

# 40% INCREASE IN COPPER RESOURCE AT HORSESHOE LIGHTS COPPER/GOLD PROJECT

# **HIGHLIGHTS**

- Horseshoe Metals has increased the Mineral Resource Estimate at the Horseshoe Lights Project by 40%;
- New Resource Statement is 12.85Mt @ 1.00% Cu, and 0.1 g/t Au for 128,600 tonnes of contained copper and 36,000 oz gold using a 0.5% Cu cut-off grade;
- Over 30% of the new Mineral Resource is in the Measured and Indicated categories, providing a high level of confidence;
- Total combined copper metal inventory at Horseshoe Lights and Kumarina projects has increased to 148,000 tonnes of contained copper metal;
- Excellent potential to substantially expand the Horseshoe Lights Mineral Resource with targeted drilling.

Horseshoe Metals Limited (ASX:HOR) ("Horseshoe" or "the Company") is pleased to announce a major increase in the Mineral Resource estimate at the Horseshoe Lights Copper/Gold project ("Horseshoe Lights Project") located 75km west-northwest of Sandfire Resources NL's (ASX: SFR) DeGrussa Copper/Gold mine, in Western Australia (see Figure 1).

The new total Measured, Indicated and Inferred Mineral Resource Estimation is 12.85 million tonnes @ 1.00% Cu and 0.1 g/t Au for 128,600 tonnes Cu and 36,000 oz Au (using a cut-off grade of 0.5% Cu).

This represents an impressive 40% increase in the copper metal content over the 2011 Mineral Resource Estimation (see Table 1). In addition, more than 30% of the new Resource estimate is in the Measured and Indicated categories.

Page 1 of 9





ASX Code:

Management

Mr Jeremy Shervington
Non-Executive Chairman

Mr Neil Marston Managing Director

Mr Michael Fotios

Non-Executive Director

Mr Stuart Hall
Non-Executive Director

Mr Damian Delaney
Company Secretary

**Issued Capital** 

Shares: 75.9 Million

Options: 16.6 Million

Share Price: \$0.08

Market Capitalisation: -\$6.1 Million

Cash at Bank (31 March 2013)

\$0.6 Million



TABLE 1 HORSESHOE LIGHTS PROJECT COMPARISON BETWEEN 2011 AND 2013 MINERAL RESOURCE ESTIMATES					
Mineral Resource Estimate	Tonnage (Mt)	Cu (%)	Cu metal (tonnes)		
31 December 2011	8.62	1.06	91,000		
31 May 2013	12.85	1.00	128,600		
	%	+40%			

# Mineral Resource Estimation

Horseshoe commissioned independent resource industry consulting group CSA Global Pty Ltd to undertake the Mineral Resource estimation, in accordance with the 2004 JORC guidelines and code for reporting of Mineral Resource Estimates, following the completion of drilling by the Company in May 2013. Details of the Mineral Resource estimate using a 0.5% Cu cut-off grade are shown in Table 2 below whilst the specific resource estimation parameters are set out in Appendix 1.

For all areas subjected to recent drilling the Mineral Resource has been classified into three categories (Measured, Indicated or Inferred) based on the geological confidence and data quality. As there has been no twinning of historic drill holes within the Main Zone beneath the existing pit, the entire resource south of 7194150mN has been classified into the Inferred category (see Figure 2).

