

# ASX Announcement

28 September 2023

## ROBUST RESULTS FOR COLINA LITHIUM PROJECT PRELIMINARY ECONOMIC ASSESSMENT (PEA)

### KEY STUDY HIGHLIGHTS

- After-tax NPV<sub>8%</sub> of A\$3.6 billion (US\$2.5 billion) – IRR of 132% – Total LOM revenue of A\$12.6 billion (US\$8.4 billion), with free cash flow of A\$6.8 billion (US\$4.7 billion)– Average LOM annual production of 405,000 tpa 5.5% Li<sub>2</sub>O spodumene concentrate (“SC5.5”) – Phase 1 capital expenditure of US\$253 million – Payback of 7 months.
- The Preliminary Economic Assessment (“PEA”) for the Colina Lithium Project (“Colina Project”) demonstrates a low-capital, two-phased operation which delivers high-quality SC5.5, and a 3% Li<sub>2</sub>O (“SC3”) spodumene tails concentrate product.
- A fully sustainable mine design with simple Dense Media Separation (“DMS”) and spirals for spodumene tails concentrate processing, hydro electricity supply, dry-stack tailings and recycled water to meet ESG standards.
- Combined Phase 1 and 2 results as follows:
  - After-tax NPV<sub>8%</sub> of A\$3.6 billion (US\$2.5 billion @ 0.70 AUD:USD) and IRR of 132%.
  - After-tax payback period of approximately 7 months.
  - LOM average production of approximately 405,000 tpa (55,068 tpa LCE<sup>1</sup>) of SC5.5.
  - LOM average production of approximately 123,000 tpa (9,125 tpa LCE<sup>1</sup>) of SC3.
  - Weighted average LOM spodumene concentrate price of US\$1,699/t (A\$2,427) CIF SC5.5 and US\$927/t (A\$1,324) CIF SC3 based on average price forecasts from Fast Markets and Benchmark Minerals; two of the leading price reporting agencies in the lithium sector.
  - All-in sustaining cost (“AISC”) of US\$536/t (operating costs, sustaining capital and royalties).
  - LOM revenue of A\$12.6 billion (US\$8.4 billion), with free cash flow of A\$6.8 billion (US\$4.7 billion) over 11-years of operation.
  - Extension of resource and production expansion opportunities to be evaluated in the DFS.
- Phased development strategy to deliver a sustainable ramp-up.
  - Phase 1 capital expenditure of US\$253 million to deliver first production in 2026.

<sup>1</sup> Calculation is tonnes of spodumene concentrate produced \* spodumene grade \* 2.473 = LCE tonnes

- Phase 2 capital expenditure of US\$55 million will be fully funded by Phase 1 production which will increase average LOM production to 525,000 tpa of SC5.5 and 159,000 tpa of SC3.

- Based on the 45.2 Mt @ 1.32% Li<sub>2</sub>O Mineral Resource Estimate (“MRE”), the two-stage expansion plan for Colina Project has the potential to establish the Company as the second largest spodumene concentrate producer in Brazil and among the lowest cost spodumene concentrate producers globally.
- The Company continues to expand the MRE through a resource drilling programme with eleven drill rigs currently on-site supporting the Definitive Feasibility Study (“DFS”) due for completion in mid-2024. A Phase 3 extension and expansion to production will be evaluated in the DFS.
- PEA has been prepared by independent consultant groups including SGS Geological Services Group (“SGS”) Canada, SGS Bateman Engineering Services and MinSol Engineering.

#### Cautionary Statement

*The Preliminary Economic Assessment (“PEA”) referred to in this announcement has been undertaken to provide a preliminary financial evaluation for the proposed mining of the Colina Lithium Deposit, located in Minas Gerais, Brazil. It is a preliminary technical and economic study of the potential viability of the Colina Lithium Deposit. It is based on low level technical and economic assessments that are not sufficient to support the estimation of ore reserves. Further exploration and evaluation work and appropriate studies are required before Latin Resources will be in a position to estimate any ore reserves or to provide any assurance of an economic development case. The PEA has been completed to a level of accuracy of +/- 35%.*

*Of the Mineral Resources scheduled for extraction in this PEA production target, on an undiluted ore basis, approximately 95% are classified as Indicated/Measured and 5% as Inferred in the first 3 years and 70% are classified as Indicated and 30% as Inferred over the evaluation period. The Company has concluded it has reasonable grounds for disclosing a Production Target, given that the PEA assumes that in the first 5 years of operation, 74% of the production is from the Indicated/Measured Resource category. The inferred mineral resource is not the determining factor in determining the viability of the Colina Lithium Project.*

*There is a low level of geological confidence associated with Inferred Mineral Resources, and there is no certainty that further exploration work will result in the determination of Indicated or Measured Mineral Resources or that the production target itself will be realised.*

*The PEA is based on the material assumptions outlined below. These include assumptions about the availability of funding. While Latin Resources considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the PEA will be achieved. The Company believes that it has a reasonable basis for providing these forward-looking statements and the forecast financial information based on material assumptions outlined in this release.*

*To achieve the range of outcomes indicated in the PEA, funding of in the order of US\$250 million will likely be required. Investors should note that there is no certainty that Latin Resources will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Latin Resources’ existing shares.*

*It is also possible that Latin Resources could pursue other ‘value realisation’ strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce Latin Resources’ proportionate ownership of the project.*

*Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the PEA.*

**Latin Resources Limited (ASX: LRS) (“Latin” or “the Company”)** is pleased to provide key outcomes of a technical and financial study (“**Preliminary Economic Assessment**” or the “**PEA**”) on the Company’s 100% owned Colina Lithium Project (“**Colina Project**”) located in Minas Gerais, Brazil.

**Latin Resources’ Managing Director, Chris Gale, commented:**

*“Latin Resources is extremely proud to have produced such compelling economic results with our first feasibility study on the Colina Project. The low-cost capex and fast track to production in 2026 will hit the sweet spot of rising lithium prices many are predicting over the coming years. The Colina Project is on track to become one of the world’s largest spodumene mines with very low operational costs.*

*The Company is very committed to developing a lithium mine with true sustainable mining practices, which will include hydro power, dry-stack tailings and recycled water systems. The phased capital development strategy provides a viable ramp-up that self-funds its expansion to become a Tier one lithium mine. Minas Gerais is an excellent jurisdiction to support delivery of the Colina Project into a sustainable, large and low-cost spodumene operation on an accelerated basis. Latin Resource alongside Sigma Lithium will propel Lithium Valley, Brazil into one of the global top 4 lithium provinces.”*

**Latin Resources’ Vice President of Operations - Americas, Tony Greenaway, commented:**

*“This is an exceptional result for the Company, demonstrating our early belief that the Colina Lithium Deposit has the potential to be a world class lithium mine that will deliver significant financial returns to our shareholders. As we move into the full definitive study phase for the Colina Project, we continue to aggressively explore our highly prospective tenement package, focusing on brown field Colina extensions, as well as new greenfield discoveries within our defined lithium corridor. The entire exploration team is confident that we will continue to make new discoveries in the wider project area like our new Fog’s Block Prospect, where we believe we will be able to define additional lithium resources that will continue to grow production and profitability.”*

## EXECUTIVE SUMMARY

The Colina Project PEA has been led by independent consultants SGS and is based on the Colina mineral resource estimate reported to the ASX on 20 June 2023, for 45.2Mt at 1.32% Li<sub>2</sub>O (including 0.43Mt @ 1.34% Li<sub>2</sub>O Measured + 29.7Mt @ 1.37% Li<sub>2</sub>O Indicated + 15.0Mt @ 1.22% Li<sub>2</sub>O Inferred)<sup>2</sup> (“**Colina MRE**” or “**MRE**”) for a proposed 3.6Mtpa standalone mining and processing operation, demonstrating strong financial metrics for the Colina Project. The PEA incorporates Phase 1 and a Phase 2 processing plant, and demonstrates robust combined economics, highlighted by a combined after-tax NPV<sub>8%</sub> of A\$3.6 billion (US\$2.5 billion) and combined after-tax IRR<sup>3</sup> of 132%.

The PEA confirms that the Company will be a large-scale, low-cost producer of a fully integrated concentrate plant and environmentally sustainable production of SC5.5 and SC3 spodumene concentrate, with significant cost saving benefits and competitive market advantages from its geographical location.

The PEA contemplates an initial mine life of 11 years generating significant net cash flows over the Life of Mine (“**LOM**”) with a capital payback achieved in the first 7 months of the Colina Project life under Phase 1. Financials are based on a weighted average spodumene concentrate price of US\$1,699t/CIF SC5.5 and US\$927t/CIF SC3, using an average of price forecasts from Fast Markets and Benchmark Minerals; the two leading price reporting agencies in the lithium sector.

Key factors influencing the robust PEA economics include:

- High average feed grades of 1.24% Li<sub>2</sub>O across both Phase 1 and Phase 2;

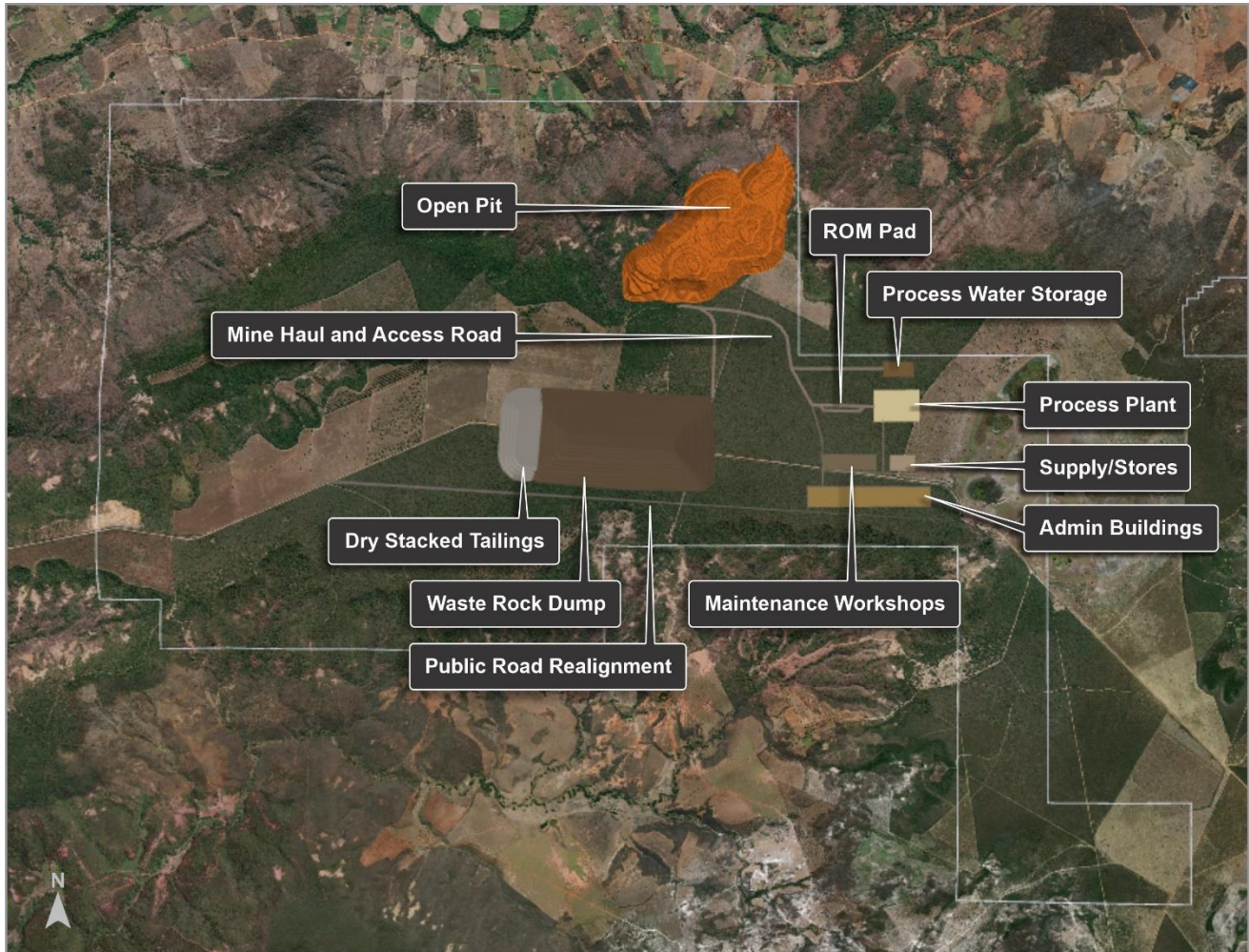
<sup>2</sup> Refer to LRS’s ASX Announcement dated 20 June 2023, entitled “241% Increase for the Colina Mineral Resource”

<sup>3</sup> Internal Rate of Return (“**IRR**”) is a metric used in financial analysis to estimate the profitability of potential investments.

- Excellent average recovery rates achieved by Dense Media Separation (“DMS”) circuit of 78.3% comprised of 67.2% for SC5.5 and 11.1% for SC3; and
- Phase 1 production commencing in 2026 with Phase 2 average production of 525,000 tpa SC5.5 and 159,000 tpa SC3 commencing 2029.

The Company expects to announce an updated MRE in the fourth quarter of 2023, with the goal of increasing tonnage and converting existing Colina resources to higher JORC classifications. The results of the PEA and expected MRE expansion will serve as the foundation for the DFS which is expected to be completed mid-2024.

For personal use only



*Figure 1: Proposed Colina Mine Open pit and Infrastructure layout.*

## Economic Analysis

The combined Phase 1 and Phase 2 provides an average annual production run-rate of 405,000tpa of SC5.5 and 123,000tpa of SC3 over an 11-year operating mine life. Based on this production rate and mine life, a calculated after-tax NPV<sub>8%</sub> of A\$3.6 billion (US\$2.5 billion) and IRR of 132% is delivered for the combined Phase 1 and 2 developments. Table 1 contains a financial summary of the Colina Project, showcasing the strong economic viability of the Colina Project.

The PEA was completed to an overall ±35% accuracy using the key parameters and assumptions set out in Table 1 and 2 below and as further outlined in Appendix 1.

