# **GALAXY RESOURCES LIMITED**

## **QUARTERLY ACTIVITIES REPORT**

## **THREE MONTHS ENDED 30 SEPTEMBER 2018**

Galaxy Resources Limited (ASX: GXY, "Galaxy" or "Company") is pleased to report to shareholders its activities for the quarter ended 30 September 2018.

# **HIGHLIGHTS**

#### **Mt Cattlin Operations**

- Production of 31,156 dry metric tonnes ("dmt") of spodumene concentrate
- Sales of 29,555 dmt of spodumene concentrate
- Average cash margin of US\$411 per dmt sold (including royalties and marketing fees)
- Construction of Yield Optimisation Project well advanced
- All permits received for approval to extend mine east of Floater Road

#### Sal de Vida Project

- Binding agreement signed for sale of northern tenements to POSCO for cash consideration of US\$280 million
- US\$280 million less closing adjustments transferred by POSCO into HSBC escrow account, funds will be released to Galaxy upon receipt of the tenement transfer deeds by the Salta and Catamarca mining courts
- JP Morgan Australia process for potential strategic partnerships for Sal de Vida well progressed, with site visits completed and binding bids scheduled in early November from shortlisted bidders
- Project execution plan for the development of Sal de Vida being finalized, including engagement of a Project Management Consultant ("PMC") and execution of a Front End Engineering Design ("FEED") phase during the first half of 2019
- Second exploration well drilled on the southern tenements during Q3 to a depth of 301m
- Infrastructure facilities on site further improved, including access roads and camp upgrade

#### **James Bay Project**

- Numerous studies supporting the Environmental and Social Impact Assessment ("ESIA") process for upstream mine and concentrator completed with lodgment expected in early November
- Hydro-Quebec "Pre-Work" contract signed, work commenced to advance engineering and site study work for future power supply to the project
- Preliminary baseline metallurgical test work for the proposed downstream conversion facility completed
- Continued engagement with the local Cree community, including discussions on a Pre-Development Agreement ("PDA")

#### Corporate

- Closing cash and liquid assets of US\$68.0 million
- Zero debt



## **PROJECTS**

## **MT CATTLIN – OPERATIONS**

#### **Safety Performance**

Operations at Mt Cattlin have continued without any Lost Time Injuries.

#### **Production & Sales Statistics**

	Units	Q1 2018	Q2 2018	Q3 2018	YTD 2018	Q3 vs Q2
Mined Volume	bcm	843,308	846,830	779,485	2,469,623	♦ 8%
Ore Mined	wmt	528,977	419,314	397,047	1,345,338	↓ 5%
Ore Mined - Grade	Li <sub>2</sub> O %	1.01	1.11	0.89	1.01	↓ 0.22
Ore Treated	wmt	430,398	435,296	441,206	1,306,900	<b>↑</b> 1%
Ore Treated - Grade	Li <sub>2</sub> O %	1.11	1.17	0.98	1.08	↓ 0.19
Recovery	%	52	56	42	51	↓ 14
Concentrate Produced	dmt	43,852	47,901	31,156	122,909	<b>↓</b> 35%
Concentrate Sold	dmt	44,258	45,761	29,555	119,574	↓ 35%
Concentrate Sold - Grade	Li₂O %	5.70	5.83	5.65	5.74	↓ 0.18
Cash margin per tonne Concentrate Sold #	US\$/dmt	439	534	411	469	↓ 23%

# after including royalties and marketing fees

Total mining volumes decreased 8% compared with the previous quarter resulting from a delay in receiving permits to allow planned mining access east of Floater Road.

Lower ore grade mined of 0.89% during the quarter due to the majority of ore mined coming from the 2SW pit that reported lower grades, when compared with the ore mined from the Dowling Pit in the previous quarter. Mining of ore from the Dowling Pit was completed during Q3.

Treated ore volume increased slightly to 441,206 wmt, with a lower ore feed grade of 0.98% Li<sub>2</sub>O.

Concentrate production volume of 31,156 dmt was 35% lower than the previous quarter primarily due to lower feed grade, and weathered ore being treated from the 2SW pit, coupled with a reduced recovery arising from delays in completion of the Yield Optimisation Project ("**YOP**"). Delays in permitting to access east of Floater Road resulted in the majority of ore processed during the quarter being sourced from the 2SW pit that contained a higher proportion of weathered ore, when compared with the Dowling Pit which was the main source of ore in the second quarter. The weathered ore from the 2SW pit resulted in lower recovery because this ore contains lower lithium concentration in the spodumene produced, so in order to meet contracted product grade overall reported recovery was lower.