#### TABLE 2 HORSESHOE LIGHTS PROJECT MINERAL RESOURCE ESTIMATE **AS AT 31 MAY 2013** Cu metal Au metal Ag metal **Tonnage** Cu Au Ag Type Category (Mt) (%) (g/t) (g/t)(tonnes) (oz) (oz) Measured 0.18 1.25 0.1 0.5 2,300 500 2,800 2,000 Indicated 0.15 0.94 0.0 0.4 1,400 200 Oxide Inferred 0.12 0.84 0.0 0.5 1,000 200 1,900 **Total Oxide:** 0.45 1.04 0.1 0.5 4,700 900 6,700 Measured 0.12 1.28 0.1 0.7 1,500 200 2,900 Indicated 0.23 1.16 0.5 2,700 400 3,500 0.1 Transition Inferred 1,700 0.15 1.15 0.0 0.6 100 2,800 **Total Transition:** 0.50 1.19 0.0 0.6 5,900 700 9,200 Measured 1.42 1.00 0.0 0.5 14,200 23,100 1,200 Indicated 2.06 0.93 0.0 0.7 19,100 2,800 46,700 Sulphide 2.6 84,700 707,700 Inferred 8.42 1.01 0.1 30,400 777,500 **Total Sulphide:** 11.90 0.99 0.1 2.0 118,000 34,400 1.73 0.0 0.5 18,000 28,800 Measured 1.04 1,900 Indicated 2.43 0.7 23,200 0.95 0.0 3,400 52,200 Inferred 8.69 1.01 0.1 2.6 87,400 30,700 712,400 **TOTAL** 12.85 1.00 1.9 128,600 36,000 793,400 0.1



As a result of the drilling programmes completed by the Company in 2012 and 2013 there has been a substantial increase in the Measured and Indicated categories to over 30% of the total resource, providing a high level of confidence in the continuity of the mineralisation north of the open pit.

The Mineral Resource estimation above excludes the surface stockpiles, tailings and mineralised dumps located at the Horseshoe Lights Project.

The Mineral Resource estimate for surface stockpiles and tailings is set out in Table 3 below.

TABLE 3  HORSESHOE LIGHTS PROJECT  SURFACE STOCKPILES AND FLOTATION TAILINGS  MINERAL RESOURCE ESTIMATE  AS AT 31 MAY 2013					
Туре	Category	Tonnage (t)	Cu (%)	Cu metal (tonnes)	
Flotation Tailings	Inferred	1,420,000	0.47	6,700	
M15 Stockpile	Inferred	244,000	0.80	1,900	
Subgrade Stockpile	Inferred	38,000	0.50	200	
	TOTAL	1,702,000	0.52	8,800	

Combining the Mineral Resources detailed above with the recently announced Mineral Resource Estimate for the Company's Kumarina Project (see ASX announcement dated 4 March 2013) gives the Company an overall copper metal inventory of 148,000 tonnes copper.

#### Follow-up activities

The Company's understanding of the geology of the Horseshoe Lights deposit has increased substantially as a result of the drilling and modelling completed during the past 15 months. Recently reported diamond drilling on the western side of the open pit has confirmed the down dip/plunge potential below the Main Zone. In addition the eastern side of the open pit remains a very prospective location for discovering additional copper/gold mineralisation based on the limited number of historical holes drilled in this area.

in the North West Stringer Zone several holes drilled by the Company in 2012 recorded significant high grade intercepts that require further drill testing.

Overall the Company is of the view that there remains excellent potential to substantially grow the copper inventory at the Horseshoe Lights Project with targeted drilling.

The Company is planning to undertake a Down Hole Electromagnetic ("DHEM") survey ahead of the hext phase of drilling at Horseshoe Lights. The DHEM survey will be testing for off-hole conductors which may represent massive sulphide copper/gold mineralisation.

The Company is delighted with the progress achieved in exploration at the Horseshoe Lights Project to date and looks forward to undertaking additional exploration activities in the near future.

# **ENDS**



# For further information please contact:

Neil Marston James Moses

Managing Director Media and Investor Relations

Horseshoe Metals Limited Mandate Corporate
T: +61 8 9481 5866 M: +61 420 991 574
M: +61 427 188 768 T: +61 2 8211 0612