**Table 1: Key Physical Assumptions for the Colina Project.**

Assumption	Unit	Total
<b>Mining and Production</b>		
Life Of Mine	Years	11
Plant Nameplate Capacity ROM	Mtpa	3.6
LOM Average head Li <sub>2</sub> O Grade	%	1.24 <sup>4</sup>
Total quantity mined	Mt ore	31.4
Stripping ratio	x	17.6
Total Production (SC5.5)	Mt	4.45
Annual Production (SC5.5)	ktpa	405
Total Production (SC3)	Mt	1.35
Annual Production (SC3)	ktpa	123
Process Plant Recovery (SC5.5)	%	67.2
Process Plan Recovery (SC3)	%	11.1

**Table 2: Summary of outputs and assumptions for the Colina Project.**

Item	Unit	Total
<b>Economic Analysis</b>		
Post-Tax NPV <sub>8</sub>	A\$B	3.6
Post-Tax IRR	%	132
Payback Period	Months	7
Concentrate price (CIF) SC5.5 (weighted average)	US\$/t SC5.5 real	1,699
Concentrate price (CIF) SC3 (weighted average)	US\$/t SC3 real	927
Exchange rate	AUD:USD	0.70
Corporate tax rate (incorporating the Sudene tax incentive)	%	15.25
<b>Revenues, Cash Flow and Capex</b>		
Average annual revenue	US\$m	802
Average annual after-tax free cash flow	US\$m	383
Phase 1 capital expenditure (initial capital including pre-strip)	US\$m	253

<sup>4</sup> Weighted average fully diluted grade over LOM

Item	Unit	Total
Phase 2 capital expenditure (deferred capital) (excluding closure)	US\$m	55
<b>Costs per tonne of spodumene</b>		
Total cash costs (AISC, CIF, including royalties)	US\$/t	536
Phase 1 and 2 global lithium recovery rate, comprised of:	%	78.3
SC5.5 spodumene recovery	%	67.2
SC3.0 spodumene recovery	%	11.1
<b>Integrated costs per tonne of spodumene concentrate</b>		
Mining costs	US\$/t	328
Plant processing costs	US\$/t	36
G&A costs	US\$/t	15
Royalties	US\$/t	31
Transportation costs (mine to CIF China) (dry metric tonne (“DMT”))	US\$/t	126
<b>Integrated costs as modelled</b>		
Mining costs	US\$/t material	3.42
Plant processing costs (2026 and 2027)	US\$/t ore	7.13
Plant processing costs (2028+)	US\$/t ore	4.62
Tailings costs	US\$/t tailings	2.18
G&A costs	US\$/t ore	2.70
Royalties	% revenue	2.0
Transportation costs (mine to CIF China) (wet metric tonne (“WMT”))	US\$/t spod	120

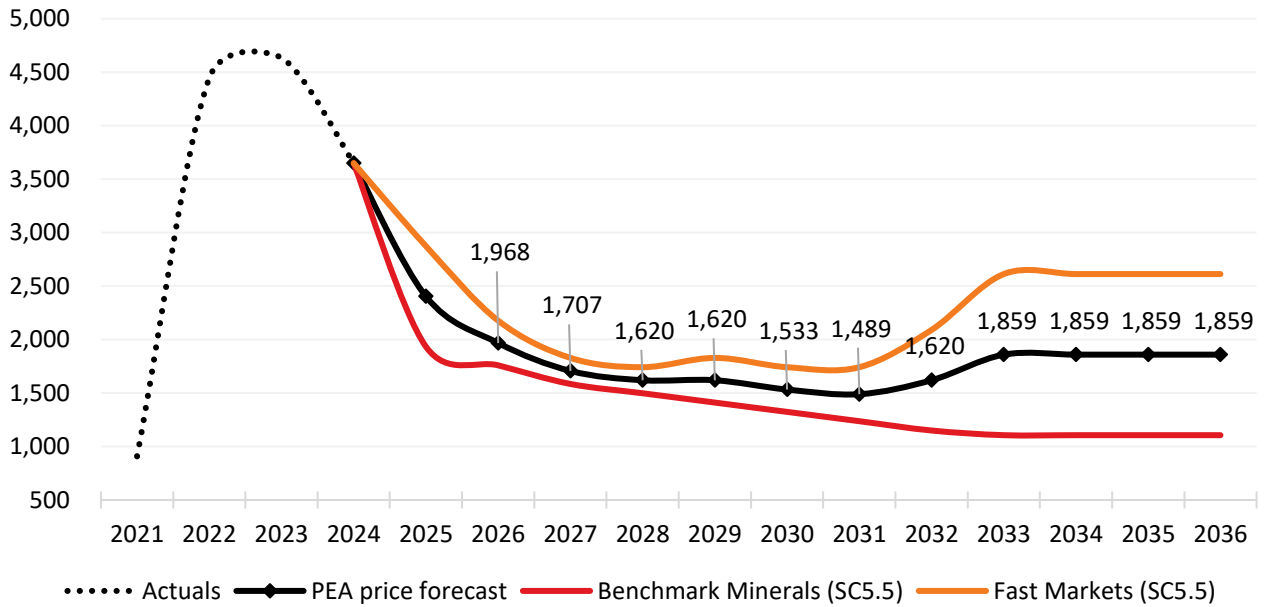
The Company has based the spodumene concentrate SC5.5 prices on an average of price forecasts from Benchmark Minerals and Fast Markets; two of the leading price repotting agencies in the lithium sector. The price forecasts were published in Q2 2023 and August 2023 respectively.

The price forecasts from Benchmark Minerals and Fast Markets are presented on a 6% Li<sub>2</sub>O spodumene concentrate (“SC6”) basis. These have been calibrated to SC5.5 and SC3 by adjusting for lithium content and applying a five per cent discount to derive a SC5.5 and SC3 price forecast. These formulas and discounts are consistent with observed industry benchmarks in Western Australia.

The forecast from Benchmark Minerals has been prepared on a free-on-board (“FOB”) basis. The Fast Markets forecast is presented on a cost, insurance and freight (“CIF”) basis. To align these forecasts, a shipping cost of US\$120/t has been added to Benchmark Minerals’ forecast to achieve a like-for-like basis. Based on a logistical study completed by the Company, this can be reduced to approximately US\$88/t of spodumene if shipped to a converter in North America. Opportunities for North American offtake will be evaluated as part of the DFS.

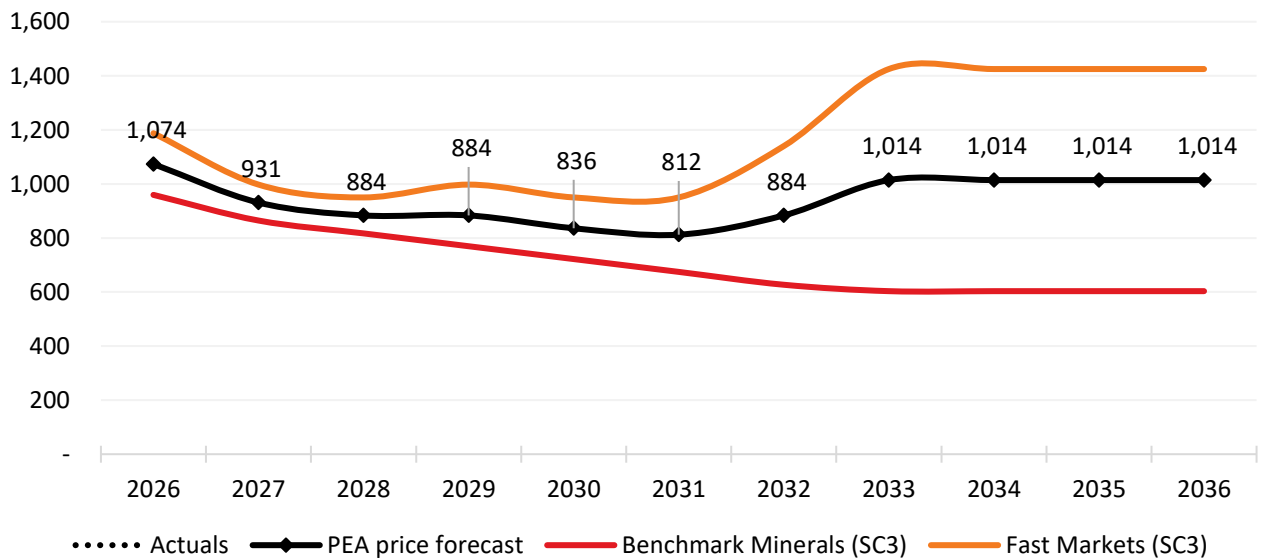
For personal use only

SC5.5 price	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	Avg <sup>5</sup>
Forecast	1,968	1,707	1,620	1,620	1,533	1,489	1,620	1,859	1,859	1,859	1,859	1,699



**Figure 2:** PEA, Benchmark Minerals and Fast Markets SC5.5 pricing forecast. Prices presented in US\$/t SC5.5 spodumene, CIF China, real dollars.

SC3 price	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	Avg <sup>6</sup>
Forecast	1,074	931	884	884	836	812	884	1,014	1,014	1,014	1,014	927



**Figure 3:** PEA, Benchmark Minerals and Fast Markets SC3 pricing forecast. Prices presented in US\$/t SC3 spodumene, CIF China, real dollars.

<sup>5</sup> Weighted average price calculated from annual price against annual production.

<sup>6</sup> Weighted average price calculated from annual price against annual production.

For personal use only

For personal use only

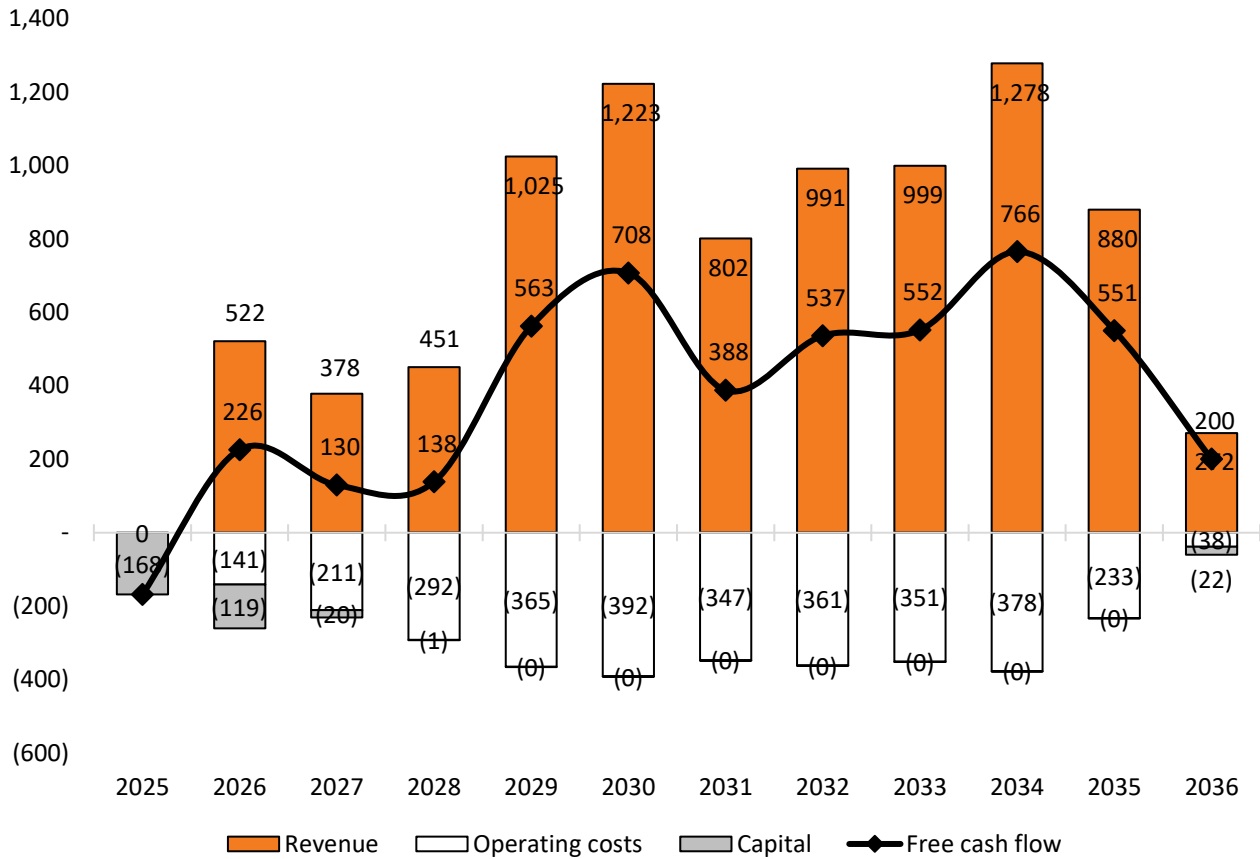


Figure 4: The Colina Project Phase 1, 2 and Combined Revenue, Capital and Operating Costs (US\$M, real).

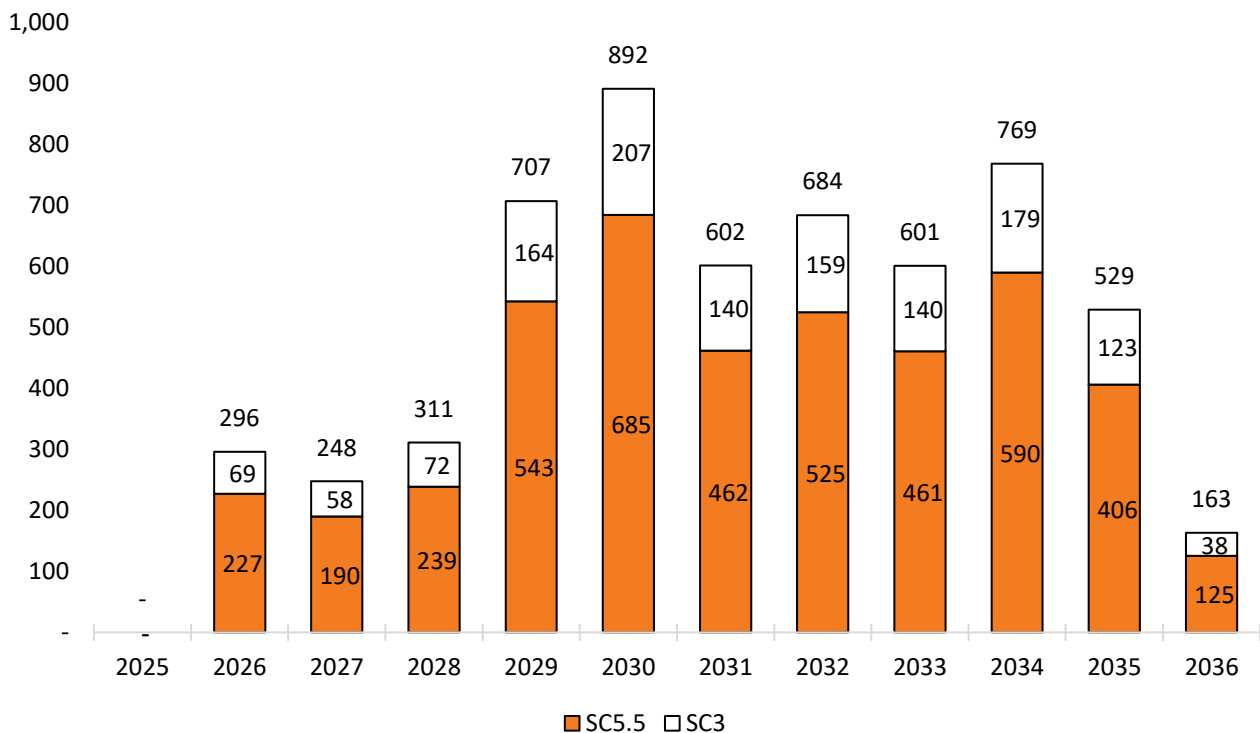


Figure 5: The Colina Project Phase 1, 2 spodumene production (kt). A Phase 3 extension and expansion to production will be evaluated in the DFS.



## Sensitivity Analysis

The Colina Project's after-tax NPV<sub>8%</sub> demonstrates resilience to changes in key assumptions. The Colina Project is most sensitive to changes in lithium pricing, mined grade and – to a lesser extent – process recovery.

