Geophysical Survey Outlines Large Gravity Anomaly at Mt Day

Lefroy Exploration Limited (ASX: LEX) ("Lefroy" or "the Company") is pleased to update shareholders on the results from an initial interpretation of geophysical data at its Lake Johnston Project (Project), 120km west of Norseman, Western Australia. The project spans approximately 300km^2 and covers the northern portion of the Lake Johnston greenstone belt which hosts the Emily Ann and Maggie Hayes nickel deposits held by Poseidon Nickel Limited (ASX: POS) ("Poseidon"). Mt Day is located approximately 6km north of Emily Ann.

- **A ground gravity survey was completed in November 2018 to compliment a survey undertaken by Norilsk Nickel Australia ("Norilsk") in 2008 near Emily Ann**
- **Processing of the combined data highlights a large, ovoid-shaped gravity high at Mt Day, which indicates the presence of a dense body of rock to the north of Emily Ann**
- **The gravity high is interpreted to represent a buried mafic magmatic intrusion**
- **Mafic Intrusions are prospective for, and potential hosts of, large basal accumulations of Ni-Cu sulphide mineralisation**
- **The prospectivity of the Mt Day intrusion is enhanced due to its proximity to the Emily Ann Ni deposit and the recent discovery of the Abi Rose Ni prospect by Poseidon Nickel Limited**
- **The Ni mineralisation at Abi Rose is associated with pyroxenitic intrusive rocks, interpreted as a magmatic Ni-Cu type emplacement model**
- **Further detailed processing of the geophysical data is underway to determine target areas for follow up exploration, which may include ground EM**

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Lake Johnston Background

The Lake Johnston Project is located 120km west of Norseman in Western Australia and comprises two granted exploration licenses (E63/1722 & 1723) held under title by Lefroy and one granted exploration license (E63/1777) held by Lithium Australia NL (ASX:LIT). These holdings form a cohesive package in excess of 300km^2 over the Lake Johnston Greenstone Belt (Figure 1). Lefroy holds the Gold and Nickel rights, that includes all other precious and base metals not associated with pegmatites on the package under a Tenement Rights Agreement executed with LIT in 2016.

The Project is considered prospective for both gold and nickel, with the tenement package covering the northern strike extension to the Maggie Hayes and Emily Ann nickel mines held by Poseidon Nickel Limited ("Poseidon"). Lake Johnston was host to the Emily Ann Mine which averaged a resource grade of 4.1% Nickel and produced 46,000tonnes of nickel (refer Poseidon ASX release 26 September 2018).

