Australia 23 July 2020



# **JUNE 2020 QUARTERLY ACTIVITIES REPORT**

# Sal de Vida advances to design phase & piloting underway Multi-year offtake extension executed at Mt Cattlin

Galaxy Resources Limited (ASX: GXY, "Galaxy" or the "Company") is leveraging its portfolio of world-class development assets to create a sustainable, large scale, global lithium chemicals business. Galaxy is pleased to report on activities undertaken in the June 2020 quarter and its financial position as at 30 June 2020.

# **QUARTERLY HIGHLIGHTS**

#### COVID-19

- COVID-19 health and safety practices implemented organisation wide without incident
- Sal de Vida's development schedule has been impacted but Stage One production in 2022 remains the target
- Mt Cattlin operations continued without major disruption and James Bay's site based geotechnical program rescheduled for Q3

#### PROJECT DEVELOPMENT

#### Sal de Vida, Argentina

- Front-end engineering design of the wellfield and ponds is underway and the process plant package is out for tender
- Process test work is yielding high quality primary lithium carbonate with grade at the upper end of expectations
- Pilot plant commissioned and first piloting run was successfully completed post-quarter, with the second run scheduled in August
- Evaporation of brine in the pilot ponds is performing in line with process and atmospheric models
- Permitting is progressing with the granting of operational permits for the extraction of fresh water and use of reagents
- Galaxy remains in a strong position to execute its growth strategy countercyclically and meet the forecast lithium demand surge

#### **PRODUCTION & OPERATIONS**

#### Mt Cattlin, Australia

- Operational performance under the new campaign mode of operations improved throughout the quarter
- Production volume of 30,942 dry metric tonnes ("dmt") achieved at a grade of 5.93% Li<sub>2</sub>O, in line with annual guidance
- Ore sorter circuit approaching nameplate performance at 1,000 t/ day of stockpiled, low grade ore processed through the plant
- 26,030 dmt of spodumene concentrate was shipped in June, bringing total H1 shipments to 58,542 dmt
- Post-quarter, a multiyear offtake extension was executed with long term major customer

# **FEASIBILTY**

# James Bay, Canada

Value engineering work completed with results showing reduced capital intensity and operating costs

#### **FINANCIAL & CORPORATE**

- As at 30 June 2020, Galaxy was debt free with cash and financial assets of US\$108.6 million
- Proceeds from the June shipment were received post quarter and final product inventory of 49,463 dmt was held at quarter end
- Cost reduction initiatives yielded annual group savings of ~US\$7 million



# **SUSTAINABILITY**

Galaxy is committed to undertaking operations in a transparent, ethical and responsible manner. Galaxy has commenced alignment of its environmental, social and governance practices with international frameworks. The first annual Sustainability Report was released on 20 April 2020 and is available here.

#### **Safety Performance**

The Total Recordable Injury Frequency rate for the rolling 12 months ending 30 June 2020 was 13.9, a 22% decrease from the previous quarter. All operations have remained Lost Time Injury free for the past 12 months and as result, Galaxy's Lost Time Injury Frequency Pate is nil

Enhanced safety practices were actioned earlier in the year and were focused on behavioral indicators and risk awareness. COVID-19 prevention practices were implemented across the organisation and Galaxy's sites have recorded nil cases to date.

#### **Environment**

At Sal de Vida, in Catamarca Province, northwest Argentina, progress was made on approvals with the granting of a groundwater permit by the provincial water authority for industrial and domestic use. A permit for the use and storage of chemical precursors (reagents) was also approved by the federal regulator. Additionally, an environmental baseline study was completed during the quarter.

At Mt Cattlin, a community engagement program is underway which involves the local high school students growing tube stock for the rehabilitation of the waste rock dump. Seeding and planting is scheduled to commence in August with further community involvement.

#### Community

Galaxy is committed to regularly engaging with community stakeholders and providing positive, lasting benefits through employment opportunities and health and educational initiatives.

At Sal de Vida, a social baseline study was completed with positive perceptions and feedback received. Galaxy provided medical supplies to the Antofagasta de la Sierra hospital to assist in preventing the spread of COVID-19. A second lithium seminar was conducted virtually at the University of Catamarca which was attended by approximately 60 students interested in the industry.

As part of a two-year corporate social responsibility program, Galaxy has committed to three projects to support the communities surrounding the Sal de Vida project. Construction and expansion of the two schools has been interrupted by COVID-19 restrictions and the first aid facility at the nearest village to the project has been rescheduled to commence in Q4.

At Mt Cattlin, Galaxy sponsored a series of workshops for the local community promoting health and wellbeing practices.