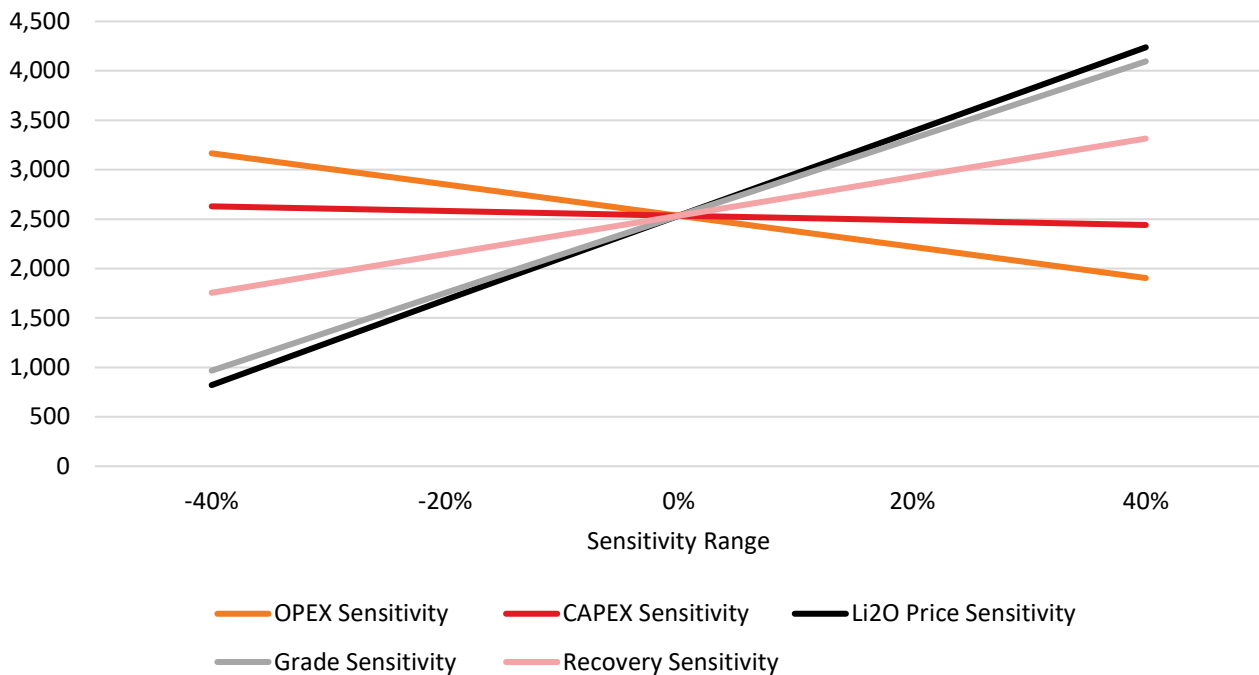


Figure 6: Sensitivities of key assumptions (reflected against US\$M post-tax NPV<sub>8</sub>, real).

## Capital Expenditures

Phase 1 initial capital (including pre-strip) and Phase 2 deferred capital are estimated at US\$253 million and US\$55 million respectively with US\$22 million assumed nominally for closure; however, a Phase 3 mine life extension and expansion will be evaluated in the DFS. Phase 2 ramp-up is expected to be constructed in years 2026 and 2027, with Phase 2 production expected to commence in 2028 and achieve nameplate production in 2029.

- Phase 1 capital is expected to be funded by a combination of debt and / or equity. The Company will continue to explore funding options.
- Phase 2 capital will be funded from existing cashflows generated from Phase 1.

The Phase 1 and Phase 2 capital requirements were estimated by SGS after a sufficient level of engineering detail was undertaken, where SGS derived pricing quotations from qualified contractors, vendor suppliers and actual pricing from Brazilian operating mines.

A contingency of 32% has been applied to development capital for process plant (Phase 1 and 2), tailings and site infrastructure. This has been independently assessed by SGS.

Phase 1 and Phase 2 CAPEX items are summarised in table below and were estimated with an accuracy of  $\pm 35\%$ .

For personal use only

**Table 3: Phase 1 and 2 CAPEX item summary, real terms.**

Capex Item	Unit	Phase 1	Phase 2	Other
Mine	US\$m	94	-	-
Process plant	US\$m	78	42	-
Environmental equipment (water & dry stacking)	US\$m	32	-	-
Site infrastructure	US\$m	10	-	-
Closure Cost	US\$m	-	-	22
Contingency	US\$m	39	13	-
<b>Total CAPEX</b>	<b>US\$m</b>	<b>253</b>	<b>55</b>	<b>22</b>

## All-In Sustaining Cost

Operating costs for Phase 1 and Phase 2 of the Colina Project have been sourced by SGS with reference to several sources including suppliers, Brazilian mining contractors and operating mines.

All-in Sustaining Costs (CIF China) (“AISC”) are estimated as follows:

- Combined is US\$536/t spodumene (SC5.5 and SC3) including operating costs, sustaining capital, royalties and shipping.

The cash cost for the Colina Project is considered very low by comparison to other global spodumene concentrate lithium operations, with significant benefits as a result of the following:

- High-grade, coarse-grained spodumene used in the mine feed;
- DMS plant producing a high-quality concentrate grading 5.5% Li<sub>2</sub>O at 67.2% stage recovery, and spirals to produce 3% Li<sub>2</sub>O from DMS tailings at 11.1% recovery;
- Low overall processing costs of DMS and a low level of impurities compared to other operations; and
- Low-cost environment in Brazil including electricity and labour costs.

**Table 4: Average life of mine AISC for the Colina Project.**

Operating Cost Item	Unit	Combined
Mining	US\$/t spodumene	328
Processing (SC5.5 and SC3)	US\$/t spodumene	36
Product logistics (DMT)	US\$/t spodumene	126
G&A	US\$/t spodumene	15
Royalties	US\$/t spodumene	31
<b>Total AISC (CIF China)</b>	<b>US\$/t spodumene</b>	<b>536</b>

## Key Opportunities

- **Resource Growth** – The Company is maintaining an aggressive exploration program focused on near surface brown field expansion of the Colina Deposit to potentially increase tonnage in early years and provide ore blending opportunities.
- **Grade Smoothing** – The Company will undertake an extensive infill drilling campaign aimed at raising the JORC classification of the Colina Deposit to Measured and Indicated status. Anecdotal evidence from recently completed infill drilling at Colina indicates that grade is expected to be optimised from infill drilling.
- **Regional/ Extensional exploration expansion** – The Company has identified several additional high quality target areas within its wider tenement package, where it is continuing to undertake a large drilling campaign. It is expected that these newly identified mineralised pegmatites may provide additional resources.
- **Mining** – Selective mining schedule will be implemented to improved stripping ratio and reduce mining dilution. Efficient drill and blast patterns to minimize generation of fines during mining will increase mining performance.
- **Processing** – Increase process plant performance by adding cleaning steps (magnetic separation and ore sorting as example) and better understanding of the ore behaviour with variability DMS testing.
- **Commercial** – The Company has received a number of in-bound requests for offtake, partnership, project finance and other commercial activity. The Company will review all opportunities that generate value for shareholders while ensuring an expedited and sustainable development of the Colina Project.
- **Shipping** – A logistics cost of US\$120/t of spodumene has been assumed CIF China aligned with current industry benchmarks for reporting and pricing. This covers transport to port and shipping to a converter. Based on a logistical study completed by the Company, this can be reduced to approximately US\$88/t of spodumene if shipped to a converter in North America. Opportunities for North American offtake will be evaluated as part of the DFS.

For personal use only

## Next Steps

- Outcomes of the PEA are expected to facilitate the advancement of discussions with prospective offtake partners.
- The Company has approved progression of the Colina Project directly through to a DFS, with the intention of reaching a Final Investment Decision (“FID”) in Q4 2024.
- DFS work to commence immediately in parallel with further infill drilling at the Colina Deposit, aimed at converting inferred resources to indicated resources, expanding the resource base, and continuing ongoing exploration efforts.
- Targeted project development schedule outlines FID in Q4 2024 and first production in 2026.

For personal use only

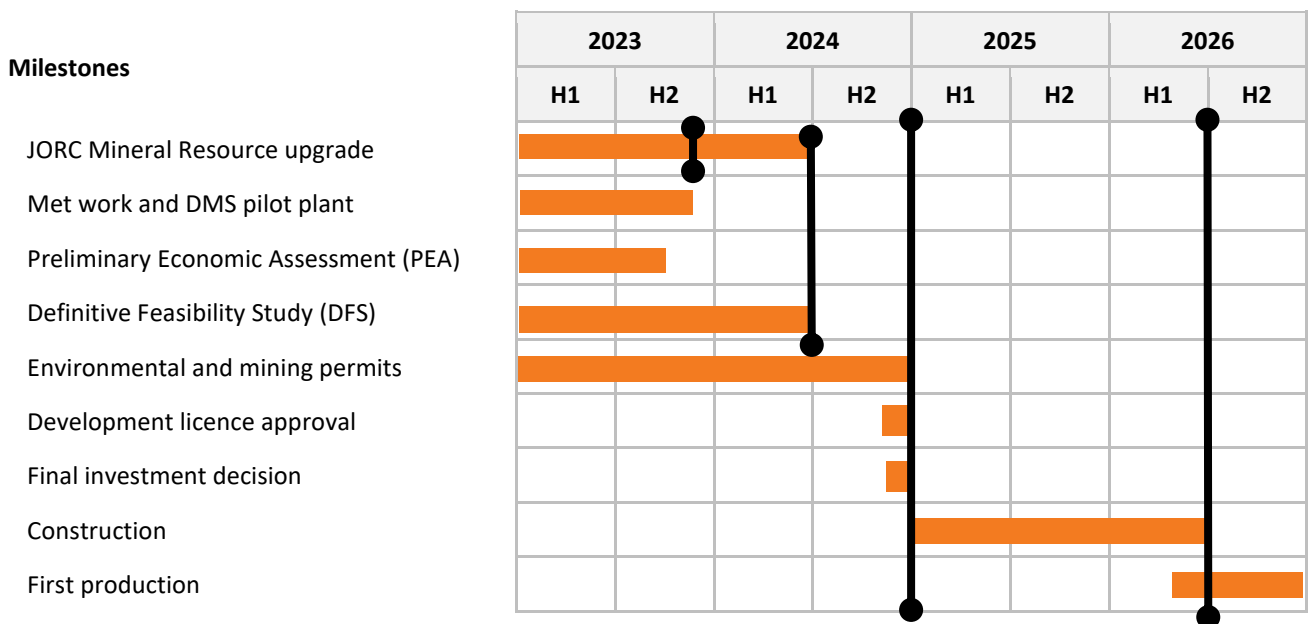


Figure 7: Colina Project development timeline.

**This Announcement has been authorised for release to ASX by the Board of Latin Resources.**

For further information please contact:

**Chris Gale**  
*Managing Director*  
 Latin Resources Limited  
 +61 8 6117 4798

**Fiona Marshall**  
*Senior Communications Advisor*  
 White Noise Communications  
 +61 400 512 109  
[fiona@whitenoisecomms.com](mailto:fiona@whitenoisecomms.com)

[info@latinresources.com.au](mailto:info@latinresources.com.au)  
[www.latinresources.com.au](http://www.latinresources.com.au)

# APPENDIX 1

## DETAILED PRELIMINARY ECONOMIC ASSESSMENT SUMMARY

### Introduction, Property Description and Ownership

The Colina Project is located in Northeastern Minas Gerais State, Brazil in the Bananal Valley region, 600km northeast of Belo Horizonte. The Project is located 10km outside the town of Salinas (population 40,000), accessible by major sealed roads (**Figure 8**). The Colina Project is centred at latitude 16° 07' S and longitude 42° 07' W (SIRGAS 2000 UTM Zone 23S 807,000 m E; 8,214,500 m N).

The Colina Project is comprised of a total of 13 claims (8,207 hectares).

- A total of 9 claims (6,126 hectares) are 100% owned by Latin Resources Limited, through its 100% wholly owned Brazilian subsidiary Belo Lithium Mineracao Ltda., incorporated on October 14, 2021.
- An additional 4 claims (1,901 hectares) are held under Option Agreements by Latin. Under the terms of the agreements (ASX Announcements dated April 6, 2022, and May 17, 2022), the Company has the right to secure a 100% interest in the optioned claims.

The Colina Project has a combined mineral resource estimate of 45.2Mt at 1.32% Li<sub>2</sub>O at a 0.5% Li<sub>2</sub>O cutoff grade as announced to the ASX on 20 June 2023.

The PEA was based on a Mineral Resource Estimate that incorporated a 0.5% cut-off grade to facilitate a open pit mining studies, with a processing plant capable of treating 3.6Mtpa of run- of- mine ore. The financial model of the Project was completed on 100% basis with cost estimates completed to an overall ± 35% accuracy using the key parameters and assumptions set out within this announcement.

All costs and financials are presented in US dollars unless stated otherwise.

### Geology and Mineral Resource

#### Geology

The Colina Project area lies in the Eastern Brazilian Pegmatite Province (“EBP”) that encompasses a very large region (about 150,000 km<sup>2</sup>) of the States of Bahia, Minas Gerais, and Rio de Janeiro. Approximately 90% of the EBP is located in the eastern part of Minas Gerais state.

The pegmatite swarm is associated with the Neoproterozoic Araçuaí orogeny. Granitic rocks that formed during the Araçuaí orogeny have been separated into five different supersuites, coded as G1, G2, G3, G4 and G5. The granite intrusive events are interpreted to have formed during a collisional episode related to the Gondwana Supercontinent (Trans-Amazonian event). The granite supersuites range in age from pre- collisional (G1 at 630–585 Ma) to post collisional (G4 and G5 at 535–490 Ma). The pegmatite swarm is interpreted to be related to the G4 supersuite, in particular, the Piauí batholith (Pedrosa-Soares et al., 2009).

