SAYONA MINING LIMITED

ASX ANNOUNCEMENT

ASX: SYA

14 April 2023

DEFINITIVE FEASIBILITY STUDY CONFIRMS NAL VALUE WITH A$2.2B NPV

Highlights

- **Definitive feasibility study estimates A$2.2B (C$2B) (C$1 = A$1.11) pre-tax net present value (NPV) (8% discount) for spodumene concentrate produced from combined North American Lithium (NAL) and Authier Lithium Project, demonstrating Abitibi lithium hub's long-term financial and technical viability**

- **Revisions to mineral resources and ore reserves improved head grade, recovery and total production, driving enhanced NPV compared with 2022 Pre-Feasibility Study (PFS) outcomes**

- **Production target increased to life-of-mine (LOM) average 190,000t annual concentrate production, supporting after-tax IRR of 2,545%; total net revenue of around A$7.6B and project EBITDA of A$3.7B; NAL production capacity of 226,000 tonnes per annum (tpa) for next four years until start of downstream operations**

- **Low-risk operation set to become leading North American source of hard rock lithium production, powering North America's battery and EV revolution.**

North American lithium producer Sayona Mining Limited (ASX:SYA; OTCQB:SYAXF) ("Sayona" or the "Company") announced today a definitive feasibility study (DFS) combining its Québec flagship North American Lithium (NAL) operation and nearby Authier Lithium Project, which demonstrates the Abitibi lithium hub's long-term financial and technical viability. NAL and Authier are part of Sayona Québec, owned 75% by Sayona Mining and 25% by Piedmont Lithium Inc (Nasdaq:PLL; ASX:PLL).

The estimated, pre-tax net present value (NPV) of A$2.2 billion (C$2B) (at 8% discount rate) (C$1 = A$1.11) represents a substantial rise in project NPV compared with NAL's PFS (refer ASX release 23 May 2022). The operation is expected to generate estimated total net revenue of A$7.6 billion with EBITDA of A$3.7 billion.

Improvements in estimated project financial returns have been driven by the accelerated restart program, increased estimated head grade of 1.04% Li2O, high initial recovery rate (70.2%) and expanded LOM average

annual concentrate production of around 190,000t (up 16% compared to the PFS), together with higher spodumene concentrate pricing.

NAL's production capacity will comprise 226,000 tpa for the next four years until the commencement of downstream operations, subject to joint venture approval.

This DFS replaces the information provided in the May 2022 PFS.

A strategic review of Mineral Resources and Ore Reserves was undertaken as part of the NAL restart to create opportunities to improve project NPV. This revised Ore Reserve estimate has created the opportunity to improve project economics and has allowed Sayona to enhance its understanding of the mine's block model.

The revised block model has resulted in a reduction in Ore Reserves and certain Indicated Resources have been reclassified as Inferred based on new model interpretation. While Ore Reserves and Indicated Resources have been reduced or reclassified in the near term, potential exists to convert current Inferred Resources to the Measured and Indicated categories through new drill programs currently underway.

The current LOM has been estimated at 20 years; however, there is high potential for extension of the mine life with a 50,000m drilling campaign scheduled for 2023.

The first phase of this program, (~16,000m) will primarily target conversions of Inferred resources to Indicated within the current pitshell footprint. A component for exploration along the northwest and southeast strike extensions of the NAL deposit is also part of the program.

The DFS financial model treats the acquisition costs and restart capital invested prior to 31 March 2023 as sunk costs for the purposes of calculating financial returns. To date, Sayona Québec has invested C$98M in NAL acquisition costs and C$55M in restart expenses.

NAL's restart has tracked on schedule and within budget, with the operation already having produced more than 3,000 tonnes of saleable spodumene (lithium) concentrate as of 31 March 2023. The first lithium shipment is expected to occur in July 2023, with Sayona targeting total production between 85,000 and 115,000 tonnes during the first half of fiscal 2024 (refer to ASX release of 17 February 2023).

Sayona's Managing Director, Brett Lynch, said the positive DFS reaffirmed the Company's confidence in the long-term value of the NAL operation.

"This DFS demonstrates the benefits of our hub strategy in Abitibi, with NAL proving to be one of the lowest cost and highest returning investments in the lithium industry. We are now in the process of successfully derisking the NAL operation, which will generate long-term, sustainable returns for shareholders together with providing new jobs and investment for Québec," Mr Lynch said.

"Furthermore, we intend to expand upon this strong foundation as we now approach the move towards downstream processing. Sayona aims to become the first and the only, fully integrated, lowest carbon footprint lithium chemical producer for delivery into North America.

"The growing number of battery and EV investments planned for Québec demonstrate the strategic location of our operation, which benefits from access to sustainable, low-cost hydropower together with world-class infrastructure, skilled labour and proximity to key battery markets.

"I would like to again congratulate our entire Québec team, together with our joint venture partner Piedmont Lithium for delivering this challenging task on time and within budget."

The NAL operation will represent the most significant source of hard rock lithium production in North America, boosting Québec's plans for the development of a local battery sector, from mining to manufacturing.

DFS HIGHLIGHTS

Metrics	Unit	PFS 2022	DFS 2023
Life of Mine	*years*	27	20
Processing: Average Annual Ore Feed to Plant	*Mtpa*	1.4	1.4
Mining: Total Material Mined	*Mt*	183.4	201.1
LOM - Mill daily throughput	*tonnes/day*	4,200	4,200
Years 1-4 average[1] concentrate production	*tonnes*	150,236	226,000
After year 5 to end of LOM average[2] concentrate production	*tonnes*	163,799	185,814
LOM average annual concentrate production	*tonnes*	163,266	190,039
Years 1-4 recovery[3]	*%*	67.7	70.2
Years 5-20 recovery[3]	*%*	67.7	66.3
Average LOM recovery	*%*	67.7	67.4
Average Blended Crusher Feed Grade	*% Li_2O*	0.96	1.04
Average LOM strip ratio	*waste:ore*	5.3	8.3
Financial Metrics			
LOM Spodumene Concentrate Market Price	*US$/t*	1,242	1,352
C$ / US$ assumption	*C$ / US$*	0.76	0.75
5 years Cumulative FCF	*C$ million*	225	1,005
Project Capital Cost – Re-Starting NAL	*C$ million*	91	0
Sustaining Capital Cost	*C$ million*	210	375
Total Net Revenue	*C$ million*	7,016	6,818
Project EBITDA	*C$ million*	3,176	3,318
Mining cost	*C$/t*	4.77	4.75
Milling cost	*C$/t*	23.9	27
AISC	*C$/t conc*	927	987
Total Cash Cost	*C$/ t conc*	609	817
Pre-Tax Net Present Value (NPV)	*C$ million*	952	2,001
Pre-Tax Internal Rate of Return (IRR)	*%*	140	4,701
Discount Rate	*%*	8	8
Pre-Tax Project payback period	*years*	2	N/A
After-tax NPV	*C$ million*	751	1,367
After-tax payback period	*years*	2.1	N/A
After-tax IRR	*%*	139	2,545

Notes:

1. Production targets are based on Ore Reserves Estimates (see Table 2 and Table 4 below) which consider the open pit constrained portion of the Measured and Indicated Mineral Resources. Inferred Mineral Resources are considered as waste. In addition to the 21.7 Mt of ore, a total of 172.3 Mt of waste and 7.1 Mt of overburden must be mined, resulting in an overall LOM strip ratio of 8.3.
2. NAL Ore Reserves result from a positive pre-tax financial analysis based on a variable 5.4% to 5.82% Li2O spodumene concentrate average selling price of US$1,352/t and an exchange rate of 0.75 US$:1.00 C$. The selected optimised pit shell is based on a revenue factor of 0.6 applied to a base case selling price of US$1,273/tonne of concentrate;

3. Excluding ramp up time of 6 months. Producing spodumene concentrate @ 5.4%
4. Feed for Sayona carbonate plant
5. Carbonate plant project start-up by fourth year

NAL MINERAL RESOURCE ESTIMATE

Table 1: North American Lithium Project Mineral Resource Estimate

NAL – Open Pit Constrained Mineral Resource Statement using a 0.6% Li_2O cut-off						
	DFS 2023			*PFS 2022		
Category	Tonnes (Mt)	Li_2O(%)	Contained Li_2O(t)	Tonnes (Mt)	Li_2O(%)	Contained Li_2O(t)
Measured	1.0	1.19	11,700	1.5	0.99	14,600
Indicated	24.0	1.23	296,600	52.8	1.01	533,300
Measured and indicated	25.0	1.23	308,200	54.3	1.01	548,200
Inferred	22.0	1.20	264,100	13.9	0.96	133,200

NAL – Underground Constrained Mineral Resource Statement using a 0.8% Li_2O cut-off						
	DFS 2023			*PFS 2022		
Category	Tonnes (Mt)	Li_2O(%)	Contained Li_2O(t)	Tonnes (Mt)	Li_2O(%)	Contained Li_2O(t)
Measured	-	-	-	-	-	-
Indicated	-	-	-	19.4	1.18	228,900
Measured and indicated	-	-	-	19.4	1.18	228,900
Inferred	11.0	1.30	141,800	14.4	1.19	171,000

NAL – Total Open Pit and Underground Constrained Mineral Resource Statement						
	DFS 2023			*PFS 2022		
Category	Tonnes (Mt)	Li_2O(%)	Contained Li_2O(t)	Tonnes (Mt)	Li_2O(%)	Contained Li_2O(t)
Total JORC Resource (Measured, Indicated, and Inferred)	58.3	1.23	714,200	101.9	1.06	1,081,300

Notes

1. The Competent Person is responsible for the 2023 Mineral Resources estimate. The previous estimate is given as additional information to the reader but it has been superseded by the 2023 Mineral Resource estimate.

2. The independent Competent Person (CP) for the Mineral Resource Estimate (MRE), as defined by JORC, is Pierre-Luc Richard, P.Geo., of PLR Resources Inc. The effective date of the estimate is 31 December 2022.
3. These mineral resources are not mineral reserves as they do not have demonstrated economic viability. The quantity and grade of reported Inferred resources in this MRE are uncertain in nature and there has been insufficient exploration to define these resources as Indicated or Measured; however, it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
4. Resources are presented undiluted, pit constrained and within stope shapes, and are considered to have reasonable prospects for economic extraction. Although the calculated cut-off grade is 0.15% Li_2O for open pit, a cut-off grade of 0.60% Li_2O was used for the MRE due to processing limitations.
5. The pit optimisation was done using Deswik mining software. The constraining pit shell was developed using pit slopes of 46 to 53 degrees.
6. The open-pit cut-off grade and pit optimisation were calculated using the following parameters (amongst others): 5.40% Li_2O concentrate price = US$1,273 per tonne; C$:US$ exchange rate = 1.32; Hard Rock and Overburden Mining cost = C$5.12/t mined; Mill Recovery of 73.6%; Processing cost = C$23.44/t processed; G&A = C$6.00/t processed; Transportation cost = C$118.39/t conc; Tailing Management Cost = C$2.86/t processed, and Water treatment C$0.18/t processed.
7. The cut-off grade for underground resources was calculated at 0.62% Li_2O , but rounded to 0.60% Li_2O; it used identical costs and recoveries, except for mining costs being at C$100/t. Cut-off grades will be re-evaluated in light of future prevailing market conditions and costs.
8. The MRE was prepared using Leapfrog Edge and is based on 247 surface drillholes. The resource database was validated before proceeding to the resource estimation. Grade model resource estimation was interpolated from drillhole data using OK and ID2 interpolation methods within blocks measuring 5 m x 5 m x 5 m in size and subblocks of 1.25 m.
9. The model comprises 49 mineralised dykes (which have a minimum thickness of 2 m, with rare exceptions between 1.5 m and 2 m).
10. High-grade capping was done on the composited assay data. Capping grades was fixed at 2.3% Li_2O. A value of zero grade was applied in cases where core was not assayed.
11. Fixed density values were established on a per unit basis, corresponding to the median of the SG data of each unit ranging from 2.70 g/cm^3 to 3.11 g/cm^3. A fixed density of 2.00 t/m^3 was assigned to the overburden.
12. The MRE presented herein is categorised as Measured, Indicated and Inferred Resources. The Measured Mineral Resource is limited to 10 m below the current exposed pit. The Indicated Mineral Resource is defined for blocks that are informed by a minimum of two drillholes where drill spacing is less than 80 m. The Inferred Mineral Resource is defined where drill spacing is less than 150 m. Where needed, some materials have been either upgraded or downgraded to avoid isolated blocks and spotted-dog effects.
13. The number of tonnes (metric) was rounded to the nearest hundred thousand and the number of contained Li2O tonnes was rounded to the nearest hundred.

NAL ORE RESERVE ESTIMATE

North American Lithium Project JORC Ore Reserve Estimate (0.60% Li_2O cut-off grade)						
	DFS 2023			*PFS 2022		
Category	Tonnes (Mt)	Li_2O(%)	Contained Li_2O(t)	Tonnes (Mt)	Li_2O(%)	Contained Li_2O(t)
Proved Ore Reserve	0.7	1.24	8,700	1.2	0.92	10,900
Probable Ore Reserve	21.0	1.08	226,800	28.0	0.96	269,400
Total Ore Reserves	21.7	1.08	235,500	29.2	0.96	280,300

Table 2: North American Lithium Project Ore Reserves Estimate

Notes

1. The Competent Person is responsible for the 2023 Ore Reserves estimate. The previous estimate is given as additional information to the reader but it has been superseded by the 2023 Ore Reserves estimate.
2. Ore reserves are measured as dry tonnes at the crusher above a diluted cut-off grade of 0.60% Li2O.
3. Probable Ore Reserves include 347kt of ore at 0.96% Li2O currently stockpiled at the crusher pad.
4. Ore Reserves result from a positive pre-tax financial analysis based on a variable 5.4% to 5.82% Li2O spodumene concentrate average selling price of US$1,352/t and an exchange rate of 0.75 US$:1.00 C$. The selected optimised pit shell is based on a revenue factor of 0.6 applied to a base case selling price of US$1,273/tonne of concentrate;
5. Topographic surface as of 31 December 2022 and mining forecast was used to adjust for 31 March 2023.
6. The reference point of the Ore Reserves Estimate is the NAL crusher feed.
7. In-situ mineral resources are converted to Ore Reserves based on pit optimisation, pit design, mine scheduling and the application of modifying factors, all of which support a positive LOM cash flow model. According to the JORC Code, inferred resources cannot be converted to Ore Reserves.
8. The waste and overburden to ore ratio (strip ratio) is 8.3.
9. The Ore Reserves for the Project have been estimated by Mélissa Jarry, P.Eng. OIQ #5020768, a Competent Person as defined by JORC. The effective date of the estimate is 27 March 2023.
10. Totals may not add up due to rounding of significant figures.

The NAL Ore Reserves Estimate has been classified according to the underlying classification of the Mineral Resource Estimates and the status of the modifying factors. The status of the modifying factors is generally considered sufficient to support the classification of Proved Ore Reserves when based upon Measured Mineral Resources and Probable Ore Reserves when based upon Indicated Mineral Resources.

Analysis of the financial model on the main economic assumptions indicates that the project is robust in terms of all operating costs, recoveries and product pricing; it is most sensitive and at greatest risk to

changes impacting revenue, commodity prices, exchange rates and operating costs.

Applicable Modifying Factors for NAL Ore Reserves

For the conversion of Mineral Resources to Ore Reserves, it is necessary to apply a variety of modifying factors:

1. Metallurgical Recoveries: A mass balance was produced based on the NAL restart flowsheet, feeding a blended ore consisting of 33% Authier ore and 67% NAL ore. Lithium recovery over the LOM is estimated to be an average of 67.4% for the blend based on metallurgical test work results and historical operational data.
2. Cut-off Grade: A metallurgical cut-off grade (COG) of 0.60% Li_2O was used.
3. Mining Dilution and Mining Ore Losses: A detailed dilution model was developed by BBA Inc. and coded into the mining block model. The geological ore losses (dykes having a width under 2 m) are approximately 12% and the mining dilution is approximately 16% dilution. To account for operational errors, an additional mining ore loss factor of 3% was considered.
4. Iron content: The iron content can have an impact on the metallurgical recovery and on the quality of the spodumene concentrate. Inside the pegmatite dyke, the average iron content is 0.29% Fe while the average iron grade in the host rock is between 2.3% Fe and 6.7% Fe.
5. Status of Environmental Approvals, Mining Tenements and Approvals and Other Government Factors: Sayona plans to restart NAL mining and ore treatment operations in accordance with existing approvals by provincial and federal authorities. The concentrator has approval for throughput of 3,800 tonnes per day (tpd). A planned increase to 4,500 tpd has been submitted to the authorities for approval in January 2023. The increase will not trigger federal or provincial environmental examination procedures.

AUTHIER MINERAL RESOURCE ESTIMATE

Table 3: Authier Lithium Project Mineral Resource Estimate (0.55% Li_2O cut-off grade)

Table and notes referred from previous ASX announcement dated 1 March 2022

Authier – Open Pit Constrained Mineral Resource Statement using a 0.55% Li_2O cut-off			
Category	**Tonnes (Mt)**	**Li_2O(%)**	**Contained Li_2O(t)**
Measured	6.0	0.98	59,200
Indicated	8.09	1.03	83,400
Measured and Indicated	14.1	1.01	142,800
Inferred	2.9	1.00	30,000

Notes

1. The Mineral Resource estimate has been estimated in accordance with the JORC Code (2012)
2. Mineral Resources that are not mineral reserves do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mining Reserves.
3. Bulk density of 2.71 t/m³ is used.
4. Effective date 6 October 2021.
5. Only Blocks centroids had to be inside the pit to be considered.
6. Pit used: Authier20210821_977.dxf
7. Rounded to the nearest thousand. Rounding may result in apparent summation differences between tonnes, grade, and contained metal content.
8. This estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
9. Open pit Mineral Resource statement is reported at a cut-off grade of 0.55 % Li_2O
10. Cut-off based on a spodumene concentrate prices of US$977/tonne for a 6% Li_2O concentrate
11. Exchange rate of 1.32 CAD / USD
12. Drillhole composites average 1.5m in length.
13. Block size is 3 x 3 x 3m.
14. The retained grade interpolation for the Authier lithium Mineral Resource block model is the inverse distance square (ID2) methodology.
15. Revised pit optimisation parameters were provided by BBA to generate the pit shell.

AUTHIER ORE RESERVE ESTIMATE

Table 4: Authier Lithium Project Ore Reserve Estimate (0.55% Li_2O cut-off grade)

Category	Quantity (Mt)	Grade % Li_2O	Contaminant % Fe	Contained Li_2O (kt)
Open-pit				
Proved Ore Reserves	6.2	0.93	0.92	57.6
Probable Ore Reserves	5.1	1.00	0.98	50.7
Total Ore Reserves	**11.2**	**0.96**	**0.95**	**108.3**

Notes

1. Ore Reserves are measured as dry tonnes at the crusher above a diluted cut-off grade of 0.55% Li2O.
2. Ore Reserves are based on an ore selling price of C$120/t, delivered to the NAL crusher. The ore selling price has been settled in a memorandum of understanding between Authier and NAL.
3. The reference point of the Ore Reserves is the NAL crusher.
4. In-situ Mineral Resources are converted to Ore Reserves based on pit optimisation, pit design, mine scheduling and the application of modifying factors, all of which support a positive LOM cash flow model. According to JORC code, inferred resources cannot be converted to Ore Reserves.
5. The waste and overburden to ore ratio (strip ratio) is 6.1:1.
6. The Ore Reserves for the Authier Lithium Project have been estimated by Ms. Isabelle Leblanc, P.Eng., OIQ #144395, a Competent Person as defined by JORC.
7. Ore Reserves are valid as of 27 March 2023.
8. Totals may not add up due to rounding for significant figures.

Modifying Factors

For the conversion of Mineral Resources to Ore Reserves, it is necessary to apply a variety of modifying factors:

1. Metallurgical Recoveries: A mass balance was produced based on the NAL restart flowsheet, feeding a blended ore consisting of 33% Authier ore and 67% NAL ore. Lithium recovery over the LOM is estimated to be an average of 67.4% for the blend based on metallurgical test work results and historical operational data.
2. Cut-off Grade: A metallurgical cut-off grade (COG) of 0.55% Li_2O was used.
3. Mining Dilution and Mining Ore Losses: A detailed dilution model was developed by BBA Inc. and coded into the mining block model. The mining ore losses are approximately 2.3% and the mining dilution is approximately 9.0% dilution. To account for operational errors and losses during rehandling of ore, an additional mining ore loss factor of 2% was considered, for a total of 4.3% ore losses.

4. Iron content: The iron content can have an impact on the metallurgical recovery and on the quality of the spodumene concentrate. Inside the pegmatite dyke, iron content is approximately 0.7% to 1.0% Fe while the average iron grade in the host rock is around 7% Fe.
5. Status of Environmental Approvals, Mining Tenements and Approvals and Other Government Factors: In November 2022, Sayona sent a new Project Notice to the Quebec Ministry of the Environment, the Fight against Climate Change, Wildlife and Parks (MELCCFP). In February 2023, MELCCFP notified Sayona that the Authier Lithium Project will be subjected to the BAPE procedure. A revised ESIA will be produced in 2023. Following receipt of the Governmental Decree, Sayona will have to obtain various permits for construction and operation of the mine.

The Authier Ore Reserves Estimates have been classified according to the underlying classification of the Mineral Resource Estimates and the status of the Modifying Factors. The status of the Modifying Factors is generally considered sufficient to support the classification of Proved Ore Reserves when based upon Measured Mineral Resources and Probable Ore Reserves when based upon Indicated Mineral Resources.

Analysis of the financial model on the main economic assumptions indicates that the Authier Lithium Project is most sensitive to ore price.

As the changes in the Ore Reserve for NAL are deemed to be material, further specific information is required under ASX listing rules Section 5.9.1 Chapter 5 and JORC (2012) reporting requirements and are included here from BBA's North American Lithium DFS report. This data is included in Appendix A whilst further explanatory notes are in Appendix B.

As the changes in the Ore Reserve for Authier are deemed to be material, further specific information is required under ASX listing rules Section 5.9.1 Chapter 5 and JORC (2012) reporting requirements and are included here from BBA's Authier Lithium Updated DFS report. This data is included in Appendix C whilst further explanatory notes are in Appendix D.

The Company will continue to pursue opportunities to optimise and enhance the value of the project, including:

1. Continuous metallurgical test work to improve processing metallurgical recoveries.
2. 2023 drilling campaign inside the pit shell and also extension (northwest and southeast) for conversion of Inferred Resources to Measured and Indicated Resources, potentially adding more resources.
3. Completing the Pre-Feasibility Study to assess the economic and technical viability of producing lithium carbonate from NAL spodumene concentrates at a site.
4. Potential of using in-pit Ore sorting for smaller dykes currently considered non-economic due to high dilution.
5. Continue developing the hub and spoke vision by looking for potential land package around NAL properties.
6. Completion of binding offtake agreements with partners that could potentially offer higher spodumene prices in line with current market levels.

Competent Person Statements

The information in this report that relates to Mineral Resources for the NAL project is based on information

compiled by Mr Pierre-Luc Richard, a member of the Ordre des Géologues du Québec (OGQ). Mr Richard is a full-time employee of PLR Ressources Inc, and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2012 Edition) of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves." Mr Richard supervised the preparation of the technical information in this release and has relevant experience and competence in the subject matter. Mr Richard, as competent person for this announcement, has consented to the inclusion of the information in the form and context in which it appears herein.

The statement relating to the NAL Lithium project 2023 Ore Reserves estimate and presented in appendix 1 and appendix 2 is based on information compiled by BBA Inc. and reviewed by Mélissa Jarry, who is a Professional Engineer registered with the Ordre des Ingénieurs du Québec (OIQ). Ms. Jarry is a mining engineer and Department Manager for Mining and Geology at BBA Inc., a consulting firm based in Montréal, Canada. Ms. Jarry takes overall responsibility for the NAL DFS Report as Competent Person. Ms. Jarry has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity she is undertaking to qualify as a Competent Person as defined in the JORC Code (2012 Edition). The Competent Person, Ms. Mélissa Jarry, has reviewed the NAL Ore Reserves Estimate and has given her consent to the inclusion in the report of the matters based on her information in the form and context within which it appears.

The statement relating to the Authier Lithium project 2023 Ore Reserves estimate and presented in appendix 3 and appendix 4 is based on information compiled by BBA Inc. and reviewed by Isabelle Leblanc, who is a Professional Engineer registered with the Ordre des Ingénieurs du Québec (OIQ). Ms. Leblanc is a mining engineer and Vice-President of the Mining and Metals Market at BBA Inc., a consulting firm based in Montréal, Canada. Ms Leblanc takes overall responsibility for the Authier Updated DFS Report as Competent Person. Ms. Leblanc has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity she is undertaking to qualify as a Competent Person as defined in the JORC Code (2012). The Competent Person, Ms. Isabelle Leblanc, has reviewed the Authier Ore Reserves Estimate and has given her consent to the inclusion in the report of the matters based on her information in the form and context within which it appears.

The Mineral Resource Estimates and the Ore Reserve Estimates presented in this press release have been prepared and reported in the NAL-Authier DFS according to the guidelines and terminology of the JORC Code (2012 edition). Mr Pierre-Luc Richard, a Competent Person (as such term is defined in the JORC Code (2012 edition)) and a Qualified Person (as such term is defined in National Instrument 43 101 – Standards of Disclosure for Mineral Projects (NI 43-101)) responsible for the NAL Mineral Resource Estimate, confirms that such Mineral Resource Estimate is also compliant with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) reporting guidelines as required by NI 43-101. Ms Mélissa Jarry, a Competent Person and a Qualified Person responsible for the NAL Ore Reserve Estimate, confirms that such Ore Reserve Estimate is also compliant with the CIM reporting guidelines as required by NI 43-101. Ms Isabelle Leblanc, a Competent Person and a Qualified Person responsible for the Authier Ore Reserve Estimate, confirms that such Ore Reserve Estimate is also compliant with the CIM reporting guidelines as required by NI 43-101.

Forward Looking Statements

This announcement may contain certain forward-looking statements. Such statements are only predictions, based on certain assumptions and involve known and unknown risks, uncertainties and other factors, many of which are beyond Sayona Mining Limited's control. Actual events or results may differ materially from the events or results expected or implied in any forward-looking statement. The inclusion of such statements should not be regarded as a representation, warranty or prediction with respect to the accuracy of the underlying assumptions or that any forward-looking statements will be or are likely to be fulfilled.

Refer to Appendix A to D (following) for a summary of the DFS reports for NAL and Authier.

Issued on behalf of the Board.

For more information, please contact:

Brett Lynch
Managing Director
Email: info@sayonamining.com.au

For investor/media queries, contact:

Anthony Fensom, Republic PR
Ph: +61 (0)407 112 623
mailto:anthony@republicpr.com.au

.About Sayona Mining

Sayona Mining Limited is an emerging lithium producer (ASX:SYA; OTCQB:SYAXF), with projects in Québec, Canada and Western Australia.

In Québec, Sayona's assets comprise North American Lithium together with the Authier Lithium Project and its emerging Tansim Lithium Project, supported by a strategic partnership with American lithium developer Piedmont Lithium Inc. (Nasdaq:PLL; ASX:PLL). Sayona also holds a 60% stake in the Moblan Lithium Project in northern Québec.

In Western Australia, the Company holds a large tenement portfolio in the Pilbara region prospective for gold and lithium. Sayona is exploring for Hemi-style gold targets in the world-class Pilbara region, while its lithium projects are subject to a joint venture with Morella Corporation (ASX:1MC).

For more information, please visit us at www.sayonamining.com.au

References to Previous ASX Releases

- NAL restart on track and on budget – 17 February 2023
- Positive pre-feasibility study enhances NAL value – 23 May 2022
- Sayona doubles Québec lithium resource base amid surging demand – 1 March 2022

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and all material assumptions and technical parameters continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements..

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APPENDIX A:

NORTH AMERICAN LITHIUM

KEY STUDY OUTCOMES

Key outcomes of the North American Lithium (NAL) Definitive Feasibility Study (DFS) include an estimated pre-tax NPV of C$2,001 million (8% discount rate) and a pre-tax IRR of 4,701%. Life of mine is now 20 years, based on an estimated JORC Proved and Probable Ore Reserves of 21.7 Mt @ 1.08% Li_2O (Proved Reserve 0.7 Mt @ 1.24% Li_2O and Probable Reserve 21.0 Mt @ 1.08% Li_2O) for NAL and the inclusion of the Authier Lithium Project's JORC Proved and Probable Ore Reserves.

