

# 7 December 2023

# **HPFLTEM** survey identifies new targets at Octagonal

### **HIGHLIGHTS**

- Preliminary modelling of the new High-Power Fixed Loop Electro-Magnetics (HPFLTEM) survey completed over the entire Octagonal Intrusive Complex (OIC) identifies three conductors interpreted to be related to nickel-copper mineralisation
- Survey also identifies a strong conductive zone east of the OIC which remains open
- Survey area to be extended in 2024

**Legend Mining Limited** (Legend) is pleased to report the preliminary modelling of the data from the HPFLTEM survey at the Octagonal prospect within the Rockford Project, Fraser Range, Western Australia (see Figures 1 and 3). The survey, designed to identify conductors below 600m, was conducted from October to December 2023 and the results are discussed in detail in the body of this announcement.

Legend Executive Chair, Mr Mark Wilson said: "We are cautiously optimistic with the results of this survey to date. The evidence of nickel-copper mineralisation in drillholes proximal to the modelled conductors and the strong conductive source to the east of the Octagonal Intrusive Complex are both positive takeaways.

"As noted in this announcement the final modelling of these conductors will need the input of the data from the extended survey which is planned for March/April 2024. This final modelling is expected to generate new drill targets for the 2024 field season and Legend looks forward to updating the market in due course."



Photo 1: HPFLTEM Survey at Octagonal



### **TECHNICAL DISCUSSION**

The data collection and the preliminary modelling from the HPFLTEM survey at the Octagonal prospect has now been completed. Below is a summary of the results of the modelling.

### HIGH POWER FIXED LOOP ELECTRO-MAGNETICS SURVEY

Highpower EM Geophysical Services Pty Ltd have completed the maiden HPFLTEM survey at Octagonal. The HPFLTEM survey data acquisition was severely hindered by atmospheric conditions, resulting in unanticipated delays. The final data has now been received and preliminary modelling conducted.

Four preliminary conductors have been identified, with three interpreted to relate to extensions of Ni-Cu sulphide mineralisation encountered in proximal drillholes (see Figures 1 and 2, and Table 1). Preliminary modelling suggests the identified conductors are complex, with final models subject to refinement post receival and integration of additional data.

Conductor 1 is located down dip along the intrusion contact, proximal to mineralisation intersected in OCT0184 and OCT0190 (see Figure 2).

Conductor 2 is intersected at the top edge by OCT0005, relating to a zone of blebby through semi-massive Ni-Cu sulphide (see Photo 2).

Conductor 3 is the southern extension of a zone of remobilised semi-massive Ni-Cu sulphide intersected in OCDD003.

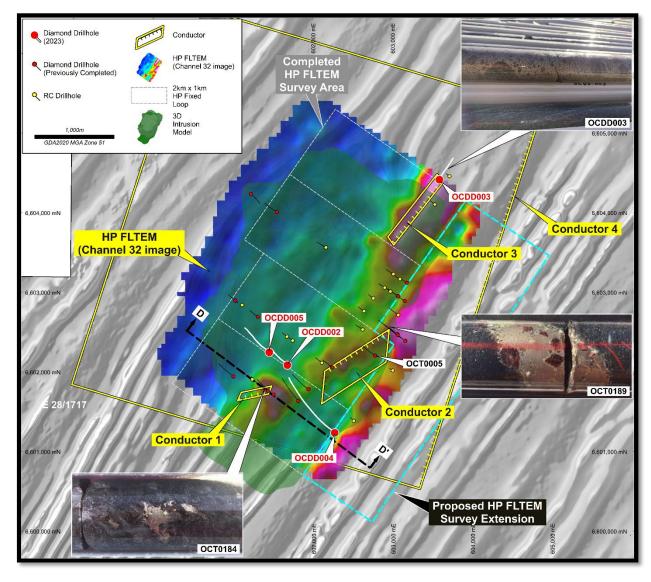
Conductor 4 is a deep, low conductivity feature that aligns with the seismic feature interpreted to be the feeder structure at the base of the OIC.



**Photo 2:** Diamond drill core tray from OCT0005 with visual Ni-Cu sulphide mineralisation. OCT0005 intersects the top edge of conductor 2.