# PROJECT DEVELOPMENT

#### SAL DE VIDA, Catamarca, Argentina

Galaxy is de-risking the Sal de Vida Project by developing a simplified flowsheet, utilising mature technology and by staging development to smooth capital expenditure and reduce market risk. Galaxy is committed to ensuring that the Sal de Vida Project has highly competitive capital intensity and operating costs. Excellent progress has been made during the quarter to realise these objectives.

# **Engineering and Process Development**

The project moved into the design phase with the commencement of front-end engineering design ("FEED") of the wellfield, brine distribution and evaporation ponds. A second FEED package for the process plant and non-process infrastructure is out to tender and will be awarded in Q3 after the evaluation and selection process. Preferred solutions for energy and logistics scopes have also been selected and are being progressed.

A long-term hydrological pump test was successfully completed in June with 30 days of continuous brine flow from an operational well. Significant data was collected during the test relating to brine volume, quality and aquifer behavior and the aquifer continues to be monitored as it recharges. Initial results indicate that all performance parameters were achieved and some may be upgraded in the revised hydrological model, providing improved confidence for design and operating assumptions.

The second stage of detailed product specification test work is now largely completed. This work was undertaken at an independent metallurgical test facility and focused on reducing reagent consumption whilst simultaneously optimising cost, product quality and recovery. Results exceeded expectations especially in regard to product quality with primary lithium carbonate grades at the upper end of the expected range. Recovery was also in line with previous test work and these results further validate the simplified process flowsheet developed in late 2019.



#### **Piloting Phase and Onsite Activities**

Significant progress has been made at site despite the impact of COVID-19 restrictions. Filling of the 15 hectares of demonstration ponds was completed early in the quarter and monitoring of the brine chemistry demonstrates that evaporation is occurring in line with process and atmospheric modelling. The pilot plant was commissioned, and the first pilot run was successfully completed post quarter as planned. An operations centre has been established in Perth to enable the Perth technical team to monitor piloting in real time.



Figure 1: Pilot ponds are operational (left) and the first pilot plant run was completed post quarter (right)

The objectives of the piloting phase are to use Salar del Hombre Muerto brine evaporated under normal atmospheric conditions to:

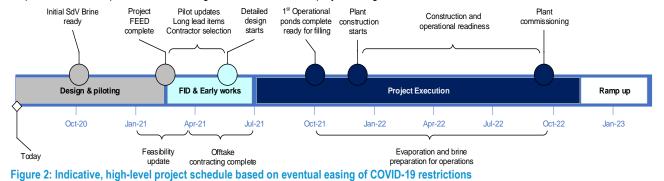
- produce representative samples of primary grade lithium carbonate for customer assessment and value chain qualification;
- validate the flowsheet and key operating assumptions under real operating conditions; and
- enable vendors of critical process equipment to confirm performance and operating design criteria.

#### Impact of COVID-19 and Updated Development Pathway

The project has experienced various interruptions from COVID-19 related restrictions throughout the quarter. This has caused some delays to the piloting schedule, with flow on impacts on the production of samples, customer testing and offtake negotiations. Pleasingly, engineering design work continues unhindered offsite.

In Catamarca, the lockdown concluded on 20 July and current restrictions are based on social distancing and hygiene practices although regional controls continue to hamper ground transportation, provision of goods and services and personnel movements. Galaxy is monitoring the situation closely and will advise on any material changes to the project schedule outlined below.

The overall impact on the full project schedule has been minimised through the adoption of an early works phase and Galaxy is still targeting first production from Stage One in 2022, although now in Q4. Early works, which is expected to include the procurement of long lead items and the commencement of pond construction, is scheduled to occur in H1 2021. Other critical path activities have progressed as planned and an updated indicative high-level schedule is displayed in Figure 2.



This schedule is based on an eventual easing of COVID-19 restrictions. In the event that restrictions do not ease timeously, Galaxy will adapt its execution strategy where possible while prioritising the health and safety of staff and the surrounding communities. The project team is monitoring the progress of all packages closely and continues to develop contingency plans to mitigate major risk elements where

feasible. Galaxy will provide further updates on the schedule periodically.



# **PRODUCTION & OPERATIONS**

#### MT CATTLIN, Western Australia

Galaxy responded swiftly to the COVID-19 pandemic earlier in the year by implementing health practices and localising the workforce, which enabled operations to continue without disruption. These preventative measures remain in place although operational rosters are in the process of being adjusted back to pre-COVID settings.

