

James Bay Lithium Project

Feasibility Study and Maiden Ore Reserve

December 2021





● IMAGE CAPTION LOCATION

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This investor ASX/TSX release contains "forward-looking information" under the provisions of applicable securities legislation. Such forward-looking information is subject to various risks and uncertainties. Forward-looking information in this news

release includes, but is not limited to, statements with respect to: (i) the economics and potential returns associated with the Project; (ii) the estimation of mineral reserves and mineral resources; (iii) the technical viability of the Project; (iv) the market and future price of spodumene concentrate and other commodities; (v) the ability to work cooperatively with other stakeholders, including local community groups and all levels of government; (vi) projected employment and other social benefits resulting from the Project; and (vii) the results of the Feasibility Study, including statements about future production, mining methods, future operating and capital costs, the projected IRR, NPV, construction timelines, permit timelines and production timelines for the Project. Forward-looking statements are based on current expectations and beliefs and, by their nature, are subject to a number of known and unknown risks and uncertainties that could cause the actual results, performances and achievements to differ materially from any expected future results, performances or achievements expressed or implied by such forward-looking statements, including but not limited to, the risk of further changes in government regulations, policies or legislation; the risks associated with the continued implementation of the merger between Orocobre Ltd. and Galaxy Resources Ltd, risks that further funding may be required, but unavailable, for the ongoing development of the Company's projects; fluctuations or decreases in commodity prices; uncertainty in the estimation, economic viability, recoverability and processing of mineral resources; risks associated with development of the Company's Projects; unexpected capital or operating cost increases; uncertainty of meeting anticipated program milestones at the Company's Projects; risks associated with investment in publicly listed companies, such as the Company; and risks associated with general economic conditions.

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Creating a global lithium chemicals company

Our core goals underpin everything we do

Sustainability

- Safety, quality and productivity
- Sustainable, long-life assets
- Continuing the journey towards net zero emissions
- Strong commitment to human rights and local communities

Product Quality

- High quality battery grade production from Olaroz and targeted from Naraha and from Sal de Vida
- Merged entity expertise to optimise product quality across all assets
- Larger production base to improve flexibility and overall product reliability

Customer Focus

- Broader marketing strategy deployed to a diversified customer base
- Leverage expertise and increased scale in existing joint marketing relationships
- Access to US markets through an integrated James Bay development

Growth

- Global portfolio of assets
- Highly complementary skills and knowledge
- Proven expertise in delivering projects in Argentina

Cost Leadership

- Faster and cheaper learning curve across all operations
- Leverage joint management expertise to achieve cost leadership across the portfolio
- Improved bargaining power with suppliers



James Bay

A sustainable hard-rock lithium operation utilising hydro-power

Highlights

Strategically located in proximity to high-growth electric vehicle markets in North America and Europe

Long life, low cost spodumene operation

Hydro-Québec provides a low-cost, sustainable source of clean energy

High-grade, near surface mineralisation with favourable characteristics

Utilising spodumene expertise from successful operations at Mt Cattlin

2Mtpa process plant with operational flexibility to generate 6.0% Li₂O

Strong relationship with the Cree Nation of Eastmain, Cree Nation Government and all stakeholders

