



HORSESHOE METALS LIMITED

ASX ANNOUNCEMENT

31 October 2023

High-Grade Surface Material to Underpin Copper DSO Strategy at Horseshoe Lights

- Horseshoe pursuing significant early cash flow opportunity from DSO sales of existing high-grade copper stockpiles
- Assessment of surface stockpiles and former rehandle areas identifies significant DSO Potential
- Surface material assays up to 40.3% copper in chalcocite/digenite
- Composite samples collected for customer assessment assay up to 39.0% copper
- Samples provided to potential customers that have expressed interest in offtake of DSO material
- Horseshoe Lights Copper-Gold Project existing resource base includes:
 - **Current in situ resource 128,000 t Cu metal @ 1.0% (0.5% cut-off)**
 - **Current M15 stockpile resource 2650 t Cu metal @ 1.1%**
 - **Current Flotation tailings resource 6,800 t Cu metal @ 0.48% and 15,300oz Au at 0.34 g/t**

Horseshoe Metals Limited (ASX: HOR) (the 'Company') is pleased to provide an update regarding the recent assessment of the high-grade Direct Shipping Ore ('DSO') surface stockpiles at the Company's Horseshoe Lights Copper-Gold Project in Western Australia.

The Horseshoe Lights Copper-Gold Project is the original Cu/Au VMS discovery in the Bryah Basin and is located approx. 60 km west of DeGrussa Copper Mine owned by Sandfire Resources (ASX: SFR). Past production from Horseshoe Lights includes around **316,000 oz Au & 55 kt Cu metal** in two phases of mining, and the deposit contains a current *in situ* resource **128 kt Cu metal @ 1.0% (0.5% cut-off) and 36,000 oz Au** (refer Table 2).

Significantly the copper phase of mining included early DSO copper production that has left subgrade and rehandle DSO material around the site. Areas identified and assessed as having future DSO potential include, M15, Subgrade and C20 stockpiles along with rehandle and surface pimple dumps located on the North Waste dump, Gold tailings and Southern low-grade stockpile (Figure 1 and Images 1 to 5).

Surface grab samples have been collected to confirm grade as well as a 27kg composite sample source from various stockpiles around the site. The composite sample was delivered to Nagrom for compositing, crushing and analysis. Sub-samples of this composite have been provided to potential customers for assessment who have expressed strong interest in purchasing the material. **This material is identical to the historically produced and sold DSO material.**

The grab samples assay up to 40.3% copper and the stockpile composite assays up to 39.0% copper (Table 1). The DSO material occurs in a wide range of sizes from boulders

BOARD OF DIRECTORS

Ms Kate Stoney
*Non-Executive Director,
Chief Financial Officer &
Joint Company Secretary*

Mr Craig Hall
Non-Executive Director

Mr Alan Still
Non-Executive Director

Mr Josh Merriman
Joint Company Secretary

HORSESHOE METALS LIMITED

ABN 20 123 133 166
Level 2, 50 Kings Park Rd
West Perth WA 6005

T: +61 8 6241 1844
F: +61 8 6241 1811
E: info@horseshoemetals.com.au

www.horseshoemetals.com.au

to fines throughout the stockpiles and dumps (Images 1 to 5). The coarse material is easily scavenged utilising loaders and excavators equipped with sieve buckets.

The surface materials have previously been broadly grouped as follows (Figure 1):

Copper - Gold	Flotation tailings, Vat 2, M15/C20 Stockpiles and North Dump
Copper	Subgrade, rehandle, Low-grade oxide and sulphide stockpiles
Gold	Gold tailings, leach vats, low grade, rehandle and ROM stockpiles

Results of Phase 1 testing of gold vat, gold re-handle and C20 stockpiles was reported in ASX releases dated 10 September 2021, 26 November 2021 and 18 March 2022 respectively. Phase 2 drilling completed in May included 70 holes for 778m (refer ASX releases dated 18 March and 19 May 2022) targeting selected stockpiles and dumps as an initial follow-up to historic reconnaissance drilling. The objective was to confirm the existence and style of mineralisation and/or infill drilling completed by the Company (e.g. C20 stockpile).



Image 1: Nth of C20 dump- part of composite sample (7,194,388mN 663,343mE)

Copper Materials Discussion – Historic Activity

Low Grade oxide, Subgrade and Re-handle Stockpiles

These stockpiles (Figures 1) were created during the DSO phase of mining in the upper parts of the Cu orebody and during copper sulphide mining phase by in the late 1980's, and early 1990's. During the 'Chalcocite' DSO mining phase, these stockpile and re-handle areas were likely used as resample areas for high grade ore excavated from the margins of the DSO orebody that may have been diluted during mining. The Low-grade oxide (LGO) appears to comprise low grade Cu oxide and Cu mineralised waste mined from the mineralised halo adjacent to the high-grade Cu mineralisation. Significant historic drilling results (Table 2) include:

- | | |
|---------------------------|-----------------------------------|
| ▪ 5m @ 1.07 % Cu from 2m | LGRC2 (subgrade stockpile) |
| ▪ 5m @ 0.66 % Cu from 2m | LGRC1 (subgrade stockpile) |
| ▪ 8m @ 0.51 % Cu from 8m | SMRC5 (low-grade oxide stockpile) |
| ▪ 10m @ 0.39 % Cu from 6m | SMRC3 (low-grade oxide stockpile) |

Copper-Gold Materials Discussion

C20 Stockpile

The C20 stockpile is understood to be a low grade rehandle stockpile created during the gold only CIP operations phase in the mid to late 1980's. During the subsequent 'Chalcocite' Direct Shipped Ore ("DSO") mining phase, the surface of this stockpile was used as a resample area for high grade ore excavated from the margins of the DSO orebody that may have been diluted during mining. The C20 stockpile contains significant oxide gold and copper mineralisation, with significant historic drilling results including:

- | | |
|---|---------|
| ▪ 9m @ 2.09 g/t Au from surface | C20RC45 |
| ▪ 9m @ 0.97 g/t Au from surface | C20RC10 |
| ▪ 10m @ 0.78 g/t Au from surface | C20RC9 |
| ▪ 9m @ 1.69g/t Au from 1m & 8m @ 0.43% Cu from 1m | C20RC8 |
| ▪ 6m @ 1.20g/t Au from surface | C20RC21 |
| ▪ 3m @ 2.54g/t Au from and 0.73% Cu from surface | C20RC46 |

Gold Materials Discussion

Gold Stockpiles

Stockpiles A, B, C and D were created during the CIP gold mining phase of operations in the mid to late 1980's. Historic drilling was limited to one hole in each of the stockpiles (Figure 1). Historic RC drilling produced the following significant results:

- | | |
|----------------------------------|----------------------|
| ▪ 10m @ 1.63 g/t Au from surface | SAURC5 (stockpile A) |
| ▪ 4m @ 1.77 g/t Au from 6m | SURC10 (stockpile D) |
| ▪ 6m @ 0.73g/t Au from 2m | WRL09 (stockpile A) |
| ▪ 5m @ 1.89g/t Au from 1m | WRL05 (stockpile B) |
| ▪ 5m @ 0.52g/t Au from surface | WRL03 (stockpile C) |

Discussions are continuing regarding potential offsite treatment of gold stockpiles remaining from the gold mining activities in the 1980's. Further evaluation of these stockpiles may be required including auger drilling and/or RC drilling.

Proposed Work Programmes and Next Steps

The following activities are planned to further investigate the surface materials:

- Additional RC and/or auger drilling of the North Dump, gold stockpiles, copper Low-grade oxide and Low-grade sulphide stockpile stockpiles
- Auger drilling of the gold and copper rehandle areas
- Acid leaching test work on oxide copper stockpiles and targets
- Gravity recovery test work on Copper Flotation and CIP tailings
- Detailed assessment of the recovery of high-grade chalcocite, digenite and covellite DSO remnant from the historic mining phases via mechanical scavenging and/or heavy media separation.

For additional background on the Horseshoe Lights Project please refer to ASX releases:

12/09/2018	<i>"Exploration Update- Horseshoe Lights Project"</i>
06/08/2021	<i>"Horseshoe Lights Exploration Activities Update"</i>
10/09/2021	<i>"Horseshoe Lights Phase 1 Auger Programme Completed"</i>
13/09/2021	<i>"Horseshoe Lights Phase 1 RC Drilling Programme Completed"</i>
29/10/2021	<i>"Horseshoe Lights RC Drilling Results"</i>
26/11/2021	<i>"Horseshoe Lights Phase 1 Stockpile Results Received"</i>
21/02/2022	<i>"Horseshoe Metals Successful Relisting"</i>
03/03/2022	<i>"Horseshoe Lights Activities Update"</i>
11/03/2022	<i>"Horseshoe Lights Copper-Gold Resource Grade-Tonnage Review"</i>
21/04/2022	<i>"RC Drilling Underway at Horseshoe Lights Project"</i>
19/05/2022	<i>"RC Drilling Campaign Complete at HSL Project"</i>
11/08/2022	<i>"Significant Drilling Results in Copper-Gold Surface Material at Horseshoe Lights"</i>
31/08/2022	<i>"Outstanding Copper Results at Horseshoe Lights"</i>
11/10/2022	<i>"Review Confirms Broad Zones of Copper Mineralisation"</i>
27/10/2022	<i>"Broad Zones of Copper up to 8.3%"</i>
17/11/2022	<i>"RC Drilling Commences at Main Zone, Motters and North Dump"</i>
09/03/2023	<i>"Outstanding Copper Results – Main Zone and Motters at Horseshoe Lights"</i>

The Board of Directors of HOR has authorised this announcement to be given to the ASX.

