James Bay Drilling Update – New High Grade Zone Identified in NW

Allkem Limited (ASX|TSX: **AKE**, the **Company**) is pleased to provide an update on the exploration and resource definition drilling program at its James Bay Project in Québec, Canada.

HIGHLIGHTS

- Discovery of an additional swarm of spodumene-bearing pegmatite dykes located directly northwest of known mineralization ("NW Sector").
- Highlighted intercepts include **125m @ 1.70 Li_2O** from 68m in drill hole JBL-23-048, and **72m @ 1.89% Li_2O** from 11m in drill hole JBL-23-024. *The reader is cautioned that these thicknesses represent downhole thicknesses and not true thicknesses. True thicknesses are estimated to be between 60% and 80% of downhole thicknesses.*
- Infill and delineation drilling in the eastern portion of the deposit has confirmed both continuity and lithium grade of spodumene-bearing pegmatite dykes.

2022 / 2023 WINTER DRILLING PROGRAM

The winter diamond drilling program concluded on April 13th, 2023, and consisted of:

Infill and Delineation – drilling within the eastern portion of the deposit at depth to satisfy the drill spacing required for Indicated category Mineral Resources.

Exploration – drilling targeting newly identified outcropping pegmatites to the east of the deposit, IP geophysical anomalies and deep "proof of concept" drilling targeting pegmatites at depths greater than 500m.

Systematic step-out – drilling to the northwest of the known extents of the deposit targeting the extension of the deformation corridor that hosts the deposit.

A total of 130 drill holes were completed between the end of November 2022 and mid-April 2023 for an aggregate of 29,164 metres.

As of 29th April 2023, approximately 6,700 assays have been received from the drilling program, mostly relating to the infill and delineation drilling within known extents of the deposit. Approximately 2,400 assays remain pending in the laboratory and are expected to be received shortly.

Allkem Managing Director and CEO, Martin Perez de Solay said, "*The significant grade and thickness of these drill results is outstanding and the addition of a new zone of mineralisation to the NW of the current resource provides scope for potential additions to resources and reserves as we further drill out this area.*"

Figure 1 presents a plan view of the location of the new spodumene-bearing pegmatite swarm located to the northwest of known mineralization. Based on the wide-spaced drilling, the current geological interpretation suggests that the individual dykes are oriented approximately north-south, with a 70-degree dip towards the west. The dykes vary between 4 and 30 metres thick (true thickness), with some dykes coalescing up to 85m true thickness in the core of the pegmatite swarm.

This NW Sector of the project is located under between 5 and 15 metres of glacial till, with no outcrop visible in this area of the project.

Drill core observations suggest that lithia (Li_2O) mineralization is hosted predominantly within coarse-grained, green spodumene with grain sizes varying between 0.5 cm and 40 cm. Trace amounts of

lepidolite and zinnwaldite have been observed. Minor holmquistite has also been observed within the host metasediments in close proximity to the pegmatite dykes.

Highlights from the NW Sector (intercepts greater than 15m true thickness) include:

Drillhole	From (m)	To (m)	Downhole Thickness (m)	Estimated True Thickness (m)	Li_2O%
JBS-22-028	276.4	296.2	19.8	15.0	1.86
	323.5	353.5	30.0	22.5	1.78
JBS-22-030	132.2	184.0	51.8	35.1	1.75
JBL-23-010	134.5	175.0	40.5	25.9	1.49
JBL-23-024	10.6	82.1	71.5	62.9	1.89
JBL-23-024	145.0	165.9	20.9	18.5	1.63
JBL-23-031	151.2	185.0	33.9	29.2	2.50
	280.0	308.0	28.0	23.8	1.47
JBL-23-040	145.4	173.8	28.4	19.1	1.72
	235.0	271.2	36.2	24.3	1.47
JBL-23-042	36.2	70.4	34.2	24.1	1.65
JBL-23-045	95.0	122.2	27.2	24.1	1.72
JBL-23-048	68.3	193.0	124.8	85.0	1.70
JBL-23-050[1]	140.5	202.0	61.5	43.5	1.71
JBL-23-053[1]	212.7	252.0	39.3	27.6	1.53
JBL-23-054[1]	58.7	107.7	49.0	29.6	1.86
	211.0	243.2	32.2	20.2	1.72
JBL-23-056	252.6	273.4	20.8	18.2	1.63
JBL-23-057	365.2	387.0	21.9	16.0	1.70
JBL-23-063	263.3	291.0	27.8	18.0	1.96

1. *Only partial-hole analyses have been received.*

Notes: Lower reporting cut-off 0.4% Li_2O%; minimum 4m true thickness interval; maximum 2m of internal waste. Assay results are only reported within logged pegmatite intervals. Estimated true thicknesses are calculated from the intersection of the downhole surveys with a plane dipping 70° towards 275° azimuth, or a plane dipping 60° towards 300° azimuth depending on location.

The NW Sector has been drilled to a nominal 80m x 80m drill spacing, which is expected to allow the inclusion of this new discovery into an updated Mineral Resource Estimate ("MRE") planned for release mid-year 2023.

All drill hole collars and surveys, with all significant assay results are presented in Appendix 1.

