James Bay Lithium Project Update Confirms Strong Project Economics

Allkem Limited (ASX |TSX: AKE) ("**Allkem"** or the **"Company"**) is pleased to announce a project update for its wholly owned James Bay Lithium Project ("**James Bay**" or the "**Project**") located in Québec, Canada. This update builds on the recently announced Mineral Resource update (11 August 2023) and the prior feasibility study ("**FS**") results released on 21 December 2021.

HIGHLIGHTS

- Updated Feasibility Study confirms a robust, high-value hard rock lithium operation utilising renewable hydropower
- Material ~108% increase in pre-tax Net Present Value ("**NPV"**) to US$2.9 billion with a strong internal rate of return and short payback period

Project Details

- Recently announced Total Mineral Resource of 110.2 Mt at 1.30% Li_2O, including 54.3 Mt at 1.30% Li_2O in the Indicated Category, and 55.9 Mt at 1.29% Li_2O in the Inferred Category with further drilling planned to test possible extensions to mineralisation
- Ore Reserve of 37.3 Mt at 1.27% Li_2O provides a long life, low cost spodumene operation and remains in line with permitting considerations
- Average annual production of 311 ktpa of spodumene concentrate with an 18.8-year mine life
- Shallow, near-surface mineralisation ideal for open cut mining with a low life-of-mine ("**LOM"**) strip ratio of 3.6:1
- 2 Mtpa process plant design remains unchanged from 2021 FS, producing a 6.0% Li_2O spodumene concentrate with operational flexibility to produce a 5.6% Li_2O spodumene concentrate
- Very similar process design and flowsheet to that already successfully employed at Mt Cattlin
- Low-cost, sustainable source of hydropower now installed to site
- Strong relationships with the Cree Nation of Eastmain, Cree Nation Government and all stakeholders

Project Financials

- Increase of the capital cost estimate ("**CAPEX**") to US$381.5 million, representing a 33.8% increase on the December 2021 FS, in line with inflationary conditions
- Cash operating costs (FOB Montreal) of US$407 per tonne of 5.6% Li_2O concentrate also reflecting inflationary conditions
- Pre-tax NPV of US$2.9 billion at an 8% discount rate and post-tax NPV of US$1.7 billion reflecting an increase in lithium price assumptions and market outlook
- Pre-tax Internal Rate of Return ("**IRR"**) of 62.2% and pre-tax payback period of 1.4 years
- Post-tax Internal Rate of Return ("**IRR"**) of 45.4% and post-tax payback period of 1.7 years

Project Execution

- Detailed engineering and procurement activities progressed at 80% supporting the updated cost estimate and bringing the project ready for approximately 19 months of construction once provincial authorisation is obtained
- Impact and Benefit Agreement ("**IBA**") discussions and Provincial Environmental and Social Impact Studies Review (COMEX) are in final stages

- Further carbon studies and initiatives underway to align the project to Allkem's target of net-zero emissions by 2035

Managing Director and Chief Executive Officer, Martin Perez de Solay commented
"The Feasibility Study Update results confirm the exceptional value that will be generated for all stakeholders through the development of this project. Inflationary impacts on operating and capital costs are within expectations and as seen at other projects, however the project economics remain strong with an increase of more than 100% in the pre-tax NPV to US$2.9 billion reflecting an increase in lithium price assumptions and market outlook.

"Pleasingly, there remains significant potential for this resource to grow as we conduct further drilling to test extensions of the recently upgraded resource of 110 million tonnes."

PROJECT BACKGROUND

The Project is located in northern Québec, approximately 130 km east of James Bay and the Cree Nation of Eastmain community as illustrated in Figure 1**.** The Company is proposing to develop a spodumene mine located adjacent to the Billy Diamond Highway (formerly the James Bay Highway) which provides access to key infrastructure in the region.

The Company has updated the Feasibility Study and technical report in accordance with NI 43-101 and S-K 1300 guidelines, in preparation for the proposed merger between the Company and Livent.

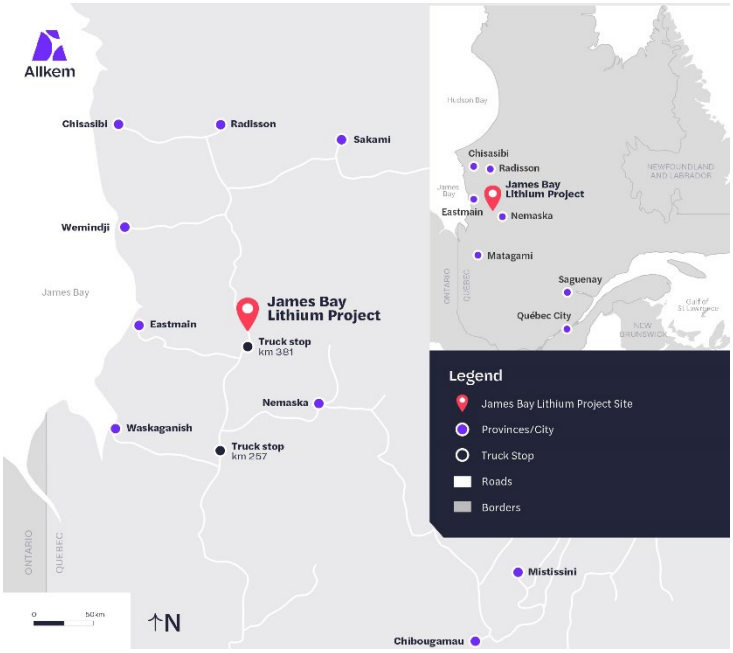


Figure 1: James Bay Project Location

GEOLOGY & MINERALISATION

The Project is in the northeastern part of the Superior Province and lies within the Lower Eastmain Group of the Eastmain greenstone belt. This area predominantly consists of amphibolite grade mafic to felsic metavolcanic rocks, metasedimentary rocks and minor gabbroic intrusions.

The pegmatites delineated on the property to date are oriented in a generally parallel direction to each other and are separated by barren host rock of sedimentary origin (metamorphosed to amphibolite facies). They form irregular dikes attaining up to 60 m in width and over 300 m in length. The pegmatites crosscut the regional foliation at a high angle, striking to the south-southwest and dipping moderately to the west-northwest.

Spodumene mineralisation at James Bay is coarse grained, high grade and outcrops along strike, supporting excellent recoveries, low strip ratio and open cut mining. No significant deleterious lithium mineralisation has been identified to date.

In 2023, new pegmatite dykes were discovered to the NW of known mineralisation which were incorporated into the Inferred Category of an updated Mineral Resource announced on 11 August 2023.

RESOURCE & RESERVE ESTIMATE

The Mineral Resource and Ore Reserve estimates set out below have been prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 (JORC), the CIM Definition Standards for Mineral Resources and Mineral Reserves (2014) and the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (2019). Mineral Resources and Ore Reserves are classified using the JORC Code. The confidence categories assigned under the JORC Code were reconciled to the confidence categories in the CIM Definition Standards. As the confidence category definitions are the same, no modifications to the confidence categories were required.

Although Ore Reserves are referred to in this announcement, they are analogous to Mineral Reserves as described in NI 43-101 Standards for Disclosure. Competent Persons (JORC) are analogous to Qualified Persons (NI 43-101).

Mineral Resource Estimate

An updated Mineral Resource Estimate **("MRE")** was announced on 11 August 2023 and was based on a total of 104,000 m of drilling and channelling from 655 drill holes, with a drill hole database cut-off date of 19 May 2023. This updated MRE includes an additional 37,500 m of drilling conducted since the previous feasibility study.

The resource estimation work was completed by SLR Consulting (Canada) Ltd. **("SLR")**, an independent consulting firm based in Toronto, Canada. The pegmatite dykes have been classified based on a 40 m to 50 m spacing for Indicated Mineral Resources, and approximately an 80 m spacing for Inferred Mineral Resources.

The tonnages and grade of the updated Mineral Resource are shown in Table 1.

Table 1: James Bay Mineral Resource Estimate – Effective date 30 June 2023

Category	Tonnage	Grade	Contained lithium oxide/LCE	
	Mt	% Li_2O	('000) t Li_2O	('000) t LCE
Measured	-	-	-	-
Indicated	54.3	1.30	706	1,746
Measured + Indicated	**54.3**	**1.30**	**706**	**1,746**
Inferred	55.9	1.29	724	1,790
Total Mineral Resource	**110.2**	**1.30**	**1,430**	**3,537**

Notes:

i. The Independent Competent Person, as defined by the JORC Code 2012, responsible for the preparation of this MRE is Mr. Luke Evans, P.Eng, a full-time employee of SLR. Mr. Evans is a member of L'Ordre des Ingénieurs du Québec, a Recognised Professional Organisation defined by the JORC Code 2012. The effective date of the mineral resource is the 30th June 2023 (erroneously identified as Aug. 9, 2023 in the earlier news release).

ii. The Mineral Resource Estimate has been reported within a conceptual pit shell at a cut-off grade of 0.50% Li_2O

iii. The Mineral Resources are Inclusive of Ore Reserves.

iv. The conceptual pit shell used to constrain the MRE has been defined using a spodumene concentrate price of US$1,500 per tonne, an exchange rate of CAD:US$ of 1.33, a total ore-based cost of CAD33.92 per tonne, a mining cost of CAD4.82 per tonne, a concentrate transport cost of CAD86.16 per tonne, and a metallurgical recovery of 70.1%.

v. The statements of Mineral Resources conform to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code) 2012 edition.

vi. Mineral Resources are not Mineral Reserves, as they do not demonstrate economic viability.

vii. The Competent Persons are not aware of any problem related to the environment, permits or mining titles, or related to legal, fiscal, socio-political, commercial issues, or any other relevant factor that could have a significant impact on this MRE.

viii. The number of tonnes has been rounded to the nearest 100,000 tonnes, with any discrepancies observed in the totals due to rounding effects.

ix. All tonnages reported are dry metric tonnes.

Ore Reserve Estimate

The Ore Reserve of 37.3 Mt at an average grade of 1.27% Li_2O was prepared by SLR and remains virtually unchanged since the previous feasibility study (Table 2).

Table 2: James Bay Ore Reserve – Effective date 30 June 2023

Category	Tonnage	Grade	Contained Metal
	Mt	% Li2O	('000) t Li_2O
Proven	-	-	-
Probable	37.3	1.27	474
Proven + Probable	**37.3**	**1.27**	**474**

Notes:

I. The Independent Competent Person, as defined by the JORC Code 2012, responsible for the preparation of the Ore Reserve estimate is Mr. Normand Lecuyer, P.Eng., an employee of SLR. Mr. Lecuyer is a member of L'Ordre des Ingénieurs du Québec (License No. 34914), a Recognised Professional Organisation defined by the JORC Code 2012. Effective date of the estimate is June 30th, 2023.

II. Ore Reserves are estimated using the following metal prices (Li_2O Conc = US$ 1,500/t Li_2O at 6.0% Li_2O) and an exchange rate of CAD/US$ 1.33.