E: <u>nam@horseshoemetals.com.au</u> E: <u>james@mandatecorporate.com.au</u>

# **Competent Persons Statement**

The information in this report that relates to in-situ Mineral Resources is based on information compiled by Mr. Dmitry Pertel, who is a member of the Australian Institute of Geoscientists. Mr. Pertel is an employee of CSA Global Pty. Ltd. Mr. Pertel has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Pertel 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 Mineral Resources of surface stockpiles and tailings and Exploration Results is based on information compiled by Mr Geoff Willetts, BSc. (Hons) MSc. who is a Member of the Australian Institute of Geoscientists. Geoff Willetts is employed full-time by Horseshoe Metals Limited. Geoff Willetts has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Geoff Willetts consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

# **Appendix 1: Resource Estimation Parameters**

The in-situ mineral resource estimate has been undertaken by CSA Global Pty Limited based in Perth, Western Australia. The initial geological and analytical database was provided by Horseshoe Metals Limited geological staff which formed the basis of the model definition. The estimation has been conducted in accordance with the 2004 JORC guidelines and code for reporting of Mineral Resource Estimates, and includes the following parameters and considerations:

- Reported Global Totals (headline figure) have been rounded to two significant figures from the detailed estimate.
- The Horseshoe Lights resource occurs as three main zones reflecting hanging wall and footwall shear zones and mineralised stratigraphic horizon with 700m of strike. Currently defined resources occur under and outside the limits of the existing pit and do not include copper resources from the waste dumps. Mineralisation occurs in various styles including massive chalcocite, stringer style and disseminated chalcopyrite and is associated with structural and alteration zones.
- The Horseshoe Lights resource is nominally drilled on a 20 x 20m grid with areas of 40 x 20m drilling oriented perpendicular to individual domains. A total of 792 Reverse Circulation Percussion (RC) drill holes for 78,254m, 66 Diamond (DD) drill holes for 20,696m and 3 DD holes with RC precollar for 788m were included in the estimation.
- 7 historical RC drill holes and 19 shallow angle sludge holes drilled within the Main Zone have been excluded from the model used in this estimate due to uncertainty about the quality of sample recovery as a result of high water flows encountered at the time of drilling and recorded on the geological logs. Some of the areas drilled by these excluded holes warrant re-drilling in the future as significant copper mineralisation was observed and assayed at the time of drilling. A further 71 historical RC drill holes north of the pit have also been excluded due to QA issues.
- 2010 2012 RC drill samples have been collected at the drill rig as 1m splits and composited over 3-4m interval or retained as a 1m sample based on fpXRF analysis.
- Diamond core was sawn in half with selected half core submitted for assay, mostly at 1m sample intervals.
- In the 2010-2013 drilling, QAQC samples were inserted every 25th drill sample, including in Field Duplicates and Certified Standards.
  - 2010-2013 drill samples were assayed for gold using aqua regia method and copper using four acid digestion with ore grade ICP-OES finish, mainly at Genalysis Laboratories Services and Quantum Analytical Services. All laboratory pulps have been retained in storage.
- The Horseshoe Lights resource was divided into 3 structural domains and two grade domains for variography and grade interpolation.
- No top cuts were employed as the MIK interpolation method was used for grade interpolation.
- Bulk Dry Density based on historical mine records and limited core measurements obtained using volume displacement in water:
  - 2.0 t/cu.m for oxidized material
  - o 2.2 t/cu.m for transition material
  - o 2.6 t/cu.m for fresh rock
  - o 3.2 t/cu.m for fresh rock within chalcocite zone
- All historical drill hole collars surveyed by mine surveyors with accuracies of 0.1m E, N & RL. All 2010 – 2012 drill hole collars as well as several historical RC drill holes surveyed utilising RTK GPS with expected relative accuracies of 0.02m E, N & 0.05m RL. All 2013 drill holes located by DGPS.
- Topographic digital terrain model was generated from aerial photography.