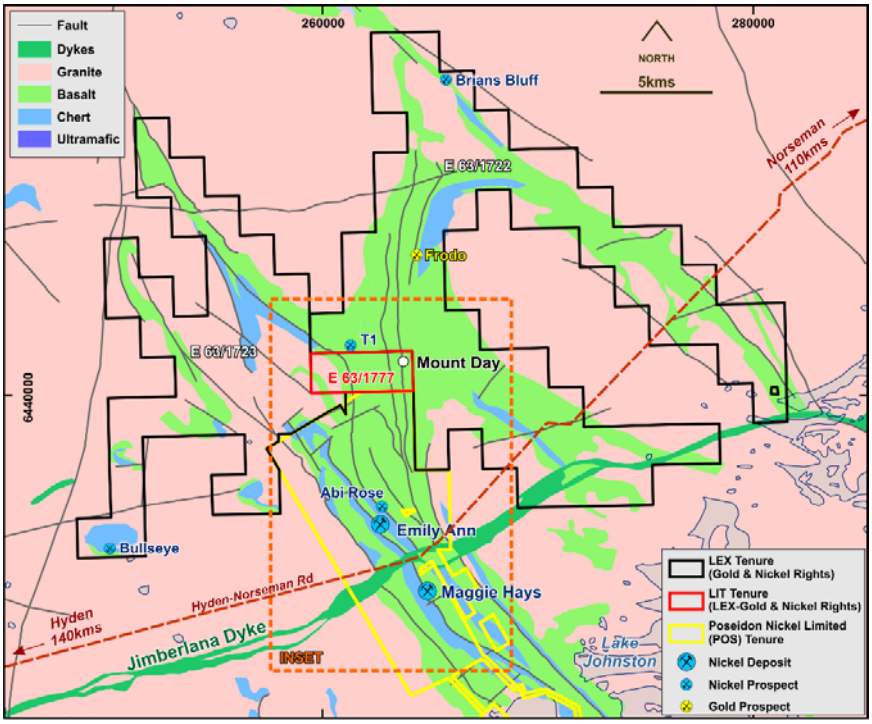

Figure 1 Lake Johnston tenement package over interpreted geology and location relative to the Emily Ann and Maggie Hayes Ni deposits (refer Figures 2 & 3 for inset)

Poseidon recently announced (ASX: 21 November 2018) the completion of three deep diamond drill holes targeting a new Ni sulphide prospect known at Abi Rose located approximately 400m to the north of Emily Ann. Abi Rose is located approximately 5km south of the Company's tenement boundary and interpreted (refer Poseidon ASX release 21 November 2018) by Poseidon as a magmatic Ni-Cu type emplacement model (mafic or ultramafic Intrusion related).

The three recent diamond drill holes at Abi Rose intersected massive nickel-copper bearing sulphides associated with pyroxenitic intrusive rocks. The drilling was following up the discovery drill holes completed in 2016 that included a 10.48m wide zone of mineralisation from 432m grading 3.20% Ni, including 5.72m at 4.66% Ni and 1.29m at 10.22% Ni in hole PLJD0002 (refer Poseidon ASX release 21 March 2016).

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Poseidon's most recent interpretation suggests that the Ni mineralisation at Abi Rose and Emily Ann is interpreted to be fed from a deeper magmatic source to the north. This model may also explain most other pyroxenite hosted Ni sulphide intersections that occur to the north of Abi Rose, at prospects such as Billy Ray, Speilers, and Vision.

Lefroy Exploration Program

Lefroy initiated exploration at the Lake Johnston Project in November 2016, completing a detailed aeromagnetic survey cover area interpreted to host ultramafic rocks that may be prospective for nickel sulphides, and to complement the existing detailed aeromagnetic data. The principal area flown was to the north of Emily Ann, centered on a topographic feature known as Mt Day located within E63/1777.

In October 2018 the Company completed a ground gravity survey in a portion of its project immediately north of Abi Rose, and centered around Mt Day. The survey was completed to infill and extend a gravity survey completed by Norilsk Nickel Australia (Norilsk) in 2008, which extended on to the current Lefroy tenement holding. The recent survey was completed by Haines Survey and comprised collection of 847stations in 36 lines with lines spaced at 200m and sample points at 100m. This survey complemented and adjoined the earlier Norilsk survey (refer Figure 2).

Research by the Company of annual technical reports submitted to the WA Mines Department (now open file) by Norilsk during the period 2008-2010 note that the Norilsk survey outlined a gravity anomaly (high amplitude) to the north of Emily Ann. This was interpreted as a high-density response indicative of a layered intrusion. This interpretation is supported by earlier open file reports (WAMEX A79561)) by Norilsk that document intersecting gabbro-norite and pyroxenite (mafic intrusive rocks) in diamond drill holes (hole 08NLJD0118) at the Billy Ray prospect to the north of Emily Ann.

In late 2018 the Company integrated and merged the 2018 gravity survey with the Norilsk data set. The preliminary interpretation of the processed data and imagery was completed independently by two geophysical consultants complemented by supporting interpretation by the Company (refer Figure 3).

The gravity data defines a large ovoid shaped gravity high (the Anomaly) to the north of the Emily Ann mine and centered about Mt Day (Figure 3). The anomaly is interpreted to represent a thickened body of greenstone wedged between granite domes, or given its irregular ovoid shape a large mafic intrusion that intrudes the older greenstone stratigraphy, but which is not exposed at surface. The shape of the gravity anomaly is in contrast to the aeromagnetic imagery which fails to delineate features that are typically associated with the presence of greenstone, further supporting the interpretation of a large mafic intrusion.