III. A minimum mining width of 5 m was used.

IV. A cut-off grade of 0.62% Li_2O was used.

V. The bulk density of ore is variable, is outlined in the geological block model, and averages 2.7 g/cm^3.

VI. The average strip ratio is 3.6:1.

VII. The average mining dilution factor is 8.7% at 0.42% Li_2O.

VIII. Numbers may not add due to rounding

Details of data collection and resource and reserve estimation techniques, methodology and material assumptions are provided in the JORC Table 1 checklist set out in Appendix A.

MINING AND PROCESSING

Mining

Mine engineering was performed by SLR and a summary of the key physicals are displayed in Table 3 below.

Table 3: Summary of LOM Physicals for an estimated 19-year mine life

Key Physicals	UoM	Feasibility Study
Mined material grade (after mining dilution)	*% Li_2O*	1.27
Strip ratio	*X : 1*	3.6
Spodumene Concentrate Produced (total after transport losses)	*kdmt*	5,846
Spodumene Concentrate Produced (annual average)	*kdmt*	311
Recovery (LOM average)	*%*	68.9%
Spodumene Concentrate Grade	*% Li_2O*	5.6

The pegmatite deposit will be mined by conventional open pit methods. All material will require drilling and blasting and will be removed using mining excavators and haul trucks. The preliminary pit design

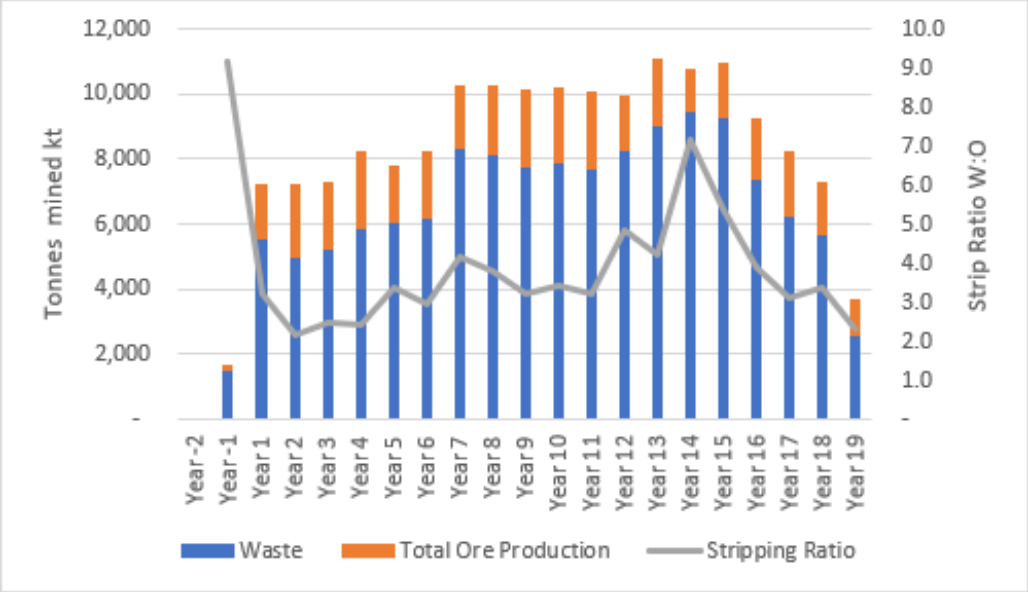
extends approximately 2km NW/SE along the strike of the pegmatite mineralisation and has an average width of 500 m. The design is divided into three pits with depths of 160 m, 170 m and 260 m.

Mining is scheduled to achieve low waste stripping in the initial years with a gradual increase later in the mine life. The average strip ratio for the LOM plan is 3.6:1. Waste rock will be hauled to multiple Waste Rock and Tailings Storage Facilities ("**WRTSF**") and run of mine ("**ROM**") feed material will be hauled to the ROM pad, located to the northeast of the pits.

Figure 2 is based on the preliminary mine plan / LOM schedule and shows the mine plan tonnages by year with pre-strip activities commencing two years prior (Y-2 and Y-1) to first production (Y1). Mining covers 19 years of production with 132.7 Mt of waste rock, and 37.3 Mt of ROM feed material for a total of 170.0 Mt of material mined.

In the pre-production period, the ROM material generated will be stockpiled for processing during production years. Site preparation including tree clearing, grubbing and peat/topsoil removal will occur during the Project construction phase.

Figure 2: Annual mined material and stripping ratio



Surface mining equipment requirements are based on mining 10 m benches. Conventional excavator and truck fleet will be sized to meet the planned tonnage requirements to feed the concentrator at 2Mtpa. Haul trucks are required to transport tailings from the plant to the proposed waste rock and dry stacked tailings stockpile areas.

Processing

Process Plant engineering was performed by Wave International ("**Wave**"), an Australian-based engineering company with global development experience.

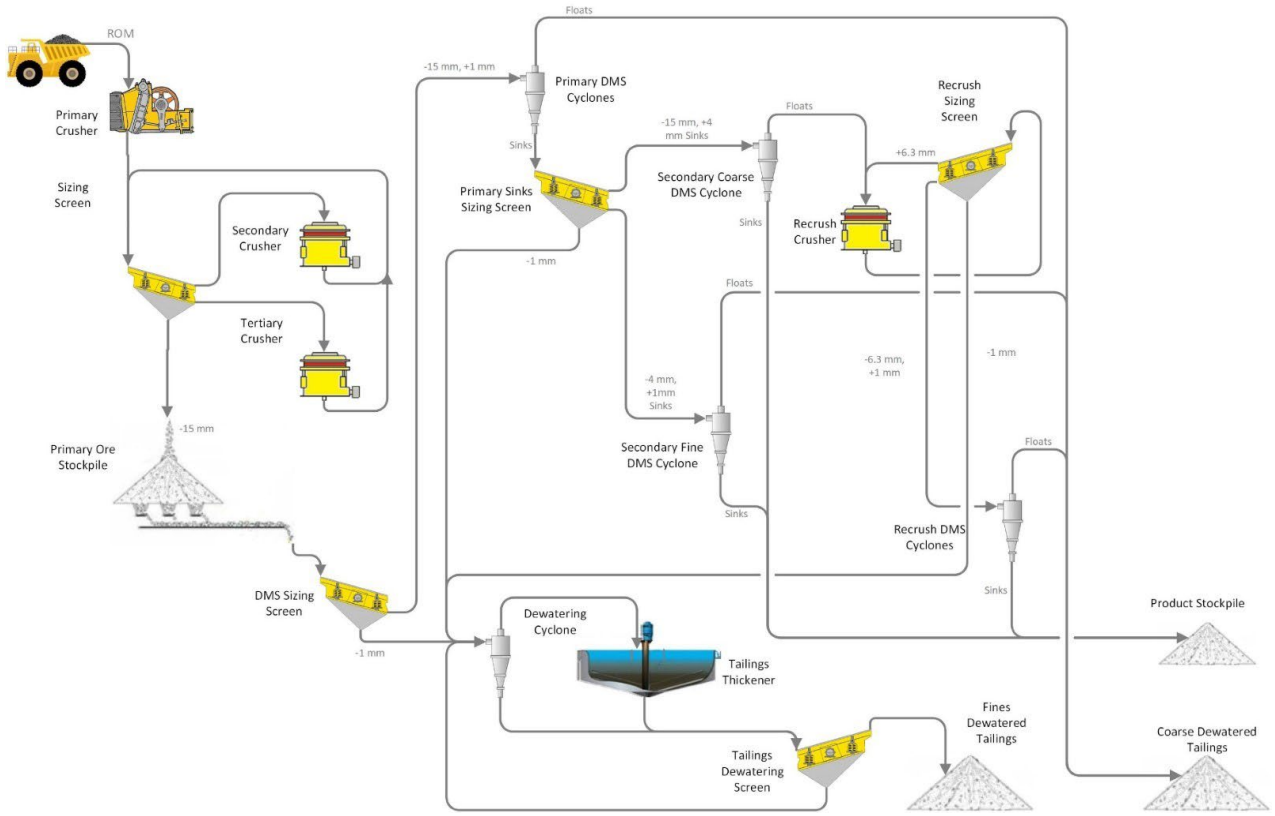
The process design is based on an annual throughput of 2Mt of ore to produce a final product grade of 6.0% Li_2O, with operational flexibility to produce a concentrate grade of 5.6% Li_2O. The selected process incorporates a similar flowsheet to the Mt Cattlin Mine and is based on crushing and dense medium separation ("**DMS**").

Processing involves a conventional three-stage crushing circuit, followed by a DMS plant (Figure 3). Similar to Mt Cattlin, crystal sizes are coarse and therefore grinding and flotation methods are not necessary, contributing to low operating costs. Other sub processes include:

- Dewatering and dry stack tailings disposal system (combined with waste rock disposal);
- Water, air and ancillary services; and
- Spodumene concentrate stockpile and dispatch system

The ROM ore will be fed to a three-stage crushing plant consisting of a primary jaw crusher, a secondary crusher and tertiary crusher. Prior to feeding the DMS cyclones, the material will be mixed with a ferrosilicon slurry, which acts as a densifying medium to enhance the gravity separation of the spodumene. The process flowsheet is illustrated in Figure 3 below.

Figure 3: James Bay process flowsheet



Final Product Grade

Metallurgical test work was conducted by SGS Canada Inc. and Nagrom to determine optimal plant operating recoveries. For a final spodumene concentrate grading 5.6% Li_2O, modelling indicates that a recovery of 69.6% in the early years and 66.9% in later operating years is a reasonable assumption.

In line with this market demand, project economics are based on the production and sale of a 5.6% Li_2O final product grade. This product grade yields higher recoveries and revenues associated with higher concentrate production.

James Bay will produce an average of 311 ktpa of spodumene concentrate for 19 years and retains ultimate flexibility to produce final product grade consistent with market and customer demand. Allkem's final product specification will ultimately be determined in consultation with its customers.

INFRASTRUCTURE

Waste Rock and Tailings Storage facility engineering was performed by WSP Ltd. ("**WSP**") and site infrastructure engineering was performed by G Mining Services Inc.

Mine Infrastructure

The site infrastructure will include:

- ROM pad
- Crushed ore covered stockpile
- Four Waste Rock Tailings Storage Facilities
- Overburden and peat storage area ("**OPSF**")
- Two Water Management Ponds and Plant Water Management Pond
- Contact water ditches and non-contact diversion water ditches
- Fine and coarse tailing bins
- Spodumene concentrate warehouse
- Explosive storage building

The ROM stockpile and spodumene concentrate warehouse will be located adjacent to the process plant. All storage areas were selected to minimise their environmental impact. A surface drainage network will be built to divert non-contact water from the ROM pad and stockpile, WRTSF, OPSF stockpiles and process plant. The same strategy will be used to manage the surface water run-off (contact) for all disturbed land.

