

**SPECULATIVE BUY  
INITIATION OF COVERAGE**

**Financial Summary**

Changes	Previous	Current
Rating		Speculative Buy
Target Price	—	C\$5.00
Price ( 04/24/23 ):		
		C\$2.41
52-Week Range:		C\$3 - C\$0.70
Market Cap.(mm):		C\$320.8
Shr.O/S-Diluted (mm):		133.1
Enterprise Val. (mm):		\$140.1
Avg Daily Vol (3 Mo):		711,673
Dividend / Yield:		C\$0.00 / 0.0%
NAV:		C\$1,093.83
NAVPS:		C\$7.10
Price/NAV:		0.34x
Cash (mm):		\$15
Debt (mm):		\$0.0
Net Debt (mm):		\$(15)
Target P/NAV:		0.75x
FYE		Dec

Prices are as of April 24, 2023, unless otherwise indicated.

	2023E	2024E	2025E
<b>Production (kt)</b>	0	12	59
<b>EPS (adj.)</b>	C\$(0.06)	C\$0.07	C\$0.18
<b>CFPS</b>	C\$(0.07)	C\$0.12	C\$0.44

**Price Performance**



**First Mover Geology Without First Mover Hurdles: Itinga in the Fast Lane. Initiating Coverage with a Speculative Buy Rating**

**Summary**

We are initiating coverage of Lithium Ionic with a Speculative Buy rating on the shares. LTH is an emerging lithium exploration and development company with a growing presence in the world-class Eastern Brazilian Pegmatite Province. The 100%-owned Itinga Project is located within the exceptionally fertile Araçuaí lithium-cesium-tantalum Pegmatite District, adjacent to Sigma Lithium's ramping Grota Do Cirilo Project (85.6MMt @ 1.43% Li<sub>2</sub>O for three phased production of 766ktpa spodumene concentrate/104.2ktpa LCE) and the currently producing CBL mine (estimated 4MMt @ 1.60% Li<sub>2</sub>O for estimated annual capacity of 42ktpa spodumene concentrate/5.7ktpa LCE). The Project is proximal to infrastructure and is located in a low capital intensity jurisdiction prioritizing lithium investment, helping facilitate capital efficient, time efficient project advancement.

**Key Points**

**LTH is aggressively proving up a sizable resource base.** Acquisitive by nature, Lithium Ionic's land holdings now total approximately 14,183ha of coveted claims in the Eastern Brazilian Pegmatite Province (EBPP), one of the world's largest belts of lithium-cesium-tantalum (LCT) bearing spodumene pegmatites. The company's 100% owned Itinga Project is comprised of multiple surficial spodumene-bearing outcrops. Of these, Galvani and Bandiera remain the current focus, with eight drills currently spinning with a fully funded 30,000m 2023 drill program (23,000m drilled to date) to yield a maiden resource estimate of between ~15-20MMt @ ~1.30-1.40% Li<sub>2</sub>O by June and likely a DFS by year-end (we note the initial PFS for Sigma Lithium's Grota do Cirilo (GDC) Project was based off ~13.5MMt @ 1.56% Li<sub>2</sub>O and 9,500m of drilling, which detailed a \$250MM NPV @ spodumene concentrate prices 5x below current).

**Lithium-bearing pegmatites occur in clusters, leaving the door open for further discovery.** Lithium Ionic's ground hosts the triple threat required to form lithium rich pegmatites in Araçuaí — timing, composition, and location, or what we call the 'Goldilocks' zone of LCT pegmatite formation. Further, drilling this year at the company's Salinas and ITIRA claims (20,000m estimated) has the potential to yield tonnage beyond the initial resource expected in June. We note the rapid growth these deposits are capable of showing with systematic drilling. Based off GDC's 485% resource growth post initial resource and 184% full scale production run rate growth post PFS, we see LTH outlining a beachhead production strategy with room to grow from the initial economic study. In a scaled-up production scenario to right size production to resource, we calculate each additional 10MMt discovery is worth approximately ~C\$2.00/sh fully funded beyond our current model.

**Minas Gerais — the right location for cost efficient, time efficient project advancement.** Adjacent comparator Sigma Lithium has provided a template for how to explore, de-risk, and develop a hardrock lithium project in Brazil. From infrastructure development, securing permits, financing and off-take agreements, to building good community relations, Sigma has rapidly progressed from maiden resource to the largest hardrock lithium project in the Americas and the cusp of commercial production in a few short years. This is the Brazilian advantage. The availability of infrastructure (road access, hydropower capacity in close proximity) allows for efficient capital-intensity builds — GDC capex intensity is ~\$2,600/ktpa LCE, versus North American hardrock comps closer to ~\$10,000/ktpa and claystone projects at ~\$40,000/ktpa.

**Beachhead strategy to drive long term value.** We base our valuation off an initial minable base of 18.7MMt @ 1.30% Li<sub>2</sub>O, split between Galvani and Bandeira. We detail a phased approach, with Phase I/II production of ~99/198ktpa spodumene concentrate (13/26ktpa LCE) ramped by year five. Via LT concentrate price of \$1,750/t SC6, we arrive at an asset NAV<sub>10%</sub> of C\$974MM or C\$6.32/sh. Accounting for corporate adjustments, our corporate NAV is C\$1,094MM or C\$7.10/sh. Via a 0.75x NAV multiple used to reflect the pre resource stage of the project, our target price is C\$5.00/sh.

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All relevant disclosures and certifications appear on pages 30 to 32 of this report.

**Investment Thesis**

**Resource growth from a prospective land package.** Lithium Ionic's Itinga Project is located within the exceptionally fertile Aracuai lithium-cesium-tantalum Pegmatite District. The company has built up a substantial land package of prospective tenements across the district that will likely lead to further resource growth beyond a maiden resource estimate with continued exploration.

**Supportive government for rapid progress.** LTH is operating near the town of Araçuai in the Brazilian state of Minas Gerais, where support for the development of lithium-projects is strong at the local, state, and federal level. Streamlined permitting and tax holidays should be available to support the project.

**Infrastructure proximity.** Company lithium deposits are steps from established road networks and any future development scenario will have easy access to established renewable-power infrastructure. Combined with straightforward processing, this will likely mean a low-capital-intensity build as already proven by area peers.

**Strategic location.** Company properties are adjacent to other advanced projects and an established mine and therefore could make for desirable targets in a district ripe for consolidation.

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Report continues on next page.

## Investment Thesis

**LTH is aggressively proving up a sizable resource base.** Acquisitive by nature, Lithium Ionic's land holdings now total approximately 14,183ha of coveted mining claims in the Eastern Brazilian Pegmatite Province (EBPP), one of the world's largest belts of lithium-cesium-tantalum (LCT) bearing spodumene and petalite granitic pegmatites. The company's 100% Itinga Project is comprised of multiple surficial spodumene-bearing outcrops. Of these, Galvani and Bandiera remain the current focus, with 8 drills currently spinning with a fully funded 30,000m 2023 drill program to yield a maiden resource estimate of between ~15-20MMt @ ~1.30-1.40% Li<sub>2</sub>O by June and likely a DFS by year-end (we note the initial PFS for Sigma Lithium's Grota do Cirilo Project was based off ~13.5MMt @ 1.56% Li<sub>2</sub>O and 9,500m of drilling, which detailed a \$250MM NPV @ spodumene concentrate prices 5x below current).

**Lithium-bearing pegmatites occur in clusters, leaving the door open for further discovery.** Lithium Ionic's ground hosts the triple threat required to form lithium rich pegmatites in Araçuaí - timing, composition, and location, or what we call the 'Goldilocks' zone of LCT pegmatite formation. Further drilling this year at the company's Salinas and ITIRA claims has the ability to yield tonnage beyond the initial resource expected in June. We note the rapid growth these deposits are capable of showing with systematic drilling. Based off Grota do Cirilo's 485% resource growth post initial resource and 184% full scale production run rate growth post PFS, we see LTH outlining a beachhead production strategy with room to grow. In a scaled-up production scenario to right size production to resource, we calculate each additional 10MMt discovery is worth approximately ~C\$2.00/sh fully funded.

**Minas Gerais – the right location for cost efficient, time efficient project advancement.** Adjacent comparator Sigma Lithium (not covered) has provided a template for how to explore, de-risk, and develop a hardrock lithium project forward in Brazil. Sigma has rapidly progressed from maiden drilling to the largest hardrock lithium project in the Americas and the cusp of commercial production in a few short years. This has been achieved in part thanks to supportive government at all levels. Locally, as Sigma has done, LTH will look to channel economic development aspirations into strong local support for their project. At the state-level, Minas Gerais has made developing the lithium industry a priority, which will help streamline authorizations. And federally, the government has removed restrictions on lithium export and has provided tax holidays to development projects in the northeast. This is the Brazilian advantage.

**Capital Intensity.** Unlike many industry peers who are developing resources in remote locations, Lithium Ionic's deposits are steps from a major highway. Following in the footsteps of Sigma, LTH will have easy access to roads, electricity sourced from 100% renewable hydro power, and a labour pool in nearby Araçuaí. Moreover, early metallurgical testing suggests the likelihood of low-cost Dense Media Separation (DMS) for processing. Together, the availability of infrastructure and simpler processing allows for efficient capital-intensity builds - Grota do Cirilo capex intensity is ~\$2,600/ktpa LCE, versus North American hardrock comps closer to ~\$10,000/ktpa and claystone projects at ~\$40,000/ktpa.

**Strategic Location.** While we emphasize Lithium Ionic's viability as a go-it-alone project, we would be remiss if we didn't mention LTH's strategically-located properties in an emerging mining district. Lithium Ionic has acquired land holdings adjacent to Latin resource's Colina deposit, CBL's Cachoeira mine, and Sigma Lithium's Grota do Cirilo Project. The EBPP is still in the early stages of consolidation and we can envision scenarios where LTH tenements would make either a) a desirable addition for a larger player looking to harvest synergies or b) a regional producer needing to add feedstock to an established processing operation.

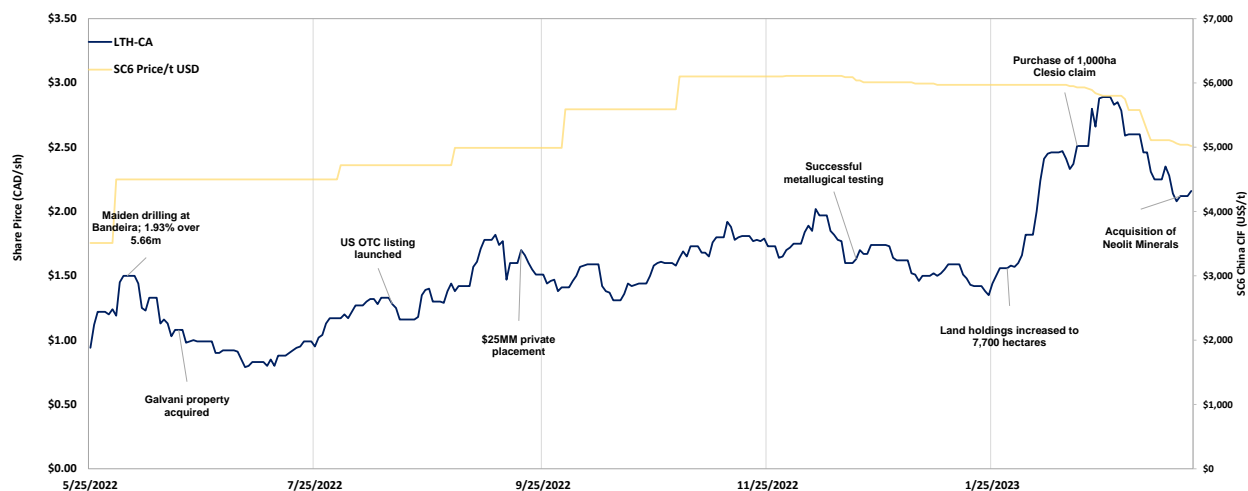
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## Company History & Future Catalysts

- **March 22, 2022.** A technical report for the Itinga project was released. The report outlines the prospective geology of the project's properties for lithium-bearing pegmatites.
- **May 17-24, 2022.** Lithium Ionic Corp launched via the reverse takeover acquisition of Lithium Ionic Inc by POCML 6 Inc, a capital pool company. The company begins trading under the ticker LTH on the TSX Venture exchange.
- **May 31, 2022.** Maiden drill results from Itinga are announced, with near-surface hits of 1.93% Li<sub>2</sub>O over 5.66m and 1.55% Li<sub>2</sub>O over 5.2m from the Bandeira concession.

- **June 14, 2022.** Ionic acquires two lithium mining licenses for \$3.3 million. The licenses include the Galvani property, located approximately 3km to the northwest of the CBL mine.
- **July 26, 2022.** The company releases its first drilling results from recently-acquired Galvani. Highlights of 1.57% Li<sub>2</sub>O over 24.93m, incl. 2.10% Li<sub>2</sub>O over 7.45m, are consistent with historic drill results.
- **August 11, 2022.** Lithium Ionic begins trading in the United States on the OTC market under the symbol "LTHCF".
- **September 19, 2022.** The company raises C\$25 million in a private placement, issuing 15.625 million common shares priced at C\$1.60/share. The transaction closes on October 5th.
- **December 07, 2022.** An additional 1,527 hectares of mining claims are acquired covering lands along trend with known deposits in the Itinga Pegmatite Field. The company paid C\$130,400, with an additional C\$3.9 million to be paid should a resource of at least 2 million tons Li<sub>2</sub>O grading over 1.30% within 18 months.
- **December 15th 2022.** The company reported successful results from metallurgical testing on core samples from Bandeira and Galvani. Heavy Liquid Separation (HLS) tests produced 6% spodumene concentrate at recoveries of 78% from Bandeira and 82.5% from Galvani.
- **January 25 - February 13 2023.** Lithium Ionic strikes deals, increases its land holdings to 7,700 hectares, up from 1,300 hectares in May 2022.
- **March 13, 2023.** Lithium Ionic acquires Neolit Minerals, which holds a 40% interest in the Salinas Project. The Salinas Project comprises 5,700 hectare pegmatite field located 100km away from the Itinga Project.

Figure 1 – LTH Share Price Performance



Sources: Factset, Bloomberg

### Upcoming catalysts

- 2023 should provide ample exploration news, as the company is planning a combined 30,000m in drilling at its Itinga Project and its regional claims. In addition, the company plans on drilling 20,000m at its newly-acquired properties that make up the Salinas Project.
- The company will likely announce its inaugural resource estimate in early 2023.
- Environmental and Social impact studies are underway.
- The Brazilian pegmatite belt remains ripe for consolidation. We expect more transactions in the space as companies jockey for position and continue to acquire claims with prospective exploration targets.

