

Top 3 best valued lithium juniors, as lithium prices near a bottom

written by InvestorNews | December 13, 2023

Following an incredible 2022, the lithium sector has had a horrible 2023; however soon the pain should be over. The China lithium carbonate spot price is down 82.5% in the past year and is now below the marginal cost of production, meaning the lithium price fall should end very soon. This assumes the marginal cost producers continue to stop production and that EV sales continue to grow in 2024.

Lithium Ionic's Bandeira Project: A Game Changer in the World of Critical Minerals

written by Tracy Weslosky | December 13, 2023

In a significant news this morning, Lithium Ionic Corp. (TSXV: LTH | OTCQX: LTHCF) has announced the results of its Preliminary Economic Assessment (PEA) and an updated Mineral Resource Estimate (MRE) for its Bandeira project. Located in the mineral-rich state of Minas Gerais, Brazil, this wholly-owned project stands poised to make a seismic impact in the world of critical minerals and rare earths.

Economy of Scale – A Misused Metric in Mining

written by Jack Lifton | December 13, 2023

I was surprised earlier this week to see an article in the Wall Street Journal in which the rule of “economy of scale” was mistakenly used with regard to the output of a mine to predict that the price of lithium would fall as mine output increased. The author did not seem to understand, and his quoted “experts” didn’t seem to care, that mines are not organic, they don’t continuously renew their ore bodies, nor are concentrations of hard rock minerals uniform, so that such mines have limited useful lifetimes. The concentrations of the minerals first sought out for extraction are always the highest in the deposit, so that as the extraction of the ore continues lower and lower grades are encountered until it becomes uneconomical, at the price then realized for the ore, to continue “mining” it. Economic assessments of the value of the mine describe this metric as the “life of the mine.” The enormous cost of setting up a mining and beneficiating (concentrating) operation assumes that it is unlikely that some new and more economical method of beneficiation will be discovered, and be experimented upon and proven effective, during the life of a mine, so that the life of the mine could be extended economically by enabling the economically effective processing of lower grade ores. Mines are designed with “best practices” at the time of the construction. It is not assumed that new technologies will be discovered during the life of the mine that will extend its life.

Yet, on the 23rd of January, the following sentence appeared in

an article about the future supply and price of lithium: "Increasing production, which typically has the effect of reducing unit costs through economies of scale, will likely be the primary source of growth in the industry this year."

Mine production decisions will of course be dependent upon the price of the mineral being mined. Gold mines are typically opened and shut down and then reopened, for example, by the price of gold dropping to less than the cost of extracting it and then bouncing back. Note well that gold is often mined in grades of just a few parts per million, because its value is as much as \$2,000.00/oz or more than \$60/gram.

Lithium, today, is produced from two types of "deposits." One, is hard rock minerals, the best known of which is spodumene and the largest deposits of which are in Australia. The other is from brines typically found in deserts, which may range in "grade" from the 3000+ grams per ton in the vast brine deposits of Chile to, more typically, 300-1000 grams/ton in the more typical desert brines of Chile, Argentina, and Bolivia.

Most of the lithium produced today comes from spodumene mining in Australia. The golden triangle of South American nations contribute less than 40% from their brines due to the enormous costs and time required to dry and process the brine to recover the lithium.

One may ask why are brines, in particular the vast ones in Chile, which have uniform concentration not dominant in the production of lithium. The answer, always, is cost including the cost of time. The brines must be evaporated in order to bring the lithium concentration to 20,000 parts per million (2 percent), at which concentration they can be processed to selectively recover the lithium. The Wall Street Journal writer would probably ask why not just increase production to lower

costs? The answer here is cost, and the cost involved is that of time. It takes 18 months for the brine to be evaporated in the sun (the amounts necessary are simply too vast, one million tons of water must be evaporated to produce 3,000 tons of lithium in Chile's Atacama Desert, for example, to even consider pumping the brines to fossil fuel heated tanks. Note, by contrast, that the production of one million tons of spodumene can recover 60,000 tons of lithium. But again that is an energy and reagent (sulphuric acid at high pressure and temperature) intensive operation, so it is very costly.