All the necessary permits required to mine east of Floater Road were received during the first week of October and mining has now commenced in this area. The ore to be mined from east of Floater Road is expected to be higher grade fresh ore that will improve recoveries.

Mt Cattlin reported an average cash margin per dmt sold (including royalties and marketing fees) of US\$411 for the quarter, a reduction from the previous quarter, primarily due to higher unit costs of production arising from lower production.

A total of two shipments of lithium concentrate were completed during the quarter for an aggregate of 29,555 dmt of product sold, with all shipments at pricing, grade and specifications on contract terms.

In early October, a pilot shipment of 3,000 dmt was made to POSCO.

Construction of the YOP at the Mt Cattlin Plant advanced during the quarter. The YOP includes an ultra fines DMS circuit, a secondary float re-crush circuit and optical sorting units. These productivity improvement projects have been implemented with the objective of increasing overall recovery to a range of 70-75%. Due to some delays in fabrication, equipment deliveries and existing operations taking priority, construction and commissioning of the YOP is now expected to be completed during the current quarter. The improvements in recoveries and production rates are expected from Q1 2019.

# MT CATTLIN – RESOURCES, RESERVES AND EXPLORATION

During the quarter, the Company commenced a ~30,000m drill program in support of exploration, resource and reserve development at Mt Cattlin.

The following exploration work was completed during the quarter:

- 5,116m of drilling for direct resource development;
- 1,029m of greenfield regional exploration drilling;
- 2,572m of drilling to support mining development east of Floater Road, all using reverse circulation ("RC"); and
- 120m of diamond or diamond tails drilling at PQ core size for ongoing metallurgical test work.

Regionally, flora and fauna fieldwork, combined with archaeological and ethnographic surveys, were completed to support new drilling applications and approvals.

As the dry season approaches, exploration activities will include a further round of ground penetrating radar ("**GPR**") west of Mt Cattlin and completion of on-going geochemical sampling programs confirming earlier GPR work.

An updated resource and reserve estimate for Mt Cattlin is expected early in Q1, 2019.

# SAL DE VIDA PROJECT

#### Sale of Northern Tenements

During the quarter, Galaxy entered into a binding agreement with POSCO to sell a package of tenements located on the northern area of the Salar del Hombre Muerto in Argentina, for a cash consideration of US\$280 million.

Other key elements of the transaction are:

- Galaxy retains 100% ownership of all tenements in the southern basin that constitute the Sal de Vida Project containing 100% of the previously announced reserves of 1.14 million tonnes LCE; and
- Funds available to Galaxy will be applied to progress development of the Sal de Vida Project in Catamarca Province.

In early October, POSCO transferred US\$257 million into the designated transaction escrow account at HSBC. These funds will be released to Galaxy upon receipt of the tenement transfer deeds by the Salta and Catamarca mining courts which is expected to be completed before the end of October. The US\$23 million difference between the \$280 million contracted purchase consideration and the amount already transferred into the escrow account is to satisfy a tax installment payable by Galaxy and a deferred settlement amount, in accordance with the terms of the agreement.

## **Strategic Partnership**

The process to evaluate potential strategic partners and options for the development of Sal de Vida is now well progressed. JP Morgan Australia was appointed as financial advisor for this process in Q2, with the initial objective of structuring a transaction so that the Project is at least fully-funded through to production. The Company has so far shortlisted several potential investors, who have advanced through to the next stage of evaluation and project due diligence including site visits. Galaxy is targeting the announcement of a fully documented binding transaction before the end of 2018.

## **Project Development**

A new corporate office is being set up in Catamarca City as the principal base for the project team. Additional site locations in Catamarca province are also being evaluated to establish staging points to support future project development.

An update of the feasibility study was completed during the June quarter. As required by the Canadian Securities Institute rules, a NI 43-101 technical document is currently being finalized for release in Q4.

The project team continued to be populated during the quarter, with a consultant Project Director engaged and several organizational changes made. A Project Management Consultant ("**PMC**") will be engaged to assist in resourcing the project with the requisite skills and project execution systems. The plan is to execute a contract with the selected PMC during Q4.

An overall project execution plan was finalized which includes the engagement of the PMC and execution of a Front End Engineering Design ("FEED") phase during the first half of 2019 to progress the Project to a level suitable for a Board Final Investment Decision ("FID").

## Geology & Hydrogeology

A second exploration well (SVWW18\_25) was drilled in the southern tenements area during Q3 to a depth of 301m, with assays and analysis to be completed in Q4. A second contractor has been engaged to complete another two holes in Q4. Results from the four new wells this year are likely to enable a recalculation of the resource, as well as strengthening the knowledge base for the hydrogeological model of the salar.