The mafic intrusion model for the gravity anomaly at Mt Day supports and complements the interpretation made by Poseidon for the narrow, dyke like, pyroxenite-hosted, high grade Ni mineralisation at Abi Rose. In addition, the narrow Ni sulphide mineralisation hosted in gabbroic and pyroxenitic rocks at Spielers, Billy Ray and Listners Luck may also represent a distal signature of a larger intrusion to the north.

Mafic Intrusions can be large hosts for Ni-Cu sulphide mineralisation that occur as basal accumulations in embayments on or near the basal margins of the intrusion. The Mt Day area has had little if any drilling that has focused on a magmatic intrusion model and remains unexplored.

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Next Steps

Further detailed modelling of the gravity and magnetic data is underway and is being undertaken by Newexco Services. Newexco has supported the Poseidon team with the targeting and discovery of Abi Rose and is also credited with geophysical support for the discovery of the Nova Ni mine.

The key element in the next stage of exploration activity at Mt Day is to model the basal margin of the intrusion and then to plan a deep penetrating ground EM survey to seek conductors that may represent accumulations of Ni -Cu sulphide mineralisation.

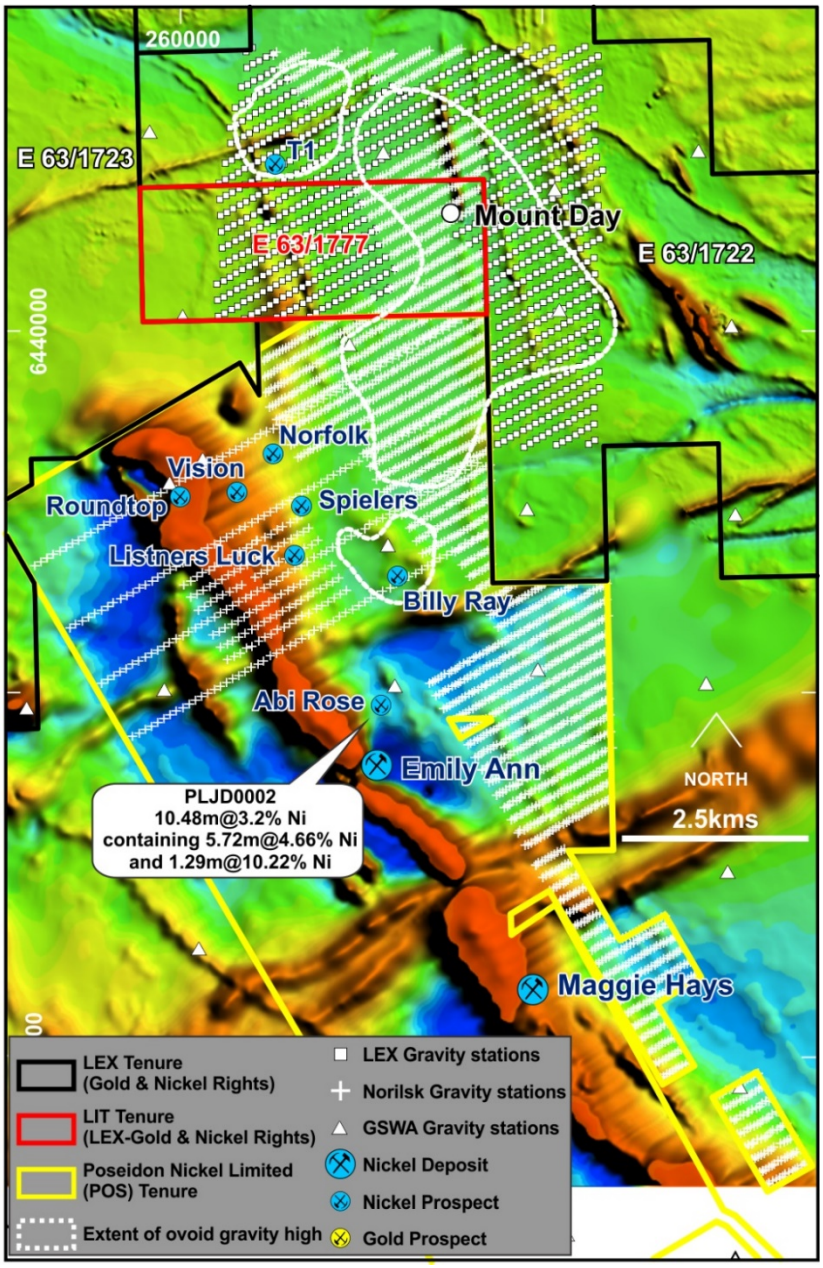

Figure 2 Location of the gravity survey points completed by LEX relative to the earlier gravity survey by Norilsk, Emily Ann Mine and the Abi Rose discovery. Back drop is aeromagnetic image: warm colours represent strongly magnetic units.