I have been told, privately, by the CEO of a large brine operation that his judgement is that lithium production may double by 2025, but that even holding that level of production, economically, depends entirely on the market price of lithium and the price of energy, so that the very high prices of today, a response to the law of supply and demand caused by the lithium industry's inability to keep up with the surging demand for EV and stationary storage batteries, are, as always, the driver of supply. Should the price of lithium drop as precipitously as it has risen, or if the cost of energy rises too much, that part of the lithium supply dependent on high prices will close (at least in the capitalist "free market" economies).

Economy of scale does not apply here. It is an inapplicable metric in mining. Miners always want the prices of minerals to rise, not decline!

The ‘closeology’ textbook suggests we all enjoy a Lithium Ionic read

written by InvestorNews | December 13, 2023

Because the world isn't already confusing enough, I thought I'd share my latest trip down the rabbit hole. Today I'm writing about a lithium explorer, so one of the things I thought I'd review was the underlying commodity price. I knew it had surged to record levels recently but was taking a bit of a breather, I wanted to know if the price had come off a little or a lot. The first number I got when I googled the price of lithium was US\$0.0007898. That seemed like a weird number so I figured I'd better see what measurement that was based on. Maybe some exchange started tracking lithium in milligrams or something. Nope, some marketing genius decided to hop on the rocketing global demand for lithium by creating a crypto coin called [lithium](#) that is part of the decentralized NFT valuation protocol. Do not be concerned, the actual commodity is still trading near all-time record highs which should be exceedingly profitable for any producer that can get it to market.

Now that we've cleared that up, let's move on to a textbook "closeology" example in the lithium world. I find closeology, or proximity to an existing discovery, is often an encouraging starting point. If for no other reason than you can potentially get a decent trade out of it. A great example was the Newfoundland gold rush of 2021 that was sparked by New Found Gold Corp.'s (TSXV: NFG | NYSE-A: NFGC) incredible drill results that lead to a pretty good rally in virtually every gold explorer that declared they had mining claims in Newfoundland. Unfortunately, since then, gold stocks have been abandoned

(until the last week or two), and if you didn't start matching New Found Gold's results it turned into a double whammy. However, today's example won't be for lack of trying as the company has a well-stocked treasury and 5 drills turning, looking for one of the hottest commodities on the planet right now.

That company is [Lithium Ionic Corp.](#) (TSXV: LTH | OTCQB: LTHCF), a Canadian-based lithium-focused mining company with properties covering ~2,000 hectares located in the prolific Aracuai lithium province in Minas Gerais State, Brazil, which boasts excellent infrastructure, including highways, access to hydroelectrical grid power, water, and nearby commercial ports. They have a vision to develop a commercial grade lithium operation economically and responsibly. To do that they have assembled an experienced team with a track record in lithium mining, geology, and capital markets that is ideally suited to execute on a disciplined development plan.

Lithium Ionic is actively drilling two prospects, its Galvani claims, as well as Bandeira (formerly Area 1) of its [Itinga claims](#). When it comes to close, I'll let the following picture do the talking.



Source: Lithium Ionic [Corporate Presentation](#)

Bandeira is located south of the operating CBL Lithium Mine and directly north of SIGMA Lithium Corporation's (NASDAQ: SGML | TSXV: SGML) Barreiro project. The Galvani property is located less than 4 kilometres from Sigma Lithium's Xuxa deposit. Another picture will give you an example of the Araçuaí Pegmatite District (APD), where more than a hundred pegmatitic occurrences are known and holds the biggest lithium reserves of Brazil.

