continue to work expeditiously towards closing Jervois’ acquisition of SMP, as previously announced. Jervois plans a measured and staged approach to the refinery facility restart. Initial refurbishment works will be completed to progress the processing of intermediate hydroxide and carbonate products followed by the integration of the POX leach circuit to align with ICO commissioning.

Jervois is in discussions with suitably qualified engineering contractors that have the appropriate nickel and cobalt refining experience, have a significant presence in Brazil, and have recently completed a POX and metals plant installation, to award the BFS for the refinery restart. This formal tender process is underway.

On behalf of Jervois Mining Ltd.

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About SMP Refinery

SMP Refinery is a nickel and cobalt electrolytic refinery designed and constructed by Outotec that commenced operations in 1981. The facility is located in an industrial zone in the city of São Paulo, Brazil. It was placed on care and maintenance by CBA in 2016 after its primary source of raw materials at the time, CBA’s Niquela?ndia nickel-cobalt mine in the Brazilian State of Goiás, was also paused. SMP Refinery’s production capacity was 25,000 metric tonnes per annum (“mtpa”) of refined nickel cathode and 2,000mtpa refined cobalt cathode.

SMP Refinery produced electrolytic nickel with 99.9% purity, exceeding the base specification required by the London Metal Exchange (“LME”). This product was historically used in premium applications such as superalloys, specialty stainless steels, electroplating and batteries. SMP Refinery broken cobalt cathodes were also of high quality and historically used in superalloys and batteries. Nickel and cobalt cathodes were sold under the brand “Tocantins” and have an established customer base in key regions of demand today – the United States, Europe and Japan.

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