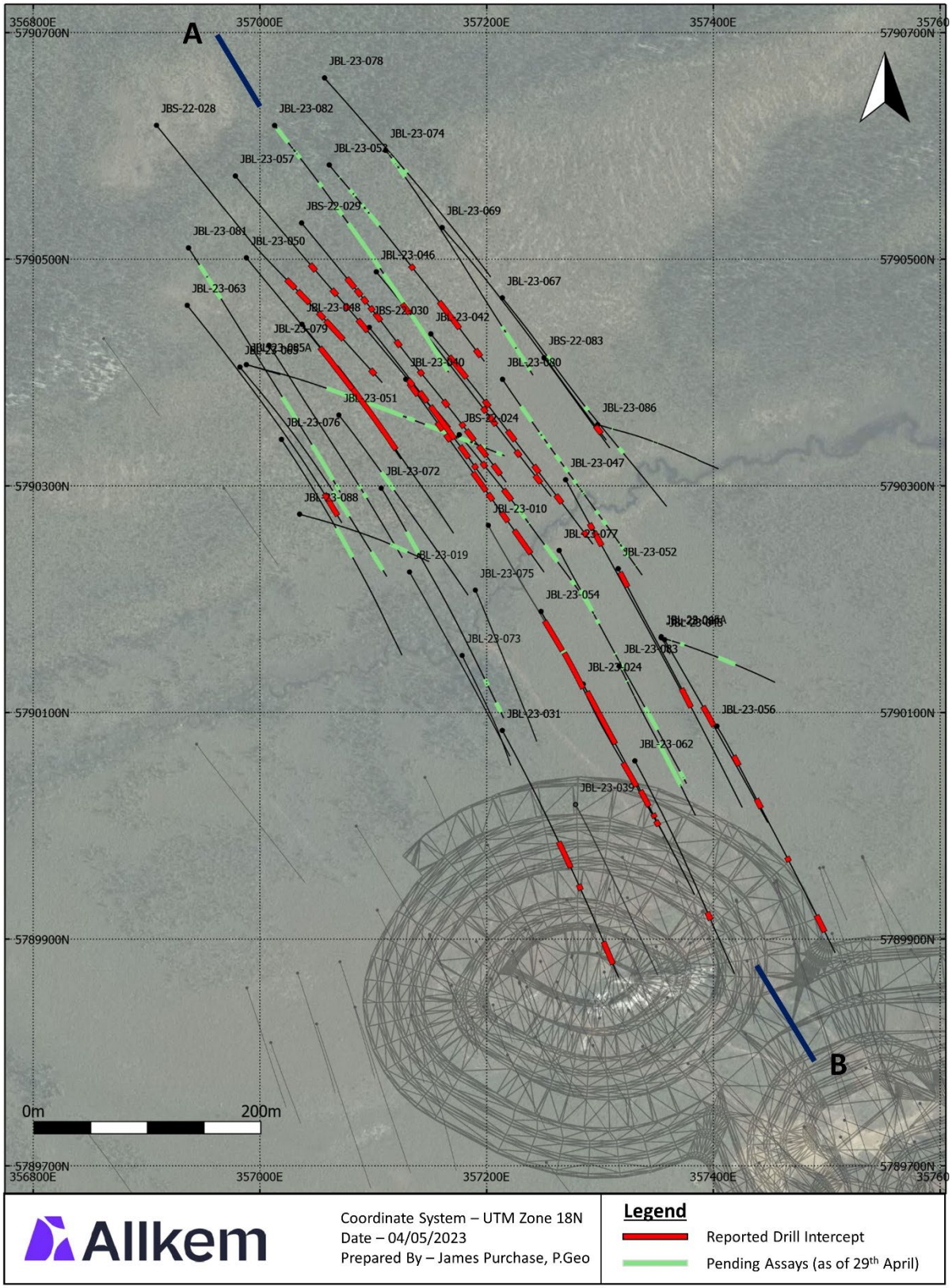

Figure 1: Plan view showing 2022/2023 drilling in NW Sector with drill hole intercepts coloured by assay status. The reserve pit from the feasibility study released on December 21st, 2021 and Section A-B are also shown.

Figure 2 presents a section view looking north-east that shows the NW Sector in relation to the existing reserve pit outline from the feasibility study released on December 21st, 2021. *The reader is cautioned*

that intercepts shown in Figure 2 are apparent thicknesses, and that true thicknesses vary between 60% – 80% of apparent thicknesses.