Supporting Infrastructure & Logistics

The following infrastructure facilities are planned for the Project:

- 69 kV main-substation
- Laboratory building
- Accommodation camp
- Workshop and reagent buildings
- Storage and communication facilities
- Distribution facility for heating
- Potable water and sewage treatment plants
- Effluent water treatment plant

The process plant and supporting infrastructure will predominantly be powered by Hydro-Québec's 69 kV overhead distribution system. An overhead distribution line extension has been built to the plant substation from the 69 kV line (L-614) located 10km south of the Project site. The 69 kV power supply is limited by a capacity of 8 MVA due to the sensitivity of the network and distance from the substation.

The Project is also accessible all year-round via the paved Billy Diamond Highway which allows oversized haul trucking to and from site, including the town of Matagami, located 382 km south of the Project. Matagami is connected to a major railway, the Canadian National Railway network, allowing future production to be railed to various locations in North America or any port along the Saint Lawrence River for international shipment.

The Eastmain airport is located 130 km from site and will be used to transport staff and contractors from major centres in southern Québec. Discussions are underway with Transport Canada about necessary upgrades required to create more regular aerial services to support future operations. Fuel and accommodation are also available at the "Relais Routier Km 381" Truck Stop, a sizeable facility, located adjacent to the Project site.

FINANCIAL PERFORMANCE

Capital and Operating Costs

Capital and operating cost forecasts were completed by SLR, GMS and Wave, incorporating engineering undertaken by other contributors.

The total initial project development capital expenditure ("**CAPEX**") is estimated to be US$381.5 million. The CAPEX forecast has been prepared to reflect optimised site layouts, mine scheduling, plant and equipment design, supply and installation. The estimate is detailed in Table 4 and includes processing, mine equipment purchases, infrastructure, contingency and other direct and indirect costs. Deferred CAPEX is also required during operations for additional equipment purchases, a truck shop bay addition, and mine civil works. A pre-production cost of US$29.5 million has also been estimated in addition to the initial CAPEX which comprises of costs associated with overburden and waste stripping, and building the initial inventory for commissioning and startup of operations.

Operating costs ("**OPEX**") are estimated to be US$407 per tonne of concentrate (FOB Montreal). OPEX includes mining, processing, general and administrative services and concentrate transportation as detailed in Table 4.

Sustaining capex is estimated at US$151M for the life of mine of the Project.

Table 4: Capital Cost Estimates and Operating Cost Estimate

Capital Costs	US$ M	Operating Costs	US$ / tonne of concentrate
Initial CAPEX (US$ M)		Mining	124.4
001 – General	1.4	Processing	86.8
100 - Infrastructure	47.2	General and administration	88.0
200 - Power and Electrical	45.4	Concentrate transportation	107.9
300 - Water	27.3	**Total**	**407.1**
400 - Surface Operations	8.4		
500 - Mining Open Pit	32.3		
600 - Process Plant	84.5		
700 - Construction Indirects	73.4		
800 - General Services	34.3		
900 - Start-up, Commissioning	4.9		
990 - Contingency	22.4		
Total CAPEX	**381.5**		

Note: The totals above may not add up due to rounding errors

Since the release of the Feasibility Study in 2021, work undertaken has improved the accuracy of the capital and operating costs, particularly in relation to mining, processing, and concentrate transport costs. The key observations include:

- Increased labour rates throughout all trades (reflecting market conditions)
- Increased mechanical and electrical equipment costs (based on firm price bid received)
- Increase in Hydro-Quebec powerline costs (reflecting market conditions)
- Increase in accommodation and transport costs (reflecting market conditions)
- Increase in fuel-associated cost (unit cost reflecting market conditions)

Spodumene Pricing Forecast

Lithium has diverse applications including ceramic glazes, enamels, lubricating greases, and as a catalyst. Demand in traditional sectors grew by approximately 4% CAGR from 2020 to 2022. Rechargeable batteries dominate lithium usage which accounted for 80% of demand in 2022, with 58% attributed to automotive applications. Industry consultant, Wood Mackenzie ("**Woodmac**") estimates growth in the lithium market of 11% CAGR between 2023-2033 for total lithium demand, 13% for automotive, and 7% for other applications.

Historical underinvestment and strong EV demand have created a supply deficit, influencing prices and investment in additional supply. Market balance remains uncertain due to project delays and cost overruns. The market is forecast to be in deficit in 2024, have a fragile surplus in 2025, and a sustained deficit from 2033.

Prices have fluctuated in 2022-2023, with factors like plateauing EV sales, Chinese production slowdown, and supply chain destocking influencing trends. Woodmac notes that battery grade carbonate prices are linked to demand growth for LFP cathode batteries and are expected to decline but rebound by 2031. Lithium Hydroxide's growth supports a strong demand outlook, with long-term prices between US$25,000 and US$35,000 per tonne (real US$ 2023 terms). Chemical grade spodumene concentrate prices are expected to align with market imbalances, with a long-term price forecast between US$2,000 per tonne and US$3,000 per tonne (real US$ 2023 terms).

Allkem has relied on external spodumene concentrate price forecasts provided by Woodmac for this feasibility study update.

PROJECT ECONOMICS

An economic analysis was developed using the discounted cash flow method and was based on the data and assumptions for capital and operating costs detailed in this report for mining, processing and associated infrastructure.

The basis of forecast spodumene pricing was provided by Woodmac for the period 2023 to 2033, with a longer-term price of US$2,107 used from 2033 onwards for 6.0% Li_2O. Adjustments were made to these prices to reflect the 5.6% Li_2O spodumene concentrate to be produced at James Bay based on Allkem experience at Mt Cattlin.

The evaluation was undertaken on a 100% equity basis. The key assumptions and results of the economic evaluation are listed in Table 5 and Table 6 below.

Table 5: Key assumptions utilised in the project economics

Assumption	Units	Feasibility Study
Annual Spodumene Concentrate Production[1]	*kt*	311
Commercial Production Estimate	*Years*	19
Discount Rate	*%*	8
CAPEX	*US$M*	381.5
OPEX	*US$/ tonne conc.*	407
Average Selling Price[2]	*US$/ tonne conc.*	1,921
Exchange rate	*US$:CAD*	1.33

[1] Final product grade of 5.6% Li_2O

[2] Based on Average LOM spodumene price (US$2,022 per t) forecast provided from Woodmac, adjusted for 5.6% Li_2O grade.

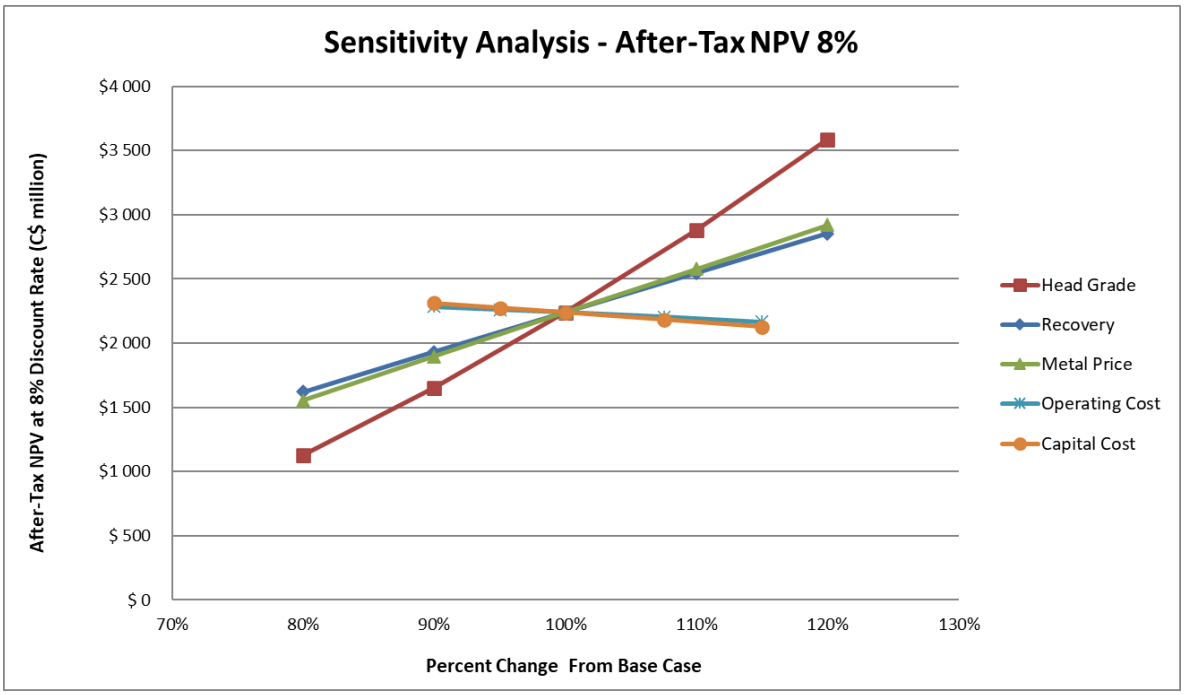
Table 6: Summary of Financials over the estimated LOM

Financial Summary	Units	Feasibility Study
NPV (Pre-tax)	*US$M*	2,947
NPV (Post-tax)	*US$M*	1,687
IRR (Pre-tax)	*%*	62.2
IRR (Post-tax)	*%*	45.4
Payback Period (Pre-tax)	*Years*	1.4
Payback Period (Post-tax)	*Years*	1.7
Capital Intensity (processing)	*US$ / dmtpa*	191
NPV: Development Capex (Post-tax)	*X: 1*	4.4:1

Sensitivity Analysis

As displayed in Table 6, the Feasibility Study demonstrates strong financial outcomes with a Post-tax $NPV_{8\%\ real}$ of US$1,687 million and IRR of 45.4%. Figure 4 analyses the impact on NPV when spodumene pricing, operating costs, capital costs, recovery, head grade fluctuate between +/- 20%. The NPV of the project is most sensitive to movements in the price of spodumene and foreign exchange fluctuations, followed by operating costs and development capital costs.

Figure 4: Pre-tax NPV Sensitivity Analysis



ENVIRONMENTAL AND SOCIAL IMPACTS

Environmental and Permitting work packages were performed by WSP Canada Inc., a global professional services and engineering firm with environmental expertise and significant experience in facilitating project approvals and development projects.

Carbon Emissions Management

Allkem is committed to the transition to net zero emissions by 2035 and is progressively implementing actions across the group to achieve this target. Each project within the group will contribute to this target in a different, but site appropriate manner.

As a greenfield project, James Bay has a unique opportunity to build a low carbon operation. The location of the project will provide access to hydro power supplied by Hydro Québec which delivers a significant advance in the overall decarbonisation of the project.

Future studies will focus on opportunities to increase the proportion of sustainable energy available to the project which will further reduce operational carbon emissions. The primary area to be investigated will be the supply of additional hydro power which may allow the potential conversion of the mining fleet and all site facilities away from fossil fuels. Allkem will work with project partners to identify and develop further emissions reduction opportunities within the project supply chain mostly around the availability of battery-power mobile equipment capable of operating in cold weather conditions. Additional studies are also planned to replace petroleum hydrocarbons used for heating during cold winter weather with renewable sources.

