

## Galaxy Resources (GXY)

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### Company Summary

Galaxy Resources Limited (GXY) is a diversified exploration company with interests in five projects in Western Australia covering a range of commodities including lithium, tantalum, base metals (copper-zinc-nickel), gold, iron ore, manganese, talc, rare earths and uranium. Its main focus is on production of battery grade lithium carbonate with tantalum as secondary by-product.

By 2010 it expects its Ravensthorpe mine at Mt Cattlin to be the world's second largest hard rock producer of lithium rich spodumene. It is developing a fully funded lithium carbonate plant in China to add value.

The Project encompasses a mine and minerals plant which will produce 137,000 tonnes p.a. of 6% Li<sub>2</sub>O spodumene concentrate. Galaxy intends to add value to the Mt Cattlin project by establishing its own downstream lithium processing facilities in China. The Company is finalising plans to establish a lithium carbonate chemical facility in Jiangsu Province, producing 17,000 tonnes p.a. of lithium carbonate.

The company has no debt and around \$1.5 million cash but has financing in place of around \$130 million.

### GALAXY RESOURCES (NMS)

<b>Sector/Industry</b>	Lithium Producer
<b>Last Price</b>	\$1.87
<b>12 mth High</b>	\$2.40
<b>12 mth Low</b>	\$0.265
<b>Date of review</b>	20/10/09
<b>Market cap</b>	\$169 million
<b>Dividend yield</b>	0.0%

### Recommendation

**SPECULATIVE BUY (on fundamentals).** This is a high-risk speculative stock that has run hard in recent weeks as the market re-rates the potential upside from its operations. Exposure to any future revolution in electric car popularity.

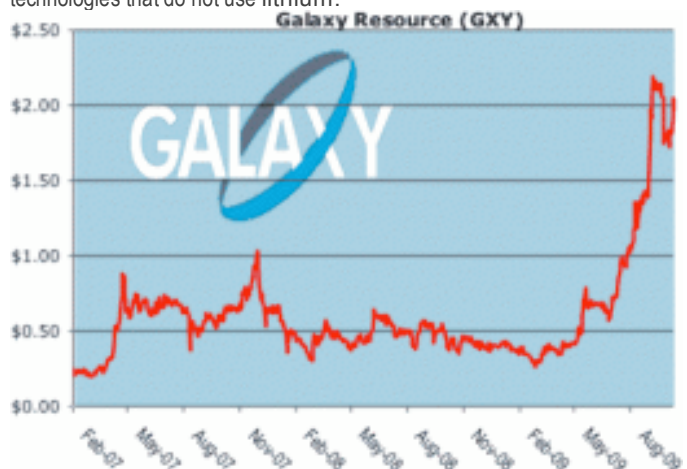
**INCONCLUSIVE (on technicals).** Technical indicators are inconclusive but softness in recent days has been noted. Valuation suggests it could be worth \$5.00 a share but longer term outlook for lithium supply and demand can be affected by a number of different factors.

### Positives

Exposure to post-oil electric car future. Lithium market expected to be tight if battery use grows. Project is fully funded. Processing plant located in heart of Asia which produces 80% of batteries. Reduced currency risk due to overseas operations.

### Negatives

Lithium is abundant, especially in sea water. Metal may not form a critical or important role in future battery developments. Lithium can be recycled which supports supply. Bolivia may successfully develop reserves which are so large they could impact prices negatively. If lithium supply is as restricted as some believe this could impact lithium-ion battery production and force alternate technologies that do not use lithium.



## Lithium

Lithium is the lightest of all metals and is found in spodumene and other rocks (mostly in Australia, China, Zimbabwe and Canada) and brine from salt lakes found in Bolivia, Chile, Argentina and the Himalayan area of China.

Lithium carbonate is already in use in laptop computer and mobile phone batteries. It's used because it allows more energy to be stored in a lighter, smaller space than most alternatives. The Nissan Leaf, GM Volt and Mitsubishi MiEV, expected to be released in the next 1-2 years, will all run on lithium-ion batteries.