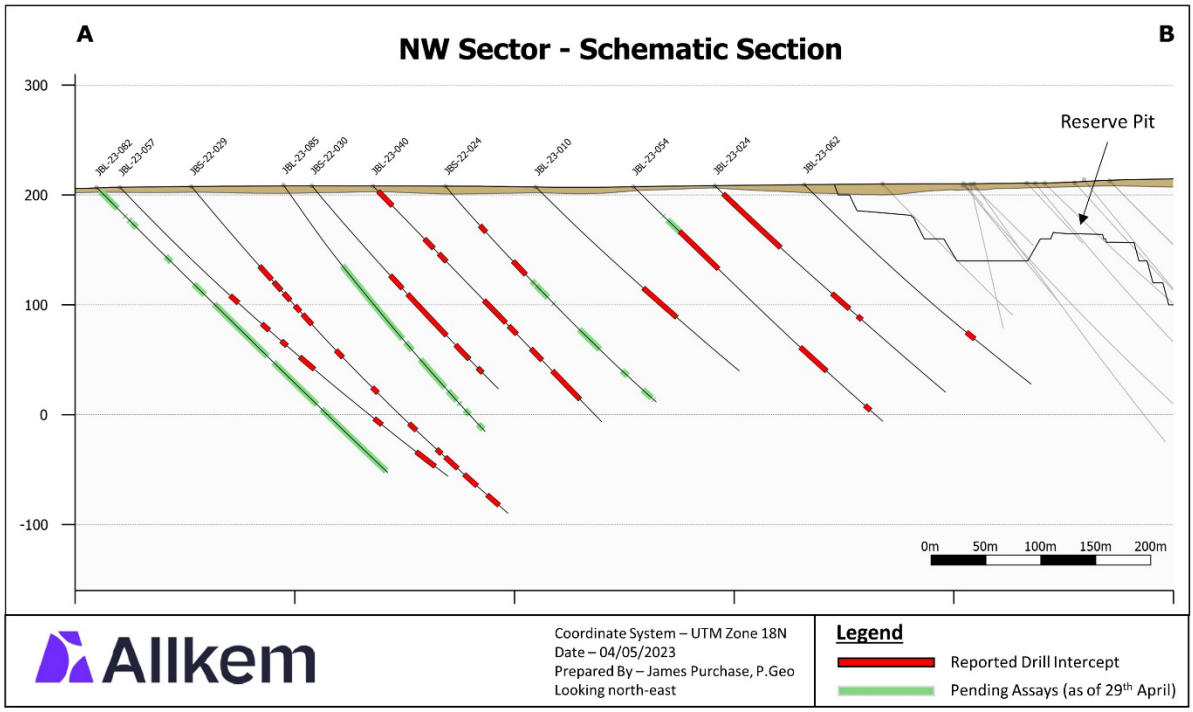

Figure 2: Section A-B (looking NE) showing 2022/2023 drilling in NW Sector with drill hole intercepts coloured by assay status.

Next steps

After the receipt of final assays Allkem intends to update the James Bay MRE incorporating all new drilling results. Work is already underway to update the geological model in preparation for the receipt of final assays.

Additional site activities are planned during the North American summer to better understand the geometry of the pegmatite dykes discovered in the NW Sector, including trials of downhole televiewer technology and mineralogical studies. In addition, a detailed aeromagnetic drone survey is planned to trace the extents of the pegmatites under glacial till cover, and to better understand the litho-structural setting of this new sector.

Tenure Update

Over the past six months Allkem has progressively increased its tenement holdings in and around the James Bay project via the staking of new claims (29 claims equalling 1,531 hectares) and non-material acquisitions (131 claims for 6,913 hectares). The aggregate holdings as at the date of this announcement are shown in Figure 3 below.

