

Unravelling Tesla

I must confess I have been like a rock in the stream of the unending torrent of Tesla boosterism over recent years. I just sit and the flow of this material just washes over me and leaves me totally unmoved. What was a car company seems to have morphed into a battery manufacturer now. The appearance of a new marque in the car world is a rare thing and the only one I can recall, besides Tesla, during the part of my life when I had awareness of such matters, was DeLorean. The less said about that the better. So when the Tesla auto appeared, I was underwhelmed.



The battery business seems to have been spawned by the car business and appears to now be the tail that wags the dog (no irony intended). Why should Tesla not venture into tires? Or into car stereos? What special skill does it bring to the business of making Lithium-based batteries?

Mining investors have piled onto the Tesla phenomenon like it is the last lifeboat to get away from the Titanic. In particular it has been graphite companies and their followers who have searched Tesla's tealeaves for signs favorable to their own stories. Therefore it is somewhat ironic that the first company to tangibly hitch its wagon to Tesla's star is a little known Lithium hopeful, Bacanora Minerals (TSXV:BCN).

The Tesla Deal

The announcement that got the market in a kerfuffle was a new lithium project in northern Mexico that received the “first seal of approval” to supply the Tesla Motors Gigafactory in Nevada. A few days back Bacanora Minerals and Rare Earth Minerals (LSE:REM) received the go-ahead to supply lithium hydroxide to Tesla’s lithium-ion battery “megafactory” from its clay deposit in Mexico’s north-west should the new project reach production.

Tesla agreed a five-year lithium hydroxide contract (from the date of the first order by Tesla) to “purchase agreed minimum tonnages with estimated forecast maximum tonnages to be determined following delivery of future production orders”. The Supply Agreement has an option to extend for a further five years.

Some parts of the deal remain less than clear. For instance, over the next two years, the Sonora Lithium Project must reach certain (undisclosed) performance milestones and successfully pass product specification qualifications. If these are achieved then Tesla – or its authorized purchasers – will buy lithium hydroxide to feed the manufacturing of batteries at Tesla’s plant.

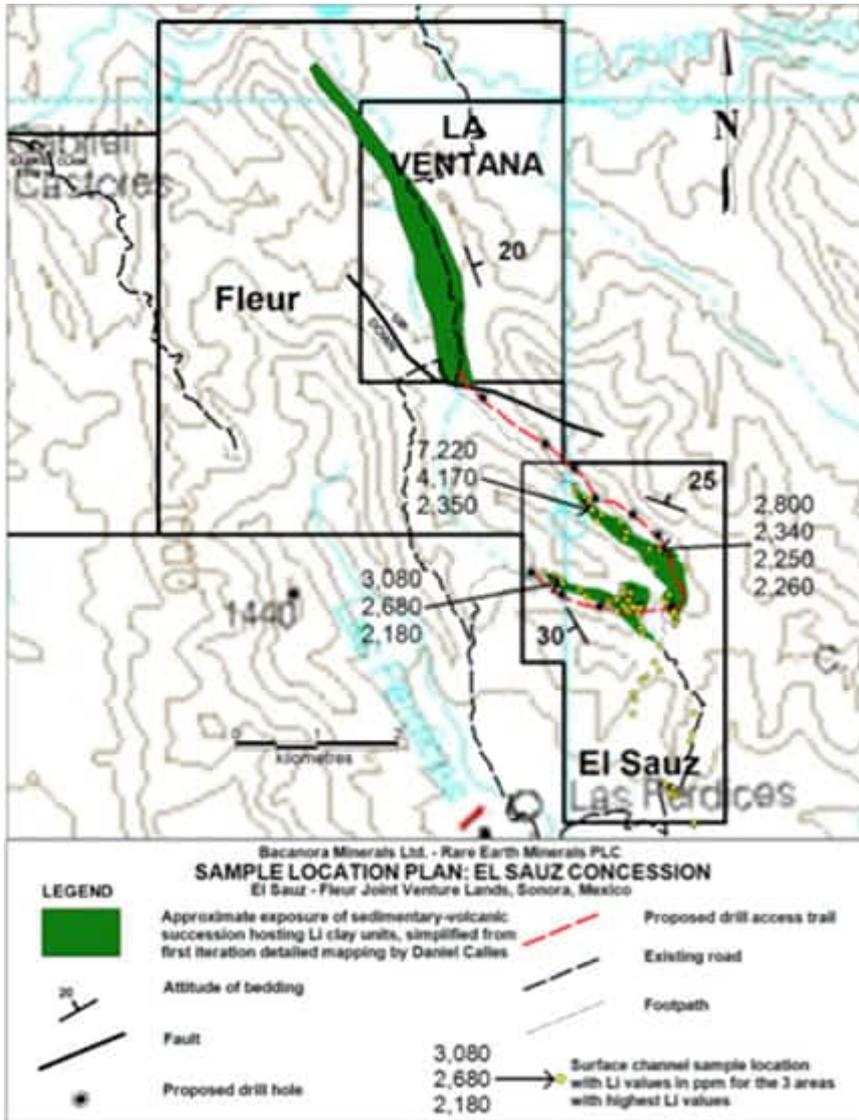
One of the key milestones will be the confirmation that the Sonora Lithium Project will be able to supply lithium hydroxide in accordance with volumes and timeframes to be established by Tesla. Tesla will purchase minimum quantities in accordance with an agreed upon pricing formula, below current market pricing, with actual prices and volumes that can only be finalized during the development phase in due course. The forecast tonnages and delivery dates are structured to coincide with Tesla’s forecasted Gigafactory production. Sounds like Bacanora is the one having to jump hurdles here. It begs the question as to what happens if Bacanora meets the timeline, and specifications, and Tesla

