

ASX:LEG

14 March 2011

**ASX Announcement** 

# DRILLING, METALLURGY AND RECONNAISSANCE HIGHLIGHTS HIGH GRADE MAGNETITE POTENTIAL OF CAMEROON PROJECT

- Coarse grained magnetite gneiss identified as prospective host rock
- High grade (70.8% Fe) magnetite concentrate with low impurities returned from initial 4m composite drillcore sample
- First pass drilling programme at Eseka identifies significant intercepts (up to 86m) of magnetite gneiss

Legend Mining Limited (Legend) is pleased to announce that a recently completed Davis Tube Recovery (DTR) test has confirmed the high grade magnetite potential of the Ngovayang Project. In addition, recently completed drillholes have intercepted up to 86m of magnetite gneiss similar to the metallurgical test sample. The Technical Discussion section below gives comprehensive details of the testwork and these holes. Furthermore, ground reconnaissance work over the large aeromagnetic anomalies (see Figure 3) in the southern region of the project has confirmed widespread outcrop of magnetite bearing gneiss within the footprint of the anomalies.

Legend Managing Director Mr Mark Wilson said, "The Cameroon Exploration Team deserve due credit for delivering these metallurgical test results, drilling analyses and reconnaissance reports. When assessed as one, this project is shaping up as a potential magnetite province which confirms our early assessment of the aeromagnetic survey conducted last year. Our exploration challenge is now to build the largest possible magnetite resource".



Photo 1 : Magnetite-quartz-garnet-chlorite Gneiss (Drillhole NESD011)

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## **Technical Discussion**

First pass drilling in the Eseka region has been completed at four prospects; Hill 464 and Alpha, prior to the rain delay, and Hill 335 and Hill 419 completed since the resumption of drilling on 27 January 2011, see Figure 1. Nine diamond drillholes NESD016-024, for a total of 771.94m have been completed at the Hill 335 and Hill 419 prospects, see Table 1 below.

Table 1: Diamond Drillhole Details							
Hole ID	Easting	Northing	Prospect	Dip/Azimuth	Final Depth		
NESD016	696036	394509	Hill 335	-90/000	102.48		
NESD017	695998	394737	Hill 335	-90/000	77.89		
NESD018	696295	395307	Hill 335	-90/000	100.48		
NESD019	696871	393012	Hill 419	-90/000	35.95		
NESD020	696694	393229	Hill 419	-90/000	155.62		
NESD021	696554	393829	Hill 419	-90/000	83.88		
NESD022	696866	393013	Hill 419	-90/000	128.88		
NESD023	697049	392626	Hill 419	-90/000	35.88		
NESD024	694664	393278	Hill 419	-90/000	50.88		
Total					771.94		

NESD001-015 details reported previously (ASX announcement 30 September 2010).

Drilling utilised an Ingetrol man portable diamond drilling rig – HQ and NQ core sizes.

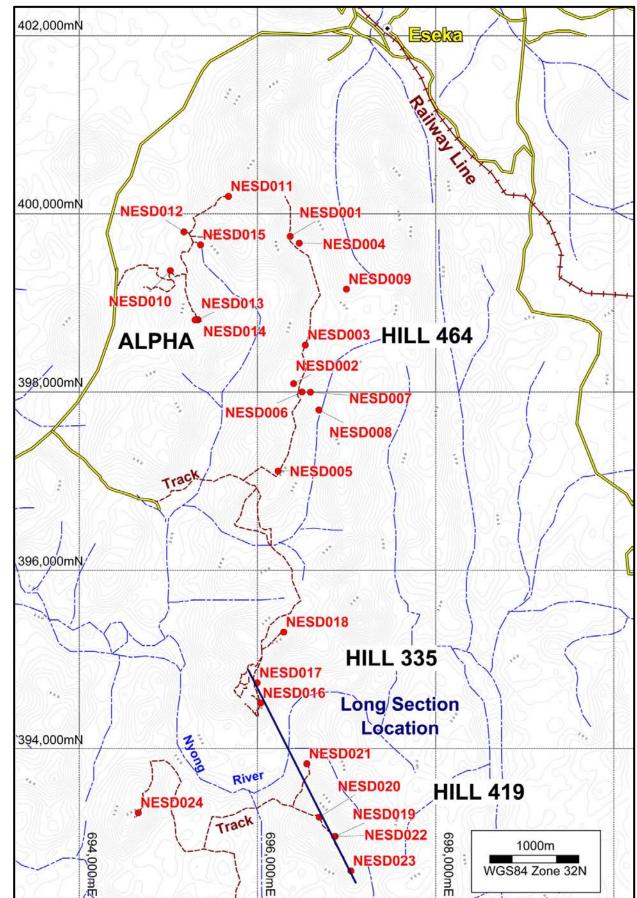
Co-ordinates: Universal Transverse Mercator WGS84, Zone 32, Northern Hemisphere.