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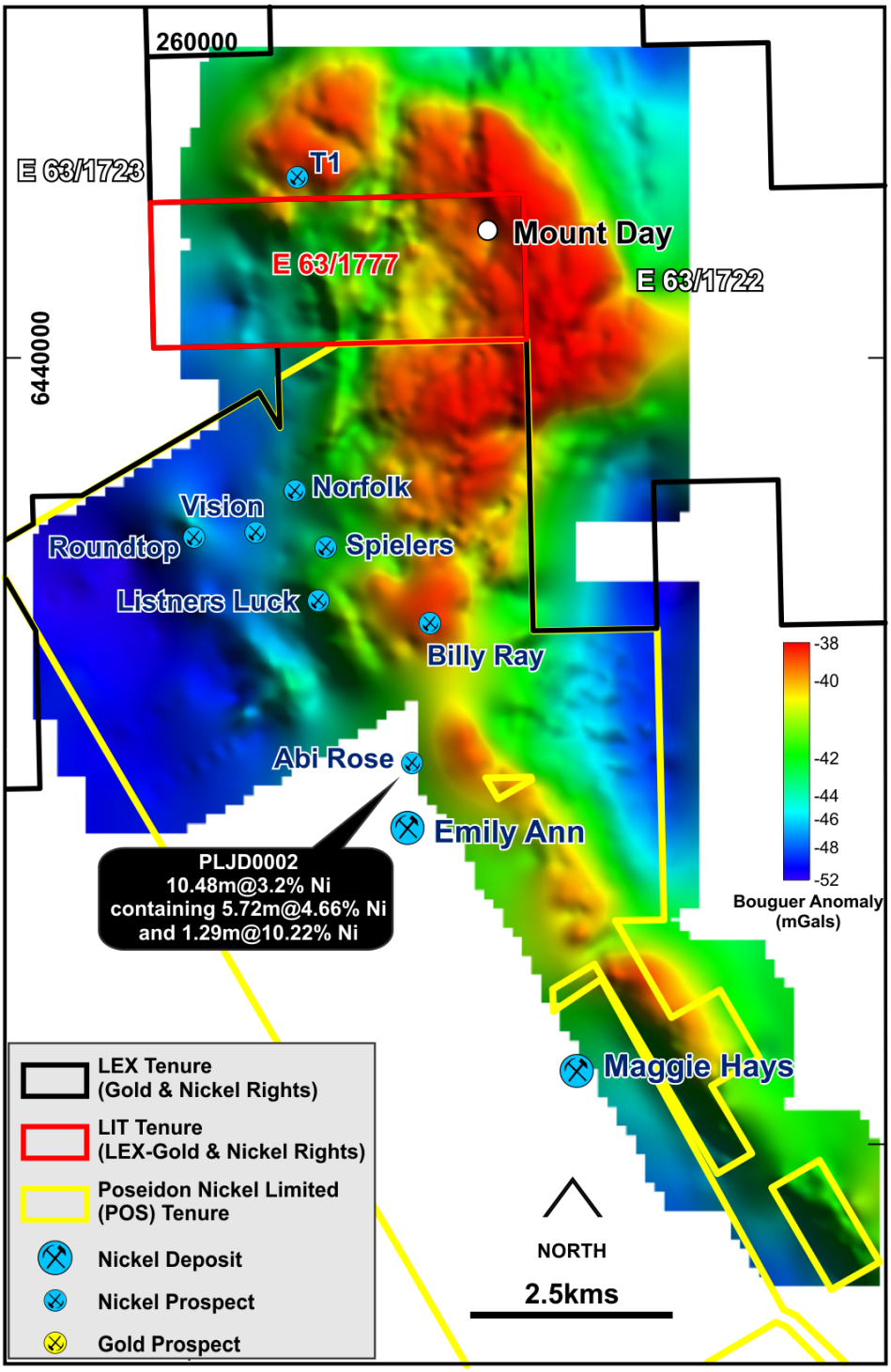