Resource & Reserves¹

40.3Mt at 1.4% Li₂O

Mineral Resource Estimate

37.2Mt at 1.3% Li₂O

Ore Reserve

Physicals

321ktpa

Annual production

19 years

Project Life

5.6% Li₂O

Product quality

Spodumene Concentrate

Product

CAPEX & OPEX

USD 286 mil

Capital Costs

USD 333/t

Operating Costs

Project Economics

USD 1.42 bil²

Pre-tax NPV

45.8%

Pre-tax IRR

2.4 years

Pre-tax payback period

1. Refer to Appendix for Resource and Reserve tables

2. Average selling price of 5.6% spodumene concentrate US\$1,001/t

Quebec, Canada

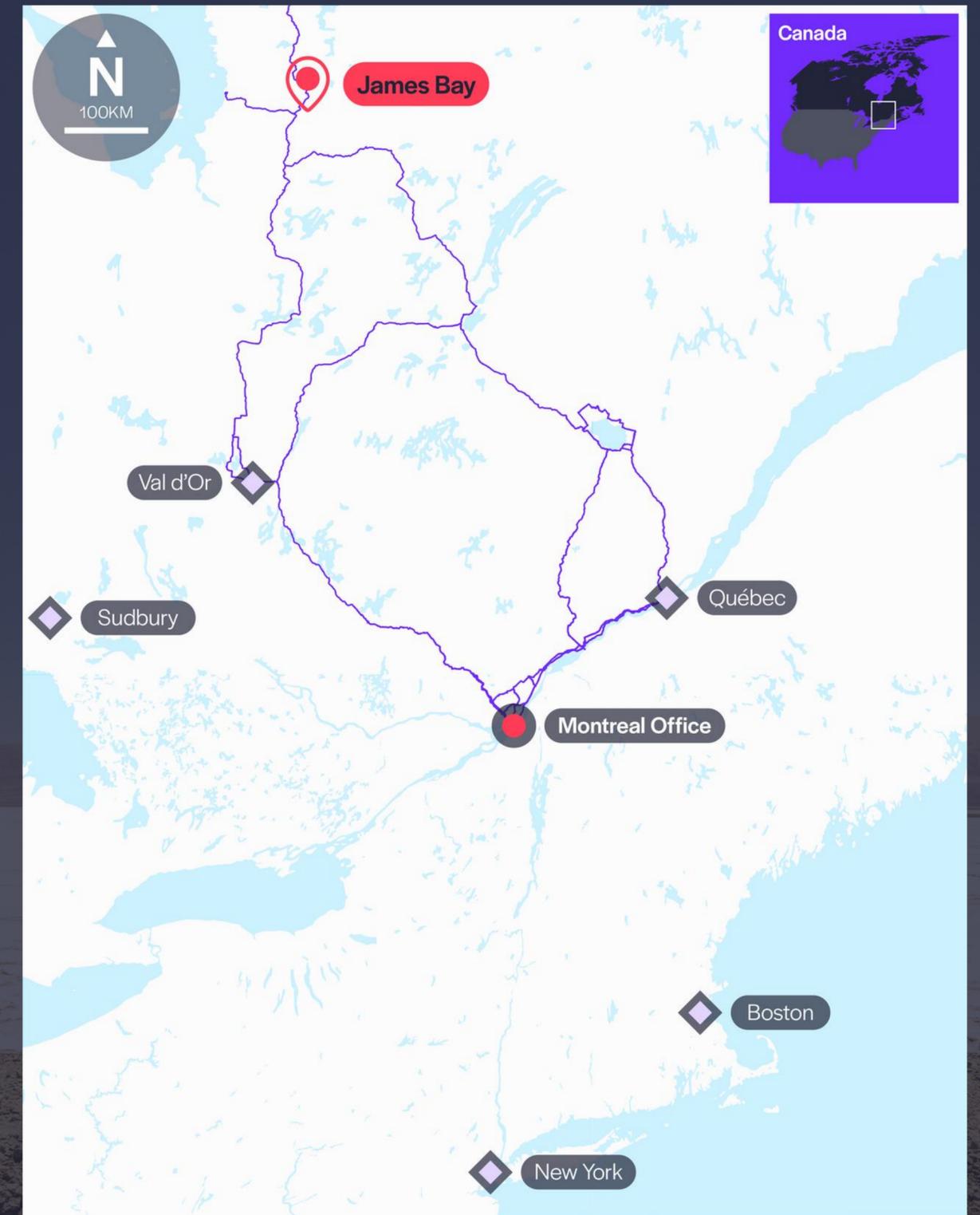
A top-tier mining jurisdiction & emerging battery metals region

Highlights

- Voted 6th best mining jurisdiction in the world – 2020 Fraser institute survey
- Provincial plan for the development of critical and strategic minerals
- Electricity production mostly hydro, > 99.8% renewable
- Canada has a free-trade agreement in place with USA and EU

Project well supported by key infrastructure

- Major Highway- oversized haulage trucking between site and the town of Matagami
- Major rail network - product can be railed from Matagami to the port in Trois-Rivieres
- Fuel / accommodation - “Relais Routier Km 381” Truck Stop located adjacent to Project site
- Airport - Public airport located in Eastmain, 130km east from James Bay
- Grand Alliance Program - Economic and infrastructure development in the region



LEGEND

● Allkem Locations

◆ City/Town

— Road Access to Projects

Geology and Mineralisation

High-grade deposit with favourable characteristics to support a low-cost operation