#### **Process Development**

Continuation of batch testing occurred during the quarter, aimed at improving process definition of several of the unit process steps. A series of discussions were held with a number of external industry experts to better understand options in terms of pond and plant design, as well as providing input to establishing remaining test work required for the project.

## **Engineering Development and Site Works**

Galaxy's facilities were relocated to the new Tango 01 camp in the southern tenements. Tango 01 camp was upgraded during the quarter to provide the following:

- Camp (60 beds)
- Upgraded kitchen
- Office
- Medical Centre
- Storage sheds
- Fuel Station
- Waste Transfer Station
- Communications (Internet, VHF, Satellite Phone)
- Fresh water bore (La Redonda river)
- Pilot plant operations

Infrastructure works during the quarter included the development and upgrade of access roads, signage, general site lighting, security fencing and metal scrap removal. In addition, a preliminary geotech study was undertaken in the proposed facilities area as part of the early works program.

#### Permitting and Land

An environmental permit was renewed during the quarter for an interim six month extension to Q1 2019, to allow for the planned near term field activity. Sal de Vida expects to commence pilot pond construction activities during Q4 and this expenditure, combined with the transfer of the main project office to Catamarca Province, will allow the Catamarca provincial government to extend the permit for the next two years in line with local market practice.

#### **Government Relations and Corporate Social Responsibility**

All CSR programs covering education, health and gender equality as main sustainability principles to the Sal de Vida operation remain active and continue to grow in importance, along with participation from new stakeholders. During Q3 all existing agreements with educational institutions such as Universidad de Catamarca, as well as national investigation institutions such as CONICET, were reviewed and key initiatives identified to expand existing scope.

## **JAMES BAY PROJECT**

#### **Exploration & Development**

During the quarter, numerous studies supporting the Environmental and Social Impact Assessment ("**ESIA**") process for the upstream mine and concentrate production facility were substantially advanced. These included various studies around flora, fauna and emission modeling, as well as preliminary engineering of the open pit mine, the processing plant and site infrastructure, including waste rock pile and tailings facility. The Phase 2 test work program, designed to confirm the flowsheet design and improve performance, continued during the quarter as planned.

A "*Pre-Work*" agreement was signed with Hydro-Quebec, with related work commencing during the quarter. The objective of the "*Pre-Work*" phase is to advance engineering and site investigation to confirm the findings of the scoping study work completed by Hydro-Quebec during Q2 2018. This scoping study indicated the availability of power connecting the site through a 7-km spur connection to be made from the James Bay project site to their existing power line.

Engagement with the Cree Nation of Eastmain continued during the quarter, which included meetings with the Band Council of Eastmain and various stakeholders in the community. Discussion on the Pre-Development Agreement ("PDA") with the Cree Nation progressed as expected during the quarter.

Baseline metallurgical test work adopting a conventional processing approach was completed during the quarter for the proposed downstream conversion facility, with results in-line with expectations. Following the completion of the first phase of test work, preliminary engineering will start in conjunction with the next phase of test work.

In parallel, discussions continued with various Economic Development Organizations in charge of managing the activities in various industrial parks in Quebec.

## CORPORATE

#### **Cash and Debt**

Galaxy had US\$54.7 million in cash and liquid securities at 30 September 2018 and zero debt. In addition, the US\$13.3 million payment for the shipment completed in late September was received in early October.

# INDUSTRY & MARKET UPDATE

Market indicators observed throughout Q3 2018 were characterized by substantial volatility, as the lithium battery value chain continues to evolve and mature. In spite of this, further investment and expansion in the downstream portions of the value chain continued to support the growth narrative of the sector. Throughout the quarter, China continued to reaffirm its global leadership position in the production of electric vehicles ("EV"), complemented by substantial year-on-year ("YoY") growth in other significant global markets including the USA (YoY sales growth for the quarter of 107%) and Europe (42% YoY growth in year to date volumes). Cumulative global EV sales volumes (excluding electric buses) surpassed 4 million in August only 6 months after surpassing the 3 million vehicle milestone. Developments within the EV space in particular throughout the quarter were further characterized by the continued emergence of new EV startups (many of which have now achieved unicorn status), substantial capital investment within the space, announcements of further NEV models from major global manufacturers, as well as strong growth indications within the heavy vehicle and logistics sector.