Table 5: NAL Operation Including Authier Ore Supply – DFS Key Results

Item	Unit	Results	Results
Average Annual Ore Feed to Crusher	Mtpa	1.55	
Total Ore Feed to Crusher (NAL + Authier)	Mt	31.0	
Average annual spodumene Concentrate Production (@ average 5.74% Li_2O)	tonne/y	190,039	
Rod Mill Feed Grade	%	1.10	
Average blended Li_2O Recovery	%	67.4	
Life of Mine (LOM)	year	20	
Total Spodumene Concentrate Produced	Mt	3.8	
LOM Strip Ratio	waste:ore	8.3	
		US$	C$
Spodumene Concentrate Market Price	$	1,352	1,803
Capital Cost Estimate	$M	0	0
Sustaining Capital Cost	$M	281	375
Total Net Revenue	$M	5,114	6,818
Project EBITDA	$M	2,489	3,318
Total C1 Cash Cost	$M	2,328	3,104
Pre-Tax Net Present Value (NPV)	$M	1,501	2,001
Pre-Tax Internal Rate of Return (IRR)	%	4,701	4,701
Discount Rate	%	8	8
After-tax NPV	$M	1,025	1,367
After-tax IRR	%	2,545	2,545
Exchange Rate	C$:US$	0.75	

Sayona will implement a ROM (run-of-mine) ore stockpile management system whereby diluted material, lower grade ore and higher-grade feed will be segregated and managed via a stockpile management plan to ensure consistent feed to the plant. This will allow for production campaigns of similar material, providing the concentrate plant sufficient feed stock to maximise product recovery and grade.

INTRODUCTION

North American Lithium (NAL) is a brownfield project. Sayona acquired NAL in 2021 with the intent to develop the Abitibi hub, including the Authier Lithium Project, by combining the ore production of the two open pit operations and processing the total volume to NAL processing plant. Sayona invested approximately C$100M to upgrade the existing processing plant in 2022/23. The capital investment aimed to improve mill availability and optimise concentrate quality. As per 31 March 2023 the processing plant was in operation and had produced over 3,070 tonnes of saleable concentrate, achieving Li_2O% and Fe_2O_3% expected quality.

The previous Ore Reserves estimate, published in May 2022, was based on the Pre-Feasibility Study prepared by BBA Inc. Following Sayona's August 2021 acquisition of the NAL mine and concentrator in La Corne, Québec, the NAL project was revised to update the Ore Reserves and increase concentrator mill throughput from 3,800 tonnes per day (tpd) to 4,200 tpd to produce a 6% Li_2O spodumene concentrate.

The actual DFS NAL project consists of a 4,200 tpd spodumene concentrator, extension of the current open pit, ore stockpiling and blending area, waste and overburden stockpiles, expansion of existing conventional tailings as well as new dry-stack tailings facilities, expansion of the mine garage, administrative buildings and other infrastructure. The spodumene concentrate produced will range from 5.4% to 5.82%.

SCOPE OF SERVICE

The Mineral Resource update and DFS has assessed strategic options for development, determined an economic open pit mine operation, production schedule and site layout for the preferred option. All works completed to date form the basis of a Definitive Feasibility Study (DFS), with an overall accuracy of +15%/-15%.

The DFS has been completed by independent consultants BBA Inc., an experienced Canadian consulting firm.

The DFS scope includes, but is not limited to:

- Resource modelling;
- Open pit optimisation, mine design and planning;
- Metallurgical testwork, reporting and analysis;
- Process design;
- Road design and haulage studies;
- Preliminary design of non-process infrastructure, services and utilities;
- Market analysis;
- Human resources and operations management;
- Risk analysis;

- Capital cost estimation (+/- 20%);
- Operating cost estimation (+/- 15%);
- Ore Reserves Estimate
- Project schedule;
- Financial evaluation and analysis;
- Preparation of a preliminary project execution strategy;
- Forward work plan.

Property Description and Locations

The NAL property consists of a contiguous group of 40 mineral titles (39 claims, 1 mining lease). All the claims are registered in the name of Sayona Québec Inc. for a total area of 1,450.3 ha. The mining lease was granted to QLI on 29 May 2012, on the basis of a Pre-Feasibility Study (PFS) filed at the time in support of the application to be granted such a lease. The mining lease has an initial term of 20 years, expiring on 28 May 2032.

The property is situated in La Corne Township in the Abitibi-Témiscamingue region, approximately 38 km southeast of Amos, 15 km west of Barraute and 60 km north of Val-d'Or in the Province of Québec, Canada. The site is approximately 550 km north of Montreal and is serviced by road, rail and air. The property is centred near coordinates 291,964 m E and 5,365,763 m N, Zone 18N as located on the NTS map sheet 32C5 (Figure 1).

The NAL property is located approximately 70km by road from Sayona's Authier Lithium Project in the municipality of La Motte. Figure 2 shows the location of the two projects separated by the Harricana river and accessible to each other through the city of Amos.

Geology and mineralisation

Spodumene pegmatites are exposed on the property following mining over the years and stripping work in 2019, but most of the information on the spodumene dykes were acquired by diamond drilling.

Mining commenced in 1955 and although the three-dimensional nature of the dykes became more evident, the characteristics identified during exploration programs remained more or less the same. The background rock formations are split between granodiorite of the La Corne batholith, volcanics, and gabbro. The pegmatite dykes mainly intrude the granodiorite and the volcanic units. Figure 2 shows the property geology, displaying the surface projection of spodumene-bearing dykes.

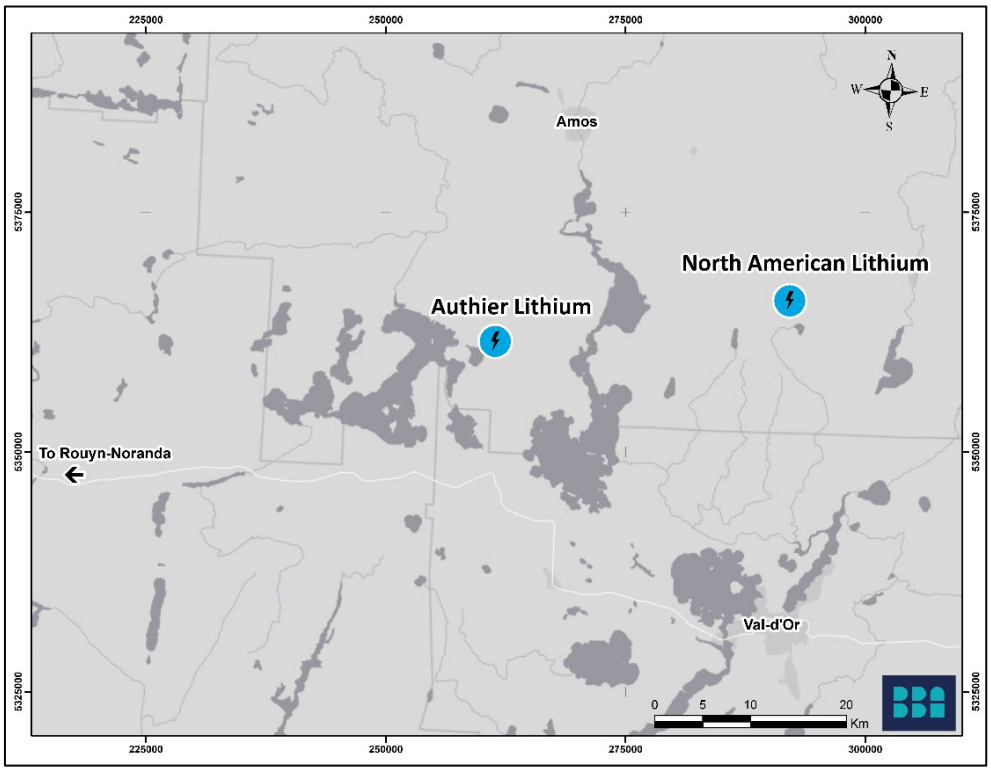

Figure 1: Location of NAL and Authier Projects

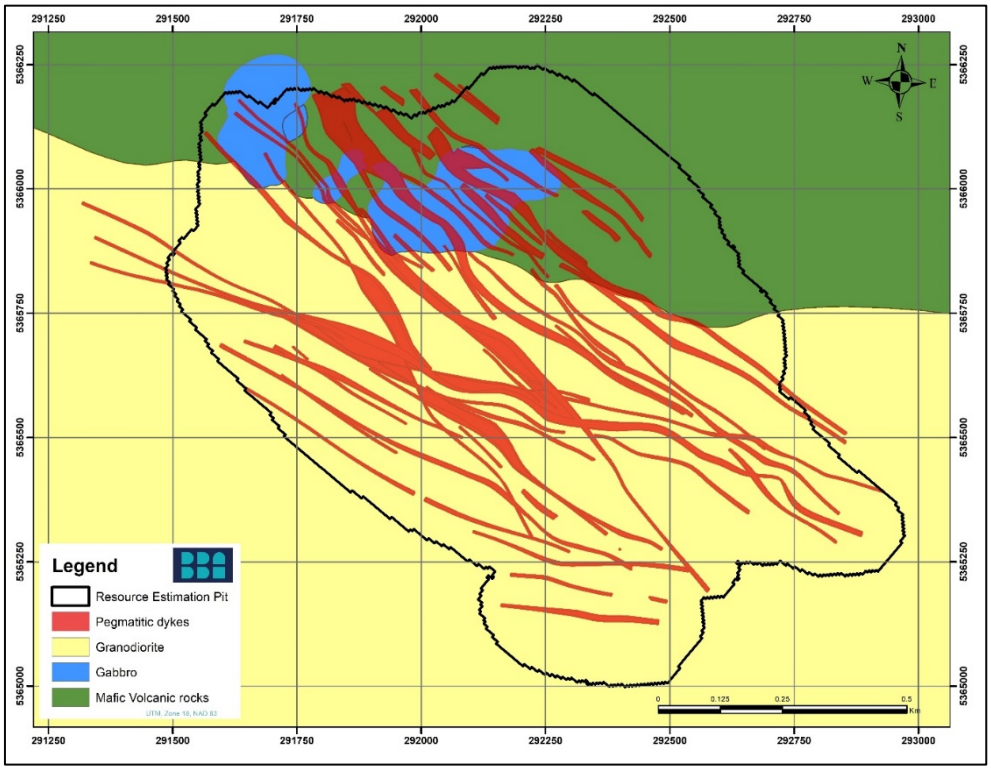

Figure 2: NAL Geology Map, Showing Open Pit Constrained Mineral Resources Surface Footprint

Mineral Resource Estimates

The geological model that underpins the NAL Mineral Resource Estimate was significantly improved to reflect both the host rock lithologies and the thickness, orientation, and lateral and down-dip continuity of the pegmatite dyke swarm. The enhancements were made possible by the integration of new sampling data, a detailed review of relationships between pegmatites and diluting host rock, and through discussions with internal and external experts. The model accuracy was also validated against historical mining voids, past production average grades and trends observed in historical grade control data.

The previous geological model, prepared for the NAL Pre-Feasibility Study, used a more generalised approach, modelling "corridors containing pegmatites" rather than pegmatitic dykes, with consideration for up to 20% internal waste. These corridors are understood to encompass multiple stacked, and/or cross-cutting dykes, intermingled with high-Fe country-rock, devoid of spodumene. The updated interpretation better reflects the QP's understanding of the local variation of the dyke swarm. Internal dilution now represents less than 3% of the Mineral Resource estimate.

The model refinement for the NAL deposit enabled a more precise segregation between the spodumene-bearing pegmatites, and the high-Fe waste rock. This, in turn, has the combined effect of reducing the overall in-pit resource tonnage of Measured and Indicated tonnes (-54%), with a corresponding increase in Li_2O grade (+22%). Overall, the resource pit shell contained Li_2O metal for Measured, Indicated, and Inferred resources decreased by 16%. Importantly, the increased accuracy of model permits greater mining selectivity to be applied, thereby reducing the quantity of waste and improving metal recovery at the plant. Furthermore, updates to the geological model and understanding of the mineralised system are critical to the upcoming drilling programs targeted at both resource conversion and exploration. The Competent Person is confident that the majority of the inferred mineral resources will be upgraded to indicated resources with the drilling program scheduled to begin in Q2, 2023. This 16,240-metre program will primarily target conversions of inferred resources to indicated within the current pitshell footprint. A component for exploration along the northwest and southeast strike extensions of the NAL deposit is also part of the program.

The Mineral Resources Estimate was prepared by BBA Inc. with an effective date of 31 December 2022. Table 6 summarises the results of the Mineral Resources Estimate (open-pit and underground) for the NAL deposit.

Refer to Sections 1, 2 and 3 of JORC Table 1 presented in appendices for additional information on the mineral resources.

Table 6: North American Lithium Project Mineral Resources Estimate

NAL – Open Pit Constrained Mineral Resource Statement using a 0.6% Li_2O cut-off			
Category	**Tonnes (Mt)**	**Li_2O(%)**	**Contained Li_2O(t)**
Measured	1.0	1.19	11,700
Indicated	24.0	1.23	296,600
Measured and Indicated	25.0	1.23	308,200
Inferred	22	1.2	264,100

NAL – Underground Constrained Mineral Resource Statement using a 0.6% Li_2O cut-off			
Category	**Tonnes(Mt)**	**Li_2O(%)**	**Contained Li_2O(t)**
Measured	-	-	-
Indicated	-	-	-
Measured and Indicated	-	-	-
Inferred	11	1.3	141,800

NAL – Total Open Pit and Underground Mineral Resource Statement			
Category	**Tonnes(Mt)**	**Li_2O(%)**	**Contained Li_2O(t)**
Total JORC Resource (Measured, Indicated and Inferred)	58.3	1.23	714,200

Notes:

- The independent CP for the Mineral Resource Estimate, as defined by JORC, is Pierre-Luc Richard, P.Geo., of PLR Resources Inc. The effective date of the estimate is 31 December 2022.
- These mineral resources are not mineral reserves as they do not have demonstrated economic viability. The quantity and grade of reported Inferred resources in this MRE are uncertain in nature and there has been insufficient exploration to define these resources as Indicated or Measured; however, it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
- Resources are presented undiluted, pit constrained and within stope shapes, and are considered to have reasonable prospects for economic extraction. Although the calculated cut-off grade is 0.15% Li_2O for open pit, a cut-off grade of 0.60% Li_2O was used for the MRE due to processing limitations. The pit optimisation was done using Deswik mining software. The constraining pit shell was developed using pit slopes of 46 to 53 degrees. The open-pit cut-off grade and pit optimisation were calculated using the following parameters (amongst others): 5.40% Li_2O concentrate price = US$1,273 per tonne; C$:US$ exchange rate = 1.32; Hard Rock and Overburden Mining cost = C$5.12/t mined; Mill Recovery of 73.6%; Processing cost = C$23.44/t processed; G&A = C$6.00/t processed; Transportation cost = C$118.39/t conc; Tailing Management Cost = C$2.86/t processed, and Water treatment C$0.18/t processed. The cut-off grade for underground resources was calculated at 0.62% Li_2O , but rounded to 0.60% Li_2O; it used identical costs and recoveries, except for mining costs being at C$100/t. Cut-off grades will be re-evaluated in light of future prevailing market conditions and costs.

- The MRE was prepared using Leapfrog Edge and is based on 247 surface drillholes. The resource database was validated before proceeding to the resource estimation. Grade model resource estimation was interpolated from drillhole data using OK and ID2 interpolation methods within blocks measuring 5 m x 5 m x 5 m in size and subblocks of 1.25 m.
- The model comprises 49 mineralised dykes (which have a minimum thickness of 2 m, with rare exceptions between 1.5 m and 2 m).
- High-grade capping was done on the composited assay data. Capping grades was fixed at 2.3% Li_2O. A value of zero grade was applied in cases where core was not assayed.
- Fixed density values were established on a per unit basis, corresponding to the median of the SG data of each unit ranging from 2.70 g/cm^3 to 3.11 g/cm^3. A fixed density of 2.00 t/m^3 was assigned to the overburden.
- The MRE presented herein is categorised as Measured, Indicated and Inferred Resources. The Measured Mineral Resource is limited to 10 m below the current exposed pit. The Indicated Mineral Resource is defined for blocks that are informed by a minimum of two drillholes where drill spacing is less than 80 m. The Inferred Mineral Resource is defined where drill spacing is less than 150 m. Where needed, some materials have been either upgraded or downgraded to avoid isolated blocks and spotted-dog effects.
- The number of tonnes (metric) was rounded to the nearest hundred thousand and the number of contained Li2O tonnes was rounded to the nearest hundred.

ORE RESERVES ESTIMATES

The NAL Ore Reserves have been estimated for a total of 21.7 Mt of Proved and Probable Ore Reserves at an average grade of 1.08% Li_2O, which comprises 0.7 Mt of Proved Ore Reserves at an average grade of 1.24% Li_2O and 21.0 Mt of Probable Ore Reserves at an average grade of 1.08% Li_2O.

The Ore Reserves Estimates consider the open pit constrained portion of the Mineral Resources, which are estimated at 25.0 Mt of Measured and Indicated Mineral Resource at a grade of 1.23% Li_2O. Inferred Mineral Resources were considered as waste.

Table 7 presents the NAL Ore Reserve Estimate. In addition to the 21.7 Mt of ore, a total of 172.3 Mt of waste and 7.1 Mt of overburden must be mined, resulting in an overall LOM strip ratio of 8.3.

Table 7: North American Lithium Project Ore Reserves Estimate

North American Lithium Project JORC Ore Reserve Estimate (0.60% Li_2O cut-off grade)			
Category	**Tonnes (Mt)**	**Grades (%Li_2O)**	**Contained Li_2O (kt)***
Proved Ore Reserve	0.7	1.24	9
Probable Ore Reserve	21.0	1.08	227
Total Ore Reserves	21.7	1.08	236

Notes:

- Ore reserves are measured as dry tonnes at the crusher above a diluted cut-off grade of 0.60% Li_2O.
- Probable Ore Reserves include 347kt of ore at 0.96% Li_2O currently stockpiled at the crusher pad.

- Ore Reserves result from a positive pre-tax financial analysis based on a variable 5.4% to 5.82% Li_2O spodumene concentrate average selling price of US$1,352/t and an exchange rate of 0.75 US$:1.00 C$. The selected optimised pit shell is based on a revenue factor of 0.6 applied to a base case selling price of US$1,273/tonne of concentrate;
- Topographic surface as of 31 December 2022 and mining forecast was used to adjust for 31 March 2023;
- The reference point of the Ore Reserves Estimate is the NAL crusher feed;
- In-situ mineral resources are converted to Ore Reserves based on pit optimisation, pit design, mine scheduling and the application of modifying factors, all of which support a positive LOM cash flow model. According to the JORC Code, inferred resources cannot be converted to Ore Reserves;
- The waste and overburden to ore ratio (strip ratio) is 8.3;
- The Ore Reserves for the Project have been estimated by Mélissa Jarry, P.Eng. OIQ #5020768, a Competent Person as defined by JORC;
- The effective date of the estimate is 27 March 2023;
- Totals may not add up due to rounding of significant figures.

The Ore Reserves Estimates have been classified according to the underlying classification of the Mineral Resource Estimates and the status of the Modifying Factors. The status of the Modifying Factors is generally considered sufficient to support the classification of Proved Ore Reserves when based upon Measured Mineral Resources and Probable Ore Reserves when based upon Indicated Mineral Resources.

Analysis of the financial model on the main economic assumptions indicates that the project is robust in terms of all operating costs, recoveries, and product pricing; it is most sensitive and at greatest risk to changes impacting revenue, commodity prices, exchange rates and operating costs.

Applicable Modifying Factors

For the conversion of Mineral Resources to Reserves, it is necessary to apply a variety of modifying factors:

1. Metallurgical Recoveries: Refer to ‘Processing Plant’’ section.
2. Cut-off Grade: A metallurgical cut-off grade (COG) of 0.60% Li_2O was used (refer to Appendix 2).
3. Mining Dilution and Mining Ore Losses: A detailed dilution model was developed by BBA and coded into the mining block model. Several scenarios of varied dilution skins were generated and a dilution skin of 0.5 m was retained. The geological ore losses (dykes having a width under 2 m) are approximately 12% and the mining dilution is approximately 16% dilution. To account for operational errors, an additional mining ore loss factor of 3% was considered.
4. Iron content: The iron content can have an impact on the metallurgical recovery and on the quality of the spodumene concentrate. Inside the pegmatite dyke, the average iron content is 0.29% Fe while the average iron grade in the host rock is between 2.3% Fe and 6.7% Fe.
5. Status of Environmental Approvals, Mining Tenements and Approvals and Other Government Factors: Refer to ‘’Environmental Assessment and Approvals’’ section.

NAL Concentrator Supply Strategy and Production Profile

Following Sayona's August 2021 acquisition of the NAL mine and concentrator, Sayona's Authier Lithium Project operating strategy was revised to include only mining operations and waste and water management on-site.

The NAL DFS is based on an annual ore feed of circa 1.4 Mtpa to the process plant to deliver average annual output (steady state) of 226,000 tonnes annually of spodumene concentrate containing 5.4% Li_2O from 2023 to 2026 and 186,000 tonnes annually of spodumene concentrate containing 5.82% Li_2O from 2027 to 2042. The current LOM plan is based on a multi-stockpile strategy (low grade, high grade and Authier) to enable optimal blending of ore.

Production levels and mill feed by source are detailed in

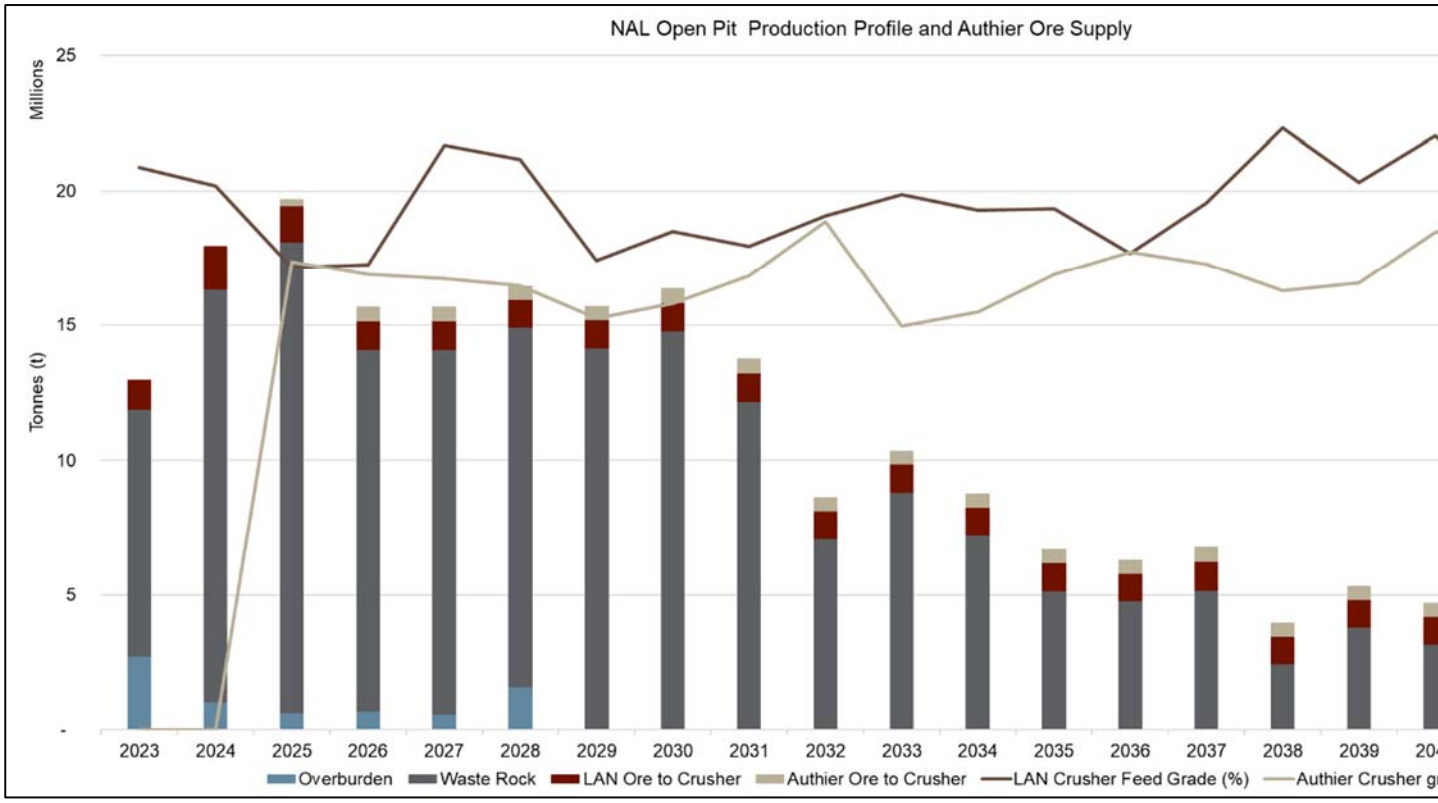

Figure 3. It should be noted that the schedule was developed on monthly periods for 2023, quarterly periods for 2024-2025, and annual increments for the remaining mine life.

The run-of-mine ore from Authier will be transported to the NAL site where it will be blended with the NAL ore material using a ratio of 33% Authier / 67% NAL, and then fed to the primary crusher.

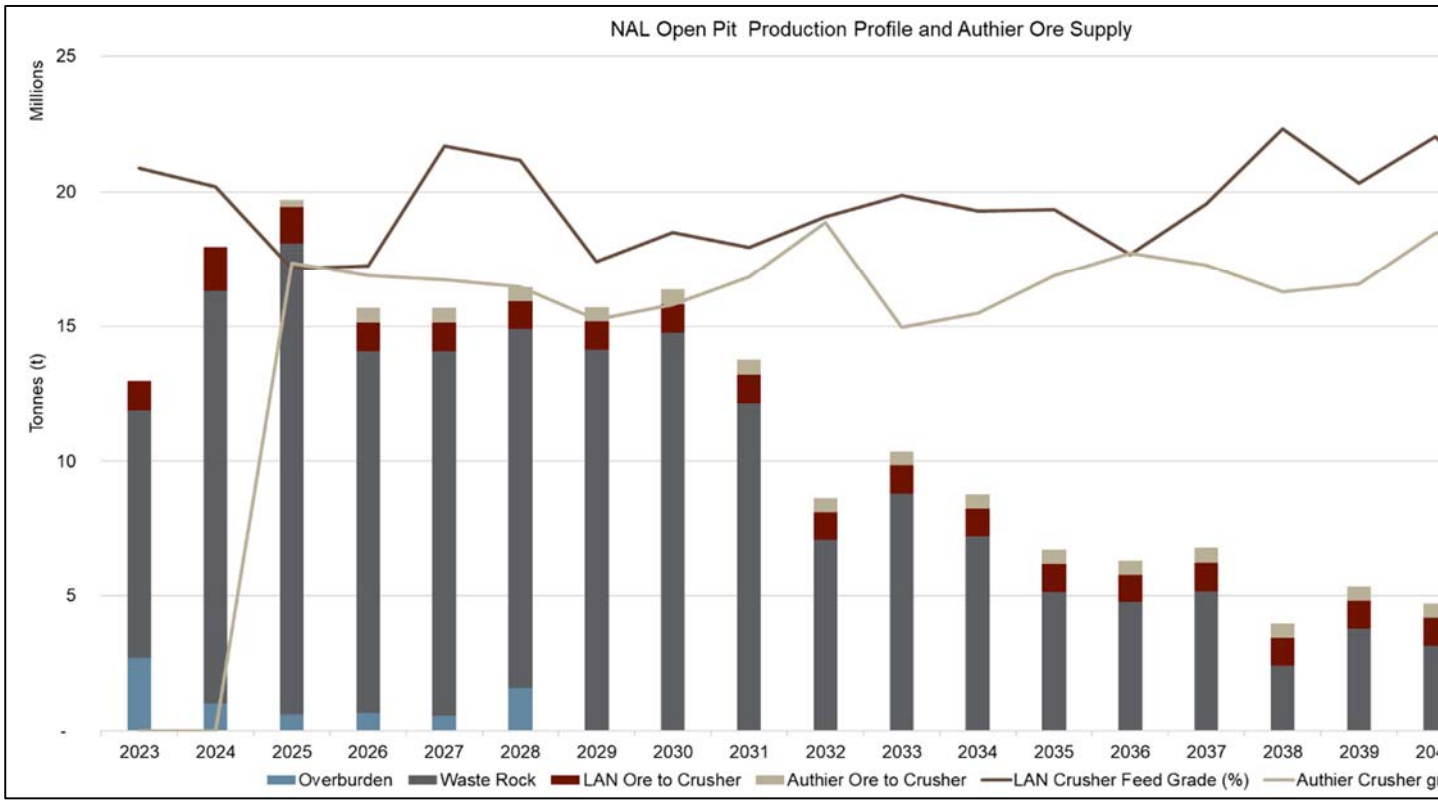

Figure 3 and Figure 4 present the ore production profile and expected concentrate production of the NAL concentrator.