Drillholes NESD016 and NESD017 at Hill 335 intersected magnetite-quartz-garnet gneiss, over thicknesses of 57m and 61m respectively, with an indicative iron grade of 22-24% Fe as measured from the Niton XRF analyser, see Figure 2. This unit was the targeted iron rich lithology identified in outcrop just above the Nyong River and a strike extent of at least 250m is now indicated. The drilling has successfully tested the magnetic source and the extent of the iron rich lithology.

At Hill 419, drillholes NESD020-22 also intersected the magnetite-quartz-garnet gneiss, with thicknesses of 86m, 34m and 79m respectively, over a strike length of at least 1.2km, see Figure 2. Drillhole NESD022 has been submitted for full analysis, however indicative iron grades of 21-23% were returned from the Niton XRF analyser. A weathered saprolite/saprock profile between 21-37m thick overlies the quartz-magnetite-garnet gneiss, with an underlying unit of quartz-biotite-garnet-chlorite gneiss.

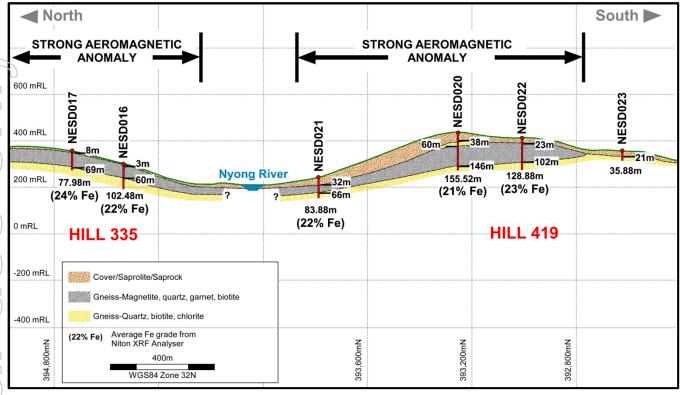
The magnetite-quartz-garnet gneiss intersected at Hill 335 (57-61m thick) and Hill 419 (34-86m thick) is the same lithological unit encountered in several drillholes at the Alpha prospect, some 4km to the north. Drillhole NESD011 at Alpha intersected a 35.48m interval of magnetite-quartz-garnet gneiss, with an indicative iron grade of 22-23% from the Niton XRF analyser. A 4m composite sample from this interval was selected for metallurgical testwork as discussed below.











## FIGURE 2: Hill 335 and Hill 419 Long Section

### Metallurgical Testwork

Consultants Independent Metallurgical Operations (IMO) were contracted to undertake preliminary Davis Tube Recovery (DTR) testwork on sample MET1; a 4m composite of half NQ drillcore taken from diamond drillhole NESD011 (46-50m) at the Alpha Prospect. The rock type sampled was a strongly banded magnetite-quartz-garnet gneiss containing medium to coarse grained disseminated magnetite throughout.

It should be noted here, that this is a representative sample, selected to provide an indication of the metallurgical character of the magnetite-quartz-garnet gneiss with respect to magnetite weight recovery and quality of the concentrate. The testwork was completed in two stages, based initially on a (conservative) fine grind size of 38µm, followed by a second stage focussed on establishing a first pass optimal grind size. Table 2 below summarises the DTR product grades for MET1.

Table 2: Stage 1 – DTR Product Grades for Sample Met1								
Product	Mass %	Fe Distribution%	Fe%	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	<b>P%</b>	S%	LOI%
Head	100	100	31.45	47.48	2.98	0.097	0.070	-0.89
Concentrate	35.1	79.6	71.33	0.92	0.23	0.004	0.016	-3.34
Tailing	64.9	20.4	9.88	72.66	4.47	0.147	-	-

 $\label{eq:assay} Assay \ Method \qquad Fe, \ SiO_2, \ Al_2O_3, \ P, \ S \ by \ fusion \ XRF-Amdel \ Limited, \ Perth.$ 

LOI – Loss on Ignition at 1,000<sup>°</sup>C determined gravimetrically.

Results based on  $P_{100}$  size of  $38\mu m$ .



