

ASX:LEG 27 September 2019 ASX Announcement

## **Rockford Project - Exploration Update**

- Low frequency moving loop electromagnetic survey completed at Area D
   (Final results expected shortly diamond drilling planned October 2019)
- Regional aircore drilling programme ongoing and includes recent result of:
   16m @ 0.12% Ni, 0.02% Cu and 0.03% Co from 74m in RKAC645
- Fixed loop electromagnetic surveys commenced at Area Q and U
- Aeromagnetic survey completed over new Ponton JVA 2019 tenements (Final processed data expected shortly)

Legend Mining Limited (Legend) is pleased to provide an update of exploration activities over its Rockford Project in the Fraser Range of WA (see Figure 1).

Legend Managing Director Mr Mark Wilson said, "As detailed in the body of this announcement the exploration team has been busy in the field over recent months. The highlight activity has been the completion of the low frequency EM survey at Area D. This survey was designed to optimise the modelling of the D5 and other surrounding conductors which will be the focus of the upcoming diamond drilling programme. We expect to announce details of this diamond drilling programme in the first week of October. Meanwhile further EM surveys are active at Areas Q and U to give follow up diamond drill targets along with Shackleton, Worsley and Crean prospects".





Area D: Low Frequency MLTEM Survey (Left) Generator/transmitter set up, (Right) Data Recording Instrumentation



#### **Technical Discussion**

A number of exploration programmes have either just been completed or are ongoing across the Rockford Project (see Figure 1) and are discussed below.

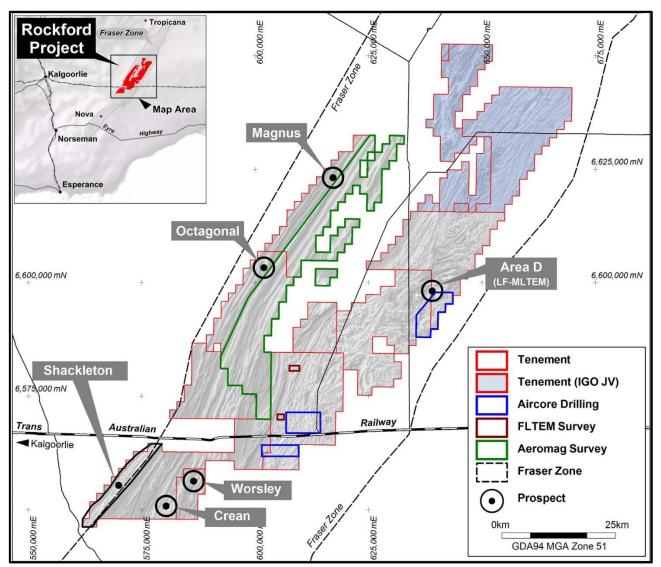


Figure 1: Rockford Project - Exploration Activities

# **Area D - Low Frequency Moving Loop Electromagnetic Survey**

LF-MLTEM surveying aimed at better resolving the previously defined D5 and surrounding conductors at Area D has now been successfully completed (see Figure 1). The survey comprised four 3km lines spaced 200m apart and utilised a 200 amp transmitter with 200m x 200m loops (see Figure 2). A very low frequency of 0.0625Hz was used (compared to conventional survey frequencies of 0.025-0.5 Hz) aimed at providing detailed information on the character and possible source of the conductor.



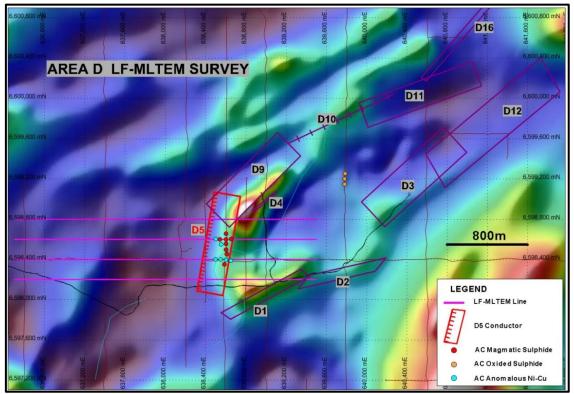


Figure 2: Area D LF-MLTEM Survey Lines over D5 Conductor (Figure shows all MLTEM plates and anomalous aircore drillholes over aeromagnetics)

The D5 conductor was originally identified by MLTEM surveying and occurs near the SW hinge of a NE-SW trending synformal feature. Aircore drilling to the immediate east of D5 increased the prospectivity of the feature with the intersection of magmatic Ni-Cu-Co sulphides in several holes, most notably RKAC183 (14m @ 0.37% Ni, 0.43% Cu, 0.03% Co from 72m –ASX release 9/4/2018).