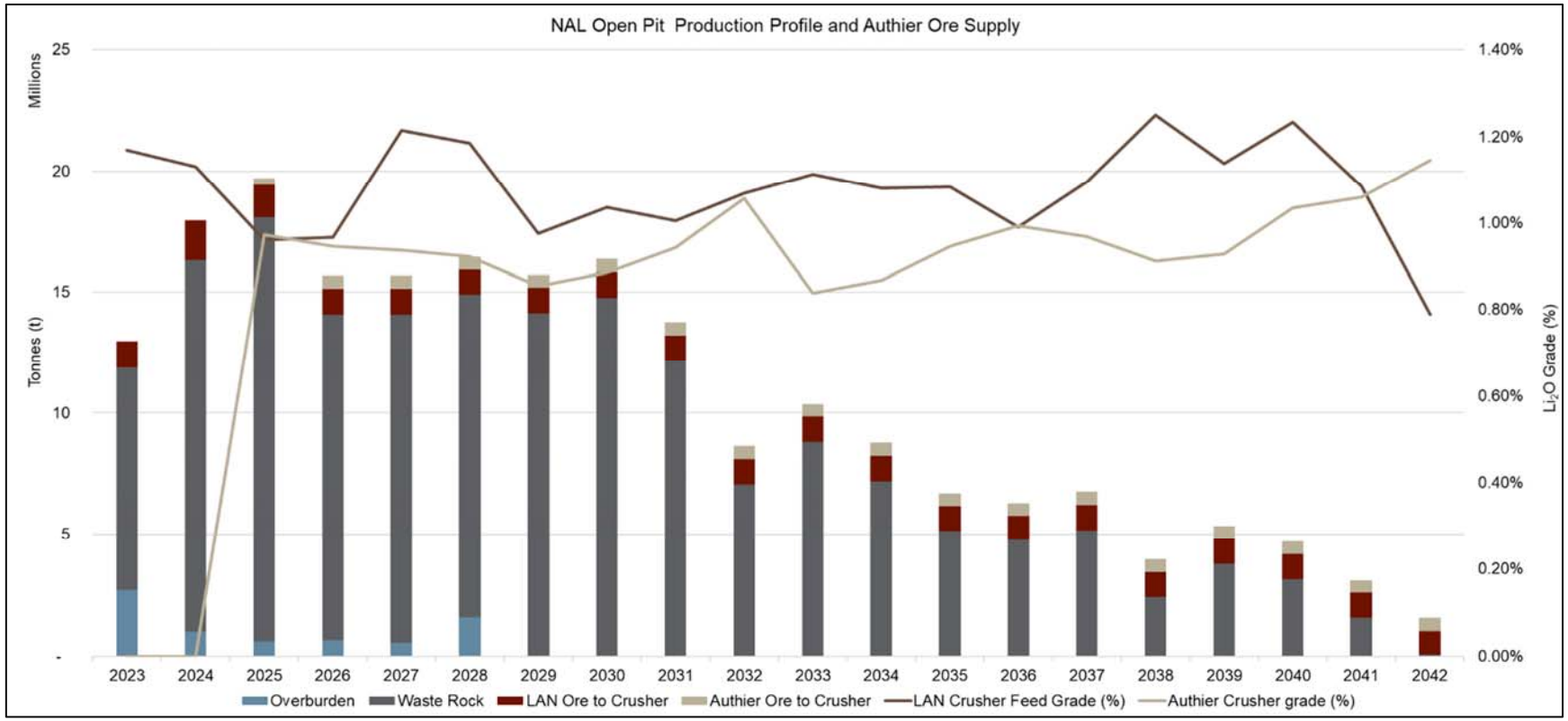

Figure 3: NAL Open Pit Production Profile and Authier Ore Supply

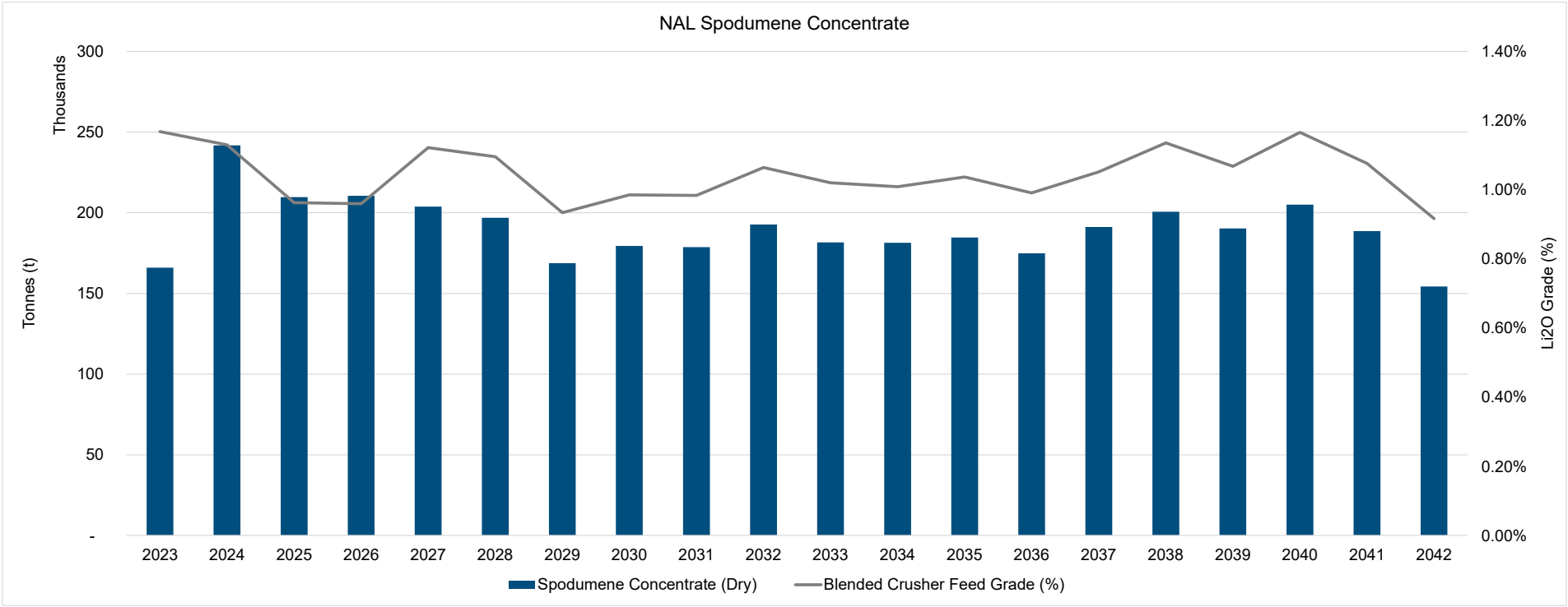

Figure 4: NAL Concentrate Production Profile

Mine Designs and Operations

Mining will be undertaken by conventional bulk mining methods utilizing hydraulic excavators, dump trucks and drill and blast coupled to a ROM stockpile. Ore will be trucked directly from the blasted faces to the ROM stockpile and fed to the primary crusher using Front-End Loader (FEL). Allowance has been made for blending from the ROM and external stockpiles. The planned mining operation is based on 12 hour shifts with two crews working one week (7 days) double shifts and 2 weeks (14 days) single shifts.

Planned mining activities are as follows:

- Clearing of vegetation, stripping of topsoil and overburden, and removal to storage location on-site;
- Haul road and ramp construction;
- Drilling and blasting of ore and associated waste, including pre-splits on final walls;
- Loading of ore and waste from the pits; and
- Haulage of ore to the ROM pad and waste to dump areas.

The pit will be mined using 10 m benches separated in 2 to 3 flitches in ore (of varying height depending on the blasting heave). This height gives reasonable production efficiency while keeping dilution to a minimum. In waste, the flitch height could be increased to improve efficiency within the limits of the equipment size. Table 8 details the design parameters that have been used for the NAL pit designs.

Table 8: Ultimate Pit Design Parameters

Sectors	Wall Dip Direction		Height	Catch Bench Width	Bench face Angle	Inter-ramp angle	Geotechnical berm interval
	From	to	[m]	[m]	[º]	[º]	[m]
Overburden	0	360	NA	9	26.6	NA	NA
South	355	35	20	16	60	45.7	120
Northeast	195	270	20	10	65	49.1	120
Northwest	35	195	20	10	70	52.6	120
Southeast	270	355	20	10	70	52.6	120

The proposed pit has been designed based on the geotechnical requirements and recommendations prepared by WSP-Golder.

Figures 7 present plan views of the NAL pit. Mining will be undertaken using phases, commencing with the development of the actual Phase 1 at the south-east limit of the deposit, advancing to the north and in depth in six phases to reach the ultimate designed pit.

A minimum mining width of 40 m has been applied in most areas and 20 m in some specific areas. Working widths are reduced in select instances, such as the final pit benches. A 60 m layback has been considered between the final pit and Lac Lortie. The pit design is not limited to the existing mining lease boundary. During the first three years of the LOM, mining will occur within the existing mining lease.

The ultimate pit ramp system has been designed to accommodate 90 t-class haul trucks.

For the last benches at the pit bottom, a single lane ramp has been used. The dual lane ramp width is designed at 26 m and the single lane ramp at 18.5 m.

An expansion of the current waste dump area is planned in 2023 as soon as permitting allow an additional waste area will be developed as well in 2024.

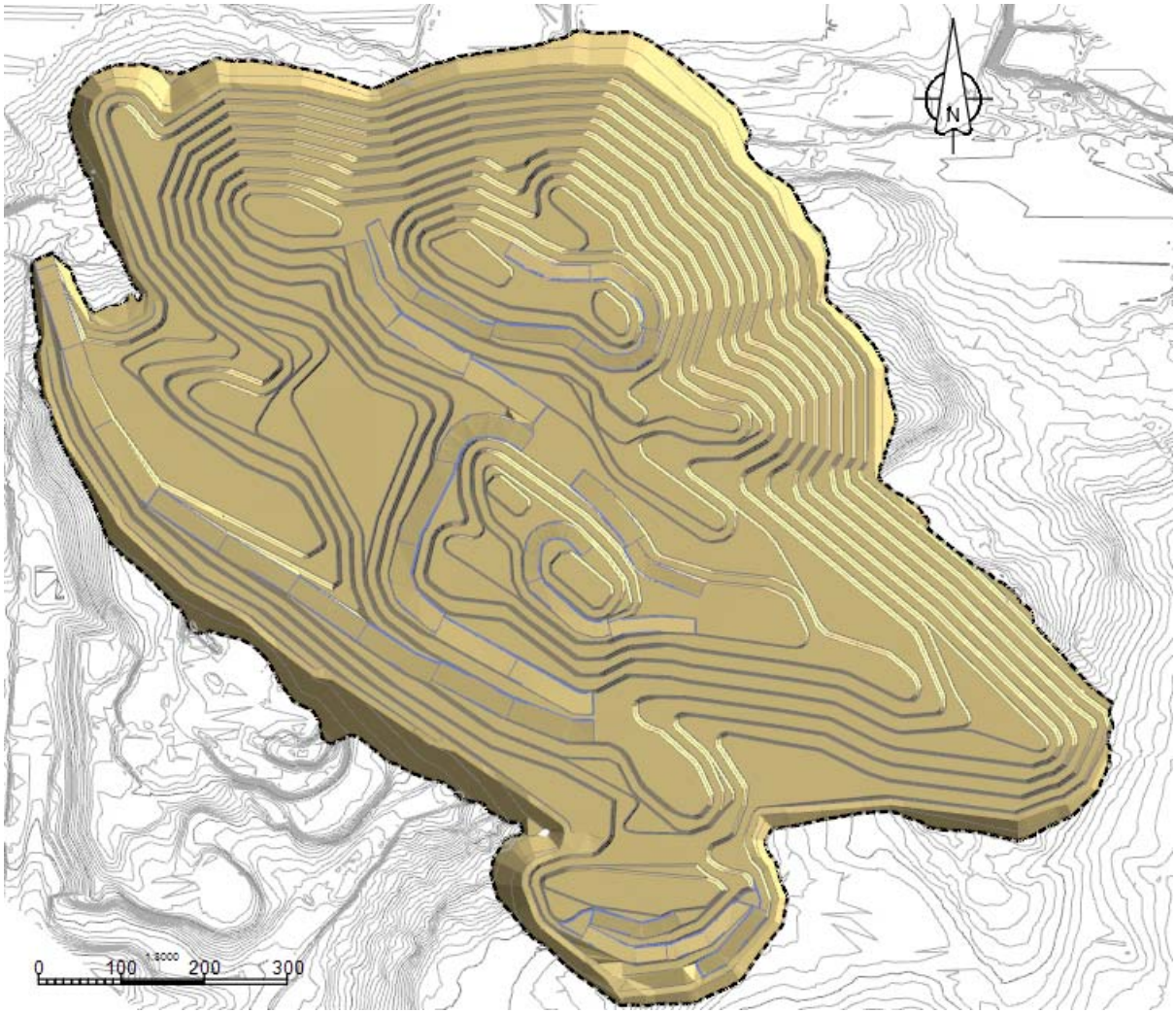

Figure 5: North American Lithium Ultimate Pit Design Plan View

Development of the LOM plan included pit optimisation, pit design, mine scheduling and the application of modifying factors to the measured and indicated portion of the in-situ mineral resource.

Table 9 shows the material inventory for each mining phase. Tonnages and grades account for mining dilution, geological losses and operational mining loss factors.

Table 9: NAL Project Mining Phases

Material	PH1	PH2	PH3	PH4	PH5	PH6	Total
Total In Pit (Mt)	**8.0**	**8.8**	**10.3**	**58.9**	**20.8**	**94.2**	**201.0**
Waste Rock (Mt)	6.6	5.6	8.9	51.8	18.7	80.7	**172.3**
Overburden (Mt)	0.3	1.7	0.5	3.0	1.5	0.1	**7.1**
Total ROM Ore (Mt)	1.1	1.4	0.9	4.2	0.6	13.4	**21.6**
Head Grade (%Li_2O)	1.10	1.14	0.99	1.09	0.82	1.09	**1.08**
Strip Ratio (t:t)	6.4	5.1	10.7	13.0	36.7	6.0	**8.3**

*Totals may not add up due to rounding of significant figures.

A detailed dilution model was developed by BBA and coded into the mining block model. Several scenarios of varied dilution skins were generated and a dilution skin of 0.5 m was retained. The geological ore losses (dykes having a width under 2 m) are approximately 12% and the mining dilution is approximately 16% dilution. To account for operational errors, an additional mining ore loss factor of 3% was considered. The overall dilution value in the FS (16%) is slightly higher than in the PFS (14.4%), which is explained by the refined dykes modelling has been which translates into thinner dykes at higher overall grade, thus the percentage increase.

Previously mined-out workings from an old underground operation exist on the site and mining in these areas will take place in the near term, necessitating particular consideration in detailed mine planning and operations. Portions of Phases 2 and 4 require the mining through of the old underground workings, with specific operating procedures in place. Drilling will be completed using remotely operated drilling rigs.

Based on the current understanding of the geometries and locations of the existing underground openings (U/G) in relation to the planned pit design, the majority of these U/G openings will be within the pit, i.e. will not intercept the final pit wall.

Local modifications to the short-term design will be required for safe and stable excavations in areas where stopes intersect the pit phases wall or floor, or drifts run parallel to the pit wall. Slopes in these areas should be developed with care to ensure the safety of personnel and prevent equipment damage due to collapsing stopes and drifts.

Investigation and evaluation of hazards relating to those underground workings, and design of mitigation, should be initiated during the detailed engineering design phase of the project and continued through the operating life of the mine. NAL Mining engineering team is currently working with WSP-Golder to correctly assess UDG openings exact positioning and to establish proper standard operating procedures

The total volume represented by the underground stopes, drifts and shaft is less than 2% of the total final pit volume so these affect a relatively small portion of the overall operation.

The DFS is based on mining being conducted by a specialist mining contractor for the first four years of operation and then by the owner's operations team and equipment fleet.

Infrastructure

The NAL property is located in an established mining district and supported by the city of Val d'Or (60 km to the south) and the city of Amos (35 km to the northwest). The project is readily accessible by the national highway and a high-quality rural road network. Other infrastructure in close proximity to the project includes:

- The Canadian National Railway has an extensive rail network throughout Canada. The rail network connects to Montreal and Québec City, and to the west through the Ontario Northland Railway and North American rail system;
- Québec is a major producer of electricity as well as one the largest hydropower generators in the world. Green and renewable energy is well distributed through a reliable power network; and
- Val d'Or is serviced several times daily by various airlines from Montreal.

Current site infrastructure includes:

- Open pit;
- Processing plant;
- ROM ore pad;
- Waste stockpile;
- Conventional tailings pond;
- Overburden stockpile;
- Administration facility, including offices and personnel changing area (dry);
- Workshop, tyre change, warehouse and storage areas;
- Fuel, lube and oil storage facility; and
- Reticulated services, including power, lighting and communications, raw water and clean water for fire protection, process water and potable water, potable water treatment plant, sewage collection, treatment and disposal.

Proposed new site infrastructure includes:

- Expansion of the open pit;
- Expansion of the current mine garage;
- Crushed ore dome;
- Dam raise of the current tailings storage facility;
- Additional tailings storage facility including dry-stacked tailing area and tailings filter plant;
- Expansion of the current waste pile;
- Additional waste pile;
- Relocation of the fuel, lube and oil storage facility.

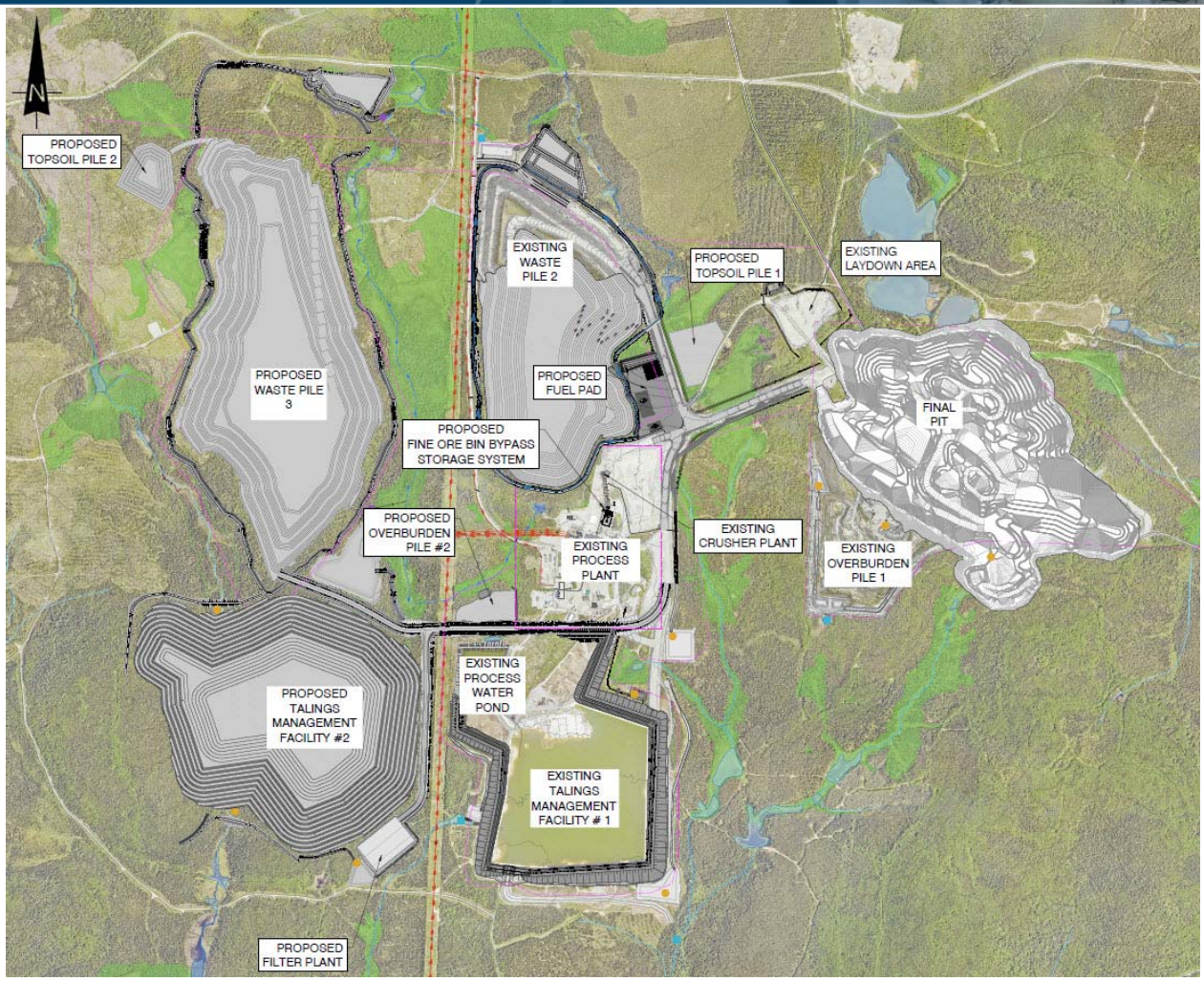

Figure 6: NAL Site Layout Schematic

Processing Plant

The NAL concentrator previously operated from 2013-14 and 2017-19. Figure 7 refers to the updated DFS project flowsheet. The updated flowsheet includes upgrades to key unit operations including ore sorting, magnetic separation, high-density conditioning and concentrate filtration. The plant upgrades were implemented to ensure nameplate capacity could be achieved and assure the production of high-quality chemical-grade spodumene concentrate.

The crushing circuit includes conventional primary, secondary, and tertiary crushing combined with primary and secondary ore sorting to remove host rock dilution prior to the mill. A crusher by-pass circuit and a crushed ore storage dome is currently being implemented. Connection to the existing silo feeding the rod mill is expected to be completed by the end of 2023.

The grinding circuit consists of a rod mill and ball mill in closed-circuit with sizing screens. The grinding circuit product is deslimed and fed to a magnetic separation circuit to reject iron-bearing minerals. The non-magnetic stream is conditioned prior to spodumene flotation, which comprises rougher and scavenger cells and three stages of cleaning. The spodumene concentrate is dewatered on a belt filter. The tailings streams are thickened and fed to the existing Tailings Storage Facility #1.

When the existing Tailings Storage Facility #1 reaches capacity, tailings will be dewatered in a new tailings filtration plant and dry-stacked in the planned Tailings Storage Facility #2.

In 2023, the plant will begin processing NAL ore. In Q2 2025, the plant will begin processing a blended feed comprising 67% NAL ore and 33% Authier ore. A blending strategy to minimise grade fluctuations will be further developed in the detailed engineering stage.

Historically, feasibility-level metallurgical testing has been undertaken on both Authier and NAL ore samples separately. Testwork examined the impact of process variables, and the type and quantity of host rock dilution on process performance. Recent testwork programs operated batch flotation tests on blended feed samples.

A mass balance was produced based on the NAL restart flowsheet, feeding a blended ore consisting of 33% Authier ore and 67% NAL ore. Lithium recovery over the LOM is estimated to be an average of 67.4% for the blend based on metallurgical testwork results and historical operational data. Table 10 presents the summary of concentrate grades and recoveries over the LOM:

Table 10: Grade and Recoveries Over LOM

Year	Concentrate grade % Li_2O	Recovery % Li_2O
2023-2026	5.40	72.0
2027-2042	5.82	66.3
Total (average)	**5.74**	**67.4**

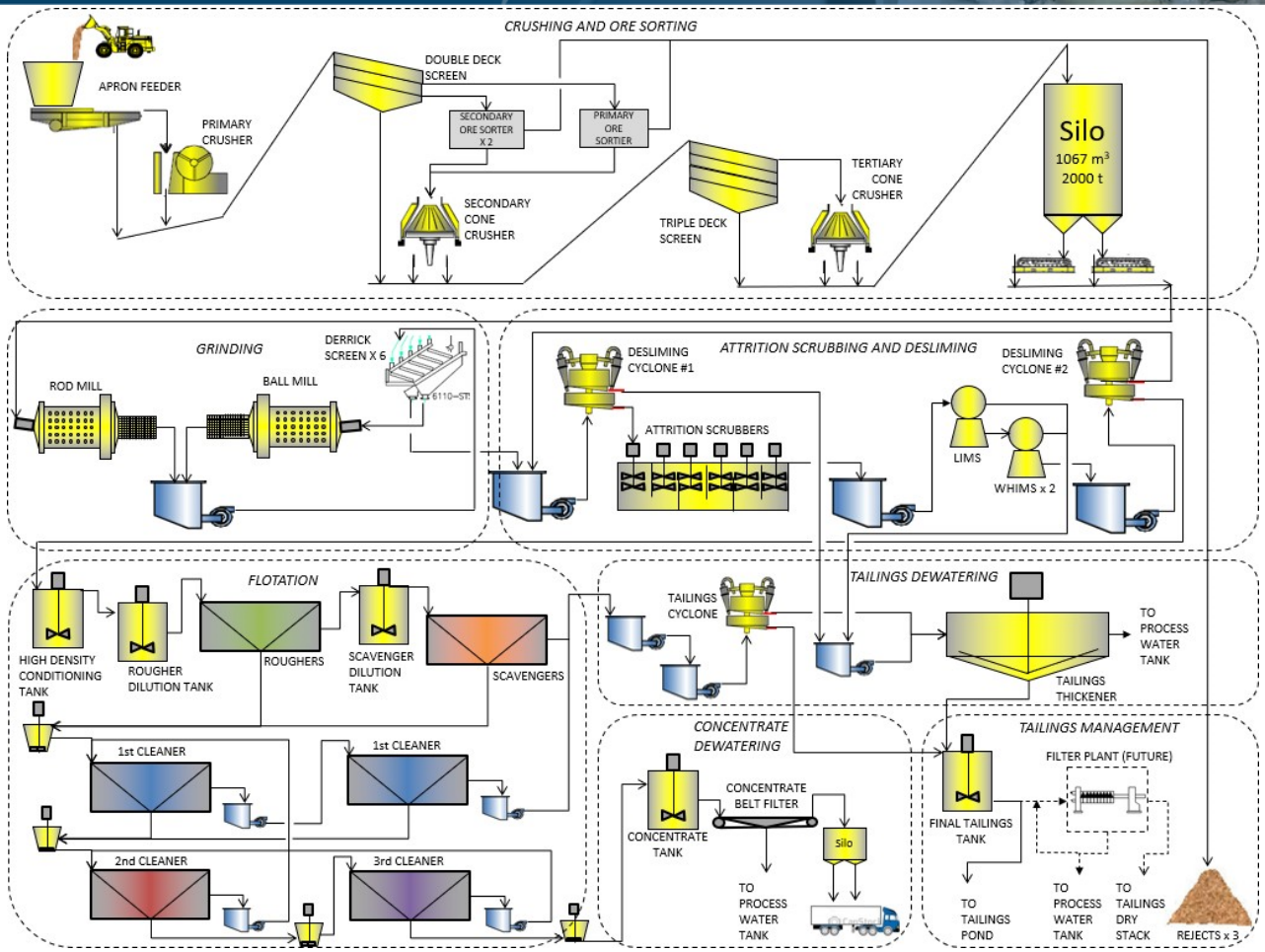

Figure 7: NAL Concentrator Flowsheet

Marketing and Pricing

Sayona has relied upon the Q4 2022 price forecast from consultancy Benchmark Mineral Intelligence (BMI) to assess pricing assumption for the spodumene price.

For the contracted volume to Piedmont Lithium Inc (refer ASX announcement 11 January 2021), a price of US$900/t for a minimum of 113,000 tonnes or up to 50% of the volume sold is assumed over H2-23 to H2-26, while the remainder of the concentrate production uses market prices.

From H2-2026 and beyond, Sayona is reverting back to market prices for the concentrate sold to its targeted transformation plant, while some remaining production not consumed by the transformation plant during its ramp-up is sold to Piedmont Lithium Inc. between H2-26 and H1-27, leveraging prior investments, in line with its commitments with the Government of Québec related to its acquisition of NAL.

Capital Costs

The total capital expenditure (CAPEX) proposed for the project is estimated at C$375.3M, including contingency. 2023 CAPEX amounts to C$84.2M. The present costs estimate pertaining to this study qualifies as Class 3 as per AACEI recommended practice R.P.47R-11. The accuracy of this CAPEX estimate has been assessed at ±20%.

The CAPEX estimate includes all the direct and indirect project costs, complete with the associated contingency. The estimating methods include quotations from vendors and suppliers specifically sought for this project, approximate quantities and unit rates sourced from quotations and historic projects and allowances based on past projects. A summary of the capital expenditure distribution is shown in Table 11.

Table 11: Capital Costs

Expenditures	CAPEX (C$ M)
Mining Equipment	105.6
Pre-Approved Projects	26.9
Tailings Filtration Plant and Roads	80.6
Various Civil Infrastructure	37.6
Tailings Storage Facilities	53.4
Truck Shop expansion	4.9
Dry Stack Mobile Equipment	19.6
Reclamation & Closure	34.9
Total CAPEX	**375.3**

Sayona acquired a previously started mine with a spodumene concentrator and tailings facility that had previously been built and upgraded and in the course of the last year was upgraded again to increase its previous operating capacity. The DFS capital costs exclude the 2021 NAL acquisition cost by Sayona as well as the concentrator upgrades costs already incurred as of 31 March 2023.