The results from Stage 1 indicated that based on a 35.1% mass recovery, high iron grades with low levels of impurities were achievable from Met1. Stage 2 testing was undertaken to provide an indication of the ability to maintain iron recovery and concentrate quality at coarser sizes. Stage 2 testing involved DTR tests at four different grind ( $P_{80}$ ) sizes from 44µm up to 121µm. Average results across this grind size range are summarised in Table 3.

Table 3: Stage 2 – Average DTR Product Grade for Sample Met1								
Mass %	Recovery %	Fe%	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P%	<b>S%</b>	LOI%	
36.8	82.7	70.8	1.42	0.20	0.006	0.028	-3.30	

Key points from the Stage 2 testwork are:

- Average DTR concentrate mass recovery 36.8%;
- Average DTR concentrate grade 70.8% Fe (31.1 % FeO);
- DTR grade maintained at coarser size; 71.5% Fe (P<sub>80</sub> 44µm) and 69.9% Fe (P<sub>80</sub> 121µm);
- Average iron recovery 82.7% from a 31.5% Fe head grade;
- Direct Reduction (DR) quality concentrate indicated on moderate grind size (P<sub>80</sub>) of 90µm to 120µm;
- Potential for Blast Furnace (BF) concentrate up to a grind size (P<sub>80</sub>) of 180µm;
- Low silica and sulphur grades indicate that processing may not require reverse flotation trim on silica and sulphur;
- Low phosphorous, averaging 0.005% to 0.006%.

The results of this preliminary testwork are highly encouraging, as it indicates that magnetite bearing gneiss can be beneficiated into a saleable magnetite concentrate with low impurities. Magnetite bearing gneiss has been intersected at the four Eseka prospects.

Legend's exploration strategy remains the same, with direct shipping ore (DSO) iron ore the primary objective, however large tonnages of magnetite ore associated with magnetite bearing gneiss are the immediate focus.

To illustrate the magnetite tonnage potential, the aeromagnetic image in Figure 3 clearly shows extensive areas with high magnetic intensity, which regional reconnaissance work to date confirms to be predominantly due to the occurrence of magnetite bearing gneiss. Further reconnaissance work in the southern part of the Ngovayang Project area to evaluate these magnetic features is underway to identify priority drill targets.



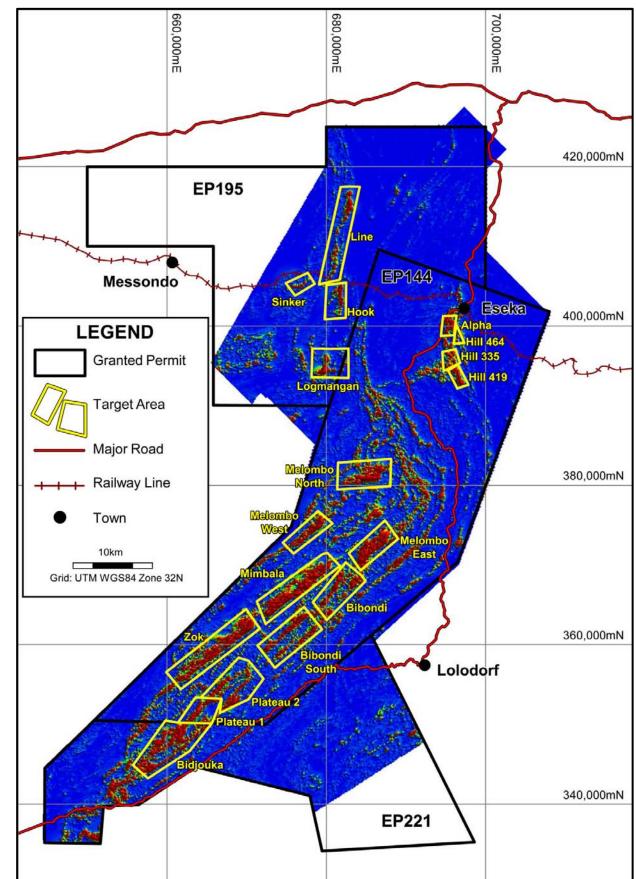


FIGURE 3: Ngovayang Project - Target Areas over Aeromagnetic Image (Analytical Signal of Total Magnetic Intensity)



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 Project Metallurgy has been compiled by Mr Daryl Evans, who is a Member of The Australasian Institute of Mining and Metallurgy and who has sufficient experience relevant to the style of mineralisation and types of deposits under consideration and in the activity which is being undertaken 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". Mr Evans 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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