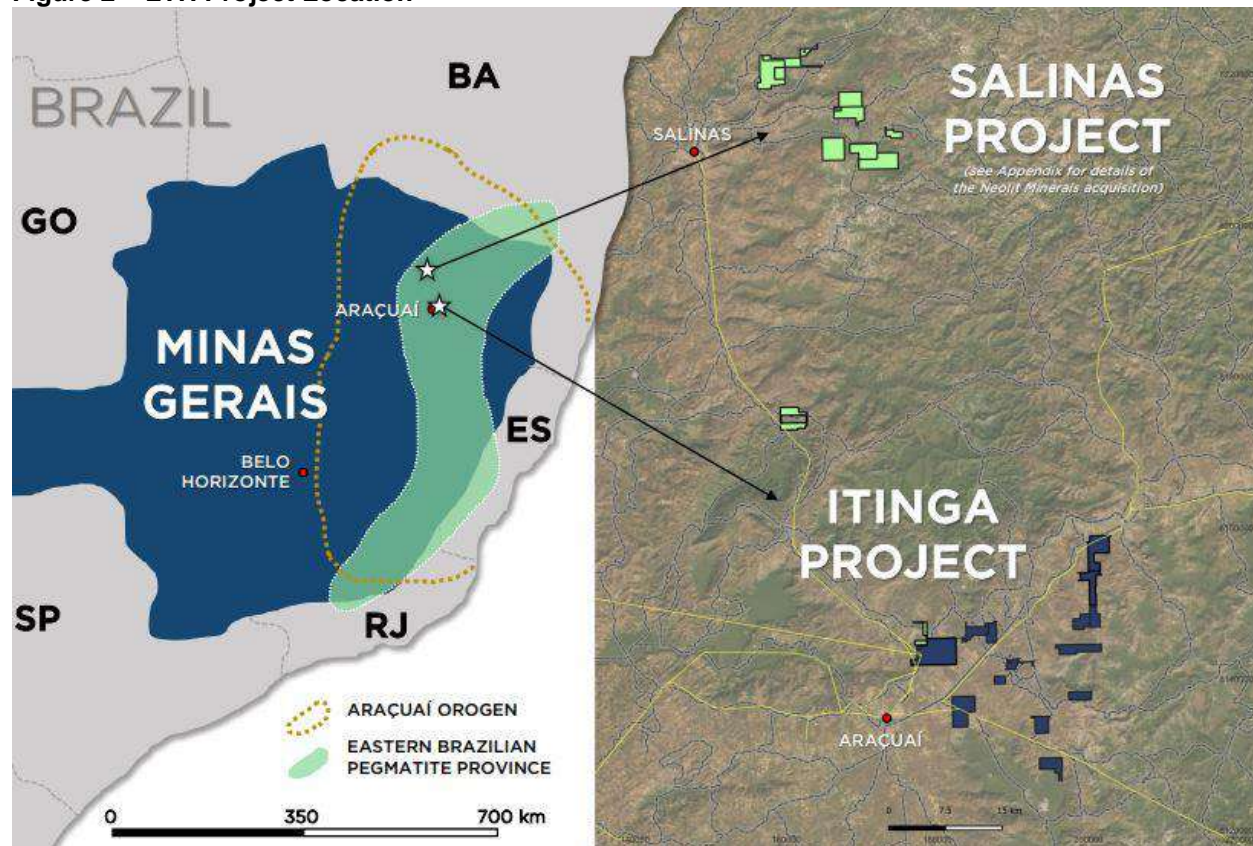


## 1. First Mover Geology Without First Mover Hurdles

**Lithium bearing pegmatites occur in clusters, and LTH is aggressively proving up a sizable resource base.**

Lithium Ionic's land holdings now total approximately 14,183 hectares of coveted claims in the Eastern Brazilian Pegmatite Province (EBPP), one of the world's largest belts of lithium-bearing spodumene and petalite granitic pegmatites. The company has yet to release a resource estimate, and are still in the early stages of drilling. Approximately 23,000m has been drilled at their main Bandeira and Galvani deposits as part of the company's flagship Itinga Project, and an additional 4,000m at their recently-acquired Salinas properties. We expect a 15-20MMt resource between Bandeira and Galvani in May at grades between 1.3-1.5% Li<sub>2</sub>O, and note with further drilling across the recently acquired Salinas, ITIRA, and Clesio blocks this will grow through the year. We currently conservatively model a ~16MMt resource grading 1.3% Li<sub>2</sub>O, but believe this is likely to grow substantially through the drill bit. Bandeira and Galvani are under-drilled, and the company's other properties lie in the "Goldilocks zone" of lithium formation in the EBPP.

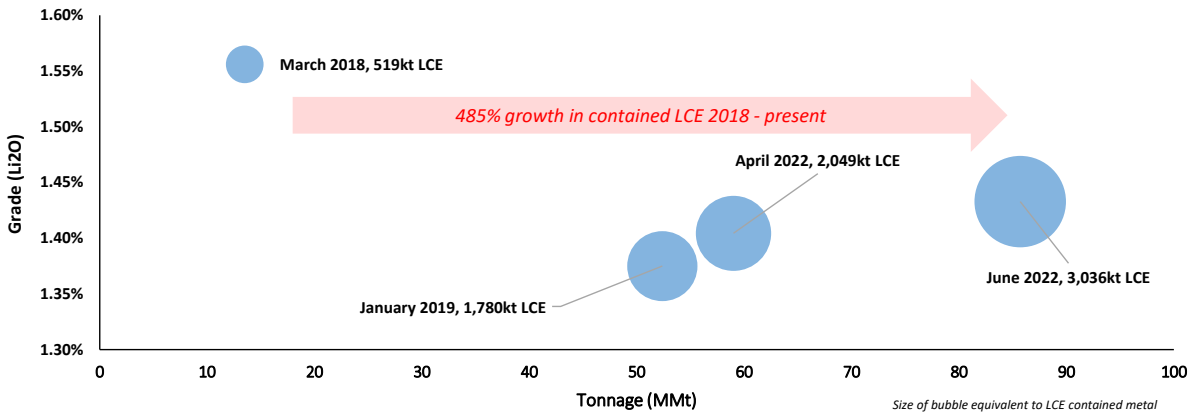
Figure 2 – LTH Project Location



Source: company reports

**Proof of concept in speedy resource growth and development.** We would note the proof of concept for this type of resource discovery and development lay on LTH's doorstep with the evolution of Sigma Lithium's Grota do Cirilo Project. Lithium Ionic highlights Sigma Lithium as a potential model for their path moving forward, and we agree. These deposits are capable of showing with systematic drilling. From a maiden resource estimate of 13.5Mt at 1.56% Li<sub>2</sub>O for 519kt Lithium Carbonate Equivalent after 9500 metres of drilling in 2018, Sigma has grown their resource over 5 fold to 85.7Mt grading 1.43% Li<sub>2</sub>O for 3,036kt LCE with ~96,000m of drilling by 2022. So far, Lithium Ionic has yet to release a maiden resource estimate, and have drilled just 23,000m across their Bandeira and Galvani properties.

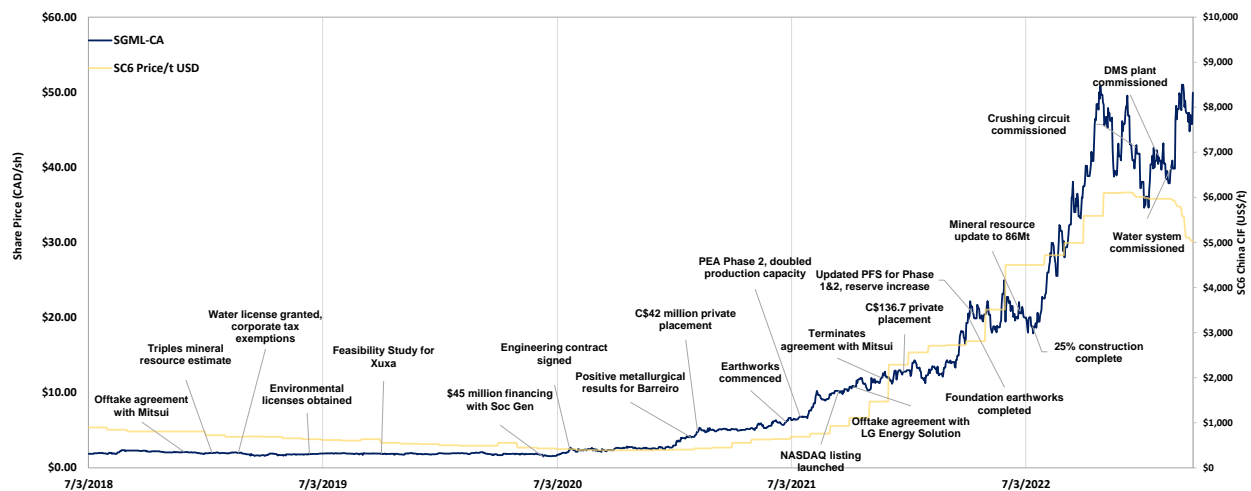
Figure 3 – SGML Temporal Resource Growth



Source: company reports

The initial feasibility study for the Grota do Cirilo Project released in 2019 was based on just the Xuxa deposit with reserves of ~14MMt @ 1.46% Li<sub>2</sub>O for LOM average annual production of 33ktpa LCE over a nine year mine life. With the systematic drilling of SGML’s ground, the company was able to delineate additional resources at Barreiro (25MMt @ 1.38% Li<sub>2</sub>O for 857kt LCE) NDC (26.7MMt @ 1.49% Li<sub>2</sub>O for 984kt LCE) and Murial (5.6MMt @ 1.14% Li<sub>2</sub>O for 157kt LCE). Together, these combine for 85.7MMt @ 1.43% Li<sub>2</sub>O for 3MMt LCE, and provide SGML adequate mineral inventory to right size production. In Q1 of 2023, SGML released a combined PEA on a three – phased expansion scenario which would see fully ramped production of 104.2ktpa LCE.

Figure 4 – SGML Stock Chart and Catalysts



Sources: company reports, Factset

**Minas Gerais – the right location for cost efficient, time efficient project advancement.** Sigma Lithium has provided a template for how to move a hardrock lithium project forward in Brazil, and their shareholders have been appropriately rewarded. From infrastructure development, securing permits, financing and off-take agreements, to building good community relations, Sigma has rapidly progressed from maiden drilling to the largest hardrock lithium project in the Americas and the cusp of commercial production in a few short years. Of these, we detail two main advantages for project advancement at LTH’s Itinga Project.

- 1. Low capital intensity.** Lithium Ionic’s deposits are on the doorstep of already-existing roads, power lines, water sources, and labour. This will dramatically reduce infrastructure costs in a future build. In addition, early metallurgical works suggests it is likely that ore can be processed using a simple and less-costly Dense Media Separation circuit, further reducing initial capital costs. Together, this means a potentially low capital intensity build.

Relying on Sigma Lithium’s experience as a guidepost, we believe that Lithium Ionic will be able to advance their project at a substantially lower capital intensity than industry peers. While the recent boom in lithium prices has

spurred exploration and a flurry of deposit discoveries, few can boast of the favourable location of Sigma's Grotto do Cirilo.

Sigma's mines will be situated in an already infrastructurally-endowed region with nearby population centers. There is no need to bushwhack across the muskeg of the Canadian boreal forest nor ascend up to an Andean desert to access their deposits. Instead, they are constructing their processing plant and digging their first pit steps from a major highway.

Similarly, Grotto do Cirilo saved on electrical infrastructure cost thanks to close proximity to pre-existing power lines. Connecting to these lines just 5km away means the project will not have to spend on building a power plant but instead will use 100% renewable electricity sourced from the Trape power station.

In addition to this favourable location that has created positive infrastructure externalities for Sigma, the nature of their deposits will make simpler, and therefore lower cost, processing. Sigma will be processing spodumene-bearing pegmatites using a Dense Media Separation circuit that is decades-old proven technology. This stands in contrast to some North American developers who will be extracting lithium from clay with new, and expensive, technology. This has also kept capital costs low by reducing investment in the processing plant.

All in all, this means that Sigma will be able to begin operations with an exceptionally low capital intensity. Compared to selected peers for which data is available, we see that Sigma will be delivering a large-scale production for the price of a much smaller operation. With Phase 2&3 fully ramped up, Sigma's initial capital costs will be just \$2,605 per tonne of annual LCE production, with infrastructure spending accounting for just \$277 per tonne of annual LCE production.

**Figure 5 –Various Project Capital Intensity Comparators**

Project		Thacker Pass	TLC	James Bay	Rose	Kathleen Valley	Manono	Goulamina	Bougouni	Georgia Lake	Average	Grotto do Cirilo
Company		Lithium Americas NV, USA	American Lithium NV, USA	Allkem QC, Canada	Critical Elements QC, Canada	Liontown Resources WA, Australia	AVZ DRC	Leo Lithium Mali	Kodal Minerals Mali	Rock Tech Lithium ON, Canada		Sigma Lithium
Location		NV, USA	NV, USA	QC, Canada	QC, Canada	WA, Australia	DRC	Mali	Mali	ON, Canada		
<b>Capex</b>												
Infrastructure capital	US\$MM	\$400	\$46	\$34	\$31	\$69	\$60	\$56	\$18	\$52	\$77	\$29
Processing capital	US\$MM	\$2,447	\$653	\$66	\$118	\$88	\$345	\$151	\$52	\$54	\$399	\$154
Remaining capital	US\$MM	\$1,148	\$732	\$84	\$92	\$203	\$141	\$118	\$47	\$87	\$386	\$88
<b>Total Initial capital</b>	<b>US\$MM</b>	<b>\$3,996</b>	<b>\$1,431</b>	<b>\$184</b>	<b>\$241</b>	<b>\$361</b>	<b>\$546</b>	<b>\$325</b>	<b>\$117</b>	<b>\$192</b>	<b>\$703</b>	<b>\$271</b>
Processing as % of capital	%	61%	46%	36%	49%	24%	63%	46%	45%	28%	28%	57%
Infrastructure as a % of capital	%	10%	3%	19%	13%	19%	11%	17%	15%	27%	10%	11%
<b>Production</b>												
LCE production/yr (kt)		80	38	44	30	98	124	108	33	15	50	104
Capital intensity (US\$/kt LCE p.a.)	US\$/kt LCE p.a.	\$49,944	\$37,658	\$4,141	\$8,129	\$3,693	\$4,404	\$3,017	\$3,581	\$12,940	\$15,119	\$2,605
<b>Infrastructure capital intensity</b>	<b>US\$/kt LCE p.a.</b>	<b>\$5,004</b>	<b>\$1,208</b>	<b>\$774</b>	<b>\$1,043</b>	<b>\$711</b>	<b>\$481</b>	<b>\$520</b>	<b>\$542</b>	<b>\$3,478</b>	<b>\$936</b>	<b>\$277</b>

\*spod conc 5.6%

\*\* plus 45kt p.a. lithium sulphate

Sources: company reports, Stifel estimates

- Government support from aligned policy and investment agencies.** A future development plan put forward by Lithium Ionic has the ability to get support at the local, state, and federal levels. Locally, LTH is operating in an underdeveloped area of Brazil suffering from high levels of poverty. Federal communities stand to benefit from development that mining can bring, and LTH's neighbour, Sigma Lithium, has cultivated this sentiment into strong local support for their project. At the state level, LTH finds itself in the mining-friendly state of Minas Gerais ("General Mines").