Capital Upgrades

Table 12 lists the remaining major capital upgrades to the process plant and site infrastructure.

Table 12: Major Plant Upgrades

Major Upgrades	Results
Construction of a crushed ore storage dome	To improve plant feed reliability specifically in winter
Raise of Tailings storage facility #01	To allow for storage of waste rock and tailings while the waste rock dump permitting process and preparation is completed.
Construction of a tailings filter plant.	To accommodate the filtered tailings option, in order to provide material to dry stacked tailings (quantity and quality). This will allow the site to have a smaller footprint.
Relocation of fuel depot and oil storage	To accommodate the expansion of Waste Rock storage #02
Expansion of Waste Rock storage #02	To accommodate the storage of waste resulting from the pit expansion.
Water management ditches, basins and pumping	To catch and control the contact water on the tailings and waste rock storage facilities
Addition of spare Main Power Transformer	To mitigate the risk of single point failure from the current single main transformer.

Operating Costs

The mine operating expenditures ("OPEX") for the first four years are estimated based on 2023 operating budget developed with the mining contract Sayona and L. Fournier & Fils signed on September 2022. In 2027, NAL will begin an owner operation for the remaining mine life.

The remaining LOM mine operating expenditures were estimated on suppliers' quotes and/or an internal database.

The process costs include the process plant and the filtration plant operation and water management costs.

A long-term diesel price of C$1.16/litre has been projected. A long-term electricity cost of C$0.0531/kwh has been used.

Table 13 shows estimated operating expenditures for the LOM.

Table 13: LOM Operating Expenditures

Operating Expenditures	C$ M	C$/t conc.	US$ M	US$/t conc.
Open Pit Mining - Owner	649	171	487	128
Open Pit Mining - Contractor	307	81	230	61
Mineral Processing	829	218	622	164
Water Treatment	9	2	7	2
Tailings Transport and Placement	79	21	59	16
General and Administration (G&A)	395	104	296	78
Total Onsite Operating Costs	**2,268**	**597**	**1,701**	**449**

A memorandum of understanding (MOU) has been concluded between the Authier operation and NAL, in which NAL agrees to buy 100% of the Authier ore material at a selling price of C$120/t of ore mined, delivered to the NAL ore pad area. Authier ore purchased amounts to C$293/t concentrate.

Table 14: Authier Ore Costs

Expenditures	CA$ M	C$/t conc.	US$M	US$/t conc.
Authier Ore Purchased	1,114	293	834	220

Financial Analysis

The DFS financial analysis has demonstrated that the NAL project is financially robust. The DFS' NPV and IRR were calculated based on the production of spodumene concentrate at a grade of 5.4% Li_2O over the first four years, then at 5.82% for the following 16 years, for a 20-year life-of-mine. Table 15 provides a summary of the financial analysis, which demonstrates that the NAL project is economically viable. Key outcomes of the DFS include an estimated pre-tax 100% equity NPV of C$2,001 million (8% discount rate), a pre-tax IRR of 4,701%.

Table 15: NAL Operation Including Authier Ore Supply - Financial Analysis Summary

Item	Unit	Value
Mine life	year	20
Strip Ratio	waste t: ore t	8.3

Item	Unit	Value	
Total NAL Mined Tonnage	Mt	201.0	
Total Crusher Feed Tonnage, including Authier	Mt	31.0	
Total Crusher Feed Grade, including Authier	%	1.04	
Revenue		**Value (US$)**	**Value (C$)**
Average Concentrate Selling Price	$/t conc.	1,352	1,803
Exchange Rate	C$:US$	0.75	
Selling Cost			
Product Transport and Logistic Costs	$/t conc.	26	34
Project Costs			
Open Pit Mining	$/t conc.	189	252
Mineral Processing	$/t conc.	164	218
Water Treatment, Management and Tailings	$/t conc.	2	2
General and Administration (G&A)	$/t conc.	78	104
Authier Ore Purchase	$/t conc.	220	293
Project Economics			
Gross Revenue	$M	5,114	6,818
Authier Ore Purchased Cost	$M	834	1,114
Total Selling Cost Estimate	$M	98	130
Total Operating Cost Estimate	$M	1,701	2,268
Total Sustaining Capital Cost	$M	281	375
Undiscounted Pre-Tax Cash Flow	$M	2,225	2,966
Discount Rate	%	8	8
Pre-tax NPV @ 8%	$M	1,500	2,001
Pre-tax Internal Rate of Return (IRR)	%	4,701	4,701
After-tax NPV @ 8%	$M	1,026	1,367
After-tax IRR	%	2,545	2,545
Cash Cost, including Authier ore purchase	$/t conc.	691	817
All-In Sustaining Costs, excluding Authier	$/t conc.	740	987

Note: All-In Sustaining Costs = Cash Costs + Sustaining Capital + Exploration expenses + G & A expenses.

Summary of the main assumptions:

- The financial analysis was performed on Proved and Probable Mineral Reserves as outlined in this report.
- Tonnes of concentrate are presented as dry tonnes.
- Exchange rates: An exchange rate of 0.75 US$ per C$ was used to convert the US$ market price projections into Canadian currency. The sensitivity of the base case financial results to variations in the exchange rate was examined. Those cost components, which include U.S. content originally converted to Canadian currency using the base case exchange rate were adjusted accordingly.
- Discount rate – a discount rate of 8% has been applied for the NPV calculation.
- Discounting starts at July 2023 but factors in working capital regarding inventory production, with first delivery forecasted for July 2023.
- Authier ore is purchased at C$120/t of ore.
- The selling cost for the spodumene concentrate includes transport and logistics costs.
- All costs and sales are presented in constant 2023 C$, with no inflation or escalation factors considered.
- All related payments and disbursements incurred prior to end of Q1 2023 are considered as sunk costs.
- Royalties – NAL is not subject to any other royalty payments.

Positive Financials

Cash flow modelling of the NAL project demonstrates a pre-tax, 100% equity pre-tax Net Present Value (NPV) of C$2,001 million (discount rate of 8%) with total earnings before interest, tax, depreciation and amortisation (EBITDA) cash flows over the 20-year project life of C$3,318M. The cash flow model utilises real dollars and therefore does not factor any inflationary impacts on revenue, operating and capital costs and uses an industry standard 8% discount rate. This generated a pre-tax internal rate of return (IRR) of 4,701%.

PRE-TAX	
NPV @ 8% (C$ M)	2,001
IRR	4,701%
POST-TAX	
NPV @ 8% (C$ M)	1,367
IRR	2,545%

The results of the sensitivity analyses are detailed in Figure 8 and Figure 9. The key outcome is the sensitivity to revenue (spodumene ore price) which is greater than both OPEX and CAPEX. Open pit mining operations such as the NAL operation is generally more susceptible to fluctuations in ore prices, therefore the result is not unusual. The upside however is that the project is very robust regarding pricing, providing a long-term stable platform to deliver strong cashflows and shareholder returns. The spodumene grade is also a significant factor of the project as the grade is directly tied to the revenue.

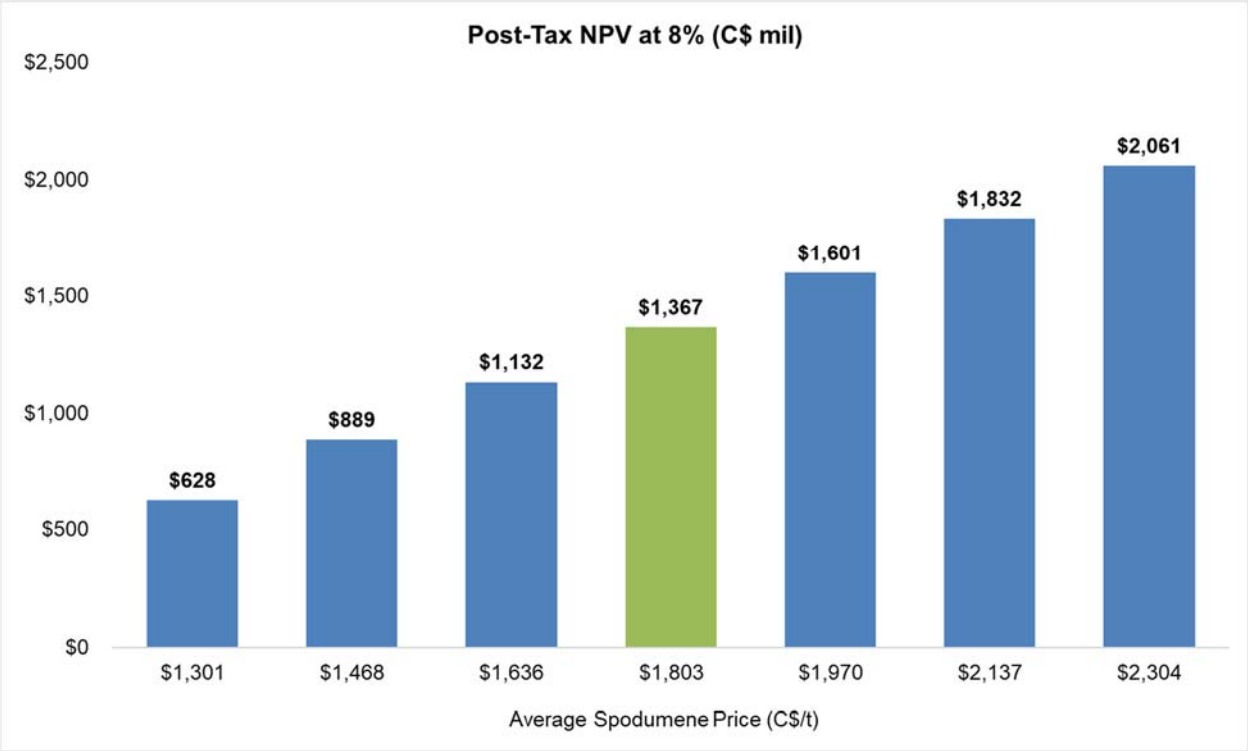

Figure 8: Average Annual Spodumene Price Sensitivities

Sensitivity Analysis

Post-Tax NPV sensitivities range from -30% to +30% to show the impact of the NPV outputs at an 8% discount rate. Complementing the Post-Tax NPV sensitivities is the Post-Tax IRR graph, which shows the overall project impact at these sensitivity ranges.

The Post-Tax sensitivity analysis shows that spodumene price, spodumene concentrate volume and exchange rates have the largest NPV variation. The operating expenditure is also showing a significant NPV variation and can be an opportunity to improve in the next steps of the NAL engineering study.

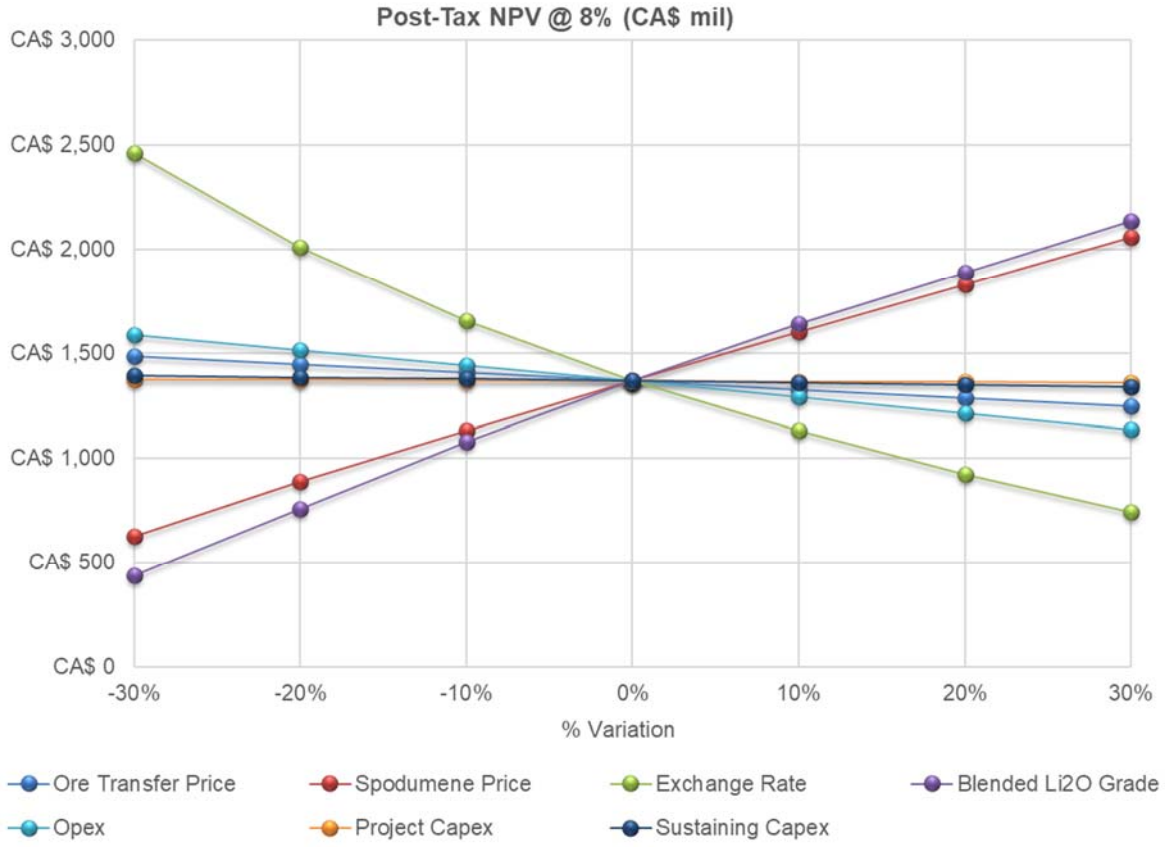

Figure 9: DFS Sensitivity Analysis on NPV @ 8%

Environmental Assessment and Approvals

Sayona plans to restart NAL mining and ore treatment operations in accordance with existing approvals by provincial and federal authorities. The concentrator has approval for throughput of 3,800 tpd. A planned increase to 4,500 tpd has been submitted to the authorities for approval in January 2023. Increase will not trigger federal or provincial environmental examination procedures.

Due to federal regulatory changes, a new approval has been issued in December 2022 by the Department of Fisheries and Oceans of Canada (DFO). Any changes to the project that could increase the total impact on fish habitats will require a modification to the DFO approval.

The permitting process is ongoing for additional waste rock and tailings storage facilities, which are required to support project development. Permits related to the additional tailings storage facilities (TSF) are expected in 2023. Permits for the new waste rock storage facility are expected to be issued in 2023. Storage on authorised waste dumps will be carried until obtainment of new waste dump permit.

Permitting process is ongoing for the fuel depot and the final approval is expected for 2023.Permitting process is about to start for the low-grade pile and the topsoil pile. The finals approvals are expected for 2024.

In terms of social acceptability of the project and relations with stakeholders, Sayona has put in place a monitoring committee in accordance with the Mining Act. Discussions are underway for the establishment of an Impact Benefit Agreement (IBA) with Abitibiwinni (Pikogan) and Lac Simon Firsts Nations. In coming months, several initiatives are planned to maximise socioeconomic benefits for all stakeholders.

Project Schedule and Implementation

In Q1 2023, the mining and spodumene concentrate process plant were started and ramp up is underway at time of publication. The following describes the timelines or progress status for the remaining major project components:

- Crushed ore Dome:
  - Contracting in progress
  - Construction and commissioning complete in Q4 2023
- Tailings and waste rock storage facilities 2023:
  - Detail Engineering underway
  - Raise of TSF1, ditches and basins to start in Q2 2023 and continue as required per storage plan
  - New pad for fuel depot and oil storage and relocation of fuel infrastructures
  - Permitting for waste rock stockpile #2 expected in Q4 2023
  - Waste Rock stockpile #2 preparation starting in 2023 and expanding as required through mine life
  - Construction of TSF 2 in starting in 2024
  - Waste rock storage facility #03 starting Q2-2023
- Main Electrical Substation modifications:
  - Detailed Engineering underway
  - Main transformer procurement in progress
  - Construction in 2024.

NAL DFS Study Team

The NAL DFS has been prepared by well-credentialled consultants and organisations which have significant experience and expertise in all aspects of lithium resource definition, mining, processing and infrastructure requirements in the province of Québec.

Table 16: NAL DFS Study Team

Study Area	Contributor
Metallurgical test work	Jarrett Quinn, Synectiq inc.
Process engineering	Patricia Dupuis, BBA
Mining	Mélissa Jarry, BBA
Tailings and water management	Luciano Piciacchia, BBA
Geotechnical (pit slopes)	Golder Associates (now WSP Global)
Environmental	BBA, GCM, Sayona
Mineral Resource Estimation	Pierre-Luc Richard, BBA
Cost Estimate	Claude Catudal, BBA
Marketing and Pricing	Philippe Pourreaux, PwC
Financial Modelling	Philippe Pourreaux, PwC
Study Integrator	Isabelle Leblanc, BBA

Competent Person Statement

The statement relating to the NAL Lithium project 2023 Ore Reserves estimate and presented herein is based on information compiled by BBA Inc. and reviewed by Mélissa Jarry, who is a Professional Engineer registered with the Ordre des Ingénieurs du Québec (OIQ). Ms. Jarry is a mining engineer and Department Manager of Mining and Geology at BBA Inc., a consulting firm based in Montréal, Canada. Ms Jarry takes overall responsibility for the NAL DFS Report as Competent Person.

Ms. Jarry has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity she is undertaking to qualify as a Competent Person as defined in the JORC Code (2012). The Competent Person, Ms. Mélissa Jarry, has reviewed the NAL Ore Reserves Estimate and has given her consent to the inclusion in the report of the matters based on her information in the form and context within which it appears.

The Competent Person relies on other professionals for all manner of things related to the Modifying Factors. These professionals are signatories of the DFS report with an effective date of 27 March 2023.

APPENDIX B

JORC Code, 2012 Edition – Table 1 NAL

Project

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Sections 1, 2 and 3 of the JORC Code Table 1 are documented in the 2023 NAL Feasibility Study Report (BBA, 2023).

Criteria	JORC Code explanation	Commentary
Sampling techniques	▪ *Nature and quality of sampling (eg cut channels, random chips, or specific specialised 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 mineralisation that are Material to the Public Report.* ▪ *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised 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 mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	▪ Historic information is compiled from NI 43-101 Technical Reports prepared for the current owner and previous owners and discussion with NAL staff. ▪ The drill core was photographed (most of the holes) and logged prior to sampling of the holes. ▪ Sampling was completed using core drilling sampling. During the 2009, 2010, 2011, 2016 and 2019 drill programs, core was laid in wooden boxes at the drill site, sealed with a lid and strapped with plastic binding. At the owner's core facility, the core was washed, logged, and split using a diamond blade saw under the on-site supervision of the geologist. After cutting, the core samples were sealed with a plastic cable tie in labelled plastic bags with their corresponding sample tag. The plastic bags were placed in large rice bags and secured with tape and a plastic cable tie for shipping to the laboratory. ▪ Standards and blanks were inserted into the samples sequence prior to shipping.

Criteria	JORC Code explanation	Commentary
Drilling techniques	▪ *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, 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.).*	▪ Historic information is compiled from NI 43-101 Technical Reports prepared for the current owner and previous owners and discussion with NAL staff. ▪ All resource data for NAL comes from diamond drilling. ▪ Historical drilling includes drilling programs in 2009 and 2010, managed by CCIC geologists, in 2011 by M.E. Lavery, P.Geo., and completed by two independent contractor geologists. The same protocols for logging, core cutting, and sampling were used in all campaigns. ▪ In 2016, a drill program of 50 drillholes of NQ size was carried out for a total of 8,911 m. This campaign was supervised by NAL Chief geologist Rémi Asselin, P. Eng., and two independent geologists. ▪ In 2019, a drill program of 42 drillholes of NQ size ▪ was carried out for a total of 11,487 m. The campaign was supervised by the geology team of NAL.
Drill sample recovery	▪ *Method of recording and assessing core and chip sample recoveries and results assessed.* ▪ *Measures taken to maximise sample recovery and ensure representative nature of the samples.* ▪ *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	▪ Historic information is compiled from NI 43-101 Technical Reports prepared for the current owner and previous owners and discussion with NAL staff. ▪ Core recovery for these programs, was typically over 95%, with only occasional areas of sheared core with poor recovery. Inspection by the CP of the core confirms a high core recovery. ▪ Lengths were adjusted as necessary to reflect geological and/or mineralisation contacts, which periodically created samples of less than 1 m length. Pegmatite veins that were 0.4 m to 1.0 m in thickness were also sampled if spodumene was visible. Longer sample lengths were taken of strongly sheared core or rare sections with poor core recoveries.
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.*	▪ Historic information is compiled from NI 43-101 Technical Reports prepared for the current owner and previous owners and discussion with NAL staff. ▪ Core samples were logged geologically and geotechnically. Photographs of the wet core were taken systematically after core boxes were opened and laid out on the platform and, prior to any marking or cutting taking place, rock quality designation (RQD) measurements were generally taken at regular intervals of 6 m, with the

Criteria	JORC Code explanation	Commentary
	▪ *The total length and percentage of the relevant intersections logged.*	fracturing and recovery data being recorded. ▪ Logging was both quantitative and qualitative. Lithology contacts, textures, alterations, and structural features were typically logged. ▪ In 2009, core logging was carried out by CCIC geologists and geological description and geotechnical information was recorded directly into core view v.5.0.0. software (Visidata Pty Ltd.) which was exported and backed up every night on a secure data server. ▪ In 2010, the nominal sample interval was 1 m with more than 99.7% of the samples being 1 m or less. ▪ In 2011, the nominal sample interval was 1 m with more than 93% of the samples being 1 m or less. ▪ In the 2016 drill program, the sample interval was 1 m with more than 59% of the sample being 1 m or less. ▪ In 2019, the sample interval was 1 m with more than 42% of the sample being 1 m or less.
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 representativity 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.*	▪ Historic information is compiled from NI 43-101 Technical Reports prepared for the current owner and previous owners and discussion with NAL staff. ▪ After logging, core was marked by a geologist with sample intervals, and core samples were sawn in half. One half of the sample interval was submitted for analysis and the remainder kept for future testing and/or reference. ▪ Sampling protocol generally followed the procedures below: ▪ Sample labels are placed at the start of each sample interval and the limits of these are clearly indicated by the geologist using red-coloured arrows. The footage should also be shown next to the red lines.

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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	▪ Historic information is compiled from NI 43-101 Technical Reports prepared for the current owner and previous owners and discussion with NAL staff. ▪ From 2009-2011 and 2016, a primary and a check laboratory were used for analyses. ▪ In 2009, the core samples were prepared and analysed either in Lakefield or in Toronto, Ontario, SGS laboratories using a sodium peroxide fusion with atomic absorption spectrometry, method 9-8-40, to determine the %Li content. ▪ For 2009, Check samples were prepared for selected samples from a split from the remaining pulps after primary analysis. The samples were packaged by SGS Lakefield and sent by couriers to the ALS Vancouver laboratory. ▪ In 2010-11, The primary laboratory was ALS and the check laboratory was AGAT Laboratories Ltd. Samples were prepared at ALS Val d'Or and assayed in Vancouver using four-acid digestion with ICP-AES finish, method Li-OG63, to determine the %Li content of the pulverised core sample. ▪ In 2016, the primary analysis was Techni-Lab. The samples were prepared and assayed using a four- acid digestion with ICP-AES finish, method ICP-OES, to determine the %Li content of the pulverised core samples. ▪ The check laboratory for 2016 was ALS Vancouver. ▪ The quality of the assay was monitored using blanks (one for approximately every 20 samples), and standards (one for approximately every 20 samples). The site created customised lithium standards, i.e. ST-L (low grade) and ST-H (high grade), by the dilution of spodumene concentrate from the Tanco pegmatite mine in Manitoba with pulverised quartz. The spodumene concentrate was sent to ▪ Geoscience Laboratories for dilution, pulverisation to < 200 mesh and homogenisation. Additionally, several pulps were sent to a secondary laboratory as a check. ▪ In 2016, three standards were created using pulps from the 2013 and 2014 production drillholes. ▪ In 2019, a mobile SGS lab was set-up directly on site. The sample were prepared and assayed by SGS to determine the %Li content of the pulverised core samples.

Criteria	JORC Code explanation	Commentary
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.*	▪ Historic information from NI 43-101 Technical Reports prepared for the current owner and previous owners and discussion with NAL staff. ▪ In 2016, the firm InnovExplo was retained to perform a due diligence review of the drilling, core handling, sampling and QA/QC protocols elaborated by NAL. ▪ BBA further investigated NAL's QA/QC protocol and data produced. Procedures included insertion of sterile material labelled as "blank" in the sample stream to control contamination and sample handling errors, insertion of customised reference materials labelled as standards A, B and C, representing low grade (0.336% Li_2O, average cut-off grade (0.878% Li_2O) and high grade (1.567% Li_2O) material, respectively. These were sent to the primary laboratory in alternation to cover a range of values and material representative of the mineralisation at the mine. ▪ Each sample batch included one blank insertion and the insertion of standards (A, B and C), with QA/QC sample inserts accounting for 5 to 10% of the total material submitted. ▪ The results of the analyses were received by email in the form of signed certificates (.pdf) by the chemist and as Excel files, facilitating data capture. The latter were then easily imported into the Geotic Log database and then processed. ▪ The QA/QC reference data was converted in terms of $\%Li_2O$, rather than % Li. ▪ Overall, the sample preparation, security, analytical procedures, and results appear reasonable, diligently executed and in keeping with the industry accepted practices. ▪ The CP supervised a resampling program for Fe content and Density measurements and included the conclusions into the study.
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.*	▪ 2016 and 2019 holes were first positioned and oriented by mine-site personnel using a Trimble TSC3 precision GPS instrument, and collars were precisely surveyed by J.L Corriveau, a local surveying contractor. ▪ Drillhole deviation was regularly measured by the drill operator, approximately every 15 m using a Flexit testing instrument, while multishot tests were recorded every 3 m along the hole upon closure.

Criteria	JORC Code explanation	Commentary
		▪ GPS coordinates of all collar locations were recorded and tied into the exploration grid. ▪ Historical underground mine workings show uncertainties in x,y, and z. The accuracy of the workings was estimated to be within 5 m; therefore, a 5 m buffer around historical underground workings was used to deplete additional material during the resource estimation process. ▪ The topography is a combination of a Lidar survey and drillhole collars.
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.*	▪ The combination of all drilling from 2009 to 2019 results in average drill spacing of approximately 100 m x 100 m in the area of the deposit, with local definition up to 50 m x 50 m, mostly within the conceptual pitshell. ▪ Drill spacing is sufficient to establish geological and grade continuity, and to support the current Mineral Resource classifications. ▪ Samples have been composited to 1.5 m intervals.
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.*	▪ Historic information is compiled from NI 43-101 Technical Reports prepared for the current owner and previous owners and discussion with NAL staff. ▪ The majority of holes from 2009 to 2019 were drilled with an azimuth of N045, which is perpendicular to the mineralisation contained in the pegmatite dykes. The dip of the dykes at 70 degrees to the southwest was intersected by surface drilling with a dip of -45 to -65 in general, which optimises the intersection of the mineralised structures. ▪ Thus, the orientation and dip of the drillholes do not create any bias during core sampling.
Sample security	▪ *The measures taken to ensure sample security.*	▪ Historic information is compiled from NI 43-101 Technical Reports prepared for the current owner and previous owners and discussion with NAL staff. ▪ In 2009, 2010 and 2011, drill core was laid in wooden core boxes at the drill site, sealed with a lid and strapped with plastic bindings. Core samples were packed and sealed into labelled plastic bags and tied with a plastic cable tie. The core was transported either by the drilling contractor or the previous owner' personnel to their core facility in

Criteria	JORC Code explanation	Commentary
		Val d'Or. ▪ In the 2016 campaign, drill core was placed in wooden boxes, respecting the drilling sequence, with wooden markers indicating depth. Once filled, lids were sealed on the boxes, and NAL personnel transported the core to NAL's core shack located in the nearby town, Amos. ▪ Upon delivery to the core shack, the drill core was taken care of by the company's team of technicians and geologists. The samples were clearly identified in their respective bags without risk of contamination. Transport to the laboratory was carried out by a technician from the company. ▪ All sampling is supervised by a geologist. ▪ Pulps and rejects are returned to site and properly stored
Audits or reviews	▪ The results of any audits or reviews of sampling techniques and data.	▪ Historic information from a NI 43-101 prepared for a previous owner and discussions ▪ The 2009 drill hole data was audited by Ms. Stone, P.Geo.(CCIC), before use in the development of the geological model on the property. The data audit included review of assay certificates, down hole deviation, hard copy records of the down hole survey results, logging codes for mineralised pegmatite and checked for data logged, sampled or measured. Errors were corrected in the database, with the resulting 2009 drill hole and assay database being considered of high quality and acceptable for use in resource estimation. ▪ AMC conducted an audit and evaluated the mineral resources in compliance with NI 43-101 guidelines. They reported a first estimate in May 2011 and, upon completion of infill drilling, pursued validation work leading to an updated resource model and estimate in December 2011. ▪ In 2016, the firm SGS audited the drilling data including those of 2016. An assessment of Resources was carried out by SGS in April 2017. An assessment of Reserves by BBA followed in May 2017. ▪ In 2021, BBA audited the drilling data completed by NAL in 2019.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Section 1, 2 and 3 of the JORC Code Table 1 are documented in the 2023 NAL Feasibility Study Report (BBA 2023).