Allkem will also engage with the Québec government which has demonstrated a strong commitment for renewable energy with the "2030 Plan for a Green Economy". The goals of this plan are aligned with Allkem's commitment to net zero via the replacement of fossil fuels in transport, buildings and industrial activity. The Québec government has also committed to develop and consolidate energy networks through the territory, particularly for critical and strategic mineral developments.

Regulations and Permitting

The Project is subject to a federal and provincial environmental assessment, which must be consistent with the James Bay and Northern Québec Agreement ("**JBNQA**"). In January 2023, the federal Minister for the Environment and Climate Change issued federal authorisation for the Project. Allkem is now awaiting the issuance of provincial authorisation by the Government of Québec following completion of the environmental and social impact assessment and review process by the COMEX. Once the ESIA is approved, auxiliary 4 construction permits will be submitted for approval prior to commencing construction at James Bay.

Community Engagement

The Cree Nation community of Eastmain located 130 km east of the Project site is the nearest major community to the site. The Company has a strong working relationship with the Cree Nation of Eastmain and conducts regular and meaningful engagement and consultation with the Cree Nation.

On 18 March 2019, a Preliminary Development Agreement ("**PDA**") was signed with the Cree Nation of Eastmain, Grand Council of the Cree and Cree Nation Government. The PDA will be replaced by an Impact Benefit Agreement ("**IBA**"), which is currently being negotiated, before construction is initiated.

Further engagement with the Cree Nation Government and stakeholders, including the communities of Waskaganish and Waswanipi, continue in relation to project updates. The project will create approximately 250 full-time positions in the Eeyou Istchee/James Bay region.

EXECUTION STRATEGY

The Project Execution Strategy has been determined by an integrated team between Allkem, GMS, Wave and selected key contractors. Detailed engineering and procurement activities are 80% complete providing strong support for the updated cost estimate. It is estimated project construction will take approximately 19 months once authorisation is obtained. The majority (+80%) of mobile, fixed mechanical and electrical equipment have been procured. Contractors' selection commenced after engineering was well advanced (above 60%). Key contractors for all disciplines have been selected and final negotiations are in progress. It is planned to integrate contractors into the final stages of the design and planning the construction work with Allkem.

Funding

Funding is expected to be provided through one or more of the following:

- existing corporate cash;
- existing or new corporate debt or project finance facilities;
- cash flow from operations;
- strategic offtake partner(s).

ENDS

This release was authorised by Mr Martin Perez de Solay, CEO and Managing Director of Allkem Limited.

Allkem Limited

ABN 31 112 589 910

Level 35, 71 Eagle St
Brisbane, QLD 4000

Investor Relations & Media Enquiries

Andrew Barber
M: +61 418 783 701 **E:** Andrew.Barber@allkem.co

Phoebe Lee
P: +61 7 3064 3600 **E:** Phoebe.Lee@allkem.co

Connect

info@allkem.co
+61 7 3064 3600
www.allkem.co

IMPORTANT NOTICES

This investor ASX/TSX release (Release) has been prepared by Allkem Limited (ACN 112 589 910) (the Company or Allkem). It contains general information about the Company as at the date of this Release. The information in this Release should not be considered to be comprehensive or to comprise all of the material which a shareholder or potential investor in the Company may require in order to determine whether to deal in Shares of Allkem. The information in this Release is of a general nature only and does not purport to be complete. It should be read in conjunction with the Company's periodic and continuous disclosure announcements which are available at allkem.co and with the Australian Securities Exchange (ASX) announcements, which are available at www.asx.com.au.

This Release does not take into account the financial situation, investment objectives, tax situation or particular needs of any person and nothing contained in this Release constitutes investment, legal, tax, accounting or other advice, nor does it contain all the information which would be required in a disclosure document or prospectus prepared in accordance with the requirements of the Corporations Act 2001 (Cth) (Corporations Act). Readers or recipients of this Release should, before making any decisions in relation to their investment or potential investment in the Company, consider the appropriateness of the information having regard to their own individual investment objectives and financial situation and seek their own professional investment, legal, taxation and accounting advice appropriate to their particular circumstances.

This Release does not constitute or form part of any offer, invitation, solicitation or recommendation to acquire, purchase, subscribe for, sell or otherwise dispose of, or issue, any Shares or any other financial product. Further, this Release does not constitute financial product, investment advice (nor tax, accounting or legal advice) or recommendation, nor shall it or any part of it or the fact of its distribution form the basis of, or be relied on in connection with, any contract or investment decision.

The distribution of this Release in other jurisdictions outside Australia may also be restricted by law and any restrictions should be observed. Any failure to comply with such restrictions may constitute a violation of applicable securities laws.

Past performance information given in this Release is given for illustrative purposes only and should not be relied upon as (and is not) an indication of future performance.

Forward Looking Statements

This news 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 ore 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 Limited 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 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.

Forward-looking statements are made as of the date hereof and, subject to any continuing obligation under applicable law or relevant listing rules of the ASX/TSX, the Company disclaims any obligation or undertaking to disseminate any updates or revisions to any forward-looking statements in this Release to reflect any change in expectations in relation to any forward-looking statements or any change in events, conditions or circumstances on which any such statements are based. Nothing in this Release shall under any circumstances (including by reason of this Release remaining available and not being superseded or replaced by any other Release or publication with respect to the subject matter of this Release), create an implication that there has been no change in the affairs of the Company since the date of this Release.

Competent Person Statement

The information in this announcement that relates to Mineral Resources is based on information compiled and supervised by Luke Evans, P.Eng, a Competent Person who is a member of L'Ordre des Ingénieurs du Québec (License No. 105567). Mr. Evans is a full-time employee of SLR Consulting (Canada) Ltd. Mr. Evans has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity being undertaken 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. Evans consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to the Ore Reserves is based on information compiled by Mr. Normand Lecuyer, P. Eng., a Competent Person who is a Member of L'Ordre des Ingénieurs du Québec (License No. 34914), a Recognised Professional Organisation included in a list posted on the ASX website from time to time. Mr Lecuyer is an employee of SLR Consulting (Canada) Ltd. Mr Lecuyer has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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 Lecuyer consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

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 "James Bay Project - Feasibility Study Update" (Technical Report) which has been reviewed and approved by Luke Evans, P.Eng. (SLR Consulting (Canada) Ltd.) as it relates to property, 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 estimate: Normand Lecuyer, P. Eng. (SLR Consulting (Canada) Ltd.); as it relates to mining methods, mining cost, mining opex, financial modelling and economic analysis: Jeremy Ison, P.Eng. (Wave International); as it relates to mineral processing and related infrastructures: Darrin Johnson, P. Eng. (WSP Canada Ltd.); as it relates to waste rock and tailings management related infrastructures: Joao Paulo Lutti, Eng. (WSP Canada Ltd); as it relates to water management infrastructures: Pierre Groleau 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 available for review under the Company's profile on SEDAR at www.sedar.com.

JORC Code 2012 and NI 43-101 Standards of Disclosure Commentary

There are differences in terminology from the JORC Code compared to the CIM Definition Standards. The term "Ore Reserves" in the JORC Code is substantially equivalent to "Mineral Reserves" using the CIM Definition Standards, and the term "Proved Ore Reserves" in the JORC Code is substantially equivalent to "Proven Mineral Reserves" using the CIM Definition Standards.

The only relevant reporting differences are that National Instrument 43-101 – Standards of Disclosure for Mineral Projects reporting requirements require each category of Mineral Reserves (Ore Reserves) and Mineral Resources to be reported separately, and do not permit Inferred Mineral Resources to be added to other Mineral Resource categories. Consequently, Measured and Indicated Mineral Resources have been reported separately from Inferred Mineral Resources. Ore Reserves reported herein are classified in a manner consistent with the requirements of the JORC Code. The JORC Code differs from CIM in that it permits Ore Reserves to be estimated as inclusive of marginally economic material and diluting material (including Inferred) delivered for treatment or dispatched from the mine

without treatment, and on the basis that such material does not materially contribute to the economic assessment of any study. It should be noted that Ore Reserves for the James Bay project do not include any Inferred Mineral Resources.

While NI 43-101 restricts the inclusion of inferred material in an economic analysis it does permit for Resources and Reserves to be classified and reported in accordance with acceptable foreign standards, including the JORC Code.

Not for release or distribution in the United States

This announcement has been prepared for publication in Australia and may not be released to U.S. wire services or distributed in the United States. This announcement does not constitute an offer to sell, or a solicitation of an offer to buy, securities in the United States or any other jurisdiction, and neither this announcement or anything attached to this announcement shall form the basis of any contract or commitment.

Allkem

APPENDIX A – JORC 2012 TABLE 1 DISCLOSURE

Section 1: Sampling Techniques and Data

JAMES BAY LITHIUM PROJECT SAMPLING AND DATA		
Sampling techniques	*Nature and quality of sampling (e.g. cut channels, random chips, or specific specialized industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Aspects of the determination of mineralization that are Material to the Public Report.* *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverized to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralization types (e.g. submarine nodules) may warrant disclosure of detailed information.*	**2008/2009 Exploration Drilling – Lithium One** Lithium One (subsequently acquired by Galaxy Lithium (Canada) Inc.) drilled a total of 102 diamond drill holes for 13,487 m on a pattern ranging between 50 m and 60 m spacing. Drill holes were for the most part inclined towards the southeast to intersect the spodumene mineralization perpendicular to the dyke geometry. Drill hole diameter was NQ. The 2008/2009 drill hole collars were initially surveyed by handheld GPS, and subsequently resurveyed using RTK by Galaxy Lithium Canada in 2017. A total of 84 out of 102 drill holes were located and resurveyed by RTK. Downhole survey methods for the 2008 drilling are unknown, however downhole surveying in 2009 was conducted at 3 m intervals using a REFLEX Flexit tool. **2009/2010 Channel Sampling – Lithium One** Surface outcrops of pegmatite were channel sampled in 2009 and 2010 using a dual-blade diamond saw to ensure consistent widths during cutting. A total of 53 channel samples were collected for a combined length of 810 m. Channel lengths ranged from 2 m to 41 m, and sampling was conducted on 1.5 m intervals. Channel samples were terminated at the contact with surrounding lithologies. **2017 Resource Definition Drilling – Galaxy Lithium (Canada) Inc.** Galaxy Lithium (Canada) Inc. conducted a program of infill and extensional diamond drilling in 2017 with 157 holes drilled for a total meterage of 33,339 m. Drill hole diameter was NQ. All drill hole collars were resurveyed using a RTK method. Downhole surveys were recorded every 3 m using a multi-shot camera (REFLEX EZ-TRAC). **2017/2018 Geotechnical and Metallurgical Drilling – Galaxy Lithium (Canada) Inc.** Galaxy Lithium (Canada) Inc. conducted a program of diamond drilling in 2017 and 2018, with 102 holes drilled for a total meterage of 10,900 m. Drill hole diameter was HQ for metallurgical drill holes, and NQ for the remaining geotechnical holes. **2021 - 2023 Sterilisation, Exploration and Resource Delineation Drilling – Galaxy Lithium (Canada) Inc.** Galaxy Lithium (Canada) Inc. conducted two programs of diamond drilling during the winter of 2021/2022 and 2022/2023, with 231 holes drilled for a total meterage of 43,600 m. Drill hole diameter was NQ and drilling was undertaker by Major Drilling. All drill hole collars were resurveyed using a RTK method by an independent land surveyor. Downhole surveys were recorded every 3 m using a multi-shot camera (REFLEX EZ-TRAC) or a gyroscope.
Drilling techniques	*Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger,*	**Diamond Drilling**:

	Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	Drilling campaigns between 2008 and 2018 were conducted by Chibougamou Drilling using either NQ or HQ drilling diameters. Triple tubing was not necessary as the rock is fresh and highly competent starting from the base of the overburden. Recoveries were excellent (> 95%). Drilling campaigns conducted between 2021 and 2023 were carried out by Major Drilling using NQ drill diameter. Exploration and resource definition drill holes vary in depth from 50 m to 300 m, with the occasional deep exploration hole up to 500 m depth. Metallurgical drill holes are HQ diameter and vary in depth between 10 m and 105 m. Geotechnical and sterilisation drill holes are NQ diameter and are generally 70 m to 120 m deep.
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* *The total length and percentage of the relevant intersections logged.*	All drill core processing was performed at the Relais Routier Km 381 Truck Stop, with logging and sampling conducted by employees and contractors of GLCI. Lithology, structure, mineralization, sample number, and location were recorded by the geologists in a GeoticLog log database, with a backup stored on an external hard drive for additional security. Drill core was stored in wooden core boxes and delivered to the core logging facility at the camp twice daily by the drill contractor. The drill core was first aligned and measured for core recovery by a technician, followed by RQD measurements. Due to the hardness of the pegmatite units, the recovery of the drill core was generally very good, averaging over 95%. The core was then logged, and sampling intervals were defined by the geologist. Before sampling, the core was photographed using a digital camera and core boxes were marked with box number, hole ID, and aluminium tags indicating “from” and “to” measurements. All drill holes were logged in full.
Sub- sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.* *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* *Whether sample sizes are appropriate to the grain size of the material being sampled.*	**2008/2009 Drilling and Channel Sampling** Standardized core sampling protocols were used by Lithium One. Initially, during the 2008 drilling program, core was sampled at 2.5 m intervals, and subsequently at 1.5 m intervals. A selective sampling procedure was used based on lithological contacts, where the maximum (and most common) sample interval was 1.5 m. Shorter samples were collected to define geological domains. Channel samples were also sampled at 1.5 m intervals. Sample intervals were marked by appropriately qualified geologists. Two sample tags were placed at the beginning of each sample interval, while a third copy remained in the sample booklet along with the associated “from” and “to” information recorded by the geologist. A geo-technician was responsible for core cutting and for preparing the samples for dispatch to the preparation laboratory – Table Jamésienne de Concertation Minière in Chibougamau (TJCM). Assay samples were collected on half-core sawed lengthwise using a diamond saw; the remaining half was replaced in the core box for future reference. Quarter core duplicates were collected frequently. **2017/2018 Drilling**

		Sample intervals were determined based on observations of the lithology and mineralization and were marked and tagged by the geologist. The typical sample length was 1.5 m but varied according to lithological contacts between the mineralized pegmatite and the country rock. In general, one country rock sample was collected from each side of the contact with the pegmatite. The drill core was split lengthwise; one half was placed in a plastic bag with a sample tag, and the other half was left in the core box with a second sample tag for reference. The third sample tag was archived on site. The samples were then catalogued and placed in rice bags for shipping. Sample shipment forms were prepared on site, with one copy inserted with the shipment and a second copy given to the carrier. One copy was kept for reference. The samples were transported regularly by contractors' truck directly to the ALS Canada Ltd – ALS Minerals laboratory in Val-d'Or, Québec. At the ALS facility, the sample shipment was verified, and a confirmation of receipt of shipment and content was sent digitally to the Galaxy project manager. The sample sizes (half-core, NQ diameter) are appropriate for the style, thickness and consistency of the mineralization at the James Bay Lithium Project. **2021 – 2023 Drilling** Sampling techniques and preparation were consistent with the 2017/2018 drilling campaigns, with sampling lengths reduced to 1 m within pegmatite lithologies.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	**2008 - 2010 Assaying** Samples were shipped from site in secure containers to Table Jamésienne de Concertation Minière (TJCM) in Chibougamau for preparation. The protocol for sample preparation involved weighing, drying, crushing, splitting and pulverizing. The pulverized pegmatite core samples were shipped from the TJCM to the COREM Research Laboratory (COREM) in Québec City. COREM was accredited ISO/IEC 17025:2005 by the Standards Council of Canada for various testing procedures on April 30, 2009. The scope of accreditation did not include the specific testing procedures used by COREM to assay lithium (method code B23). Lithium One also utilized SGS Mineral Services Lakefield Laboratory (SGS) as an umpire laboratory to monitor the reliability of assaying results delivered by the primary laboratory COREM. At COREM, prepared samples were assayed using three-acid digestion (nitric acid, hydrofluoric acid, perchloric acid) in boiling water. The dissolved sample was analysed by atomic absorption (AA) spectrometry. At SGS, check samples were assayed by sodium peroxide fusion and atomic absorption spectroscopy. At ALS Minerals, prepared samples were assayed using four-acid digestion (perchloric acid, hydrofluoric acid, nitric acid and hydrochloric acid) with ICP-AES finish. Although a four-acid digest is considered a near-total digest, common practice for the analysis of pegmatite material is a sodium-peroxide fusion. Significant verification test work has been undertaken and has demonstrated that the acid digest method is robust, and no bias has been observed when compared to the sodium-peroxide fusion check assays. Samples from 2008 – 2010 represent roughly 14% of the total meterage of the drilling on the project.

2008 - 2010 QA/QC

Lithium One relied partly on the internal analytical quality control measures implemented by COREM laboratory. Additionally, Lithium One implemented external analytical quality control measures consisting of using control samples (field blanks, in house standards and field duplicates) inserted with sample batches submitted for assaying in 2009 and 2010, and coarse reject duplicate samples in 2008. Standards were non-certified and were custom-made from a bulk sample of the outcropping pegmatite material from the project.

Field duplicates were generated from quarter core samples and inserted every 40 samples.

Total insertion rate for QA/QC in 2008 – 2010 was 4.2%, with an additional 2.6% when including umpire assays.

Although the insertion rate of QA/QC in 2008 – 2010 was below industry standards, subsequent check assays have shown that the assay results are valid. Also, the results from the limited QA/QC undertaken at the time of drilling show no issues.

2017/2018 Assaying

Samples were shipped to ALS Minerals in Val-d'Or for preparation and analyses. The laboratory is accredited ISO/IEC 17025:2005 by the Standards Council of Canada for various testing procedures, however, the scope of accreditation does not include the specific testing procedure used to assay lithium. Sample preparation involved the sample material being weighed and crushed to 70% passing 2 mm. The ground material was then pulverized to 90% passing 75 microns before being analysed.

At ALS Minerals, prepared samples were assayed for mineralization grade lithium by specialized four-acid digestion and inductively coupled plasma – atomic emission spectrometry (ICP-AES) finish (method code Li-OG63). An approximately 0.4-g sample was first digested with perchloric, hydrofluoric, and nitric acid until dry. The residue was subsequently re-digested in concentrated hydrochloric acid, cooled and topped up to volume. Finally, the samples were analysed for lithium by ICP-AES. The method used has a lower detection limit of 0.005% lithium and an upper limit of 10% lithium.

Samples from 2017 represent roughly 44% of the total meterage of the drilling on the project.

2017/2018 QA/QC

GLCI relied partly on the internal analytical quality control measures implemented by the ALS Minerals laboratory, which involved routine pulp duplicate analyses. GLCI also implemented external analytical quality control measures including the insertion of control samples (blanks, in house standards and field duplicates) with sample batches submitted for assaying at ALS Minerals in 2017. In 2017, a number of pulp samples were also re-submitted to the SGS laboratory in Lakefield, Ontario for umpire check assays. In 2020, additional pulp samples were resubmitted to Nagrom Analytical, Perth.

Duplicate samples were inserted into each sample series at a rate of one in every 20 samples. Duplicates corresponded to a quarter core from the sample left behind as reference.

		Total insertion rate for QA/QC in 2017 was 12.4%, with which increases up to 16.6% when including umpire assays. The rate of insertion of QA/QC samples in 2017 was much improved compared to 2008 – 2010 period. No biases were identified, and a minor failure was identified in the low-grade standard, which was investigated and no issues were identified. **2021 - 2023 Assaying** Samples were shipped to ALS Minerals in Val-d'Or for preparation and analyses. The laboratory is accredited ISO/IEC 17025:2005 by the Standards Council of Canada for various testing procedures, however, the scope of accreditation does not include the specific testing procedure used to assay lithium. Sample preparation (code PREP-31A) involved the sample material being weighed and crushed to 70% passing 2 mm, with a riffle split of 250 g pulverized to 85% passing 75 microns before being analysed. At ALS Minerals, prepared samples were assayed for mineralization-grade lithium by sodium-peroxide fusion and digestion followed by inductively coupled plasma – atomic emission spectrometry (ICP-AES) finish (method code ME-ICP81). The method used has a lower detection limit of 0.001% lithium and an upper limit of 10% lithium. Samples from 2021 - 2023 represent roughly 42% of the total meterage of the drilling on the project. **2021 - 2023 QA/QC** GLCI implemented external analytical quality control measures including the insertion of control samples (blanks and in house standards) with sample batches submitted for assaying at ALS Minerals at a rate of 1 QA/QC sample for every 9 samples. A number of pulp samples were also re-submitted to the SGS laboratory in Lakefield, Ontario for umpire check assays. Total insertion rate for QAQC between 2021 and 2023 was roughly 12% when including umpire assays. No biases were identified, and two minor blank failures were identified and a re-analysis was requested. The re-analyses returned similar results to the original assays.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.* *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	James Purchase, P. Geo, Geology Manager for Galaxy Lithium Canada Inc. has visually assessed and verified the drilling results and protocols described in this announcement and has witnessed outcropping spodumene mineralization in the field. A selection of drill collar coordinates was validated by handheld GPS, and core and sample storage and security facilities were inspected. Channel sample outcrops were also inspected and found to be of high-quality. Mr. Purchase has conducted numerous site visits since 2021, the most recent being in June 2023. In addition, Luke Evans, P.Eng. of SLR Consulting (Canada) Ltd. and the Independent CP for the Mineral Resource visited the site in June 2023 and inspected outcrop, drill core and sampling storage facilities. It should be noted that the drilling between 2021 and 2023 was managed by independent geological contractors and was conducted by professional geologists registered in the Province of Québec.