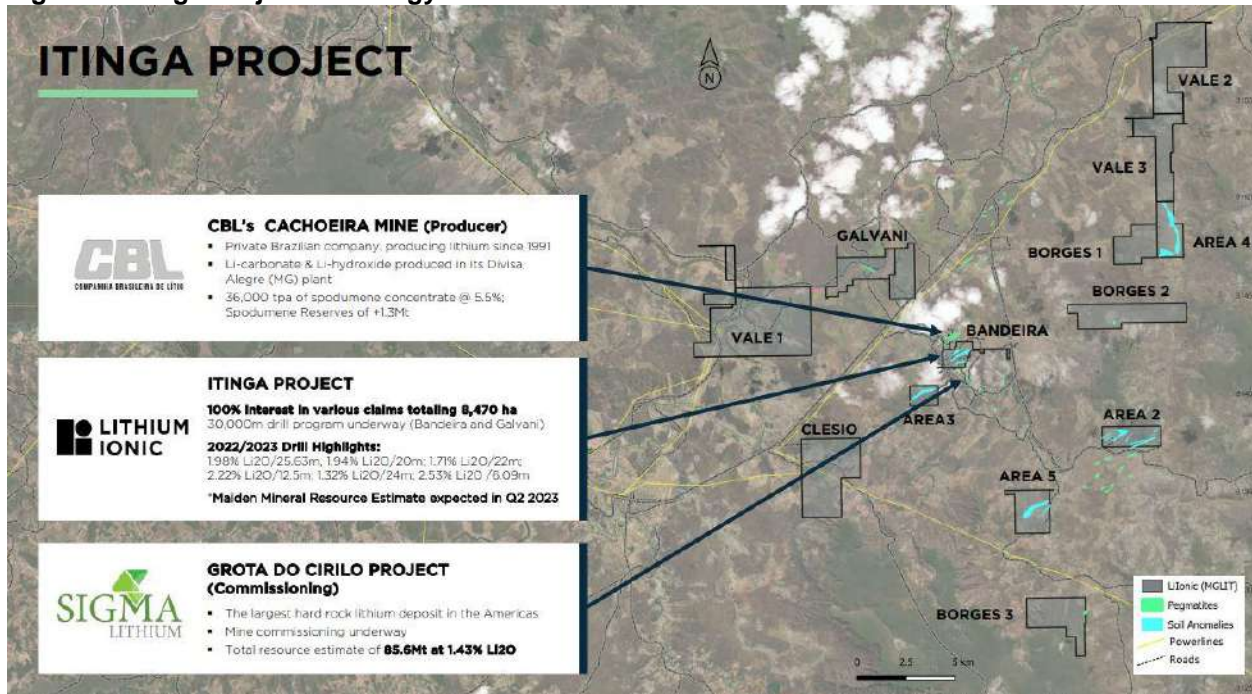
Recently, Minas Gerais, via their investment facilitation agency, "InvestMinas" has made developing the lithium industry a state priority, and is willing to streamline the permitting process for future lithium projects. The State Economic Department of Minas Gerais and the Minas Gerais Integrated Development Institute, together referred to as Invest Minas, has showcased an interest in advancing lithium projects, and provides facilitation of support from government bodies to streamline regulation authorizations. The Federal government is also willing to chip in, and is providing tax holidays for development projects in the region, and has recently freed lithium from trade/export restrictions.

**Strategic location within a District with the potential for significant consolidation.** While we emphasize Lithium Ionic's viability as a go-it-alone project, we would be remiss if we didn't mention LTH's strategically-located properties in an emerging mining district. Lithium Ionic sits on deposits both adjacent to Latin Resource's (not covered) Colina



deposit, and in close proximity to Sigma’s future processing plant – with the Bandeira deposit nearly surrounded by Sigma properties. Much like how future exploration success could add tonnage to feed established processing infrastructure for LTH alone, we can envision a scenario where LTH’s resources would make a tempting target for a regional producer looking to add feedstock to an established operation. Lithium Ionic properties would also make a logical target for any player looking to consolidate some of the patchwork of mining claims in the Itinga field to harvest the synergies of such a strategy.

Figure 6 –Itinga Project Closology



Source: company reports



Figure 7 – SGML Resource &amp; Pit Comparison to LTH Drill History

		Xuxa SGML	Barreiro SGML	NDC SGML	Murial SGML	Bandeira LTH	Galvani LTH
Resources	M&I Tonnage (Mt)	17.4	25.1	26.7	5.6	n.a.	n.a.
	Grade (% Li <sub>2</sub> O)	1.55	1.38	1.49	1.14	n.a.	n.a.
	Contained LCE (kt)	667	857	984	157	n.a.	n.a.
Reserves	P&P Tonnage (Mt)	11.8	21.76	21.19	-	-	-
	Grade (% Li <sub>2</sub> O)	1.55	1.36	1.45	-	-	-
	Contained LCE (kt)	452	730	759	-	-	-
Physicals	drill holes	100	136	124	34	85	60
	metres drilled	15,531	26,976	22,014	5,910	13,000	7,000
	Pit Dimensions	700x500x280; 800x450x300	1000x 800x330	650x650x400; 1000x750x400	-	-	-
	Strike length	1700	600	1600	750	-	-
	Width	200**	800	200	200	-	-
	thickness	12.5	32.5	25	17.5	-	-
	depth*	259	374	350	200	-	-
	Specific Gravity (g/cubic cm)	2.7	2.71	2.68	2.63	-	-
	strip ratio	16.6	12.5	16	-	-	-
	distance to plant	adjacent	6km	7km	6km	5km	5km
drilling area (sq km)	0.396	0.25	0.375	0.531	0.528	0.202	
Drill Density	metres drilled/sq km	39,220	107,904	58,704	11,130	24,621	34,653
	holes drilled /sq km	253	544	331	64	161	297
	tonnes LCE/metre drilled	43	32	45	26	-	-

\*All deposits remain open at depth

\*\*Xuxa width not given. Approximation based on drilling hole locations.

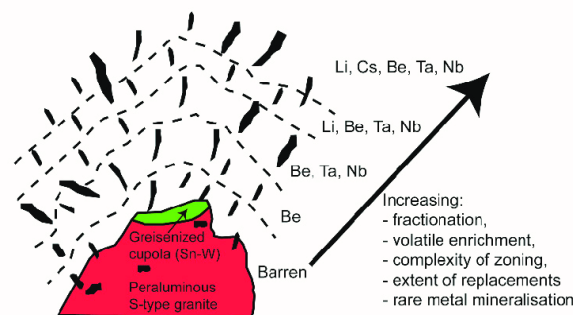
Sources: company reports, Stifel estimates

## 2. Lithium Pegmatites Occur in Clusters – and LTH has the Required Geologic Triple Threat for Continued Discovery

Lithium bearing pegmatites naturally occur in clusters due to deposit genesis. At a high level, lithium bearing pegmatites are classified as LCT pegmatites (lithium-cesium tantalum). These types of deposits form from the sediments of ancient continent-continent orogenies, which produce peraluminous, S-type granites. These granites are interpreted to be the source rocks of LCT pegmatites. LCT pegmatites are enriched in water and fluxes – boron, phosphorous, fluorine that allow the melt a low viscosity despite felsic, siliceous, and sticky composition.

**Fractionation the predominant Li concentration process.** As the melt successively migrates toward the surface and cools it fractionates and becomes enriched in incompatible lithophiles like lithium – this is effectively the concentration process of lithium in pegmatite deposits. The lithium rich melt is expelled from the parental source via preexisting structures/ channels – think fingers pushing through a crack – migrating outward from the source. Given the proper structural setting, lithium rich melts travel in clusters away from the source, with specific distances increasing prospectivity of lithium enrichment.

Figure 8 – LCT Pegmatite Fractionation Model



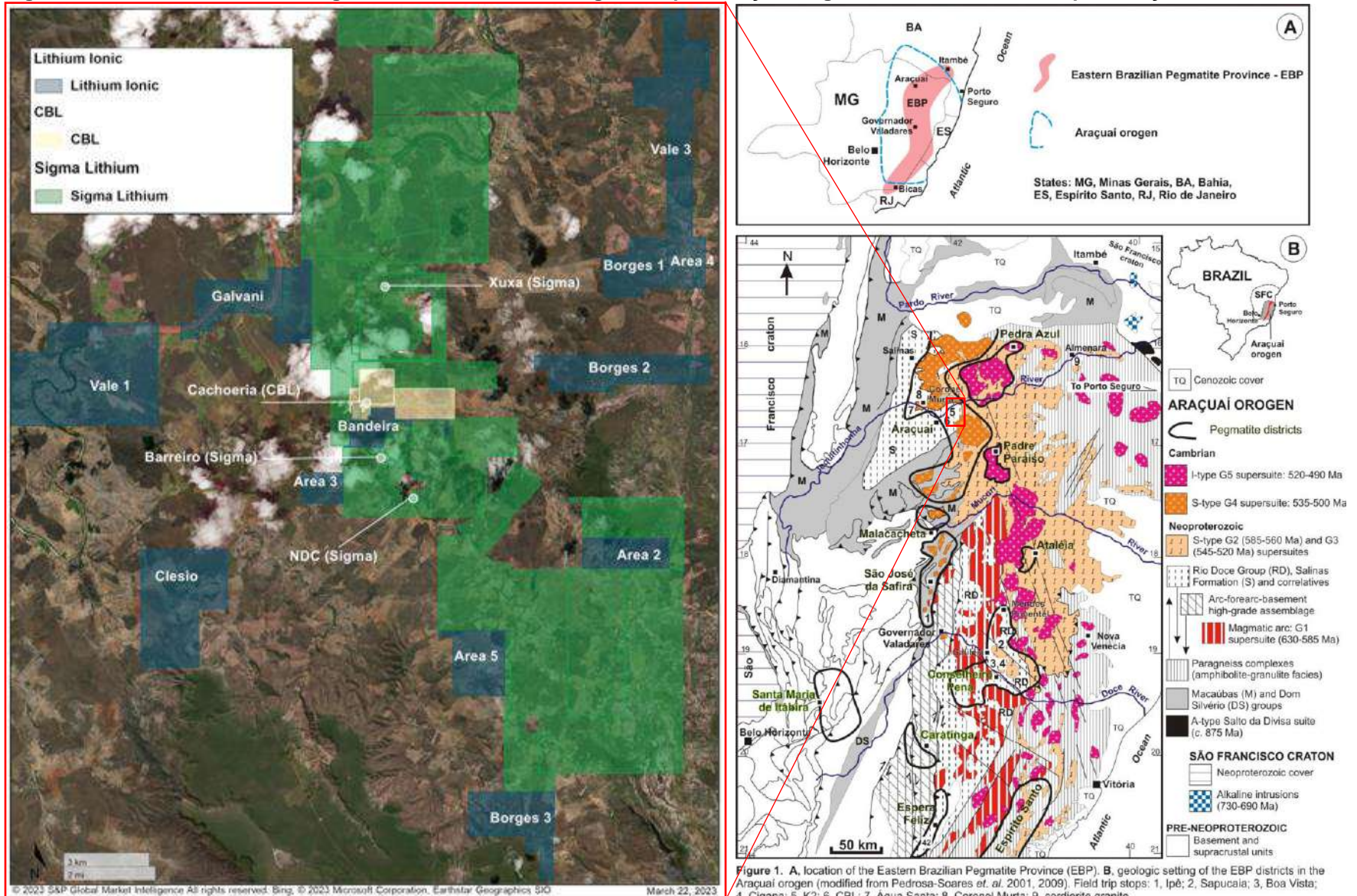
Source: company reports

**At Itinga, multiple geologic, geochemical, and structural constraints have set the stage for lithium mineralization near the surface.** Itinga exists within the Eastern Brazilian Pegmatite Province, a nearly ~1,000km belt located on the eastern boundary of Minas Gerais. Geologically, the EBPP is majority located within the Araçuaí Orogen, a mobile belt formed from the bulldozing of the previous South American and African continents colliding into one another. Following collision, ocean sediment derived granites (S-type granites) intruded the belt, acting as parents to the spodumene rich pegmatites of the Itinga field.

**Timing, composition, and location – the triple threat required to form lithium rich pegmatites in Araçuaí.** The Araçuaí Orogen plays host to five different granite supersuites (G1-G5; ie Generation 1 to Generation 5) in ages ranging from 630-490Ma, spanning pre collision to post collision. However, it is only the late granites, specifically G4 granites that act as source rocks to spodumene mineralization across the Araçuaí Orogen. This is due to their sourcing in part from ocean sediments, providing the correct geochemical composition (S-type, peraluminous, sub-alkaline) for lithium enrichment. Effectively, this narrows down prospective terrane for lithium rich pegmatites within the Eastern Brazilian Pegmatite Province to three of eleven districts – Araçuaí, Sao Jose de Safira, and Malacacheta. While all three of these districts have yielded various gemstones, it is only the Araçuaí district that has yielded spodumene mineralization. Within the Araçuaí district, specific geographic proximity to G4 granites provide increased prospectivity for lithium mineralization in what we call the 'Goldilocks Zone'. This is due to fractionation, the concentration process of lithium within pegmatite deposits. Effectively, G4 granites provide the right source rock composition for lithium mineralization, and distance from these granites (1-10km) provide the right concentration mechanism for lithium enrichment as the melt migrates distal from source.

**Itinga properties are within this Goldilocks zone.** The most economic pegmatites at Itinga are residual, external pegmatites, i.e. melts formed from fractional crystallization of parent granites that are enveloped in country rock. It is important to note that type of country rock matters, as softer metasediments (like the mica schist of the Salinas Formation at Itinga) provide accommodation and structure with which fluids can migrate away from the parent and cool. This rheological contrast, combined with proximity to fertile G4 granites is what makes the Itinga field, and consequently LTH's ground so prospective.