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 licence to operate in the area.*	▪ Historic information is compiled from NI 43-101 Technical Reports prepared for the current owner and previous owners and discussion with NAL staff. ▪ The North American lithium Project is in the municipality of La Corne, Québec. ▪ The project was built as an open pit hard rock mine and exploited lithium-bearing pegmatite dyke, with mineral processing and lithium carbonate production facilities. ▪ The 19 claims are all map designated since the dates of their registration in 2008 and as such, their boundaries don't have to be physically identified in the field. The claims have since been renewed every renewing dates. ▪ *The Mining Lease was granted to the QLI on May 29, 2012, on the basis of a pre-feasibility study (PFS) at the time in support of the application.* ▪ The Mining Lease has an initial term of 20 years, expiring on May 28, 2032 and can be renewed under some conditions. ▪ Gestim, the Québec government's online portal for mining titles was consulted and NAL is the registered owner of these claims. ▪ There are no royalties applicable to any mineral substances that may eventually be extracted from the lands subject to the mining titles. ▪ The company has obtained approval for deforestation of the future development of the current pit to the east. ▪ There are no known significant issues that are believed to materially impact the mine's ability to operate.

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	▪ *Acknowledgment and appraisal of exploration by other parties.*	▪ Historic information is compiled from NI 43-101 Technical Reports prepared for the current owner and previous owners and discussion with NAL staff. ▪ Exploration started in 1942 by Sullivan Mining Group, followed by Quebec Lithium Corporation, Cambior Inc., Canada Lithium Corp., which merged later with Sirocco Mining Inc to form RB Energy Inc. ▪ Between 2008 and 2012, Canada Lithium Corp. carried out exploration work on the property. This work consisted of geological compilation, surface mapping, outcrop channel sampling, diamond drilling and metallurgical tests. All this work is detailed in the first NI 43-101 Report in 2012. ▪ In 2016, NAL carried out a surface drilling campaign to the east of the pit.
Geology	▪ *Deposit type, geological setting and style of mineralisation.*	▪ The project is located in the region of The Archean Preissac-Lacorne syn- to post-tectonic intrusion that was emplaced in the southern Volcanic Zone of the Abitibi Greenstone Belt of the Superior Province of Québec. ▪ The rocks are split between granodiorite of the Lacorne batholith, volcanics, and gabbro as well as the pegmatites dykes that mainly intrude the granodiorite and the volcanics. ▪ Volcanic rocks on the property are represented by dark green mafic metavolcanics and medium grey silicified intermediate volcanics. The mafic rocks are medium grey to dark grey-green, and cryptocrystalline to very fine grained. ▪ Both mafic and intermediate volcanic rocks are affected by moderate to strong pervasive silicification, minor chloritisation and patchy to pervasive lithium alteration. ▪ The granodiorite is medium grey to greenish grey, massive, coarse grained to porphyritic, and exhibits a salt-pepper appearance. The main mineral constituents are light grey to greenish white plagioclase (40-45 vol%), dark green to black amphibole, most likely hornblende (15-20 vol%), mica(20 vol%), represented by biotite and muscovite, grey quartz (10-15%vol) and minor epidote, chlorite and disseminated sulphides. ▪ Three different types of facies of pegmatites dykes have been identified based on mineralogy and textures: PEG1, PEG2 and PEG3. The main differences between the three types of pegmatite dykes are the amount of spodumene in the dyke, the feldspar and quartz content, the texture of the

Criteria	JORC Code explanation	Commentary
		pegmatite, and the presence or absence of zoning. ▪ Pegmatite mineralisation occurs as a swarm of dykes ranging in thickness from 1.5 m – 60 m, striking NW-SE and dipping subvertical to 50 degrees NE.
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:* • *easting and northing of the drill hole collar* • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* • *dip and azimuth of the hole* • *down hole length and interception depth* • *hole length.* ▪ *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	▪ From the period of 2008 to 2019, a total of 519 holes were drilled for a total of 76,721 m with an average of 148 m per hole. ▪ During all drilling programs, holes were roughly perpendicular to the direction of the pegmatites which are oriented in the whole NW-SE. Holes were angled typically at -45 to -60 degrees to cut the interpreted true width of the dyke. ▪ Down hole surveys were conducted at approximately 50 m intervals.
Data aggregation methods	▪ *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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*	▪ Data aggregation methods were not used for this Project. Mineralisation shows a very low nugget effect, low grade variation, and low COV. ▪ There are no metal equivalent values on this Project. ▪ Exploration results are not being reported.

Criteria	JORC Code explanation	Commentary
	detail. ▪ *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	
Relationship between mineralisation widths and intercept lengths	▪ *These relationships are particularly important in the reporting of Exploration Results.* ▪ *If the geometry of the mineralisation 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 (eg 'down hole length, true width not known').*	▪ The geometry of the mineralisation with respect to the drill hole angle is known. ▪ The holes were drilled on bearings of 45 degrees and approximately perpendicular to the general strike and dip of the mineralised dyke bodies.
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.*	▪ Maps and geological as well as plan views with drill hole collar locations are included in the main body of this report.
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 avoiding misleading reporting of Exploration Results.*	▪ Exploration results are presented as a whole in the Mineral Resource Estimate. ▪ There are no specifically released exploration results.
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 samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	▪ There are no other meaningful and material exploration data to be reported.

Criteria	JORC Code explanation	Commentary
Further work	▪ *The nature and scale of planned further work (eg 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.*	▪ It is recommended to complete the following work: ▪ Continued resource definition drilling within the conceptual resource pitshell to upgrade the Inferred resources to the Indicated category. ▪ Exploration drilling on the property to potentially expand the resource in the NW and SE lateral extensions of the deposit. ▪ Collect additional bulk density samples of the pegmatite, granodiorite, and metavolcanics to accurately estimate the tonnage of future mining. ▪ Continuously sample and assay the intervals between the pegmatite dyke to collect the Fe grade of the diluting host rock material.

NAL JORC Study JORC Table 1

JORC Code, 2012 Edition – Table 1 - Section 3 Estimation and Reporting of Mineral Resources

(Criteria in this section apply to all succeeding sections.)

Sections 1, 2 and 3 of the JORC Code Table 1 are documented in the 2023 NAL Feasibility Study Report (BBA, 2023).

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 digital drill hole database was audited by the CP using validation tools for: collar location, azimuth, dip, hole length, survey data and analytical values. There were no relevant errors or discrepancies noted during the validation. ▪ Drillhole data is securely stored in a Geotic Log database located on the Sayona server located at site. The server is backed up daily and backups are stored in a different building, also on site.
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.*	▪ For the NAL DFS, the CP conducted site visits on 18 July 2022 and 25 July 2022. ▪ The CP inspected drill hole collars, diamond core, and geology within the open pit. ▪ General logging and sampling procedures, analytical procedures were reviewed. ▪ These site visits allowed for the CP to make some recommendations, mainly the need for a resampling program that was immediately initiated and included in the current database.
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 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.*	▪ The new geological model proposed for this update is based on drillholes, open pit mapping, and historical underground voids. ▪ The mineralisation is composed of multi-phase pegmatite dykes within metavolcanics and granodiorite. These dykes are relatively simple to model. ▪ The pegmatite dykes contain various amounts (5% to 25%) of spodumene. ▪ Only lithium grades within the pegmatite dykes were used to interpolate within the dykes. ▪ Host rocks were modelled in 3D to support the pegmatite interpretation and to provide information for mine planning.

Criteria	JORC Code explanation	Commentary
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.*	▪ The NAL Mineral Resource includes 49 pegmatites striking approximately northwest and have variable dips from subvertical to 50 degrees to the southwest. ▪ The NAL pegmatite dykes have been delineated over a strike length of approximately 1,600 m and to a depth of approximately 900 m vertical. Dykes have variable widths from 1.5 m to 60 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 (eg sulphur for acid mine drainage characterisation).* ▪ *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.*	▪ Compositing was done every 1.5 m. Unsampled intervals were assigned a zero grade. Capping to 2.30% Li_2O was done after compositing. ▪ Variography was done in both Leapfrog Edge and Supervisor. Well-structured variogram models were obtained for 20 pegmatite domains; these were estimated using ordinary kriging (OK), using Leapfrog Edge. The remaining 29 pegmatite domains did not yield well-structured variograms and therefore were estimated using Inverse Distance Square (ID2), also using Leapfrog Edge. ▪ Based on the statistical analysis, capping value was set at 2.30% Li_2O. ▪ Three orientated search ellipsoids were used to select data and interpogram Li_2O grades in successively less restrictive passes. The ellipse sizes and anisotropies were based on variography, drillhole spacing, and pegmatite geometry. The ellipsoids were 40 m x 30 m x 14 m, 80 m x 60 m x 28 m, and 160 m x 120 m x 60 m. A minimum of three composites and a maximum of 10 composites were selected during interpolation. A minimum of two holes were needed to interpolate during the first two passes. ▪ Variable search ellipse orientations (dynamic anisotropy) were used to interpolate. Spatial anisotropy of the dykes is respected during estimation using Leapfrog Edge's Variable Orientation tool. The search ellipse follows the trend of the central reference plane of each dyke. ▪ Parent cells of 5 m x 5 m x 5 m, subblocked four times in each direction (for minimum subcells of 1.25 m in each direction) were used. Subblocks are triggered by both the geological model and mining voids. Li_2O grades are estimated on the

Criteria	JORC Code explanation	Commentary
	▪ *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 drill hole data, and use of reconciliation data if available.*	parent cells and automatically populated to subblocks. ▪ The block model is rotated -50 degrees around the Z axis. ▪ Fe grades were assigned to the block model based on the median value of individual lithologies. ▪ Hard boundaries between individual pegmatite dykes were used for all Li_2O estimates. ▪ The mineral resource estimate includes blocks within the pit shell above the cut-off grade of 0.60% Li_2O and blocks within stope shapes above the cut-off grade of 0.60% Li_2O. ▪ Validation of the block model was performed using Swath Plots in each of the three axes, nearest neighbours grade estimates, global means comparisons, and by visual inspection in 3D and along plan views and cross-sections.
Moisture	▪ *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	▪ Tonnages and grades were estimated on a dry in situ basis

Criteria	JORC Code explanation	Commentary
Cut-off parameters	▪ *The basis of the adopted cut-off grade(s) or quality parameters applied.*	▪ The open-pit cut-off grade and pit optimisation were calculated using the following parameters (amongst others): 5.40% Li_2O concentrate price = US$1,273 per tonne; C$:US$ exchange rate = 1.32; Hard Rock and Overburden Mining cost = C$5.12/t mined; Mill Recovery of 73.6%; Processing cost = C$23.44/t processed; G&A = C$6.00/t processed; Transportation cost = C$118.39/t conc; Tailing Management Cost = C$2.86/t processed, and Water treatment C$0.18/t processed. Although the calculated cut-off grade is 0.15% Li_2O for open pit, a cut-off grade of 0.60% Li_2O was used for the open-pit MRE due to processing limitations. ▪ The cut-off grade for underground resources was calculated at 0.62% Li_2O, but rounded to 0.60% Li_2O; it used identical costs and recoveries, except for mining costs being at C$100/t. ▪ Cut-off based on a spodumene concentrate prices of US$1,273/tonne for a 5.4% Li_2O concentrate and an exchange rate of 1.32 C$/US$. ▪ Appropriate mining costs, processing costs, metallurgical recoveries, and inter ramp pit slope angles were used by to generate the pit shell.
Mining factors or assumptions	▪ *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, 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.*	▪ Most of the dykes are 2 m or wider; only a few intervals are between 1.5 m and 2 m. The geometry and the depth of the mineralised dykes are amenable to be mined using the mining method for which they are reported (open-pit or underground). ▪ Appropriate dilution or ore loss factors have been considered to generate the pit shell to constrain the JORC Mineral Resource Estimate. ▪ Stope Optimiser shapes (MSO) with a minimum of 2 m were used for reporting underground resources. All material within the shapes was reported. ▪ A crown pillar of 50 m around the bottom of the conceptual pitshell was applied. ▪ Mineral Resources are reported as in-situ, in compliance with JORC 2012 reporting standards.

Criteria	JORC Code explanation	Commentary
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.*	▪ Significant metallurgical test work has been conducted on the mineralisation. The reader is referred to the metallurgical test work section of the Table. ▪ The NAL project has an existing mineral processing plant on site designed to process the material feed from an open pit.
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 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.*	▪ The NAL project has existing environmental permits for mining operations including the disposal of waste rock, storage of tailing, drawing water for process and the release of treated water to the environment. ▪ The mineral resource pit shell has been constrained to avoid a lake located northeast of the pit.

Criteria	JORC Code explanation	Commentary
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.*	▪ Bulk density measurements were collected on diamond drill core using the wet immersion method. ▪ In autumn 2022, 492 samples were sent to SGS Laboratories to improve the density measurement database. Representative samples were selected for pegmatites and waste rock. ▪ The median value of 2.70 g/cm^3 was assigned to all pegmatite dykes. ▪ Surrounding lithologies were assigned the following density (median of all collected data): Granodiorite (2.77 g/cm^3), Volcanics (3.01 g/cm^3), Gabbro (3.11 g/cm^3). ▪ Overburden was assigned 2.00g/cm^3.
Classification	▪ *The basis for the classification of the Mineral Resources into varying confidence categories.* ▪ *Whether appropriate account has been taken of all relevant factors (ie 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 NAL resource classification is in accordance with the JORC 2012 reporting guidelines. All reported Mineral Resources have reasonable prospects for eventual economic extraction. ▪ Blocks were classified as Inferred when the drill spacing was 150 m or better. ▪ Blocks were classified as Indicated when the drill spacing was 80 m or better inside the conceptual resources pit shell. ▪ Blocks were classified as Measured if they fell within 10 m of the bottom of the current pit surface. ▪ A 10 m buffer zone was implemented around historical underground voids. All material inside this zone was at best Inferred even if the drill spacing allowed for Indicated. This is to account for uncertainty related to the accuracy of the historical underground mining voids. ▪ Smaller pegmatite dykes defined by limited data were entirely classified as Inferred, provided that they also met the minimum drillhole spacing of 150 m or better. ▪ No Indicated Mineral Resources are reported for material that is planned to be extracted by underground mining. ▪ Classification volumes are created around contiguous blocks at the stated spacing criteria with consideration for the selected mining method. ▪ The Mineral Resource estimates appropriately reflect the view of the Competent Person.

Criteria	JORC Code explanation	Commentary
Audits or reviews	▪ *The results of any audits or reviews of Mineral Resource estimates.*	In 2022 an internal audit was conducted as part of the PFS process, identifying opportunities to improve the resource model. In the current study the geological model that underpins the NAL Mineral Resource Estimate was significantly improved to reflect both the host rock lithologies and the thickness, orientation, and lateral and down-dip continuity of the pegmatite dyke swarm. The enhancements were made possible by the integration of new sampling data, a detailed review of relationships between pegmatites and diluting host rock, and through discussions with internal and external experts. The model accuracy was also validated against historical mining voids, past production average grades and trends observed in historical grade control data. The previous geological model, prepared for the NAL Pre-Feasibility Study, used a more generalised approach, modelling "corridors containing pegmatites" rather than pegmatitic dykes, with consideration for up to 20% internal waste. These corridors are understood to encompass multiple stacked, and/or cross-cutting dykes, intermingled with high-Fe country-rock, devoid of spodumene. The updated interpretation better reflects the QP's understanding of the local variation of the dyke swarm. Internal dilution now represents less than 3% of the Mineral Resource estimate. The model refinement for the NAL deposit enabled a more precise segregation between the spodumene-bearing pegmatites, and the high-Fe waste rock. This, in turn, has the combined effect of reducing the overall in-pit resource tonnage of Measured and Indicated tonnes (-54%), with a corresponding increase in Li_2O grade (+22%). Overall, the resource pit shell contained Li_2O metal for Measured, Indicated, and Inferred resources decreased by 16%. Importantly, the increased accuracy of model permits greater mining selectivity to be applied, thereby reducing the quantity of waste and improving metal recovery at the plant. ▪

Criteria	JORC Code explanation	Commentary
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 pegmatite geometry and continuity has been adequately interpreted to reflect the applied level of Measured, Indicated and Inferred Mineral Resource. ▪ The data quality is good, and the drill holes have detailed logs produced by qualified geologists. All diamond core used in the estimate is properly stored, and mineralised intervals can be reviewed when required. Certified laboratories have been used for all analyses. ▪ The Mineral Resource statement relates to a global estimate of tonnes and grade constrained within a pitshell and underground optimised shapes.

NAL JORC Study JORC Table 1

JORC Code, 2012 Edition – Table 1 - Section 4 Estimation and Reporting of Ore Reserves

This section has been developed based on information compiled by BBA inc. and reviewed by Mélissa Jarry who is a Professional Engineer registered with the Ordre des Ingénieurs du Québec (OIQ). Ms Jarry is a Department Manager of Mining and Geology at BBA Inc., a consulting firm based in Montréal, Canada.

Ms Jarry has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity she is undertaking to qualify as a Competent Person as defined in the JORC Code (2012).

The Competent Person relies on other professionals for all manner of things related to the Modifying Factors. These professionals are signatories of the DFS report submitted to Sayona with an effective date of 27 March 2023.

Criteria	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.* ▪ *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	▪ The Mineral Resource for the North American Lithium Project was prepared by BBA. Details of this mineral resource are presented in the above sections. ▪ Ore Reserves are estimated on the basis of detailed design and scheduling of the North American Lithium open pit. ▪ The Mineral Resources are reported inclusive of the Ore Reserves. ▪ Mineral Resources that are not Ore Reserves have not demonstrated economic viability.
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.*	▪ Site visits was completed by the competent person in July 2022 and August 2021. A thorough understanding of the available infrastructures and general arrangements was achieved. Meetings and pit tours with the mine operation and engineering department took place. ▪ The Competent Person performed several site visit during the previous mining operations (2017-2018).

Criteria	Code explanation	Commentary
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 North American Lithium Project was evaluated at a Definitive Feasibility Study level. The reported Ore Reserves are reported based on the work completed in the Definitive Feasibility Study (DFS). ▪ The Ore Reserves are reported for the second time under the JORC Code (first being in May 2022). In 2012, a NI 43-101 Feasibility Study was published for the project.
Cut-off parameters	▪ *The basis of the cut-off grade(s) or quality parameters applied.*	▪ The breakeven cut-off grade (COG) is calculated considering costs for processing, G&A, and other costs related to concentrate production and transport. Based on a lithium concentrate selling price of US$1,273 per tonne, the COG would be 0.15% Li_2O. However, due to metallurgical recovery limitations, a metallurgical COG of 0.60% Li_2O was selected based on iterative analysis
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 optimisation 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 (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.* ▪ *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if*	▪ The ore body is mined using open pit mining techniques with excavators and mining trucks. ▪ Mining activities will be conducted by a specialised mining contractor for the first four years of operation and then by the owner's operations team. ▪ Optimised shapes were developed to identify the portion of the mineral resource that could be mined before performing pit shell optimisations. These shapes determined the amount of dilution and ore losses applied to the project. Six scenarios of varied dilution skins and shape widths were generated and a dilution skin of 0.5 m was retained. The final pit solid was interrogated with the mining block model. The geological ore losses are approximately 12% and the mining dilution is approximately 16% dilution. To account for operational losses a 97% mining recovery was applied. ▪ The open pit limits were optimised using the Deswik mining software using the Pseudoflow algorithm. The optimisation was performed considering only the Measured and Indicated resource blocks as mineralised. The Inferred resource was treated as waste. A series of pit shells were generated by varying the base selling price using revenue factors ranging

<table>
<tr><th>Criteria</th><th>Code explanation</th><th>Commentary</th></tr>
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appropriate)

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

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from 0.3 to 1.1. The selected pit shell (serving as a guide for open pit design) uses a revenue factor of 0.60.

- The pit optimisation parameters used for the base case pit shell are described as follows:
  1. *Overall metallurgical recovery, including ore sorting: 73.6%*
  2. *Concentrate grade: 5.4%*
  3. *Concentrate price: US$1,273/tonne of concentrate for revenue factor 1.*
  4. *Exchange rate: 0.76 US$/C$*
  5. *Concentrate transportation cost: C$118.39/tonne of concentrate.*
  6. *Processing and G&A cost: C$32.48tonne ore*
  7. *Mining dilution and ore losses are evaluated using optimised stope shapes.*
  8. *Within a 10 m envelope of the old underground workings, the mining costs were inflated by 30% for the pit optimisation.*
  9. *Physically limited by the lake Lortie (60 m offset).*
- The selected pit shell served as a guide to design the open pit inclusive of ramps and other pit slope design criteria. A double bench configuration with a 20 m final bench height is proposed. Double lane ramps are designed at 26 m wide with single lane ramps reduced to 18.5 m.

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- The open pit design is based on the pit slope recommendations provided by WSP-Golder with some adjustments by BBA approved by Golder, which consist of the following design criteria:

Sectors	Wall Dip Direction °		Height	Catch Bench Width	Bench face Angle	Inter-ramp angle	Geotechnical berm interval
	From	to	[m]	[m]	[º]	[º]	[m]
Overburden	0	360		9	26.6	NA	NA
South	355	35	20	16	60	45.7	120
North East	195	270	20	10	65	49.1	120
North West	35	195	20	10	70	52.6	120
South East	270	355	20	10	70	52.6	120

- Overburden is sloped at 26° (Bench face angle), with an 8 m setback at the bedrock contact.

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Criteria	Code explanation	Commentary
		▪ All Inferred resources have been treated as waste material in the production schedules and the project economics. ▪ The following are the existing infrastructure for the Project: 1. Open pit; 2. Processing plant; 3. ROM ore pad; 4. Waste stockpile; 5. Conventional tailings pond; 6. Overburden stockpile; 7. Administration facility, including offices and personnel changing area (dry); 8. Workshop, tyre change, warehouse and storage areas; 9. Fuel, lube and oil storage facility; and 10. Reticulated services, including power, lighting and communications, raw water and clean water for fire protection, process water and potable water, potable water treatment plant, sewage collection, treatment and disposal. ▪ and future infrastructure for the Project. 1. Expansion of the open pit; 2. Expansion of the current mine garage 3. Crushed ore dome; 4. Dam raise of the current tailings storage facility 5. Additional tailings storage facility including dry-stacked tailing area and tailings filter plant; 6. Expansion of the current waste pile; 7. Additional waste pile; ▪ Relocation of the fuel, lube and oil storage facility.
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.*	▪ The flotation flowsheet tested is conventional and used in industry to treat lithium-bearing pegmatite ores. ▪ Extensive metallurgical testing has been conducted on samples from the NAL deposit between 2008 and 2023. ▪ The NAL concentrator operated twice between 2013-2014 and 2017-2019. Historical testwork and operating data were used to estimate plant performance. ▪ Previous commercial operation (2018-19) at the NAL concentrator produced concentrate typically ranging from 5.4% to 6% Li_2O with lithium recovery ranging from 53% to 69% (monthly averages). ▪ Multiple laboratory- and pilot-scale testwork programs have been undertaken on samples from the project.

Criteria	Code explanation	Commentary
	▪ *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?*	▪ Testwork has been undertaken to examine the impact of type and quantity of host rock dilution on concentrate quality (specifically iron content). ▪ Blended ore samples have also been tested. ▪ The flowsheet includes ore sorting and wet high- intensity magnetic separation for iron control. ▪ Metallurgical testwork has produced 6% Li_2O chemical-grade spodumene concentrate (industry standard specification). ▪ A mass balance was produced based on the NAL re-start flowsheet (2022) feeding a blended ore consisting of 36% Authier ore and 64% NAL ore at the rod mill. Lithium recovery was estimated at 66.3% to produce a 5.82% Li_2O concentrate% for this blend based on historical operational data and testwork results.
Environmental	▪ *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation 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.*	▪ Sayona has restarted the North American Lithium mining and ore treatment operations which were already authorised by provincial and federal authorities. ▪ The concentrator is authorised for throughput of 3,800 tonnes per day. Approval for 4,500 tpd production will be sought during 2023. Increase will not trigger federal or provincial environmental examination procedures. ▪ Due to federal regulation changes, request for approval by the Department of Fisheries and Oceans of Canada (DFO) has been approved in December 2022. Any changes to the project that could increase the total impact on fish habitats will require a modification to existing DFO approval. ▪ Permitting process is ongoing for additional waste rock and tailings storage facilities which are required to support the project development. Permits related to the additional tailings storage facilities (TSF) are not required before end of 2023 and the final approval is expected for 2023. ▪ Permit for the new waste rock storage facility is expected to be released in 2023. Storage on authorised waste dumps will be carried until obtainment of new waste dump permit. ▪ Permitting process is ongoing for the fuel depot and the final approval is expected for mid-2023. ▪ Permitting process is about to start for the low-grade pile and the topsoil pile. The final approval are expected for 2024.

Criteria	Code explanation	Commentary
Infrastructure	▪ *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	▪ The current infrastructure on site includes but is not limited to the administration building, tailings storage facility, waste stockpiles, wastewater treatment plant, pump stations, warehouse, maintenance facility, offices, main gate, wash bay, fuel and lube storage, crusher and concentrator, power lines and site access road. ▪ Power is delivered to the NAL site through a 120 kV transmission line and is stepped down to 13.8 kV in the main NAL substation for distribution to the various load centres. The distribution voltage is further stepped down to 4.16 kV and 600 V, used to feed the process equipment. ▪ The expansion of the open pit requires that an existing public aerial line (25 kV + telecom on wooden poles) be relocated. This work on ongoing by Hydro-Québec. ▪ No camp accommodation is required since the project is centred in a well-developed mining region with associated resource industry support facilities and services.
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 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.*	▪ Capital costs have been estimated by BBA. The estimate addresses the engineering, procurement, construction and commissioning of a new crushed ore dome as well as storage capacity increases in the waste rock and tailings storage facilities required. ▪ CAPEX also includes expenditures for the construction of a tailings filtration plant and a dry stack tailings management facility, modifications to the site water management infrastructure, mine mobile equipment and adjustment to the electrical distribution. ▪ The CAPEX for the process equipment as well as major mine mobile equipment was developed from budgetary quotes from vendors as part of the Pre-feasibility study and in-house data for lesser equipment. ▪ The CAPEX for civil, concrete and structural steel works is based on engineering material take- offs quantified from the 3D Model developed during the Feasibility study and prices benchmarked against similar recent projects. ▪ The CAPEX for piping and electrical distribution works is partially based on engineering material take-offs from P&ID's and single line diagrams combined with layouts developed from the 3D Model prepared during the Feasibility study and prices benchmarked against similar

Criteria	Code explanation	Commentary
		projects. ▪ The CAPEX qualifies as Class 3 per AACE recommended practice R.P.47R-11. The accuracy of this CAPEX estimate has been assessed at ±20%. The CAPEX estimate includes all the direct and indirect project costs, complete with the associated contingency. ▪ The mining operating expenditures ("OPEX") are estimated based on 2023 operating budget developed with the mining contract Sayona and L. Fournier & Fils signed in September 2022. In 2027, the NAL operation will begin an owner operation for the remaining mine life. ▪ The CAPEX and OPEX are expressed in constant dollars dated March 2023. No allowance has been made for escalation. ▪ No allowances for deleterious elements are expected to be necessary. ▪ A long-term diesel price of C$1.16/litre has been used. A long-term electricity cost of C$0.0531/kwh has been used. ▪ Provincial mining tax, federal and provincial income tax payable to the government is based on the profits are excluded from the financial analysis. ▪ An exchange rate of 0.75 US$/C$ has been used where applicable. All calculations are in Canadian dollars.
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.*	▪ A memorandum of understanding (MOU) was developed between the Authier site and NAL in which NAL has agreed to buy 100% of the Authier ore material at a selling price of C$120/tonne of ore, delivered to NAL ore pad area. ▪ The MOU was developed based on a Li_2O grade of 0.85% to 1.1%.