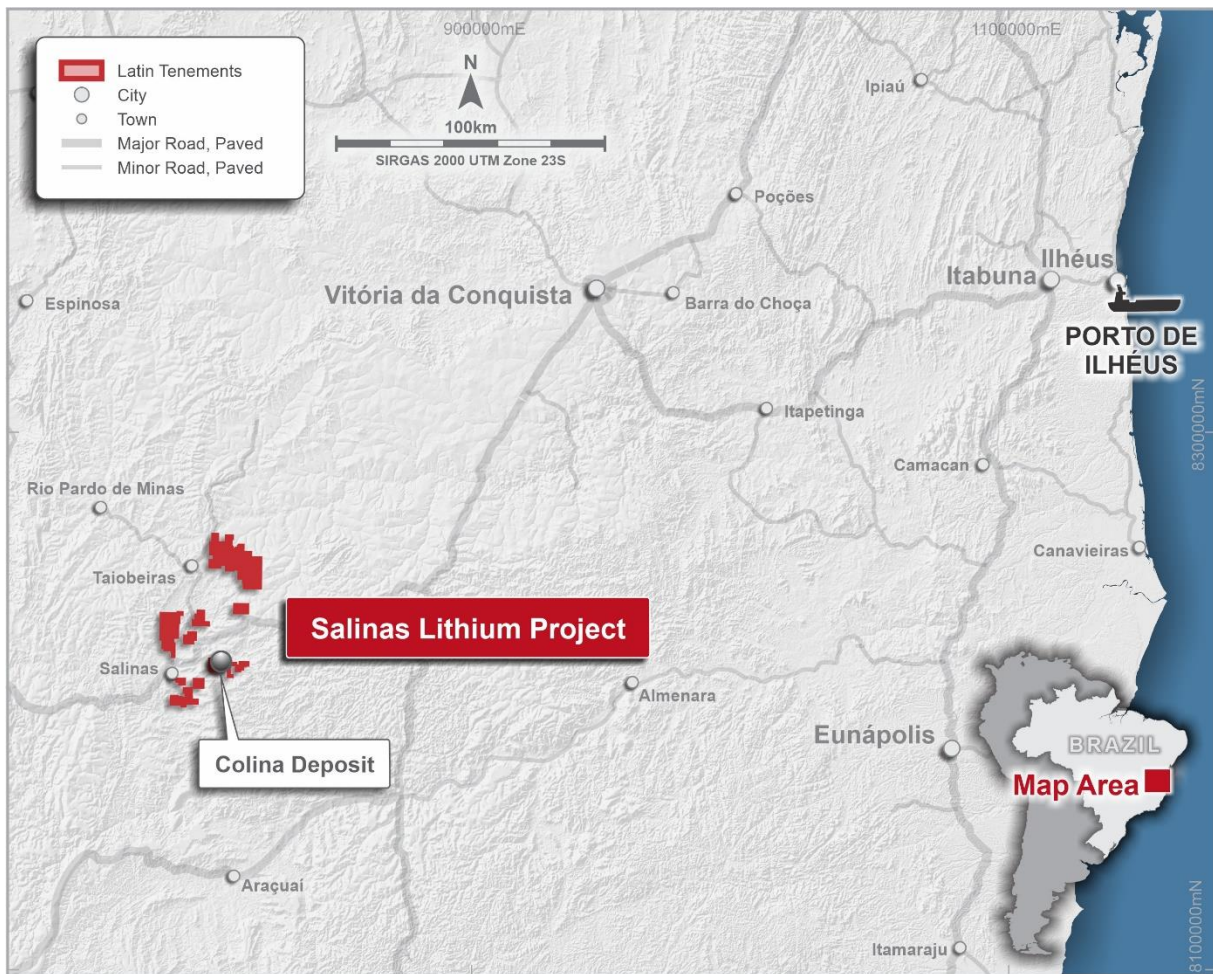
The principle host rock to the pegmatitic intrusions of the Colina Deposit is a medium-grey coloured biotite–quartz schist, which is interpreted to be a metamorphosed flysch of the Eocambrian Salinas Formation (Quémeneur and Lagache, 1999). The schist typically has millimetre to centimetre-size cordierite porphyroblasts and finely disseminated, stretched, iron-sulphide crystals with a preferred orientation that is sub-parallel to the foliation. Minor intercalations of calcsilicate rocks can occur within the schist.

Where weathered, the schist may display sericite-rich zones and micro-crystalline quartz–calcite intercalations that include dark green, disseminated, sub- to millimetre-sized amphibole and pink garnet crystals.

The Colina Deposit consists of a series of stacked shallow to moderately east dipping pegmatitic intrusions. Individual intrusions range from 1 to 25 metres true thickness and the largest intrusions have been traced laterally for up to 1 kilometre.

Lithium mineralisation is related to discordant swarms of spodumene-bearing tabular pegmatites hosted by biotite-quartz schists. Spodumene can form 28–30% of the pegmatite mass, microcline and albite contents range from 30–35%, with microcline content dominant over albite, muscovite comprises about 5–7% and the remainder of the rock mass consists of quartz. The pale green-coloured spodumene crystals are elongate or tabular, ranging from millimetre to centimetres in scale, and have been observed at metrescale in outcrop. Spodumene cuts the microcline matrix, and intergrowths of spodumene and quartz, sometimes in association with muscovite, are common. Accessory minerals, such as columbite and tantalite form in association with albite and quartz. Late-stage mineralization includes sphalerite and pyrite.

For personal use only



**Figure 8: Salinas Lithium Project Property Location Map.**

### Mineral Resource

The current Mineral Resource Estimate for the Colina Lithium Deposit incorporated all data from the Colina Maiden MRE and subsequent infill drilling data completed by the Company between December 2022 and June 2023. The focus of the infill drilling was to increase the overall resource base at Colina along with increasing the confidence level of the lithium orebody by converting a significant amount of JORC Inferred Resource into the Indicated Resource category.

The database used to define the Colina MRE Update comprised 135 diamond holes for a total of 39,033 metres, with a total of 6,521 individual assays, representing an additional 58 holes and 28,505 meters over and above the 47 holes and 10,528 meters used in the Company’s maiden MRE. Refer to the Company’s announcement dated 7 June 2023, which contains all the drillhole and significant intersections used in the Colina MRE Update. (Refer to ASX announcement dated 8 December 2022)

Toronto-based independent resource consulting firm SGS was again commissioned by the Company, to complete the MRE Update in accordance with the guidelines of the JORC 2012 Code and above a cut-off grade of 0.50% Li<sub>2</sub>O.

SGS, working closely with the Company’s geological team have incorporated the structural and geological information from the infill drilling program, resulting in an update to the existing geological model. The geological model has reconfirmed that the Colina Deposit consists of a series of moderately east dipping pegmatite bodies, extending from near surface to a depth of over 350 meters which remain open along strike to the southwest to a length of 2.0km, and at depth.

**Table 5: Colina Mineral Resource Estimate<sup>7</sup> reported at 0.5% Li<sub>2</sub>O cut-off grade separated by category.**

Deposit	Resource Category	Tonnes (Mt)	Grade (Li <sub>2</sub> O %)	Li <sub>2</sub> O (Kt)	Contained LCE (Kt)
Colina	Measured	0.43	1.34	5.8	14.3
	Indicated	29.74	1.37	408.1	1,009.3
	<i>Measured + Indicated</i>	<i>30.17</i>	<i>1.37</i>	<i>413.9</i>	<i>1,023.6</i>
	Inferred	15.02	1.22	183.5	453.7
<b>Total</b>		<b>45.19</b>	<b>1.32</b>	<b>597.4</b>	<b>1,477.3</b>

The Mineral Resource was classified as Measured, Indicated and Inferred Mineral Resource based on data quality, sample spacing, and pegmatite continuity. The Measured Mineral Resource was defined within areas of close spaced drilling of approximately 100m by 50m, the Indicated Mineral Resource was defined within areas of close spaced drilling of approximately 50m by 100m, and where the continuity and predictability of the mineralised units was reasonable. The Inferred Mineral Resource was assigned to areas where drill hole spacing was approximately 100m by 100m or greater.

Classification focused on composite spatial relation was used with a minimum of seven composites to consider (maximum of four composites per drill hole) for the indicated resources within a search ellipsoid of 100m x 100m x 30m. A 67% ellipsoid filling factor was also applied.

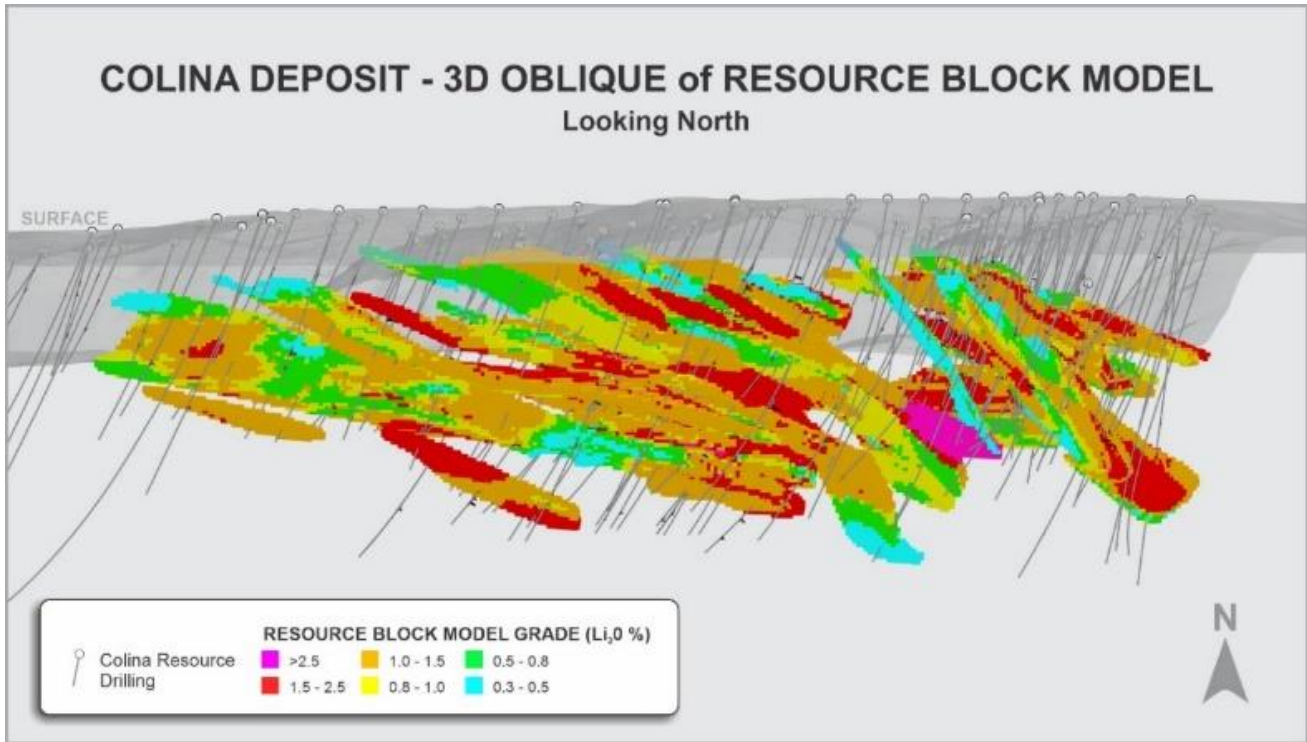
The 3D modelling of lithium Mineral Resources was conducted using a minimum cut-off grade of 0.3% Li<sub>2</sub>O over a 3m horizontal thickness within a preliminary lithological model. The initial mineralised solids were developed using SGS’s proprietary modelling software Genesis<sup>®</sup>.

The interpolation was conducted using ID2 methodology with three interpolation passes.

The block model was defined by a block size of 5m long by 5m wide by 5m thick and covers a strike length of approximately 2,000m to a maximal depth of 400m below surface. The modelled lithium mineralisation is open both at depth and strike.

<sup>7</sup> Refer to LRS’s ASX Announcement dated 20 June 2023, entitled “241% Increase for the Colina Mineral Resource”.

For personal use only



**Figure 9:** Oblique 3D view of the updated Colina MRE Block Model

## Mining

SGS undertook the mine engineering where the Colina Deposit will be mined by a single, conventional, open pit process.

Pit design is expected to extend approximately 1.8km NW/SE, following the strike of the pegmatite mineralisation with an average width of 954m and compromise of 3 sub-pits with depths measuring 230m, 380m, and 400m, respectively.

The average strip ratio for the LOM plan is 17.6:1, where the mining plan is designed to start with low waste stripping in the early years, gradually ramping up as the life of the mine progresses.

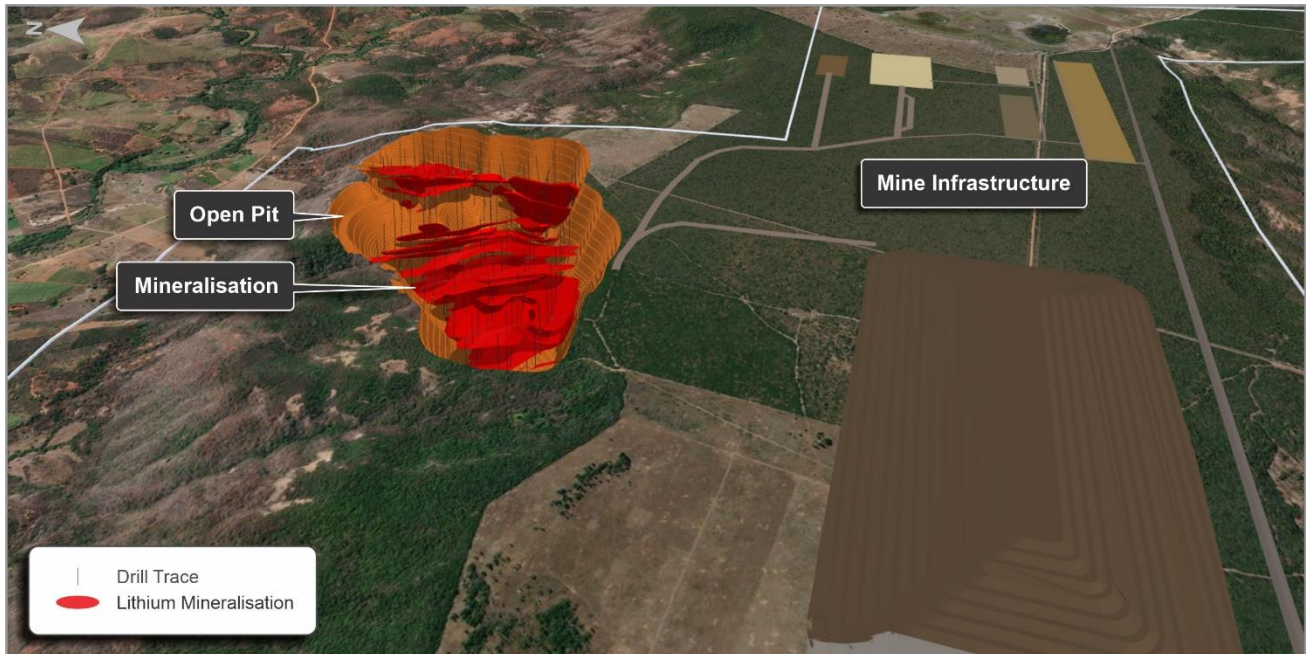
A summary of the key mining physicals are as follows:

**Table 6:** Summary of key Mine Physicals.

Assumption	Unit	Value
<b>Mining and Production</b>		
Life of mine	Years	11
Plant throughput	Mtpa	3.6
Ramp up period	Years	3
Total ore mined (Mt)	Mt	31.4
Total material mined (Mt)	Mt	583.3
Strip ratio (operational)	x	17.6
Li <sub>2</sub> O grades (diluted) LOM	%	1.24
SC5.5 spodumene recovery	%	67.2



Assumption	Unit	Value
SC3 spodumene recovery	%	11.1
Moisture content of SC5.5 and SC3 concentrate	%	5
Average annual tonnes of SC5.5 concentrate	ktpa	405
Average annual tonnes of SC3 concentrate	ktpa	123



**Figure 10:** Oblique 3D view of the proposed Colina Project open pit mine (looking NE) with mineralisation and infrastructure.