Significant growth in new energy vehicle ("**NEV**") production volumes within China continued during Q3. The China Association of Automobile manufacturers reported total NEV production of c.317,000 vehicles throughout Q3 2018, representing growth of 44% YoY compared to the same period in 2017. Total production of battery electric vehicle ("**BEV**") throughout this period was c.240,000, whilst total production of plug-in hybrid vehicles ("**PHEV**") for the period was c.77,000, representing YoY growth rates of 33% and 97%, respectively. This bring total NEV production volumes for the first 9 months of 2018 to c.728,000, demonstrating that China remains on target to exceed one million vehicles in 2018, given production volumes are historically strongest in Q4 of each calendar year.

In other markets, September marked the 36<sup>th</sup> consecutive month of YoY monthly sales gains across the US for EVs and importantly, this year to date total has already surpassed the total sales volume recorded in 2017. *InsideEVs* reported plug in vehicle deliveries of c.110,500 vehicles through Q3, representing 107% growth YoY. Year to date sales are estimated to be c.234,600 vehicles (65% growth YoY). Tesla delivered c.83,500 vehicles throughout the third quarter, a large portion of which was attributed to ramp up of Model 3 production, now consistently exceeding the production milestone of 5,000 vehicles per week. Panasonic announced plans to add three production lines at the Tesla Gigafactory in Nevada by year end, bringing the total capacity of the plant to 35GWh, while Tesla is targeting to deliver c.200,000 units by year end.

Increasing electric vehicle penetration within the USA is being supported by several recent policy developments related to EV purchase and associated critical infrastructure. California is proposing to offer a US\$4,500 subsidy for each pure electric vehicle sold in the state, up from the current US\$2,500. This would be on top of the existing federal tax credit currently offered on EVs sold of US\$7,500. A ten-year extension to this subsidy has now been proposed, including a removal of the current 200,000 car production limit that was set to trigger a reduction in the subsidy. Further, the governor of New York recently announced the launch of the first electric vehicle charging station installation rebate for private and public locations. The rebate represents a total investment of US\$5 million (US\$4,000 per charging port) which translates to 1,250 new installations.

In Europe, plug in vehicle sales increased 42% YoY to c. 30,000 units during August and had reached 242,000 units (41% growth YoY), throughout the first 8 months of 2018.

Transformative levels of investment capital continue to flow into the EV space. In the startup space, Lucid, a US based EV startup company raised US\$1.0 billion from Saudi Arabia's Public Investment Fund, representing the second major investment in a US based EV manufacturer by the sovereign wealth fund. The NYSE IPO listing of Tencent backed NIO, China's rival to Tesla, raised US\$1.0 billion in contributed capital. This brings the total number of EV startup unicorns across the globe to double digit. The level of corporate and institutional investment clearly illustrates the conviction that investors have in the electrification of global transport systems.

Production growth in EV volumes has also been supplemented by the accelerated penetration of heavy duty commercial electric vehicles, including buses and trucks. Developments in this market segment is expected to be rapid as major auto manufacturers have begun establishing strategic partnerships for this category of vehicle development. In September, BYD announced that sales orders and deliveries for electric buses had surpassed 600 in Europe alone. Proterra, a US based eBus startup already boasting BMW and General Motors as investors, raised an additional US\$155 million in a funding round led by Daimler. To date, Proterra has sold over 675 electric buses to the North American market and has announced plans to develop new heavy-duty vehicles with Daimler. Volkswagen and Toyota subsidiaries, Traton and Hino announced a strategic joint venture partnership for electrified commercial vehicles, including trucks and buses.

A further tailwind to the accelerated adoption of electrified commercial vehicles is the evolution of sustainable supply chain management within leading global corporates. IKEA recently announced plans to target zero emissions for 100% of home deliveries by 2025 (25% by 2020). Walmart Canada is aiming to electrify 20% of their Canadian transport operations by 2022, with 100% clean transportation by 2028. Walmart ordered a further fleet of 30 Tesla trucks in September, bringing their total Tesla e-truck orders to 40. Boasting Alibaba as one of its major shareholders, Cainiao, a logistics and network

consortium in China is investing heavily into smart technologies to greatly improve the efficiency and sustainability of the logistics networks of the country's largest e-commerce providers. Cainiao has teamed up with state owned automaker FAW Group Corporation, and Robosense to develop a fleet of autonomous trucks for long-distance delivery, as well as autonomous driving technology.