		Data collection and entry procedures were also reviewed and found to be adequate. Various reanalyses of pulps have shown that there are very immaterial differences between analysing using a standard 4-acid digest and a peroxide fusion for the James Bay lithium deposit. No clear and consistent biases were defined during investigations into QAQC performances, and any failures were duly investigated and found to be minor.
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* *Specification of the grid system used.* *Quality and adequacy of topographic control.*	Drill collars were surveys by an external contractor using RTK methodology in UTM (Universal Transverse Mercator) Zone 18N. Datum is NAD83. Downhole surveys were completed using an EZ-TRAC multishot tool provided by REFLEX. Declination (-14.2) was removed to correct the data from magnetic north to geographic north. At the collar, a TN14 tool was used to measure the dip and azimuth of the casing. Topographic controls are informed by a LiDAR survey completed recently on the project.
Data Spacing and distribution	*Data spacing for reporting of Exploration Results.* *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* *Whether sample compositing has been applied.*	In the NW Sector, drilling has been completed on a nominal 80 m x 80 m spacing. Most of the Main Deposit has been drilled at a nominal spacing of approximately 50 m to satisfy the classification as Indicated Mineral Resources. No sample compositing has been undertaken.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	As the pegmatite dykes in the NW Sector are concealed by 5 m to 15 m of glacial till, it was difficult to accurately orientate the drilling at a perpendicular angle to the pegmatites as limited information was available at the time. As drilling progressed, it become apparent that the drilling was intersecting the pegmatites at a sub-optimal angle, and that the true thickness of pegmatites in drilling represent between 60% to 80% of the apparent thickness (downhole thicknesses). Although this angle is sub-optimal, the author does not believe this has introduced a sampling bias. The orientation of the dykes is well understood for the remainder of the deposit where outcrop is abundant, and drilling has been oriented perpendicular to the dyke contacts.
Sample Security	*The measures taken to ensure sample security.*	Drill core, sample rejects and sample pulps are stored in a secure environment (in a locked dome structure) at the Relais Routier 381 truck stop. Sample pulps are stored in a locked container adjacent to the dome.

Audits or reviews	*The results of any audits or reviews of sampling techniques and data*	Sampling techniques were reviewed by previous employees of Galaxy Lithium, and also by James Purchase, P.Geo, the QP of the previous Mineral Resource released in the 2021 feasibility study. In addition, external geological contractors were engaged during drilling activities to monitor the QA/QC data and logging procedures to ensure that industry best practises were followed. Lastly, Luke Evans, P.Eng. of SLR Consulting (Canada) Ltd. and the Independent CP for the Mineral Resource visited the site in June 2023 and inspected outcrop, drill core and sampling storage facilities.

Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.*	The Project comprises two contiguous packages of mining titles located on NTS map sheet 33C03, covering an area of approximately 11,130 hectares (Figure 5). The 224 claims are classified as "map designed claims", also known as CDC-type claims under the Québec governments mining title classification system and provide the holder the exclusive right to explore for mineral substances on the land subject to the claims. The claims are registered under either Galaxy Lithium (Canada) Inc. ("GLCI") or Galaxy Lithium (Ontario) Inc. ("GLOI"). Both GLCI and GLOI are wholly owned subsidiaries of Allkem. All claims are in good standing, with expiry dates between June 12, 2024, and November 2, 2025. As of the time of writing, two net smelter return ("NSR") royalties remain on the James Bay Lithium Project: • 0.50% NSR royalty previously held by Gérard Robert, which was subsequently sold to Ridgeline Royalties Inc. Portions of the mineral resources subject to this royalty are located on six claims (claim numbers: 2329097, 2329098, 2238480, 2238478, 2329101 and 2329100) of the James Bay project, although the royalty covers 11 claims in total. • 1.50% NSR royalty previously held by Resources d'Arianne Inc., subsequently sold to Lithium Royalty Corp. Allkem has the right to buy back 0.5% of the NSR for $500,000 Canadian dollars, reducing the royalty to 1.00%. Portions of the mineral resources subject to this royalty are located on two claims (claim numbers: 2126988 and 2126860) of the James Bay project, although the royalty covers 23 claims in total.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Prospector Jean Cyr first discovered spodumene pegmatite outcrops on the property in 1964. The property was staked in 1966 by Mr. Cyr and was optioned by the SDBJ in 1974, who after conducting some exploration on the property, returned it to Mr. Cyr on June 10, 1986. Commencing in 1974, SDBJ conducted an exploration program that consisted of geological mapping, systematic sampling and diamond drilling of the mineralized outcrops to evaluate the lithium potential of the property. The mapping defined an area of 45,000 square metres of outcropping spodumene dykes.

		The Centre de Recherches Minérales du Québec conducted concentration tests and chemical analyses in 1975. A composite sample of the spodumene pegmatite grading 1.7% Li_2O yielded a spodumene concentrate grading an average of 6.2% Li_2O with a recovery factor of 71%. LithiumOne acquired the claims in 2007 and embarked on an exploration campaign designed to produce a maiden mineral resource on the property. In 2012, Galaxy Resources Limited merged with Lithium One.
Geology	• *Deposit type, geological setting and style of mineralization.*	The Project is in the northeastern part of the Superior Province. It lies within the Lower Eastmain Group of the Eastmain greenstone belt, which consists predominantly of amphibolite grade mafic to felsic metavolcanic rocks, metasedimentary rocks and minor gabbroic intrusions. The property is underlain by the Auclair Formation, consisting mainly of paragneisses of probable sedimentary origin which surround the pegmatite dykes to the northwest and southeast. Volcanic rocks of the Komo Formation occur to the north of the pegmatite dykes. The greenstone rocks are surrounded by Mesozonal to catazonal migmatite and gneiss. All rock units are Archean in age. The pegmatites delineated on the property to date are oriented in a generally parallel direction to each other and are separated by barren host rock of sedimentary origin (metamorphosed to amphibolite facies). They form irregular dykes attaining up to 60 m in width and over 200 m in length. The pegmatites crosscut the regional foliation at a high angle, striking to the south-southwest and dipping moderately to the west-northwest. Spodumene is the principal source of lithium found at the Project. Spodumene is a relatively rare pyroxene that is composed of lithium (8.03% Li_2O), aluminium (27.40% Al_2O_3), and silica (64.57% SiO_2). It is found in lithium rich granitic pegmatites, with its occurrence associated with quartz, microcline, albite, muscovite, lepidolite, tourmaline and beryl.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in meters) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.*	This press release does not include new exploration results. Most holes are inclined 45 – 70 degrees towards the southeast.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or*	No exploration results have been included in this announcement, however Allkem uses the following procedures to report exploration results.

	minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. • *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Capping is not applied for the purpose of reporting exploration results. Lower cut-off used for reporting is 0.4% Li_2O%; minimum 4 m true width interval; maximum 2 m of internal waste. No metal equivalent values are used. Li% assays have been multiplied by 2.153 to transform them to Li_2O%.
Relationship between mineralization widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralization with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	Lithium mineralization in the NW Sector occurs as thick, steeply dipping pegmatite dykes ranging between 4 m and 30 m thick (true thickness), with some dykes coalescing up to 85 m true thickness in the core of the pegmatite swarm. Due to the sub-optimal angle of intercept between the drilling at the assumed orientation of the pegmatite dykes in the NW Sector, true widths have been estimated at between 60% and 80% of downhole widths.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	No exploration results have been included in this announcement.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	No exploration results have been included in this announcement.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk sample– size and*	Bulk sampling was conducted on the property in 2011, four test pits were dug to obtain metallurgical samples. An IP survey undertaken in 2020 and 2021 has uncovered potential extensions of mineralization to the east of the property, east of the Billy-Diamond Highway.

	method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Re-assaying of pulps using multi-element sodium-peroxide fusion methods has not returned economic concentrations of tantalum, tin or other elements of economic importance apart from lithium.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Downhole televiewer survey is planned to determine geometry of newly discovered pegmatites in the NW Sector. In addition, an aeromagnetic survey covering NW Sector has just been concluded and results should be available shortly. Infill drilling to convert the NW Sector to Indicated category is planned, and also deeper drilling to convert any enclaves of Inferred category within the RPEEE pit shell.

Section 3: Estimation and Reporting of Mineral Resources – James Bay Lithium Project

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	The drilling database is hosted within a relational SQL database, with all key information stored in various tables. Original copies of assay certificates are stored on a secured server. All data pertaining to the 2022 and 2023 drilling campaigns were managed externally by geological contractors and verified by Allkem personnel for accuracy. As part of the data verification process, SLR Consulting (Canada) Ltd. compared assay certificates for all drilling campaigns with the drilling database used in the mineral resource calculation and found no material errors.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	The Independent CP for the Mineral Resource (Mr Luke Evans, P.Eng. of SLR Consulting (Canada) Ltd.) visited the site between the 5th and 7th June 2023. Mineralised outcrop was visited, and drill core was inspected and compared to assay certificates. Sample and drill core storage facilities were also inspected.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.*	The geological interpretation is considered robust as it supported by both extensive outcrop and drilling. The continuity of the mineralised pegmatites is well demonstrated between drill holes and can be correlated with surface outcrops. Surface diamond drill holes have been logged for lithology, structure, geotechnical, alteration and

	• *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	mineralisation information. The lithological logging of pegmatite in combination with the Li_2O, assays, including grain size and mineralogical differentiation, have been used to guide the sectional interpretation of the pegmatites in Leapfrog Geo modelling software. Both an overburden (glacial till) model and a lithological model have been constructed based on lithological logging. Due to the consistent nature of the pegmatites identified in the resource area, no alternative interpretations have been considered. No further grade-based domaining has been used, and the current pegmatite wireframes include minor intervals of barren pegmatite without spodumene mineralisation.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource*	A total of 67 individual pegmatite dykes have been identified within the deposit. The pegmatite dykes are located within a "deformation corridor" that has been identified in drilling and outcrop along a strike length of over 5 km, of which 2.8 km has been delineated to form the current Mineral Resource. The dykes present as en-echelon orientations, varying in length between 200 m and 400 m, and perpendicular to the strike of the deformation corridor. The dykes have been traced to depths of up to 500 m vertically from surface and are mostly open at depth. Dyke width vary between 5 m to 40 m, and sometimes coalesce up to widths of 80 m.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).*	Grade estimation for Li_2O%, has been completed using Ordinary Kriging (OK) into pegmatite domains using Leapfrog Edge software. No other elements have been estimated into the block model. Hard boundaries have been used at all domain boundaries for the grade estimation. The pegmatite boundaries have been modelled to honour the geological contacts without consideration for the Li_2O% grades. Compositing has been undertaken within domain boundaries at 1.5 m with residuals less than 0.25 m absorbed into the previous composite. No top-cutting (capping) has been applied as no statistical outliers were identified. Variography has been completed in Leapfrog Edge software on pegmatites grouped by orientation and geographical location. There were insufficient samples to model variograms for each pegmatite dyke independently. No assumptions have been made regarding the recovery of any by-products. The drill hole data spacing is approximately 50 m in Indicated areas and approximately 80 m in Inferred areas.