Criteria	Code explanation	Commentary
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 specification, testing and acceptance requirements prior to a supply contract.*	▪ A Lithium Market Study was prepared by PWC, a Canadian based research and consultancy group, to assess the market trends for global supply and demand, projected demand and production and freight rate analysis. ▪ Benchmark Mineral intelligence and Wood Mackenzie both forecast demand for lithium to increase rapidly, fuelled mainly by the rapid growth of the demand for electric vehicle batteries. In the near term, they project that the supply of lithium will grow less rapidly than its demand, creating a supply deficit. This context is projected to be sustained for a number of years, which is reflected in higher near- term spot and contract lithium spodumene prices, carbonate and hydroxide prices. Over time, Benchmark Mineral Intelligence and Wood Mackenzie forecast lithium demand and supply to converge, with lithium pricing projected to follow the required long-term incentive price to justify bringing new lithium production capacity to market. ▪ Sayona Québec's La Corne concentrator is projected to produce a 5.82% spodumene concentrate, the industry standard for spodumene concentrate. Given the rapid growth of lithium demand and supply, and the likely supply-demand deficit in North America in the near-term, the product is projected to be in high demand. As such, Sayona's 6% lithium spodumene concentrate product could naturally serve the North American and European markets due to its physical proximity to both markets from its ports along the St-Lawrence river. ▪ Sayona Québec currently has an offtake agreement with Piedmont Lithium for the greater of 113,000 tonnes or 50% of La Corne's concentrate produced, based upon market based pricing, for the life of the facility, with a minimum price of US$500 per tonne and maximum price of US$900 per tonne, excluding any quality true-up to the standard specification of goods. The balance of the production volumes not allocated to Piedmont Lithium can be sold in the market to any third party. Third party demand for Sayona Québec's lithium spodumene concentrate is projected to be healthy, as a number of battery makers have announced the investment in production facilities in North America and Europe.

Criteria	Code explanation	Commentary
		▪ Sayona Québec's offtake agreement with Piedmont Lithium contains a volume waiver should Sayona Québec pursue the transformation of the lithium spodumene concentrate into lithium carbonate or hydroxide, either through the restart of La Corne's lithium carbonate plant, or the construction of a new lithium chemical production capacity at the Facility or at another location. In that operating scenario, the lithium spodumene would be allocated in priority to Sayona Québec's transformation plant, then to Piedmont Lithium for the contracted volume, then to third parties. ▪ Sayona Québec is currently studying the option of restarting La Corne's lithium carbonate plant. ▪ For volumes contracted with Piedmont Lithium, the forecasted prices are in excess of the maximum contracted price of US$900 per tonne, therefore it has used US$900 per tonne for the contracted volumes. ▪ Sales from 2023 and 2024 are based on 50% of the concentrate sales at average benchmarked spodumene market prices and the remaining 50% of concentrate sales at the Piedmont Lithium contract price. Average benchmarked spodumene market prices are used for 2025-2026. From 2027 onwards, the spodumene concentrate price used the Wood Mackenzie Q1 2022 real contract price forecast. ▪ Sayona Québec expects its product to meet typical lithium spodumene concentrate market specifications. ▪ For the volumes contracted with Piedmont Lithium, the lithium spodumene concentrate is targeted to contain 6.0% Li_2O grade (dry basis) with less than 1.5% Fe_2O_3 content (dry basis) and less than 12.0% total moisture. ▪ For third party sales, Sayona Québec expects that similar customer specifications would be required. ▪ Sayona Québec will provide its customer with small volumes of lithium spodumene concentrate for them to process with their internal testing and user acceptance procedures prior to engaging in a supply contract.

Criteria	Code explanation	Commentary
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.*	▪ The key results and assumptions for the financial analysis are listed below: • Net Present Value at 8% discount of C$2,001M at a LOM average selling price of C$1,794/tonne of spodumene concentrate ; • Pre-Tax Internal Rate of Return of 4,710%; post-tax IRR of 2,545%; • All-in Sustaining Cost of C$657/t of 6.0% Li_2O concentrate. ▪ All operating and capital costs as well as revenue streams were included in the financial model. This process has demonstrated that the Ore Reserves can be processed yielding a positive net present value (NPV).
Social	▪ *The status of agreements with key stakeholders and matters leading to social licence to operate.*	▪ A monitoring committee is in place, in accordance with the Mining Act. The frequency of meetings is 4 per year. ▪ Discussions are underway for the establishment of an Impact Benefit Agreement (IBA)with Abitibiwinni (Pikogan) and Lac Simon Firsts Nations. ▪ Sayona is in constant communications with surrounding communities of Amos, La Corne, Barraute, Mont-Vidéo and Saint- Marc-de Figuery. Several initiatives are being undertaken to have socioeconomic benefits for all stakeholders. ▪ Structuring projects regarding the pedestrian paths of Mont Vidéo and discussions are ongoind regarding drilling campaign. ▪ Upcoming public consultations for all neighbouring municipalities regarding ore transportation ▪ Initiative on social media platforms to encourage local employability and looking for local candidates

Criteria	Code explanation	Commentary
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.*	▪ Risks: - The DFS considers the Authier ore supply. Therefore, the current Ore Reserves and project economics rely on the Authier prospect to advance to production. - The iron content of the ore must stay under specific limit in order to produce a sellable concentrate. Lack of metallurgical testing on blended feed containing basalt host rock. - The lithium losses to magnetic concentrates could be higher than expected ▪ See Revenue Factors and Market Assessment criteria for signed agreement with Authier and Piedmont ▪ See agreements in Environmental criteria
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.* ▪ *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	▪ The Ore Reserves was classified in accordance with the JORC Code and the NI 43-101 Standard. ▪ The methods used are considered by the competent persons to be appropriate for the style and nature of the deposit. ▪ Probable Ore Reserves derive from indicated mineral resources and Proved Ore Reserves derive from measured mineral resources.
Audits or reviews	▪ *The results of any audits or reviews of Ore Reserve estimates*	▪ No Audits have been undertaken on the North American Lithium Project Ore Reserves. ▪ Ore Reserves have been developed from measured and indicated mineral resources as well as using data and relevant information from the mining and milling operations which occurred up to March 2023. ▪ The Ore Reserves were developed using similar methodology and parameters than the previous Ore Reserve estimate (PFS May

Criteria	Code explanation	Commentary
		2022). The main changes result from the modifications in mineral resources.
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.*	▪ The competent person is of the opinion that the Mineral Reserves for the North American Lithium Project appropriately consider modifying factors and have been estimated using industry best practices. ▪ The accuracy of the estimates within this Ore Reserve is mostly determined by the order of accuracy associated with the Mineral Resource model, metallurgical input, and long-term cost and revenue factors. ▪ Factors that can affect the Ore Reserves estimates are: - Dilution and recovery factors are based on assumptions that will be reviewed after mining experiences and adjusted on reconciliations with the NAL concentrator. - The approval of the Authier project - As always, changes in commodity price and exchange rate assumptions will have an impact optimal size of the open pit - Changes in current environmental or legal regulations may affect the operational parameters (cost, mitigation measures). - The Ore Reserve estimate is a global estimate of the North American Lithium Project and is supported by a Definitive Feasibility Study report completed April 2023. ▪ The Competent Person is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that could materially influence the Ore Reserves other than the modifying factors already described in this section of the report.

APPENDIX C:

AUTHIER LITHIUM PROJECT

STUDY OVERVIEW

The Authier Lithium Project is a greenfield project. Sayona acquired the project in 2016 from Glen Eagle Resources and has conducted numerous drilling campaigns and studies since its acquisition. The previous Ore Reserves Estimate, derived from a Definitive Feasibility Study (DFS) published in 2019, was based on a 2,600 tonne per day ore production rate, to produce approximately 115 kt per year of 6.0% Li_2O spodumene concentrate from an on-site concentrator.

Following Sayona's August 2021 acquisition of the North American Lithium (NAL) mine and concentrator in La Corne, Québec, the Authier Lithium Project was revised to include only mining operations and waste and water management on-site.

The Authier Lithium Project will consist of an open-pit mine operated by a mining contractor, a waste and overburden stockpile, site water management infrastructures, a mine garage including a wash bay, administrative trailer-type buildings, a 600 kV electrical distribution system and an ore stockpile area. The run-of-mine (ROM) ore will be transferred to highway trucks and transported to the NAL site, where it will be blended (33% Authier/ 67% NAL) with the NAL ore material and fed to the primary crusher (equivalent to a blend of 36% Authier / 64% NAL at the rod mill).

The mining operation consists of a conventional surface mining method with drill rigs, excavators and off-highway trucks. The Updated DFS consists of resizing the open pit and infrastructure, based on parameters outlined in this section, and producing a 22-year life-of-mine (LOM) plan to feed the NAL crusher at a rate of approximately 530,000 tonnes per year.

SCOPE OF SERVICE

BBA Inc. (BBA), a Canadian-based consulting firm, has been requested by Sayona Québec Mining Limited (Sayona) to update the Ore Reserves Estimate on its Authier Lithium Project, located in La Motte, Québec. Based on a new Mineral Resource Estimate produced by SGS, BBA developed an Updated Definitive Feasibility Study (UDFS) and Ore Reserves Estimate for the Authier Lithium (Authier) project, with an overall accuracy of +10%/- 15%.

The Ore Reserves Estimate has been derived and reported by BBA according to the guidelines and terminology proposed in the JORC Code (2012 version). It is important to note that the Ore Reserves presented in this report are also compliant with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) reporting guidelines as used in National Instrument 43-101 standards (NI 43-101).

Property description

The Authier Lithium Project property consists of one block totalling 24 mineral claims covering 884 ha. The claims are located in the La Motte Township, except the westernmost claims, which are located in the Preissac Township. The claims are located on Crown Lands. The project area extends 4.1 km in the east-west direction and 3.3 km in the north-south direction. All of the claims comprising the Authier property are map designated cells (CDC). Figure 10 shows the claims map of the Authier property.

The vast majority of the Ore Reserves are situated in CDC 2183455, 2194819 and 2116146, with the remainder in claims 2183454 and 2187652.

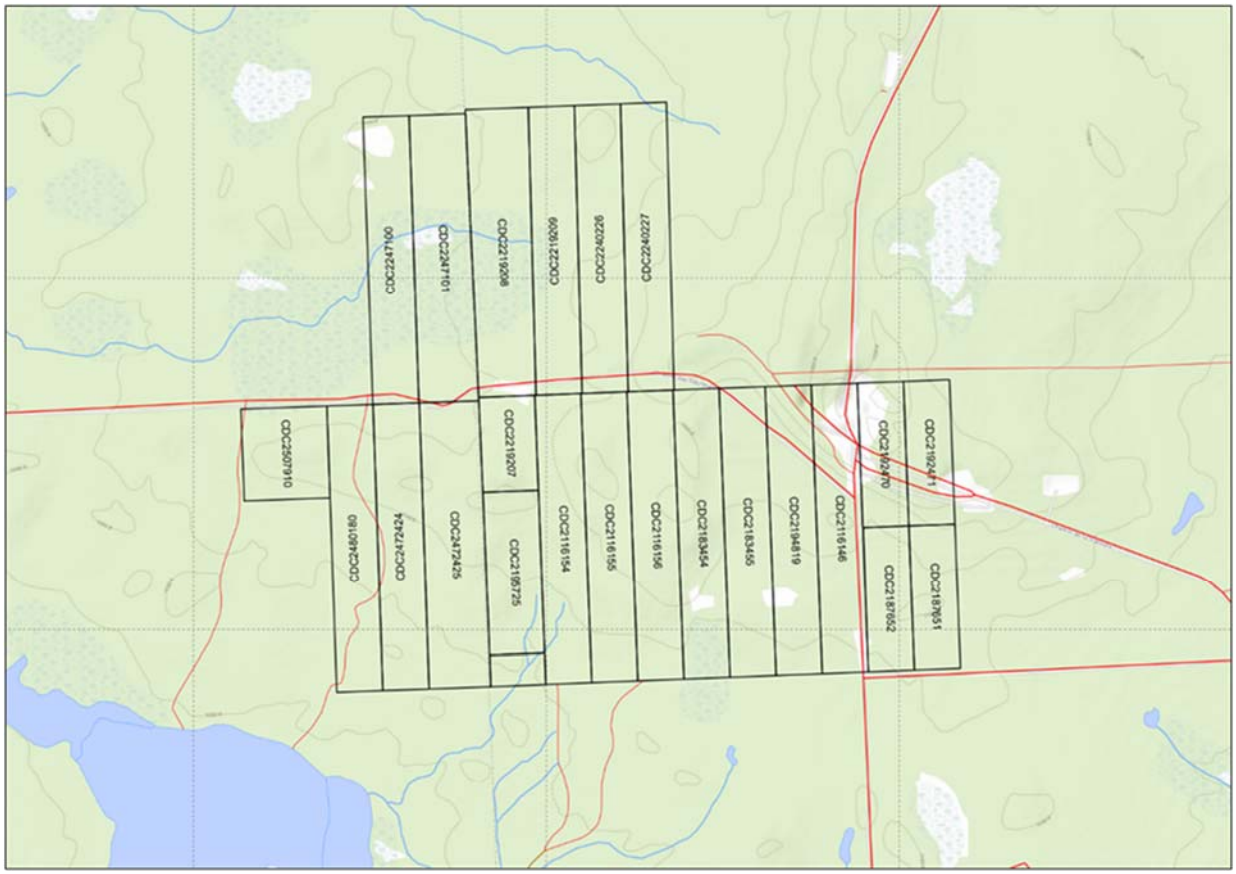

Figure 10: Authier Lithium Project Mining Titles Location Map

The Authier Lithium Project is located in the Abitibi-Témiscamingue Region of the Province of Québec, approximately 45 km northwest of the city of Val-d'Or and 15 km north of the town of Rivière-Héva. The centre of the Authier Lithium Property is situated on NTS sheet 32D08 at about UTM 5,361,055 m N, 706,270 m E, NAD 1983 (Figure 1). The Authier project is located in a well-developed mining region with associated resource industry support facilities and services. Authier is accessible by a high-quality, rural road network connecting to the main highway, Route 109, situated

a few kilometres east, which links Rivière-Héva to Amos.

Route 109 connects at Rivière-Héva to Highway 117, a provincial highway that links Val-d'Or and Rouyn Noranda (the two regional centres of Abitibi-Témiscamingue), to Montréal, which is the closest major city, almost 500 km to the southeast.

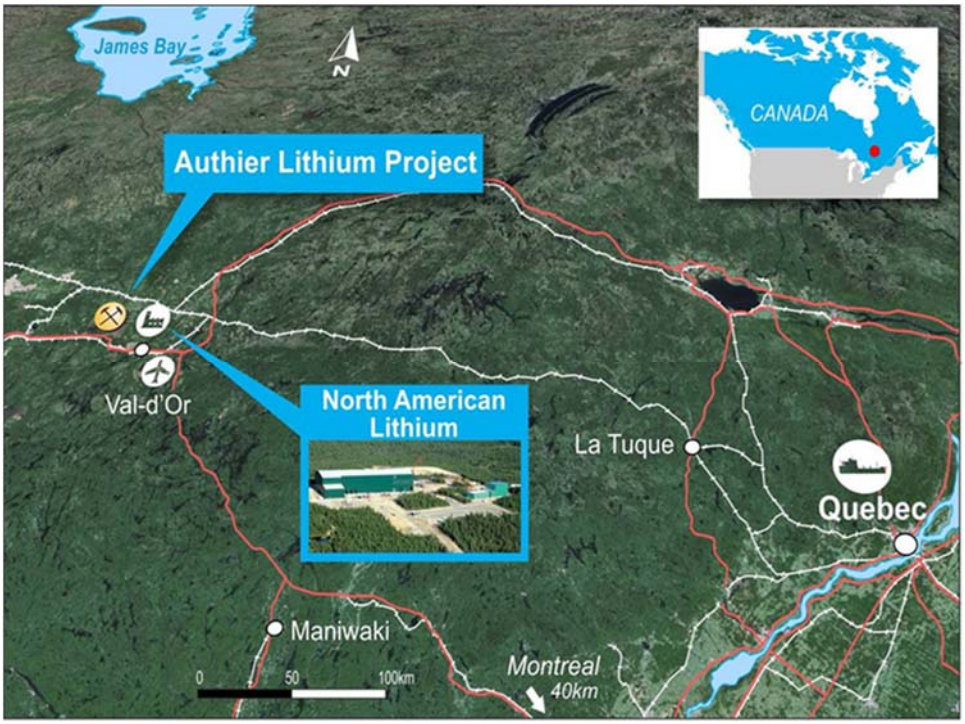

Figure 11: Location of the Authier Lithium Project relative to nearby regional townships

The Authier Lithium Project is located approximately 70 km by road from Sayona's North American Lithium (NAL) operation in the municipality of La Corne. Figure 12 shows the location of the two projects separated by the Harricana river and accessible to each other through the city of Amos.

Figure 12: Location of Authier and NAL Projects

Authier Lithium Mineralisation

This section has been compiled using the geology and Mineral Resource Estimate chapters of the UDFS prepared by SGS.

The mineralisation observed at the Authier project in the spodumene-bearing pegmatites is principally lithium with trace amounts of beryllium, molybdenum, tantalum, niobium, cesium and rubidium.

Detailed logging of drill core suggests that the main pegmatite at Authier is composed of several internal phases related to intrusive placement and progressive cooling. The outside border of the pegmatite in contact with the host rocks has been identified as a transition zone or border zone. This transition zone is often significantly less mineralised in spodumene and is characterised by a centimetre-scale fine to medium-grained chill margin, followed by a medium to coarse-grained decimetre to metre-scale zone. The transition zone often includes fragments of the host rock and can also be intermixed with the material from the core zone.

The main intrusive phase observed in the pegmatite is described as a core pegmatitic zone characterised by large centimetre-scale spodumene and white feldspar minerals. The core pegmatitic zone shows internally different pegmatitic phases characterised by different spodumene crystal lengths, ranging from coarse-grained (earlier) to fine-grained (later). The contacts between different spodumene-bearing pegmatite phases are transitional and well defined at core logging scale. Higher lithium grades are correlated with higher concentrations of larger spodumene crystals. Late mineral to post-mineral aplite phases cut earlier spodumene-bearing mineralisation, causing local diminishing of lithium grade. The core zone hosts the majority of the spodumene mineralisation at Authier.

The spodumene-bearing pegmatite is principally defined by one single continuous intrusion, or dyke, that contains local rafts or xenoliths of the amphibolitic host rock, which are a few metres thick and up to 200 m in length at shallow levels within the western zone. The main pegmatite outcrops in a small, 50 m by 20 m, area at the central-eastern sector that orients east-west and is mostly covered by up to 10 m of overburden. Based on the information gathered from the drilling, the pegmatite intrusion is more than 1,100 m in length and can be up to 60 m thick. The intrusion is generally oriented east-west, dips to the north at angles ranging between 35° and 50° and reaches depths of up to 270 m below surface in drilling, to date.

A second spodumene-bearing pegmatite, not visible from the surface, was intersected by diamond hole AL-16-10 at shallow levels, between 15 m and 22 m downhole depth, approximately 400 m north of the main pegmatite. Follow-up drilling in early 2017 and 2018 outlined this new body, the Authier North pegmatite, which has a strike extension of 500 m east-west, 7 m average width, gently dipping 15 degrees to the north. The Authier North pegmatite appears at shallow levels, 15 m to 25 m vertical depth, and is open in all directions.

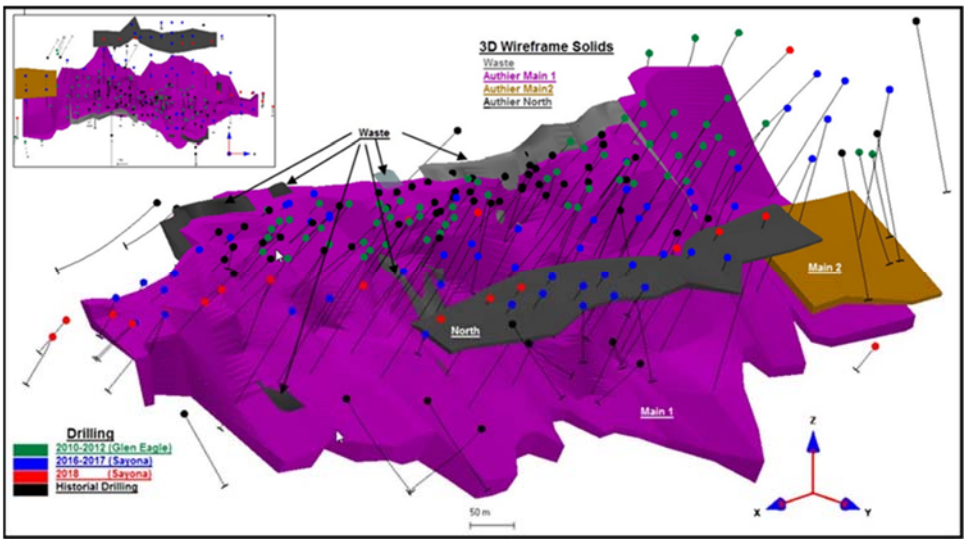

Figure 13: Authier isometric view of the final mineralised solids (from SGS)

Authier Lithium Project Mineral Resource Estimate

This section has been compiled using the geology and Mineral Resource Estimate chapters of the UDFS prepared by SGS. Refer to the ASX announcement dated 1 March 2022 for further information about the Authier Lithium Project Mineral Resource Estimate. Sections 1, 2 and 3 of the JORC Table 1, presented in Appendix D below, were taken from the Mineral Resource Estimate report prepared by SGS.

The total Authier Lithium Mineral Resource amounts to 17.1 Mt of Measured, Indicated and Inferred Mineral Resources at a grade of 1.01% Li_2O. The Mineral Resource Estimate was prepared and approved by Maxime Dupéré of SGS, a Competent Person as defined in the JORC Code (2012).

The Ore Reserves Estimate considers the open-pit constrained portion of the Mineral Resources, which are estimated at 14.1 Mt of Measured and Indicated Mineral Resource at a grade of 1.01% Li_2O.

Authier Ore Reserve Estimate

The Authier Ore Reserves have been estimated for a total of 11.2 Mt of Proved and Probable Ore Reserves at an average grade of 0.96% Li_2O, which is comprised of 6.2 Mt of Proved Ore Reserves at an average grade of 0.93% Li_2O and 5.1 Mt of Probable Ore Reserves at an average grade of 1.00% Li_2O. The LOM plan and subsequent Ore Reserves are based on a ROM ore selling price of C$120/t to the NAL operation. The effective date of the Ore Reserves statement is 27 March 2023 and is based on an exchange rate of 0.75 US$:C$1.00.

Development of the LOM plan included pit optimisation, pit design, mine scheduling and the application of modifying factors to the Measured and Indicated portion of the in-situ mineral resources. Tonnages and grades are reported as ore feed at the NAL crusher and account for mining dilution, geological losses and operational mining loss factors.

The present Ore Reserves Statement is supported by positive pre-tax and after-tax financial analyses, as developed during the UDFS. Analysis of the financial model on the main economic assumptions indicates that the Authier Lithium Project is most sensitive to ore price.

The Ore Reserves have been classified according to the underlying classification of the Mineral Resource and the status of the Modifying Factors. The status of the Modifying Factors is generally considered sufficient to support the classification of Proved Ore Reserves when based upon Measured Mineral Resources, and Probable Ore Reserves when based upon Indicated Mineral Resources. Inferred Mineral Resources were considered as waste.

Table 17 summarises the Proved and Probable Ore Reserves for the Authier Lithium Project.

The Competent Person is of the opinion that no other known risks including legal, political or environmental, would materially affect potential development of the Ore Reserves.

Table 17: Authier Lithium Project Ore Reserves Estimate (0.55% Li_2O cut-off grade)

Ore Reserves Estimate	Quantity (Mt)	Grade % Li_2O	Contaminant % Fe	Contained Li_{2O}* (kt)
Open-pit				
Proved Ore Reserves	6.2	0.93	0.92	57.6
Probable Ore Reserves	5.1	1.00	0.98	50.7
Total Ore Reserves	**11.2**	**0.96**	**0.95**	**108.3**

* Metallurgical recovery not applied

Notes:

- Ore Reserves are measured as dry tonnes at the crusher above a diluted cut-off grade of 0.55% Li_2O.
- Ore Reserves are based on an ore selling price of C$120/t, delivered to the NAL crusher. The ore selling price has been settled in a memorandum of understanding between Authier and NAL.
- The reference point of the Ore Reserves is the NAL crusher.
- In-situ Mineral Resources are converted to Ore Reserves based on pit optimisation, pit design, mine scheduling and the application of modifying factors, all of which support a positive LOM cash flow model. According to JORC code, inferred resources cannot be converted to Ore Reserves.
- The waste and overburden to ore ratio (strip ratio) is 6.1:1.
- The Ore Reserves for the Authier Lithium Project have been estimated by Ms. Isabelle Leblanc, P.Eng., OIQ #144395, a Competent Person as defined by JORC.
- Ore Reserves are valid as of 27 March 2023.
- Totals may not add up due to rounding for significant figures.

Modifying Factors

For the conversion of Mineral Resources to Ore Reserves, it is necessary to apply a variety of modifying factors.

Metallurgical Recoveries

The Project considers mining Authier ore for shipment to the NAL site for processing. A mass balance was produced based on the NAL restart flowsheet, feeding a blended ore consisting of 33% Authier ore and 67% NAL ore. Lithium recovery over the LOM is estimated to be an average of 67.4% for the blend based on metallurgical test work results and historical operational data.

Mill Cut-off Grade Calculation

The breakeven cut-off grade (COG) is calculated considering costs for processing, G&A, and other costs related to concentrate production and transport. Based on the forecasted lithium concentrate selling price, the break-even COG would be lower than 0.55% Li_2O. However, due to concentrate quality grade, a metallurgical COG of 0.55% Li_2O was selected based on iterative analysis.

Mining Dilution and Mining Ore Losses

The Authier Lithium Project hosts spodumene-bearing pegmatite dykes. The main dyke, which represents most of the resource, dips approximately 25° to 50° and has a varying thickness between four and 55 metres. A second minor dyke is located just to the north of the main dyke, dips approximately 15° and has an average thickness of seven metres.

As an industrial mineral, the specification of the final product must meet relatively tight tolerances for lithium (Li_2O) content, as well as contaminants, such as iron. The contaminant grade in the final product is directly linked to the quantity of diluting host waste rock in the mill feed.

A detailed dilution model was developed by BBA and coded into the mining block model. The mining ore losses are approximately 2.3% and the mining dilution is approximately 9.0% dilution. To account for operational errors and losses during rehandling of ore, an additional mining ore loss factor of 2% was considered, for a total of 4.3% ore losses

Iron Content

The iron content can have an impact on the metallurgical recovery and on the quality of the spodumene concentrate. Inside the pegmatite dyke, iron content is approximately 0.7% to 1.0% Fe while the average iron grade in the host rock is around 7% Fe.

The iron content in the ROM material has been reviewed by Jarrett Quinn, an author of the UDFS, and considered acceptable.

Status of Environmental Approvals

Sayona sent the Authier Lithium Project Notice to Québec Ministry of Environment and Fight Against Climate Change (MELCC) in May 2019 and received Environmental Guidelines for the Environmental and Social Impact Assessment (ESIA) in June 2019. The first version of the ESIA for a project comprising on-site ore treatment was issued in January 2020.

Sayona received a first list of questions and comments from MELCC in March 2020. Sayona provided responses to those questions and comments in December 2020. In February 2021, MELCC sent a second list of questions to Sayona.

Following NAL's acquisition, Sayona decided to make significative modifications to the Authier Lithium Project. The new project is limited to mining operations and the transportation of ore to NAL site by roads.

In November 2022, Sayona notified the MELCCFP that the company would like the Authier project to remain under the provincial environmental authorisation procedure (BAPE) even if the production rate is lower than regulatory trigger. In November 2022, Sayona sent a new Project Notice to MELCCFP. In February 2023, MELCCFP notified Sayona that the Authier Lithium Project will be subjected to the BAPE procedure.

A revised ESIA will be produced in 2023. Following obtainment of the Governmental Decree, Sayona will have to obtain various permits for construction and operation of the mine.

In terms of social acceptability of the Authier Lithium Project and relations with stakeholders, Sayona has put in place a monitoring committee in accordance with the Mining Law and discussions are underway for the establishment of an Impact and Benefit Agreement with Abitibiwinni (Pikogan) and Lac Simon First Nations. In the coming months, several initiatives are planned to maximise socioeconomic benefits for all stakeholders.

Mine Designs and Mining Operations

Based on the resource model described above, BBA created a mining block model for mine design and planning purposes. The resource model was sub-celled along the boundaries of the different material contacts. Overburden material was assigned a constant density of 1.90 t/m³. The waste densities were provided in the resource model from SGS.

The sub-celled model was then regularised to the parent block size of 3 m x 3 m x 3 m, with tonnages and grades coded for each type of material. Resource classification was conserved from the resource model.