Geophysical modelling of the survey data is currently being undertaken by Legend's geophysical consultant and will involve the integration of all geological and geochemical data. It is envisaged that a diamond drilling programme to test the newly constrained D5 conductor will be finalised in early October. A diamond drilling rig has been booked for this programme with drilling scheduled to commence in the last half of October.

#### **Regional Aircore Drilling**

Regional aircore drilling continued during August and September with the drilling of a further 69 holes for 5,351m. Assay results for 28 holes have been received with the remaining 41 holes pending. This drilling targeted four Area D "lookalike" aeromagnetic/gravity features located within 10km of Area D and two further targets at Rockford central (see Figure 1).

The drilling over the four Area D "lookalike" features all intersected mafic/ultramafic intrusive host rocks including gabbronorite, gabbro and pyroxenite. The southern feature has a 4.5km x 2.5km oval aeromagnetic signature and returned a best intersection in hole RKAC645 of: 16m @ 0.12% Ni, 0.02% Cu and 0.03% Co from 74m associated with gabbronorite bedrock (see Appendix 1 for drillhole details). Three other holes reported elevated nickel values between 0.05-0.06% Ni also in gabbronorite. A future innovative moving loop electromagnetic (MLTEM) survey may be planned over this aeromagnetic feature aimed at identifying conductive bodies potentially related to massive Ni-Cu sulphide mineralisation.



## Fixed Loop Electromagnetic Surveys - Areas Q & U

Legend has commenced fixed loop electromagnetic (FLTEM) surveying over two previously identified MLTEM conductors at Areas Q and U (see Figure 1). The surveys are designed to better constrain/resolve the conductors and allow accurate modelling in preparation for possible RC/diamond drilling, if warranted. The surveys are expected to take two weeks to complete.

# Aeromagnetic Survey - Ponton JVA 2019 Tenements

A detailed 50m line spaced aeromagnetic survey (505km²) has just been completed over the eastern portion of Ponton JVA 2019 tenements E28/1716 and 1717 (see Figure 1). The survey now provides 100% tenure coverage over Ni-Cu prospective lithologies associated with the Western Stratigraphic Package, which hosts the Octagonal and Magnus prospects on the Ponton JVA ground and the Nova and Silver Knight deposits some 100km to the southwest.

Final processed data is yet to be received, however preliminary images have highlighted a number of aeromagnetic and structural targets warranting follow up with aircore drilling.

## **Moving Loop Electromagnetic Survey - Magnus Prospect**

High power MLTEM surveying over the entire 4.5km x 1.2km aeromagnetic feature at the Magnus prospect is scheduled to commence in early October. The survey is aimed at identifying conductive bodies associated with the large mafic/ultramafic intrusive complex at Magnus and will be used to assist future RC/diamond drillhole design.

**Appendix 1: Aircore Drillhole Details** 

Drillhole	Easting	Northing	RL (m)	Dip	Azimuth	Depth (m)
RKAC183	638602	6598600	202	-90	0	86
RKAC645	637998	6589998	205	-90	0	96

Note:Co-ordinates GDA94 MGA Zone 51

#### Competent Person Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Derek Waterfield, a Member of the Australian Institute of Geoscientists and a full time employee of Legend Mining Limited. Mr Waterfield has sufficient experience that is relevant to the styles of mineralisation and types 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" (JORC Code). Mr Waterfield consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Visit www.legendmining.com.au for further information and announcements.