The channel 32 data identified a strong conductive source extending to the east of the completed survey area (see magenta zone in Figure 1). This area is of interest as it is the interpreted extension of the Octagonal intrusion based on completed drilling coupled with seismic and structural interpretation. Encouragingly, diamond drillholes OCT0189 and OCDD004 both intersected Ni-Cu sulphide within fertile ultramafic sills proximal to the strong conductive source, confirming mineralised intrusion occurs outside the main OIC body. This is identical to the Nova-Bollinger mineralisation setting.



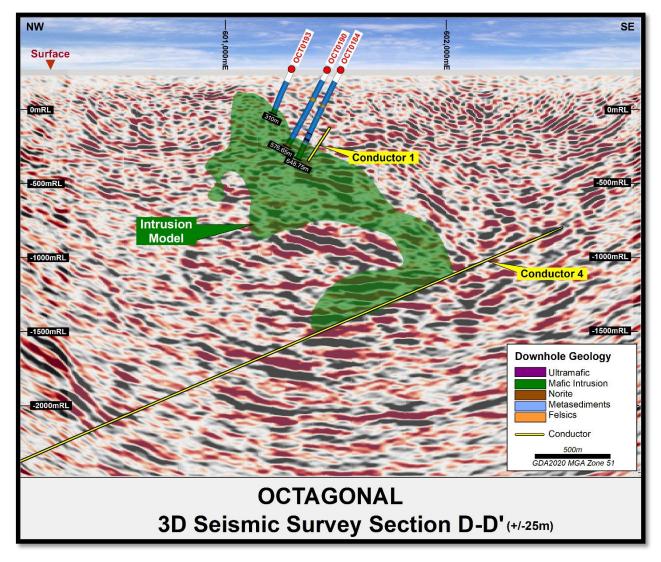


**Figure 1:** Octagonal plan view showing completed HPFLTEM survey loops and preliminary conductors on channel 32HD imagery with the interpreted Octagonal intrusion model projected to surface on AMAG.

Table 1: Octagonal HPFLTEM Conductor Parameters					
Conductor	Conductance	Dimensions	Plate Orientation	Depth to Plate Top	Plate Dip
Conductor 1	~2,000-3,000S	<400m x 400m	ENE-WSW	350-400m	60-75 <sup>0</sup> NNW
Conductor 2	~200-400S	~1,000m x 1,000m	NE-SW	250-300m	65-75 <sup>0</sup> SE
Conductor 3	~200-400S	~1,000m x 1,000m	NE-SW	250-300m	80-90 <sup>0</sup> NW
Conductor 4	~75-125S	~5km x 5km	NNE-SSW	850-1,000m	20-30 <sup>0</sup> WNW

Table 1: Preliminary HPFLTEM conductors





**Figure 2:** Section D-D' showing drillholes OCT0193, OCT0190, and OCT184 on seismic section and HPFLTEM conductors 1 and 4, downhole geology, and the Octagonal intrusion model.

Given the strong response to the initial HPFLTEM survey and the newly identified zone to the east of the OIC, the survey will be extended. Survey design and planning will commence on completion of the final modelling from the completed HPFLTEM survey. Data acquisition of the extension survey is anticipated for March/April 2024.



### **FUTURE OCTAGONAL PROGRAMME**

- HPFLTEM survey extension design
- HPFLTEM survey data acquisition scheduled for March/April 2024 to mitigate atmospheric delays
- Diamond drillhole target generation