As previously advised, Galaxy adapted to soft conditions in the lithium market by lowering operational plans for 2020, prioritising the processing of stockpiled ore and reducing final product inventory levels. The June quarter is the first full quarter operating under this market driven strategy and results demonstrate that operations are on track to meet 2020 forecast production metrics as shown in Table 1 below.

Table 1: June guarter production and sales statistics & 2020 forecast production metrics

	Units	Q1 2020 <sup>1</sup>	Q2 2020	H1 2020	2020 Forecast Production Metrics
Mining					
Total material mined	bcm	72,640	577,907	650,547	1,600,000 - 1,800,000
Ore mined	bcm	29,115	124,096	153,211	-
Processing					
Ore processed	wmt	154,457	324,503	478,960	900,000 - 1,000,000
Grade of ore processed	% Li <sub>2</sub> O	1.03	1.04	1.04	1.0 – 1.2
Mass yield	%	9.5	9.7	9.6	-
Recovery	%	55	55	55	58 – 62
Concentrate produced	dmt	14,306	30,942	45,248	90,000 – 105,000
Grade of concentrate produced	% Li <sub>2</sub> O	6.06	5.93	5.97	6.0
Sales			·	<u> </u>	
Concentrate shipped	dmt	32,512	26,030 <sup>2</sup>	58,542	-
Grade of concentrate shipped	% Li <sub>2</sub> O	5.9	5.9	5.9	-
Production Costs					
Cash cost per tonne produced	US\$/t FOB	592	412	469	-

<sup>&</sup>lt;sup>1</sup> Mining and processing operations recommenced sequentially from mid-February through to early March.

#### **Financial Performance**

The FOB unit cash cost of lithium concentrate produced for the quarter was US\$412 dmt, a 30% decrease from the previous quarter where unit costs were impacted by a partial quarter of operations only.

# Mining & Processing

Mining was on track for the quarter with activities focused on mining ore from the 2SE pit with volumes ramping up to 577,907 bcm, in line with the annual target. Cost savings were realised across a number of areas including optimisation of the waste stockpile design to reduce haulage and mining costs and enhanced drill and blast patterns to increase drilling efficiency.

In the June quarter, 324,503 wet metric tonnes ("wmt") of ore was processed at a head grade of 1.04%  $\text{Li}_2\text{O}$ . The front-end optical ore sorter circuit ("ore sorters") was commissioned earlier in the year as a key part of Galaxy's strategy to control unit costs by processing stockpiled, low grade ore. The ore sorters' contribution to throughput increased considerably from the previous quarter with ~400t / day of sorted ore processed in April accelerating up to over 1,000t / day in June. Further enhancements to the circuit are planned for Q3 to increase the robustness of the circuit and process a higher percentage of stockpiled low grade ore in H2.

Although plant recovery was steady quarter on quarter at 55%, significant improvements were made throughout the June quarter. Lower recovery was experienced in April due to higher lepidolite in ore than expected. Improved in-pit ore spotting practices were implemented thereafter and an additional grade control drilling campaign was completed to better forecast lepidolite content in ore. Additionally, a metallurgical sampling and trial program was completed in May to gain a deeper understanding of the impact on recovery of stockpiled ore



<sup>&</sup>lt;sup>2</sup> Does not include 15,758 dmt sold in late 2019 and shipped in April 2020.

#### **ASX ANNOUNCEMENT / MEDIA RELEASE**

from the ore sorter circuit. Findings were immediately implemented and recovery averaged 58.5% in June and has continued at this level in July.

During the quarter, Mt Cattlin produced 30,942 dmt of lithium concentrate at a grade of 5.93% Li<sub>2</sub>O. Production of 45,248 dmt at a grade of 5.97% Li<sub>2</sub>O for the first half of the year is in line with annual guidance.

#### Sales

26,030 dmt of lithium concentrate was shipped to two customers in late June. Shipments for H1 2020 totaled 58,542 dmt excluding the 15,758 dmt sold in late 2019 which was shipped earlier in the June guarter, at the customer's election.

Final product inventory was reduced to 49,463 dmt as H1 sales exceeded production by over 13,000 dmt.

#### **Outlook and Guidance**

Galaxy remains on track to achieve the key operating parameters of the mine and processing plan for 2020 as detailed in Table 1. Lithium concentrate production volume for Q3 2020 is expected to be between 26,000 - 31,000 dmt. Forecast H2 production volumes plus existing final product stocks are sufficient to meet Galaxy's customer requirements in 2020.

