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# SEPTEMBER 2020 QUARTERLY ACTIVITIES REPORT

## Sal de Vida Stage 1 to target higher value technical grade lithium carbonate

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 September 2020 quarter and its financial position at the end of the period.

## QUARTERLY HIGHLIGHTS

### COVID-19 RESPONSE

- COVID-19 health and safety practices implemented organisation wide without incident
- Sal de Vida's development schedule has been adapted to restrictions and the design and piloting phases are steadily advancing
- No major disruptions to Mt Cattlin's operations or James Bay's project definition activities

### PROJECT DEVELOPMENT

**Sal de Vida, Argentina**

- Latest process test work and piloting onsite has successfully produced technical grade lithium carbonate from Sal de Vida brine
- Sal de Vida now targeting technical grade lithium carbonate for Stage 1, increasing revenue and expanding the customer base
- The design phase is progressing with front-end engineering design ("**FEED**") of the wellfield and ponds 45% complete
- The second FEED package for the process plant and infrastructure was awarded and a 7-month program is underway
- Wellfield drilling is on track to commence in Q4 with the objective to install first production wells for brine operations

### PRODUCTION & OPERATIONS

**Mt Cattlin, Australia**

- A multi-year offtake extension was executed with a major, long-term customer
- Operational performance improved throughout the quarter and is on track to achieve full year guidance
- Production volume of 30,067 dry metric tonnes ("**dmt**") achieved at a grade of 5.92% $Li_2O$ and recovery of 57%
- Ore sorter circuit reached nameplate performance; processing 1,000 t/ day of ore sorted material through the plant
- 16,753 dmt of spodumene concentrate was shipped in Q3 plus a further 15,700 dmt shipment in early October

### FEASIBILTY ACTIVITIES

**James Bay, Canada**

- Geotechnical work program completed supporting value engineering work that resulted in reduced capital and operating costs
- Continued technical assessment is yielding positive results and upstream project outline to be reported in early 2021

### FINANCIAL & CORPORATE

- Galaxy remains in a strong position to execute its growth strategy countercyclically and meet the forecast lithium demand surge
- As at 30 September 2020, Galaxy was debt free with cash and financial assets of US$105 million

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## 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 September 2020 was 10.54, a 24% improvement 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 Rate is nil. COVID-19 prevention practices remain in place across all sites without incident.

**Environment**

At Sal de Vida, in Catamarca Province, northwest Argentina, the team are focused on the Environmental Impact Assessment which includes undertaking baseline studies and data collection.

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 took place during the quarter with broad 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, analysis of the social baseline study completed earlier in the year reveals high level of community recognition and support for Galaxy and the project. Galaxy will continue to focus on community engagement and support across the targeted areas of critical infrastructure, health and wellness, and education, sport and cultural activities.

As part of a two-year corporate social responsibility program, Galaxy has committed to fund three projects to support the nearest communities to the Sal de Vida project. Construction activities on the expansion of two local schools have been interrupted by COVID-19 restrictions and the first aid facility at the nearest village to the project has been rescheduled to commence in Q1 2021.

## 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 risk. The initial stages target lithium carbonate production through an evaporation and processing operation at the Salar del Hombre Muerto site in Catamarca Province, Argentina. The final stage targets purification into battery grade lithium carbonate.

Galaxy is committed to ensuring that the Sal de Vida Project has highly competitive capital intensity and operating costs. Steady progress has been made during the quarter to realise these objectives.

**Impact of COVID-19 and development pathway**

COVID-19 is having a major impact on Argentina however Catamarca Province has not been affected as badly.Sal de Vida has had zero cases and site activities have progressed mostly to plan during the quarter. Surrounding provinces are also affected by the virus and regional controls continue to hamper logistics including ground transportation, provision of goods and services and personnel movements.

The level of activity required for the piloting phase and upcoming wellfield drilling is currently manageable under current circumstances, with minor impacts on costs and scheduling. The project did experience some interruptions earlier in the year, causing some delays to the piloting schedule, with flow on impacts on the production of samples, customer testing and offtake negotiations.

The overall impact on the full project schedule has been minimised through the adoption of an early works phase, which is expected to include the procurement of long lead items and the commencement of pond construction. Galaxy continues to steadily advance the project in accordance with the indicative high-level project schedule released previously and displayed in Figure 1.

