

Australia 6 September 2016

# MT CATTLIN UPDATE

# Highlights • Full • Refi

- Full management control of Mt Cattlin assumed by Galaxy following completion of General Mining takeover
- Refurbishment and upgrade of Mt Cattlin past 80% complete
- Primero Group engaged as project managers for final stages of construction, commissioning and ramp up of operations
- Plant modifications and delays during construction will see processing plant fully operational during November
- Discussions advanced with offtake customers for 2017 volumes and pricing
- Entech mining consultants engaged to update independent study released 12 October 2015 based on increased throughput of 1.6mtpa and current market economics

Galaxy Resources Limited (ASX: GXY) ("Galaxy" or the "Company") is pleased to provide the following update for its Mt Cattlin project in Ravensthorpe, Western Australia.

In July 2016, General Mining Corporation Limited ("General Mining") announced the decision to upgrade the annual throughput of Mt Cattlin from 800,000 tonnes per annum to 1,600,000 tonnes per annum. This decision will deliver substantial operational efficiency and greater capacity to meet the current demand for spodumene production from the Chinese market. The upgraded capacity of the plant will see annual spodumene concentrate production increased to at least 160,000t (based on a 50% recovery yield), from the previously budgeted 80,000 tonnes.

Following the successful completion of the takeover of General Mining, the Company engaged experienced lithium plant engineering company Primero Group ("Primero") to conduct a comprehensive review of the status of the Mt Cattlin plant construction, commissioning and production schedule.

Galaxy is pleased to report that the refurbishment and upgrade of Mt Cattlin has passed 80% completion. Primero mobilised their team to site in late August to finalise the construction and completions packages and to begin implementing their planned commissioning and start-up program. The Primero team has significant experience as project managers in the construction, commissioning and ramp-up of other hard rock lithium/tantalum projects very similar to Mt Cattlin.

Since mobilising to site Primero have undertaken a complete gap analysis. Resequencing of a number of activities has enabled the construction to progress along the critical path elements to maintain focus on key areas of the plant for commissioning and ramp-up.

The combination of changes being built into the mica removal circuit, increased throughput capacity, the project management changes and a period of heavy seasonal weather have resulted in delays to the production and shipment forecast previously announced by General Mining. Galaxy now expects final commissioning and first production to be during November, with first shipment from the Port of Esperance during December 2016.

Galaxy has kept their offtake counterparty, Mitsubishi Corporation, fully informed of the anticipated delays including taking representatives of Mitsubishi and one of their Chinese customers to site during the week of 22 August 2016. Notwithstanding the anticipated delay to first

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shipment, customers have requested increased tonnage above the already contracted amount for 2017 and later years. Galaxy is now negotiating terms with Mitsubishi and its Chinese customers for the additional tonnage now available from the expanded production.

### **Detailed Progress Update**

Previous spodumene production from Mt Cattlin had a high mica content which resulted in much higher operational costs through higher transport charges and penalties. An integral part of the restart of Mt Cattlin has therefore incorporated a redesign of the mica removal circuit to incorporate reflux classifiers. By joining mica removal with lithium beneficiation as a single stage, the redesign focused on:

- Reduction of mica content below 5% total mass in the finished concentrate
- Upgrading fine lithium content to above 5.5% Li<sub>2</sub>O
- Reduction of operational costs for fines treatment by removal of flotation circuit

The reflux classifier separates particles based on density, similar to that of the coarse circuit at Mt Cattlin where coarse particles are separated in the dense medium separation ("DMS") circuit. Due to the size limitations of DMS, fine spodumene is historically only recovered through flotation, which requires:

- chemicals
- specific water quality
- separate water recovery circuit
- specialised equipment
- additional operating labour
- increased filtration capacity
- fine grind size

The revised flow sheet incorporating the use of reflux classifiers as a dual-duty mica removal and lithium beneficiation circuit is expected to achieve considerable efficiencies. The change required the addition of a second reflux classifier to the fines circuit. This allowed for a closer particle size range in each unit, reducing the loss of lithium to tails. These circuit changes will however require an extended commissioning duration. Further optimisation steps are planned to increase final yields and may incorporate a small flotation circuit as a second stage lithium concentration circuit.

# Lifting Final Reflux Classifier into Position



#### Reflux Classification Building





# Reflux Classification Building



A summary of the status of other key activities is as follows:

- MCC (Motor Control Centre) modifications nearing completion
- Field terminations to major equipment commenced
- Modified feed preparation circuit in pre-commissioning
- New reflux classifier building erection complete
- All major equipment installed in reflux classification circuits with piping and electrical installation progressing
- Tailings thickener modifications nearing completion
- All major equipment installed in the fines classification and tantalum beneficiation circuits with piping and electrical installation progressing
- Modifications to final product materials handling transfer 60% complete
- Fines filter structure in position with horizontal vacuum belt installed
- DMS circuits re-configuration and upgrade in progress

# **Future Milestones**

Circuit	Milestone	Date (Week Beginning)
All circuits	Dry sequence commissioning	11th September
Feed classification	Wet commissioning	25th September
Tantalum beneficiation	Wet commissioning	2 <sup>nd</sup> October
Reflux classification	Wet commissioning	9th October
Dense medium separation	Wet commissioning	6 <sup>th</sup> November
Dewatering & tailings	Wet commissioning	13th November
All circuits	Water commissioning	20th November
All circuits	Ore commissioning and production commencement	27th November
Esperance Port	First shipment	December

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# Crushing ROM Material for Commissioning



Galaxy and Primero are also currently undertaking a detailed assessment of the capital costs expended to date and forecast to complete—the construction and commissioning of Mt Cattlin until first revenue is received from Mitsubishi, now scheduled for December 2016. The total capital cost is now forecast to be A\$22.4 million compared to the A\$15million previously announced by General Mining, resulting from the throughput capacity upgrades together with the other plant modifications as outlined. To the extent that any cash shortfall is forecast after utilization of existing cash resources, including the prepayments received from the Chinese customers, some directors of the Company have indicated their willingness to assist in arranging the necessary working capital from their own resources until such time as significant free cash flow is achieved in 2017 when operations reach full capacity.

Subject to any legal requirements, holders of outstanding options including those held by director Mr Michael Fotios, resulting from the takeover of General Mining, have committed to exercising early during September. The amount to be received by Galaxy from the exercise of these options is approximately \$2.4 million.

Galaxy will continue to update the market as the outlined milestones are reached.



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# About Galaxy (ASX: GXY)

Galaxy Resources Limited ("Galaxy") is a global lithium company with lithium production facilities, hard rock mines and brine assets in Australia, Canada and Argentina. It owns the Mt Cattlin spodumene and tantalum project near Ravensthorpe in Western Australia and the James Bay lithium pegmatite project in Quebec, Canada.

Galaxy is advancing plans to develop the Sal de Vida lithium and potash brine project in Argentina situated in the lithium triangle (where Chile, Argentina and Bolivia meet), which is currently the source of 60% of global lithium production. Sal de Vida has excellent potential as a low cost brine-based lithium carbonate production facility.

Lithium compounds are used in the manufacture of ceramics, glass, and consumer electronics and are an essential cathode material for long life lithium-ion batteries used in hybrid and electric vehicles, as well as mass energy storage systems. Galaxy is bullish about the global lithium demand outlook and is aiming to become a major producer of lithium products.

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