

Australia 4 December 2017

# JAMES BAY RESOURCE UPDATE Mineral Resource 40.8 Mt @ 1.4% Li<sub>2</sub>0

# Highlights

- Significant increase in the mineral resource to 40.8 Mt @1.40% Li20, all classified as Indicated (JORC 2012)
- Current mineral resource is west of the James Bay Road and it remains open to the east and in the west at depths greater than 335m below surface
- Numerous untested pegmatite's outcrop and sub-crop elsewhere within the claim area of the project
- Metallurgical test work for process design already well advanced in Perth, Western Australia
- Further drilling for infrastructure sterilization has commenced
- Mine design and planning work has been awarded to Mining Plus
- Feasibility Study preparation ongoing, upgrade of resources to reserves expected in H1 of 2018.

Galaxy Resources Limited ("Galaxy" or the "Company") (ASX: GXY) is pleased to announce a significant mineral resource upgrade resulting from the 2017 drilling campaign at the James Bay Project in Quebec, Canada.

The current JORC 2012 recoverable mineral resource is reported below in Table 1, as is the prior mineral resource in Table 2. Factors used to demonstrate "reasonable prospects for eventual economic extraction" are listed in Table 3. The mineral resource estimate was completed by SRK Consulting (Canada) Inc. who are independent of the issuer for both JORC 2012 and Canadian NI-43-101 reporting standards. Additional reporting to the Canadian standard is mandatory in Canada for project development.

Classified Recoverable James Bay Mineral Resource – November 2017 - JORC 2012				
JORC Classification Million Metric Tonnes Grade (Li2O) % Contained M (t)				
Indicated	40.82	1.40	571,200	
Inferred	-	-	-	
Total	40.82	1.40	571,200	

# Table 1: JORC 2012 Mineral resource

Reported at cut-off grade of 0.62 % Li20 and within a conceptual open pit shell formulated to demonstrate "reasonable prospects of eventual economic extraction as tabulated (Table 3) below. All figures rounded to reflect the relative accuracy of the estimates. Mineral resources are not mining reserves and do not yet have demonstrated economic viability

Table 2: JORC 2004 Mineral resource				
Prior Classified Recoverable James Bay Mineral Resource – December 2010 - JORC 2004				
JORC Classification Million Metric Tonnes Grade (Li2O) % Contained Metal (t)				
Indicated	11.8	1.3	152,750	
Inferred	10.4	1.2	125,640	
Total	22.2	1.3	278,390	



Reported at cut-off grade of 0.75% Li20 and within a conceptual open pit shell formulated to demonstrate "reasonable prospects of eventual economic extraction" with factors as tabulated (Table 3) below.

Table 3: Modifying factors			
Factor	2010 Value	Unit	2017 Value
Off Site Cost (Marketing, etc.)	2.5	percent price	2.5
Mining Cost	4	US\$/tonne mined	5
Processing	50	US\$/tonne of feed	50
General and Administration	10	US\$/tonne of feed	12
Mining Dilution	10	percent	5
Mining Loss	5	percent	10
Overall Pit Slope	45	degrees	50
Process Rate	1	Mt tonne feed/year	2
Li2O Process Recovery	70	percent	70
In Situ Cut-Off-Grade	0.75	percent Li2O	0.62

Galaxy Resources' Managing Director, Anthony Tse said the increase in resource confirms the James Bay project as a world class hard rock lithium asset, as highlighted by the grade, quality and scalability of the deposit.

"One of the key attributes of the James Bay project is that due to its high grade, scale, low stripping ratio and superior location, it will be one of the lowest cost hard rock lithium projects in the world. The pegmatite system is substantial in size and the deposit remains open at depth and also open to the east, which offers significant potential for growth, both in terms of the resource and ultimately future ore reserve."

# Additional ASX disclosure – Material Changes to Mineral Resources (Section 5.8.1, Chapter 5 ASX listing rules)

#### Geology and geological interpretation

The spodumene-bearing pegmatite bodies of the James Bay project are irregular dykes up to 60 meters in width and over 200 meters in length. The pegmatite intrusions generally strike south-southwest dipping moderately to the east-northeast (215°/60°).