Resources & Reserve

40.3 Mt at 1.4% Li₂O¹

Mineral Resource Estimate

37.2Mt at 1.3% Li₂O¹

Maiden Ore Reserve

Mineralisation

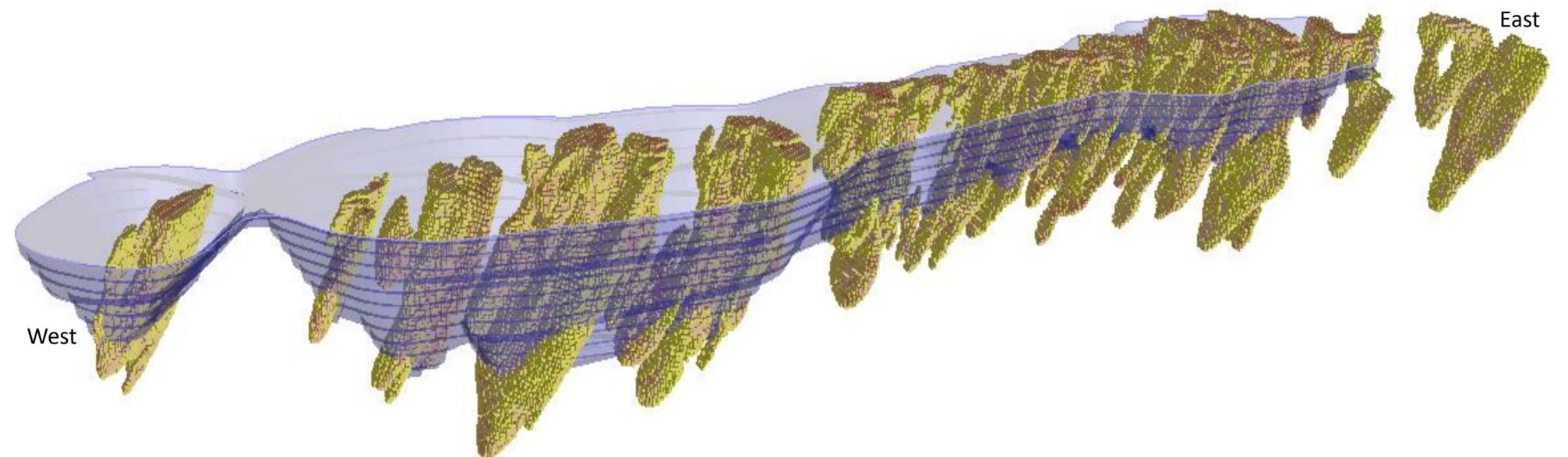
- Outcropping, high-grade spodumene pegmatite deposit, supporting a low strip ratio open cut operation
- No basalt and low levels of lepidolite leading to higher recoveries than at Mt Cattlin
- Ore largely hosted in a metasediment, with physical properties allowing efficient recovery

Exploration Upside

- Mineralisation is open to the north and east
- Exploration targets have been identified
- Resource definition drilling expected to commence by Q1 CY22