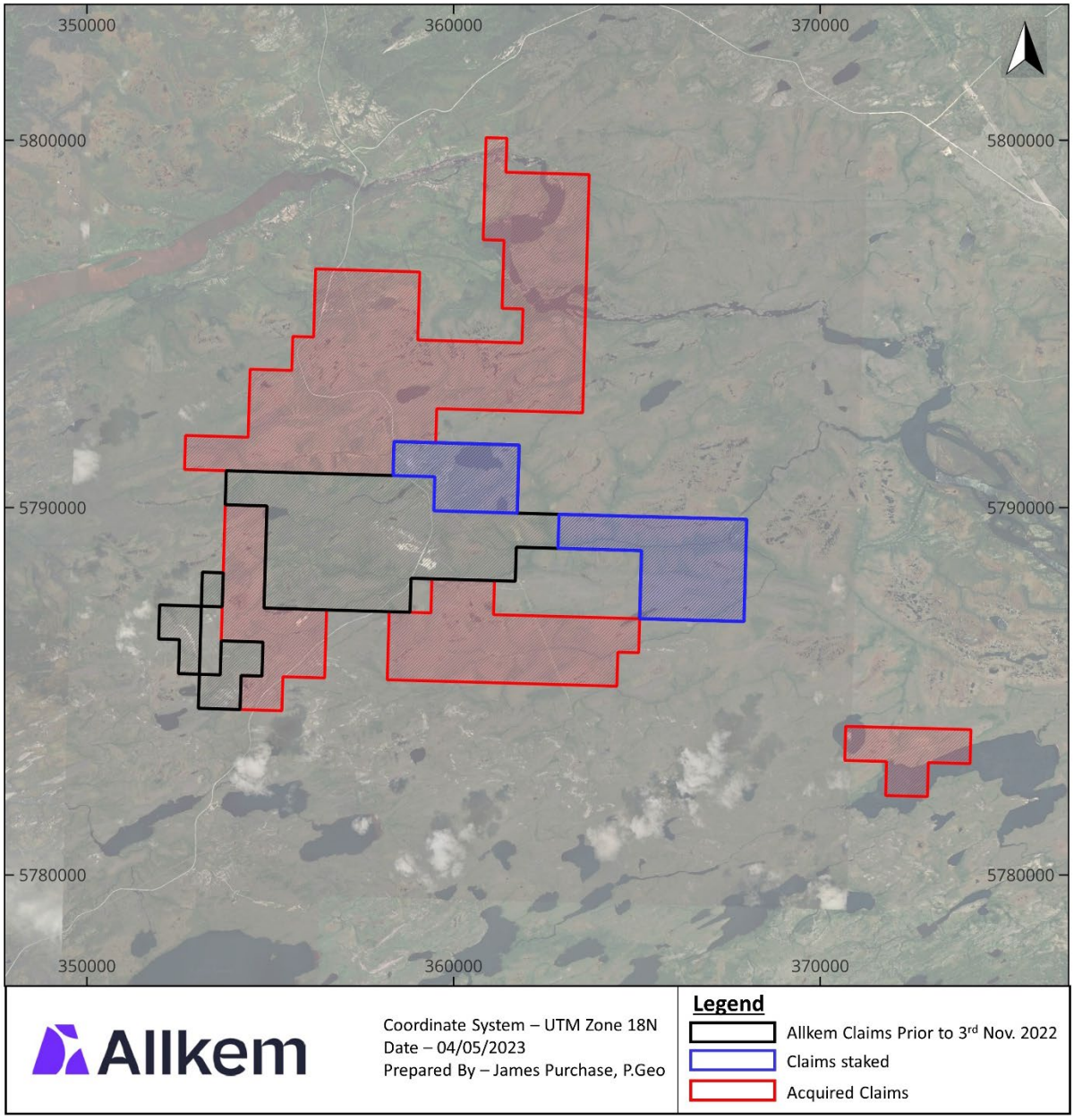

Figure 3: Plan view of current Allkem claims.

ENDS

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

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Competent Person Statement

The information in this announcement that relates to Exploration Results is based on information compiled by James Purchase, P.Geo, MAusIMM, a Competent Person who is both a member of L'Ordre des Géologues du Québec (License No. 2082) and a Member of The Australasian Institute of Mining and Metallurgy. Mr. Purchase is a full-time employee of Galaxy Lithium (Canada) Inc. Mr. Purchase has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Purchase consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

Any information in this announcement that relates to the James Bay Mineral Resources and Reserves is extracted from the report entitled "James Bay Lithium Project, Feasibility Study & Maiden Ore Reserve" released on December 21st, 2021 which

is available to view on www.allkem.co and www.asx.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the Mineral Resources estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

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APPENDIX 1 – DRILL HOLE INFORMATION AND ASSAY RESULTS

Table 1: Drill hole collar and orientation as surveyed – NW Sector

Hole ID	TYPE	UTM 18N East	UTM 18N North	RL	Depth (m)	Dip	UTM 18N Azimuth
JBS-22-024	DDH	357176	5790345	208	276	51	141
JBS-22-028	DDH	356909	5790618	206	420	51	141
JBS-22-029	DDH	357037	5790532	208	417	50	140
JBS-22-030	DDH	357097	5790440	208	252	51	142
JBS-22-083	DDH	357251	5790413	208	144	49	145
JBL-23-010	DDH	357201	5790265	207	250	45	152
JBL-23-019	DDH	357132	5790224	207	250	45	152
JBL-23-024	DDH	357285	5790125	208	282	45	152
JBL-23-031	DDH	357214	5790084	208	325	45	152
JBL-23-039	DDH	357278	5790019	210	252	50	152
JBL-23-040	DDH	357129	5790394	208	300	45	142
JBL-23-042	DDH	357151	5790434	208	318	45	142
JBL-23-045	DDH	357357	5790164	208	252	45	152
JBL-23-045A	DDH	357354	5790167	208	23.6	45	152
JBL-23-046	DDH	357103	5790489	208	336	45	142
JBL-23-047	DDH	357270	5790305	207	300	45	152
JBL-23-048	DDH	357037	5790443	208	312	45	142
JBL-23-050	DDH	356988	5790501	208	300	45	142
JBL-23-051	DDH	357070	5790362	208	261	45	142
JBL-23-052	DDH	357316	5790227	207	303	45	152
JBL-23-053	DDH	357061	5790583	207	300	45	142
JBL-23-054	DDH	357248	5790189	208	312	45	152
JBL-23-056	DDH	357403	5790088	209	300	45	152
JBL-23-057	DDH	356978	5790573	207	402	46	142
JBL-23-062	DDH	357331	5790057	209	276	45	152
JBL-23-063	DDH	356936	5790459	209	300	45	142
JBL-23-065	DDH	356982	5790405	209	306	45	142
JBL-23-067	DDH	357214	5790466	208	300	44	141
JBL-23-069	DDH	357161	5790528	207	315	45	142
JBL-23-072	DDH	357107	5790298	208	312	45	147
JBL-23-073	DDH	357178	5790150	207	150	45	155
JBL-23-074	DDH	357111	5790596	207	315	45	142
JBL-23-075	DDH	357190	5790208	206	201	45	155
JBL-23-076	DDH	357019	5790341	209	300	45	147
JBL-23-077	DDH	357264	5790243	207	312	47	152
JBL-23-078	DDH	357057	5790660	206	300	45	142
JBL-23-079	DDH	357008	5790424	209	300	45	147
JBL-23-080	DDH	357214	5790394	208	300	47	147
JBL-23-081	DDH	356937	5790510	208	357	47	147
JBL-23-082	DDH	357013	5790618	207	372	45	142
JBL-23-083	DDH	357317	5790141	208	201	45	152
JBL-23-084	DDH	357354	5790166	208	150	45	107
JBL-23-085	DDH	356988	5790407	209	330	45	105
JBL-23-085A	DDH	356988	5790407	209	44	45	107
JBL-23-086	DDH	357298	5790354	207	150	45	107
JBL-23-088	DDH	357035	5790275	209	177	45	107

Notes: Collars surveyed using RTK methodology. Azimuths and dip are derived from a Reflex TN14 gyrocompass from casing at surface.