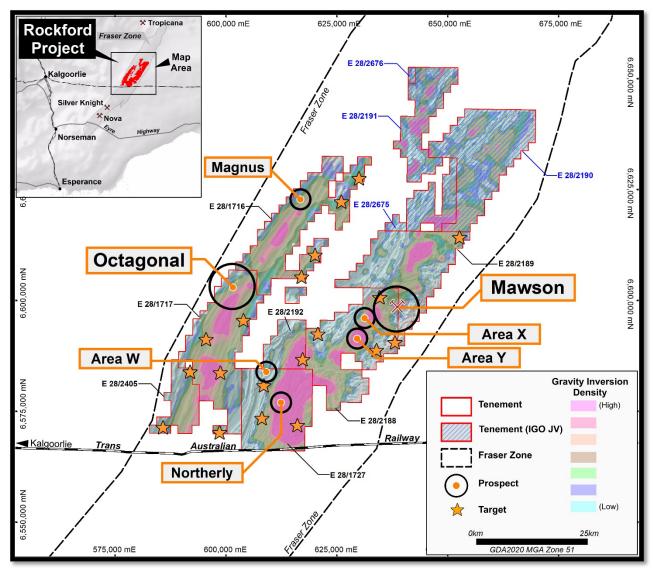


Figure 3: Rockford Project Prospect Locations on Gravity.

Authorised by Oliver Kiddie, Managing Director.



# Appendix 1 - Summary Drill Log of Ni-Cu Mineralisation

Hole	Interval	Sulphide Mode	Sulphide Type	Sulphide % (Visual Estimate)
OCT0005	630.9 - 635.8	Disseminated & Blebby	Pyrrhotite-chalcopyrite- pentlandite	1% - 5%
OCT0005	635.8 - 637.1	Matrix	Pyrrhotite-chalcopyrite- pentlandite	20% - 40%
OCT0005	662.95 - 663.1	Semi Massive	Pyrrhotite-chalcopyrite- pentlandite	40% - 80%
OCT0005	663.1 - 664	Disseminated & Blebby	Pyrrhotite-chalcopyrite- pentlandite	1% - 5%
OCT0189	279.95 - 282.68	Disseminated & Blebby	Pyrrhotite-chalcopyrite- pentlandite	1% - 5%
OCT0189	282.68 - 282.75	Massive	Pyrrhotite-chalcopyrite- pentlandite	> 80%

Cautionary Statement: The sulphide percentage is a visual estimate of total sulphide. Visual estimates should never be considered a proxy or substitute for laboratory analysis where concentrations or grades are the factor of principal economic interest. Visual estimates also potentially provide no information regarding impurities or deleterious physical properties relevant to valuations.

Legend regularly uses a portable XRF (pXRF) analyser to screen diamond drill core for mineralisation prior to cutting and sampling. This allows for understanding of the distribution of mineralisation prior to sampling to better ensure that the sampled core is representative of the type and style of mineralisation. Readings are obtained and recorded for future reference. The pXRF provides confirmation that mineralisation is present however it is not an accurate determination of the elemental concentration within the sample analysed. Limitations include; very small analysis window, possible inhomogeneous distribution of mineralisation, analytical penetration depth and possible effects from irregular rock surface. The pXRF readings are subject to confirmation by chemical analysis from an independent laboratory.

### Appendix 2 - Octagonal Diamond Drillhole Details

Hole	Type	MGA2020-East	MGA2020-North	RL	Azimuth	Dip	Total Depth
OCDD002	DD	601,685	6,602,095	267	306	-70	1,031.0m
OCDD003	DD	603,595	6,604,425	263	034	-65	909.4m
OCDD004	DD	602,280	6,601,245	266	300	-65	1,710.8m
DOCDD005	DD	601,457	6,602,256	267	302	-70	1,662.0m
OCT0005	DD	602,786	6,602,204	271	305	-75	720.6m
OCT0184	DD	601,512	6,601,715	263	305	-64	648.75m
OCT0189	DD	603,072	6,602,462	266	304	-65	504.6m
OCT0190	DD	601,441	6,601,761	263	304	-60	576.65m
OCT0193	RC	601,244	6,601,906	263	304	-65	310.0m

Co-ordinates GDA2020 Zone 51

**Appendix 3 - Legend Field Logging Guidelines** 

Sulphide Mode	Percentage Range
Disseminated & blebby	1-5%
Heavy Disseminated	5-20%
Matrix	20-40%
Net-Textured	20-40%
Semi-Massive	>40% to <80%
Massive	>80%