Figure 9 – A: Eastern Brazilian Pegmatite Province; B: Geological Map of Araçuaí Pegmatite District; Claim Map of Araçuaí District



Sources: company reports, Stifel estimates, S&P Capital IQ



### 3. A Region Able to Benefit from Mining Investment

Lithium Ionic is setting up shop in a jurisdiction that is enthusiastic for the lithium mining business, both at the regional and national level.

The mining industry is deeply woven into the fabric of Minas Gerais, which means “General Mines.” Inhabited by indigenous people for 12,000 years, the region was the first part of the Brazilian interior to be colonized by Europeans, who were drawn to the Brazilian gold rush of the late 1600s.

Minas Gerais is a mining-friendly state that currently has over 300 operational mines. 40 of Brazil’s 100 largest mines are located in Minas Gerais. Vale was founded in-state in the city of Itabira in 1942. Minas Gerais produces 53% of Brazil’s metallic minerals and 29% of total minerals, for 47% of total dollar value of mineral production in Brazil. Over 53 thousand people are employed in the mining sector in the state.

Locally, The Jequitinhonha valley is the poorest region in Minas Gerais, and Araçuaí is among the poorest municipalities in Brazil. The economy in the arid region is dominated by cattle raising and subsistence agriculture, which is still relatively unmechanized. There is a dearth of good-paying jobs. Araçuaí has a Human Development Index ranking of .687, far below Brazil’s country-level of .754 and ranks #3,208 out of 5,128 Brazilian municipalities on that metric.

Companies looking to invest in the valley to improve the situation are eligible for government incentives. Through the Development Superintendency of the Northeast (SUDENE), a government development program, Sigma Lithium has received important tax reductions as part of their development promises, including a 75% reduction in corporate taxes over the first 10 years of their project. Lithium Ionic would likely be eligible for similar incentives.

We also note the recent Memorandum of Understanding signed between Latin Resources and the State Economic Department of Minas Gerais (Invest Minas). The agreement calls for Invest Minas to prioritize the development of Latin Resource’s Salinas Lithium Project by facilitating approvals including environmental licensing. The MoU is indicative of the Minas Gerais government’s keen interest to spur investment in the emerging lithium sector. This will provide a clear benefit to other lithium developers in the state, including Lithium Ionic, who may enjoy a potentially streamlined approvals process with a similar agreement.

We are also optimistic about the relative efficiency with which companies can secure the required permits to operate in the region. Again looking to Sigma Lithium’s recent experience, that company obtained all major licenses and permits required save for the final operating license (LO), which will be applied for once the project is completed and ready to start up. The provisional license (LP) and Installation license (LI) for the first area to be mined in their project, the Xuxa northern pit, were approved and granted on June 3, 2019, after being submitted on just December 20th, 2018.

In July 2022 the Brazilian government issued a presidential decree allowing the unrestricted trade and export of lithium. Previously, lithium exporters required the authorization of Brazil’s nuclear authority, owing to the necessity of lithium in producing tritium. This will open new markets for Brazilian lithium, streamlining the process to sell bulk lithium concentrate to refiners overseas.

### Valuation

We base our valuation off a conceptual resource and mine plan anchored off comparator cost comps and a Stifel GMP initial resource estimate based off drilling to date. As noted, LCT pegmatites occur in clusters – like fingers pushing through a crack – and they occur in areas of favourable structure (*structural accommodation of the Salinas metasediments*) with favourable peraluminous granitic source rocks (*Itinga proximity to fertile G4 granites of the Araçuaí Orogen*). LCT pegmatites are the fractionated end members of these sources. Consequently, we envision an operation that is able to capitalize off of this clustered geology and scale into the future – highlighted by aggressive resource growth beyond the maiden resource expected in May.

**SGML’s Grota do Cirilo is a case study in LCT pegmatite deposits – like Itinga - that keep growing past the initial construction decision.** The initial feasibility study for the Grota do Cirilo Project released in 2019 was based on just the Xuxa deposit with reserves of ~14MMt @ 1.46% Li<sub>2</sub>O for LOM average annual production of 33ktpa LCE over a nine year mine life. This FS detailed a US\$249MM NPV8% and IRR of 43.2% on initial capex of US\$98.5MM.

With the systematic drilling of SGML’s ground, the company was able to delineate additional resources at Barreiro (25MMt @ 1.38% Li<sub>2</sub>O for 857kt LCE) NDC (26.7MMt @ 1.49% Li<sub>2</sub>O for 984kt LCE) and Murial (5.6MMt @ 1.14% Li<sub>2</sub>O for 157kt LCE). Together, these combine for 85.7MMt @ 1.43% Li<sub>2</sub>O for 3MMt LCE, and provide SGML adequate mineral inventory to right size production. In Q1 of 2023, SGML released a combined PEA on a three –



phased expansion scenario which would see fully ramped production of 104.2ktpa LCE. The report detailed a combined three phase NPV of US\$15.3B and IRR of 1,273%. While the comparison of the 2019 Phase I FS and 2023 Phase 1, 2, & 3 PEA use **significantly** different spodumene pricing (2019 FS utilized SC5.5% CIF China of US\$733/t, 2023 PEA utilized SC5.5% CIF China of US\$3,956/t, a 4.3x increase) what we attempt to detail is the ability of the initial resource to grow beyond construction decision and provide incremental returns on initial capital, allowing the project to increased torque to commodity prices over a longer period of time.

**Beachhead strategy to drive long term value.** We model an initial minable base of ~18.7MMt @ 1.3% Li<sub>2</sub>O, split between Galvani and Bandeira. We envision an underground mining scenario to initially begin at Galvani, eventually complemented by Banderia. We model a phased build out of the two deposits, where Phase One would operate at a run rate of 2.5ktpd @ 1.3% Li<sub>2</sub>O and produce ~98ktpa SC6 (13ktpa LCE). Phase Two would see this production double to ~198ktpa SC6 (26ktpa LCE) by year five of the operation. We note an underground mining scenario provides a less intrusive method to extract LCT pegmatite mineralization and issues with associated high strip ratios. With significant structural accommodation from the Salinas metasediments, we note pegmatites in the Araçuaí district behave accordingly to this rheology. Dyke swarms are common in the Araçuaí District, and often provide increasingly punitive strip ratios (SGML's Xuxa has a max strip ratio of 16:1). Underground mining of pegmatites is a practice employed by CBL's Cachoeria operation, which has been in operation since 1990, 700m from LTH's Bandeira deposit. Operators have noted that despite the thicknesses of the pegmatites, they are homogenous bodies with spodumene disseminated along them, where spodumene content does not change with depth, favoring the underground mining process.

We continue to highlight the potential low capital intensity of the Itinga Project area as illustrated by SGML's proximal Grota do Cirilo Project ability to leverage nearby infrastructure. Grota do Cirilo capital intensity stands at US\$2,605/ktpa LCE, which compares to select hardrock comp averages of US\$15,119/ktpa LCE. We utilize a capital intensity of ~US\$6,000/ktpa LCE for our Itinga build, a considerably higher number to account for potential cost escalation, and utilize a cash cost of US\$700/t SC6 produced.

We use long-term commodity prices of US\$1,750/t for SC6.0%. Via an initial two phase 13 year mine life with average annual production of ~155ktpa SC6 (~20ktpa LCE), we arrive at an asset NAV<sub>10%</sub> of C\$974MM or C\$6.32/sh fully funded and diluted. Accounting for corporate adjustments, our corporate NAV is C\$1,094MM or C\$7.10/sh. Via a 0.75x NAV multiple used to reflect the pre resource stage of the project, our target price is C\$5.00/sh.

While we emphasize Lithium Ionic's viability as a go-it-alone project, we would be remiss if we didn't mention LTH's strategically-located properties in an emerging mining district. Lithium Ionic sits on deposits both adjacent to Latin Resource's Colina deposit, and in close proximity to Sigma's future processing plant – with the Bandeira deposit nearly surrounded by Sigma properties). Much like how future exploration success could add tonnage to feed established processing infrastructure for LTH alone, we can envision a scenario where LTH's resources would make a tempting target for a regional producer looking to add feedstock to an established operation. Lithium Ionic properties would also make a logical target for any player looking to consolidate some of the patchwork of mining claims in the Itinga field to harvest the synergies of such a strategy. **We note that without project financing equity dilution, our 'takeout' valuation jumps to C\$7.32/sh, which we detail below.**

## Valuation Sensitivity to Discovery

As discussed, lithium bearing pegmatites occur in clusters due to deposit genesis, and this is clearly illustrated across the Araçuaí Pegmatite District. LTH management continues to increase company exposure to future discovery across the Araçuaí Pegmatite District via an acquisitive track record over the last 12 months. LTH acquired the Galvani concession in the second half of 2022 for total Itinga acreage of 8,470ha and the Salinas concession in March for total acreage of 5,713ha. LTH plans on drilling 20,000m at Salinas in 2023.

**NAV impact of new pegmatite discoveries.** With the door open for further clustered discovery, we take a look at the NAV impact of new discoveries. Currently, we model a conceptual mine plan on combined resource of 18.7MMt @ 1.3% Li<sub>2</sub>O between Galvani and Bandeira, for fully ramped production of ~198ktpa SC6 (26ktpa LCE).

Accordingly, additional discoveries would likely increase the size of the resource and provide a compelling case to right-size production (*i.e. Grota do Cirilo Phase 1 + 2 + 3*). In every scenario we assume an additional 10MMt discovery at the same grade as our existing resource estimate, scale capex accordingly for a larger operation to right size (*using the same capex intensity as our base case, conservatively not accounting for economies of scale*), and keep the Two-Phased, 13 year mine life consistent. We assume a four-year ramp up to full production. We provide two valuations per scenario 1) fully funded, where we assume initial capex is equally funded 50:50 debt:equity, and a

'take-out' NAV which assumes no project financing equity dilution. We note our most aggressive scenario sees total minable tonnage of 40MMt for an asset NAV of C\$10.12/sh (C\$14.42/sh 'take-out').

- One additional 10MMt pegmatite discovery for total processed tonnage of 30MMt and annual average SC6/LCE production 253/33ktpa, NAV increase by 33% to C\$8.15/sh fully funded.
- Two additional 10MMt pegmatite discoveries for total processed tonnage of 40MMt and annual average SC6/LCE production 331/44ktpa, NAV increase by 66% to C\$10.12/sh fully funded.

**Figure 10 – Impact of discovery on NAV**

Scenario	Assumption	Tonnage MMt processed	Scale MMtpa	Annual Production				Initial		Itinga Project NAV			
				Average		Max (Year 5)		Capex	EBITDA	Fully-Funded		Take-Out	
				ktpa SC6	ktpa LCE	ktpa SC6	ktpa LCE	US\$6,000/t CAPEX Intensity, US\$MM	Max Runrate @ US\$1,750/t SC6, US\$MM	C\$MM	C\$/sh	C\$/sh	%
Base Case	Base Case	19	1.4	156	21	198	26	156	254	974	6.32	7.32	
Scenario 1	One 10MMt Pegmatite discovery	30	2.3	253	33	306	40	242	395	1,517	8.15	10.95	29%
Scenario 2	Two 10MMt Pegmatite discoveries	40	3.1	331	44	395	52	312	510	1,999	10.12	14.42	60%

\*Fully funded scenario assumes initial capital raised by 50/50 debt/equity

Source: Stifel

Figure 11 – LTH Tear Sheet



## Project Summary

### The Itinga Project

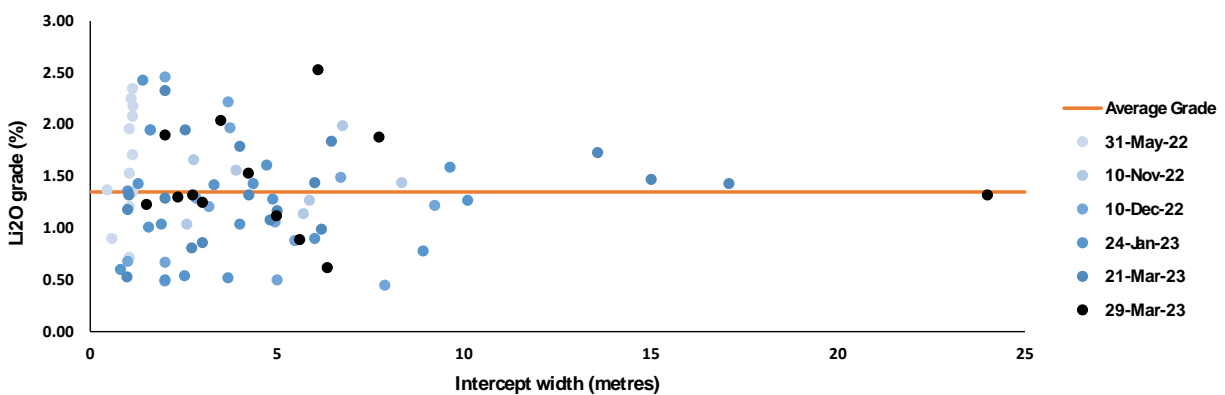
The Itinga project is 100% owned by Lithium Ionic and consists of two main deposits: **Bandeira and Galvani**.

Bandeira is centrally-located in Minas Gerais's emerging pegmatite belt, and is located just 700m south of the existing CBL Cachoeira mine and 800m north of Sigma Resource's Barreiro deposit. Bandeira is nearly surrounded by claims controlled by Sigma, who are currently constructing their processing facilities approximately 5km to the north, adjacent to their planned Xuxa pits. Bandeira was the first property drilled by the company. Bandeira exploration highlights so far include:

- 1.99% Li<sub>2</sub>O over 6.75m;
- 1.93% Li<sub>2</sub>O over 5.7m from 33.1m;
- 1.55% Li<sub>2</sub>O over 5.2m from 8.5m;
- 1.56% Li<sub>2</sub>O over 3.9m and 1.66% Li<sub>2</sub>O over 2.76m;
- 2.23% Li<sub>2</sub>O over 2.70m.

The most recent drilling results are similarly positive. Assays from the latest hole, announced March 29<sup>th</sup>, showed 1.32% Li<sub>2</sub>O over a 24m intersection (from 354.2m depth) represents the widest section yet drilled at Bandeira while the an intercept of 2.53% Li<sub>2</sub>O over 6.09m (from 271.2m depth) is the highest-grade intercept yet discovered at Bandeira.