¹ Refer to Appendix for Resource and Reserve tables

3D model of pit design



Mining

Conventional open-pit operation for annual spodumene production

Highlights

321ktpa

Annual Production

3.5:1

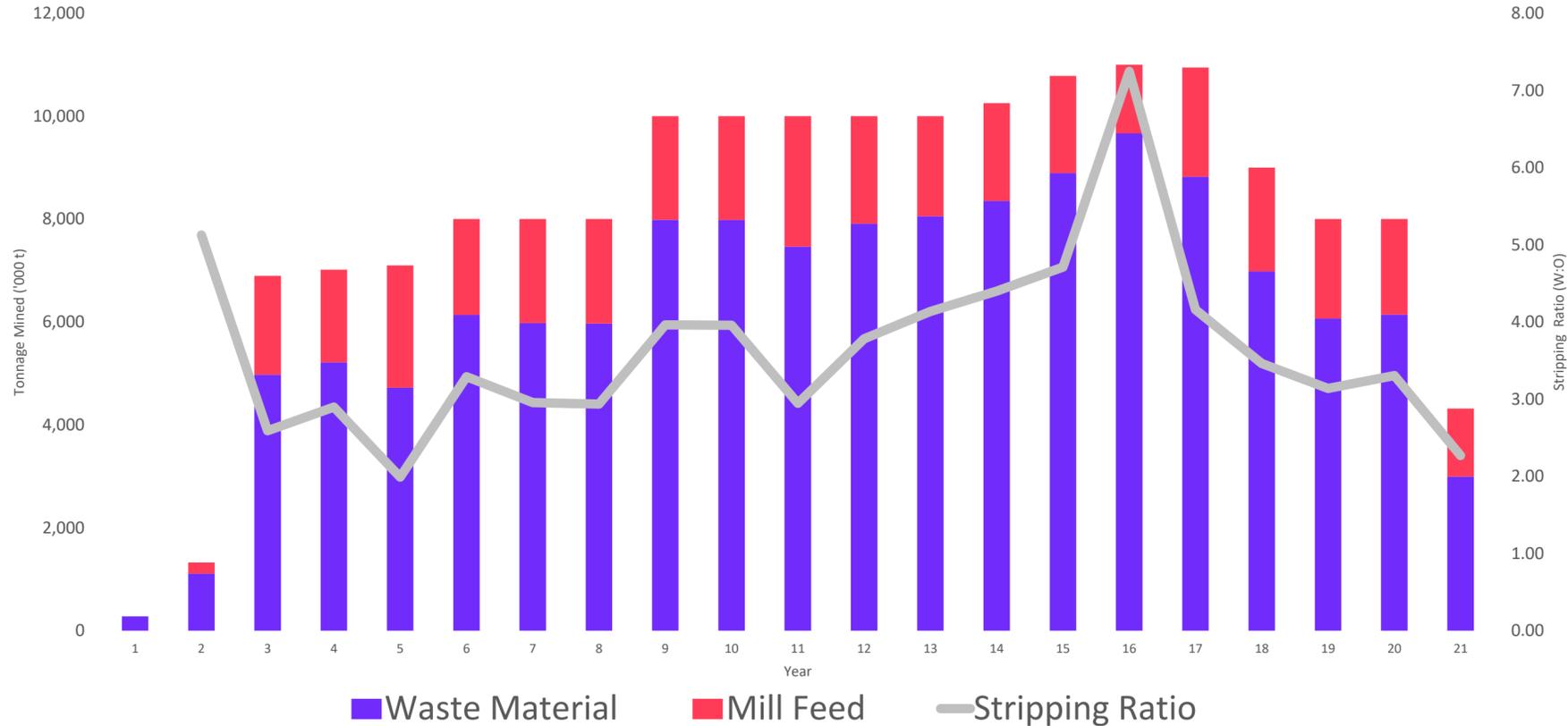
LOM Strip Ratio

19 years

Mine Life

- Conventional drill and blast, excavators and haul trucks
- Preliminary pit design extends 2km with a width of 500m