# **ASX Announcement**

# **ASX:LEG**



### Competent Person Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Oliver Kiddie. Mr Kiddie is a Member of the Australasian Institute of Mining and Metallurgy and a full-time employee of Legend Mining Limited. Mr Kiddie 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 Kiddie consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Legend's Exploration Results is a compilation of previously released to ASX by Legend Mining (28 March 2023, 20 April 2023, 17 May 2023, 5 June 2023, 27 June 2023, 31 July 2023, 31 August 2023, and 3 October 2023). Mr Oliver Kiddie consents to the inclusion of these Results in this report. Mr Kiddie has advised that this consent remains in place for subsequent releases by Legend of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent. Legend confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters in the market announcements continue to apply and have not materially changed. Legend confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

# Forward Looking Statements

This announcement contains "forward-looking statements" within the meaning of securities laws of applicable jurisdictions. Forward-looking statements can generally be identified by the use of forward-looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "believe", "continue", "objectives", "outlook", "guidance" or other similar words, and include statements regarding certain plans, strategies and objectives of management and expected financial performance. Forward-looking statements are provided as a general guide only and should not be relied upon as an indication or guarantee of future performance. These forward-looking statements are based upon number of estimates, assumptions and expectations that, while considered to be reasonable by Legend Mining Limited, are inherently subject to significant uncertainties and contingencies, involve known and unknown risks, uncertainties and other factors, many of which are outside the control of Legend Mining Limited and any of its officers, employees, agents or associates.

Actual results, performance or achievements may vary materially from any projections and forward-looking statements and the assumptions on which those statements are based. Exploration potential is conceptual in nature, to date there has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. Readers are cautioned not to place undue reliance on forward-looking statements and Legend Mining Limited assumes no obligation to update such information made in this announcement, to reflect the circumstances or events after the date of this announcement.

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

### For more information contact:

Mr Mark Wilson Executive Chair Ph: +61 8 9212 0600 Mr Oliver Kiddie Managing Director Ph: +61 8 9212 0600



# Appendix 4:

# Legend Mining Ltd – Octagonal Exploration Programme - Rockford Project JORC Code Edition 2012: Table 1

Section 1: Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
Sampling techniques	<ul> <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 information.</li> </ul>	HiSeis Pty Ltd conducted a ground seismic survey between 7 November and 24 November 2022, with survey details below.  Equipment area coverage: ~19.2 km²  Total receivers: 10 986  Total source points: 8357  Sample rate: 2 ms  Record length: 3 s  Source: INOVA AHV-IV (60000 lb)  Source array: 1 x AHV-IV  Source number: 2 ping pong Recording Filters:  Hi-cut: 0.8 Nyquist set to 205 Hz  Notch: out  Diversity stack: no Source Parameters:  Source spacing: 18m  Source line spacing: 108m (central area), 216m (outer area)  Sweep frequency: 3-180 Hz  Sweep length: 20 s  Sweep type: -0.8 db/oct  Source array: stacked  Tapers: 750 ms start and 350 ms end  Maximum source gaps: as required for safety  Drive level: 65%  Receiver Parameters:  Group spacing: 18 m  Receiver line spacing: 108m (central area), 216m (outer area)  Geophone type: Quantum 5 Hz (geophone (PS-5GR)) and STRYDE 10 Hz (accelerometer)  Case: land  Frequency: 5 Hz and 10 Hz  Geophones per group: 1  Geophone spacing: 18 m
Drilling techniques	Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g.,	No diamond drilling has been undertaken.



Criteria	JORC Code Explanation	Commentary
	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.).	
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	No diamond drilling has been undertaken.
	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.	
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> </ul>	No diamond drilling has been undertaken.
	The total length and percentage of the relevant intersections logged.	
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	No diamond drilling has been undertaken.
	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.	