#### For more information:

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# Appendix 2: Legend Mining Ltd – Rockford Project – Rockford Exploration Programmes JORC Code Edition 2012: Table 1

**Section 1: Sampling Techniques and Data** 

Criteria	JORC Code Explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools	<ul> <li>Aircore drilling was undertaken on traverses with holes initially spaced at 400m, testing aeromagnetic and gravity targets.</li> <li>The residual (non-transported) portion only of each drillhole was originally sampled as 4m composites to the end of hole, with a 1m bottom of hole sample also collected. All samples weighed 2-3kg.</li> <li>QAQC standards and duplicate samples were included routinely (approximately 1 each every 50 samples).</li> <li>Samples were submitted to an independent commercial assay laboratory.</li> <li>Au was analysed by fire assay with an ICP-OES finish. A four acid digest with ICP-MS finish was used for a multielement suite including: Ag, Al, As, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga, Gd, Ge, Hf, Ho, In, K, La, Li, Lu, Mg, Mn, Mo, Na, Nb, Nd, Ni, P, Pb, Pr, Rb, Re, S, Sb, Sc, Se, Sm, Sn,</li> </ul>
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, facesampling bit or other type, whether core is oriented and if so, by what method, etc.).	The aircore drilling technique was used, utilising a 90mm bit and completed by Drillpower.
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> </ul>	<ul> <li>Sample recoveries are visually estimated for each metre by the supervising rig geologist with poor or wet samples recorded in drill and sample log sheets.</li> <li>The sample cyclone is routinely cleaned at the end of each rod (3m) and when deemed necessary.</li> </ul>



Criteria	JORC Code Explanation	Commentary
	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 relationship has been determined between sample recoveries and grade and there is insufficient data to determine if there is a sample bias.
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>Geological logging of all drillholes included; lithology, grainsize, texture, deformation, mineralisation, alteration, veining, colour, weathering.</li> <li>Logging is qualitative and based on 1m intervals. Representative drill chips from the bottom of hole are retained in chip trays.</li> <li>All drillholes were logged in their entirety.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <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>All aircore drill samples were collected using a PVC spear or scoop as 4m composites (2-3kg). Other composites of 2m, 3m and 5m and individual 1m samples were collected where required, i.e. bottom of hole. Both wet and dry samples were collected.</li> <li>The samples are dried and pulverised before analysis.</li> <li>QAQC reference samples and duplicates were routinely submitted with each sample batch.</li> <li>The size of the sample is considered appropriate for the mineralisation style sought and for the analytical technique used.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times,</li> </ul>	<ul> <li>Aircore samples were analysed for Au by 50g fire assay with an ICP-MS finish, and for a multi-element suite by ICP-MS following a four acid digest. These assay methods are considered appropriate.</li> <li>QAQC standards and duplicate samples were included routinely (approximately 1 each every 50 samples). In addition reliance is placed on laboratory procedures and internal laboratory batch standards and blanks.</li> <li>All samples were analysed by Intertek Genalysis Laboratory Services Perth</li> </ul>



Criteria	JORC Code Explanation	Commentary
	calibrations factors applied and	using methods; FA50/OE04 (Au),
	their derivation, etc.	4A/MS48 (multi-elements) and
	Nature of quality control	4A/MS48R (REE extended suite).
	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.	
Verification of sampling	,	Primary data was collected in the field
and assaying	intersections by either	using a set of standard logging templates
, ,	independent or alternative	and entered into a laptop computer. The
	company personnel.	data was forwarded to Legend's
	The use of twinned holes.	database manager for validation and
	Documentation of primary data,	loading into the company's drilling
	data entry procedures, data	database.
	verification, data storage	<ul> <li>No adjustments of assay results have been undertaken.</li> </ul>
	(physical and electronic)	been underlaken.
	protocols.	
	Discuss any adjustment to assay	
	data.	
Location of data points	Accuracy and quality of surveys	Aircore drillhole collars are surveyed with
	used to locate drill holes (collar	a handheld GPS unit with an accuracy of
	and down-hole surveys),	±5m which is considered sufficiently accurate for the purpose of the drillhole.
	trenches, mine workings and other locations used in Mineral	<ul> <li>All co-ordinates are expressed in GDA94</li> </ul>
	Resource estimation.	datum, Zone 51.
	Specification of the grid system	Regional topographic control has an
	used.	accuracy of ±2m based on detailed DTM
	Quality and adequacy of	data.
	topographic control.	
Data spacing and	Data spacing for reporting of	Aircore drilling was initially at 400m
distribution	Exploration Results.	spacing with infill to 200m and 50m, as
	Whether the data spacing and	deemed necessary by rig geologist.
	distribution is sufficient to	Drillholes are sampled in the residual
	establish the degree of	portion of the profile only as 4m
	geological and grade continuity	composites on a routine basis or as 2m,
	appropriate for the Mineral	3m and 5m composites at the end of holes as required. Where anomalous
	Resource and Ore Reserve	values are returned, 1m samples may be
	estimation procedure(s) and classifications applied.	submitted for assay.
	Whether sample compositing has been applied.	
Orientation of data in	Whether the orientation of	The orientation of the aircore drill
relation to geological	sampling achieves unbiased	traverses and broad spacing of the
structure	sampling of possible structures	individual drillholes is considered to
	and the extent to which this is	achieve unbiased sampling.
	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	