**Figure 12 – Bandeira Drilling composite**



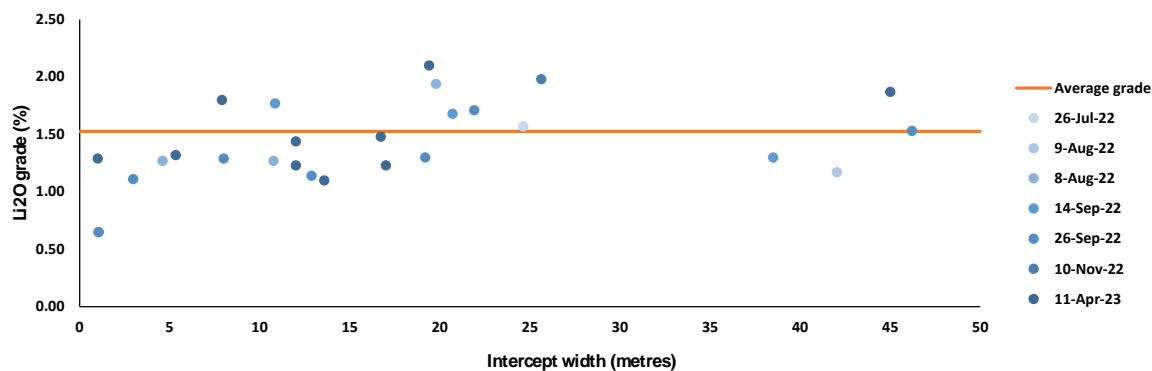
Sources: company reports, Stifel

Galvani was acquired in the summer of 2022. It is located approximately 6km to the west from Sigma's processing facilities and 6km north-west of Bandeira. Drilling thus far shows similar grades to Bandeira, but over significantly wider widths:

- 1.98% Li<sub>2</sub>O over 25.63m;
- 1.94% Li<sub>2</sub>O over 19.78m;
- 1.71% Li<sub>2</sub>O over 21.91m;
- 1.77% Li<sub>2</sub>O over 10.85m;
- 1.68% Li<sub>2</sub>O over 20.7m.



Figure 13 – Galvani Drilling composite



Sources: company reports, Stifel

Exploration at Itinga is continuing, with a 30,000m drill program now underway. At the time of writing, 23,000m has been completed thus far, with 15,000m drilled at Bandeira and 8,000m at Galvani.

## Geology

### Regional Geology

The Itinga Project sits at the regional intersection of multiple geologic features that allow it to host significant mineralization – orogenic hinterland, greenschist metamorphism, first order structure, and fertile, post collisional granites.

The vast economic geological endowment of Brazil is owed to its varied terrane and geologic history. The major Brazilian geologic framework comprises cratons and cratonic fragments (Precambrian in age) and surrounding belts, which are mainly associated with the assembly of supercontinent Gondwana. Much of the metallic mineral deposits in Brazil are associated with these terrains.

**The Eastern Brazilian Pegmatite Province.** The Itinga Project is located within the Eastern Brazilian Pegmatite Province, a nearly ~1,000km belt located on the eastern boundary of Minas Gerais. Geologically, the EBPP is majority located within the Araçuaí Orogen, extending from the eastern edge of the Sao Francisco craton to the Atlantic margin. The Araçuaí Orogen was developed during the assembly of supercontinent Gondwana as cratonic South America (the Sao Francisco craton) was pinched together with cratonic Africa (the Congo craton). This process resulted in crustal thickening, indirectly generating late and post-tectonic granites. These granites are the source of the pegmatite bodies spread throughout the Araçuaí Orogen.

Figure 14 – Mineral Resources of the Eastern Brazilian Pegmatite Province

Mineral Resources of Eleven Main Eastern Brazilian Pegmatite Province Districts, Aracuaí Orogen

District Name and Age	Main Mineral Resources	Pegmatite size (*), type and class (**)	Parent and host rocks
Pedra Azul; c. 497Ma	aquamarine, topaz, quartz	very small to small, residual, rare element	G5 granites
Espera Feliz, c. 500 Ma	aquamarine, topaz, quartz	very small to small, residual, rare element	G5 granite
Padre Paraíso; c. 519Ma	aquamarine, topaz, quartz, goshenite	very small to small, residual, rare element	G5 granite and charnockite
Ataléia; c. 519Ma	aquamarine	very small to small, residual, rare element	G5 granite
Araçuaí; 525-500Ma	<b>spodumene</b> , ornamental granite, gem varieties of <b>tourmaline, beryl and quartz, industrial feldspar, schorl, ambligonite, albite, petalite, cleavelandite, apatite, rare phosphates, cassiterite, columbite-tantalite, bismuthinite, adularia</b>	<b>very large to very small, residual, rare element</b>	<b>G4 granites; mica schist, metawacke, quartzite, meta-ultramafic rock</b>
São José da Safira; c. 535Ma	industrial feldspar, tourmaline, beryl ore, muscovite, aquamarine, garnet, albite, cleavelandite, apatite, heliodor, Mn-tantalite, bertrandite, microlite, zircon	very large to medium, residual, rare element to muscovite	G4 granites; mica schist, metawacke, quartzite, meta-ultramafic rock
Malacacheta, c. 535Ma	alexandrite, chrysoberyl, muscovite, beryl	residual pegmatites and hydrothermal systems	G4 granite; mica schist, meta-ultramafic rock
Espírito Santo, 575-490Ma	kaolin, quartz; aquamarine, topaz	mainly anatectic; very small to small residual bodies	migmatitic paragneiss and G5 granites
Santa Maria de Itabira, c. 650-500Ma	emerald, alexandrite, aquamarine, amazonite	hydrothermal systems and anatectic pegmatites	ultramafic schist, iron formation, migmatite
Conselheiro Pena, c. 582Ma	industrial feldspar, gem varieties of tourmaline, beryl and quartz, beryl ore, triphylite and rare phosphates, kunzite	very large to medium, residual, rare element	G2 granites; mica schist, metawacke, quartzite, meta-ultramafic rock
Caratinga, c. 575Ma	kaolin, corundum, beryl	anatectic, abyssal	migmatitic paragneiss

Increasing age of pegmatite field →

(\* Pegmatite size in relation to thickness: very small, < 0.5 m; small, 0.5 to 5 m; medium, 5 to 15 m; large, 15 to 50 m; and very large, > 50 m thick. (\*\*) Based on Cerný (1991).

Source: company reports

**Granites of the Araçuaí Orogen.** There are five main suites of granites within the Araçuaí Orogen, organized by age. G1 is pre collisional, (630-585Ma), G2 syn-collisional (585-560Ma), G3 is late to post-collisional (545-520Ma) and G4 and G5 are post-collisional (535-490Ma). These five suites can be further split into two groups; those that are anatectic, ie, directly formed from the partial melting of country rocks, and residual, ie melts formed from the fractional crystallization of parent granites. The distribution of these pegmatites, relationships with host rocks and parental granites, and ages all influence the mineral endowment of specific pegmatite fields throughout the Araçuaí Orogen.

**Eleven main pegmatite districts exist within the Araçuaí Orogen.** For the purpose of LCT pegmatites, pegmatites formed from residual melts are the most important. These pegmatites formed from syn-collisional (G2, Conselheiro Pena district) and post-collisional (G4, São José da Safira and Araçuaí districts; and G5, Ataléia, Espera Feliz, Padre Paraíso and Pedra Azul districts) stages of the Araçuaí Orogen. Further differentiation of pegmatite districts is based on their status in proximity to parental granites, with internal pegmatites hosted by the parent granite and external pegmatites enveloped in country rocks. Post collisional, residual, and external pegmatites are the most well-endowed bodies, with spodumene mineralization found exclusively with in the Araçuaí district in proximity to the G4 granites.

## Local Geology

**G4 Granites represent the source rocks for the Araçuaí pegmatite district, where LTH's Itinga Project is located.** The G4 granitic supersuite exists along the central northern sector of the Araçuaí Orogen in areas where shallow crustal levels of amphibolite to greenschist facies metamorphism are exposed. Granites of the G4 supersuite are made up of balloon like zoned plutons, with biotite granite centres and roots which prograde out into two-mica and garnet endowed leucogranites. G4 granites have igneous flow textures, xenoliths and roof pendants of country rock. Compositionally, G4 granites are peraluminous, and represent the sub-alkaline, post-collisional, S-type episode of granite formation within the Araçuaí Orogen from 535-500Ma.

Pegmatites of the Araçuaí district have been mined sporadically due to several economic and social factors. Most pegmatites of the Araçuaí district are residual bodies ranging in thickness from a few metres to more than 50m, are sourced from G4 intrusive granites, with economically important pegmatites mostly as external bodies.

The most economically important pegmatites of the **Araçuaí district** are within the lithium-rich **Itinga field**, which hosts anomalous contents of lithium bearing minerals such as spodumene, petalite, lepidolite and/or amblygonite. Much of the lithium rich pegmatites in the Itinga field are external, residual bodies sourced from plutons of the G4 Piauí batholith. The most important pegmatites economically are:

1. Homogenous, non-zoned to simple zoned bodies very rich in spodumene
2. Complex, zoned bodies rich in Li, B, Na, Cs, Ta and/or Cs, which are consequently mineralized in spodumene, petalite, lepidolite, amblygonite, cassiterite, tantalite and/or polucite,
3. Simple zoned to non-zoned bodies quarried for dimension stones.

## Property Geology

Itinga pegmatites are residual external bodies derived from G4 Suite granites. Rich in fluids and incompatible elements, these granites generated the pegmatites at Itinga enriched in gems, lithium minerals, and cassiterite. Pegmatites can be classified as distal or proximal from parental granite source. Mineralization consists of varying amounts of spodumene ranging from 5-35%, and crystal sizes ranging from 5-25cm.

At Itinga, host rocks are biotite schists of the Salinas formation which is Neoproterozoic/Cambrian in age and made up of meta greywacke, meta pellicite, meta breccia and meta conglomerates. Low pressure metamorphic mineralogy intimates a relatively shallow crustal level of deformation. This is partly why pegmatite bodies follow the regional foliation and fracture systems of the Salinas Formation host. Known pegmatite bodies at Itinga are mainly concordant with regional foliation but can also be discordant with vertical attitudes. Thicknesses range from 3m to 10m and can reach 100-400m in extension; there is currently no depth estimate of the pegmatites. However, geostatistical studies at the proximal CBL mine intimate whereas size of spodumene crystals decrease with width, modal spodumene content in ore does not vary with depth, and is homogeneously distributed amongst pegmatites being mined.

## Metallurgy

Initial metallurgical tests have been positive. 20kg samples, one each from Bandeira (1.62% Li<sub>2</sub>O) and Galvani (1.69% Li<sub>2</sub>O) were put through a Heavy Liquid Separation (HLS) test and produced 6% Spodumene Concentrate (SC6) at recoveries of 78% and 83%, respectively. The sample test also produced concentrates with low iron content: 0.34% from Bandeira and 0.51% from the Galvani sample. This gives confidence that ores from Itinga can eventually be processed using Dense Media Separation (DMS) -- the same process being employed by Sigma -- a relatively simple and cost-effective processing method compared to costlier alternatives such as flotation.

## Infrastructure

The Itinga Project is located 25k east of the town of Araçuaí, population 36,712. Araçuaí provides basic accommodation, health, and recreation services. Araçuaí is serviced by a municipal airport and is connected to the Brazilian federal high network via BR-367. More specialized services can be found in the larger city of Montes Claros, 327km away. Montes Claros has an airport that can accommodate large planes and has 8 daily flights to Belo Horizonte.

The closest major population centre is Belo Horizonte, 600km away and accessible by federal highways. Belo Horizonte (pop. 2.7 million) is the state capital of Minas Gerais and is a major well-connected city with an international airport and rail and highway links to the rest of Brazil.

Project areas are well-connected by local roads that connect to BR-367. The ports of Vitoria (700km away) and Ilheus (540km away) are possible destinations for output from the project.

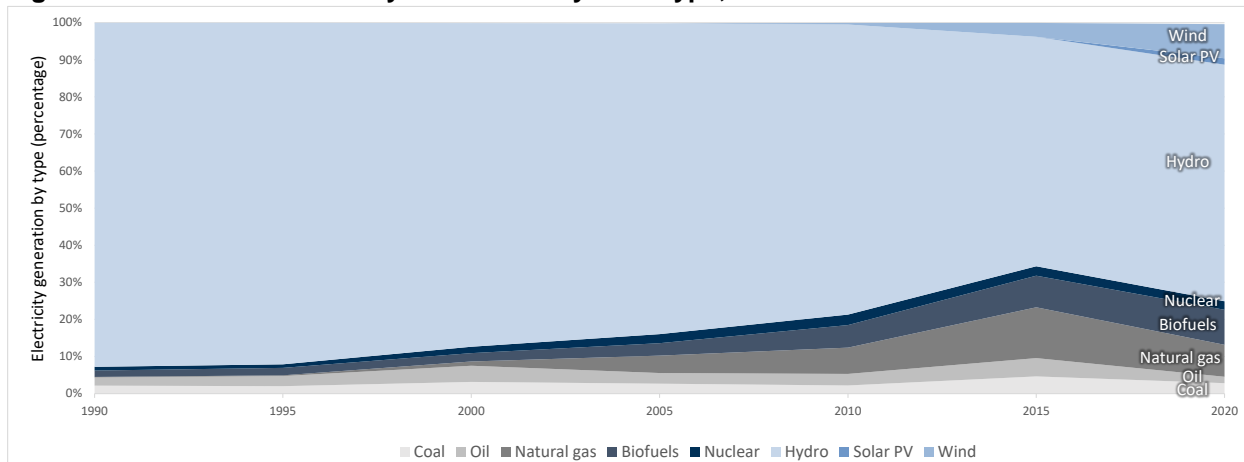
The project area is within 5km of the main 138kV transmission line from the Irape Hydro station (360 megawatt capacity, completed 2006).

The project area currently has no power or water supply. However, the adjacent property of Sigma Resources is much further developed with power substation, water, accommodation facilities and various outbuildings to support the Grota do Cirilo project.

Lithium Ionic will be able to access power from the Brazilian power grid, which, thanks to its abundant hydro resources, has a relatively low carbon intensity. On average, Brazil emits 117 grams of CO<sub>2</sub> per kilowatt-hour of electricity generated, compared to the global average of 421g CO<sub>2</sub>/kWh. Despite a rise in natural gas use in recent

years, the Brazilian grid is still mostly powered by renewables, which provide 87% of the country’s electricity. In particular, future operations on Lithium ionic property will be connected to transmission lines 100% powered by the Itaipu hydro-electric dam on the Jequitinhonha River approximately 100km away.