- Most 2010-2013 drill holes have down hole surveys for dip and azimuth. Several historical drill holes have been surveyed at collar where down hole surveys were not taken for dip and azimuth.
- Drill hole samples have been composited to 1m intervals for calculations.
- Interactive interpretation and wireframing was conducted for 34 EW cross sections.
- Block modelling was done using 5m x 10m x 5m cell size with sub-blocking, estimation was conducted to parent cells only. Oriented search ellipsoids were defined for each of the Domains modelled.
- The estimate has been reported using Multiple Indicated Kriging within wireframes interpreted from cross sections. Ordinary Kriging, IDW2 and IDW3 were also conducted for verification of the same models.
- Wireframes based on a nominal low grade mineralized outline using a down-hole 0.18% copper cut-off grade based on the mean of global samples. Some internal waste within wireframes was removed wherever it was deemed appropriate to do so.
- Oxidation boundaries were wire framed and included in modelling.
- The block model was clipped to the upper surfaces of the dolerite and shale.
- Diamond core logging includes some oriented structural logging.
- Mineral Resource model was depleted using the surface of the existing pit, and only the unmined part of it was reported.
- Wireframe interpretations and resource modelling completed using Micromine software.
- No assumptions have been made about mining or processing methods.

The surface stockpiles and flotation tailings mineral resource estimate has been undertaken by Horseshoe Metals Limited. The estimation has been conducted in accordance with the 2004 JORC guidelines and code for reporting of Mineral Resource Estimates, and includes the following parameters and considerations:

- The flotation tailings tonnage estimate is based on production information from monthly milling records and the average grade is based on the results of sampling 100 auger holes drilled on a 40m x 40m grid over the tailings dam by the Company in 2010.
- The M15 and subgrade stockpiles were surveyed by licenced surveyors in 1994 to ascertain volume and tonnage.
- The grade estimate of the M15 stockpile is a result of blast hole grade control methodology that assigned 0.8-1.0% Cu grade. The lower limit of this range has been adopted.
- The grade estimate of the subgrade stockpile is a result of blast hole grade control methodology that assigned 0.5-0.8% Cu for the subgrade stockpile. The lower limit of this range has been adopted.
- Previous testwork has shown that the tailings and stockpile materials are amenable to leaching.



#### **About Horseshoe Metals Limited**

Horseshoe Metals Limited (ASX:HOR) is a copper and gold focused company with a package of tenements covering approximately  $300 \text{km}^2$  in the highly prospective Peak Hill Mineral Field, located north of Meekatharra in Western Australia. The Company's projects are the Horseshoe Lights Project and the Kumarina Project (see Figure 1).

# About the Horseshoe Lights Project

The Horseshoe Lights Project includes the old open pit of the Horseshoe Lights copper-gold mine which operated intermittently between 1946 and 1994, producing over 300,000 ounces of gold and 54,000 tonnes of copper including over 110,000 tonnes of Direct Shipping Ore (DSO) which graded between 20-30% copper. The Horseshoe Lights ore body is interpreted as a deformed Volcanogenic Hosted Massive Sulphide deposit that has undergone supergene alteration to generate the gold-enriched and copper-depleted cap that was the target of initial mining. The deposit is hosted by quartz-sericite and quartz-chlorite schists of the Lower Proterozoic Narracoota Formation, which also host Sandfire Resources' DeGrussa Cu-Au mine.

Past mining was focused on the Main Zone, a series of lensoid ore zones which passed with depth from a gold-rich oxide zone through zones of high-grade chalcocite mineralisation into massive pyrite-chalcopyrite. To the west and east of the Main Zone, copper mineralisation in the Northwest Stringer Zone and Motters Zone consists of veins and disseminations of chalcopyrite and pyrite and their upper oxide copper extensions.

Prior to the commencement of drilling by Horseshoe in 2010, the project had no exploration since the 1990's and Horseshoe believes that systematic drilling, combined with the application of modern geophysical methods, can upgrade the known resources and may lead to new discoveries in the mine area.

# About the Kumarina Project

The copper deposits at the Kumarina Project were discovered in 1913 and worked intermittently until 1973. The workings extend over nearly 3km as a series of pits, shafts and shallow open cuts. At the main Kumarina Copper Mine, the workings are entirely underground with drives from the main shaft extending for some 200m in the upper levels and for about 100m in the lower levels at a depth of 49m below surface.