Based on core drilling data, surface geology mapping, and outcrop channel sampling provided by Galaxy, SRK created a threedimensional model for the main pegmatite dykes. The bodies were modelled from logged pegmatites, not Li2O grades, as implicitly derived intrusions or vein contact surfaces in Leapfrog Geo software (version 4.0.1). The resulting geological model incorporates 18 pegmatite dykes. Sixteen pegmatite bodies were created as intrusion contact surfaces with a spheroidal interpolant. Two smaller pegmatites (550 and 850) were created with the vein modelling tool within the boundaries defined by hanging wall and footwall surfaces.

SRK also modelled the overburden material, consisting of glacial till, using the logged drill intervals and mapped outcrops. The threedimensional model is clipped to a topography surface created from a Lidar survey provided by Galaxy.



#### Sampling and sub-sampling techniques

The maiden 2010 mineral resource had been based on 14,457m of diamond drilling and 201.3m of horizontal channel sampling, from 102 drill holes and 45 channel samples. This updated mineral resource estimation is supported by an additional 33,339 m of NQ core drilling in 157 diamond drill holes. (Figures 1 and 2, below). All sampling is half NQ3 sized core. Sample lengths average at 1.290m. A total of 9,194 assays were completed by ALS Canada by the Li 0C63 Open Beaker method. An additional 1,093 standard and blank assays were submitted with the sample stream. These include 514 duplicates and 513 blanks. Results for check assays between ALS and SGS have been received.

#### Mineral Resource classification criteria

SRK is satisfied that the geological modelling honours the current geological information and knowledge. The location of the samples and the assay data are sufficiently reliable to support resource evaluation. The sampling information was acquired primarily by surface channel sampling and core drilling on sections spaced at twenty-five to fifty metres. The eighteen modelled intrusive pegmatite dykes were investigated by several boreholes providing sampling to approximately twenty-five to forty metre spacing. Most pegmatite dyke domains have been sampled by a sufficient number of boreholes to model the spatial variability of lithium oxide. Accordingly, all block estimates within the conceptual pit shell have been classified as Indicated.

#### Sample analysis

All samples were weighed, crushed and pulverized at ALS Canada. These were processed at ALS Val d'Or located at 1324 Rue Turcotte, Val d'Or, QC, Canada. Methods used were CRU-31,CRU-QC,LOG-21,SPL-21,WEI-21. Samples were processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada. This is a four-acid digest method. This is analysis for lithium ore grade by method Li- OC63. This assay is for ore grade Li by specialized four-acid digestion and ICP-AES finish, with Li-specific CRMs. It is best suited to Li-bearing silicate sediments. Li range is 0.01-10%. The method precision is 5%. Assays are within expected tolerance. Umpire assaying has been completed.

This method is suitable for analyzing lithium in geological samples. A  $\sim$ 0.4g sample is first digested with three acids (HCLO<sub>4</sub>, HF, and HNO<sub>3</sub>) until dryness. The residue is subsequently re-digested in concentrated HCL, cooled and topped up to volume. The samples are analyzed for Li by ICPAES spectroscopy.

#### Estimation method

The evaluation of mineral resources involved database compilation and verification, construction of 3D wireframes, the definition of mineral resource domains, sample compositing, capping, sample statistical analysis, block modelling and grade estimation; grade validation, mineral resource classification and mineral resource tabulation.

Estimation was by geostatistical methods with hard geological domain boundaries. Block modelling (10 x 3 x 10m block size) was informed by variography and sample composition using ordinary kriging methods in octant search. Block modelling was validated by nearest neighbour and inverse distance methods.

#### Cut-off grade and the basis for cut-off grade

The cut-off grade (COG) applied is 0.62 % Li<sub>2</sub>0. The COG is based on metallurgical test work that requires a head feed mineralised to support beneficiation to a spodumene product at grades and qualities that meet market requirements.



#### Mining and metallurgical factors

Material modifying factors have been applied to demonstrate "reasonable prospects of eventual economic extraction" by open pit, drill, blast, truck & shovel methods. Process recovery is planned to be by crush, optical sort, deslime and DMS recovery at a 2Mtpa (million tonnes per annum) throughput. Factors applied are tabulated (Table 3) above. Mineral resources are not mining reserves and do not yet have demonstrated economic viability.