### Mine Design

The proposed mining method is conventional open pit mining. Mineralized rock and waste would be drilled, blasted, loaded by hydraulic shovels and hydraulic excavators into off-highway dump trucks, and hauled to the processing plant.

The basis for the pit design work was the mineral resource block model that was developed by SGS in accordance with the Australasian Joint Ore Reserves Committee Code ("**JORC Code**") written in support of the maiden MRE.

There is one primary deposit currently under consideration. Due to the nature of the deposit, the resultant pit is wide and deep. The proposed mining method is the development of a slot in front of the mineralized zone at each level. The centralized slot will enable waste mining on one side while mining mineralized material on the other side. This methodology will also facilitate separating mineralized material from waste material.

The target ROM feed to the processing plant is 1.5Mtpa ramping up to 3.6 Mtpa on the fourth year. The plant feed is mineralized spodumene containing lithium. The combined Life of Mine of the single pit is 12 years including pre-production.

## Tailings

PEA stage tailings design was done by SGS and local contractor using a design concept of co-disposal dry-stacked tailings and Mine Waste Dump (“CTMWD”) for the Colina Project. The design of the structure was determined based on the available information, which does not contemplate any geological-geotechnical site-specific investigation since this will be part of the DFS. The dry-stacked co-disposal design gives the option to access the tailing material for possible future by-product sale.

## Mining Production Schedule

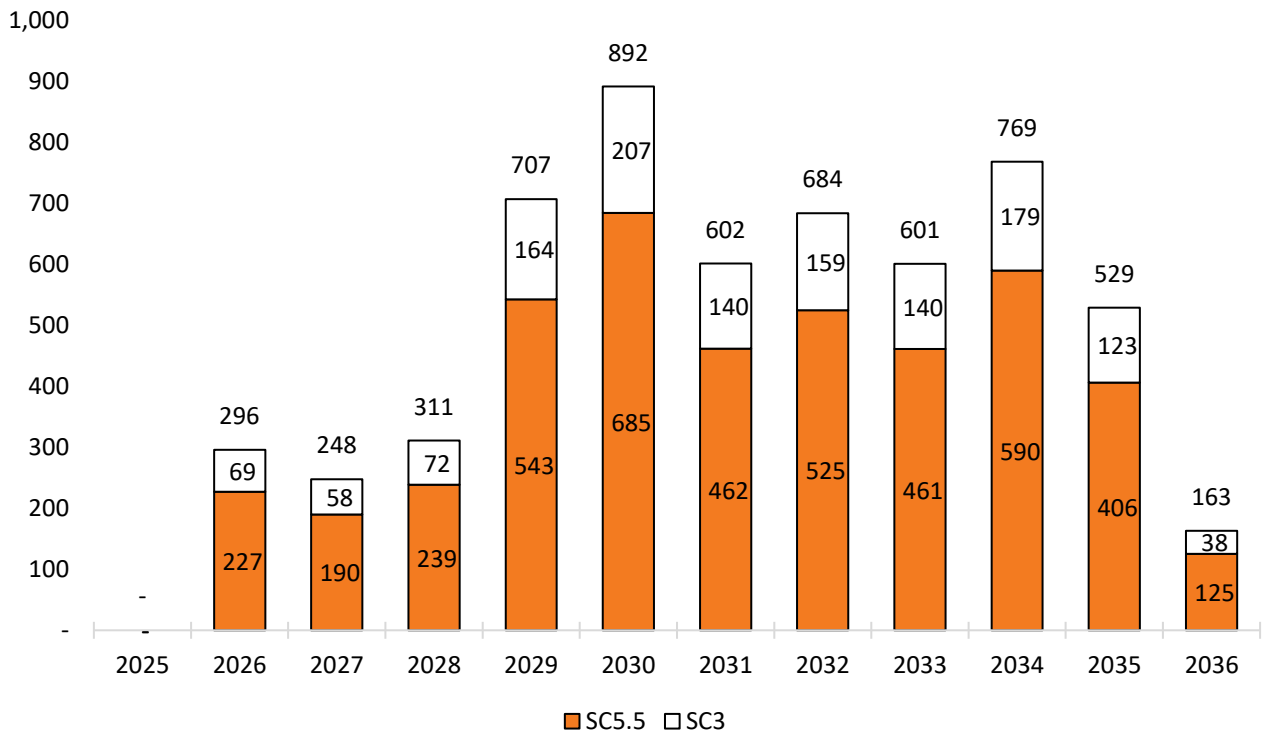
The PEA is based on a mine of 11 years, commencing in year one of the Colina Project. The 3-sub open pit mine operation is optimized to produce a total target production of approximately 4.45Mt of SC5.5 and 1.35Mt of SC3, averaging approximately 405,000tpa of SC5.5 and 123,000tpa of SC3 over the LOM. Resulting in 3.6Mtpa of ore processed delivered to the mill each year, totalling approximately 31.4Mt of run-of-mine (“ROM”) at an average weighted fully diluted grade of 1.24% Li<sub>2</sub>O.

Of the Mineral Resources scheduled for extraction in the PEA production target, approximately 1.2% are classified as Measured, 70.5% as Indicated and 28.3% as Inferred over the LOM. The Company has concluded it has reasonable grounds for disclosing a production target, given that the PEA assumes that in the first 3 years of operation, approximately 95% of the production is from the Indicated and Measured mineral resources category, with 5% as Inferred. Additionally, the Indicated and Measured mineral resources account for approximately 70% with 30% as Inferred over the evaluation period. The Inferred mineral resources are not a determining factor in estimating the viability of the Colina Project.

**Table 7: Sequencing of resource categories in the annual production schedule (Mined, In-situ undiluted).**

Mining Year	Total		Inferred		Indicated		Measured	
	Tonnage (t)	Li <sub>2</sub> O (%)	Tonnage (t)	Li <sub>2</sub> O (%)	Tonnage (t)	Li <sub>2</sub> O (%)	Tonnage (t)	Li <sub>2</sub> O (%)
1	142,482	1.10	3,596	1.32	138,887	1.10	-	-
2	2,322,610	1.43	106,466	1.53	1,898,657	1.43	317,487	1.38
3	456,825	1.45	24,653	0.95	432,173	1.48	-	-
4	990,783	1.34	684,994	1.40	305,789	1.18	-	-
5	4,098,729	1.34	1,263,533	1.32	2,835,196	1.35	-	-
6	5,163,732	1.46	694,254	1.38	4,469,478	1.48	-	-
7	2,647,766	1.37	946,341	1.27	1,701,424	1.42	-	-
8	2,831,065	1.47	400,073	1.37	2,430,993	1.48	-	-
9	2,891,970	1.31	809,526	1.19	2,077,196	1.36	5,247	0.98
10	3,556,536	1.45	1,851,937	1.40	1,704,599	1.51	-	-
11	1,287,975	1.34	682,275	1.12	605,700	1.58	-	-
<b>Total</b>	<b>26,390,474</b>	<b>1.40</b>	<b>7,467,647</b>	<b>1.32</b>	<b>18,600,093</b>	<b>1.44</b>	<b>322,734</b>	<b>1.37</b>

For personal use only



**Figure 11:** Yearly spodumene production profile (SC5.5 and SC3).

### Improvement Strategy

The Company is developing a strategy to de-risk the final 24 months of the un-optimised mine plan (published herein), which currently includes a higher proportion of Inferred Resource, being 52% in year 10 and 53% in year 11 (**Table 7**). The outcomes of this strategy are aimed at reducing the proportion of inferred resources in these final years and smoothing the SC5.5 and SC3.0 production profile over the life of the operation. The key activities forming the basis of the Strategy includes the following:

- Undertake infill and conversion drilling to convert current inferred resource to the indicated or measured category. The Company notes that 100% of the infill drilling done on the eastern portion of the Colina Deposit has successfully converted Inferred to Indicated resources. The Company is confident that a similar conversion will be achieved through further drilling initiatives and the comprehensive de-risking strategy.
- Iterative optimisation of the mine plan, in consultation with the Company’s exploration, geology and mining teams, to provide a more even distribution of process plant feed tonnage and grade.
- In conjunction with the mine plan, stockpiling and blending strategies will be considered. These blending strategies may improve the mining schedule, enabling a smoother and more practical mining rate while also streamlining the efficient use and mobilisation of mining equipment.
- Continuous, mine related exploration drilling programs throughout the LOM to provide accurate information 2- 5 years prior to its production, enabling regular Resource and Reserve updates.

For personal use only

## Metallurgy and Processing

---

The Colina Deposit is principally comprised of coarse grained, high grade spodumene ore derived from hard rock.

The process flowsheet is based on Dense Media Separation (“DMS”) to achieve a target concentrate grade of SC5.5 from an annual throughput of 3.6 Mtpa of spodumene ore. The flowsheet generally comprises 3-stage crushing, classification, Dense Media Separator, deslime, fine classification, spirals separators and tails dewatering suitable for dry-stacking.

The flowsheet design is predicated on the current understanding of the Colina resource size, grade and mineralogy and testwork results. The coarse-grained nature of the ore has demonstrated amenability to DMS, with high stage recoveries greater than 90% achieved at pilot scale<sup>8</sup>.

The flowsheet also incorporates a spiral gravity separator circuit to recover an average of 123ktpa SC3. The SC3 product is consistent with similar grading concentrate produced from existing operating mines.

The Company’s preferred process flowsheet as summarised above provides the highest financial return, lowest operating costs and lowest technical risk option.

For personal use only

<sup>8</sup> Refer to LRS’s ASX Announcement dated 10 August 2023, entitled “Positive DMS Test Work Demonstrates Success at Pilot Plant Scale”.

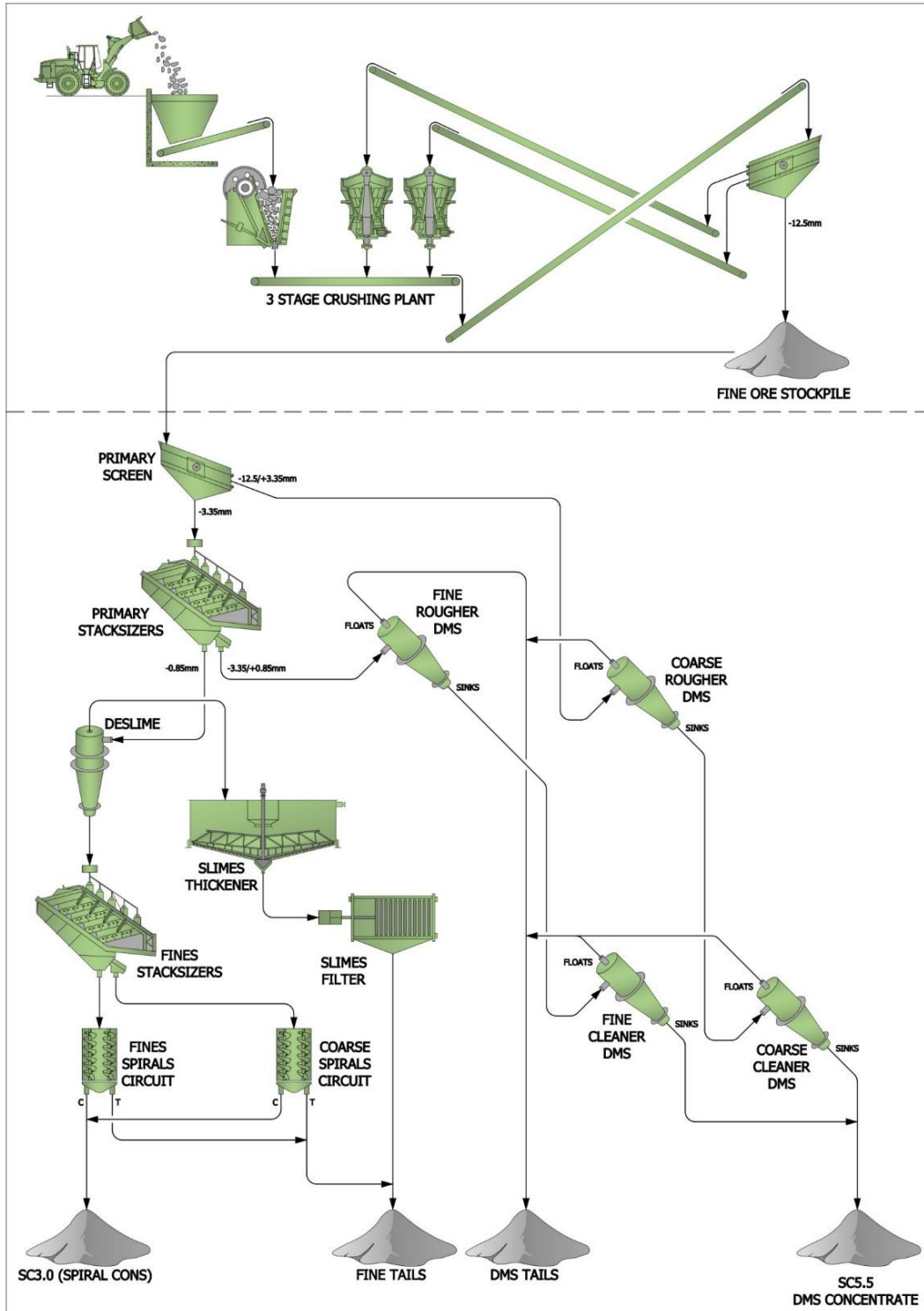


Figure 12: Overview of Colina Project spodumene concentrate flowsheet.

For personal use only

## Infrastructure

---

### Power

Low-cost sustainable electrical power will be sourced from the major power company Energy Company of Minas Gerais (Companhia Energética de Minas Gerais S.A -CEMIG), Independent Electricity System concessionaire-controlled grid through the Salinas transmission system in which power is supplied by the Aimores Hydro Power Facility, which will route close to processing plant site. A new 20 kilometre, 13.8kV overhead line will be installed to tap off from the main transmission line and routed to the main transformer.

The Colina Project envisions the integration of solar systems for various applications, including mining operations, as a proactive step towards sustainable energy solutions. With a firm commitment to environmental stewardship, the Colina Project aspires to harness the power of the sun and other renewable energy technologies. Recognizing the multifaceted benefits of solar power, such as carbon footprint reduction, operational cost savings, and heightened efficiency, the Colina Project is dedicated to embracing renewable energy sources.

One 1,500 kW 600 V diesel generator will be installed near the concentrator plant substation to provide power to the critical loads in case of a power outage. Diesel power generation is to be used as the primary power source during construction of the concentrator plant facility and mine site.

### Other Infrastructure

Project infrastructure will exist in the vicinity of a single open pit, general site, and the Mill Process Plant site (**Figure 13**).