Criteria	JORC Code Explanation	Commentary
	should be assessed and reported if material.	
Sample security	The measures taken to ensure sample security.	Individual calico sample bags were placed in polyweave bags and delivered directly to the assay laboratory prep facility in Kalgoorlie by company personnel.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Internal audits/reviews of procedures are ongoing, however no external reviews have been undertaken.

Section 2: Reporting of Criteria	T	Commentary
Criteria  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.	<ul> <li>Commentary</li> <li>The Rockford Project comprises seven granted exploration licences, covering 1,721km². Legend is the operator and manager of this Project. (Legend also holds a minority interest in five Fraser Range exploration licences covering 658km² via a separate JV with Independence Group).</li> <li>Rockford Project JV tenements: E28/2188, 2189 &amp; 2192 (70% Legend, 30% Rockford Metals Pty Ltd), E28/1718 &amp; E28/1727 (70% Legend, 30% Ponton Minerals Pty Ltd).</li> <li>Legend 100% owned: E28/2404-2405.</li> <li>The Project is located 280km east of Kalgoorlie mostly on vacant crown land with the eastern portion on Kanandah Pastoral Station.</li> <li>There are no Native Title Claims over tenements E28/2188, 2189, 2192, E28/2405. Tenements E28/1718, E28/1727 &amp; E28/2404 are covered 90%, 20% and 100% respectively by the Ngadju Native Title Claim.</li> <li>The tenements are in good standing and there are no known impediments.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Not applicable, not referred to.
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The primary target is Nova style nickel-copper mineralisation hosted in high grade mafic granulites within the Fraser Complex.</li> <li>Secondary targets are: Andromeda style VMS copper-zinc mineralisation and Tropicana style structurally controlled gold mineralisation.</li> </ul>
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:	Refer to Figure 1.



Criteria	JORC Code Explanation	Commentary
	<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> <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>	
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>Weighted averaging based on sample interval has been used in the reporting of the aircore drilling results.</li> <li>No short length high grade results were returned (therefore not included in aggregate intercepts) and no metal equivalent values have been reported.</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 (e.g. 'down hole length, true width not known').</li> </ul>	<ul> <li>The geometry of anomalous nickel-copper and copper-zinc assays with respect to the aircore drilling angle and orientation is unknown.</li> <li>All drillhole intercepts are measured downhole in metres.</li> </ul>
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include,	Exploration activity location map included in the body of the report.



Criteria	JORC Code Explanation	Commentary
Balanced reporting	<ul> <li>but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be</li> </ul>	All significant results are reported.
	practiced to avoid misleading reporting of Exploration Results.	
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>Previous MLTEM data was used to assist in the design of the low frequency MLTEM survey.</li> <li>LF-MLTEM survey parameters</li> <li>Loop Size: 200m x 200m</li> <li>Line/Station Spacing: 200m spaced lines with 100/200m stations</li> <li>Configuration: Slingram position, 200m offset from loop centre</li> <li>Transmitter: HPEM HPTX (~200 amps)</li> <li>Receiver: GDD NordicEM24</li> <li>Sensor: CSIRO LANDTEM HT SQUID, 3 component B field sensor</li> <li>Base frequency: 0.0625Hz</li> <li>The aeromagnetic survey over the Ponton JVA 2019 tenements involved; 50m line spacing, 35m flying height, NW-SE line direction and covered 505km².</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Further activities include: aircore drilling, MLTEM surveys and diamond drilling.