Figure 1: James Bay Spodumene Project – plan view of all drill collars





Figure 2: James Bay Spodumene Project – section view of drilling and mineralisation

## ABOUT THE JAMES BAY PROJECT

The James Bay Pegmatite swarm is located 10km south of the Eastmain River and 100 kilometers east of James Bay. The property is accessible by paved road from the James Bay Road which cuts through the property close to the 381km road marker on the highway Route/109 from Val d'Or, Quebec, Canada. Val d'Or is approximately 526km westward from Montreal, Quebec. A large, multi-service truck stop is located at marker 381. Discovered in the 1960's and then known as the Cyr property the site consists of a swarm of 33 pegmatite dykes that belong to the rare-element 'class', the LCT (Li-Cs- Ta) 'family' and the albite-spodumene 'type' per the classification by Cerny (1991). Two new major pegmatite dykes have been discovered in this current campaign as well as smaller swarms eastward of the known extents. The mineralised pegmatite is open at depth and to the east. The lithium bearing mineral contained in the pegmatites is spodumene LiAl (Si<sub>2</sub>O<sub>6</sub>), a member of the pyroxene group of minerals. The pegmatite swarms have dip direction ~N 125 degrees E., dip steeply at ~60 degrees and form a corridor of discontinuous dykes about ~4km in length and ~300m wide. This outcrop is to about 15-20m above the surrounding muskeg/swamp.



This phase of drilling and mineral resource estimation is complete. Feasibility studies are ongoing and the James Bay Project Notice has been submitted to both the Federal Government of Canada and the Quebec Government for determination.

#### ENDS

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#### About Galaxy (ASX: GXY)

Galaxy Resources Limited ("Galaxy") is an international S&P / ASX 200 Index company with lithium production facilities, hard rock mines and brine assets in Australia, Canada and Argentina. It wholly owns and operates the Mt Cattlin mine in Ravensthorpe Western Australia, which is currently producing spodumene and tantalum concentrate, and the James Bay lithium pegmatite project in Quebec, Canada.

Galaxy is advancing plans to develop the Sal de Vida lithium and potash brine project in Argentina situated in the lithium triangle (where Chile, Argentina and Bolivia meet), which is currently the source of 60% of global lithium production. Sal de Vida has excellent potential as a low-cost brine-based lithium carbonate production facility.

Lithium compounds are used in the manufacture of ceramics, glass, and consumer electronics and are an essential cathode material for long life lithium-ion batteries used in hybrid and electric vehicles, as well as mass energy storage systems. Galaxy is bullish about the global lithium demand outlook and is aiming to become a major producer of lithium products.

#### **Competent Persons Statement**

Information included in this announcement that relates to exploration results is based on and fairly represents information and supporting documentation prepared and compiled by Albert Thamm M.Sc. F.Aus.IMM (CP), who is a Corporate Member of the Australasian Institute of Mining and Metallurgy. Mr. Thamm is an employee of Galaxy Resources Limited. Mr. Thamm 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 2012 Edition of the Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves. Mr. Thamm consents to the inclusion in the announcement of the matters based on this information in the form and context in which it appears.

The information in this report that relates to 2017 Mineral Resources at the James Bay Project is based on work completed by Dominic Chartier P.Geo. and Sebastien Bernier, P. Geo, who are a Members of the Ordre des Geologues du Quebec, a Recognised Overseas Professional Organisation. Mr. Chartier and Mr. Bernier are employees of SRK Canada Limited, and have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Persons as defined in the 2012 edition of the 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Chartier and Mr. Bernier consent to the inclusion in the report of the matters based on this information in the form and context it appears to comply with JORC Code 2012. The information related to the recoverable mineral resource was compiled by Mr.



Gabor Bacsfulasi, M.Aus.IMM, who is a Corporate Member of the Australasian Institute of Mining and Metallurgy. Mr. Bacsfulasi is an employee of SRK Canada Limited 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 2012 Edition of the Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves. Mr. Bacsfulasi consents to the inclusion in the announcement of the matters based on this information in the form and context in which it appears.

#### Caution Regarding Forward-Looking Information

This document contains forward-looking statements concerning Galaxy.

Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward-looking statements because of a variety of risks, uncertainties and other factors. Forward-looking statements are inherently subject to business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes.

Forward looking statements in this document are based on Galaxy's beliefs, opinions and estimates of Galaxy as of the dates the forwardlooking statements are made, and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.

#### Not For Release in the US

This announcement has been prepared for publication in Australia and may not be released in the United States of America. This announcement does not constitute an offer of securities for sale in any jurisdiction, including the United States, and any securities described in this announcement may not be offered or sold in the United States absent registration or an exemption from registration under the United States Securities Act of 1933, as amended. Any public offering of securities to be made in the United States will be made by means of a prospectus that may be obtained from the issuer and that will contain detailed information about the company and management, as well as financial statements.