	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.*	The block model parent block size is 3 m (X) by 5 m (Y) by 5 m (Z), which is considered appropriate for the widths of the pegmatite dykes and the proposed mining selectivity. A sub-block size of 0.75 m (X) by 1.25 m (Y) by 1.25 m (Z) has been used to define the mineralisation edges, with the estimation undertaken at the parent block scale. • Pass 1 estimations have been undertaken using a minimum of 4 and a maximum of 12 samples into a search ellipse set at approximately half of the variogram range. A 3 sample per drill hole limit has been applied in all pegmatite domains. • Pass 2 estimations have been undertaken using a minimum of 4 and a maximum of 12 samples into a search ellipse set at approximately 80% of the variogram range. A 3 sample per drill hole limit has been applied in all pegmatite domains. • Pass 3 and Pass 4 estimations have been undertaken using a minimum of 1 and a maximum of 12 samples into a search ellipse set at 120% to 200% the variogram range, respectively. A 3 sample per drill hole limit has been applied in all pegmatite domains. The Mineral Resource estimate has been validated using visual validation tools combined with volume comparisons with the input wireframes, mean grade comparisons between the block model and composite grade means and swath plots comparing the composite grades and block model grades by northing, easting and elevation. In addition, the OK grade estimate was compared with ID2 (Inverse Distance squared) and NN (Nearest Neighbour) interpolation methods. No selective mining units are assumed in this estimate. No correlation between variables has been assumed.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnes have been estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied*	For the reporting of the Mineral Resource Estimate, a raised cut-off grade of 0.5 Li_2O% was used to report the block model within a US$1,500 per tonne Whittle pit shell. The open pit discard cut-off grade was calculated at 0.16% Li_2O, however due to the absence of metallurgical test work on low-grade material, the cut-off was raised to 0.5% Li_2O.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable,*	A Whittle pit optimisation has been run at various spodumene concentrate prices in order to generate pit shells for Mineral Resource reporting purposes and to meet the RPEEE reporting requirement.

		external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	The mining assumptions/parameters applied to the optimisation for the Mineral Resource were taken from the previous feasibility study (updated parameters were not available at the time) and are: • Spodumene concentrate (6.0% Li_2O) – US$$1,500 per tonne. • Li_2O% metallurgical recovery – 70.1% • Concentrate Transport – US$$86.16 per tonne concentrate • NSR Royalty – 0.32% • Processing – CAD$13.23 per tonne ore • G&A – CAD$13.86 per tonne ore • Closure + Sust. CAPEX + IBA + Miscellaneous – CAD$6.83 per tonne ore • Mining Cost – CAD$4.82 per tonne mined These parameters were subsequently updated for the Ore Reserve to adjust for inflationary pressures since the 2021 FS. This resulted in a marginal increase in the cut-off grade, which remains significantly lower than the 0.5% Li_2O used to report the Mineral Resource. US$ exchange rate of 1.33 (CAD:US$) has been applied in the Whittle optimisation. Both Inferred and Indicated Mineral Resource classifications have been utilised in the RPEEE optimisation.
Metallurgical factors or assumptions	•	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	An overall Li_2O% metallurgical recovery of 70.1% has been applied during the pit optimisation and generation of the mineral resource RPEEE pit shell and is based on numerous campaigns of metallurgical test work on samples sourced from the pit design.
Environmental factors or assumptions	•	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential*	No environmental factors or assumptions have been incorporated into this Mineral Resource Estimate, and there is no current surface infrastructure to constrain the eventual pit footprint. No protected zones that would obstruct the award of a future mining lease are present at the project. Allkem received the federal approval of the ESIA in January 2023, and provincial approval is pending.

	environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made	
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit,* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	In the block model, bulk density within the pegmatite lithology was assigned using the following regression formula: Bulk Density (g/cm³) = (0.0669 x Li_2O %) + 2.603 Outside the pegmatite wireframes, the mean bulk densities shown in the table below were assigned into the block model by lithology. Overburden was assumed to have a bulk density of 2.2 g/cm³.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories* • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	The resource classification has been applied to the MRE based on the drilling data spacing, grade and geological continuity, quality of the estimation and data integrity. The block classification was based primarily on drill hole spacing, geological and grade continuity and the average distance of composites to a given block. The block classification was subsequently manually modified to ensure a coherent, contiguous classification suitable for mine planning purposes. Within the pegmatite dyke wireframes, the following criteria was used: • No Measured Mineral Resources were identified. • Indicated Mineral Resources were identified in areas defined by a nominal drill spacing of 50 m x 50 m. • Inferred Mineral Resources were identified in areas defined by a nominal drill spacing of 80m x 80m. The classification reflects the view of the Competent Person.

Lithology	# Samples	Mean Bulk Density (g/cm³)
Pegmatite	299	2.72
Metasediments	104	2.76
Diabase	4	3.04
Biotite Schist	31	2.89
Feldspar Porphyry	1	2.67

Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	The Mineral Resource estimate for the James Bay project has been produced independently of Allkem by SLR Consulting (Canada) Ltd., and peer reviewed and validated internally by Allkem employees (James Purchase, P.Geo., M.AusIMM(CP) and Albert Thamm, F.AusIMM). The tonnages and grades have been verified in more than one software package.
Discussion of relative accuracy/ ***confidence***	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available*	The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code. No geostatistical study has been conducted to quantify accuracy nor confidence within confidence limits (conditional simulation) Grade estimates are local on a domain-by-domain basis and drill spacing is sufficient for a local grade estimate suitable as input into mine planning. No reconciliation data is available as the deposit is not in production.

Section 4: Estimation and Reporting of Ore Reserves – James Bay Lithium Project

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.*	The Mineral Resource of 54.3 Mt at 1.30% Li_2O in the Indicated Category, and 55.9 Mt at 1.29% Li_2O in the Inferred Category was used as a basis for the Mineral Reserve. The effective date of the Mineral Resource is August 9th, 2023.

	• *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	The Ore Reserve for the James Bay Project is estimated at 37.3 Mt, at an average grade of 1.27% Li2O. The Ore Reserve was prepared by SLR Consulting (Canada) Ltd. ("SLR") effective as of August 31, 2023. The Ore Reserve does not include any Inferred Mineral Resources which were classified as waste for reporting purposes.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	The CP for the Mineral Resource (Mr. Luke Evans, P.Eng.) visited the project in June 2023. The CP for the Ore Reserve has not visited the Project.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	The James Bay Lithium Project is at a Feasibility Study level.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	A raised cut-off grade is at 0.62% Li_2O was adopted due to metallurgical considerations, however the breakeven cut-off grade was calculated at 0.27% Li_2O.
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e., either by application of appropriate factors by optimization or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made, and Mineral Resource model used for pit and*	The mining method is conventional open pit, drill blast, truck and shovel and selective mining. The slope configuration recommendations are presented in the table below. The pit slope profile is based on recommendations by Petram Mechanica: **Slope Parameters** Final Bench Height (m): 20.0 Bench Face Angle (°): 75 Avg. Design Catch Bench Width (m): 9 Inter-ramp Angle (°): 54 Overall Slope Angle (°): 48 Geotechnical benches (m): 20 Open pit optimization was conducted in GEOVIA WhittleTM to determine the optimal economic shape of

stope optimization (if appropriate).

- *The mining dilution factors used.*
- *The mining recovery factors used.*
- *Any minimum mining widths used.*
- *The way Inferred Mineral Resources are utilized in mining studies and the sensitivity of the outcome to their inclusion.*
- *The infrastructure requirements of the selected mining methods.*

the open pit to guide the pit design process. Optimization parameters are shown below:

Parameter	Units	Value
Processing Rate	kt/y	2,000
Mining Dilution	%	8.7%
Mining Loss	%	0.4%
Plant Head Grade	% Li_2O	1.27%
Process Recovery	%	68.9%
Concentrate Grade	% Li_2O	5.6%
Contained Li2O	kt	327.3
Concentrate Produced (@5.6%)	kt	5,845
Commodity Prices		
Exchange Rate	CAD/US$	1.33
Spodumene (Conc. @6%)	US$/t	1,500
Transport & Insurance	US$/t	105.8
Unit Costs		
Plant	CAD/t ore	18.13
G&A Cost (including royalties + IBA fixed payments)	CAD/t ore	28.18
Closure & Reclamation	CAD/t ore	3.34
Sustaining Capital	CAD/t ore	6.65
Ore Based Cost	CAD/t ore	56.30
Break-even Cut-off Grade (Calculated)	%	0.27%
Fixed Cut-off Grade	%	0.62%
Mining Cost	CAD/t mined	5.70
Overall Slope Angle	Deg	47.50

A raised cut-off grade was adopted at 0.62% Li_2O. The average mining dilution factor is 8.7% at 0.42% Li2O. The LOM metallurgical recovery was assumed at 68.9%.

The equipment requirements are based on mining 10 m benches, including 11-m3 and 6.3-m3 bucket diesel hydraulic excavators (backhoe configuration), and up to nine 100-t rigid frame haul trucks, two 10.7-m^3 front end loaders, two drills, and secondary equipment like track dozers, wheel dozers, graders, and water trucks. Personnel needs are devised on two Fly-In, Fly-Out (FIFO) rosters, peaking at 164 individuals on site in Year 10.

Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	The James Bay Project will have a crushing circuit and a dense media separation plant. Metallurgical processes are operational at up to 2.0Mpta nameplate. The LOM Plant Recovery is estimated to be 68.9%. The metallurgical process is well understood and well tested in the industry. Both SGS and Nagrom received bulk samples of 14,690kg and 400kg respectively. These samples were considered representative of the ore body as a whole. Gravity separation test work on a single composite sample and crushing particle size were undertaken by SGS Canada Inc. ("SGS") and Nagrom resulted in improved recovery and final product grade. These tests were deemed representative. Full-scale plant performance of Mt Cattlin and other Australian operations were compared to the James Bay test work data. A final recovery scale-up factor of 0.85 for the early years and 0.82 for the mid/later years was adopted. Metallurgical test work was conducted by SGS Canada Inc. and Nagrom to determine optimal plant operating recoveries. For a final spodumene concentrate grading 5.6% Li_2O, modelling indicates that a recovery of 69.6% in the early years and 66.9% in later operating years is a reasonable assumption
Environment	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterization and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	The Project is subject to a federal and provincial environmental assessment, which must be consistent with the James Bay and Northern Québec Agreement ("JBNQA"). In January 2023, the Federal Minister for the Environment and Climate Change issued federal authorisation for the Project. Allkem is now awaiting the issuance of provincial authorisation by the Government of Québec following completion of the environmental and social impact assessment and review process by the COMEX. Once the key approvals are obtained, there are a range of other approvals required prior to commencing construction at James Bay. In 2017, various studies were undertaken to update a former data collection from 2011 to obtain necessary baseline information required to assess the Project's impacts as part of the ESIA. Other complementary baseline studies were conducted in 2019 and 2020. The four main lithologies, namely barren pegmatite, gneiss, banded gneiss and mafic volcanic/basalt are considered Non-Potential Acid Generating ("Non-PAG"). Some metal leaching that exceeded the criteria applicable for resurgence to surface water (RES) was encountered during the first weeks of testing, but all metals complied with the RES criteria after week 14.
Infrastructure	• *The existence of appropriate*	The following infrastructure facilities are planned for the Project:

	infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labor, accommodation; or the ease with which the infrastructure can be provided or accessed.	• 69 kV main-substation • Administrative and laboratory building • Operations camp • Workshop and reagent buildings • Propane storage and distribution facility • Diesel storage and distribution facility • Truck-shop including a wash-bay • Cold dome warehouse for the storage of critical parts • Water treatment plant (effluent) • Potable water treatment plant • Sewage treatment plant • ROM pad and stockpile • Crushed mineralized material stockpile • Four Waste Rock and Tailings Storage Facilities ("WRTSFs") • Overburden and Peat Storage Area ("OPSF") • Two Water Management Ponds ("WMPs") and a Plant Water Management Pond • Contact water ditches and non-contact diversion water ditches • Fine and coarse tailing warehouse building • Spodumene concentrate warehouse facility • Emulsion and explosive storage and distribution facility The Eastmain airport (130 km from site) will be used to transport workers from southern Québec. The Project lands, subject to mining claims are easily accessed by the Billy Diamond Highway. The process plant and supporting infrastructure will be powered by Hydro-Québec's 69 kV overhead distribution system. The 69 kV transmission line is relayed through Hydro-Québec's Muskeg substation and ultimately fed by the Némiscau substation located roughly 100 km southwest of the Project site. An overhead distribution line extension was built to the plant substation from the 69 kV line (L-614) located 10km south of the Project site. The 69 kV power supply is limited by a capacity of 8 MVA due to the sensitivity of the network and distance from the supplying substation
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of*	The mine operating costs are estimated from first principles for all mine activities. Equipment hours required to meet production needs of the LOM plan are based on simulations over the Life of Mine. Transportation charges of the concentrate from the Mine to Matagami by truck and from Matagami to Trois-Rivières by rail, were based on quotations from road and railway transporters. The forecasting of revenues was based on a market study done by a specialized firm and internal research. Royalties have been calculated for the mine production plan based on known agreements and preliminary estimates from IBA discussions.

deleterious elements.

- *The source of exchange rates used in the study.*
- *Derivation of transportation charges.*
- *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.*
- *The allowances made for royalties payable, both Government and private.*

Exchange rate used is CAD 1.33/US$, based on long-term forecasts. Treatment and refining charges are not applicable as spodumene is sold on an open market with clear pricing.

The capital expenditure ("CAPEX") for Project construction, including processing, mine equipment purchases, infrastructures and other direct and indirect costs is estimated and summarized in the table below and are based on information in-hand at the detailed engineering stage of the Project.

The total initial project CAPEX including an 6.2% contingency is estimated at US$ 381.5M. Deferred and Sustaining CAPEX is required during operations for additional equipment purchases, a truck shop bay addition, and mine civil works.

Summary of LOM Capital Costs

Capital Expenditures	US$ M
Initial CAPEX (US$ M)	
001 - General	1.4
100 - Infrastructure	47.2
200 - Power and Electrical	45.4
300 - Water	27.3
400 - Surface Operations	8.4
500 - Mining Open Pit	32.3
600 - Process Plant	84.5
700 - Construction Indirects	73.4
800 - General Services	34.3
900 - Pre-production, Start-up, Commissioning	4.9
990 - Contingency	22.4
Total Initial CAPEX	**381.5**
Deferred and Sustaining CAPEX (US$ M)	
001 - General	7.4
100 - Infrastructure	2.5
200 - Power and Electrical	0.9
300 - Water	53.0
500 - Mining	84.9

600 - Process Plant	2.8
Others	39.8
Total Deferred and Sustaining CAPEX	191.3

Operating costs include mining, processing, general and administrative services, mining, processing and concentrate transportation. The LOM operating cost summary is presented in the table below.

Summary of LOM Cash Operating Costs

Item	Total Cost (US$ M)	Unit Cost US$/ t Concentrate Produced
Mining	728.8	124.4
Processing	508.3	86.8
General and Administration	515.7	88.0
Concentrate Transportation	632.5	107.9
Total	**2,385.2**	**407.1**

Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	Ore Reserves are estimated using the following metal prices (Li2O Conc = US$1,500/t Li2O at 6.0% Li2O) and an exchange rate of CAD/US$ 1.33. Spodumene concentrate prices were based on WoodMac recommendations and adjusted in the financial model to represent a 5.6% Li_2O product. Transport and insurance charges were estimated at CAD 141.05.
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer*	Lithium has diverse applications including ceramic glazes, enamels, lubricating greases, and as a catalyst. Demand in traditional sectors grew by approximately 4% CAGR from 2020 to 2022. Rechargeable batteries dominate lithium usage which accounted for 80% of demand in 2022, with 58% attributed to automotive applications. Growth is forecast at 11% CAGR between 2023-2033 for total lithium demand, 13% for automotive, and 7% for other applications. Growth is expected to slow as the market matures. Different lithium chemical compositions are used in various products. Lithium carbonate and hydroxide accounted for 90% of refined lithium demand in 2022. High demand is expected for lithium hydroxide due to high-nickel Li-ion batteries, and LFP cathode demand is growing, especially in China. Wood Mackenzie predicts growth in lithium carbonate at 14% CAGR between 2023-2033. Historical underinvestment and strong EV demand have created a supply deficit, influencing prices and

	specification, testing and acceptance requirements prior to a supply contract.	investment in additional supply. Market balance remains uncertain due to project delays and cost overruns. The market is forecast to be in deficit in 2024, have a fragile surplus in 2025, and a sustained deficit from 2033. Prices have fluctuated in 2022-2023, with factors like plateauing EV sales, Chinese production slowdown, and supply chain destocking influencing trends. BG Carbonates' prices are linked to demand growth for LFP cathode batteries and are expected to decline but rebound by 2031. Lithium Hydroxide's growth supports a strong demand outlook, with long-term prices between US$25,000 and US$35,000 per tonne (real US$ 2023 terms). Chemical-grade Spodumene Concentrate's prices are expected to align with market imbalances, with a long-term price forecast between US$2,000 per tonne and US$3,000 per tonne (real US$ 2023 terms). Allkem has relied on external spodumene concentrate price forecasts provided by Woodmac for this feasibility study update.
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	An economic analysis of the project was carried out utilizing the discounted cash flow (DCF) method. This approach draws on comprehensive data and detailed assumptions pertaining to capital and operating costs, which are elaborated upon in this report. The costs encapsulate mining, processing, and other associated infrastructure requirements. For the financial analysis, an average life-of-mine spodumene concentrate price of US$2,022 was calculated based on the WoodMac forecast, adjusted downwards to US$1,921 to represent a 5.6% Li_2O final product. For the purpose of this analysis, an exchange rate of CAD 1.33 per US$ was applied to convert specific cost estimates from US$ to Canadian dollars. Importantly, no provisions were made to account for inflation, and all monetary values were assessed on a constant 2023 CAD basis, reflecting the base currency utilized in this evaluation. The assessment was carried out entirely on a 100% equity basis, and it should be noted that exploration costs are considered outside of this particular project scope. Consequently, any additional study costs related to the project were omitted from the analysis.

Production Summary (Life-of-Mine)	Units	Value
Tonnage Mined	000 t	169,999
Ore Processed	000 t	37,296
Strip Ratio	W:O	3.6
Spodumene Concentrate	000 dmt	5,845
Metal		Li_2O
Head Grade	% Li_2O	1.27
Contained Metal	000 t Li	221

Recovered Metal	000 t Li	152
Cash Flow Summary		
Gross Revenue	million US$	11,263
Mining Costs (incl. rehandle)	million US$	-729
Processing Costs	million US$	-508
Concentrate Transportation	million US$	-632
G&A Costs (including royalties and IBA fixed payments)	million US$	-760
Total Operating Costs (incl. Royalties)	million US$	-2,629
Operating Cash Flow	million US$	8,634
Initial CAPEX	million US$	-382
Operation Cost during Construction	million US$	-30
Owners cost and Sustaining CAPEX	million US$	-191
Total CAPEX	million US$	-603
Salvage Value	million US$	0
Closure Costs	million US$	-94
Interest and Financing Expenses	million US$	0
Taxes (mining, prov. & fed.)	million US$	-3,224
Before-Tax Results		
Before-Tax Undiscounted Cash Flow	million US$	7,866
NPV 8% Before-Tax	million US$	2,947
Project Before-Tax Payback Period	years	1.4
Project Before-Tax IRR	%	62.2
After-Tax Results		
After-Tax Undiscounted Cash Flow	million US$	4,643
NPV 8% After-Tax	million US$	1,687
Project After-Tax Payback Period	years	1.7
Project After-Tax IRR	%	45.4

The Feasibility Study demonstrates strong financial outcomes with a Post-tax NPV8% real of US$1,687 million and IRR of 45.4%. The NPV of the project is most sensitive to movements in the price of spodumene and foreign exchange fluctuations, followed by operating costs and development capital costs.

Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	Allkem established a stakeholder consultation and engagement process as part of its project acceptance activities, which allowed GLCI to gather information, questions and expectations of local communities and stakeholders. Mitigation measures were proposed based on the consultation process. Allkem signed a Preliminary Development Agreement ("PDA") with the Cree Nation of Eastmain, Grand Council of the Cree and Cree Nation Government dated on March 15, 2019. This PDA is to be replaced by an Impact Benefit Agreement ("IBA"), currently under negotiation, before project construction. Meetings were organized with the Eastmain Cree community to inform and consult stakeholders concerned by this mining development. These meetings were primarily aimed at socioeconomic stakeholders, RE1, RE2, RE3, VC33 and VC35 tallymen, the users of the territory of these traplines, and members of the Eastmain community. RE2 trapline is the most impacted. Meetings were also organized with Waskaganish and Waswanipi where community members, designated senior community officials and tallymen were consulted.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	All mining claims are currently in good standing, and current stakeholder engagement indicates no reasonable objections with the Project. Allkem has not entered into any marketing arrangements for the James Bay Project Allkem has received federal authorisation for the Project. Allkem is now awaiting the issuance of provincial authorisation by the Government of Québec, as environmental and social impact assessments have been completed and submitted and under review process by the COMEX. Once the key approvals are obtained, there are a range of other approvals required prior to commencing construction at James Bay.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	Only Probable Ore Reserve category has been determined for the project. The Ore Reserve result reflects the Competent Persons view of the deposit. All Probable Ore Reserves have been derived from Indicated Category Mineral Resources.

	• *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	No external audits and reviews have been conducted on the Ore Reserves, however SLR Consulting (Canada) Ltd. have comprehensive internal quality control check procedures.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	SLR is satisfied that the geological modelling honours the current geological information and knowledge. The location of the samples and the assay data are sufficiently reliable to support resource evaluation. Sufficient modifying factors and economic considerations have been applied to the indicated Mineral Resource to declare the Probable Ore Reserve. These modifying factors have been adjusted for inflationary pressure observed since the 2021 feasibility study.