## Risks and Opportunities

### Company specific

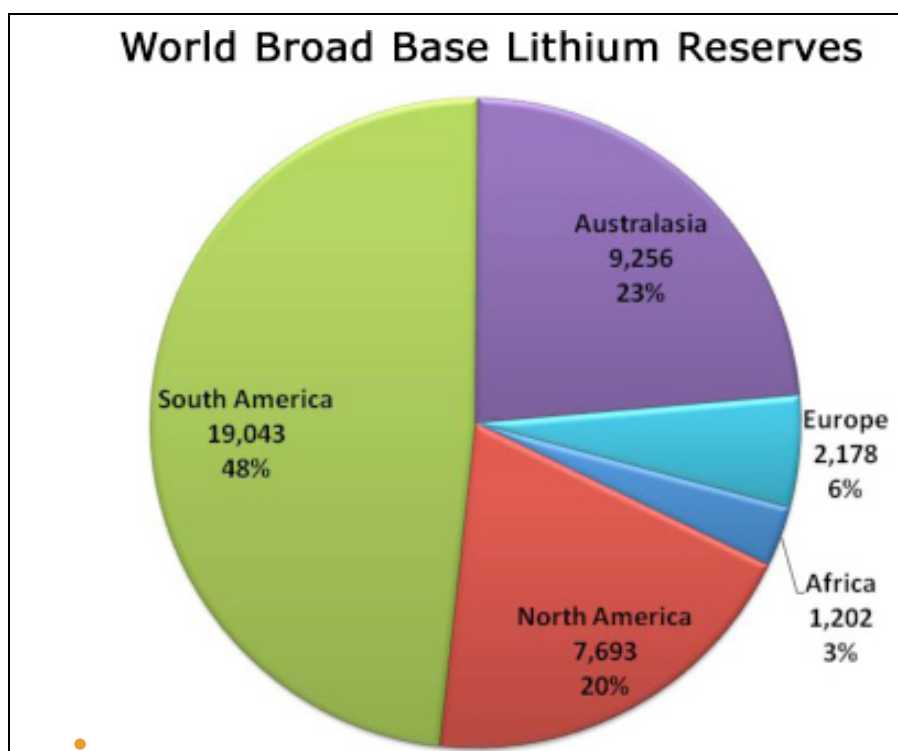
The Chinese project is fully funded through its binding share agreement and debt facility with Chinese private sector investment company Creat Group.

- The plant will be geographically proximate to its main customer base. The company believes China will play a dominant role in the mass production of electric vehicles as well as lithium-ion batteries for overseas made electric vehicles.
- Over 80% of lithium ion batteries are made in Asia.
- Currency risks are significantly reduced due to raw production in AUD and finished product in Chinese currency. Significant price advantages selling into European and Japanese car markets at current exchange rates – less so into U.S. due to weak economy and currency in short term.
- The company's measured resources of 2.3 million tonnes of lithium carbonate appears sufficient to accommodate the company's 17,000 a year expected production well into the future.
- CEO Iggy Tan has rare lithium operations experience.
- Forecasts for electric car sales may fall well short of projections leading to oversupply of lithium with no rationale to maintain production at high levels.

### Lithium Market

- Bolivia holds 50% of known reserves in the Salar de Uyuni in the remote southern Andean plane. However, previous experiences with foreign miners mean there is limited political support for foreign companies to come in and exploit. Bolivia may not have the capital and expertise to extract the lithium in commercial quantities.
- Thinly traded and opaque market for lithium.
- Mitsubishi, which plans to release its own electric car soon, estimates that the demand for lithium will outstrip supply in less than 10 years unless new sources are found.
- If lithium supply is as restricted as some believe this could impact lithium-ion battery production and force alternate technologies that do not use lithium. Some commentators from the car industry have said that lithium battery costs are hurting electric car development and names fuel cells as the way of the future, dismissing electric plug-in models entirely.

- Lithium is a small component of the overall cost of a lithium-ion battery. For example, a \$10,000 electric car battery only contains around \$200 worth of lithium. Though this can be viewed as positive for the price lithium because it implies there is a lot of headroom in the battery pricing to absorb higher lithium prices, it also suggests that the amount of lithium required is being overstated by those suggesting the world's cars are going electric fast.
- Lithium is the 27th to the 33rd most abundant metal on the earth (depending on definitions). However known lithium reserves have expanded greatly since the 1970s. Some have suggested that at 5 times current prices it would be economically viable to extract lithium from sea water.
- Lithium remains in the battery and is not used up in the way oil is in the running of a car. Lithium ion batteries can be recycled and re-used at the end of the car or battery's life. Over time a significant secondary scrap market in lithium may develop keeping a lid on prices.
- As battery technologies have increased they require less lithium. It is possible that over time the technologies will evolve to require increasingly lesser amounts of lithium or won't require lithium at all.
- Demand for lithium since 2000 has shown a compound annual growth rate of 6% p.a. Current demand for Lithium Carbonate is around 110,000 tonnes p.a. and is expected to increase to 250,000-300,000 tonnes p.a. in 2020 driven by growth in rechargeable electric car batteries.
- Prices for lithium, currently around US\$6,600 per tonne are expected to increase to up to US\$8,000 pt by 2013. Prices for lithium carbonate 6% are around US\$400 per tonne.