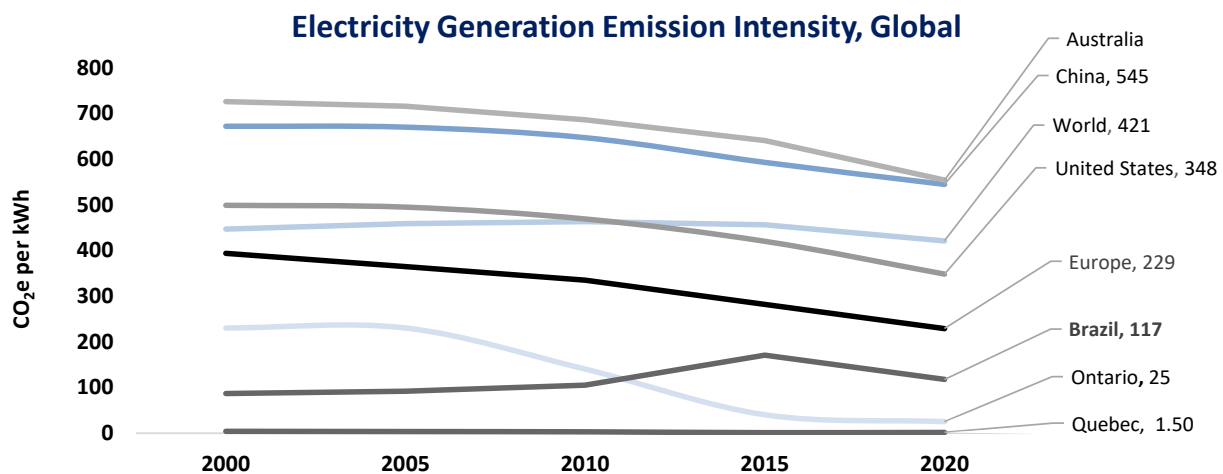
Figure 15 – Brazilian Electricity Generation by Fuel Type, 1990-current



Sources: CER, IEA, Our World in Data, Stifel

Electricity costs in Brazil averaged \$0.14/kWh in September 2022, the most recent available data point. While not as cheap as power in Quebec and Ontario, which averaged \$0.06/kWh and \$0.09/kWh, respectively, in 2022, rates in Brazil compare well against that other emerging lithium hardrock power, Australia, where commercial rates were \$0.33/kWh in September 2022. Australia generates 77% of electricity from fossil fuels, including 55% from coal. While subject to less volatility than the fossil fuel market, Brazil still sees some variability in pricing. For example, prices in Brazil were as high as \$0.18/kWh in September 2021 owing to drought conditions that lowered reservoir levels at hydro plants in the country.

Figure 16 – Electricity Generation Emission Intensity, 2000-current



Source: Statista, Stifel

### Other Areas

Lithium Ionic has progressively acquired more land packages since inception. With their latest acquisition of the 1,000 hectare Clesio claim announced on February 13<sup>th</sup>, the company now has mining claims covering 7,700 hectares, a major leap from 1,300 hectares in May 2022. Of notable prospective quality is the ITIRA claim. ITIRA, 1738 hectares



in size, was acquired in January of this year. Outcrops of spodumene-rich pegmatites have been identified at the property, which is located next to Galvani.

## Regional Mining Background

### Mining Background of Minas Gerais

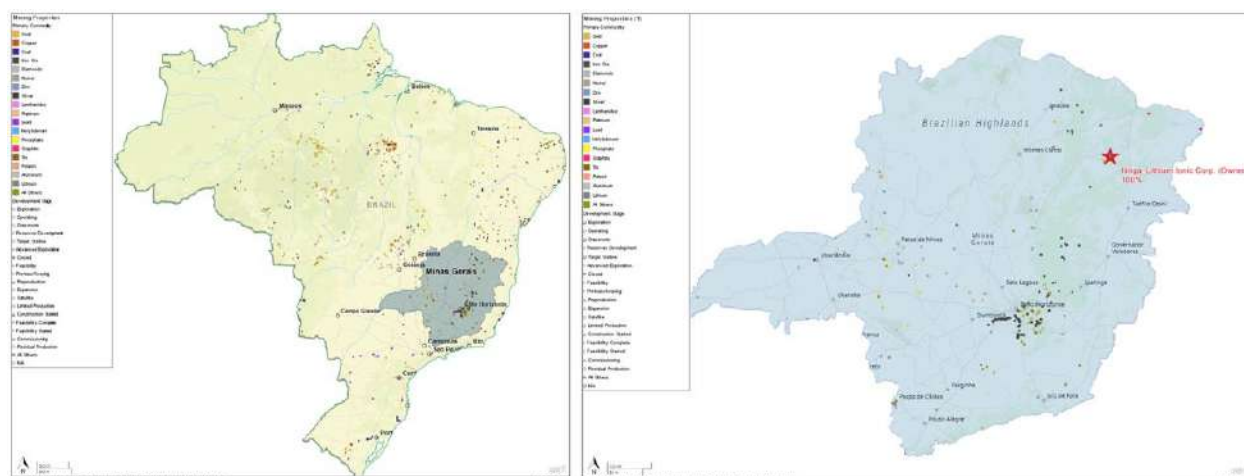
Brazil's mining sector is alive and well, with mining companies planning to invest a total of more than US\$40B across operations between 2023-2026, according to Ibram. Minas Gerais produces nearly a third of all mining products in Brazil. The state's mining industry produces gold, zinc, phosphate, niobium, bauxite, manganese, palladium, silver, nickel iron ore, as well as a suite of industrial minerals. Minas Gerais is home over 300 operation mines, with 40 of the 100 largest mines in Brazil located within the state. Companies active in the state include Alcoa, AngloGoldAshanti, ArcelorMittal, Kinross, Vale, Votorantim, amongst others.

### Regional Mining History

Lithium mining in the region began in the 1950s where, along with Feldspar, it was a byproduct of cassiterite and tantalite mining. The Companhia Estanifera do Brazil operated a gravity separation plant to produce a cassiterite/tantalite concentrate, and lithium minerals including spodumene were handpicked and separated before the bulk of ore was crushed.

In the 1980s Arqueana Minerios e Metais was active in the region and along with their main production of tin-tantalum concentrate, they also produced a 6-6.5%  $\text{Li}_2\text{O}$  spodumene concentrate and a 3.5-4%  $\text{Li}_2\text{O}$  petalite concentrate. During this time lithium in Brazil was mainly used in the manufacturing of ceramics, enamels, and specialized glass. No systematic exploration took place and mining mainly targeted exposed outcrops. Larger scale operations ended with the death of the owner of Arqueana in 1996. Artisanal mining continued, focusing on feldspar, petalite, and ornament-grade tourmaline and quartz.

Figure 17 – Left: Mining Activity in Brazil; Right: Mining Activity in Minas Gerais



Source: SPGlobal, Stifel

In 1991 the Companhia Brasileira de Lítio (CBL, not covered) began operations at its Cachoeira Mine, processing spodumene from pegmatites. The project was supported by the increasing demand felt for lithium, required for use in batteries needed for the booming electronics industry of the period. Operations at Cachoeira continue today, with mining now exclusively underground. The Cachoeira mine is located just 700m from Lithium Ionic's Bandeira deposit.

The early 2000s saw channel-sampling and a small-scale drill program by Tanex Resources, with the exact location of the drill holes now obscure.

Lithium exploration took a leap forward in the 2010s when Sigma Lithium Resources began a systematic exploration program of their properties in the area. Positive results from 984m of initial drilling at Xuxa and Barreiro in 2014 was followed by ~8000m of drilling that led to a public mineral resource estimate for Sigma’s Xuxa deposit in 2017. This was followed by a reserve estimate and feasibility study for Xuxa in 2019. Construction for Xuxa is now underway and is approximately 70% complete. In addition, pre-feasibility studies have been released for the Barreiro and Nezinho do Chicao deposits.

**Other Actors within the Araçuaí Pegmatite District**

**Figure 18 – Various Deposits of the Araçuaí Pegmatite District**

	Sigma Lithium				CBL	Latin Resources
	Xuxa	Barreiro	NDC	Murial	Cachoeira	Colina
Global resource tonnage*	21.216	28.906	26.7	6.233	4	13.3
Grade (% Li <sub>2</sub> O)	1.56%	1.38%	1.49%	1.13%	1.60%	1.20%
<b>Contained LCE (kt)</b>	<b>815.5</b>	<b>988.9</b>	<b>984</b>	<b>174</b>	<b>158</b>	<b>395</b>

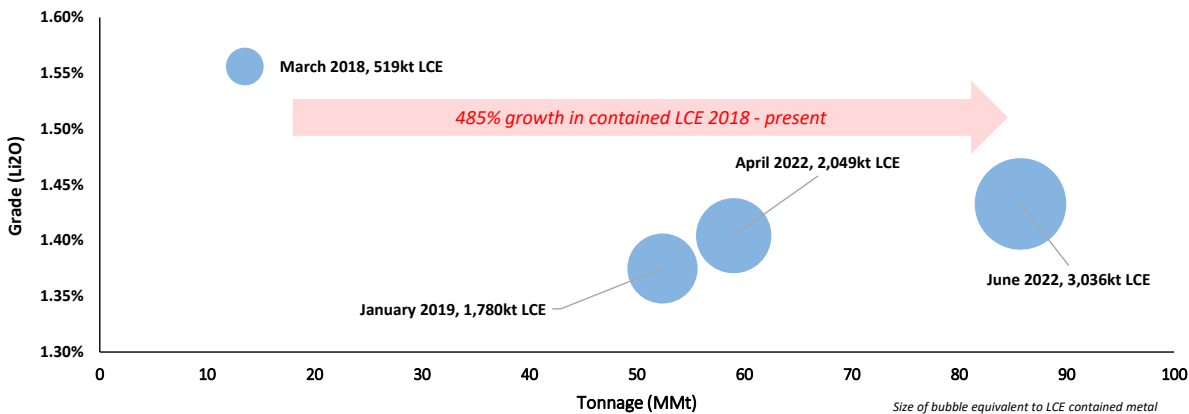
\*Xuxa, Barreiro, Murial, and Colina deposits show MI&I resources. NDC does not list inferred. Cachoeira’s resource is unpublished. Reserve size shown.

Source: company reports

**Sigma Lithium**

With the release of its latest reserve and resource update this January, Sigma’s Grota do Cirilo became (for now) the largest lithium hardrock project in the Americas by resource size. Grota do Cirilo now has estimated reserves of 54.8Mt grading at 1.44% Li<sub>2</sub>O for 1.9Mt contained Lithium Carbonate Equivalent. Measured, Indicated & Inferred Resources are estimated at 86Mt at 1.43% Li<sub>2</sub>O for a total of 2.9Mt LCE.

**Figure 19 – Temporal Resource growth of Grota do Cirilo**



Source: company reports

Grota do Cirilo is also the most advanced hardrock project in the Americas, with construction now 70% complete.

The project currently calls for a phased-in production growth to over 100kt LCE annually. Phase 1 would mine the Xuxa pits, located approximately 5km north of Bandeira, while Phase 2 and 3, beginning in year 2, would incorporate ores from the Barreira and NDC pits, adjacent to Bandeira.

The initial plan, relying on reserves only, calls for a 13 year operating life with production beginning in April 2023. Capex for Phase 1 is currently estimated at \$130.6M with phases 2 and 3 adding \$154.9M to the bill. Phase 1 cash costs and AISC are expected to be \$539/tonne and \$541/tonne spodumene concentrate. Phase 2 and 3 cash costs and AISC will dip slightly to \$514/tonne and \$516/tonne spodumene concentrate, respectively.

Mining will be conducted by open-pit operations. At Xuxa, the deposit will be mined in two separate pits to allow the Piauí River to flow unmolested between them. The North pit will be approximately 750x550m, and 280m deep, while the South pit will be approximately 900x500m, and 300m deep. Owing to the steeply-sloping nature of the deposit, the pits will feature north-west pit walls with 72 degree slopes. The waste:ore strip ratio will be 16.4:1.

At Barreiro, one large pit measuring approximately 1100x850m and a depth of 330m will be mined. Wall slope angles will range between 35 and 55 degrees and the strip ratio will be 12.5:1.

Two pits will also be dug at NDC, the first measuring 600x650m and the second 1000x750m, both to an approximate depth of 400m. Wall slopes will range between 35 and 52 degrees and the strip ratio is expected to be 16.0:1.

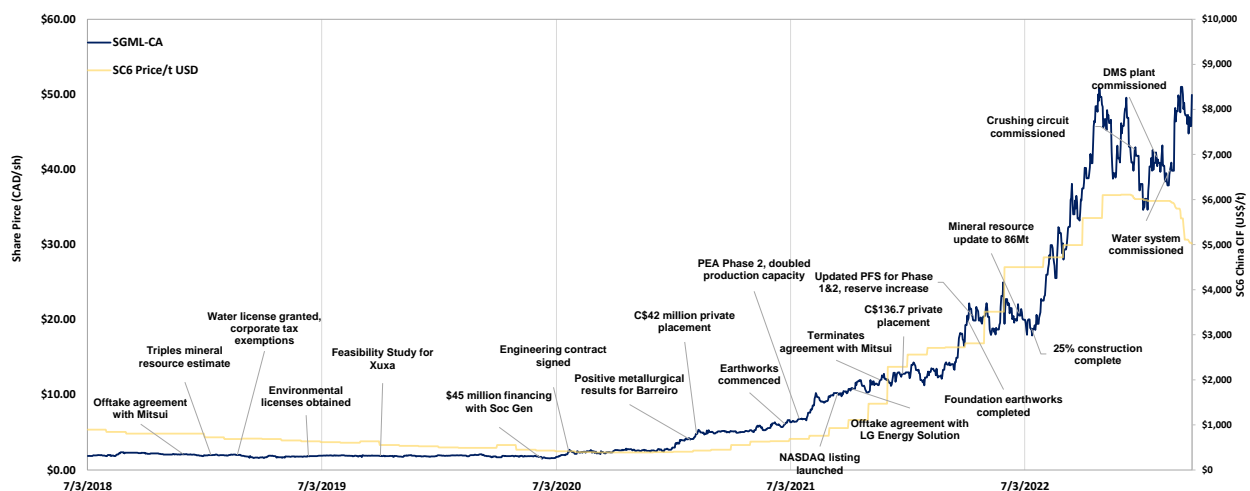
Ores from the mined pits will be processed via a Dense Media Separation (DMS) circuit at a processing plant adjacent to the Xuxa pits. Sigma expects to produce a 5.5% spodumene concentrate with recoveries of 70% in Phase 1, 60% in Phase 2, and 58% in Phase 3.