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Table 2: Significant intercepts – NW Sector (received up to 29th April 2023)

Drillhole	From (m)	To (m)	Downhole Thickness (m)	Estimated True Thickness (m)	Li_2O%
JBS-22-024[1]	48.0	56.0	8.0	5.5	2.18
	92.4	109.3	16.9	11.6	1.88
JBS-22-028	257.8	272.3	14.5	11.1	1.76
	276.4	296.2	19.8	15.0	1.86
	310.9	320.8	9.9	7.5	2.23
	323.5	353.5	30.0	22.5	1.78
	400.0	407.7	7.7	5.8	1.16
JBS-22-029	96.0	112.5	16.5	11.4	1.74
	115.4	125.8	10.4	7.2	1.89
	129.2	138.1	8.9	6.1	1.93
	144.6	151.6	7.0	4.8	1.87
	155.2	167.7	12.5	8.5	1.54
	200.0	209.0	9.0	6.2	1.48
	247.5	254.5	7.0	4.9	1.46
	294.8	303.7	8.8	6.3	1.40
	329.1	335.2	6.1	4.3	1.28
	339.8	355.2	15.4	10.8	1.64
	363.3	379.0	15.7	11.1	1.64
	391.5	405.8	14.4	10.0	1.58
JBS-22-030	108.9	125.2	16.3	11.1	1.94
	132.2	184.0	51.8	35.1	1.75
	196.0	214.1	18.1	12.2	1.39
	225.0	231.4	6.4	4.3	1.44
JBL-23-010	134.5	175.0	40.5	25.9	1.49
JBL-23-024	10.6	82.1	71.5	62.9	1.89
	145.0	165.9	20.9	18.5	1.63
	176.0	181.0	5.0	4.4	1.46
JBL-23-031	151.2	185.0	33.9	29.2	2.50
	207.3	214.0	6.7	5.7	1.28
	280.0	308.0	28.0	23.8	1.47
JBL-23-039	127.0	141.0	14.0	11.8	1.81
	203.1	220.0	16.9	14.4	1.91
JBL-23-040	6.8	25.2	18.4	12.5	1.57
	67.3	79.3	12.0	8.0	1.91
	86.2	96.1	9.9	6.7	1.68
	145.4	173.8	28.4	19.1	1.72
	177.9	188.3	10.4	6.9	1.44
	206.9	221.3	14.5	9.7	1.60
	235.0	271.2	36.2	24.3	1.47
JBL-23-042	36.2	70.4	34.2	24.1	1.65
	105.5	115.0	9.5	6.6	2.03
	151.5	166.4	14.9	10.4	1.60
	203.5	213.9	10.4	7.2	1.96
	247.0	258.5	11.5	8.0	1.64
	299.9	305.9	6.0	4.2	1.66
JBL-23-045	95.0	122.2	27.2	24.1	1.72
JBL-23-046	51.2	66.0	14.8	10.4	1.69
	209.0	215.7	6.7	4.7	1.43
	220.8	234.3	13.5	9.5	1.51
	271.4	279.0	7.6	5.5	1.38
	306.5	317.0	10.5	7.5	1.35
JBL-23-047	61.5	69.5	8.0	5.0	1.66
	72.9	92.0	19.2	11.9	1.66
JBL-23-048	68.3	193.0	124.8	85.0	1.70
JBL-23-050[1]	140.5	202.0	61.5	43.5	1.71
JBL-23-052	5.1	25.0	19.9	11.9	1.42
	158.0	181.3	23.3	14.1	1.32

Drillhole	From (m)	To (m)	Downhole Thickness (m)	Estimated True Thickness (m)	Li_2O%
JBL-23-053[1]	157.8	163.8	6.0	4.2	1.72
	212.7	252.0	39.3	27.6	1.53
	283.0	293.0	10.0	7.0	1.29
JBL-23-054[1]	58.7	107.7	49.0	29.6	1.86
	211.0	243.2	32.2	20.2	1.72
	290.2	296.8	6.6	4.1	1.83
JBL-23-056	41.7	54.7	13.0	11.4	1.69
	100.3	112.3	12.0	10.6	1.76
	177.4	183.0	5.6	4.9	1.60
	252.6	273.4	20.8	18.2	1.63
JBL-23-057	142.0	152.0	10.0	7.3	1.57
	181.0	189.8	8.8	6.5	1.52
	204.8	211.5	6.8	5.0	1.67
	227.2	244.7	17.5	12.8	1.80
	316.1	325.0	8.9	6.5	1.88
	365.2	387.0	21.9	16.0	1.70
JBL-23-062	200.2	209.6	9.4	8.0	1.07
JBL-23-063	263.3	291.0	27.8	18.0	1.96
JBL-23-069	295.4	306.0	10.6	7.6	1.52

1. *Only partial-hole analyses have been received.*

Notes: Lower reporting cut-off 0.4% Li_2O%; minimum 4m true thickness interval; maximum 2m of internal waste. Assay results are only reported within logged pegmatite intervals. Estimated true thicknesses are calculated from the intersection of the downhole surveys with a plane dipping 70° towards 275° azimuth, or a plane dipping 60° towards 300° azimuth depending on location.