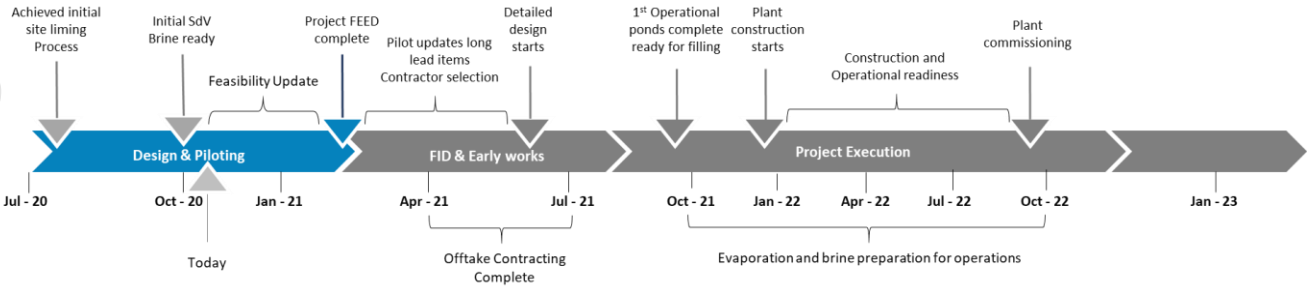



**Figure 1: Indicative, high-level project schedule based on eventual easing of COVID-19 restrictions**

The schedule is based on eventual easing of COVID-19 restrictions and in the event that they 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 work packages closely and continues to develop contingency plans to mitigate major risk elements where feasible. Galaxy will provide further updates on the schedule periodically.

### Process Development - testwork confirms technical grade lithium carbonate

Over the last six months, test work conducted on Galaxy's internally developed lithium carbonate process flowsheet has consistently produced primary grade lithium carbonate at the upper end of the expected quality range. Results from the recently completed lock cycle test work program conducted in Australia, using Sal de Vida brine and Argentinian reagents, has achieved technical grade lithium carbonate. Grades achieved have been in the range of 99.4-99.6% of lithium carbonate whilst minor elements also met technical grade specifications. Recoveries are also in-line with previous test work and process models, further validating the simplified process flowsheet developed in late 2019.

### Piloting Phase – first product also confirms technical grade product

The pilot plant was successfully commissioned in the previous quarter and all stages, including brine distribution, ponds, liming, softening and carbonation are operational and effective. The first full run from evaporated brine through all process stages to final product has been completed. Assaying of the final product has shown lithium carbonate purity of 99.5-99.7% combined with low levels of impurities. This meets technical grade specifications and other outcomes to date are also in line with targeted processing parameters and continue to validate the process design assumptions. Ongoing piloting activities will focus on increasing continuous operating hours and producing representative samples for customer testing.



**Figure 2: Sal de Vida brine produces technical grade lithium carbonate (left and centre) and piloting is monitored from Perth's operations centre (right)**

### Technical grade product to be adopted for Stage 1

Results from both the test work program and piloting plant confirm that Sal de Vida can achieve technical grade product quality. Technical grade product will now be adopted for Stage 1 allowing Galaxy to target higher prices associated with the higher grade and quality. Importantly this product upgrade entails minimal changes or additional capital to the current flowsheet and will be incorporated seamlessly into current development plans. Test work is ongoing with the objective to lower the levels of minor impurity elements further and examine the potential for producing battery grade from the same flowsheet.

### Engineering and Hydrogeology – first wellfield drilling to commence

Early in the quarter, the project moved into the design phase with the commencement of FEED of the wellfield, brine distribution and evaporation ponds. The package is 45% complete and the wellfield and pond locations have been selected. During the quarter, the second FEED package for the process plant and non-process infrastructure was also awarded and an estimated 7-month program is underway.

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The wellfield drilling contract has been awarded and initial drilling scheduled to commence in Q4, assuming COVID-19 restrictions do not delay this. A recent 30-day pump test achieved the production rates designed for Stage 1 and demonstrated aquifer recharge performance was in line with modelling.

## PRODUCTION & OPERATIONS

### MT CATTLIN, Western Australia

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. September quarter performance demonstrates that operations are on track to meet 2020 forecast production metrics as shown in Table 1 below.

**Table 1: September quarter production and sales statistics & 2020 forecast production metrics**

| | *Units* | Q1 2020 [1] | Q2 2020 | Q3 2020 | YTD | 2020 Forecast Production Metrics |
|---|---|---|---|---|---|---|
| **Mining** | | | | | | |
| Total material mined | *bcm* | 72,640 | 577,907 | 463,387 | **1,113,934** | 1,600,000 – 1,800,000 |
| Ore mined | *bcm* | 29,115 | 124,096 | 86,940 | **240,151** | - |
| **Processing** | | | | | | |
| Ore processed | *wmt* | 154,457 | 324,503 | 291,730 | **770,690** | 900,000 – 1,000,000 |
| Grade of ore processed | *% $Li_2O$* | 1.03 | 1.04 | 1.09 | **1.06** | 1.0 – 1.2 |
| Mass yield | *%* | 9.5 | 9.7 | 10.6 | **10.0** | - |
| Recovery | *%* | 55 | 55 | 57 | **56** | 58 – 62 |
| Concentrate produced | *dmt* | 14,306 | 30,942 | 30,067 | **75,315** | 90,000 – 105,000 |
| Grade of concentrate produced | *% $Li_2O$* | 6.06 | 5.93 | 5.92 | **5.95** | 6.0 |
| **Sales** | | | | | | |
| Concentrate shipped | *dmt* | 32,512 | 26,030 [2] | 16,753 | **75,295** | - |
| Grade of concentrate shipped | *% $Li_2O$* | 5.9 | 5.9 | 5.6[3] | **5.8** | - |
| **Production Costs** | | | | | | |
| Cash cost per tonne produced | *US$/t FOB* | 592 | 412 | 406 | **444** | - |

