

ASX:LEG

## 23 November 2011

**ASX Announcement** 

# EXPLORATION TARGET OF 300Mt-500Mt @ 16-40% Fe ESTABLISHED AT MELOMBO EAST BY GEOPHYSICAL MODELLING

- Potential for substantial magnetite tonnage established by geophysical modelling of airborne magnetic data to depth of 150m;
- Grade of 16-40% Fe based on diamond drilling and rockchip sampling;
- Magnetite contained within magnetite gneiss host rock.

Legend Mining Limited (Legend) is pleased to announce the results of a magnetic modelling exercise by independent geophysical consultants, Core Geophysics (Core), evaluating the magnetite potential of its Melombo East Prospect in Cameroon, West Africa, see Figure 1.

The report by Core covered the 4.7km x 1km aeromagnetic feature at Melombo East and indicated the potential for a range of 300Mt-500Mt<sup>1</sup> of magnetite. An expected grade of 16-40% Fe is considered likely based on laboratory assay results of magnetite gneiss in diamond drillholes and rockchip sampling.

Legend Managing Director Mr Mark Wilson said: "When this tonnage and grade range is considered with the proximity to the coast and the metallurgical test results reported earlier this year, Melombo East continues to shape as a substantial exploration target. Our treasury is expected to have +\$20M cash in January next year, following the recently announced \$10M capital raising and the \$7M cash sale of the Mt Gibson Project. Our challenge is now to accelerate our exploration activities to aim for a JORC Code compliant Inferred Mineral Resource at Melombo East as soon as possible. We believe the Ngovayang Project has the potential for many targets similar to Melombo East".

Results from the current drill programme will be released to the market as they become available.

<sup>&</sup>lt;sup>1</sup> Core consider the global tonnage estimate to equate to 400Mt with a perceived error of  $\pm 25\%$  (300Mt-500Mt). The tonnage estimate is calculated down to a vertical depth of 150m below surface and assumes a density of  $3.5g/cm^3$ . This estimate is based on a number of assumptions and limitations, is conceptual in nature and should be considered broadly indicative at best. It is not an indication of a mineral resource compliant with the JORC code and it is uncertain if further exploration will result in the determination of a mineral resource.



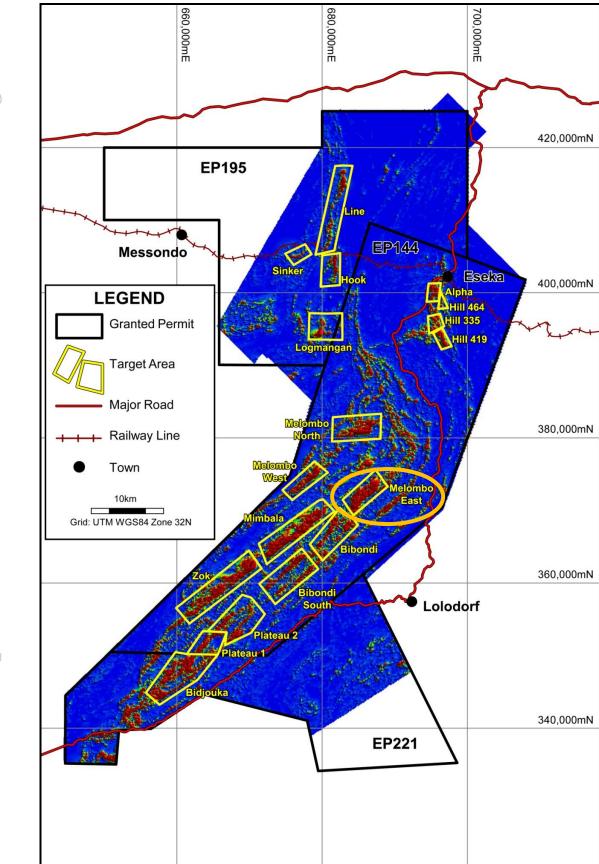


Figure 1: Ngovayang Project – Target Areas over Aeromagnetic Image (Analytical Signal of Total Magnetic Intensity)



## **Technical Discussion**

Core Geophysics were contracted by Legend to undertake 2D and 3D magnetic modelling over the Melombo East Prospect with the aim of providing an estimate of the potential magnetite tonnage.

The modelling was completed on the analytical signal of the total magnetic intensity due to the low latitude of the project area, highlighting a number of discrete intense anomalies, see Figure 2. The anomalies extend over an area of 4.7km x 1km, with individual modelled bodies having strike lengths between 75-500m, widths between 50-200m and a vertical depth extent of 150m below surface, see Appendix 1 for details. The bodies have an overall NE-SW strike, with dips between 45-60<sup>0</sup> to the northwest, which is consistent with observations from geological mapping.

The modelling, which used a number of assumptions and limitations<sup>2</sup>, has indicated a potential tonnage of 400Mt of magnetite contained within a host unit of magnetite gneiss. This estimate has a perceived error of  $\pm 25\%$ , giving a potential tonnage range of 300-500Mt.

The target has an expected grade range of 16-40% Fe, with the upper limit based on laboratory assay results from diamond drillholes DH044 and DH046 (ASX announcement 11 November 2011), and the lower limit based on economic modelling of a realistic cut off grade.

