

# ASX:LEG

13 May 2019

**ASX Announcement** 

# **Exploration Update at Area D**

- Assay results significantly increase nickel-copper footprint over conductor D5:
  - 12m @ 0.09% Ni, 0.18% Cu, 0.02% Co from 64m in RKAC542
     Incl. 4m @ 0.10% Ni, 0.46% Cu, 0.04% Co from 72m
  - > 8m @ 0.15% Ni, 0.18% Cu, 0.02% Co from 44m in RKAC548
- 3D IP survey unable to penetrate cover
  - > Alternative methodologies are being investigated

Legend Mining Limited ("Legend") is pleased to provide an update of exploration activities over Area D at its Rockford Project in the Fraser Range of WA (see Figure 1). Planned activities included a 60 hole aircore drilling programme over previously identified EM conductors and a 3D Induced Polarisation ("IP") survey to assist diamond drillhole design. Assay results from the first 27 holes have now been received and the IP survey has been cancelled after the completion of two transmitter lines. A more detailed discussion follows in the body of this announcement.

Legend Managing Director Mr Mark Wilson said, "The new assays have increased the footprint of the highly anomalous nickel-copper-cobalt geochemistry over the D5 conductor and has added a robustness to the target horizons at this location. The IP was unable to penetrate the cover and we are now investigating alternative geophysical methodologies to assist in target selection for diamond drilling."

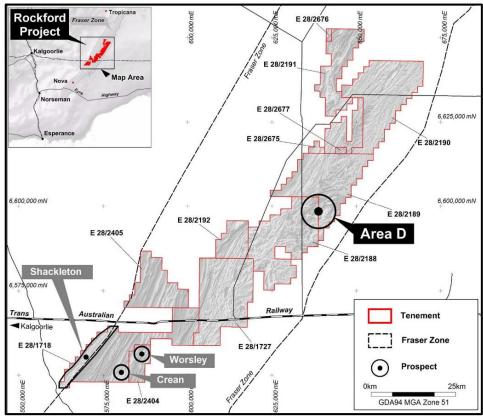


Figure 1: Rockford Project – Prospect Locations



# **Technical Discussion**

### Aircore Drilling Programme – Area D

Legend commenced a 60 hole aircore programme at Area D in late March 2019 focussing on the updip projection of 14 previously identified conductors (D1-D5, D9-D17), as shown on Figure 2. To date, 55 holes have been completed over 13 of the 14 conductors with five holes at D13 remaining. Assays have been received from the first 27 holes (the subject of this announcement) with samples from the next 28 holes currently in the laboratory.

The drilling was specifically designed to provide geochemical and bedrock lithology information associated with the footwall, top and hangingwall positions of the modelled EM conductor plates. The ultimate aim of the aircore drilling is to identify favourable Ni-Cu host rocks (gabbronorite) with associated anomalous Ni-Cu geochemistry  $\pm$  sulphides, as with previous drillhole RKAC183 (ASX announcement 9 April 2018).

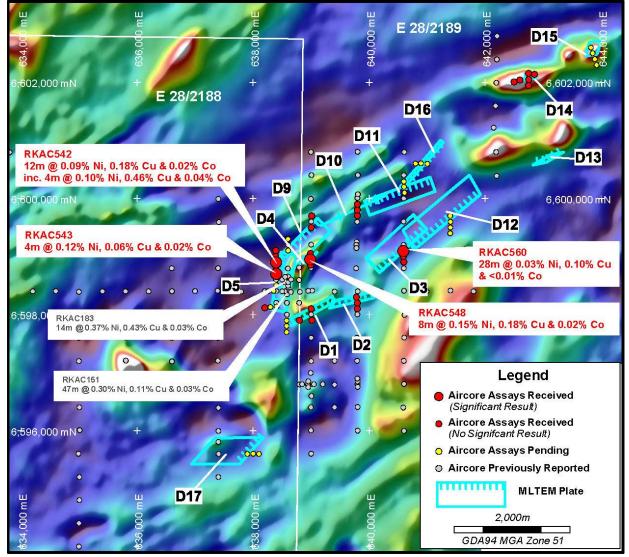


Figure 2: Area D Aircore Drillholes with MLTEM Conductors on Aeromagnetics

The drilling has intersected favourable Ni-Cu mafic/ultramafic intrusive host rocks including gabbro, gabbronorite and pyroxenite at all 13 conductors tested so far. These lithologies are closely associated with a broad package of metasediment and felsic to mafic granulite.



The first batch of samples, comprising holes RKAC540-566, covers conductors; D1 east, D2, D3, D4, D5 north, D9 east, D10, D14 (see Figure 2). A summary of significant assay results is shown in Table 1, with collar details provided in Appendix 1.