## Valuation

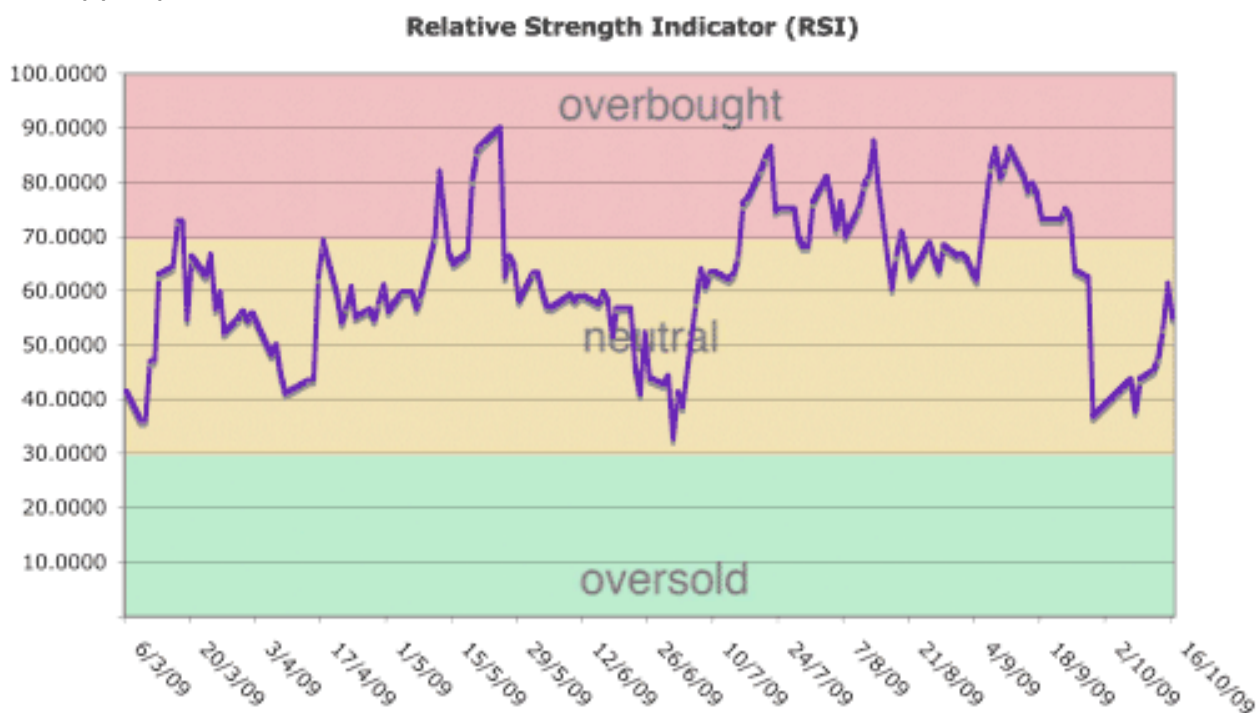
The company estimates that the Ravensthorpe mine and Chinese facility will both together generate an internal rate of return of 45% p.a. This is based on total capital costs of \$130 million. Average net cash per annum of both lithium and tantalum sales are estimated to be \$80 million which suggests the company is undervalued at only \$160 million.

At average \$80 million EBIT we believe current PE ratio valuation of 2 x is cheap. We value the company potentially at \$400 million based on our own WACC of 19.5% opposed to the company's discount factor of 8%.

We believe share price could go as high as \$5.00 in the short to medium term.

## Technical Analysis

The RSI is in neutral territory after spending some time looking overbought. Interestingly the stock hasn't given a BUY signal (i.e. being oversold) for some time while the stock price has been racing ever upward. The momentum in the stock is so high that it appears that buy signals are being generated in the 30-40 range instead of sub-30 as you would normally expect. The stock has also rallied even after being in the upper part of the neutral area.



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