[1] Mining and processing operations recommenced sequentially from mid-February through to early March.
[2] Does not include 15,758 dmt sold in late 2019 and shipped in April 2020.
[3] Q3 shipment was lower grade material from inventory accumulated in prior periods.

#### Mining & Processing

Mt Cattlin produced 30,067 dmt of lithium concentrate at a grade of 5.92% $Li_2O$, in line with quarterly guidance. Year to date production of 75,315 dmt at a grade of 5.95% $Li_2O$, is also in line with annual guidance.

Mining activities in the quarter focused on mining ore from the 2SE pit and pre-stripping in the 2NE pit. The mining volume of 463,387 bcm was lower than the prior period due to the temporary impact of reduced availability of mining personnel. The South Australian-based contractor has now employed local staff to replace personnel who returned to South Australia after six months in Western Australia. A revised mining plan has been implemented to allow mining volumes to catch up to full year guidance.

Plant recovery improved throughout the quarter, averaging 57% for the period and peaking at 60% in September. Findings from a successful metallurgical sampling program were put into practice to improve the recovery of low-grade stockpiled ore from the front-end optical ore sorter circuit ("**circuit**"). Further enhancements were also made to the circuit, improving performance and quality by increasing the basalt rejection and ore recovery of the low-grade ore stockpile. The circuit met its design capacity during the quarter, steadily contributing 1,000t of sorted ore per day and up to ~30% of total throughput.

A trial also took place to introduce stockpiled tailings and secondary float material into the feedstock. Findings have been implemented to blend small amounts of these materials into plant feed, which assists to control unit costs.

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**Financial Performance**

The FOB unit cash cost of lithium concentrate produced for the quarter was US$406 dmt, a slight decrease compared to the previous quarter predominantly due to lower mining volumes.

**Sales**

Galaxy shipped 16,753 dmt of lithium concentrate during the quarter. This shipment was lower grade material at 5.6% $Li_2O$ accumulated in previous periods. A further 15,412 dmt was shipped at the beginning of October and a second October shipment of 15,000 dmt is to be loaded this week with the ship in the queue in Esperance. At quarter-end, final product inventory was 61,953 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 Q4 2020 is expected to range between 25,000 - 35,000 dmt. Forecast Q4 production volumes plus existing final product stocks are sufficient to meet customer requirements. Galaxy expects to make further spot shipments in Q4, as discussions with customers are progressing well. Further shipments will see Galaxy's inventory of spodumene concentrate return to normal levels by year end. This combined with strong customer indications of demand for 2021 and emerging supply side tightness (see market commentary below) has led Galaxy to commence examining the ramp up of Mt Cattlin operations to full rate. If this were to occur, it would be in Q1 2021.

Early in the quarter, Galaxy executed a three-year offtake extension 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.

## FEASIBILITY ACTIVITIES

### JAMES BAY, Quebec, Canada

The strategy for development of the James Bay hard rock lithium deposit is to define and optimise an upstream mine and concentrator operation prior to commencing investigation of an integrated downstream conversion facility. Galaxy will continue progressing the assessment phase of the project to ensure it is well positioned to take advantage of the growing demand for lithium chemicals in North America and Europe.

A site geotechnical program was completed during the quarter, validating critical assumptions of the earlier value engineering work program. In addition to continuing with the environmental assessment process, technical assessments are determining critical assumptions across geology, mining and processing with progress to be reported in a Preliminary Economic Assessment, which is due for completion in early 2021.

Results from the value engineering program, that resulted in a significant reduction of the estimated capital and operating costs of the project and the geotechnical program are being integrated into the Environmental and Social Impact Assessment and will be submitted to the authorities. Positive engagement with the Cree Nation and respective stakeholders also continued throughout the quarter.

## FINANCIAL & CORPORATE

**Cash and Debt**

Galaxy was debt free with cash and financial assets of US$105 million as at 30 September 2020.

Capital expenditure for the quarter was approximately US$4.6 million principally in relation to development activities at Sal de Vida. In line with previous guidance, forecast capital expenditure at Sal de Vida for H2 2020 is approximately US$10-12 million and will cover the piloting program, Stage 1 FEED packages, commencement of drilling of the first wellfield and owner's costs.