Incomplete records post-1960s make it difficult to estimate the total copper production from the workings. However, indications are that the Kumarina Copper mine was the second largest producer in the Bangemall Basin group of copper mines. Recorded production to the late 1960s is 481t of copper ore at a high-grade of 37.0% Cu and 2,340t at a grade of 17.51% Cu.



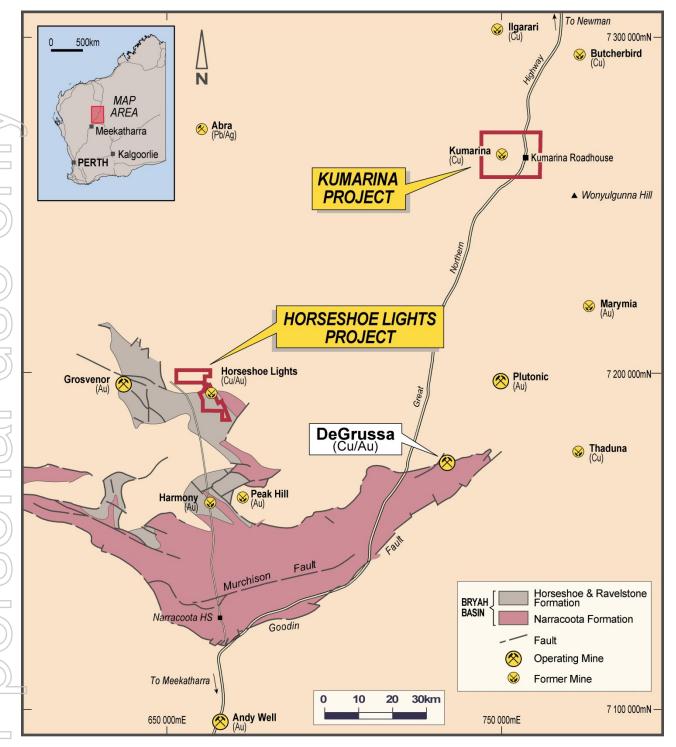


Figure 1 - Projects Location Plan



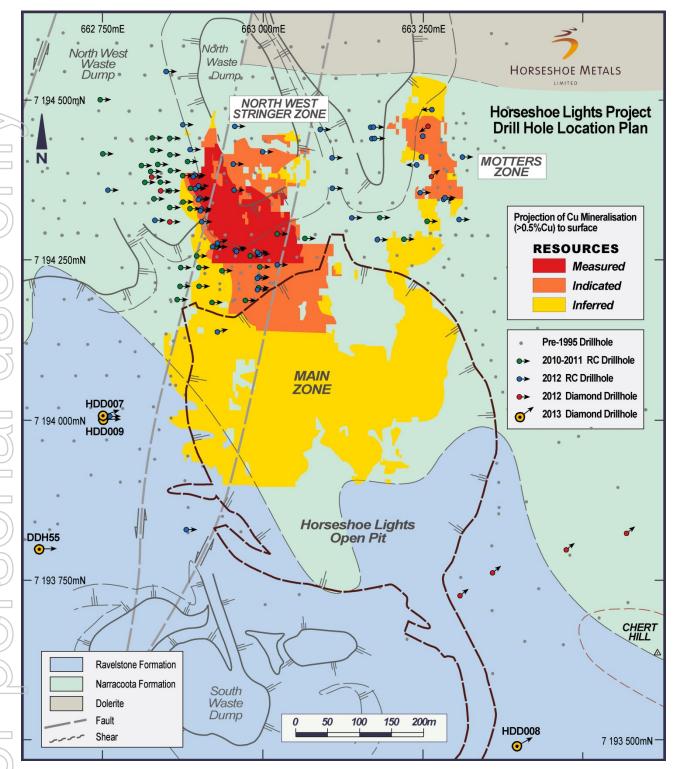


Figure 2 - Drill Hole Location Plan