APPENDIX 2 – RESOURCE AND RESERVE TABLES

James Bay Mineral Resource Estimate (effective November 23rd, 2017)

Category	Tonnage	Grade	Contained Metal
	Mt	% Li_2O	('000) t Li_2O
Indicated	40.3	1.40	564.2
Total	**40.3**	**1.40**	**564.2**

Note: The Mineral Resource Estimate is reported at a cut-off grade of 0.62% Li_2O inside a conceptual pit shell optimised using spodumene concentrate price of USD 950/t containing 6.0% Li_2O, metallurgical and process recovery of 70%, overall mining and processing costs of USD 55/t milled and overall pit slope of 50 degrees. All figures are rounded to reflect the relative accuracy of the estimates. Mineral resources are not mineral reserves and do not have demonstrated economic viability.

James Bay Ore Reserve (effective December 2021)

Category	Tonnage	Grade	Contained Metal
	Mt	% Li_2O	('000) t Li_2O
Proven	-	-	-
Probable	37.2	1.30	483.7
Total	**37.2**	**1.30**	**483.7**

Note:

1. Effective date of the estimate is December 2021.
2. Mineral Reserves are estimated using the following long-term metal prices (Li_2O Conc = USD 950/t Li_2O at 6.0% Li_2O) and an exchange rate of CAD/USD 1.33.
3. A minimum mining width of 5 m was used.
4. Cut-off grade of 0.62% Li_2O.
5. Bulk density of ore is variable, outlined in the geological block model and average 2.7 g/t.
6. The average strip ratio is 3.54:1.
7. The average mining dilution factor is 3.0% at 0.38% Li_2O.

APPENDIX 3 – JORC 2012 TABLE 1 DISCLOSURE

Section 1: Sampling Techniques and Data

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

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

		2017/2018 Drilling Sample intervals were determined based on observations of the lithology and mineralization and were marked and tagged by the geologist. The typical sample length was 1.5 m but varied according to lithological contacts between the mineralized pegmatite and the country rock. In general, one country rock sample was collected from each side of the contact with the pegmatite. The drill core was split lengthwise; one half was placed in a plastic bag with a sample tag, and the other half was left in the core box with a second sample tag for reference. The third sample tag was archived on site. The samples were then catalogued and placed in rice bags for shipping. Sample shipment forms were prepared on site, with one copy inserted with the shipment and a second copy given to the carrier. One copy was kept for reference. The samples were transported regularly by contractors' truck directly to the ALS Canada Ltd – ALS Minerals laboratory in Val-d'Or, Québec. At the ALS facility, the sample shipment was verified, and a confirmation of receipt of shipment and content was sent digitally to the Galaxy project manager. The sample sizes (half-core, NQ diameter) are appropriate for the style, thickness and consistency of the mineralization at the James Bay Lithium Project. **2021 – 2023 Drilling** Sampling techniques and preparation were consistent with the 2017/2018 drilling campaigns, with sampling lengths reduced to 1m within pegmatite lithologies.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	**2008 - 2010 Assaying** Samples were shipped from site in secure containers to Table Jamésienne de Concertation Minière (TJCM) in Chibougamau for preparation. The protocol for sample preparation involved weighing, drying, crushing, splitting and pulverizing. The pulverized pegmatite core samples were shipped from the TJCM to the COREM Research Laboratory (COREM) in Québec City. COREM was accredited ISO/IEC 17025:2005 by the Standards Council of Canada for various testing procedures on April 30, 2009. The scope of accreditation did not include the specific testing procedures used by COREM to assay lithium (method code B23). Lithium One also utilized SGS Mineral Services Lakefield Laboratory (SGS) as an umpire laboratory to monitor the reliability of assaying results delivered by the primary laboratory COREM. At COREM, prepared samples were assayed using three-acid digestion (nitric acid, hydrofluoric acid, perchloric acid) in boiling water. The dissolved sample was analysed by atomic absorption (AA) spectrometry. At SGS, check samples were assayed by sodium peroxide fusion and atomic absorption spectroscopy. At ALS Minerals, prepared samples were assayed using four-acid digestion (perchloric acid, hydrofluoric acid, nitric

acid and hydrochloric acid) with ICP-AES finish. Although a four-acid digest is considered a near-total digest, common practice for the analysis of pegmatite material is a sodium-peroxide fusion. Significant verification test work has been undertaken and has demonstrated that the acid digest method is robust, and no bias has been observed when compared to the sodium-peroxide fusion check assays.
Samples from 2008 – 2010 represent roughly 14% of the total meterage of the drilling on the project.

2008 - 2010 QAQC

Lithium One relied partly on the internal analytical quality control measures implemented by COREM laboratory. Additionally, Lithium One implemented external analytical quality control measures consisting of using control samples (field blanks, in house standards and field duplicates) inserted with sample batches submitted for assaying in 2009 and 2010, and coarse reject duplicate samples in 2008. Standards were non-certified and were custom-made from a bulk sample of the outcropping pegmatite material from the project.
Field duplicates were generated from quarter core samples and inserted every 40 samples.
Total insertion rate for QAQC in 2008 – 2010 was 4.2%, with an additional 2.6% when including umpire assays.
Although the insertion rate of QAQC in 2008 – 2010 was below industry standards, subsequent check assays have shown that the assay results are valid. Also, the results from the limited QAQC undertaken at the time of drilling show no issues.