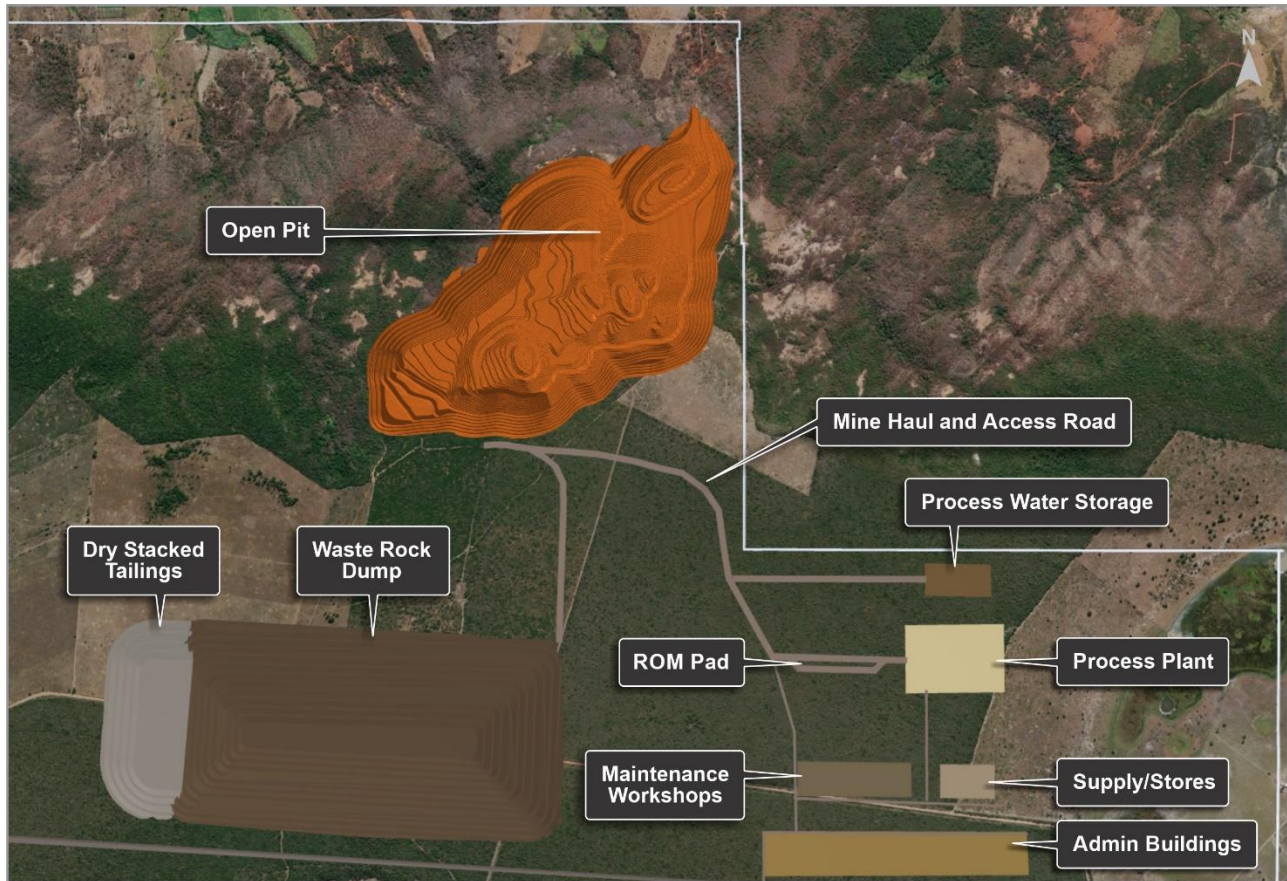
The general Colina Project site includes an open pit, co disposal tailings storage facility and mine waste, mill complex, electrical distribution system, offices, warehouse, maintenance, and effluent treatment.

Fresh water to the mill complex site will be supplied by a pipeline from two dams namely:

- Salinas Dam
- Toninho's Dam (Contendas Farm)

The lithium concentrate will be produced from mill processing.

For personal use only



**Figure 13:** Proposed Colina Project mining operation infrastructure layout.

## Licensing, Environmental, Community and Government

### Environment

In the state of Minas Gerais, environmental licensing for a mining project is done in accordance with CONAMA Resolution 09/90.

In order to obtain an environmental licence, the Company is required to complete the following:

- an Environmental Impact Study (“EIS”)
- an Environmental Impact Report (“EIR”)

Both the EIS and EIR supports the technical and environmental feasibility stage of the Colina Project and the subsequent granting of a Preliminary License (“Licença Previa” or “LP”), a Installation License (“Licença de Instalação” or “LI”) and together, a LP and Li licence (“LP + LI”).

Each of the LI and LP licences were developed in accordance with COPAM Regulatory Deliberation N°217, which stipulates the criteria that the Company must address in order to obtain the respective licenses. The licences take into consideration the size of planned Colina mine, and its likelihood of generating environmental impact.

As part of this Environmental License process, the Company has on- going field work programmes including:

- Baseline speleological
- Water resources
- Flora and fauna

- Climate
- Soils
- Cultural and archaeological studies.

The Company has engaged Alger as the licensing consulting group (same group hired by Sigma Lithium) to manage the Environmental Licensing process.

### Legal- Permitting

To undertake a construction of a mining operation in Brazil, the Company opted to obtain LAC2 licence for up to 1.5MTPA DMS Processing Plant (Stage 1) from the Minas Gerais State Environmental Agency (“SEMAD”) and the Brazilian National Mining Agency. The licencing process is as follows:

- LAC2 is the licensing process with LP (Viability License) + LI (Construction License), both granted in one single phase, followed by a separate LO (Operation License) phase.
  - LP (Viability License): Final Process in preparation for LI.
  - LI (Construction License): Site works can start, including vegetal suppression, mining and processing plant works.
  - LO (Operation License): to run product through the plant.
- Subsequent Plant upgrades licenses can be obtained after LO is granted, which only requires a single-phase License for construction and operation together (LAC1)

### Grants

The Company currently has the following grants and concessions from the Minas Gerais State Government:

- Memorandum of Understanding (“MOU”) between MG State Government and Latin Resources/ Belo Lithium.
  - The MOU has been officially signed between Belo Lithium and Invest Minas, on 22<sup>nd</sup> February 2023. The MOU contemplates a series of actions of LRS and MG Sate Gov towards accelerating the Salinas Lithium Project.
- Salins Lithium Project “Priority Status” granted by the MG State
  - The MG State has assessed Salinas Lithium Project regarding its relevance to the Social and Economic development for the State of Minas Gerais and has determined the Colina Project is now Priority for Environmental Licensing processes, along with other processes arising therefrom (Effective on March 7<sup>th</sup>, 2023).

## Responsible, sustainable development and operations (ESG)

The Company acknowledges the importance of implementing sustainable and responsible practices in the development of the Colina Project. This involves adhering to industry-leading practices in environmental and cultural heritage management and striving to create lasting, beneficial effects on the local communities.

The Company intends to enhance the sustainable footprint of the Colina Project by implementing the following initiatives:

- Prepare environmental impact studies (in progress) guiding the licensing of its activities, including ESG actions, from the initial planning phases, in order to minimize distances, reduce the suppression of



vegetation and other environmental impacts, as well as carry out stacking at dry tailings (without the construction of dams), minimizing socio-environmental risks.

- Hire a third-party company to evaluate the life cycle of your project, in accordance with ISO 14000, and recommend additional initiatives to achieve the goal of zero carbon in your operations.
- Implement socio-environmental mitigation programs, from the implementation phase, and during its operation, to prevent, control and compensate for environmental impacts that may be caused by the Company's activities. Among the planned programs are:
  - Solid waste management, including the reuse of tailing and waste (no tailing dam);
  - Reuse processing plant water;
  - Environmental education in six communities, within a five-mile radius of the project;
  - Accidents prevention;
  - Recovery and maintenance of Permanent Preservation Areas and Legal Reserve areas; and
  - Scaring away and rescuing fauna, during vegetation suppression activities, aiming to prevent the mortality of local fauna.
- Prioritize the hiring of labor and local suppliers.
- Carry out training actions for local labor, in partnership with educational institutions.

### Operating Cost Estimate

SGS has developed the operating cost estimate for the Colina Project, derived from a number of sources including quotations and budget pricing supplied by suppliers, estimates based on similar Brazilian operating mines. Costs are based on an accuracy of ±35% and a basis date of Q3 CY23. Table 8 below summarises the estimated operating costs at steady- state.

All capital and operating costs have been calculated in Australian dollars. Revenue is derived from sales of lithium concentrate in US dollars and converted to Australian dollars using a fixed exchange rate of 0.70 AUD: USD. Allowances for sustaining costs have been included in operating costs.

**Table 8: Average LOM Operating Costs Breakdown for the Colina Project.**

Operating cost item	LOM average (SC5.5 and SC3)		
	Annual cost (US\$M/y)	Cost US\$/t	Cost AUD\$/t
Mining	173	328	468
Processing	19	36	51
Product logistics	67	126	181
General & administration	8	15	22
<b>C1 cash cost</b>	<b>267</b>	<b>506</b>	<b>722</b>
Royalties	16	30	43
<b>AISC (CIF)</b>	<b>283</b>	<b>536</b>	<b>765</b>

C1 Operating Costs are based on direct cash operating costs of production, CIF. Direct cash operating costs encompass mining, processing, logistics and general and administrative costs.

For personal use only

C1 Operating Costs are calculated from commencement of commercial production and excludes sustaining capital costs and royalties.

All in Sustaining Costs (“AISC”) are based on C1 Operating Costs plus sustaining capital, production royalties and government royalties.

AISC are calculated from commencement of commercial production and excludes non-sustaining capital expenditure.

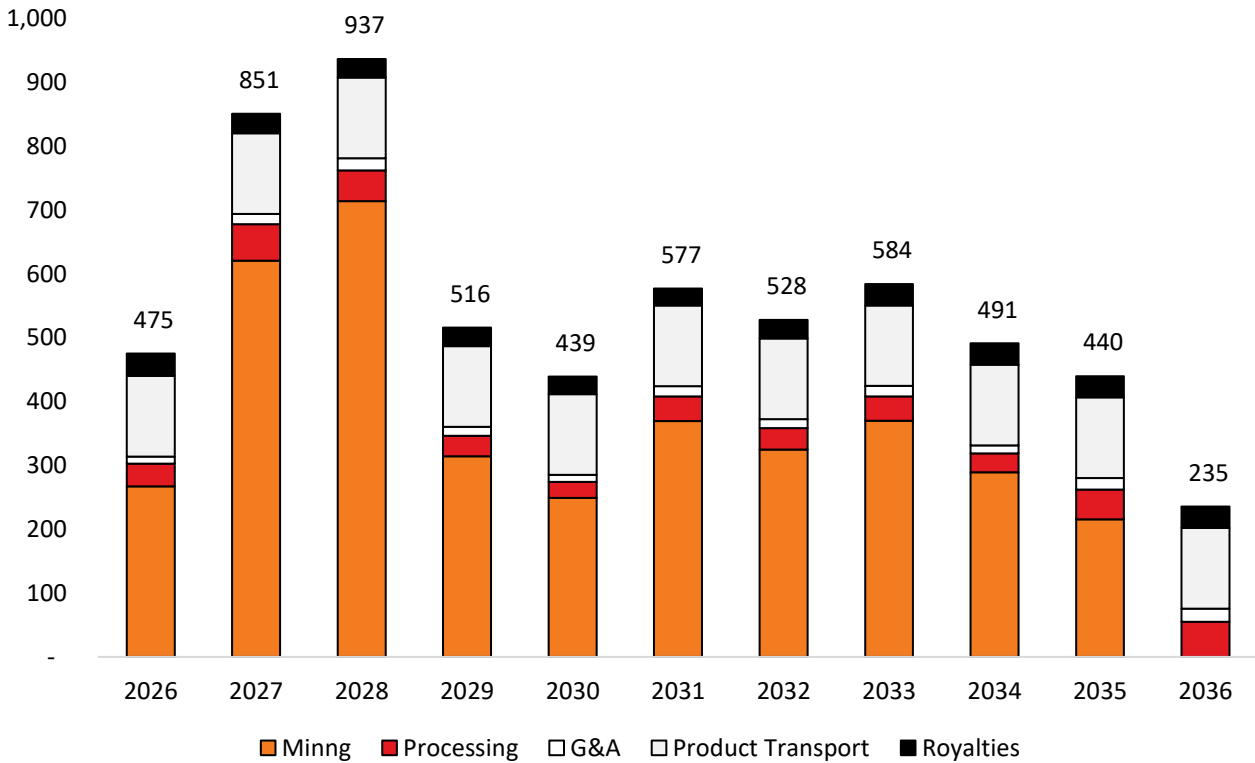


Figure 14: Operating unit cost breakdown in US\$/dmt of spodumene.

### Capital Cost Estimate

SGS has completed sufficient engineering to establish a CAPEX estimate for the Colina Project, derived from estimates, quotes and actual unit pricing acquired from contractors, vendor suppliers and actual pricing from Brazilian operating mines.

The scope of the capital cost estimate comprises the engineering and design effort to a level supportive of a capital cost estimate of overall accuracy of ±35% and a basis date of Q3 CY23. Table 9 summarises the estimated operating costs at steady- state.

SGS has estimated a combined Phase 1 and Phase 2 CAPEX for the Colina Project at US\$330M, with a contingency of US\$52M (or approximately 19% of total project costs). Costs are based on an accuracy of ±35% and a basis date of Q3 CY23. The Company notes that Phase 2 CAPEX is to be funded from existing Phase 1 cashflows.

Phase 1 CAPEX incorporates the initial capital costs incurred prior to the commencement of mine production and includes costs relating to establishing the mine site, commencing construction and pre-stripping to first ore.

For personal use only

**Table 9: Capital cost requirements for the Colina Project (USD\$), real terms, Phase 1 and Phase 2.**

Capital Item	Value
Mine and pre-stripping	\$94M
Site infrastructure	\$11M
Process facilities	\$119M
Tailings facilities	\$33M
Closure costs	\$22M
Contingency	\$52M
<b>Total capital cost</b>	<b>\$330M</b>

## Lithium Concentrate Market and Offtake

### Demand

Lithium is a vital element used to create renewable energy given its use in lithium-ion batteries, used to power EVs and to store energy generated from renewable sources such as solar and wind power. Total global lithium-based power demand is driven largely by electric vehicle (“EV”) and is expected to rise rapidly with the growth of the EV market. Lithium is expected to remain the primary raw material for batteries for the foreseeable future. Overall, the global passenger EV market, which relies on lithium-based batteries and electric vehicle adoption rates will have the biggest impact on lithium-ion battery demand, is expected to grow annually with Benchmark Mineral Intelligence (“**Benchmark Minerals**”) forecasting base case EV demand to increase by 46% from 2022 to 2023, and a compound annual growth rate (“**CAGR**”) of 18.3% for the 2023 to 2033 period (**Figure 15**). Lithium demand is expected to grow at 20% per annum.

According to Benchmark Minerals’, current annual global lithium demand is 0.72Mt LCE and is set to surpass 1Mt LCE by 2024, having experienced a 24% CAGR growth rate over the last 8 years<sup>9</sup>. Demand is expected to rise by 20% annually to reach 3.06Mt LCE by 2030 and 5.8Mt LCE by 2040 (**Figure 16**). China is forecast to account for 53% or 0.72Mt LCE of battery related demand in 2023. Over the next 2 years, demand will increase by around 60%, and China’s share will remain relatively stable.

Current annual supply is 0.95Mt LCE, with a further 1.4Mt of LCE scheduled in planned and probable projects by 2030. In 2030 and 2040, there is expected to be a supply deficit of 0.65Mt and 1.7Mt of LCE respectively (**Figure 16**). Lithium is expected to be in a deficit position from 2027 with the world required to bring an additional annual capacity online to meet demand forecasts.