does not!?

Some have speculated that Tesla will consume as much as 80% of Bacanora's output and that the company will keep back the remnant to sell into spot markets. Frankly with Tesla not actually funding the mine-build, a commitment of 80% of one's output to a non-committal offtaker, that also wants a discount to market, is exceedingly generous.

The Sonora Lithium Project

The project consists of ten mining concession areas covering approximately 100 thousand hectares in the northeast of Sonora State. It is managed by a Joint Venture between Bacanora Minerals and the AIM-listed Rare Earth Minerals. It should be noted that the latter company has been accumulating a larger shareholding position in Bacanora and at last reports held around 15.4%.



The JV partners, through drilling and exploration work to date, established an NI43-101 Indicated Mineral Resource of 1.12mn tonnes LCE contained in 95mn tonnes of clay at a Li grade of 2,200 ppm and an Inferred Mineral Resource of 6.3mn tonnes LCE contained in 500mn tonnes of clay at a Li grade of 2,300 ppm.

La Ventana - Inferred Resource				
Unit	Tonnes	Li ppm	LCE %	LCE tonnes
Upper Clay	22,642,000	2,632	1.3	292,000
Lower Clay	20,682,000	4,103	2	420,000
Lower Clay - up dip	16,829,000	2,557	1.3	218,000
Upper & Lower Clay	60,153,000	3,000	1.6	930,000