Open Pit Optimisation and Designs

The purpose of pit optimisation is to determine the ultimate pit limits that satisfy business objectives. By running a series with a sensitivity on selling prices (revenue factor), the results can also be used to determine the most economical mining phases. Pit optimisation for the UDFS was completed using the Pseudoflow command with the Deswik mining software. Inferred resources were considered as waste.

The UDFS financial evaluation is based on the selling of ore material to the NAL operation. However, due to the unavailability of the ore selling price at the time, the pit optimisation was developed based on the integration of the costs and parameters associated with the concentration of the ore and production and selling of a 6.0% Li_2O spodumene concentrate.

The optimiser estimates best, average and worst case discounted values. The best case requires that each shell be mined sequentially while the worst case mines the deposit on a bench-by-bench basis. The best case is generally impracticable as shell increments can be very small and, therefore, not minable by themselves. The worst case is always achievable but gives much lower discounted cash flows. In practice, a compromise between the two cases is generally achieved by staging the pit using suitable pushbacks. The average case discounted values are used as a measure to compare optimisation results. A discount rate of 8% and ROM feed rate of 0.53 Mtpa have been used in this analysis. The values returned by the optimiser do not include capital investments and are only used as a relative indicator of the sensitivity of the Authier Lithium Project to changes in costs.

The revenue factor 0.86 pit shell was selected as a guide for the final pit limits. This selection was based on maximizing project Ore Reserves while respecting a relatively high NPV. This pit shell contained approximately 11.3 Mt of ROM ore feed and is within 10% of the highest average case discounted cash flow.

The pit optimisation results are presented graphically in Figure 14.

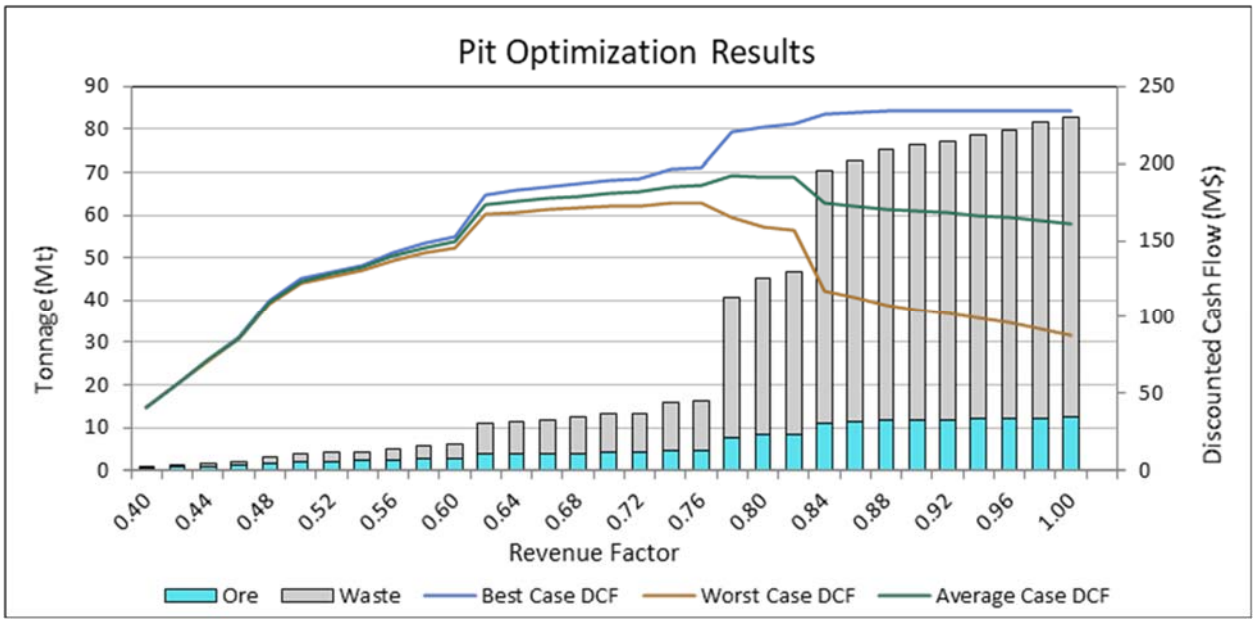

Figure 14: UDFS Pit Optimisation Results

The proposed pit design is based on the geotechnical requirements prepared by Journeaux Assoc. based on their April 2018 report. BBA reviewed the recommendations as part of the UDFS and provided modified geotechnical parameters. Table 18 and Table 19 present the Authier Lithium final pit design parameters and haul roads design parameters.

Table 18: Pit Design Parameters

Item	Value			Unit
	North Wall	South Wall	Transition	
Overburden				
Berm Width	0			m
Bench Face Angle (BFA)	14			deg
Set back at the bedrock/OB contact	10			m
Rock				
Bench Height	6	6	6	m
Benching Arrangement	Triple	Triple	Triple	m
Berm Width	8.2	8.2	8.2	m
Inter-Ramp Angle (IRA)	57.7	47.3	52.4	deg
Bench Face Angle (BFA)	80	65	72.5	deg

Table 19: In-pit Haul Roads Design Parameters

Item	Value	Units	Notes
Road Width (dual lane)	23	m	Based on Cat 775G
Road Width (single lane)	17	m	Bottom benches
Max. no. of benches at single lane	9	n/a	Based on 6 m bench height
Maximum Grade - Overburden	10	%	
Maximum Grade - Hard Rock	10	%	

The design outlines a pit of ~990 m in length, an average of 640 m width and 200 m in depth. Figure 15 and Figure 16 present plan and isometric views of the Authier Lithium pit.

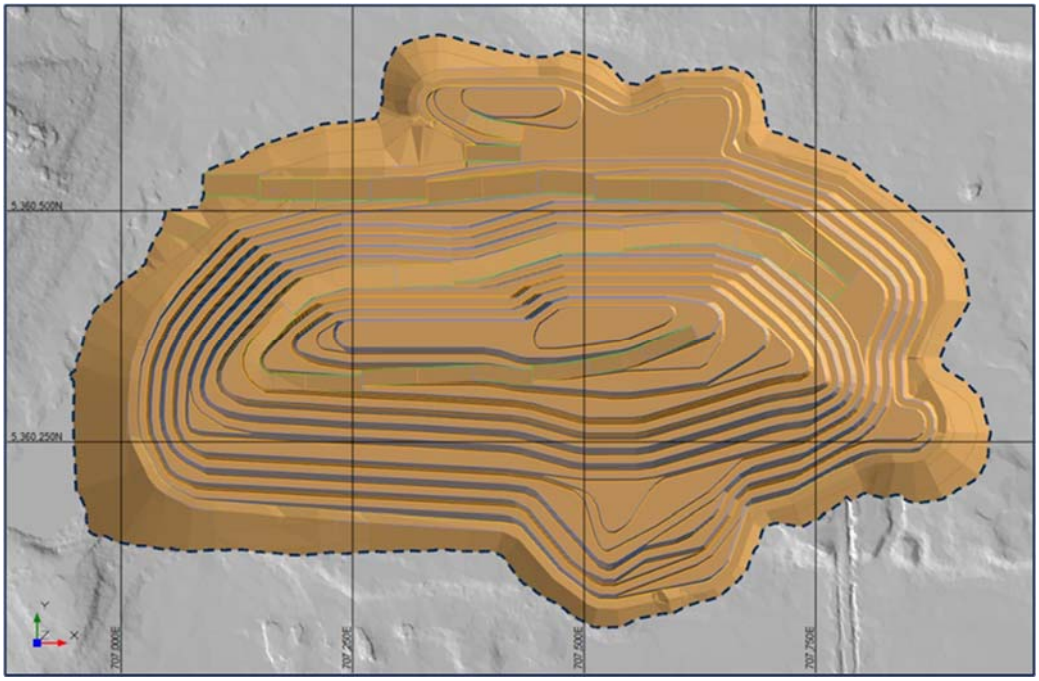

Figure 15: Authier Lithium Ultimate Pit Design Plan View

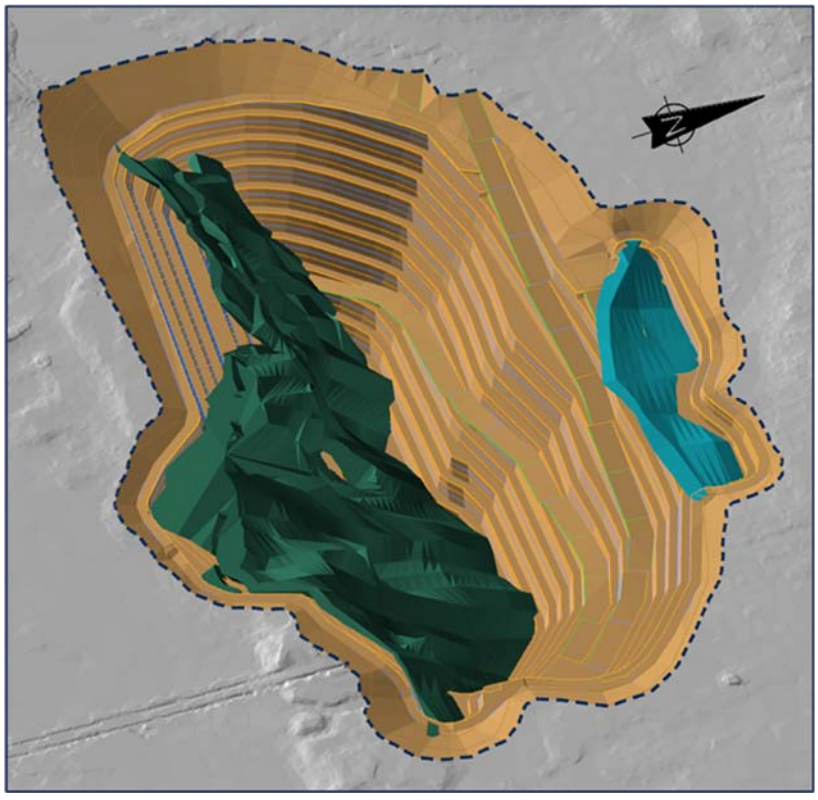

Figure 16: Authier Lithium Ultimate Pit Design And Pegmatite Dykes Isometric View

Life-of-Mine Production Plan

Development of the LOM plan included phases design, mine scheduling and the application of modifying factors to the Measured and Indicated portion of the in-situ mineral resource.

Table 20 shows the material inventory for each mining phase. Tonnages and grades account for mining dilution, geological losses, and operational mining loss factors.

Table 20: Project Mining Phases

Material	Unit	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Total
Total	**Mt**	**5.2**	**12.0**	**1.4**	**26.1**	**34.8**	**79.6**
Waste Rock	Mt	2.6	7.9	0.8	22.3	29.5	63.0
Overburden	Mt	0.6	2.6	0.4	1.2	0.6	5.4
ROM Ore	Mt	2.0	1.5	0.3	2.7	4.8	11.2
	% Li_2O	0.96	0.93	0.84	0.93	1.00	0.96
Strip Ratio	t:t	1.6	6.9	4.2	8.7	6.3	6.1

* Totals may not add up due to rounding of significant figures.

A LOM plan with a 1,560 tpd crusher capacity was completed for the Authier UDFS using MineSight's Mine Plan Schedule Optimiser (MPSO). The following constraints and objectives were considered during the development of the LOM plan:

- Project ramp-up in Q3 2025.
- Annual crusher feed of approximately 530 ktpa.
- No long-term stockpile.
- Maximum mining rate of approximately 6.0 Mtpa.
- Crusher feed grade ≥0.8% Li_2O.
- Mine planning strategy: maximise NPV.

The ROM crusher feed contained in the final pit is sufficient for a mine life of 22 years.

Due to the phase designs, very little waste material is mined to supply the mill in the first two years. This strategy keeps the mining activities to a minimum, allowing the operation to improve its mining practices and equipment needs, consequently keeping mine operating costs low.

The overall pit has a variable strip ratio. The annual mining productivity gradually increases to 6.0 Mt in Year 5, and gradually decreases from Year 13 to the end of the mine life.

Table 21: Authier Lithium LOM Mine Plan

Physical	Unit	Pre-Prod	Production										LOM
		Q2-2025	Q3-Q4 2025	2026	2027	2028	2029	2030	2031	2032	2033 - 2037	2038 - 2042	2043 - 2046	
Total Moved (Expit + Rehandle)	**(kt)**	**395**	**1,350**	**2,415**	**2,427**	**3,035**	**6,521**	**6,517**	**6,538**	**6,530**	**32,135**	**17,806**	**5,161**	**90,829**
Total Expit	**(kt)**	**395**	**1,089**	**1,883**	**1,893**	**2,494**	**5,983**	**5,979**	**5,999**	**6,000**	**29,488**	**15,175**	**3,226**	**79,604**
Expit Waste Rock	(kt)	138	466	1,289	1,019	447	4,363	4,303	5,414	5,470	26,279	12,544	1,292	63,023
Expit Overburden	(kt)	257	362	61	341	1,508	1,082	1,138	45	0	562	0	0	5,356
Expit Ore to Ore Rehandling Area	(kt)	0	261	533	534	540	538	538	540	530	2,647	2,631	1,935	11,225
Rehandling	(kt)	0	261	533	534	540	538	538	540	530	2,647	2,631	1,935	11,225
Stripping Ratio	(t_{waste}:t_{RoM})	0.00	3.18	2.54	2.55	3.62	10.12	10.11	10.12	10.31	10.14	4.77	0.67	6.09

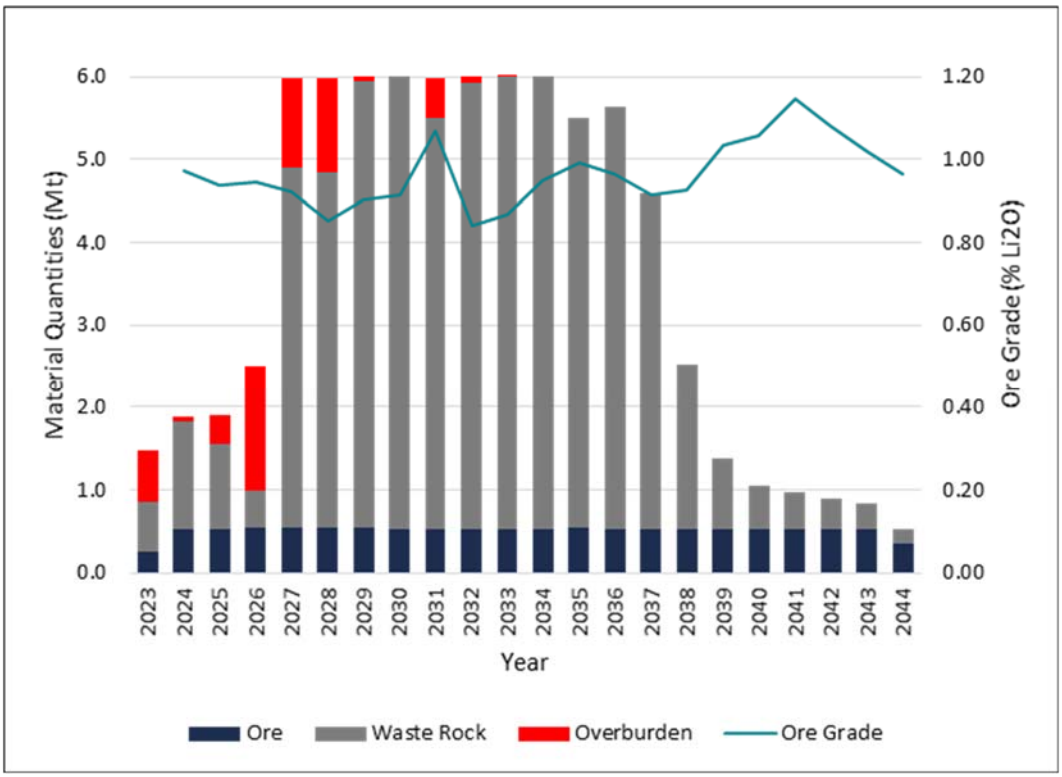

Figure 17: Authier LOM production profile

Contract Mining

Mining activities will be conducted by a mining contractor for the entire life-of-mine. The mining contractor will be responsible for:

- Mine equipment fleet (production fleet, auxiliary fleet and support equipment);
- Mine equipment operators;
- Mine operations supervision;
- Mine equipment maintenance;
- Overall site maintenance;
- Ore re-handling (loading transport trucks for ore transfer between Authier and NAL).

The mine will operate 365 days per year with two 12-hour shifts per day. It is expected that the mining contractor equipment operators, mechanics and supervisors will work on a seven-working-day / seven-rest-day schedule. All other mining contractor staff, as well as Sayona's on-site staff, will work regular 40-hour work weeks.

Infrastructure

The Authier Lithium Project is located in an established mining district and supported by the city of Val-d'Or (60 km to the south-east) and the city of Amos (30 km to the north). The Authier Lithium

Project is readily accessible by a rural road network. Other infrastructure near the project includes:

- The Canadian National Railway has an extensive rail network throughout Canada. The rail network connects to Montréal and Québec City, and to the west through the Ontario Northland Railway and North American rail systems;
- Québec is a major producer of electricity, as well as one of the largest hydropower generators in the world. Green and renewable energy is well distributed through a reliable power network; and
- Val-d'Or and Rouyn-Noranda are serviced several times daily by various airlines from Montréal.

The Authier Lithium project site infrastructure will include:

- Open pit;
- Waste stockpile;
- An industrial pad for administrative offices, a garage and fuel storage and distribution;
- An area for explosives storage;
- An ore stockpile area for transfer to the ore transporter to the NAL operation.

The overall site layout is presented in Figure 18.

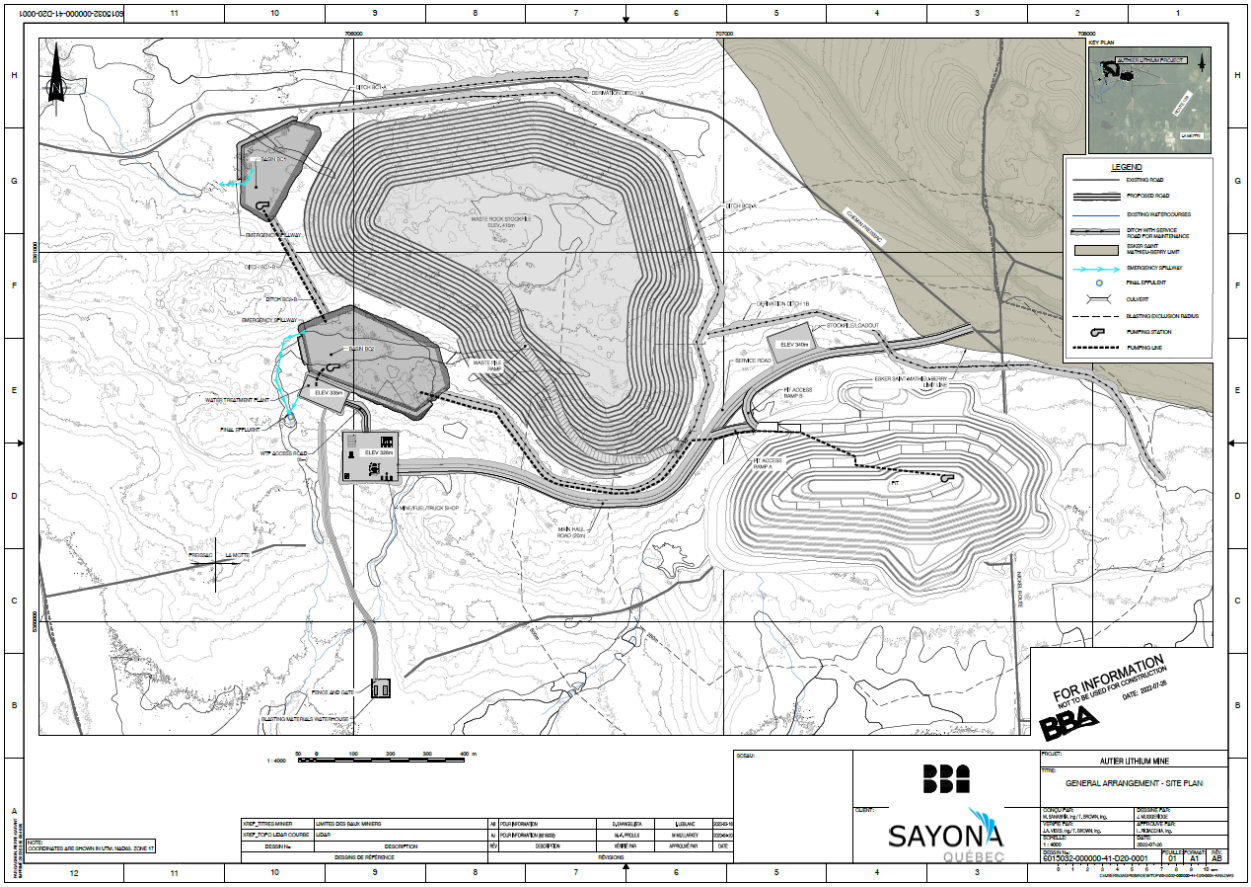

Figure 18: Authier Lithium Project site layout

Capital Costs

The total pre-production capital expenditure (CAPEX) proposed for the Authier Lithium Project is estimated at C$74.8M. The estimate qualifies as Class 3 – Feasibility Study Estimate – per AACE recommended practice R.P.47R-11. The accuracy levels ranged from -10% to +15%.

The pre-production CAPEX estimate includes all the direct and indirect project costs, complete with the associated contingency. The estimating methods include quotations from vendors and suppliers specifically sought for this project, approximate quantities and unit rates sourced from quotations and historic projects and allowances based on past projects. A summary of the capital expenditures distribution is shown in Table 22.

Table 22: Total pre-production Capital Expenditures

Description	CAPEX (C$ M)
Preproduction mining activities	3.4
Mine Equipment and Services	2.3
Infrastructure	59.7
Wetland compensation	1.5
Royalties buyback	1
Reclamation deposit	7.0
Total	**74.8**
**Total does not add due to rounding*	

A summary of the sustaining capital expenditures is shown in Table 23.

Table 23: Total Sustaining Capital Expenditures

Sustaining Expenditures	CAPEX (C$ M)
Mine Equipment and Services	3.8
Infrastructures	80.6
Reclamation and closure	34.8
Total	**119.2**

Operating Costs

The mining operating expenditures (OPEX) are estimated based on contract mining costs obtained from various mining contractors, as well as other suppliers' quotes. Final costs for the mining contract have not been negotiated, to date, with the mining contractor that will be retained for these operations. A long-term diesel price of C$1.16/litre and a long-term electricity cost of C$0.053/kwh have been used. The remaining LOM mine operating expenditures were estimated on suppliers' quotes and an internal database. A summary of the operating expenses is shown in Table 24.

Table 24: Total Operating Expenditures

Operating Expenditures	OPEX (C$ M)	OPEX (C$/t. ore)
Mining activities	540.6	48.2
Water management/treatment	58.7	5.2
General and administration	21.0	1.9
Reclamation bond insurance payment	7.6	0.7
Ore transport and logistics	223.4	19.9
Total	**851.3**	**75.8**
** Total does not add due to rounding*		

Financial Analysis

The UDFS financial analysis demonstrated that the Authier Lithium Project is financially robust, even considering the selling of ore instead of the processing and concentration of the ore into a spodumene concentrate.

A memorandum of understanding (MOU) was developed between the Authier Lithium and NAL operations, in which NAL agrees to buy 100% of the Authier ore material at a selling price of C$120/t, delivered to the NAL ore pad area.

The Updated DFS NPV and IRR were calculated based on the production of selling of ore material over a 22-year life-of-mine. Table 25 provides a summary of the financial analysis, which demonstrates that the Authier project is economically viable.

Key outcomes of the Updated DFS include an estimated post-tax NPV of C$11 million (8% discount rate) and an after-tax IRR of 9.4%.

The key financial results of the UDFS are presented in Table 25.

Table 25: After-tax Financial Analysis Summary

Item	Unit	Value (Canadian)	Units	Value (American)
Production				
Mine life	year	22	years	22
Strip ratio	t:t	6.1	t:t	6.1
Total ore production	year	22	years	22
Revenue				
Ore selling price	C$/t	120.00	US$/t	90
Exchange Rate	US$ / C$	0,75	US$/C$	0,75
Project Costs				
Open-pit mining	C$/t ore	48	US$/t ore	36
Water treatment and management	C$/t ore	5	US$/t ore	4
General and Administration (G&A)	C$/t ore	2	US$/t ore	1
Ore transport and logistics costs	C$/t ore	20	US$/t ore	15
Project Economics				
Net revenue	C$ M	1,321	US$ M	991
Total operating cost estimate	C$ M	628	US$ M	471
Total pre-production capital cost estimate	C$ M	75	US$ M	56
Total sustaining capital cost estimate	C$ M	119	US$ M	89
Undiscounted pre-tax cash flow	C$ M	280	US$ M	210
Discount rate	%	8	%	8
PRE-TAX NPV @ 8%	C$ M	58	US$ M	44
Pre-tax Internal rate of return (IRR)	%	14.6	%	14.6
POST-TAX NPV @ 8%		11		8
Post-tax Internal rate of return (IRR)	%	9.4	%	9.4

The financial analysis was performed using the following assumptions and basis:

- The economic analysis has been done on a project basis and does not take into consideration the timing of capital outlays that have been completed prior to the date of this report;
- Production of ore is scheduled to begin in the Q3 2025. Mine operations are estimated to span a period of approximately 22 years;
- A discount rate of 8% has been applied for the NPV calculation;
- The ore price of C$120/t is established by a contractual procurement agreement between NAL and Authier and will last for the whole production period of Authier;
- All products are assumed sold in the same year they are produced;

- Class specific capital cost allowance rates are used for the purpose of determining the allowable taxable income;
- The financial analysis was performed on Proved and Probable Ore Reserves as outlined in this report;
- Tonnes of mined ore are presented as dry tonnes;
- Discounting starts in January 2025;
- Cash inflows and outflows start in January 2025 and are presented in constant 2023 C$, with no inflation or escalation factors considered;
- All related payments and disbursements incurred prior to end of Q1 2023 are considered as sunk costs;
- The accuracy levels ranged from -10% to +15%.

Sensitivity Analysis

A financial sensitivity analysis was conducted on the base case after-tax cash flow NPV and IRR of the Authier Lithium Project, based on the following variables: capital costs, operating costs, and price of ore sold to NAL.

The sensitivity of the post-tax NPV was evaluated for changes in key variables and parameters such as:

- Ore price
- Operating costs
- Project capital costs
- Sustaining capital costs

Post-tax NPV sensitivities are from -30% to +30% to show the impact of NPV outputs at 8% discount rate. To complement post-tax NPV sensitivities is the Post-Tax IRR graph, which shows the overall project impact at these various sensitivities.

The post-tax sensitivity analysis shows that changes in the price of ore sent to NAL and project operating costs create the largest NPV variations.

Table 26: Ore Price Sensitivity (C$)

% Variation	-30%	-20%	-10%	0%	10%	20%	30%
Ore Price (C$/t)	$84	$96	$108	$120	$132	$144	$156
Discount rate 0%	($138)	($25)	$65	$145	$221	$297	$372
Discount rate 5%	($144)	($71)	($11)	$43	$91	$139	$186
Discount rate 8%	($140)	($82)	($33)	$11	$49	$87	$125
Discount rate 10%	($136)	($86)	($43)	($4)	$30	$63	$95
Discount rate 12%	($133)	($88)	($50)	($15)	$15	$44	$73
IRR	0%	0%	4%	9%	15%	20%	25%

Table 27: Operating Costs Sensitivity (C$)

% Variation	-30%	-20%	-10%	0%	10%	20%	30%
Opex (C$ mil)	$806	$744	$682	$620	$558	$496	$434
Discount rate 0%	$24	$67	$107	$145	$181	$216	$252
Discount rate 5%	($43)	($12)	$16	$43	$67	$90	$113
Discount rate 8%	($60)	($35)	($11)	$11	$30	$48	$67
Discount rate 10%	($66)	($44)	($23)	($4)	$13	$29	$45
Discount rate 12%	($70)	($51)	($33)	($15)	($0)	$14	$28
IRR	1%	4%	7%	9%	12%	14%	17%

Project Risks

A project risk assessment was undertaken to assess the strengths and weaknesses of the technical and commercial viability of delivering the Authier business plan as outlined in the UDFS. As with any mining project, there are risks associated with the development, commissioning and operation of a mine. The main risk areas include:

1. Resource
2. Financial
3. Organisational
4. Geology
5. Mining
6. Processing
7. Environmental
8. Design
9. Construction
10. Legal
11. Community
12. Transportation
13. Sales (securing off-take or sales contracts)
14. Technological

A high-level project risk assessment has been completed. The risk assessment identifies risks, impact category and a mitigation plan. The likelihood, impact, controls and measures were developed for the identified risks. The assessment is necessarily subjective and qualitative. Many risks are common to all mining projects and can be managed through proper planning, engineering and management. The risk and opportunities registers should be reviewed and updated at each stage of the Authier Lithium Project to reduce uncertainties and de-risk the Authier Lithium Project.