Figure 3 Image of Bouguer Gravity derived from processed Lefroy and Norilsk gravity survey data. Warm colours represent dense rocks. The large ovoid shaped bodies are easily discernable at Mt Day

Lefroy Exploration

About Lefroy Exploration Limited

Lefroy Exploration Limited is a WA based and focused explorer taking a disciplined methodical and conceptual approach in the search for high value gold deposits in the Yilgarn Block of Western Australia. Key projects include the flagship Lefroy Gold Project to the south east of Kalgoorlie and the Lake Johnston Project 120km to the west of Norseman.

The 100% owned Lefroy Gold Project contains mainly granted tenure and covers 598km^2 in the heart of the world class gold production area between Kalgoorlie and Norseman. The Project is near Gold Fields' St Ives gold camp, which contains the Invincible gold mine located in Lake Lefroy and is also immediately south of Silver Lake Resources' (ASX:SLR) Daisy Milano gold mining operation. The Project is divided into the Western Lefroy package, subject to a Farm-In Agreement with Gold Fields and the Eastern Lefroy package (100% Lefroy owned). The Farm-In Agreement with Gold Fields over the Western Lefroy tenement package commenced on 7 June 2018. Gold Fields can earn up to a 70% interest in the package by spending up to a total of $25million on exploration activities within 6 years of the commencement date.

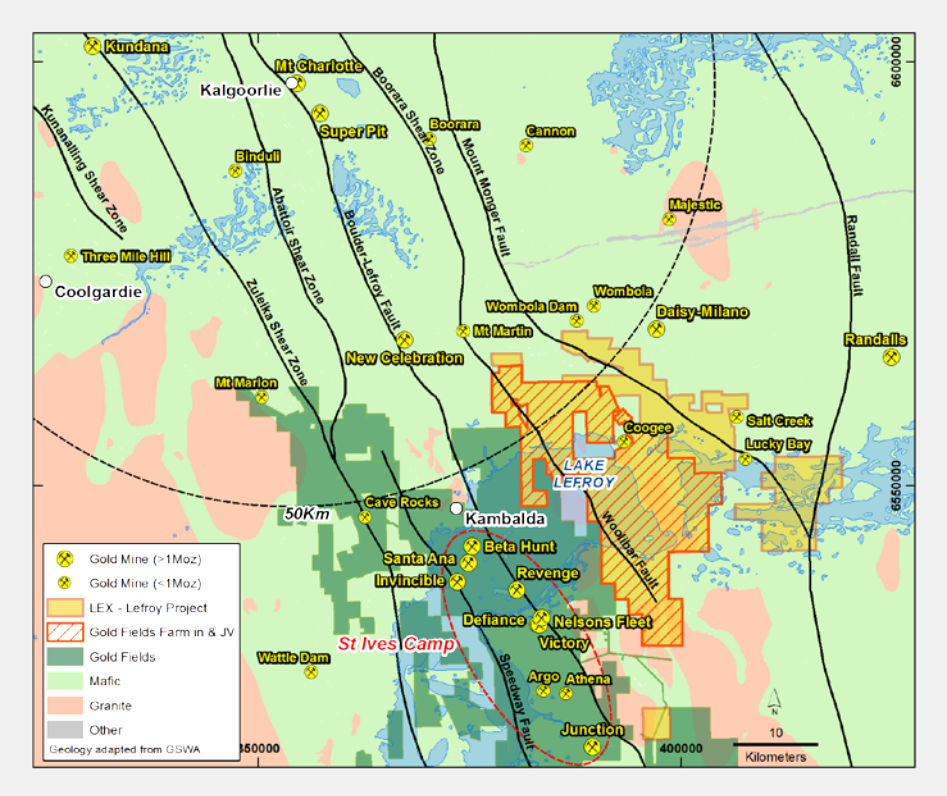

Figure 3 Location of the Lefroy Gold Project relative to Kalgoorlie and the Western Lefroy tenement package subject to the Gold Fields joint venture.