# JAMES BAY LITHIUM PROJECT, QUEBEC, CANADA.

#### **Section 1 Sampling Techniques and Data**

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> </ul>	<ul> <li>Diamond core, sawn ½ core. Chibourgamau Diamond Drilling Ltd.</li> <li>Sample length selected to match geological intervals and contacts to a maximum of 1.50m in length.</li> </ul>



Criteria	JORC Code explanation	Commentary
Drilling techniques	• Drill type	Diamond drilling, NW casing, NQ core, orientated.
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>Core recovery assessed vs drillers mark up.</li> <li>Samples are considered representative.</li> <li>Samples are selected on visual mineralogy.</li> <li>Half diamond core is produced for assay thus no loss or gain of fine material as in RC or RAB.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Logged geologically and geotechnically, with emphasis on pegmatite mineralogy.</li> <li>All core is photographed; logging is qualitative in nature and all core is logged.</li> </ul>



Criteria	JORC Code explanation	Commentary
Criteria Sub- sampling techniques and sample preparation	<ul> <li>JORC Code explanation</li> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Commentary</li> <li>Sawn ½ NQ core.</li> <li>All pegmatites are sampled.</li> <li>Sample types are consistent with prior sampling and drilling campaigns.</li> <li>Sampling demonstrated to be representative in prior sampling campaigns at NQ size.</li> <li>Sample size is appropriate given the grain size of the mineralogy sampled.</li> </ul>



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 (ie lack of bias) and precision have been established.

- Weigh, crush and pulverise at ALS Canada. Processed at ALS Val d'Or located at 1324 Rue Turcotte, Val d'Or, QC, Canada.
- Methods CRU-31,CRU-QC,LOG-21,SPL-21,WEI-21.
- Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.
- Methods Li-OG63,ME-OG620,PUL-31,PUL-QC.
- Four acid digest method OC62o.
- Analysis for lithium ore grade method Li-OC63. Li lower detection limit 0.005 % upper limit 10%, Std. tolerance 3.5%.
- This method is suitable for analyzing lithium in geological samples. A ~0.4g sample is first digested with HCIO4, HF, and HNO3 until dryness. The residue is subsequently redigested in concentrated HCI, cooled and topped up to volume. The samples are analyzed for Li by ICPAES spectroscopy.
- Method ICP\_AES. Technique is total.
- Assayed at ALS Vancouver after sample preparation.
- Standards show acceptable levels of accuracy and precision.



Date Interval: 13-Jun-2017 to 13-Sep-2017



ST	ATISTICS	All Dat	а	LIGALA	Data
			Mean	1.0634	1.0641
			Media	<b>n</b> 1.065	1.065
			SD	0.0192	0.0196
			%RSD	1.8055	1.8419
			Max	1.105	1.105
			Min	1.025	1.025
	# D	atapoints	159	111	
			•		
		Duplic Method: Li-OG63	ates Report Char Analyte: Li Preci	t sion: +/- 5%	
	3.0				
	2.5 -			1	
(%)	2.0 -				
al-Li	1.5 -		and		
Origin	1.0	ALL ALL ALL	-		
		and the second second			
	0.0	0.5 1.0	1.5	2.0 2.	5 3.0
		Du	plicate - Li (%)		
			+ All Data		



Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>External audit of assay precision and accuracy.</li> <li>Existing mineral resource and data stored as Maptek/Vulcan TM files with supporting spreadsheets.</li> <li>Primary data logged on paper, assay reconciled from csv.</li> <li>QA/QC data reported ex lab QA/QC compilation.</li> <li>No adjustments to assay data. Assay in Li reported to Li2O.</li> <li>External audit trail login to ALS assay reporting system.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Hand held GPS collars, re-surveyed at end of program.</li> <li>Down Hole survey, Reflex downhole system.</li> <li>Reported NAD 83, Zone 18N.</li> <li>Regional state DEM available to control surface topography and survey.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Data spacing is irregular but designed to infill between and extend at depth extant mineral resource drilling.</li> <li>The data spacing is sufficient to establish both geological and grade continuity.</li> <li>Samples are not reported as composites, rather as reported.</li> <li>Downhole survey has occurred every 3m downhole.</li> </ul>



Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>Orientation of sampling, once corrected for dip, achieves unbiased sampling.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Detail audit trail available from ALS Canada. From dispatch, receipt through process to results.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>Galaxy has reviewed the mineral resource estimated by SRK Consulting (Canada) Inc.</li> <li>A 2<sup>nd</sup> CP/QP has audited laboratory QA/QC standards for accuracy and precision.</li> <li>Umpire assay review by SGS Canada.</li> </ul>



# **Section 2 Reporting of Exploration Results**

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>This project is in the west-central part of Township No. 2312 in North-western Quebec. It is 2 kilometers south of the Eastmain River and 100 kilometers east of James Bay. The property is readily accessible by paved road as the regional highway cuts through the property close to road marker kilometer 381, which is 381km from the town of Mattagami where there is an airport and mining related infrastructure.</li> <li>Galaxy Lithium Canada (Inc) 20%, Galaxy Lithium Ontario (Inc) 80%. (50 claims). Galaxy Lithium Canada (Inc) 100%. (4 claims).</li> <li>The Quebec State government Mining and cadastre online website indicates the site is free of major and minor environmental impediments.</li> <li>Detail tenement and claims list has been reported in the GXY June 2017 Quarterly report and all tenements are in good order.</li> </ul>



Criteria	JORC Code explanation	Commentary
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	• The claims were first staked in 1966 by Mr. J. Cyr and were optioned by SDBJ in 1974, who after conducting some exploration on the property, returned it to Mr. Cyr. Prior to this, Mr. Cyr first discovered spodumene pegmatite outcrops on the property in 1964. There had been little modern exploration conducted on the property, until prior operator Lithium One started drilling in 2008, Significant trenching and drilling had been completed in the late 1970's.
		• The Company's drilling in 2008 and 2009 confirmed the presence of wide pegmatite intersections, numerous swarms over several hundred meters of lateral extent, and about 2km in strike length to a depth of 100 to 150 meters.
		• Three diamond drill holes, for a total of 383m, were completed on the property in 1977 and these confirmed the presence of spodumene mineralization to a depth of approximately 100 meters.
		<ul> <li>Lithium One drilled the property in 2008-2009 resulting in a classified NI43-101 mineral resource.</li> </ul>
		<ul> <li>Lithium One also undertook ~700m of channel samples in 2009.</li> </ul>
		<ul> <li>Between 2008 and 2010 Lithium One completed 102 diamond core boreholes to delineate 31 pegmatite dykes.</li> </ul>



Criteria	JORC Code explanation	Commentary
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	The James Bay Lithium Project lies in the north-eastern part of the Superior geological province, within the Eastmain greenstone belt (Lower Eastmain Group) which consists of amphibolite-grade mafic to felsic metavolcanics, meta-sediments and minor gabbroic intrusions. On the property metavolcanics of the Komo formation occur north of the pegmatite intrusions. The Auclair formation consists mainly of para-gneisses probably of sedimentary origin, which surround the pegmatites from the north-west to the south-eastern extremities. The greenstones are surrounded by migmatites and gneiss of Archean Age.
		<ul> <li>The individual pegmatite bodies are mostly irregular dykes or lenses attaining up to 150 meters in width and over 100 meters in length. These cross-cut at a high angle to the local foliation and presumed bedding of the intruded rocks. The pegmatites are generally perpendicular to the trend of the corridor; they form small hills reaching up to 30 meters above the surrounding swamps/muskeg. The mineralization belongs to the rare-element class LCT (Li-Cs-Ta) family and the albite-spodumene type. In the case of the Cyr-Lithium deposit, spodumene-bearing pegmatites are likely the most differentiated dykes distant from the cogenetic Kapiwak Pluton intrusion located farther south</li> <li>In September 2008, Lithium One completed an 18-hole diamond drill program, with drill holes spaced at 100 meters apart, which totaled 1,096m. In 2009 a further 84 drill holes at 50-65m spacing was completed for 12,380m.</li> </ul>



Criteria	JORC Code explanation	Commentary
Drill hole Information	<ul> <li>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: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	<ul> <li>Drill hole collars provided in the diagram above.</li> <li>No collar information has been excluded.</li> <li>No new drilling information in this release.</li> <li>The mineral resource has been updated by 157 infill drill holes for 33,339m.</li> </ul>