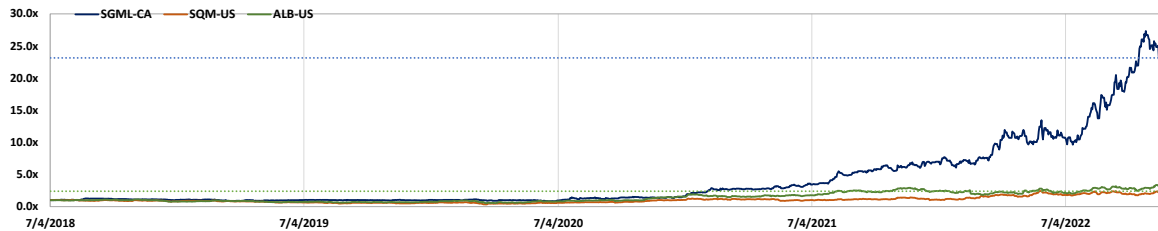
Both Latin Resources (more on them later) and Lithium Ionic management single out Sigma Lithium as a model for what can be achieved in the region, and we believe the comparison is justified.

First, on scale, we note the rapid growth these deposits are capable of showing with systematic drilling. From a maiden resource estimate of 13.5Mt at 1.56% Li<sub>2</sub>O for 519kt Lithium Carbonate Equivalent after 9500 metres of drilling in 2018, Sigma has grown their resource over 5 fold to 85.7Mt grading 1.43% Li<sub>2</sub>O for 3,036kt LCE with ~96,000m of drilling by 2022. So far, Lithium Ionic has yet to release a maiden resource estimate, and have drilled just 20,000m across their Bandeira and Galvani properties.

Second, on market value, we highlight Sigma's impressive rise both in absolute terms and compared to established developers. The climb from sub C\$2.00/share as late as Q3 2020 to near C\$50/share today, while obviously helped along by a co-operative commodity tape, Sigma's story is a textbook example of successive re-ratings as the company has advanced and their project from exploration to the cusp of commercial production. Furthermore, we highlight that the speed at which they've been able to accomplish this is in parts thanks to the regulatory environment in Minas Gerais, which could provide similar tailwinds to Lithium Ionic.

Figure 20 – Share Price performance of SGML vs SQM, ALB





Sources: company reports, Factset, Bloomberg

## Latin Resources

On March 13, 2023 Lithium Ionic added to its strategic arsenal with the acquisition of Neolit Minerals, 40% owner of the Salinas Project. The Salinas Project is located approximately 100km north of the Itinga Project, and consists of 5,700 hectares of exploration claims. The exploration properties are in close proximity to the city of Salinas, similar in size to Araçuaí with a population of approximately 42,000.

Importantly, the Project is adjacent to Australia-listed Latin Resource's (LRS-ASX) Colina lithium deposit, located approximately 20km east of Salinas and accessible by paved roads. Colina measures an estimated 13.3Mt @ 1.2% Li<sub>2</sub>O for contained metal of 395 kt LCE. Latin Resources also owns land packages to the South and West of the main deposit at Colina. At Colina West, initial drilling has returned highlights of 1.61% Li<sub>2</sub>O over 16.00m from 393.6m depth, 1.66% Li<sub>2</sub>O over 20.17m from 136.99m depth, and 1.51% Li<sub>2</sub>O over 20.70m from 159.00m depth. The company has 65,000m of drilling planned for 2023 to aggressively grow the Colina West resource. Colina South will see soil sampling in 2023.

In what can be interpreted as a positive read-through for Lithium Ionic, initial metallurgical testing from Colina samples have also been positive, building confidence that processing across the Brazilian pegmatite belt will be relatively unproblematic. Using Heavy Liquid Separation, the company was able to produce high-grade Li<sub>2</sub>O concentrate (up to 6.6%) from coarse sample (12.5mm) with average recoveries of 80.5%. This increases the likelihood of using lower-cost DMS processing in a future processing scenario, like that being employed by Sigma.

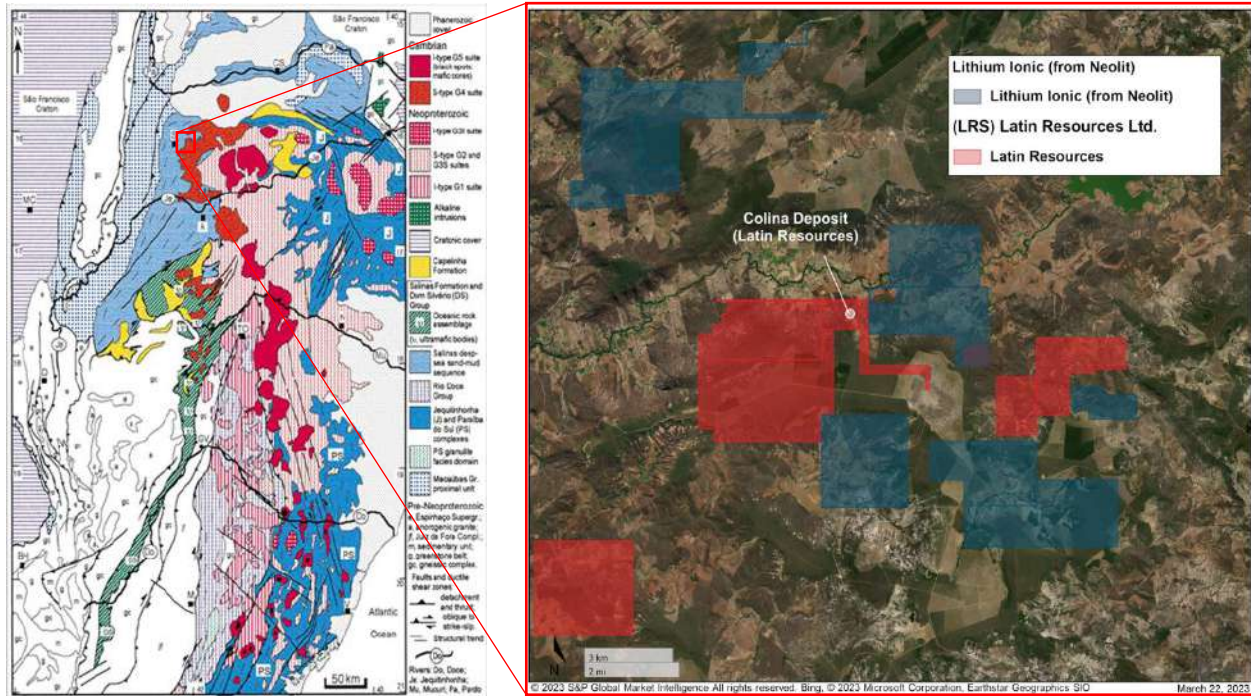
The property acquired by LTH adjacent to Colina is highly prospective, and contains 5 spodumene-bearing pegmatite outcrops ranging from 7 to 14 metres thick. A 24-hole 4,000m 2022 drill program at Salinas returned assays that included highlights of:

- 1.53% Li<sub>2</sub>O over 11.36m from 48.84m depth.
- 1.22% Li<sub>2</sub>O over 13.76m from 36.60m depth.
- 1.71% Li<sub>2</sub>O over 9.82m from 97.70m depth.
- 1.19% Li<sub>2</sub>O over 13.35m from 239.65m depth.

Concurrent with their acquisition, Lithium Ionic announced they would be initiating a 20,000m drill program at the acquired Neolit claims.



**Figure 21 – Location of Latin Resource’s Colina Deposit in Proximity to LTH’s Salinas Claims within the Araçuaí Pegmatite District**



Sources: company reports, S&P Global Market Intelligence, Stifel

## Companhia Brasileira de Lítio (CBL)

The Cachoeira lithium mine, located just 800m from Lithium Ionic’s Bandeira property, is owned and operated by the Companhia Brasileira de Lítio (CBL). Mining operations at Cachoeira began in 1991 and are entirely underground. Current reserves are estimated at 4Mt grading 1.6% Li<sub>2</sub>O, enough to sustain operations for 30 years at current rates of production. The mine produces a 5.5% spodumene concentrate via a dense media separation (DMS) process with an annual capacity of 42kt annually. Some concentrate is sold to market directly while the remainder is transported 180km to the company’s chemical plant at Divisa Alegre for further processing. There, the company employs a sulphuric acid circuit to produce lithium carbonate and lithium hydroxide at a current annual capacity of 1,500 Lithium Carbonate Equivalent.

CBL was previously 33% owned by Codemge, an investment company owned by the government of Minas Gerais, who acquired their interest in 2018. This stake was divested in October 2022 in a sale to existing CBL shareholders for \$40.2 million. The company is now 100% privately owned.

The company was also a beneficiary of the SUDENE tax benefit, and will see a 75% reduction in its income tax rate until 2030.

In recent years owners of the company have elected to get paid rather than plow mine-generated cash flow into exploration or acquisitions. The dividend payout ratio averaged 80% between 2017 and 2020. Barring a change in orientation, this would make CBL a more likely target than acquirer in future consolidation scenarios in the Jequitinhonha Valley.

## Management

**Figure 22 – LTH Management Bios**



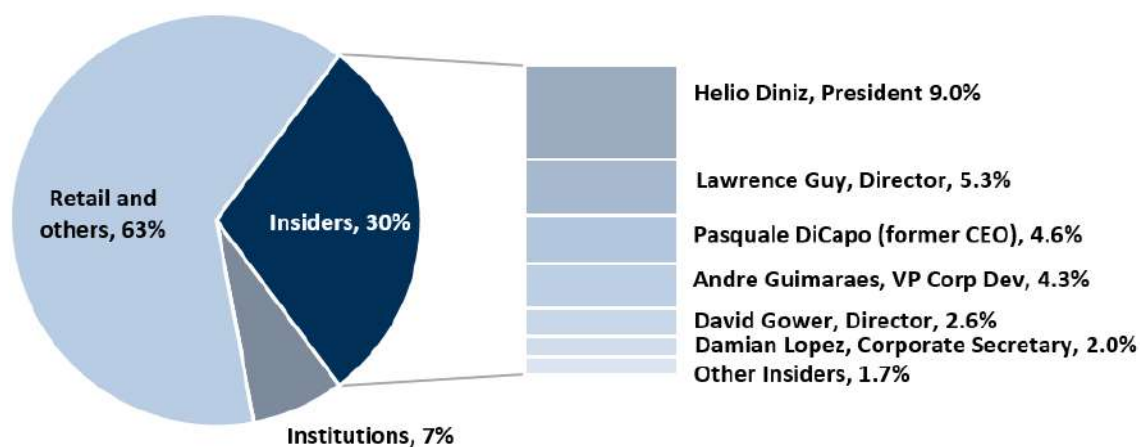
Individual	Role	Bio
Blake Hylands	CEO, Director	Co-founder and currently President of Troilus Gold, a development-stage gold project in northern Quebec. Mr. Hylands is a geoscientist who holds a B.Sc in Geology from the University of Western Ontario.
Hélio Diniz	President, Director	Currently Managing director of Brazil Potash Corp, Mr. Diniz has 40 years of experience in mining and exploration. He is the former Managing Director Brazil of Xstrata (now Glencore) and has founded multiple mining companies in different commodities including potash, gold, and oil.
Tom Olesinski	CFO	Mr. Olesinski has over 20 years of finance and executive management experience, having previously served as CEO and CFO of Havas Canada and currently sits as a board member for Troilus Gold. He holds a Bachelor of Commerce and Economics from the University of Toronto and is a Chartered Professional Accountant.
Carlos Costa	VP Exploration	Mr. Costa is a geologist (P.Geo (APGO)) with nearly 30 years of experience in mining exploration in Brazil and an additional 10 years of experience in mine geology. He holds a BS Geology from the Federal University of Rio de Janeiro.
Damian Lopez	Corporate Secretary	Mr. Lopez is a corporate securities lawyer with experience as a legal consultant to TSX and TSX venture-listed companies. He hold a Juris Doctor from Osgoode Hall and a Bachelor of Commerce from Rotman (University of Toronto).
André Guimarães	VP Corporate Development	Mr. Guimarães holds a PhD in geology, specializing in igneous petrology. He founded Neolit in early 2020 and served as CEO of that company.
Patrizia Ferrarese	Director	Ms. Ferrarese is currently VP of Business Design and Innovation at Investment Planning Council, with previous management roles at Tangerine Bank and Praxair. She holds an MBA from Wilfred Laurier University and a BA in Economics from York University.
David Gower	Director	Mr. Gower is currently CEO and director of Emerita Resources, a Canada-based mining exploration company with properties in Spain. He also sits on the board of Alamos Gold.
Lawrence Guy	Director	Mr. Guy currently a Managing Director with Next Edge Capital and previously held positions with Purpose Investments, Aston Hill Financial, and Navina Asset Management, which he co-founded. He hold a BA in Economics from the University of Western Ontario and is a CFA Charterholder.
Michael Shuh	Director	Mr. Shuh is currently a Managing Director in Investment Banking at Cannacord Genuity. He has expertise in structured finance and special purpose acquisition vehicles. He holds a BBA from the Lazaridis School (Wilfred Laurier University) and an MBA from the Richard Ivey School of Business (Western University).

Source: company reports

## Ownership

Institutions hold 7.3% of the company, led by 1832 Asset Management (6.4%). Insiders have a comparatively large ownership stake in the company, at 30% of total shares outstanding. This includes large holdings by management including Helio Diniz (President, 9%); Blake Hylands (CEO, 0.15%); Damian Lopez (Corporate Secretary, 2.0%); and Andre Guimaraes (VP Corporate Development, 4.3%). This represents a solid level of skin in the game on behalf of management that should be conducive to a positive alignment with shareholder interests.