On the battery manufacturing front LG Chem announced a further US\$2 billion for the construction of a 32GWh facility in Nanjing, China, large enough to produce enough batteries for 500,000 electric cars. LG Chem now plans to increase its global cell manufacturing capacity target to 90GWh by 2020. Samsung SDI recently signed a contract with Jaguar to supply 5GWh of cylindrical battery cells per annum from its Hungary factory currently undergoing expansion. Further, BYD began construction on an additional 24GWh lithium-ion battery manufacturing facility in China, expected to be fully operational by the end of 2019. BYD is targeting total global capacity of 60GWh by 2020.

On the back of CATL's announcement to commence development of the first German based battery manufacturing facility, the German government has announced a proposed investment of €2bn for battery cell manufacturing facilities in order to reduce reliance on production based around Asian centers. Further funding support is anticipated from governments following the EU's battery development project that now offers 5 types of funding:

- The European Fund for Strategic Investment has been made available from the European Investment Bank ("EIB") to co-fund European gigafactories;
- €22bn in regional funds available for areas looking to promote the industry;
- €200mm set aside by the Horizon 2020 research fund for battery projects;
- €800mm in funding is available to finance the construction of demonstration facilities; and
- Individual countries allowed to fund 100% of research into EV batteries, provided they involve cross-border projects

Northvolt has already taken advantage of such, having already borrowed €52.5mm from the EIB to build a demonstration line for their Swedish lithium-ion battery manufacturing facility. The facility is targeting to be the largest in Europe with 32GWh of capacity by 2023.

Energy storage systems ("**ESS**") have established themselves as a key component to the energy generation mix across the globe. Providing frequency regulation and back up support for renewable energy generation, as well as greater energy access and improved reliability to support global adoption of renewable energy technologies. In an effort to accelerate the adoption of renewable energy within developing and middle income global regions, the World Bank Group recently announced a commitment of US\$1 billion for a new global investment program in battery storage for energy systems within these regions. It also expects to mobilize a further US\$4 billion in concessional climate financing and private investments. A report by IRENA (International Renewable Agency) indicates that a quarter of all global storage projects that it tracks, are to be based on lithium ion battery platforms.

Pricing indicators throughout Q3 were mixed and volatile. Domestic battery grade lithium carbonate prices in China retracted (US\$11,000 – US\$12,000/t) following the combination of an increase in low quality domestic brine supply from the high cost Qinghai operations being sold into the market at deflated prices and a temporary period of slower downstream demand within China. Lower demand was a result of manufacturers de-stocking older product inventories considering the new Chinese NEV subsidies that promote higher range, higher energy density battery vehicles. Such weakness has been the result of the time lag between the new policy implementation and the lead times associated with shift in battery component production lines to higher energy density chemistries, such as high nickel intensity NCM and NCA. It should be highlighted that lithium hydroxide ("LiOH") prices remained much more robust and maintained a significant premium to lithium carbonate during the quarter (US\$18,000 – US\$19,000/t) and was less susceptible to the broader volatility in pricing of technical and battery grade lithium carbonate. These domestic prices in China do not correlate with the overseas market conditions with seaborne prices remaining strong, and rest of the world contract prices near to all-time highs. Lithium prices in China are expected to recover during Q4, with an expected increase in downstream demand in line with the expected seasonal strength in NEV volumes and the fact that destocking is thought to be largely complete, an anticipated seasonal slowdown in domestic brine production, as well as stronger ramp up from new and expanded conversion plants following environmental permitting delays.

#### **Competent Person Statement**

#### MT CATTLIN

Any information in this report that relates to the estimation and reporting of the Mt Cattlin Mineral Resources and Ore Reserves is extracted from the reports entitled "*Mt Cattlin Mineral Resource & Ore Reserve and Exploration Update*" created on 22 March 2018 and "*Mt Cattlin Mineral Resource and Exploration Update*" created on 20 August 2018 which are available to view on <u>www.galaxylithium.com</u> and <u>www.asx.com.au</u>. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Mineral Resources and Ore Reserves estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

#### SAL DE VIDA

Any information in this report that relates to the estimation and reporting of the Sal de Vida Project Ore Reserves is extracted from the report entitled "Sal De Vida: Revised Definitive Feasibility Study Confirms Low Cost, Long Life and Economically Robust Operation" created on 22 August 2016 which is available to view on www.galaxylithium.com and www.asx.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Ore Reserves estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

#### JAMES BAY

Any information in this report that relates to relates to the estimation and reporting of the James Bay Mineral Resources is extracted from the ASX announcement dated 4 December 2017 which is available to view on <u>www.galaxylithium.com</u> and <u>www.asx.com.au</u>. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Mineral Resources in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

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

This document contains forward looking statements concerning Galaxy.

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 forward-looking 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.

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