PROLIFIC LITHIUM DISTRICT



CBL MINE (Producer)

Private company, producing lithium since 1993
Produces both Li-carbonate and Li-hydroxide in its chemical plant in Divisa Alegre (MG)
36,000 tpy of SPO concentrate @ 5.5%; Spodumene Reserves of +1.3Mt
33.3% owned by Brazilian private equity firm, Ore Investment



ITINGA PROJECT, Bandeira + Areas 2-5 (Exploration)

100% interest in +1,300 hectares
30,000m drilling program underway (focus on Bandeira)

GALVANI CLAIMS

Claims acquired in Sept. 2022; drill program underway
Highlights: 1.98% Li2O/25.63m, 1.94% Li2O/20m; 1.71% Li2O/22m; 2.22% Li2O/12.5m



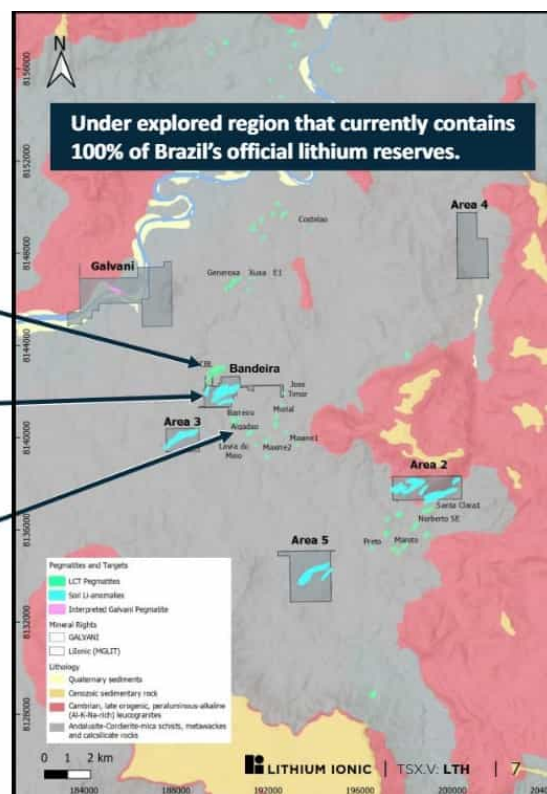
GROTA DO CIRILO PROJECT (Under Construction)

The largest hard rock lithium deposit in the Americas
Project under construction; production slated in late 2022
NI 43-101 resource estimate of 52Mt
Phased development: initially 33,000 tpy LCE as SPO concentrate; eventually expected to produce 531,000 tpy LCE from 2 deposits



SALINAS PROJECTS (Exploration)

Bananal Valley: 1,250 ha; Salinas South: 4,088 ha
Drilling initiated in early 2022
(~60kms North of Galvani)



Source: Lithium Ionic [Corporate Presentation](#)

The reason I'm fixating on closeology is actually more to do with Sigma Lithium than CBL. The reason being, Sigma now hosts the largest hard rock lithium deposit in the Americas, with proven and probable mineral reserves of 54.8 Mt of lithium spodumene at 1.44% lithium oxide. And they've done this very quickly, going from less than US\$1.50/share in June, 2020 to over US\$35/share currently. That's a market cap of US\$3.5 billion. It's not hard to imagine that if Lithium Ionic can start putting up some significant resource numbers that the market will take notice. Especially those who may have missed out on the tremendous run that Sigma has had.

The question becomes, how can Lithium Ionic get there from here. The Company has roughly C\$35 million in working capital, is in the midst of a 30,000 meter drill program with 5 drills operating along with additional regional exploration work ongoing. They expect to produce an inaugural mineral resource estimate in Q1 2023 with drilling updates coming out every 6-8

weeks. And thus far those updates have been solid with the results [announced in early November](#) that included 1.98% Li2O over 25.63 meters representing the strongest grades in the Galvani area encountered since the Company began drilling earlier this year. In the same press release, Lithium Ionic reported values of 1.99% Li2O over 6.75m, 1.56% Li2O over 3.90m and 1.44% Li2O over 8.33m all located within 50 meters from surface at its Bandeira project.

You can see the potential is there, although Lithium Ionic is not exactly a hidden gem with a current market cap of roughly C\$216 million. However, what I find interesting is that the Company [raised C\\$25 million](#) in October of this year at C\$1.60/share and the stock has traded above that level since the start of November. Additionally, they didn't have to add warrants to this issue to push it out the door, which tends to be a very positive sign of strong support for the stock. Sigma has shown that the sky's the limit, but you'll need a lot more than closeology to get there.