Criteria	JORC Code explanation	Commentary
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>No metal equivalents are used.</li> <li>Assays reported are down hole.</li> <li>Assays were reported ex ALS as Li (ppm), standard oxide conversion to Li2O percent.</li> <li>Continuous result of the interval quoted, downhole.</li> <li>Data is aggregated down hole length.</li> <li>Composites for mineral resource estimation are 1.5m in length.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	<ul> <li>Generally drilling is normal to strike, however the intercept orientation in relation to each pegmatite is yet not determined. Drilling results were reported are down hole.</li> </ul>



Criteria	JORC Code explanation	Commentary
Diagrams	<ul> <li>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.</li> </ul>	<ul> <li>Diagrams are included in the text above.</li> <li>Collar locations mapped in text above.</li> </ul>
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 complete results at hand are reported.



Criteria	JORC Code explanation	Commentary
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.	<ul> <li>A maiden Mineral Resource was declared in 2010. This was estimated by ordinary kriging at 11.75 MI (Indicated) @ 1.3% Li20 and 10.47 MI (Inferred) @1.2% Li20 at a cutoff grade of 0.75% Li20.</li> <li>This was declared as a recoverable mineral resource within a Whittle 4X optimisation informed by USD 60001 Lithium Carbonate price, 45-degree pit slope angle and 70% process recovery.</li> <li>The 'reasonable prospects for economic extraction' requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade considering extraction scenarios and processing recoveries. To meet this requirement, consideration was made that major portions of the project are amenable for open pit extraction.</li> <li>To determine the quantities of material offering 'reasonable prospects for economic extraction' by an open pit, a pit optimizer and reasonable mining assumptions to evaluate the proportions of the block model (Indicated and Inferred blocks) that could be 'reasonably expected' to be mined from an open pit was modeled. The optimization parameters were selected based on experience and benchmarking against similar spodumene projects. The reader is cautioned that the results from the pit optimization are used solely for testing the 'reasonable prospects fore conomic extraction' by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the James Bay Lithium Project. The results are used as a guide to assist in the preparation of a mineral resource reporting cut-off grade.</li> <li>Assumptions Considered for Conceptual Open Pit see Table 3 above.</li> </ul>



Criteria	JORC Code explanation	Commentary
Further work	• The nature and scale of planned further work. Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	<ul> <li>This drilling campaign, and mineral resource re-estimate will inform a FS level study.</li> <li>Diagrams included in text above.</li> <li>Metallurgical test work is ongoing.</li> <li>Baseline scientific work to support EIA commenced and ongoing.</li> <li>Sterilization, metallurgical and geotechnical drilling has commenced in Q4, 2017.</li> </ul>

# **Section 3 Estimation and Reporting of Mineral Resources**

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

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>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.</li> <li>Data validation procedures used.</li> </ul>	A database of drilling, collars, assay, geology and Mineralisation was supplied to SRK Canada by Galaxy Lithium Canada staff. A second CP has audited the database. These include 102 drill holes drilled in 2008 (13,475m) in18 holes and 46 channel samples. In addition, 157 drill holes for 33,339 meters were completed in 2017.
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	The site visit to James Bay Project was completed by Sebastien Bernier, P. Geo, who is a Member of the Ordre des Geologues du Quebec, a Recognised Overseas Professional Organisation and an employee of SRK Consulting (Canada) Inc.



Criteria	JORC Code explanation	Commentary
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	Geology was modelled in Leapfrog ™ (v.4.0.1) using implicit modelling techniques into eighteen pegmatite solids. These bodies were modelled from logged geology.
	<ul> <li>Nature of the data used and of any assumptions made.</li> </ul>	Geology is the controlling factor in guiding mineral resource estimation
	<ul> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> </ul>	Geological continuity is tested directly by drilling, assay and geological observation and logging.
	<ul> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> </ul>	
	• The factors affecting continuity both of grade and geology.	
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.	<ul> <li>In toto pegmatites outcrop for over 4000m, of which approximately 1,800m is incorporated into the mineral resource. Drilling extends to a maximum of -335m below surface. These pegmatites are up to 60m in width and over 200m in length.</li> </ul>