Table 1: Area D - Aircore Drillhole Results									
Drillhole	From	То	Int.	Ni %	Cu %	Co %	Ag g/t	Zn %	Conductor
RKAC542	64	76	12	0.09	0.18	0.02	1.15	0.10	D5
Incl.	72	76	4	0.10	0.46	0.04	0.84	0.14	D5
RKAC543	60	64	4	0.12	0.06	0.02	1.54	0.05	D5
RKAC548	44	52	8	0.15	0.18	0.02	0.12	0.06	D4
RKAC560	112	140	28	0.03	0.10	<0.01	0.19	0.05	D3

The anomalous results in RKAC542-543 are located 250-350m to the northwest of RKAC183, which previously intersected magmatic Ni-Cu sulphides in gabbronorite (see Figure 2). These holes tested the footwall position of the D5 conductor and have significantly increased the Ni-Cu geochemical footprint associated with the NNE trending conductor.

In RKAC548, the elevated nickel and copper assays are associated with goethitic/haematitic alteration (potentially weathered sulphide?) and occur directly over the projected top of D4 increasing the prospectivity of this conductor.

Drillhole RKAC560 tested the D3 conductor and intersected a broad interval with elevated copper. Further geophysical modelling of the MLTEM data over this conductor with late time analysis will be undertaken aimed at identifying positions for further testing.

The results from the aircore programme to date have provided valuable geological and geochemical information and will be integrated with the geophysical datasets to assist diamond drillhole design.

# 3D Induced Polarisation (IP) Survey

A 3D IP survey was commissioned in April 2019 targeting previously identified MLTEM conductors at Area D. The survey was aimed at providing chargeability/resistivity data over the conductors to assist geophysical interpretation to prioritise/rank the conductors for diamond drilling.

The 3D IP/resistivity survey was severely affected by electromagnetic coupling effects. Given the technique had been successfully deployed in other parts of the Albany Fraser Orogen, it was assumed that multichannel receivers and the high power transmitter at very low frequency would be an effective way to map sulphides beneath cover. The thickness, lateral continuity and conductivity of the cover above the prospective EM conductors at Area D restricted the depth penetration to <100m and the survey was cancelled after two transmitter lines were completed (see Figure 3).

Legend is now investigating alternative geophysical methodologies to assist in prioritising/ranking diamond drill hole locations.



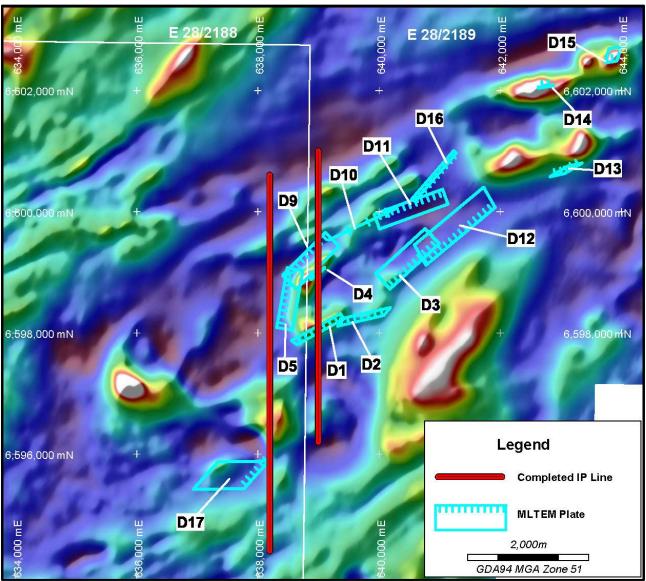


Figure 3: Area D 3D IP Lines Completed and MLTEM Conductor Plates on Aeromagnetics

# **Future Programmes**

- Complete aircore drilling over up dip projection of D13 MLTEM conductor.
- Full assessment of geological and geochemical data from aircore drilling over conductors.
- Integrate aircore data with geophysics to further constrain gravity, magnetic and electromagnetic 3D models.
- Remodel MLTEM data and complete late time EM analysis aimed at defining discrete targets within larger conductor plates.
- Regional aircore drilling in 25km<sup>2</sup> radius surrounding Area D.
- Diamond drilling of Area D conductors following completion of aircore programmes and full interpretation of data.



#### 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 <u>www.legendmining.com.au</u> for further information and announcements.

# For more information: Mr Mark Wilson Managing Director Ph: (08) 9212 0600

Mr Derek Waterfield Executive Director - Technical Ph: (08) 9212 0600

Appendix 1: Area D - Aircore Drilinole Details						
Drillhole	Easting	Northing	RL (m)	Dip	Azimuth	Depth (m)
RKAC540	638394	6599102	202	-90	0	82
RKAC541	638389	6599003	202	-90	0	78
RKAC542	638398	6598900	202	-90	0	91
RKAC543	638401	6598699	202	-90	0	90
RKAC544	638798	6597901	203	-90	0	76
RKAC545	639016	6597902	207	-90	0	73
RKAC546	639003	6598100	206	-90	0	74
RKAC547	638989	6598854	202	-90	0	47
RKAC548	638986	6598949	202	-90	0	56
RKAC549	638989	6599052	202	-90	0	59
RKAC550	639004	6599501	201	-90	0	80
RKAC551	639012	6599699	201	-90	0	62
RKAC552	639798	6598098	205	-90	0	115
RKAC553	639797	6598201	205	-90	0	87
RKAC554	639783	6598300	205	-90	0	62
RKAC555	639798	6599703	205	-90	0	54
RKAC556	639799	6599802	204	-90	0	79
RKAC557	639798	6599899	204	-90	0	40
RKAC558	640600	6598904	204	-90	0	125
RKAC559	640589	6599000	204	-90	0	116
RKAC560	640588	6599094	204	-90	0	150
RKAC561	642501	6602008	204	-90	0	82
RKAC562	642601	6602042	203	-90	0	82
RKAC563	642748	6602154	202	-90	0	97
RKAC564	642753	6602047	202	-90	0	96
RKAC565	642749	6601947	202	-90	0	78
RKAC566	642850	6602137	202	-90	0	86