- 3 pits with the deepest pit at 260m depth
- Lower strip ratio in early years with a gradual increase
- Average head grade of resource after dilution at 1.30%

Annual mined material and stripping ratio



Processing

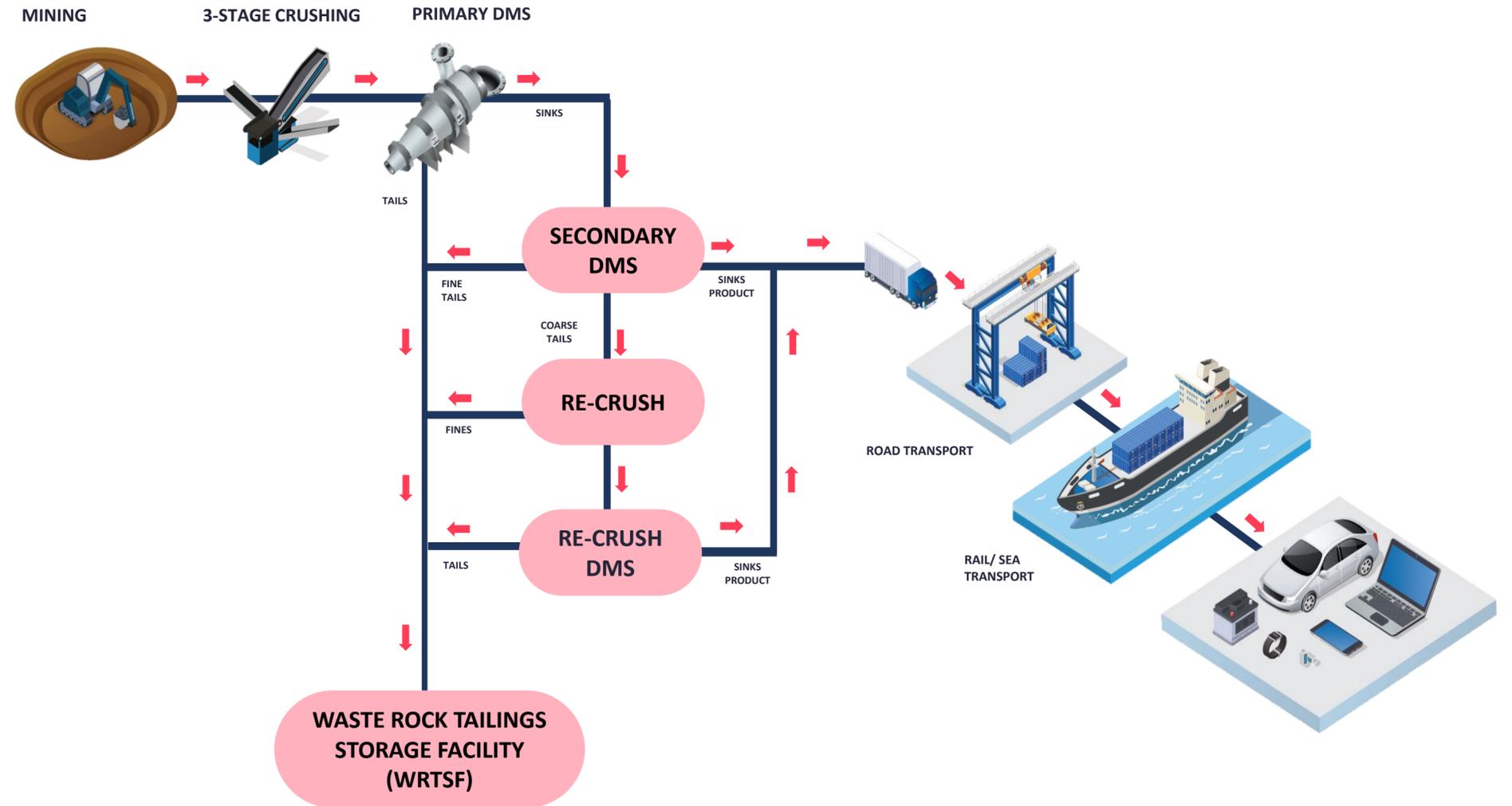
Similar process design and flowsheet to that successfully employed at Mt Cattlin