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.	<ul> <li>The evaluation of mineral resources involved: database compilation and verification; construction of 3d wireframes; definition of mineral resource domains; compositing, capping, statistical analysis; block modelling and grade estimation; validation, classification and tabulation.</li> <li>No assay capping used in composting, 1.5m length composites used. From the 8624 samples used, 7954 composites were used in the estimate. Block model dimensions were 10 x 3 x10 m. Experimental variograms were developed for 18pegmatite domains.</li> </ul>
	• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	Estimation was by Ordinary Kriging, in four passes. For passes 1-4, 4,7,7 and 2 minimum composites were required, and 8,10,14,16 maximum composites respectively, by octant search. SMU not modelled.
	The assumptions made regarding recovery of by-products.     Setting tion of	Geological interpretation using Leapfrog ™ used to hard boundary the
	<ul> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> </ul>	estimate domains. Block model validation and check estimates by comparing basic statistics of OK estimates with both nearest neighbor and inverse distance estimates.
	<ul> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> </ul>	There are no by-products. No reconciliation data available, the project has not Reached extraction stage.
	<ul> <li>Any assumptions behind modelling of selective mining units.</li> </ul>	
	<ul> <li>Any assumptions about correlation between variables.</li> </ul>	
	• Description of how the geological interpretation was used to control the mineral resource estimates.	
	<ul> <li>Discussion of basis for using or not using grade cutting or</li> </ul>	



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Criteria	JORC Code explanation	Commentary
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• With natural moisture.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>Based as is industry practice to deliver a conceptual head grade suitable for metallurgical processing to Produce a 5-6% Li2O concentrate.</li> <li>Supported by previous and current metallurgical test work at Nagrom. Perth, WA.</li> </ul>
Mining factors or assumptions	<ul> <li>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.</li> </ul>	Refer to Table 3 in text above.



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.	Refer to Table 3 in text above
Environmental factors or assumptions	<ul> <li>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.</li> </ul>	A formal public project intent notice has been submitted by WSP Canada to the Federal Government of Canada and the Government of Quebec. Formal recommendations have yet to be received.



Criteria	JORC Code explanation	Commentary
Bulk density	<ul> <li>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.</li> <li>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.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>Bulk density determined by pycnometry. Mean of 92</li> <li>Determinations, mean of 2.75.</li> <li>Previous work averaged sg of 2.75 determined.</li> <li>Sample density measured at ALS Val'd Or, method OA-GRA08 by sample, on receipt.</li> <li>The rock or core section (up to 6 kg) is weighed dry for method OA-GRA08 or is covered in a paraffin wax coating the case of OA-GRA08a and weighed.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>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).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>The mineral resource classification was to the CIM Definition Standards for Mineral Resources and Mineral Reserves by the CP's stated above. Most pegmatite dykes have been sampled by a sufficient number of drill holes to model the spatial variability of lithium oxide.</li> <li>The result reflects the CP view of the deposit, in writing.</li> </ul>



Criteria	JORC Code explanation	Commentary
Audits or reviews	The results of any audits or reviews of Mineral Rresource estimates.	<ul> <li>Peer reviewed internally by SRK Principal, Mineral resource</li> <li>Geology, Glen Cole, P.Geo.</li> <li>Further density test work at Nagrom Perth.</li> </ul>



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Discussion of relative accuracy/ confidence         Where appropriate statement of the relative accuracy and confidence         The "reasonable prospects for economic extraction" requirement thresholds and that the mineral resources are reported at an ap thresholds and that the mineral resources are reported at an ap thresholds and that the mineral resources are reported at an ap thresholds and that the mineral resources are reported at an ap thresholds and that the mineral resources are reported at an ap thresholds and that the mineral resources are reported at an ap thresholds and that the mineral resources are reported at an ap thresholds and that the mineral resources are reported at an ap thresholds and that the mineral resources are reported at an ap thresholds and that the mineral resources are reported at an ap thresholds and that the mineral resources are reported at an ap three conomic extraction" by an open pit extraction. To determine the quantities of material offering "reasonable pros- procedure depropriate by the Competent Parson. For example, the appropriate by the Competent Parson. For example, the appropriate by the Competent Parson. For example, the appropriate and on tepresent and the pit optimization are used sole and pend pit and do not represent an attempt to estimate mineral messures within The results are used as a guide to assist in the preparation of a mineral resource statement and to select an appropriate mineral resource within stated confidence limits, or, if such an approach is not deerned appropriate, and, if local, state the relevant tomages, which should be relevant to technical and economic evaluation. Documentation should include assumptions	tt generally omic propriate sssing the spects er and he adder is ely for the action" by I reserves. ct. Il resource tion.



Criteria JC	ORC Code explanation	Commentary
	used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	