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.

## INDUSTRY AND MARKET UPDATE

**Current to near term**

Market conditions in the lithium sector were challenging for the quarter due to inventory overhang of lithium raw materials and chemicals although recent supply-side curtailments could lead to a tightening of raw material availability for some customers in the near term. Since the peak of COVID-19 in China, meaningful signs of economic recovery have started to emerge with GDP growth of 4.9% reported for Q3 compared to a contraction of 6.8% in Q1 2020. This performance has been somewhat echoed in electric vehicle ("**EV**") sales with positive signs of recovery in the past couple of months, with China recording its first year-on-year increase in 2020, up 19.3% on 2019

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levels. However, on a year-to-date basis, China still remains 18.7% and 17.7% down on production and sales respectively. While the sentiment on outlook appears to have stabilised, there is still uncertainty on the exact timing of a significant sector recovery and an increase in demand for raw materials. Two production curtailments were revealed this week with Orocobre announcing a COVID-19 related outage at their Olaroz operations in Argentina and receivers and administrators being appointed to Altura Mining and their Pilgangoora operation. It is too early to determine any impact on the market however customer enquiries have risen appreciably.

**Medium to long term outlook**

Both Europe and China will continue to lead the recovery in the lithium-ion battery supply chain. Country-level EV subsidy programs and government stimulus in response to the pandemic have continued to drive strong sales growth, alongside the launch of new EV models. Europe has been the beacon of EV sales in 2020 with sales climbing to record levels, reaching 99% year on year growth at the end of September. China also ended the quarter strongly, recording just below 140K NEV sales in September, representing a 26% improvement month-on-month and almost 68% on a year-on-year basis. Over the period we have noted that downstream market participants have started to become more engaged on raw materials supply and with those plugged into high-growth and high-value supply chains, looking to secure more longer-term contractual volumes of raw materials. We anticipate that this will help the digestion of the current inventories in the market and will position the sector for an improved growth outlook going into 2021.

Predicted long term lithium demand growth remains compelling, however the level of global supply required to meet this forecast growth is challenged in the near to medium term. This is due to continued low levels of capital investment and current development projects being sidelined or delayed due to the COVID-19 pandemic as well as market conditions. This protracted period of a slow supply side response will continue to lead the market towards a looming and significant structural supply deficit (Figure 3). It is in the context of this outlook, that Galaxy plans to deliver Sal de Vida Stage One to the market in time of this anticipated shift into market deficit, with later stages to come online in the midst of the EV-led demand surge

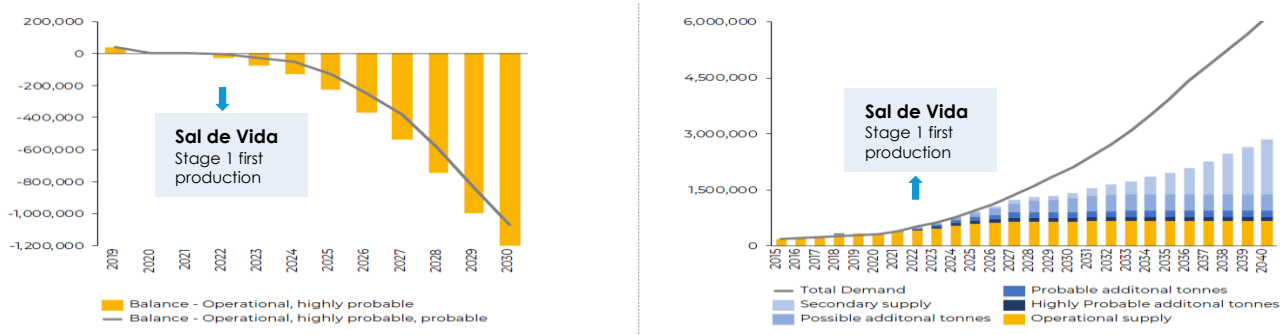



**Figure 3: Forecast lithium market balance LHS and demand surge versus expected supply RHS (both in lithium carbonate equivalent t)**

Source: Benchmark Minerals Intelligence, Lithium Forecast Q2 2020

**Pricing**

According to Benchmark Minerals Intelligence, China's domestic battery grade lithium carbonate and hydroxide spot pricing for the third quarter was reported at RMB 39,900 per tonne and RMB 51,900 per tonne respectively, representing a 5.7% and 3.9% quarterly decline. The weighted average price for lithium carbonate and lithium hydroxide for the quarter was US$6,086 per tonne and US$8,790 per tonne respectively, representing a quarterly decline of 7.1% and a slight increase. Positively, the lithium market appears to have bottomed with Chinese lithium prices stabilising in September and small prices increases for sales of domestic lithium carbonate evident in October.

**ENDS**

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

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## 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.

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