Process Flowsheet

- 2mtpa process plant designed to produce spodumene concentrate grading 6.0% Li_2O
- Operational flexibility to achieve 5.6% Li_2O product grade and 70% recoveries
- Conventional 3-stage crushing followed by dense medium separation (DMS)
- Only DMS is required due to coarse crystal size, similar to Mt Cattlin

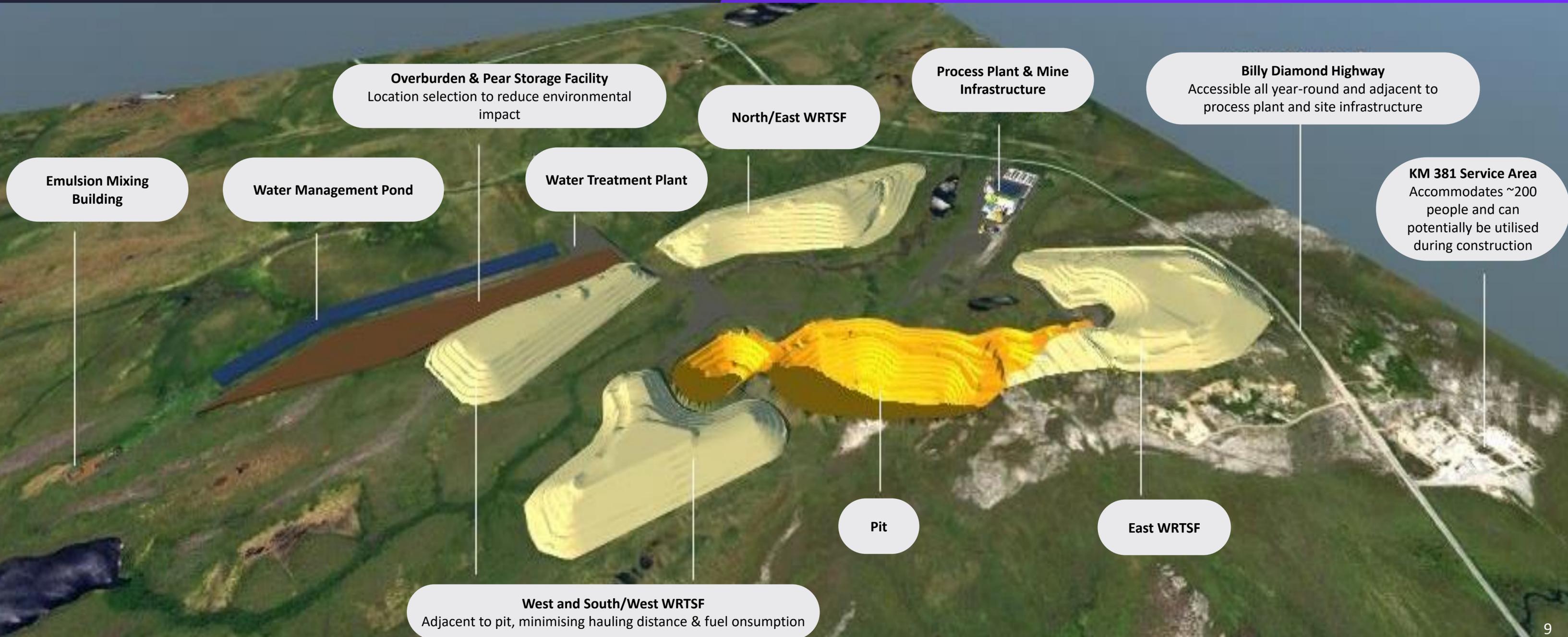
Final product grade

- Project economics based on producing 5.6% product grade to meet market demand
- 5.6% Li_2O grade increases recoveries by 6%, tonnage by 18% and revenue by 12% at current spodumene pricing
- Ultimate flexibility retained to produce final product grade consistent with market demand



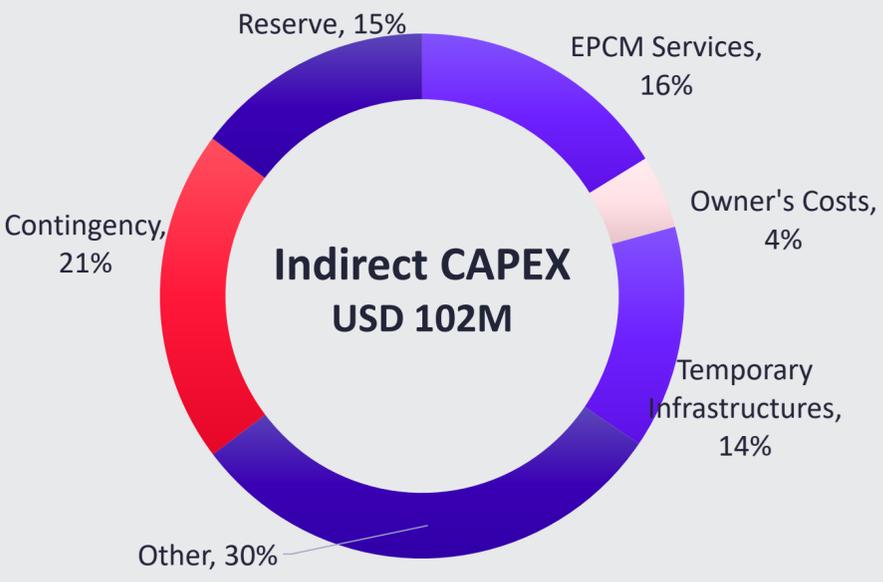
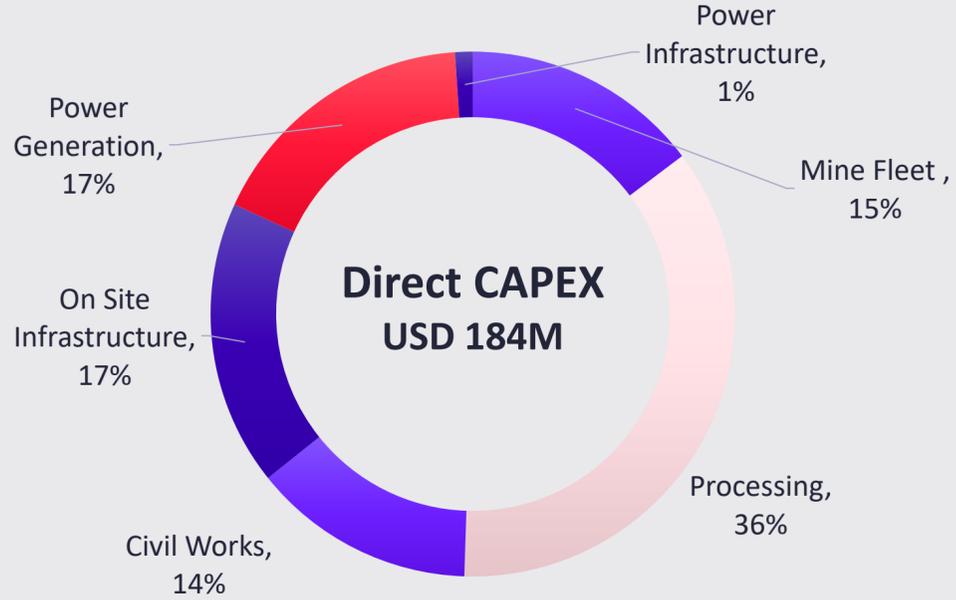
Project Layout