Post quarter, a three-year offtake extension was executed with long term major customer Yahua International and Development Co., Ltd ("Yahua"). The extension is for a minimum of 120,000 dmt per annum of lithium concentrate commencing in 2023 and conditional upon Yahua continuing to meet the terms of the current agreement and both parties agreeing to a pricing mechanism for the extended period between 2023 to 2025. Yahua has also agreed to purchase an additional 30,000 dmt in H2 2020.

The lithium market continues to experience weak demand across the entire lithium value chain and the full impact of COVID-19 on sales remains uncertain. Sales are dictated by the pace that customers can destock inventory and shipments are currently being made on a spot price basis. Galaxy is monitoring the situation closely and is in regular contact with existing customers on the timing of shipments for H2 2020.

# **FEASIBILITY ACTIVITIES**

# JAMES BAY, Quebec, Canada

The strategy for development of the James Bay hard rock lithium deposit is to initially define and optimise an upstream mine and concentrator operation prior to commencing investigation of an integrated downstream conversion facility. Galaxy will continue progressing the definition phase of the project, under a disciplined capital expenditure approach, to position it to take advantage of both a forecast lithium demand surge and a build-out of conversion capacity in North America and Europe.

Value engineering work completed during the quarter resulted in a significant reduction of the estimated capital and operating costs of the project. A planned geotechnical work program was postponed due to COVID-19 related travel restrictions and is now expected to recommence in Q3 as restrictions ease in the region. The program seeks to optimise the site design and confirm critical assumptions from the value engineering exercise.

Ongoing permitting work continued throughout the quarter on the Environmental and Social Impact Assessment clarification process and engagement continued with the Cree Nation.

In February 2020 a "Grand Alliance" was signed between the Cree Nation and the Québec Government to collaborate on an ambitious infrastructure plan in the Eeyou Istchee James Bay Territory. This plan includes the extension of the rail alongside James Bay Road for ~260km, investment in electrification of industrial projects and training of local workers. Galaxy continues to work with various stakeholders including the Cree Nation to understand how elements of the "Grand Alliance" can potentially be integrated into the project.

# FINANCIAL & CORPORATE

#### **Cash and Debt**

Galaxy was debt free with cash and financial assets of US\$108.6 million as at 30 June 2020. This balance does not include proceeds from June's shipment which were received post quarter. A one-off income tax payment of US\$7.3 million was made in Argentina arising from realised foreign exchange gains made in the financial year ending December 2019.

Capital expenditure for H1 2020 was approximately US\$13.4 million and was largely in relation to substantial development activities at the Sal de Vida site including the completion of the accommodation camp upgrade, lining of 15 hectares of pilot ponds and the delivery and assembly of the pilot plant. At Mt Cattlin, US\$1.5 million was spent largely on the ore sorter circuit. In line with previous guidance, forecast capital expenditure at Sal de Vida for H2 2020 is approximately US\$12 million and will cover the piloting program, Stage One FEED packages, commencement of drilling of the first wellfield and owner's costs.



#### **ASX ANNOUNCEMENT / MEDIA RELEASE**

Galaxy continues to pursue a range of cost reduction initiatives across the business. These initiatives have realised savings of US\$7 million in 2020 through the renegotiation of major contracts, reduction in activity levels and lower staff costs.

#### **Non-Cash Impairment**

In preparation of the 30 June 2020 half-year financial statements, a review of the inventory on hand and capitalised mine development costs at Mt Cattlin is being undertaken and will be completed prior to the finalisation of the half year financial statements. Based on current information, it is anticipated that the review will result in a non-cash impairment in the range of US\$20-30million. When finalised and reviewed by the auditors, any additional adjustment will be included in the half-year financial statements which are scheduled for release in August 2020. Any adjustment arising from an impairment will be a non-cash item, not have any impact on cash-flow, operations or bank covenants and will arise purely due to the current soft pricing environment for spodumene.

#### **Annual General Meeting**

The Annual General Meeting was held via a live webcast at 2:00pm (AWST) on Thursday, 21 May 2020 and all resolutions were passed on a poll called by the Chairman.

#### INDUSTRY AND MARKET UPDATE

Market conditions in the lithium sector remain challenging due to the inventory overhang in the upstream section of the value chain and an uncertain near-term outlook for most end markets due to COVID-19. However recently announced stimulus packages are expected to accelerate the pace at which electric vehicles ("**EVs**") are adopted globally. The EU has announced a "Green Recovery Plan" introducing a  $\in$  20 billion, two year purchasing facility for EVs and major European countries are following suit. Germany has effectively doubled EV subsidies and is penalising automakers for the production of petrol and diesel vehicles. France has also announced a production target of 1 million EVs by 2025 and in May, EV market share increased to 9% compared to 2.5% at the end of 2019.