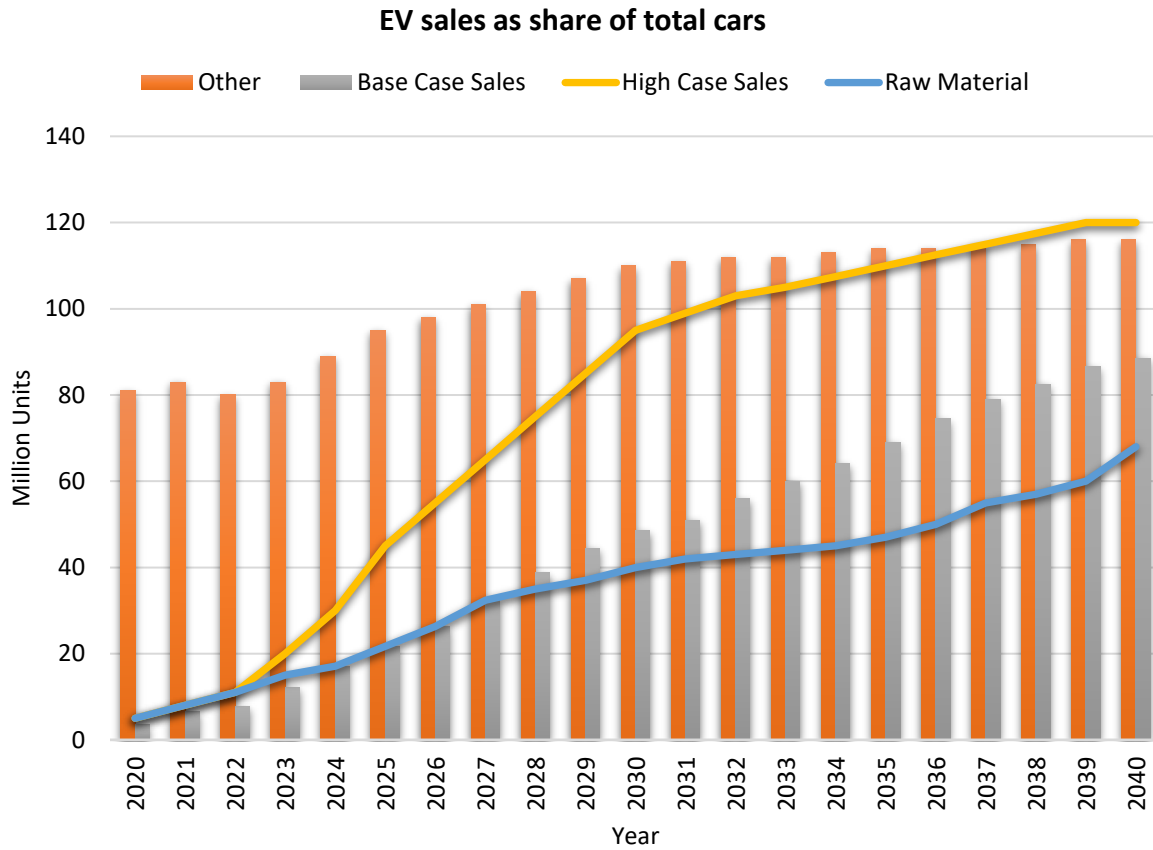
### Pricing

The Company has based the spodumene concentrate SC5.5 prices on an average of price forecasts from Benchmark Minerals and Fast Markets; the two leading price reporting agencies in the lithium sector. The price forecasts were published in Q2 2023 and August 2023 respectively. Permission was sought to incorporate the price forecasts within the Colina Project PEA.

The price forecasts from Benchmark Minerals and Fast Markets are presented on a 6% Li<sub>2</sub>O spodumene concentrate (“**SC6**”) basis. These have been calibrated to SC5.5 and SC3 by adjusting for lithium content and applying a five per cent discount to derive a SC5.5 and SC3 price forecast. These formulas and discounts are consistent with observed industry benchmarks in Western Australia.

<sup>9</sup> Benchmark Mineral Intelligence (2023). *Lithium Forecast Q2 2023*. Benchmark Mineral Intelligence.

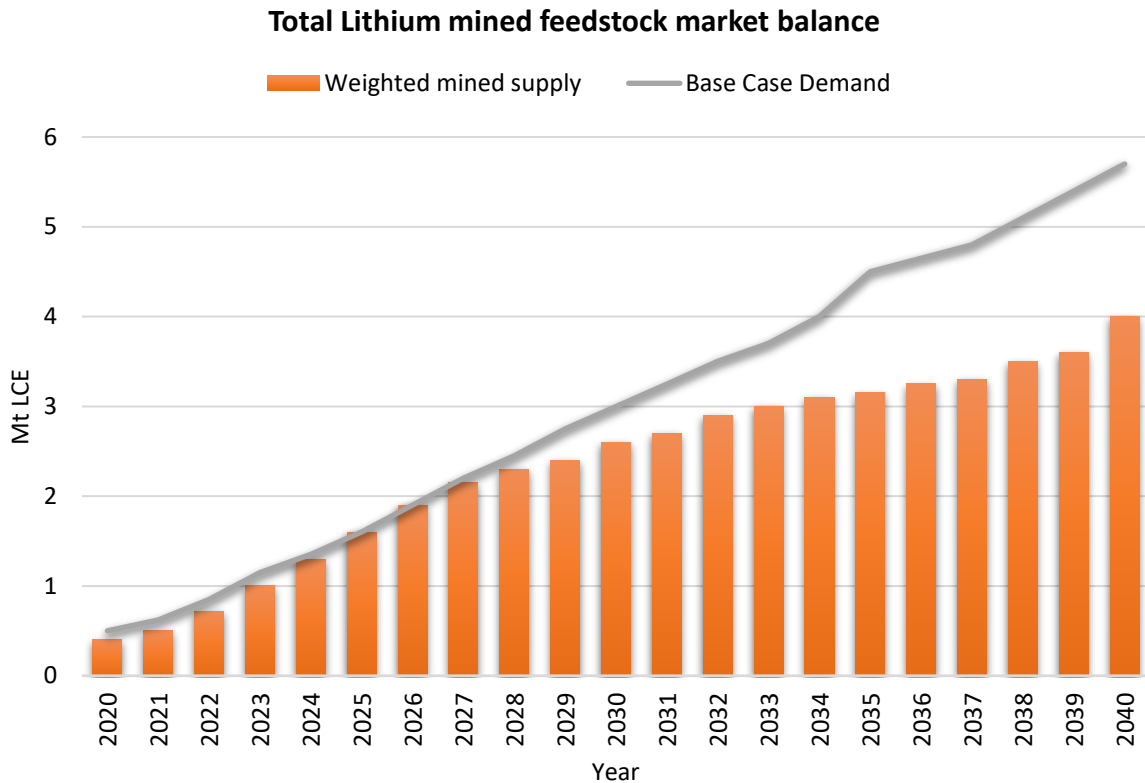
The forecast from Benchmark Minerals has been prepared on a free-on-board (“**FOB**”) basis. The Fast Markets forecast is presented on a cost, insurance and freight (“**CIF**”) basis. To align these forecasts, a shipping cost of US\$120/t has been added to Benchmark Minerals’ forecast to achieve a like-for-like basis.



**Figure 15:** Projected electric vehicle sales as a share of total car sales with supply of raw material until 2040<sup>10</sup> (source- Benchmark Mineral Intelligence, 2023).

<sup>10</sup> Benchmark Mineral Intelligence (2023). *Lithium Forecast Q2 2023*. Benchmark Mineral Intelligence.

For personal use only



**Figure 16:** Lithium demand and supply till 2040, million tonnes of LCE<sup>8</sup>

## Financial Analysis

A financial model was developed by SGS for the purpose of evaluating the economics of the Colina Project. The model was independently verified by MinSol Engineering to ensure the functionality and accuracy of the model was correct.

Summary results from the financial model outputs are presented in tables within this section, including financial analysis and cash flow projections which are calculated on a pre-tax basis in US\$, unless stated otherwise.

The Colina Project is forecast to generate a pre-tax NPV<sub>8%</sub> of approximately A\$4.7 billion (US\$3.3 billion), and a pre-tax IRR of approximately 149% and a project payback period of 7 months following production commencement. The financial summary for the Colina Project is presented below.

**Table 10:** Key assumptions utilised in the Colina Project economics.

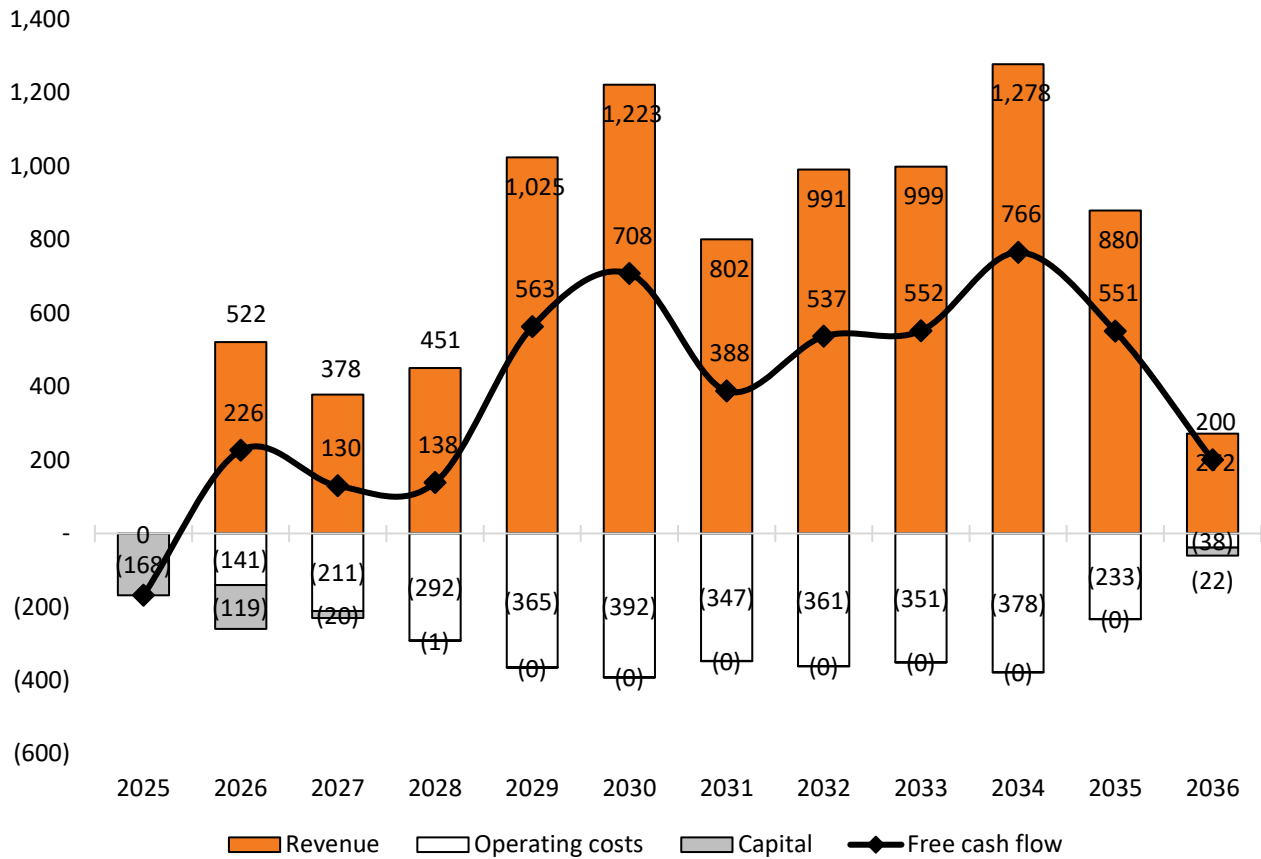
Assumption	Unit	Total
<b>Mining and Production</b>		
Life of mine	Years	11
Plant nameplate capacity ROM - Phase 1	Mtpa	1.5
Plant nameplate capacity ROM - Phase 2	Mtpa	3.6
Mining resource	Mt	31.4
Mined head grade	% Li	1.24

Stripping ratio LOM	Waste:Ore	17.6:1
Global process plant recovery	%	78.3
Recovery (SC5.5)	%	67.2
Recovery (SC3)	%	11.1
Total production (SC5.5)	Mt	4.45
Total production (SC3)	Mt	1.35
Average annual production (SC5.5)	ktpa	405
Average annual production (SC3)	ktpa	123
<b>Economic</b>		
Discount Rate	%, real	8
Weighted average concentrate price (CIF) SC5.5	US\$/t	1,699
Weighted average concentrate price (CIF) SC3	US\$/t	927
Payback period (approximate)	Months	7
Corporate tax rate	%	15.25
Royalty	%	2.0
Exchange rate	AUD:USD	0.7

**Table 11:** Financial summary of the combined phases for the Colina Project.

Item	Unit	Total
<b>Financial Analysis</b>		
Project EBITDA	A\$B	7.7
NPV <sub>8%</sub> (pre-tax)	A\$B	4.3
NPV <sub>8%</sub> (post-tax)	A\$B	3.6
IRR (pre-tax)	%	149%
IRR (post-tax)	%	132%
Payback period (post-tax)	Months	7
<b>Revenues, Cash Flow and Capex</b>		
Life of mine	Years	11
Total production (SC5.5)	Mt	4.45
Total production (SC3)	Mt	1.35
Total production (LCE)	kt	706
LOM revenue	A\$B	12.6
Free cash flow (pre-tax)	A\$B	8.2
Free cash flow (post-tax)	A\$B	6.6
Capital expenditure (excluding closure)	US\$m	308
Capital expenditure (including closure)	A\$m	440
<b>Costs per tonne of Spodumene</b>		
Total cash cost of production (C1) (ex. royalties)	US\$/t, spod	506
AISC	US\$/t, spod	536
<b>Spodumene Mined Feedstock for Plant</b>		

Total quantity mined	Mt	31.4
Annual run of mine average (ROM)	Mt	2.9



**Figure 17:** Cash flow profile for Colina Project (US\$M, real).

## Sensitivity Analysis

A sensitivity analysis was performed to assess how different factors could influence the economic aspects of the project. The Colina Project's NPV<sub>8%</sub> is most sensitive to movements in the price of spodumene SC5.5, mined grade and to a lesser extent process recovery.

- In all cases presented, the NPV at an 8% discount rate stays positive.
- In all cases, the NPV at 8% discount displays an NPV/ CAPEX ratio >2.
- Overall NPV<sub>8%</sub> is relatively insensitive to operating and capital costs.
- The NPV<sub>8%</sub> demonstrates low sensitivity to changes in capital costs and operating costs.

The Colina Project's after- tax NPV<sub>8%</sub> demonstrates resilience to changes in key assumptions. The Colina Project is most sensitive to fluctuations in pricing, mined grade and to a lesser extent process recovery.