Site powered by low-carbon energy and designed to reduce footprint & environmental impacts

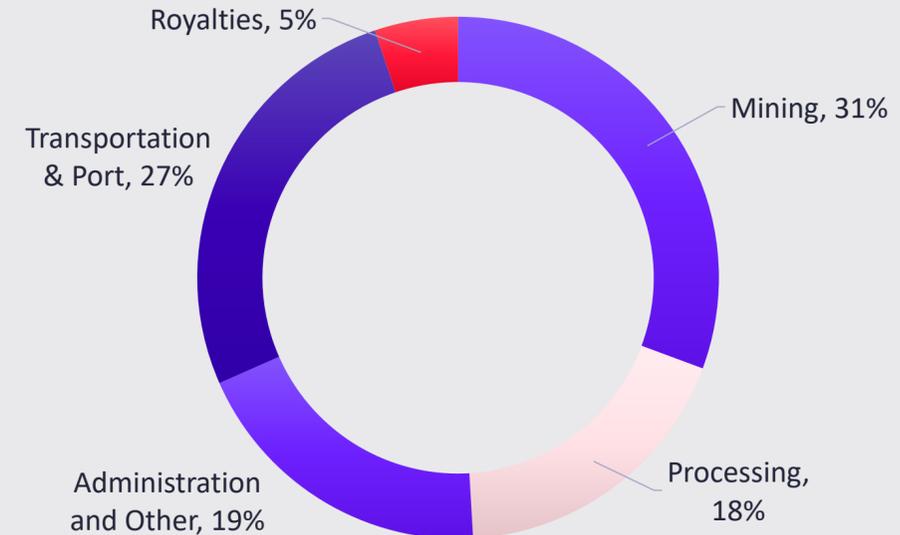


Capital and Operating Costs

Capital development cost of **USD 286M**



Operating costs of **USD 333/tonne**



Key findings in the Feasibility Study includes:

- Optimisation of the mine plan and material movements
- Automation of drilling and haulage to boost productivity
- Optimisation of power delivery to site with Hydro-Québec

Key changes from the PEA include:

- Additional environmental protection systems – USD 10M
- Inflation/market prices – USD 7.5M
- Additional process equipment – USD 7.5M
- Power contract savings – (USD 8.5M)
- Additional reserve – USD 15M
- Design changes – USD 9M

Project Economics

Robust financials with further upside

Opportunities

- 2.5x increase to NPV since the PEA
- Further reduction of carbon footprint
- Additional resource drilling
- Study and development of downstream conversion capability in North America

Pre-tax

NPV

USD 1.42 bil²

Pre-tax NPV

Post-tax

USD 823 mil²

Post-tax NPV

IRR

45.8%

Pre-tax IRR

35.2%

Post-tax IRR

Payback Period

2.4 years

Pre-tax Payback Period

2.9 years

Post-tax Payback Period

2. Average selling price of 5.6% spodumene concentrate US\$1,001/t

Leading ESG Practices

Delivering sustainable operations together with local stakeholders and environmental initiatives



Carbon Emissions Management

Targeting net-zero by 2035

- Hydro-power delivered via an 8 MW connection to the Hydro Québec power network
- This clean energy will predominantly be utilised in the processing plant, fixed infrastructure and selected mobile equipment
- Electric fleet will be considered once available and capable in a cold climate
- Targeting even lower site and transport emissions
- Investigating additional renewable energy sources for power
- Allkem will work with project partners to identify and develop further emissions reduction opportunities within the project supply chain



Regulations & Permitting

On track and well advanced

- Environmental and Social Impact Assessment (“ESIA”) was submitted to the federal and provincial authorities in October 2018 and was updated and submitted in July 2021
- Resubmission reflect optimized changes presented in the PEA and the Feasibility Study



Community Engagement

Creation of ~250 full-time positions in the Eeyou Istchee/James Bay region

- Strong working relationship and regular engagement with the Cree Nation of Eastmain
- Continued engagement with the Cree Nation Government and stakeholders, including the communities of Waskaganish and Waswanipi, continue in relation to project updates



- Our long-term commitment to sustainability and transparent reporting is evident in recognition from ACSI and inclusion in the DJSI
- The Dow Jones Sustainability Australia Index is composed of sustainability leaders. The index represents the top 30% of companies in the S&P/ASX 200 based on long-term economic, environmental, and social criteria.