China, currently the largest market for EVs, is still targeting a 25% penetration rate of new energy vehicles by 2025. In response to COVID-19, a range of stimulus packages were implemented to facilitate this. Though vehicle production and sales declined in June by 36.5% and 37.4% yoy respectively, a recovery is emerging when compared to March's decline of 45% and 42% yoy respectively.

Inventory stockpiles of lithium raw materials and chemicals continue to exceed normal levels. Current lithium pricing is below incentivisation levels for new production and this is resulting in producers and developers slowing or stopping new mines and expansion projects. This delay will exacerbate the looming structural deficit in the lithium market as shown in Figure 3. Sal de Vida Stage One is planned to enter production right before this deficit emerges and later stages will come online in the midst of the EV-led demand surge.

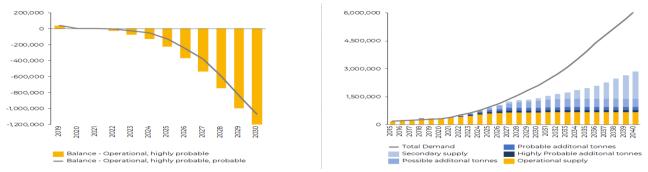


Figure 3: Forecast lithium market balance LHS and demand surge versus expected supply RHS (both in lithium carbonate equivalent t)

Source: Benchmark Minerals Intelligence, Lithium Forecast Q2 2020

According to Benchmark Minerals Intelligence, China's domestic battery grade lithium carbonate and hydroxide spot pricing was reported at RMB 42,300 per tonne and RMB 54,000 per tonne respectively, representing a 11% and 8% quarterly decline. The weighted average price for lithium carbonate and lithium hydroxide for the quarter was US\$6,550 per tonne and US\$8,770 per tonne respectively, representing a quarterly decline of 7% and 6%.



#### **ENDS**

This release was authorised by Mr. Simon Hay, Chief Executive Officer of Galaxy Resources Limited.

#### For more information

**Investor Relations** 

Phoebe Lee Galaxy Resources Limited **T**: +61 (8) 9215 1700

E: info@gxy.com

Media Enquiries (Australia)

Scott Rochfort Cannings Strategic Communications

T: +61 435 878 614

E: srochfort@cannings.net.au

**Galaxy Resources Limited** 

ABN: 11 071 976 442 A: Level 4 / 21 Kintail Road Applecross Western Australia, 6153

W: www.gxy.com S:



# About Galaxy (ASX: GXY)

Galaxy Resources Limited is an international company with lithium production facilities, hard rock mines and brine assets in Australia, Canada and Argentina. It wholly owns and operates the Mt Cattlin mine in Ravensthorpe Western Australia, which is currently producing spodumene and tantalum concentrate.

Galaxy is advancing development of the wholly owned Sal de Vida lithium brine project in Argentina situated in the lithium triangle (where Chile, Argentina and Bolivia meet), which is currently the source of more than 40% of global lithium production. Sal de Vida has excellent potential as a low-cost brine-based lithium carbonate production facility.

Galaxy's diversified project portfolio also includes the wholly owned James Bay lithium pegmatite project in Quebec, Canada. James Bay will provide additional expansion capacity to capitalise on future lithium demand growth.

Lithium compounds are used in the manufacture of ceramics, glass, pharmaceuticals 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 and consumer electronics. Galaxy is bullish about the global lithium demand outlook and is aiming to become a major producer of lithium products.

#### **Caution Regarding Forward Looking Information**

This document contains forward looking statements concerning Galaxy. Statements concerning mining reserves and resources may also be deemed to be forward looking statements in that they involve estimates based on specific assumptions.

Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward-looking statements as a result of a variety of risks, uncertainties and other factors. Forward-looking statements are inherently subject to business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes.

Forward looking statements in this document are based on Galaxy's beliefs, opinions and estimates of Galaxy as of the dates the forwardlooking statements are made and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments. There can be no assurance that Galaxy's plans for development of its mineral properties will proceed as currently expected. There can also be no assurance that Galaxy will be able to confirm the presence of additional mineral deposits, that any mineralization will prove to be economic or that a mine will successfully be developed on any of Galaxy's mineral properties. Circumstances or management's estimates or opinions could change. The reader is cautioned not to place undue reliance on forward-looking statements. Data and amounts shown in this document relating to capital costs, operating costs, potential or estimated cashflow and project timelines are internally generated best estimates only. All such information and data is currently under review as part of Galaxy's ongoing operational, development and feasibility studies. Accordingly, Galaxy makes no representation as to the accuracy and/or completeness of the figures or data included in the document.

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