For personal use only

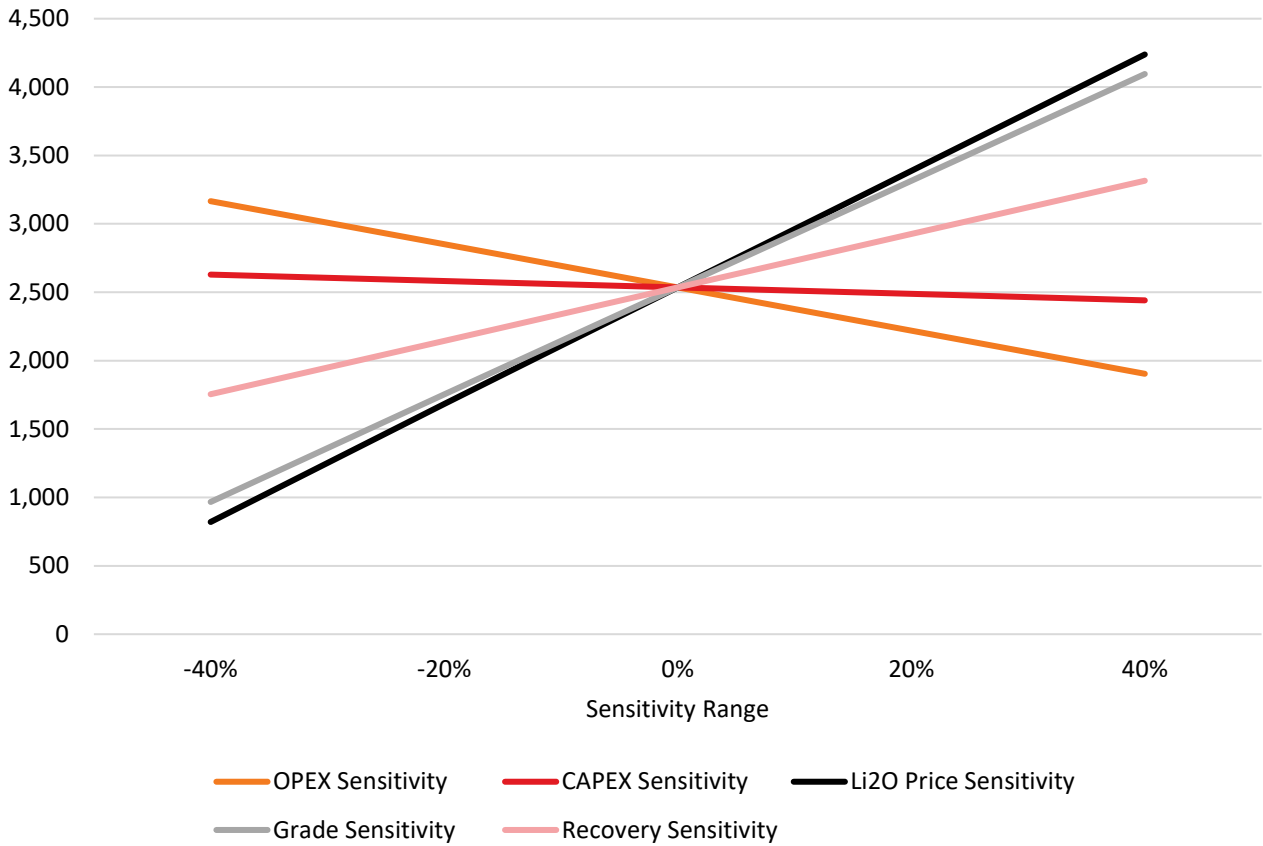


Figure 18: Sensitivities of key assumptions (reflected against US\$M post-tax NPV<sub>8</sub>, real).

### Project Development Schedule

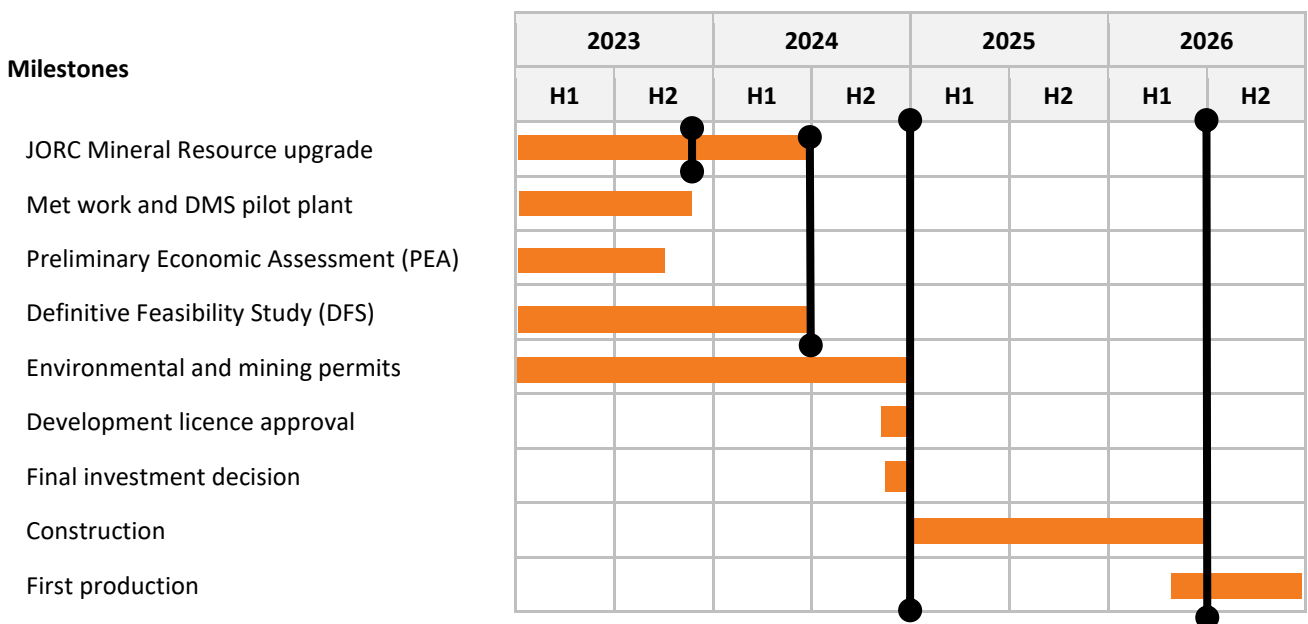


Figure 19: Colina Project development schedule.



## Funding

To achieve the range of outcomes indicated in the PEA, funding in the order of US\$253 million or A\$361 million will likely be required for Phase 1, which includes pre-production capital and pre-stripping. The Company believes that there are reasonable grounds in its ability to raise the necessary funds to develop the Colina Project. The range of funding options available to the Company and reasonable grounds for believing that these options should in fact be available include:

- The Company intends to explore various funding avenues, which may involve utilizing a mix of debt, equity, and offtake arrangements. The primary goal is to identify the most cost-effective and value-enhancing option that benefits both the Company and its shareholders.
- The Colina Project has strong technical and economic fundamentals which provides an attractive return on capital investment and generates significant free cashflows per year at conservative lithium prices. The Company considers these fundamentals a strong platform to source debt, equity and / or offtake funding.
- The Company has a strong track record of raising equity funds as and when required to further the exploration and evaluation of the Colina Project, with over ~A\$70 million raised in the last 2 years.
- Cash at bank at 30 June 2023 was A\$46 million.
- The Company's current market capitalisation is approximately A\$850M as of 31 August 2023 in comparison to a CAPEX requirement of approximately A\$361 million for Phase 1. The Company remains confident that its market capitalisation will continue to increase once the Project is de-risked, assisting in its ability to secure the necessary funding options.
- The Company remains confident that it will achieve the required funding.
- The Company notes and cautions that there is, no certainty that the Company will be able to source funding as and when required and it is possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of the Company's existing shares.

## PEA Contributors

The PEA integrated data and assumptions from a variety of highly experienced and reputable independent experts from Australia and Internationally, who include the following:

**Table 12: PEA consultants.**

Input	Consultant
Geology	Latin and SGS
Mining technical	SGS
Metallurgy and processing	SGS and Minsol
Cost modelling	SGS / Bateman and Latin Resources
Heritage and environment	ALGER
Pricing	Benchmark Minerals and Fast Markets

## Conclusions and Next Steps

The PEA outlines the requirements and parameters for the development of an open pit mine consisting of 3 sub-pits on the Colina deposit, together with related infrastructure to process 3.6Mt dry tonnes of mineralized material per year for a LOM of 11 years.

The PEA is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

Based on the positive results of the Colina PEA, the QPs recommend that the Company proceed to completing a Definitive Feasibility Study (“DFS”) for the Colina Project.

Next steps include:

- Progression of the Project directly through to a Definitive Feasibility Study (“DFS”), with the intention of reaching a Final Investment Decision (“FID”) in Q4 2024.
- Investigate the key improvement opportunities identified in the PEA including:
  - **Resource Growth** – The Company is maintaining an aggressive exploration program focused on near surface brown field expansion of the Colina Deposit to potentially increase tonnage in early years and provide ore blending opportunities.
  - **Grade Smoothing** – The Company will undertake an extensive infill drilling campaign aimed at raising the JORC classification of the Colina Deposit to Measured and Indicated status. Anecdotal evidence from recently completed infill drilling at Colina indicates that grade is expected to be optimised from infill drilling.
  - **Regional/ Extensional exploration expansion** – The Company has identified several additional high quality target areas within its wider Tenement package, where it is continuing to undertake a large drilling campaign. It is expected that these newly identified mineralised pegmatites may provide additional resources.
  - **Mining** – Selective mining schedule will be implemented to improved stripping ratio and reduce mining dilution. Efficient drill and blast pattern to minimized generation of fines during mining will increase mining performance.
  - **Processing** – Increase process plant performance by adding cleaning steps (magnetic separation and ore sorting as example) and better understanding of the ore behaviour with variability DMS testing.
  - **Commercial** – The Company has received a number of in-bound requests for offtake, partnership, project finance and other commercial activity. The Company will review all opportunities that generate value for shareholders while ensuring an expedited and sustainable development of the Colina Project.
  - **Shipping** – a logistics cost of US\$120/t of spodumene has been assumed CIF China aligned with current industry benchmarks for reporting and pricing. This covers transport to port and shipping to a converter. Based on a logistical study completed by the Company, this can be reduced to approximately US\$88/t of spodumene if shipped to a converter in North America. Opportunities for North American offtake will be evaluated as part of the DFS.
- Commence the advancement of discussions with prospective offtake partners.
- DFS work to commence immediately in parallel with further infill drilling at Colina, aimed at converting inferred resources to indicated resources, expanding the resource base and continuing ongoing exploration efforts.
- Targeted project development schedule outlines FID in Q4 2024 and first production in 2026.

## Compliance Statements

### Forward-Looking Statement

*This ASX announcement may include forward-looking statements. These forward-looking statements are not historical facts but rather are based on Latin Resources Ltd.'s current expectations, estimates and assumptions about the industry in which Latin Resources Ltd operates, and beliefs and assumptions regarding Latin Resources Ltd.'s future performance. Words such as "anticipates", "expects", "intends", "plans", "believes", "seeks", "estimates", "potential" and similar expressions are intended to identify forward-looking statements. Forward-looking statements are only predictions and are not guaranteed, and they are subject to known and unknown risks, uncertainties and assumptions, some of which are outside the control of Latin Resources Ltd. Past performance is not necessarily a guide to future performance and no representation or warranty is made as to the likelihood of achievement or reasonableness of any forward-looking statements or other forecast. Actual values, results or events may be materially different to those expressed or implied in this ASX announcement. Given these uncertainties, recipients are cautioned not to place reliance on forward looking statements. Any forward-looking statements in this announcement speak only at the date of issue of this announcement. Subject to any continuing obligations under applicable law and the ASX Listing Rules, Latin Resources Ltd does not undertake any obligation to update or revise any information or any of the forward-looking statements in this announcement or any changes in events, conditions or circumstances on which any such forward looking statement is based.*

### Competent Person Statements – Salinas Lithium Project

*The information in this report that relates to Geological Data and Exploration Results for the Salinas Lithium Project is based on information compiled by Mr Anthony Greenaway, who is a Member of the Australian Institute of Mining and Metallurgy. Mr Greenaway sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Greenaway consents to the inclusion in this report of the matters based on his information, and information presented to him, in the form and context in which it appears.*

*The information in this report that relates the Mineral Resource Estimate for the Salinas Lithium Project are based on the information compiled by Mr Marc-Antoine Laporte M.Sc., P.Geol, who is an employee of SGS Canada Ltd and a member of the L'Ordre des Géologues du Québec. He is a Senior Geologist for the SGS Geological Services Group and as more than 15 years of experience in industrial mineral, base and precious metals exploration as well as Mineral Resource evaluation and reporting. Mr Laporte sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to quality as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. The Company confirms that it is not aware of any new information or data that materially affects the information in the original market announcements, and that the form and context in which the Competent Persons findings are presented have not been materially modified from the original market announcement.*

*The information in this release that relates to metallurgy and plant design has been reviewed by Mr Robert Simmons, MAusIMM, B. Eng. (Chemical Engineering). Mr Simmons is not an employee of the Company, he is employed as a contract consultant. Mr Simmons is a Member of the Australasian Institute of Mining and Metallurgy, he has sufficient experience with the style of processing response and type of deposit under consideration, and to the activities undertaken, to qualify as a competent person as defined in the 2012 edition of the "Australian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves" (The JORC Code). Mr Simmons consents to the inclusion in this report of the contained technical information in the form and context as it appears.*

## Exploration Announcements – Referenced

The information in this announcement that relates to previously reported results has been extracted from the following ASX announcements:

- “241% Increase for the Colina Mineral Resource”, 20 June 2023; and
- “Positive DMS Test Work Demonstrates Success at Pilot Plant Scale”, 10 August 2023.

These above-mentioned announcements are available on the Company’s website.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the above market announcements, and that the form and context in which the Competent Persons findings are presented have not been materially modified from the original market announcement.

## About Latin Resources

*Latin Resources Limited (ASX: LRS) is an Australian-based mineral exploration company, with projects in South America and Australia, that is developing mineral projects in commodities that progress global efforts towards Net Zero emissions.*

*The Company is focused on its flagship Salinas Lithium Project in the pro-mining district of Minas Gerais Brazil, where the Company has defined a total Mineral Resource Estimate at its Colina Lithium Deposit\* of 45.2Mt @ 1.32% Li<sub>2</sub>O, reported above a cut-off of 0.5% Li<sub>2</sub>O.*

*The classification of this JORC MRE includes 0.43Mt @ 1.34% Li<sub>2</sub>O Measured + 29.7Mt @ 1.37% Li<sub>2</sub>O Indicated + 15.0Mt @ 1.22% Li<sub>2</sub>O Inferred. This MRE is subject to a Preliminary Economic Assessment (PEA) currently underway and scheduled for completion in the third quarter of 2023 by leading mining consultant SGS Geological Services.*

*Latin also holds the Catamarca Lithium Project in Argentina and through developing these assets, aims to become one of the key lithium players to feed the world’s insatiable appetite for battery metals.*

*\*For full details of the Colina Lithium Deposit MRE, please refer to ASX Announcement dated 20 June 2023*

For personal use only