Member of

**Dow Jones
Sustainability Indices**

Powered by the S&P Global CSA

Execution Strategy

Project Highlights

The next phase of engineering, procurement and construction permit preparation is progressing while continuing to detail the Project Execution Plan and contracting strategy

Key focus areas for CY2022

- Further engineering activities to finalise design, equipment and plant configurations
- Procurement for equipment, temporary installations and key contracts
- Development of sustaining initiatives for local stakeholders
- Progression of the ESIA, IBA and regulatory approvals

CY22 and CY23 milestones

- Final Investment Decision Q2 CY22
- Construction expected to commence in Q3 CY22
- Starter pit development



Strategic Location

Québec is an attractive investment destination and in proximity to high-growth electric vehicle markets



Long life, low cost

High-grade, near surface mineralisation with favourable characteristics



Utilises clean energy

Hydro-Québec provides a low-cost, sustainable source of clean energy



Spodumene expertise

Utilised from successful operations at Mt Cattlin



Strong relationships

Cree Nation of Eastmain, Cree Nation Government and local stakeholders

Appendix

Resource & Reserve Statement
Competent Person Statement



James Bay: Mineral Resource Estimate and Ore Reserve

Mineral Resource Estimate

Category	Tonnage Mt	Grade % Li ₂ O	Contained Metal ('000) t Li ₂ O
Indicated	40.30	1.40	564.2
Total	40.30	1.40	564.2

Note: The Mineral Resource Estimate is reported at a cut-off grade of 0.62% Li₂O inside a conceptual pit shell optimised using spodumene concentrate price of USD 950/t containing 6.0% Li₂O, metallurgical and process recovery of 70%, overall mining and processing costs of USD 55/t milled and overall pit slope of 50 degrees. All figures are rounded to reflect the relative accuracy of the estimates. Mineral resources are not mineral reserves and do not have demonstrated economic viability.

Ore Reserve

Category	Ore tonnage (k dmt)	Lithium grade (%Li ₂ O)	Contained Metal ('000) t Li ₂ O
Proven	0	0	0
Probable	37,207	1.30	483.7
Proven + Probable	37,207	1.30	483.7

1. Effective date of the estimate is December 2021;
2. Mineral Reserves are estimated using the following long-term metal prices (Li₂O Conc = 950 USD/t Li₂O at 6.0% Li₂O) and an exchange rate of CAD/US\$ 1.33;
3. A minimum mining width of 5 m was used;
4. Cut-off grade of 0.62% Li₂O;
5. Bulk density of ore is variable, outlined in the geological block model and average 2.7 g/t;
6. The average strip ratio is 3.54:1;
7. The average mining dilution factor is 3.0% at 0.38% Li₂O.

Competent Person Statement

Any information in this Presentation that relates to James Bay Mineral Resources and Ore Reserves is extracted from the ASX announcement, entitled “James Bay Lithium Project – Feasibility Study & Maiden Ore Reserve” dated 21 December 2021 which is available to view on allkem.co and www.asx.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Mineral Resources and Ore Reserves in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcement.

Technical information relating to the Company’s James Bay project contained in this release is derived from, and in some instances is an extract from, the technical report entitled “Feasibility Study – James Bay Lithium Project” (Technical Report) which has been reviewed and approved by James Purchase, P.Geo (G-Mining Services Inc.) as it relates to geology, drilling, sampling, exploration, QA/QC and mineral resources: Joel Lacelle, P. Eng. (G-Mining Services Inc.); as it relates to site infrastructure and capital cost and operating cost estimate: Carl Michaud, P. Eng. (G-Mining Services Inc.); as it relates to mining methods, mining cost, financial modeling and economic analysis: Christopher Larder, Eng. (Wave International); as it relates to mineral processing and related infrastructures: Darrin Johnson, Ontario P. Eng. (Golder Associated Ltd.); as it relates to waste rock and tailings management related infrastructures: Joao Paulo Lutti, Eng. (Golder Associated Ltd); as it relates to water management infrastructures: Simon Latulippe Eng. (WSP Canada Inc.); as it relates to environmental and permitting in accordance with National Instrument 43-101 – Standards for Disclosure for Mineral Projects. The Technical Report will be filed within 45 days of this release and will be available for review under the Company’s profile on SEDAR at www.sedar.com.

Any information in this Presentation relating to a production target or forecast financial information derived from a production target is extracted from the ASX Announcement entitled “James Bay Lithium Project – Feasibility Study & Maiden Ore Reserve” dated 21 December 2021 which is available to view on the Company’s website and www.asx.com.au. The Company confirms that all the material assumptions underpinning the production target, and the forecast financial information derived from a production target, in the original market announcement continue to apply and have not materially changed.