The PEA

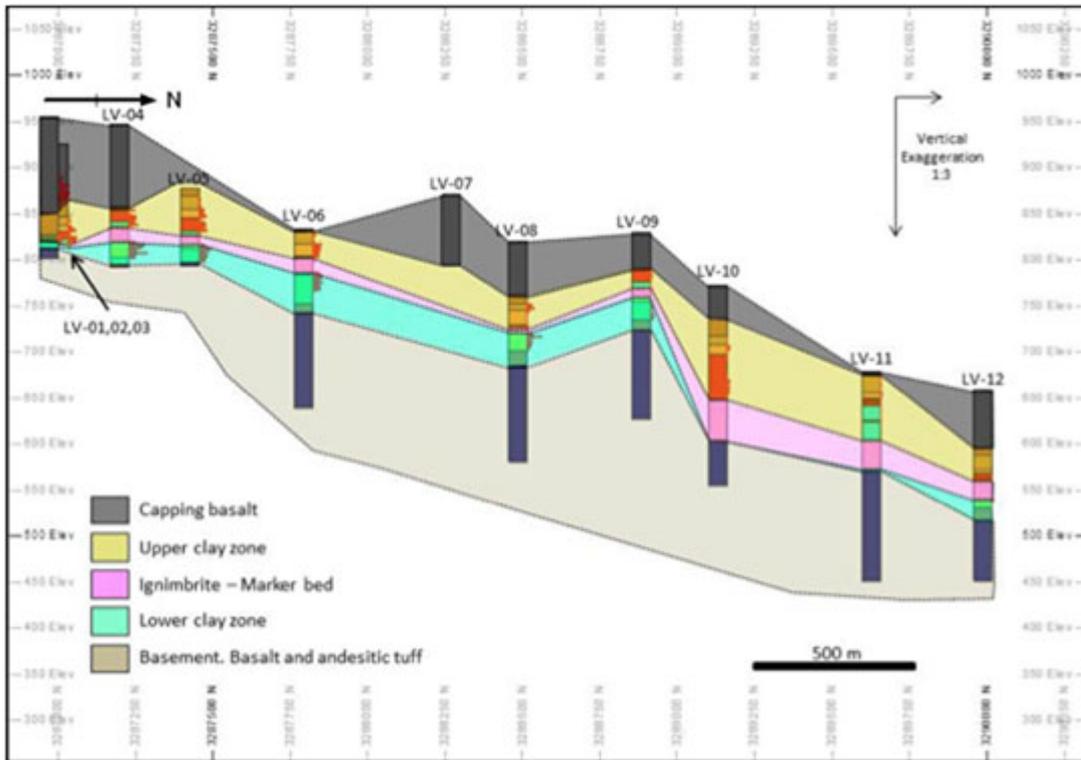
The Sonora Lithium Project Partners are working to develop a mineral-rich, lithium-bearing clay deposit into a planned low-cost, sustainable and environmentally conscious mining operation. It is estimated that the mine and processing facility will have an initial production capacity of approximately 35,000 tonnes of lithium compounds, with the scaling potential of up to 50,000 tonnes per annum.

It is currently anticipated that lithium hydroxide and lithium carbonate would be among the materials produced by the mine. Lithium hydroxide is a key feedstock material in the manufacture of certain kinds of lithium-ion battery cells.

The metrics from the PEA are below and the capex is truly impressive for being as low as it is and with a rather short payback.

Preliminary Economic Assessment Metrics	
Open Pit Mine Production per annum	2,735,000 tonnes @ 0.3% Li
Lithium Carbonate Production per annum	35,000 Tonnes
Revenue (\$US6,000/tonne of lithium carbonate) per annum	\$US 210 Million
NPV (8% discount)	\$US 848 Million
Internal rate of return	138%
Average Operating Costs	\$US 1,958 Per tonne
Total Initial Capital Costs	\$US 114 Million
Expected Mine Life	20 Years
Payback of Capital Costs	1.9 years

The attractions of this project are various but the main advantage it has is the clay nature of the mineralisation and the fact that it is relatively near surface (though with a basalt cap over much, but not all, of the deposit). A cross-section of the deposit is one of those pictures that “tell a thousand words”:



Bagging the Tesla deal is obviously a good first step. Now we need to see if financiers are as impressed with Tesla as a counterparty as retail investors seem to be. Whatever happens Tesla has shown no sign of digging into its own pocket so the Sonora Lithium Project Partners will need to raise finances to design and construct a mine and processing facility under their own steam.

Conclusion

It would be somewhat ironic if, ten years from now, the Sonora Lithium project was up and running and Tesla and its modestly named Gigafactory have gone the way of the DeLorean.



The chart above shows that Tesla certainly was good for a mighty pop in Bacanora's stock price with the announcement pushing the stock from around \$1.30 per share to over \$2, before easing back.

The Sonora project is interesting for its clay component, its good grade, its proximity to the US markets and its low capex. Whether the Tesla deal plays out or not is probably neither here nor there. If Tesla were really serious they would have snapped up the company (in an all-stock bid) or taken a sizeable strategic stake in Bacanora so they could have their cake and eat it too. They did neither.

Bacanora should get a financing done while the going is good and if Tesla ultimately doesn't turn out to have any relevance to Bacanora's future then it will have been a case of "nice knowing you, Tesla, and goodbye".