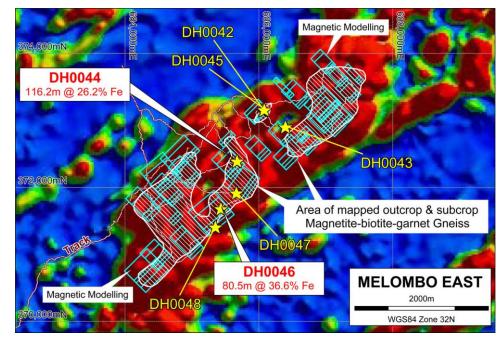


Figure 2: Melombo East Aeromagnetic Image with Individual 2D Modelled Bodies



#### **Competent Persons Statements**

The information in this announcement that relates to Exploration Results has been compiled by Mr Derek Waterfield, a Member of the Australian Institute of Geoscientists and a consultant to Legend Mining Limited. Mr Waterfield has sufficient relevant experience in the styles of mineralisation and types of deposit under consideration, and in the activity he is undertaking, to qualify as a Competent Person as defined in the 2004 Edition of the "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code), and consents to the inclusion of the information in the form and context in which it appears.

The information in this announcement that relates to Exploration Targets has been prepared by Mr Mathew Cooper, a Principal of Core Geophysical and a Member of the Australian Institute of Geoscientists and a consultant to Legend Mining Limited. Mr Cooper has sufficient relevant experience in the styles of mineralisation and types of deposit under consideration, and in the activity he is undertaking, to qualify as a Competent Person as defined in the 2004 Edition of the "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code), and consents to the inclusion of the information in the form and context in which it appears.

<sup>2</sup>The global exploration target for magnetite has been estimated based on the modelling of the analytic signal of the total magnetic intensity with the results determined according to a number of assumptions and limitations. In addition to those previously mentioned these may also include:

- The strike length of the modelled magnetic anomalies represents ore grade mineralisation;
- The geometry of the magnetic sources remain constant over their entire length;
- The model depth extent has been fixed to 150m based on initial drilling results, although this is not accurately known over the entire project;
- 100% recovery and no dilution;
- The specific gravity of the mineralisation is 3.5t/m<sup>3</sup>, though this has not been determined.
- A magnetic susceptibility of 1SI was used for all of the models which correlates to a theoretical 25% magnetic mineral content.
- No reconciliation for the material located above the calculated magnetic model and ground level has been applied and no correction or adjustment has been made for changes in the topography with respect to the model depth or width over its strike length.
- No correction for remanent magnetisation has been applied, even though it is likely to influence the magnetic responses within the prospect.
- The exploration target estimate presented here could change considerably if lower or higher magnetic susceptibilities or densities were used.

#### **Exploration Target**

While the company remains optimistic it will report resources and reserves in the future at its Cameroon Project, any discussion in relation to exploration targets, resource potential, reserves or 'ore' is only conceptual in nature, there has been insufficient exploration to define a Mineral Resource at the company's Cameroon Project and it is uncertain if further exploration will result in the determination of a Mineral Resource.

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

For more information: Mr Mark Wilson

Managing Director Legend Mining Limited Ph: (08) 9212 0600



# Appendix 1: Melombo East – Forward Modelling Tonnage Estimate

Model	Х	Y	Z	Depth	Strike	Slope	SI	Width	Length	Depth Extent	Tonnage (Mt)
1	685398	371482	895	65	040	30	1	125	500	150	32.81
2	685885	371971	787	25	055	40	1	80	400	150	16.80
3	685649	372275	681	55	045	40	1	100	300	150	15.75
4	684654	372071	640	55	040	35	1	100	450	150	23.63
5	685015	372108	636	80	045	30	1	100	250	150	13.13
6	686462	372385	793	60	045	55	1	100	250	150	13.13
7	686026	373066	567	55	045	55	1	50	300	150	7.88
8	685525	372725	543	50	045	90	1	100	250	150	13.13
9	687055	373138	816	50	045	40	1	75	400	150	15.75
10	687244	372926	848	50	046	40	1	75	400	150	15.75
11	687092	372977	859	65	046	40	1	75	400	150	15.75
) 12	686663	373288	681	50	046	40	1	75	250	150	9.84
13	686474	373383	633	30	046	40	1	75	75	150	2.95
7 14	687496	373607	731	55	045	45	1	75	100	150	3.94
15	687423	373344	793	75	045	45	1	85	200	150	8.93
16	687049	373788	661	70	045	45	1	75	200	150	7.88
17	687249	373586	747	65	045	45	1	75	150	150	5.91
18	686805	372610	824	70	045	45	1	75	300	150	11.81
19	686681	372729	749	75	045	45	1	70	150	150	1.84
20	686416	372710	669	80	045	45	1	80	200	150	8.40
21	684908	372400	560	50	045	45	1	80	500	150	21.00
22	684545	370910	851	75	045	45	1	100	300	150	15.75
23	684407	370672	822	60	045	45	1	200	475	150	49.88
24	685046	371050	909	55	045	35	1	100	250	150	13.13
25	684397	371624	722	30	045	35	1	125	250	150	16.41
26	684752	371839	745	45	045	35	1	100	250	150	13.13
27	684757	371539	795	40	045	35	1	100	200	150	10.50
28	686074	372494	585	120	045	45	1	100	200	150	10.50
Total											395.31

### Table Parameters:

X, Y, Z	East, north and RL coordinates for the top of model.					
Depth	Depth to top of model.					
Strike	Strike direction of the model.					
Slope	Dip of the model.					
SI	Magnetic susceptibility.					
Width	True thickness of the model.					
Length	Strike length of model.					
Depth Extent	Down dip depth extent of the model.					
Tonnage	Tonnage calculated from strike, thickness, depth and assumed 3.5g/cm <sup>3</sup> density.					