After mitigations apply, the main risks of the Project are:

- The project is dependent on the NAL concentrator and mine operation restarting;
- The project is dependent on the BAPE outcome, including social acceptability.

Project Execution Plan

This execution plan is conceptual in nature and will be adjusted and refined during the next phases of the Authier Lithium Project.

The durations and milestones for the major Project activities are shown in Table 28.

Table 28: Key Project Activities

Activity	Start Date	Completion Date
Feasibility Study		Completed
Certificate of authorisation		July 2024
Detailed Engineering	September 2023	May 2024
Mining contract procurement	November 2023	January 2024
Permit for Project Construction		March 2024
Mining contractor mobilisation		March 2024
Relocation of section of Route du Nickel	April 2024	June 2024
Access road and Pad construction	March 2024	June 2024
Overburden initial Stockpiles Construction	March 2024	June 2024
Organic Material Stockpile construction	March 2024	April 2024
Mine initial Pre-stripping	April 2024	June 2024
Permanent Power on site		June 2024
Start ore extraction and transport to NAL		July 2024
All buildings completed		December 2024
Permanent water treatment plant Construction	June 2024	June 2025

Updated Definitive Feasibility Study Team

The UDFS has been prepared by well-credentialled consultants and organisations who, together, have significant experience and expertise in all aspects of lithium resource definition, mining, processing and infrastructure requirements in the province of Québec.

Table 29: Updated Definitive Feasibility Study Team

Study Area	Contributor
Metallurgical testwork	Jarrett Quinn, Synectiq inc.
Process engineering	Patricia Dupuis, BBA
Mining and pre-tax cashflow	Isabelle Leblanc, BBA
Waste pile and water management	Luciano Piciacchia, BBA
Geotechnical (pit slopes)	Journeaux Assoc.
Environmental	BBA, SNC, Sayona
Mineral resource estimation	Maxime Dupéré, SGS Canada
Cost Estimate	Claude Catudal, BBA
Marketing and pricing	Philippe Pourreaux, PWC
Financial modelling	Philippe Pourreaux, PWC
Study integrator	Isabelle Leblanc, BBA

Competent Person Statement

The statement relating to the Authier Lithium project 2022 Ore Reserves estimate and presented herein is based on information compiled by BBA Inc. and reviewed by Isabelle Leblanc, who is a Professional Engineer registered with the Ordre des Ingénieurs du Québec (OIQ). Ms. Leblanc is a mining engineer and Vice-President of the Mining and Metals Market at BBA Inc., a consulting firm based in Montréal, Canada. Ms. Leblanc takes overall responsibility for the Authier Updated DFS Report as Competent Person.

Ms. Leblanc has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity she is undertaking to qualify as a Competent Person as defined in the JORC Code (2012). The Competent Person, Ms. Isabelle Leblanc, has reviewed the Ore Reserves Estimate and has given her consent to the inclusion in the report of the matters based on her information in the form and context within which it appears.

The Competent Person relies on other professionals for all manner of things related to the Modifying Factors. These professionals are signatories of the Updated DFS report with an effective date of 27 March 2023.

APPENDIX D:

JORC Code, 2012 Edition – Table 1 AUTHIER Project

Sections 1, 2 and 3 of the JORC Code Table 1 are documented in the 2022 Authier Mineral Resource estimate report (SGS, 2022).

Section 4 Estimation and Reporting of Ore Reserves

This section has been developed based on information compiled by BBA inc. and reviewed by Isabelle Leblanc who is a Professional Engineer registered with the Ordre des Ingénieurs du Québec (OIQ). Ms Leblanc is Vice President, Mining and Metals Market at BBA Inc., a consulting firm based in Montréal, Canada.

Ms Leblanc has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity she is undertaking to qualify as a Competent Person as defined in the JORC Code (2012).

The Competent Person relies on other professionals for all manner of things related to the Modifying Factors. These professionals are signatories of the DFS report submitted to Sayona with an effective date of 27 March 2023.

Criteria	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. - Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	▪ The Mineral Resource for the Authier Lithium Project was prepared by SGS. Details of this mineral resource are presented in the above sections. ▪ Ore Reserves are estimated on the basis of detailed design and scheduling of the Authier Lithium open pit. ▪ The Mineral Resources are reported inclusive of the Ore Reserves. ▪ Mineral Resources that are not Ore Reserves have not demonstrated economic viability. ▪ The resource model for the Project was provided to BBA by SGS, in a file called "20211117Authier.csv". The model was supplied with the 3D wireframes used to define the different lithological zones in a total of seven (7) DXF files. The overburden surface was also provided.
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.	▪ A site visit was not completed by the Competent Person due to the COVID-19 outbreak combined with schedule problems and weather conditions. The Competent Person relied on other experts' site visit reports.
Study status	▪ The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. ▪ The Code requires that a	▪ The Authier Lithium Project was evaluated at a Feasibility Study level. The reported Ore Reserves are reported based on the work completed in the Updated Definitive Feasibility Study (UDFS).

Criteria	Code explanation	Commentary
	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 Ore Reserves are not reported for the first time under the JORC Code. The previous Ore Reserves Estimate was prepared in 2019 based on a 2,600 tonne per day ore production to produce a 6% Li_2O spodumene concentrate from an on-site concentrator.
Cut-off parameters	▪ The basis of the cut-off grade(s) or quality parameters applied.	▪ The breakeven cut-off grade (COG) is calculated considering costs for processing, G&A, and other costs related to concentrate production and transport. Based on a lithium concentrate selling price of US$ 850 per tonne, the COG would be 0.31% Li_2O. However, due to metallurgical recovery limitations, a metallurgical COG of 0.55% Li_2O was selected based on iterative analysis.
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 optimisation 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 (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling. ▪ The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). ▪ The mining dilution factors	▪ The ore body is mined using open pit mining techniques with excavators and mining trucks. ▪ Mining activities will be conducted by a specialised mining contractor. ▪ Optimised shapes were developed to identify the portion of the mineral resource that could be mined before performing pit shell optimisations. These shapes determined the amount of dilution and ore losses applied to the Project. Three scenarios of varied dilution skins were generated, and a dilution skin of 0.75 m was retained. Based on this methodology and the final pit design, the geological ore losses are approximately 2.3% and the mining dilution is approximately 9.0% dilution. To account for operational errors, an additional mining ore losses factor of 2% was added, for a total ore losses factor of 4.3%. ▪ The open pit limits were optimised using the Deswik mining software using the Pseudoflow algorithm. The optimisation was performed considering only the Measured and Indicated resource blocks as mineralised. The Inferred resource was treated as waste. A series of pit shells were generated by varying the base selling price using revenue factors ranging from 0.40 to 1.00. The selected pit shell (serving as a

<table>
<tr><th>Criteria</th><th>Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td>used.
■ The mining recovery factors used.
■ Any minimum mining widths used.
■ The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.
■ The infrastructure requirements of the selected mining methods</td><td>guide for open pit design) uses a revenue factor of 0.86 on a base case of US$ 850/tonne of concentrate.
■ The pit optimisation parameters used for the base case pit shell are described as follows:
- Overall metallurgical recovery, including ore sorting: 74.1%
- Concentrate grade: 6.0%
- Concentrate price: US$850/tonne of concentrate for revenue factor 1.
- Exchange rate: 0.76 US$/C$
- Concentrate transportation cost: C$59.69/tonne of concentrate.
- Processing and G&A cost: C$39.31/tonne ore
- Mining dilution and ore losses are evaluated using optimised stope shapes.
■ The selected pit shell served as a guide to design the open pit inclusive of ramps and other pit slope design criteria. A triple bench configuration with an 18 m final bench height is proposed. Double lane ramps are designed at 23 m wide with single lane ramps reduced to 17 m.
■ The open-pit design is based on the pit slope recommendations provided by Journeaux Assoc. with some adjustments recommended by BBA, which consist of the following design criteria.
<table>
<tr><th>Criteria</th><th>Bench configuration height (m)</th><th>Bench face angle (°)</th><th>Berm width (m)</th><th>Inter-ramp angle (°)</th></tr>
<tr><td>North Wall</td><td>Triple Bench 18m</td><td>80</td><td>8.2</td><td>57.7</td></tr>
<tr><td>South Wall</td><td>Triple Bench, 18m</td><td>65</td><td>8.2</td><td>42.4</td></tr>
<tr><td>East and West Walls</td><td>Triple Bench, 18m</td><td>72.5</td><td>8.2</td><td>47.3</td></tr>
</table>
■ Overburden is sloped at 14°, with a 10 m offset at the bedrock contact.
■ All Inferred resources have been treated as waste material in the production schedules and the project economics.
■ The following are the proposed infrastructure for the Project:
- Waste stockpile;
- Ditches and retention basins for water management, as well as a water treatment plant;</td></tr>
</table>

Criteria	Code explanation	Commentary
		- Industrial pad including administrative offices, fuel storage and distribution, and area for a garage and mining contractor offices, and parking; - Electrical infrastructure; - Ore rehandling for transportation area; - Explosive storage area; - Roads connecting the pit and various infrastructure.
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?	▪ Various metallurgical testing programs have been conducted on samples from the Authier deposit in; 1991, 1997, 1999, 2012, and 2016-2019. ▪ In 1991 and 1997, Raymor Resources Ltd. undertook bench-scale and pilot-scale flotation testing. ▪ In 1999, metallurgical testing on a 40-t bulk sample produced concentrate grades between 5.78% and 5.89% Li_2O with lithium recoveries ranging from 68% to 70% on a sample with an average head grade of 1.14% Li_2O. A second sample with average head grade of 1.35% Li_2O demonstrated lithium recovery of 75% and a concentrate grade of 5.96% Li_2O. ▪ In 2012, Glen Eagle tested a 270 kg sample from drill core. Testwork produced 6.44% Li_2O concentrate at 85% lithium recovery. ▪ In 2016, Sayona completed a metallurgical testing program using drill core from twenty-three historical diamond holes totalling 430 kg, representing the entire deposit geometry (samples included 5% mine dilution). Concentrate grades varied from 5.38% to 6.05% Li_2O at lithium recoveries ranging from 71% to 79%. ▪ In 2017, two representative samples were prepared and flotation testing was undertaken using different test conditions including diluted and un-diluted samples, and with site water. The program demonstrated the ability to produce concentrate grades over 6% Li_2O with lithium recoveries over 80%. ▪ In 2018, a pilot plant program was operated at SGS Canada. Continuous testing with an optimised flotation flowsheet produced concentrate grading between 5.8% and 6.2%

Criteria	Code explanation	Commentary
		Li_2O with lithium recoveries from 67% to 79%. The flowsheet incorporated grinding, magnetic separation, de-sliming, mica and spodumene flotation. ▪ Optimisation batch testwork was undertaken at SGS in 2018 to further confirm the flotation flowsheet. ▪ The project considers mining Authier ore for shipment to the NAL site for processing. A mass balance was produced for the NAL concentrator based on feeding a blended ore consisting of 33% Authier ore and 67% NAL ore. The mass balance considers a lithium recovery of 72% for the Authier ore being processed. Various metallurgical testing at Authier Lithium deposit was conducted in 1991, 1997, 1999, 2012, 2016, 2017 and 2018. ▪ The flotation flowsheet tested is conventional and used in industry to treat lithium-bearing pegmatite ores. ▪ A feasibility-level testwork program was undertaken on representative samples produced from drill core for the project (2019). Pilot-scale testwork was undertaken on ca. 5-t of sample. ▪ Authier testwork produced 6% Li_2O chemical-grade spodumene concentrate (industry standard specification). ▪ The iron content can have an impact on the metallurgical recovery and on the quality of the spodumene concentrate. Inside the pegmatite dyke, iron content is approximately 0.7% to 1.0% Fe while the average iron grade in the host rock is around 7% Fe. The iron content in the ROM material has been reviewed by the process engineers for the UDFS, and considered acceptable. ▪ Testwork were performed blended material of NAL and Authier ores from: 2019 to 2023. ▪ The flowsheet tested mimics the industrial flowsheet at NAL. ▪ The NAL DFS study assumes an average recovery of 67.4 % at a 5.74 Li_2O grade for the blended material.
Environmental	▪ The status of studies of potential environmental	▪ Sayona plans to develop the Authier Project. ▪ Following Sayona's August 2021 acquisition of

Criteria	Code explanation	Commentary
	impacts of the mining and processing operation. Details of waste rock characterisation 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 NAL mine and concentrator in La Corne, Québec, the Authier Lithium project was revised to include only mining operations and waste and water management on-site. The new Project will consist of an open-pit mine operated by a mining contractor, a waste rock pile and overburden stockpile, site water management infrastructures, a mine garage including a wash bay, office/dry/lunchroom trailer-type buildings, a 600 kV electrical distribution system and an ore stockpile area. The run-of-mine ore will be transferred into highway trucks and transported to the NAL site where it will be blended with the NAL ore material and fed to the primary crusher. ■ Permitting process: The authorisation of mining projects in Québec is governed by the Act respecting the quality of Environment (EQA) and the Canadian Environmental Assessment Act (CEAA). To implement these laws, the Regulations Designating Physical Activities at the Federal Level and the Regulation relating to the assessment and review of the environmental impacts of certain projects in Québec specify thresholds for mining projects. The threshold subjection of a mining project depends on the type of mine and the extraction capacity or daily ore production. For a metal mine, this threshold is currently set at 5,000 t per day at the federal level, whereas it is 2,000 t per day in Québec. ■ Since the expected production of the Project is greater than 2,000 t, but less than 5,000 t per day, the Project is subject only to the environmental impact assessment and review process under the Environmental Protection Act quality of the environment of the Québec government. This process requires the filing of an environmental impact study, which after government analysis and review by the Bureau d'audiences publiques sur l'environnement (BAPE), where applicable, leads to the issuance of a decree authorizing the project under certain conditions. Of course, increasing the capacity of processing of ore at the concentrator exceeds the threshold triggering the assessment procedure environmental, but above all Sayona wishes to offer new

Criteria	Code explanation	Commentary
		opportunities to the public to express their concerns about a project that has been revised and to benefit from an even more comprehensive environmental assessment. ▪ The impact study was submitted in 2020, but with the acquisition of NAL, an amendment has to be produced. ▪ Permitting process, including the amendment of the environmental impact study and the answers to round #2 of questions, is on-going with the MELCCFP (Ministère de l'Environnement et la Lutte contre les changements climatiques, de la Faune et des Parcs). ▪ After the Decree is granted, certificates of authorisation will have to be issued by the provincial government and by Fisheries and Oceans Canada (DFO). ▪ Public hearings by the BAPE are scheduled for the end of September 2023, ending in February 2024. ▪ The Decree is expected in May 2024.
Infrastructure	▪ The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	▪ The infrastructure on-site will include the administration building, waste water treatment plant, pump stations, mine maintenance facility, offices, main gate, truck wash bay, high voltage power lines and transformers and site access road. ▪ No camp accommodation is required since the Project is centred in a well-developed mining region with associated resource industry support facilities and services.
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 deleterious elements. ▪ The source of exchange rates used in the study. ▪ Derivation of transportation charges. ▪ The basis for forecasting or	▪ Capital costs (CAPEX) have been estimated by BBA. The estimate addresses the engineering, procurement; construction and start-up of the Project. ▪ Capital costs include expenditures for waste management, site water management infrastructure, start-up mining costs, the infrastructure listed above. ▪ Since the waste material showed nickel leachability, the construction material will come from borrowed pits. ▪ For civil works, the CAPEX is based on engineering material take-offs developed during the UDFS and prices benchmarked

Criteria	Code explanation	Commentary
	source of treatment and refining charges, penalties for failure to meet specification, etc. ▪ The allowances made for royalties payable, both Government and private.	against similar recent projects. ▪ The CAPEX is a Class 3 Estimate per AACEI RP 47R-11. The accuracy levels ranged from -10% to +15%. The CAPEX estimate includes all the direct and indirect project costs, complete with the associated contingency. ▪ The mining operating expenditures (OPEX) are estimated based on contract mining costs obtained from various mining contractors. ▪ The CAPEX and OPEX are expressed in constant dollars and are dated 27 March 2023. No allowance has been made for escalation. No estimate contingency has been considered for the OPEX. ▪ No allowances for deleterious elements are expected to be necessary. ▪ A long-term diesel price of C$1.16/litre has been used. ▪ Provincial mining tax, federal and provincial income tax payable to the government based on profits are excluded from the financial analysis. ▪ In the sales MOU between Authier and NAL, there are no penalties for failure to meet specification as Authier operates as a direct shipping ore operation. ▪ An exchange rate of 0.75 US$/C$ has been used where applicable. All calculations are in Canadian dollars. ▪ Ore transportation cost is based on a transport contractor budgetary quote. ▪ This project is subject to several royalty agreements.

Criteria	Code explanation	Commentary
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.	▪ A memorandum of understanding (MOU) was developed between Authier and NAL, whereby NAL agrees to buy 100% of the Authier ore material at a selling price of C$120/tonne of ore, delivered to NAL ore pad area. ▪ The MOU was developed based on a Li_2O grade of 0.80% to 1.15%. ▪ The ore material will be delivered to the NAL site by a transportation contactor. A transportation cost of C$120/tonne of ore (dry) is based on budgetary quotes.
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 specification, testing and acceptance requirements prior to a supply contract.	▪ Demand - Wood Mackenzie forecasts lithium demand to grow at 17.8% a year between 2020 and 2030 and reaching 1,964 thousand tonnes LCE (lithium carbonate equivalent), up from 382 thousand tonnes LCE in 2020 as demand for electric vehicles continues to grow, driven by changing consumer preferences, government policies facilitating a lower emission future as well as EV manufacturers increasing the number of models allowing more choice for consumers. This growth is supplemented by increasing investments in charging infrastructure globally. - The growth in the demand for battery-grade lithium hydroxide means that by 2024 it will exceed total demand for all lithium products in 2020. By 2023 battery-grade lithium hydroxide will become the largest lithium chemical product based on demand. Wood Mackenzie forecasts demand for battery-grade lithium hydroxide will grow 29.4% a year between 2020 and 2030 to reach 1,163 thousand tonnes LCE, up from 88.3 thousand tonnes LCE in 2020. LFP cathode material will continue growing in use and in turn will result in strong growth for battery-grade lithium carbonate. Demand for LFP chemistry related to battery-grade lithium carbonate is forecasted to increase 14.5% a year between 2020 and 2030 as the Chinese market continues to expand and overseas

Criteria	Code explanation	Commentary
		markets start consuming this chemistry. - The rechargeable battery segment will see a growth of 21.6% a year. The largest driver within the rechargeable battery segment is the automotive segment where growth between 2020 and 2030 is forecasted at 23.6% a year. Stationary energy storage (ESS) will grow 24.1% a year. Wood Mackenzie forecasts that total lithium demand in 2030 will reach 1,964 thousand tonnes LCE, up from 382 thousand tonnes LCE in 2020. - The largest growth segment will be for battery-grade lithium hydroxide driven by increasing demand for high nickel cathode chemistries in batteries. - Since the growth from the industrial market will continue to grow in line with the overall economic growth, the total demand is forecasted to double roughly every four years during the current decade. Which in turn would mean that during that it should reach 1,964 thousand tonnes LCE in 2030. ■ Supply - In 2020 Australia has the biggest mine capacity that accounts for 77.5% of the total capacity. By 2030 however its share declines to 43% as other countries grow their capacity. - Wood Mackenzie forecasts a total mine capacity growth rate of 11.4% a year, starting with 680 thousand tonnes LCE in 2020 and growing to 1,997 thousand tonnes LCE in 2030. Although the production of lepidolite will increase between 2020 and 2030 and jadarite, clay and zinnwaldite will be introduced, spodumene concentrate will continue to dominate the mineral concentrate output. It should account for 84% to 90% of the market during the same period. - Wood Mackenzie forecasts an overall growth of 10.6% in refinery capacity, growing from 979 thousand tonnes LCE in 2020 to 2,680 thousand tonne LCE in 2030, with lithium carbonate being the biggest contributor from 2020 to 2025 and the

Criteria	Code explanation	Commentary
		lithium hydroxide capacity accelerating from 2025 onwards. - From a production standpoint, the growth is forecasted to reach 14.2%, growing from 486 thousand tonnes LCE in 2020 to 1,839 thousand tonnes LCE in 2030. Production will be dominated by mineral concentrate (hard rock), followed by brine, by reprocessing, and gradually by recycling in the later part of the decade. - The growing use of LFP cathode material will result in strong growth for battery-grade lithium carbonate leading to demand for battery-grade lithium carbonate to increase 10.6% a year between 2020 and 2030 as the Chinese market continues to expand and overseas markets start consuming this chemistry. - The Authier project will be providing mined ore from hard rock source to be processed at North American Lithium in La Corne to produce spodumene concentrate. The Authier ore composition has been tested and the mining plan set accordingly to produce the mined ore per the specification required by the North American Lithium spodumene concentrate production site. Due to the cost of transporting the ore from the mining site to a concentration facility, the market is normally limited to on-site concentration or transportation to a nearby accessible spodumene concentration facility. In this context, the North American Lithium site is projected to be the only spodumene accessible production facility operating at the start of Authier's operations and will purchase 100% of the mined ore produced. ■ Demand and supply balance - If we look at the market balance for battery grade lithium chemicals in the base case, it shows a small surplus for 2021 to 2023. After which, the market enters a continued supply deficit. The deficit will increase to reach a deficit of 580 thousand tonnes LCE by 2030 as demand from electric vehicles continues to grow and existing suppliers'

Criteria	Code explanation	Commentary
		expansions, which are mainly targeting production of battery-grade lithium chemicals, will be insufficient to keep up with the growth. - A number of new supply projects are projected to commence production in the next few years. These new projects have been discounted according to the current state of development. This case also includes the not yet discovered supply from theoretical brine projects and theoretical conversion projects. In all cases the market enters a deficit in 2028, even with the near-term projects that will extend the small supply surplus for a few years. ■ Ore is not sold to any party other than North American Lithium (NAL) (i.e., the only customer in this case is NAL so there are no competitors as well). There are no market available prices for mined ore, as it is typically processed into spodumene concentrate by the mining company operating the mine. Given this context and the physical proximity to the NAL site, a supply agreement was signed between the Authier Mine and NAL for the purchase of 100% of the ore mined (objective of 1,500 tonnes per day) at C$120 per tonne delivered of ore mined (Li_2O content of 0.80% to 1.15%).Furthermore, to confirm that this price is justifiable, a transfer pricing analysis was performed which provides a feasible price range for Authier's ore of C$96/t (based on return of capital employed methodology) and C$137/t (based on return of total costs methodology). Given both sites are ongoing significant investments, more weight was given to the return of capital employed methodology. ■ Authier ore has been tested extensively by process engineers and was approved per testing and mining specs.

<table>
<tr><th>Criteria</th><th>Code explanation</th><th>Commentary</th></tr>
<tr><td>Economic</td><td>

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.

</td><td>

The key results and assumptions for the financial analysis are listed below:

<table>
<tr><th>Item</th><th>Unit</th><th>Value (Canadian)</th><th>Units</th><th>Value (American)</th></tr>
<tr><td>Production</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Mine life</td><td>year</td><td>22</td><td>years</td><td>22</td></tr>
<tr><td>Strip ratio</td><td>t:t</td><td>6.1</td><td>t:t</td><td>6.1</td></tr>
<tr><td>Total ore production</td><td>year</td><td>22</td><td>years</td><td>22</td></tr>
<tr><td>Revenue</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Ore selling price</td><td>C$/t</td><td>120.00</td><td>US$/t</td><td>90</td></tr>
<tr><td>Exchange Rate</td><td>US$ / C$</td><td>0,75</td><td>US$/C$</td><td>0,75</td></tr>
<tr><td>Project Costs</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Open-pit mining</td><td>C$/t ore</td><td>48</td><td>US$/t ore</td><td>36</td></tr>
<tr><td>Water treatment and management</td><td>C$/t ore</td><td>5</td><td>US$/t ore</td><td>4</td></tr>
<tr><td>General and Administration (G&A)</td><td>C$/t ore</td><td>2</td><td>US$/t ore</td><td>1</td></tr>
<tr><td>Ore transport and logistics costs</td><td>C$/t ore</td><td>20</td><td>US$/t ore</td><td>15</td></tr>
<tr><td>Project Economics</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Net revenue</td><td>C$ M</td><td>1,321</td><td>US$ M</td><td>991</td></tr>
<tr><td>Total operating cost estimate</td><td>C$ M</td><td>628</td><td>US$ M</td><td>471</td></tr>
<tr><td>Total pre-production capital cost estimate</td><td>C$ M</td><td>75</td><td>US$ M</td><td>56</td></tr>
<tr><td>Total sustaining capital cost estimate</td><td>C$ M</td><td>119</td><td>US$ M</td><td>89</td></tr>
</table>
</td></tr>
</table>

Criteria	Code explanation	Commentary

Undiscounted pre-tax cash flow	C$ M	280	US$ M	210
Discount rate	%	8	%	8
PRE-TAX NPV @ 8%	C$ M	58	US$ M	44
Pre-tax Internal rate of return (IRR)	%	14.6	%	14.6
POST-TAX NPV @ 8%		11		8
Post-tax Internal rate of return (IRR)	%	9.4	%	9.4

- All operating and capital costs as well as revenue streams were included in the financial model. This process has demonstrated that the Ore Reserves can be processed yielding a positive net present value (NPV).
- Sensitivity was conducted on ore price, operating costs, capital costs and sustaining capital costs. The project is most sensitive to ore selling price.

% Variation	-30 %	-20 %	-10 %	0 %	10 %	20 %	30 %
Ore Price (C$/t)	$84	$96	$108	$120	$132	$144	$156
Discount rate 0%	($138)	($25)	$65	$145	$221	$297	$372
Discount rate 5%	($144)	($71)	($11)	$43	$91	$139	$186
Discount rate 8%	($140)	($82)	($33)	$11	$49	$87	$125
Discount rate 10%	($136)	($86)	($43)	($4)	$30	$63	$95
Discount rate 12%	($133)	($88)	($50)	($15)	$15	$44	$73

<table>
<tr><th>Criteria</th><th>Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>IRR</td><td>0%</td><td>0%</td><td>4 %</td><td>9%</td><td>15 %</td><td>20 %</td><td>25 %</td></tr>
</table>
</td></tr>
<tr><td>Social</td><td>■ The status of agreements with key stakeholders and matters leading to social licence to operate.</td><td>■ A monitoring committee is in place, in accordance with the Mining Act. The frequency of meetings is four per year.
■ In 2019, an agreement was signed with Pikogan (Abitibiwinni First Nation), for the exploration phase. This agreement opens the door to great collaboration and heralds fruitful discussions on the next step, which is the signing of an Impact Benefit Agreement (IBA).
■ Proximity and listening to concerns and expectations with the elected officials of the La Motte, St-Mathieu, Amos territory. Several initiatives to be undertaken to have socio-economic benefits for all stakeholders.
■ Public consultations are ongoing.
■ Initiatives on social media platforms to encourage local employability and recruit local workers.</td></tr>
<tr><td>Other</td><td>■ 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</td><td>■ Risks:
- The project is dependent on the NAL concentrator and mine operation restart;
- See signed MOU in Revenue Factors criteria;
- See agreements in Environmental criteria.</td></tr>
</table>

Criteria	Code explanation	Commentary
	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.	
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. ▪ The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	▪ The Ore Reserves was classified in accordance with the JORC Code and the NI 43-101 Standard. ▪ The methods used are considered by the Competent Person to be appropriate for the style and nature of the deposit. ▪ Probable Ore Reserves derive from Indicated mineral resources and Proved Ore Reserves derive from Measured mineral resources.
Audits or reviews	▪ The results of any audits or reviews of Ore Reserve estimates	▪ No audits have been undertaken on the Authier Lithium Project Ore Reserves.
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	▪ The Competent Person is of the opinion that the Ore Reserves for the Authier Lithium Project appropriately consider modifying factors and have been estimated using industry best practices. ▪ The accuracy of the estimates within this Ore Reserve is mostly determined by the order of accuracy associated with the Mineral Resource model, metallurgical input, and long-term cost and revenue factors. ▪ Factors that can affect the Ore Reserves estimates are: - Dilution and recovery factors are based on assumptions that will be reviewed after mining experiences and adjusted on reconciliations with the NAL concentrator. - As always, changes in commodity price and exchange rate assumptions will have an impact on optimal size of the open pit - Changes in current environmental or legal regulations may affect the operational parameters (cost, mitigation measures). - The Ore Reserves estimate is a global estimate of the Authier Lithium Project and is supported by a UDFS report with an effective date of 27 March 2023

Criteria	Code explanation	Commentary
	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.	- The Competent Person is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that could materially influence the Ore Reserves other than the modifying factors already described in this section of the report. ▪ The Authier Lithium Project is a greenfield project and no previous production data are available.