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Notes Specific-ASX Announcements

The following announcements were lodged with the ASX and further details (including supporting JORC Reporting Tables) for each of the sections noted in this Announcement can be found in the following releases. Note that these announcements are not the only announcements released to the ASX by the Company but specific to Lake Johnston.

- Exploration Update 23 December 2016
- September 2018 Quarterly Report: 29 October 2018
- 2018 AGM Presentation: 3 December 2018

The information in this announcement that relates to exploration targets and exploration results is based on information compiled by Wade Johnson a competent person who is a member of the Australian Institute of Geoscientists (AIG). Wade Johnson is employed by Lefroy Exploration Limited. Wade has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the JORC Code. Wade Johnson consents to the inclusion in this announcement of the matters based on his work in the form and context in which it appears.

JORC CODE, 2012 Edition-Table 1 Report – Lake Johnston Project-Mt Day Gravity Survey January 2019

SECTION 1: SAMPLING TECHNIQUES AND DATA

Criteria	JORC Code Explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• No drilling undertaken
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).*	• No drilling undertaken
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• No drilling undertaken
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.*	• No drilling undertaken
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.*	No drilling undertaken
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.*	• No drilling undertaken

Criteria	JORC Code Explanation	Commentary
	• *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	
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.*	• No drilling undertaken
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.*	• No drilling undertaken • Gravity survey stations observed using GDA94datum • Grid set out using real time kinematic GPS accuracy with 5cm vertical and horizontal accuracy. • Trig stations and heights of benchmarks in close proximity used to establish control.
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.*	• No drilling undertaken
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	No drilling undertaken
Sample security	• *The measures taken to ensure sample security.*	N No drilling undertaken
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	No drilling undertaken

Section 2: REPORTING OF EXPLORATION RESULTS – Lake Johnston Project-Mt Day Gravity Survey January 2019

Criteria	JORC Code Explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Lake Johnston Project is located approximately 120km west of Norseman, Western Australia and consists of a contiguous package of 3 tenements. • The tenements are current and in good standing with the Department of Mines and Petroleum (DMP) of Western Australia. • The gravity survey was completed on tenements E63/1722 held by Lefroy Exploration Limited (LEX). And E63/1777 held by Lithium Australia (LIT) Limited. LEX and LIT completed a mineral rights agreement on 18 October 2016. LEX acquired the Gold and Nickel rights (and associated precious and base metals) to E63/1777 and LIT acquired the Lithium and associated pegmatite minerals on E63/1722 and E63/1723 held by LEX. • Full tenement details are listed in the Independent Solicitors Report attached to the Lefroy Exploration Limited Prospectus dated September 2016
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• A Prior gravity survey was completed in part of tenements E63/1722 and E63/1777 by Norilsk Nickel Australia in 2008 and 2009. This is documented and data available from WA Mines Department open file WAMEX reports A84517, A82462, A84193 and A84194 • The extent and distribution of the gravity stations completed by Norilsk are shown on Figure 2 in the body of the report.
Geology	• *Deposit type, geological setting and style of mineralisation.*	The geology of the Lake Johnston Project is well documented in the Independent Geologists report contained within the Lefroy Exploration Limited Prospectus dated 6 September 2016

Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  • *easting and northing of the drill hole collar*
	  • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  • *dip and azimuth of the hole*
	  • *down hole length and interception depth*
	  • *hole length.*
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*
		No drill hole information presented

Criteria	JORC Code Explanation	Commentary
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No drilling completed nor presented
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• No drilling completed nor presented
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.*	• Diagrams are included in the release and are also in the LEX prospectus within the Independent Geologist's Report
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	No drilling completed nor presented
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.*	• Supporting exploration data are included within the announcement and are detailed in the Lefroy Exploration Limited prospectus dated 6 September 2016 within the Independent Geologist's Report.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further work has been noted in the body of the announcement. This will involve further processing of the gravity data and subsequent geophysical interpretation.