# Appendix 1: Area D - Aircore Drillhole Details

Note: Co-ordinates GDA94 MGA Zone 51



# Appendix 2: Legend Mining Ltd – Aircore Drilling Area D Prospect - Rockford Project JORC Code Edition 2012: Table 1

## Section 1: Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
Sampling techniques	<ul> <li>JORC Code Explanation</li> <li>Nature and quality of sampling (e.g. 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.</li> <li>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. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed</li> </ul>	<ul> <li>Aircore drilling was undertaken at 100m spacings over the up dip projection of MLTEM conductors.</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, Sr, Ta, Tb, Te, Th, Ti, TI, Tm, U, V, W, Y,</li> </ul>
Drilling techniques	<ul> <li>information.</li> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</li> </ul>	<ul> <li>The aircore drilling technique was used, utilising a 90mm bit and completed by Drillpower.</li> </ul>
Drill sample recovery	<ul> <li>Nethod 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
	<ul> <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>No relationship has been determined between sample recoveries and grade and there is insufficient data to determine if there is a sample bias.</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>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 4A/MS48R (REE extended suite).
	Nature of quality control	4AVINISAOR (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 and entered into a laptop computer. The
	independent or alternative company personnel.	data was forwarded to Legend's
	<ul> <li>The use of twinned holes.</li> </ul>	database manager for validation and
	<ul> <li>Documentation of primary data,</li> </ul>	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)	
	protocols.	
	Discuss any adjustment to assay	
Location of data points	data. <ul> <li>Accuracy and quality of surveys</li> </ul>	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
	trenches, mine workings and	accurate for the purpose of the drillhole.
	other locations used in Mineral	All co-ordinates are expressed in GDA94
	Resource estimation.	datum, Zone 51.
	Specification of the grid system	<ul> <li>Regional topographic control has an accuracy of ±2m based on detailed DTM</li> </ul>
	used.	data.
	<ul> <li>Quality and adequacy of topographic control.</li> </ul>	
Data spacing and	Data spacing for reporting of	Aircore drilling was undertaken at 100m
distribution	Exploration Results.	spacings over the up dip projection of
	Whether the data spacing and	MLTEM conductors.
	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, 3m and 5m composites at the end of
	appropriate for the Mineral Resource and Ore Reserve	holes as required. Where anomalous
	estimation procedure(s) and	values are returned, 1m samples may be
	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 structure	sampling achieves unbiased	traverses and broad spacing of the individual drillholes is considered to
Jauvane	sampling of possible structures 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	
L		



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

# Section 2: Reporting of Exploration Results

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 licence to operate in the area.</li> <li>Acknowledgment and</li> </ul>	<ul> <li>The Rockford Project comprises twelve granted exploration licences, covering 2,379km<sup>2</sup>.</li> <li>Rockford JV tenements: E28/2188-2192 (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, E28/2675-2677.</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 E28/2188-2192, E28/2405 &amp; E28/2675-2677. 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> <li>Not applicable, not referred to.</li> </ul>
other parties Geology	<ul> <li>appraisal of exploration by other parties.</li> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<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	<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:</li> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above</li> </ul>	Refer to Figures 1 & 2.



Criteria	JORC Code Explanation	Commentary
	<ul> <li>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	<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>Project, drillhole and EM conductor plate location maps have been included in the body of the report.</li> </ul>



Criteria	JORC Code Explanation	Commentary
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.	<ul> <li>All significant results are reported.</li> </ul>
Other substantive exploration data	<ul> <li>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.</li> </ul>	<ul> <li>Detailed high quality aeromagnetic and gravity datasets and aircore drilling have been used in the targeting of the MLTEM survey.</li> <li>Highpower EM Geophysical Services Pty Ltd have undertaken high powered moving loop electromagnetic surveying (MLTEM) over Area D to assist with drillhole targeting.</li> <li><i>MLTEM Details</i></li> <li>Loop Size: 300mx300m, single turn</li> <li>Line/Station Spacing: 500m spaced lines with 100m stations</li> <li>Configuration: Slingram position, 150m offset from loop edge</li> <li>Transmitter: HPEM HPTX (~200 amps)</li> <li>Receiver: GDD NordicEM24</li> <li>Sensor: EMIT Fluxgate, 3 component B field sensor</li> <li>Time base/frequency: 0.5Hz (500msec time base), ~1msec ramp</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>	<ul> <li>Further activities include: infill aircore drilling, geophysical modelling and interpretation, RC/diamond drilling.</li> </ul>