Figure 23 – Company Ownership Summary



Source: Factset

Figure 24 – Comps

EV Supply Chain Comps



Prices as of 4/24/2023

Ticker	FX	Price		Analyst	Rating	Target	Implied Return		Market Cap		EV		NAV/sh		P/NAV			EV/EBITDA		FCF Yield	Performance			Momentum		Consensus Outlook														
		Local	USD				Local	12 Mo	USD	USD	Spot	STIFEL GMP	Spot	STIFEL GMP	Target	2023e	2024e	2023e	1 Week Δ		1 Mo Δ	YTD Δ	12MFEPS	12MFEBITDA	1Mo/3Mo Δ	1Mo/3Mo Δ	+	=	-	Total	Delta									
<b>Battery Metal Developers</b>																																								
<b>Lithium Developers</b>																																								
Lithium Americas	LAC	USD	20.42	20.42	CM	BUY	\$37.00	81%	2,757	2,581	\$56.79	\$36.75	0.36x	0.56x	1.00x	13.8x	9.2x	0%	-1%	-1%	8%	n.m.	n.m.	100%	0%	0%	11	•												
Standard Lithium	SLI	CAD	5.00	3.69	CM	BUY	\$13.00	160%	615	536	\$39.05	\$12.08	0.09x	0.31x	0.80x	n.m.	n.m.	n.m.	-7%	14%	25%	n.m.	n.m.	100%	0%	0%	2	•												
ioneer Ltd	INR	ASX	0.29	0.19	CM	BUY	\$0.80	176%	285	338	\$1.47	\$0.62	0.13x	0.31x	0.90x	n.m.	n.m.	n.m.	-3%	3%	-25%	n.m.	n.m.	100%	0%	0%	2	•												
Frontier Lithium	FL	CAD	1.93	1.43	CM	BUY	\$4.80	149%	319	291	\$13.46	\$4.53	0.11x	0.31x	0.80x	n.m.	n.m.	n.m.	-2%	-5%	-6%	n.m.	n.m.	100%	0%	0%	2	•												
Critical Elements	CRE	CAD	2.35	1.74	CM	BUY	\$3.25	38%	378	342	\$16.96	\$2.81	0.10x	0.62x	0.90x	n.m.	n.m.	n.m.	9%	-2%	14%	n.m.	n.m.	n.m.	n.m.	n.m.	-	↑												
Patriot Battery Metals	PMET	CAD	12.67	9.36	CM	BUY	\$16.00	26%	860	845	\$43.76	\$12.26	0.21x	0.76x	1.00x	n.m.	n.m.	n.m.	0%	13%	92%	n.m.	n.m.	100%	0%	0%	4	•												
Lithium Ionic	LTH	CAD	2.41	1.78	CM	BUY	\$5.00	107%	166	171	\$23.65	\$5.47	0.08x	0.33x	0.75x	n.m.	n.m.	n.m.	9%	17%	49%	n.m.	n.m.	100%	0%	0%	1	•												
Average													0.20x	0.45x	0.87x	13.8x	9.2x	0x	-2%	2%	16%																			
<b>Base Metal Developers</b>																																								
Foran Mining	FOM	CAD	3.77	2.78	CM	BUY	\$4.50	19%	667	611	\$3.66	\$3.48	0.76x	0.80x	1.00x	n.m.	n.m.	n.m.	-9%	9%	26%	n.m.	n.m.	86%	14%	0%	7	•												
Arizona Metals	AMC	CAD	4.15	3.07	CM	BUY	\$7.50	81%	353	304	\$7.90	\$7.50	0.39x	0.41x	0.75x	n.m.	n.m.	n.m.	-8%	0%	-4%	n.m.	n.m.	100%	0%	0%	5	•												
Arizona Sonoran	ASOJ	CAD	1.92	1.42	AT	BUY	\$3.50	82%	126	97	\$3.25	\$3.28	0.44x	0.43x	0.70x	n.m.	n.m.	n.m.	4%	8%	0%	n.m.	n.m.	100%	0%	0%	6	•												
Talon Metals	TLO	CAD	0.34	0.25	AT	BUY	\$0.80	135%	195	161	\$1.21	\$0.75	0.21x	0.34x	0.70x	n.m.	n.m.	n.m.	0%	5%	-31%	n.m.	n.m.	100%	0%	0%	5	•												
Average													0.45x	0.49x	0.79x	n.m.	n.m.	n.m.	-2%	8%	-1%																			
<b>Other Materials</b>																																								
MP Materials *	MP	USD	22.74	22.74		N.C.			4,039	3,896			15.9x	9.0x	n.m.	-19%	-12%	-6%	n.m.	n.m.	67%	33%	0%	0%	6	↓														
NextSource Materials *	NEXT	CAD	2.03	1.50		N.C.			169	171			n.m.	n.m.	n.m.	-2%	-7%	-26%	n.m.	n.m.	n.m.	n.m.	n.m.	-	↑															
Euro Manganese *	EMN	CAD	0.21	0.16		N.C.			62	49			n.m.	n.m.	n.m.	-5%	-5%	-30%	n.m.	n.m.	100%	0%	0%	0%	1	•														
Average													15.9x	9.0x	n.m.	-9%	-8%	-21%																						
* Consensus estimate data provided in full by FactSet, ^ Rating/TP provided by Stifel analysts, estimates provided by FactSet, N.C. = not covered																																								
Analysts: AT = Alex Terentiew, CM = Cole McGill																																								
<b>Battery Metal Producers</b>																																								
<b>Lithium Producers</b>																																								
Tianqi Lithium *	002466	QNY	76.02	11.02		N.C.			18,066	11,126			2.5x	3.0x	18%	-8%	-1%	-3%	↓	↓	81%	13%	6%	16	↓															
Albemarle *	ALB	USD	183.96	183.96		N.C.			21,560	23,730			5.6x	5.8x	2%	-11%	-16%	-15%	↑	↑	59%	35%	6%	17	↑															
SQM *	SQM	USD	67.33	67.33		N.C.			9,616	18,570			3.6x	4.1x	29%	-18%	-17%	-16%	↓	↓	69%	31%	0%	13	↓															
Alkem *	AKE	ASX	11.73	7.85		N.C.			5,005	4,735			4.9x	4.4x	6%	1%	16%	3%	↓	↓	80%	20%	0%	20	↓															
Pilbara *	PLS	ASX	4.23	2.83		N.C.			8,490	7,267			3.0x	4.3x	20%	11%	20%	11%	↓	↓	67%	20%	13%	15	↑															
Mineral Resources *	MIN	ASX	80.36	53.80		N.C.			10,314	11,316			6.6x	4.8x	n.m.	0%	5%	3%	↓	↓	64%	36%	0%	14	↑															
Livent *	LTHM	USD	21.91	21.91		N.C.			3,934	4,475			8.5x	6.7x	n.m.	-3%	6%	10%	↑	↑	56%	44%	0%	9	↓															
Average													5.0x	4.7x	15%	-4%	2%	-1%	↓	↓																				
<b>Base Metal Producers</b>																																								
BHP Group *	BHP	ASX	44.17	29.57		N.C.			149,763	158,725			5.3x	5.4x	8%	-5%	2%	-4%	↑	↑	35%	46%	19%	26	•															
Rio Tinto *	RIO	ASX	113.18	75.77		N.C.			122,808	128,907			5.2x	5.3x	8%	-7%	0%	-4%	↓	↓	40%	47%	13%	15	↓															
Glencore *	GLEN	GBP	4.86	6.06		N.C.			75,729	102,314			4.6x	5.0x	15%	0%	12%	-9%	↓	↓	92%	8%	0%	13	•															
Freeport McMoRan	FCX	USD	39.53	39.53	AT	BUY	\$49.00	24%	56,555	69,416	\$37.58	\$34.86	1.05x	1.13x	1.30x	6.7x	5.4x	4%	-6%	4%	4%	↑	↑	55%	40%	5%	20	↑												
Teck Resources	TECK.B	CAD	61.28	45.26	AT	BUY	\$66.00	8%	23,267	31,022	\$39.05	\$38.94	1.16x	1.16x	1.04x	6.8x	9.3x	2%	-7%	29%	20%	↓	↓	87%	7%	7%	15	↓												
Antofagasta *	ANTO	GBP	15.17	18.91		N.C.			18,639	22,542			6.9x	6.4x	4%	-5%	2%	2%	↑	↑	6%	81%	13%	16	↑															
Taseko Mines	TKO	CAD	2.31	1.71	AT	BUY	\$3.40	47%	492	830	\$4.23	\$3.42	0.40x	0.50x	0.93x	7.1x	4.9x	7%	-1%	13%	17%	↑	↑	75%	25%	0%	8	↓												
Copper Mountain	CMC	CAD	2.67	1.97	AT	HOLD	\$2.60	-3%	422	604	\$2.39	\$1.93	0.82x	1.02x	1.00x	5.9x	4.8x	18%	0%	50%	56%	↓	↓	0%	50%	50%	10	•												
Average													0.86x	0.95x	1.07x	6.1x	5.8x	8%	-3%	16%	15%	↑	↑																	
* Consensus estimate data provided in full by FactSet, ^ Rating/TP provided by Stifel analysts, estimates provided by FactSet, N.C. = not covered																																								
Analysts: AT = Alex Terentiew, CM = Cole McGill																																								

Sources: FactSet, Bloomberg, Stifel Estimates

## Risks

**Commodity Price Risk:** Any material decline in lithium product pricing from our estimates would negatively impact the profitability of the projects and may also render them uneconomical.

**Exploration/Resource Risk:** Any issues with resource delineation or definition could adversely affect the profitability of the project.

**Financing Risk:** The execution of the Itinga Project will be dependent on LTH's ability to fully fund the project and advance it to a positive final investment decision.

**Execution Risk:** There is the possibility that the projects will not be able to advance into the mine phase.

**Construction Risks:** A project during construction is subject to a number of engineering risks that might create unforeseen cost and schedule overruns, thus impacting economics.

**Company Specific Risk:** Several assumptions in our valuation are made, including estimates on mine life, throughput, metal recoveries, and unit costs. Such assumptions are subject to change as more project specific information is available, which could adversely affect valuations.

**Jurisdictional Risk:** Every asset is subject to varying types of risks depending on its location. Such risks include government policies, taxation, import/export regulation, title rights, environmental regulations, complex permitting procedures and social challenges.

## Model Development Process and Alternative Approaches

**Model development process:** Our model is built to replicate the company's reported financial information, supplemented with Stifel GMP's assumptions for lithium hydroxide pricing and project level cash flows.

**Data:** Company reports, Stifel estimates, FactSet.

**Model Theory:** The model is built to forecast LTH's earnings/cash flow assuming 100% ownership of the Itinga Project. Our NAV model uses a Discounted Cash Flow methodology using a 10% discount rate for the Itinga Project.

**Model processing steps:** Actual/reported data are updated at each quarter/year-end. Analyst inputs are indicated in columns marked 'E' for estimate.

**Qualitative overlays and assumptions:** We have made assumptions about spodumene concentrate prices, by-product prices, production levels, cap-x, financing methods, operating costs, royalties and taxes, corporate SG&A costs, tax rates and discount rates for each of the projects.

**Model limitations:** Research recommendations, models, and estimates are, of course, limited in their accuracy of predicting future results. Model limitations are covered based on standard disclosures contained in each published research report.

## Assumptions

Our NAV is calculated using a long-term 6.0% Li<sub>2</sub>O spodumene concentrate (SC6) price of \$1,750/tonne. Other key assumptions are stated above in the Investment Rationale, and Valuation sections earlier in this report.

**Target Price Methodology/Risks**

Our target price, via a 0.75x NAV multiple, is C\$5.00/sh.

**Commodity Price Risk:** Any material decline in lithium product pricing from our estimates would negatively impact the profitability of the projects and may also render them uneconomical.

**Exploration/Resource Risk:** Any issues with resource delineation or definition could adversely affect the profitability of the project.

**Financing Risk:** The execution of the Itinga Project will be dependent on LTH's ability to fully fund the project and advance it to a positive final investment decision.

**Execution Risk:** There is the possibility that the projects will not be able to advance into the mine phase.

**Construction Risks:** A project during construction is subject to a number of engineering risks that might create unforeseen cost and schedule overruns, thus impacting economics.

**Company Specific Risk:** Several assumptions in our valuation are made, including estimates on mine life, throughput, metal recoveries, and unit costs. Such assumptions are subject to change as more project specific information is available, which could adversely affect valuations.

**Jurisdictional Risk:** Every asset is subject to varying types of risks depending on its location. Such risks include government policies, taxation, import/export regulation, title rights, environmental regulations, complex permitting procedures and social challenges.

**Company Description**

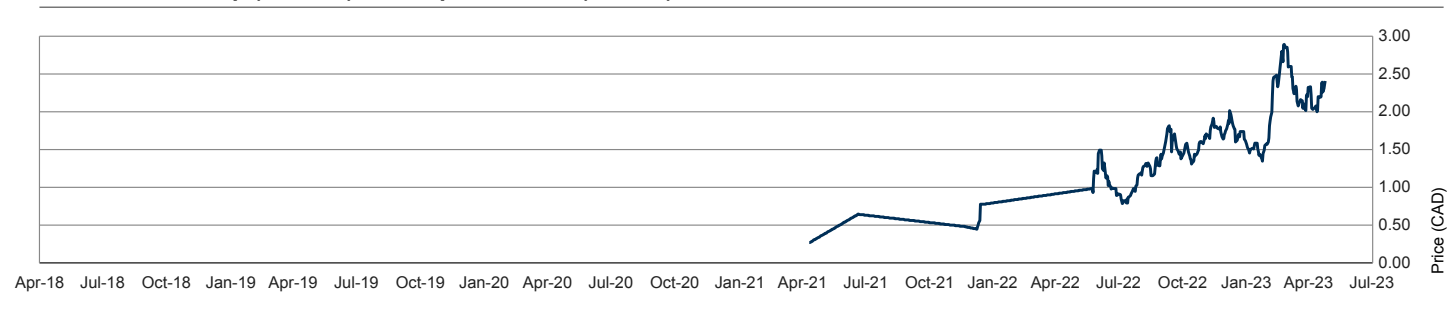
Lithium Ionic is a lithium development company with properties covering 14,183ha located in the prolific Araçuaí province in Minas Gerais State, Brazil. The Project Area is proximal to infrastructure, including highways, hydroelectrical grid power, water, and nearby commercial ports. Its Itinga Project neighbours CBL's Cachoeira lithium mine and Sigma Lithium Corp.'s construction-stage Grota do Cirilo project.

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I, Cole McGill, research analyst, certify that the views expressed in this research report accurately reflect my personal views about the subject securities or issuers; and I, Cole McGill, certify that no part of my compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in this research report.

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#### Lithium Ionic Corp (LTH CN) as of April 24, 2023 (in CAD)



\*Represents the value(s) that changed.

Buy=B; Speculative Buy=SB; Hold=H; Sell=S; Discontinued=D; Suspended=SU; Initiation=I

For a price chart with our ratings and target price changes for LTH CN go to <http://stifel2.bluematrix.com/sellside/Disclosures.action?ticker=LTH CN>

Stifel or an affiliate expects to receive or intends to seek compensation for investment banking services from Lithium Ionic Corp in the next 3 months.

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Our investment rating system is defined as follows:

**Buy** - We expect a total return of greater than 10% over the next 12 months with total return equal to the percentage price change plus dividend yield.

**Speculative Buy**<sup>1</sup> - We expect a total return of greater than 30% over the next 12 months, with total return equal to the percentage price change plus dividend yield, accompanied by substantially higher than normal risk including the possibility of a binary outcome.

**Hold** - We expect a total return between -5% and 10% over the next 12 months with total return equal to the percentage price change plus dividend yield.

**Sell** - We expect a total return below -5% over the next 12 months with total return equal to the percentage price change plus dividend yield.

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<sup>1</sup> This rating is only utilised by Stifel Canada.

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