2017/2018 Assaying

Samples were shipped to ALS Minerals in Val-d'Or for preparation and analyses. The laboratory is accredited ISO/IEC 17025:2005 by the Standards Council of Canada for various testing procedures, however, the scope of accreditation does not include the specific testing procedure used to assay lithium.
Sample preparation involved the sample material being weighed and crushed to 70% passing 2 mm. The ground material was then pulverized to 90% passing 75 microns before being analysed.
At ALS Minerals, prepared samples were assayed for mineralization grade lithium by specialized four-acid digestion and inductively coupled plasma – atomic emission spectrometry (ICP-AES) finish (method code Li-OG63). An approximately 0.4-gr sample was first digested with perchloric, hydrofluoric, and nitric acid until dry. The residue was subsequently re-digested in concentrated hydrochloric acid, cooled and topped up to volume. Finally, the samples were analysed for lithium by ICP-AES. The method used has a lower detection limit of 0.005% lithium and an upper limit of 10% lithium.
Samples from 2017 represent roughly 44% of the total meterage of the drilling on the project.

2017/2018 QAQC

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

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

Total insertion rate for QAQC in 2017 was 12.4%, with which increases up to 16.6% when including umpire assays.

The rate of insertion of QAQC samples in 2017 was much improved compared to 2008 – 2010 period. No biases were identified, and a minor failure was identified in the low-grade standard which was investigated and no issues were identified.

2021 - 2023 Assaying

Samples were shipped to ALS Minerals in Val-d'Or for preparation and analyses. The laboratory is accredited ISO/IEC 17025:2005 by the Standards Council of Canada for various testing procedures, however, the scope of accreditation does not include the specific testing procedure used to assay lithium.

Sample preparation (code PREP-31A) involved the sample material being weighed and crushed to 70% passing 2 mm, with a riffle split of 250g pulverized to 85% passing 75 microns before being analysed.

At ALS Minerals, prepared samples were assayed for mineralization-grade lithium by sodium-peroxide fusion and digestion followed by inductively coupled plasma – atomic emission spectrometry (ICP-AES) finish (method code ME-ICP81). The method used has a lower detection limit of 0.001% lithium and an upper limit of 10% lithium.

Samples from 2021 - 2023 represent roughly 42% of the total meterage of the drilling on the project.

2021 - 2023 QAQC

GLCI implemented external analytical quality control measures including the insertion of control samples (blanks and in house standards) with sample batches submitted for assaying at ALS Minerals at a rate of 1 QAQC sample for every 9 samples.

A number of pulp samples were also re-submitted to the SGS laboratory in Lakefield, Ontario for umpire check assays.

Total insertion rate for QAQC between 2021 and 2023 was roughly 12% when including umpire assays.

		No biases were identified, and two minor blank failures were identified and a re-analysis was requested. The re-analyses returned similar results to the original assays.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.* *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	James Purchase, P. Geo, of GLCI and Competent Person for the James Bay Mineral Resource (in his prior role as Vice-President, Geology and Resources are G Mining Services Inc.) has visually assessed and verified significant intersections of drill core described in this announcement and has witnessed outcropping spodumene mineralization in the field. A selection of drill collar coordinates was validated by handheld GPS, and core and sample storage and security facilities were inspected. Channel sample outcrops were also inspected and found to be of high-quality. Numerous site visits have taken place since 2021, the most recent being in April 2023. It should be noted that the drilling between 2021 and 2023 was managed by an independent geological contractor (InnovExplo) and was conducted under the supervision of professional geologists registered in the Province of Québec. Data collection and entry procedures were also reviewed and found to be adequate. Various reanalyses of pulps have shown that there are very immaterial differences between analysing using a standard 4-acid digest and a peroxide fusion for the James Bay lithium deposit. No clear and consistent biases were defined during investigations into QAQC performances, and any failures were duly investigated and found to be minor.
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* *Specification of the grid system used.* *Quality and adequacy of topographic control.*	Drill collars were surveys by an external contractor using RTK methodology in UTM (Universal Transverse Mercator) Zone 18N. Datum is NAD83. Downhole surveys were completed using an EZ-TRAC multishot tool provided by REFLEX. Declination (-14.2) was removed to correct the data from magnetic north to geographic north. At the collar, a TN14 tool was used to measure the dip and azimuth of the casing. Topographic controls are informed by a LiDAR survey completed recently on the project.
Data Spacing and distribution	*Data spacing for reporting of Exploration Results.* *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* *Whether sample compositing has been applied.*	In the NW Sector, drilling has been completed on a nominal 80m x 80m spacing. It is the authors belief that this is appropriate for the classification of this sector as Inferred Mineral Resources. The remainder of the deposit has been drilled at a nominal spacing of between 40 and 50 metres to satisfy the classification of the deposit as Indicated Mineral Resources. No sample compositing has been undertaken.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is*	As the pegmatite dykes in the NW Sector are concealed by 5 – 15m of glacial till, it was difficult to accurately orientate the drilling at a perpendicular angle to the pegmatites as limited information was available at the

	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.*	time. As drilling progressed, it become apparent that the drilling was intersecting the pegmatites at a sub-optimal angle, and that the true thickness of pegmatites in drilling represent between 60 – 80% of the apparent thickness (downhole thicknesses). Although this angle is sub-optimal, the author does not believe this has introduced a sampling bias.
Sample Security	*The measures taken to ensure sample security.*	Drill core, sample rejects and sample pulps are stored in a secure environment (in a locked dome structure) at the Relai Routier 381 truck stop. Sample pulps are stored in a locked container adjacent to the dome.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data*	Sampling techniques were reviewed by previous employees of Galaxy Lithium, and also by the QP of the Mineral Resource released in January 2022. In addition, external geological contractors were engaged during drilling activities to monitor the QAQC data and logging procedures to ensure that industry best practises were followed.

Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.*	The Project comprises 93 contiguous mining titles located in NTS map sheet 33C/03, covering an area of approximately 2,164 hectares. The boundaries of the claims have not been legally surveyed. All claims are in good standing, with expiry dates between June 20, 2023, and November 2, 2025. The claims are "CDC"-type claims which gives its holder the exclusive right to search for mineral substances. No Mining Lease has been issued for the project. The claims are registered under Galaxy Lithium (Canada) inc. ("GLCI") and Galaxy Lithium (Ontario) Inc. ("GLOI"). Project level approvals at both Provincial and Federal level jurisdictions are underway, final approval is anticipated in 2023.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Prospector Jean Cyr first discovered spodumene pegmatite outcrops on the property in 1964. The property was staked in 1966 by Mr. Cyr and was optioned by the SDBJ in 1974, who after conducting some exploration on the property, returned it to Mr. Cyr on June 10, 1986. Commencing in 1974, SDBJ conducted an exploration program that consisted of geological mapping, systematic sampling and diamond drilling of the mineralized outcrops to evaluate the lithium potential of the property. The mapping defined an area of 45,000 square metres of outcropping spodumene dykes. The Centre de Recherches Minérales du Québec conducted concentration tests and chemical analyses in 1975. A composite sample of the spodumene pegmatite grading 1.7% Li_2O yielded a spodumene concentrate

		grading an average of 6.2% Li_2O with a recovery factor of 71%. LithiumOne acquired the claims in 2007 and embarked on an exploration campaign designed to produce a maiden mineral resource on the property. In 2012, Galaxy Resource Limited merged with Lithium One.
Geology	• *Deposit type, geological setting and style of mineralization.*	The Project is in the north-eastern part of the Superior Province. It lies within the Lower Eastmain Group of the Eastmain greenstone belt, which consists predominantly of amphibolite grade mafic to felsic metavolcanic rocks, metasedimentary rocks and minor gabbroic intrusions. The property is underlain by the Auclair Formation, consisting mainly of paragneisses of probable sedimentary origin which surround the pegmatite dykes to the northwest and southeast. Volcanic rocks of the Komo Formation occur to the north of the pegmatite dykes. The greenstone rocks are surrounded by Mesozonal to catazonal migmatite and gneiss. All rock units are Archean in age. The pegmatites delineated on the property to date are oriented in a generally parallel direction to each other and are separated by barren host rock of sedimentary origin (metamorphosed to amphibolite facies). They form irregular dykes attaining up to 60 m in width and over 200 m in length. The pegmatites crosscut the regional foliation at a high angle, striking to the south-southwest and dipping moderately to the west-northwest. Spodumene is the principal source of lithium found at the Project. Spodumene is a relatively rare pyroxene that is composed of lithium (8.03% Li_2O), aluminium (27.40% Al_2O_3), and silica (64.57% SiO_2). It is found in lithium rich granitic pegmatites, with its occurrence associated with quartz, microcline, albite, muscovite, lepidolite, tourmaline and beryl.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in meters) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.*	All drill collars and hole directions are presented in Appendix A. Most holes are inclined 45 – 70 degrees towards the southeast.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off*	No capping has been applied to reported intercepts. Lower cut-off used for reporting is 0.4% Li_2O%; minimum 4m true width interval; maximum 2m of internal waste. No metal equivalent values are used.

	grades are usually Material and should be stated. • *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Li% assays have been multiplied by 2.153 to transform them to Li_2O%.
Relationship between mineralization widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralization with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	Lithium mineralization in the NW Sector occurs as thick, steeply dipping pegmatite dykes ranging between 4 and 30 metres thick (true thickness), with some dykes coalescing up to 85m true thickness in the core of the pegmatite swarm. Due to the sub-optimal angle of intercept between the drilling at the assumed orientation of the pegmatite dykes in the NW Sector, true widths have been estimated at between 60% and 80% of downhole widths.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	A map view has been provided.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	All significant intersections above 0.4% Li_2O with a minimum true width of 4m have been reported. A maximum internal waste of 2m has been allowed.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk sample– size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock*	No bulk sampling has been conducted on the project in recent times. An IP survey undertaken in 2020 and 2021 has uncovered potential extensions of mineralization to the east of the property, east of the 381KM Truckstop, not part of the MRE. Re-assaying of pulps using multi-element sodium-peroxide fusion methods has not returned economic concentrations of tantalum, tin or other elements of economic importance apart from Lithium.

	characteristics; potential deleterious or contaminating substances.	
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Downhole televiewer survey is planned to determine geometry of newly discovered pegmatites. Aeromagnetic survey covering NW Sector. Eventual infill drilling to bring the NW Sector to Indicated category. On receipt of the balance of the remainder of the assays, QA-QC investigation, prior to updating the James Bay MRE, mid 2023.