Criteria	JORC Code Explanation	Commentary
	Whether sample sizes are appropriate to the grain size of the material being sampled.	
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.	No diamond drilling has been undertaken.
	For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	
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> </ul>	No diamond drilling has been undertaken.
	<ul> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	
	Discuss any adjustment to assay data.	
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.	<ul> <li>The drillhole collars were surveyed with a handheld GPS unit with an accuracy of ±5m which is considered sufficiently accurate for the purpose of the drillhole.</li> <li>All co-ordinates are expressed in CDA2020 datum. Zone 51</li> </ul>
	<ul> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>GDA2020 datum, Zone 51.</li> <li>Regional topographic control has an accuracy of ±2m based on detailed DTM data.</li> </ul>
Data spacing and distribution	Data spacing for reporting of Exploration Results.	No diamond drilling has been undertaken.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity	



Criteria	JORC Code Explanation	Commentary
	appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	
	Whether sample compositing has been applied.	
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>	No diamond drilling has been undertaken.
Sample security	The measures taken to ensure sample security.	No diamond drilling has been undertaken.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Internal audits/reviews of seismic procedures are ongoing, with external reviews managed by Terra Resources Pty Ltd.

# **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> </ul>	<ul> <li>The Rockford Project comprises seven granted exploration licences, covering 1,880km², (Legend manager).</li> <li>Rockford JV tenements:</li> <li>E28/2188, 2189, 2192 (70% Legend, 30% Rockford Metals Pty Ltd)</li> <li>E28/1716, 1717, 1727 (70% Legend, 30% Ponton Minerals Pty Ltd).</li> <li>Legend 100%: E28/2405.</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>Tenements E28/1716, 1717, 1727, 2192, 2405 are covered by the Upurli Upurli Nguratja Native Title Claim.</li> <li>Tenements E28/2188, and E28/2189 are covered 20% and 85% respectively by the Untiri Pulka Native Title Claim with the remaining area covered by the Upurli Upurli Nguratja Native Title Claim.</li> <li>The tenements are in good standing and there are no known impediments.</li> </ul>



Criteria	JORC Code Explanation	Commentary
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	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 mafic/ultramafic intrusives within the Fraser Zone of the larger Albany-Fraser Orogen.</li> <li>Secondary targets include VMS style zinc-copper-lead-silver mineralisation and structurally controlled Tropicana style gold.</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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above</li> </ul> </li> </ul>	No diamond drilling has been undertaken.
	sea level in metres) of the drill hole collar	
	<ul> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul>	
	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.	
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.	No diamond drilling has been undertaken.
	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.	



Criteria	JORC Code Explanation	Commentary
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>	No diamond drilling has been undertaken.
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.	Project location maps and HPFLTEM plan has been included in the body of the 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.	All significant results are reported.
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>Detailed high quality aeromagnetic and gravity datasets, aircore drilling, ground EM surveys and DHTEM surveys have been used to target drilling.</li> <li>Highpower EM Geophysical Services Pty Ltd completed high powered moving loop electromagnetic (MLTEM) surveying over the Octagonal prospect.</li> <li>Highpower EM Geophysical Services Pty Ltd completed high powered fixed loop electromagnetic (HPFLTEM) surveying over the Octagonal prospect.</li> <li>MLTEM Details</li> <li>Loop Size: 300 x 300m, single turn</li> <li>Line/Station Spacing: 500/250m spaced lines with 100m stations</li> <li>Transmitter: HPEM HPTX (200 amps)</li> <li>Receiver: EMIT SMARTem24</li> <li>Sensor: HT SQUID LANDTEM 3 component B field sensor</li> <li>Time base/freq.: 0.25Hz (500msec time base), 0.5-1.0msec ramp</li> <li>FLTEM Details</li> </ul>



Criteria	JORC Code Explanation	Commentary
		<ul> <li>Loop Size: 2km x 1km single turn, 1km x 1km Figure 8 configuration</li> <li>Line/Station Spacing: 250m spaced lines with 125m stations</li> <li>Transmitter: HPEM HPTX (~200 amps)</li> <li>Receiver: EMIT SMARTem24</li> <li>Sensor: HT SQUID LANDTEM 3 component B field sensor</li> <li>Time base/freq.: 0.125-0.25Hz (1,000-2,000msec time base), 0.5-1.0msec ramp</li> <li>Readings/Stacks: 2-3 repeatable readings, 64 stacks.</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>Full integration of geological, structural, geophysical (including seismic), and geochemical data.</li> <li>High-power surface EM surveying</li> <li>Plan further diamond drillholes.</li> <li>Plan further EM surveys.</li> </ul>