- ENDS -

Enquiries

Kate Stoney

Non-Executive Director

T +61 (0) 8 6241 1844

E: info@horseshoemetals.com.au

Sam Burns

Six Degrees Investor Relations

T +61 (0) 400 164 067

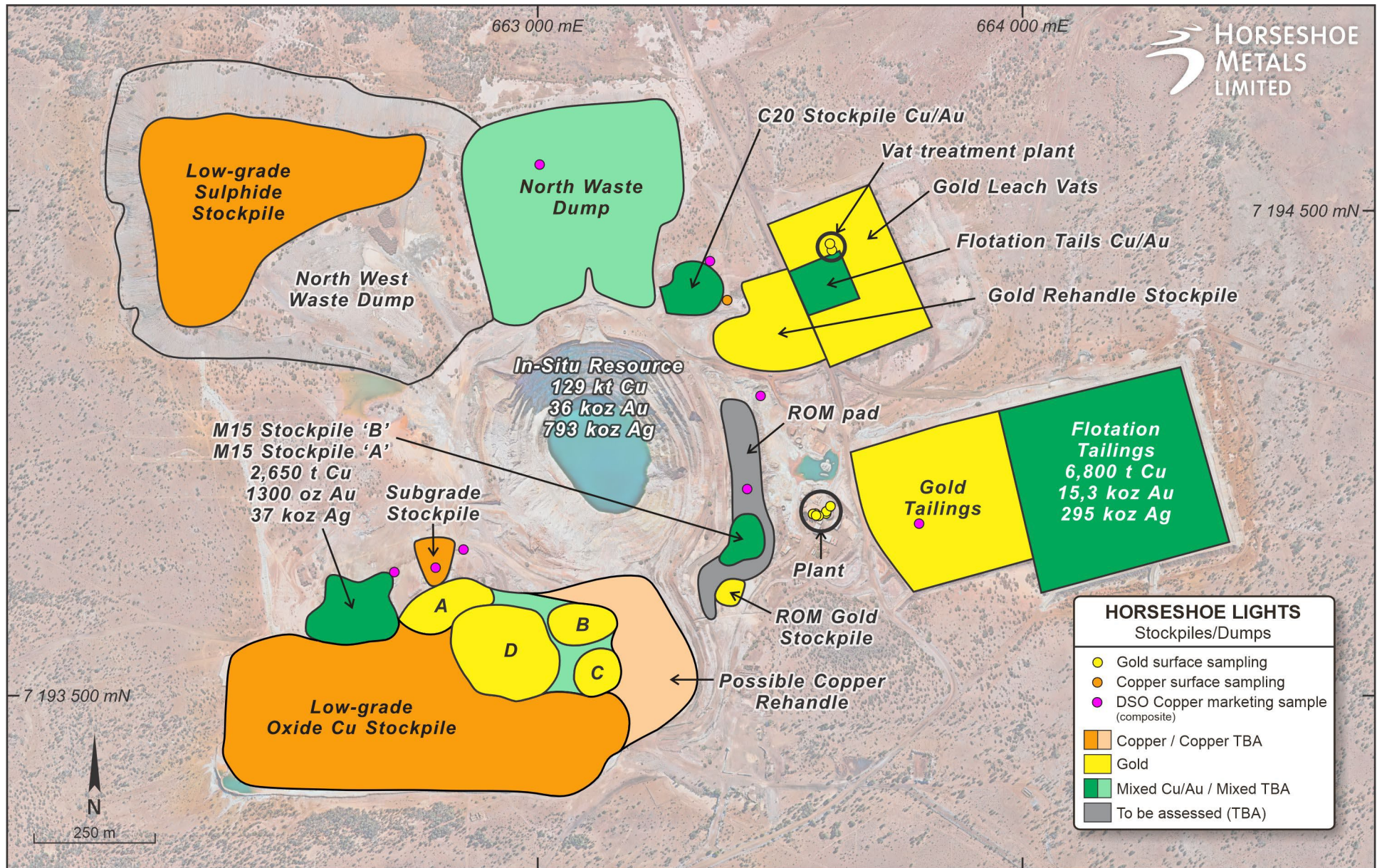


Figure 1 – Surface Stockpiles and Dumps showing Sample Locations

Table 1: Surface Grab Samples

Sample ID	North	East	Cu ppm	Cu %	Description
HH00008	7194317	663392	403200	40.32	C20 - Typical lump chalcocite (see image 1)
DSO Copper Marketing Sample					
HLM1 & 2	7193738	662697	HLM1 372300	HLM1 37.23	DSO copper chalcocite marketing sample composite - various locations (see images 1 to 5) HLM1 and 2 are 10kg splits from a ~27kg bulk composite sample
	7193766	662793			
	7193800	662816			
	7194572	662980			
	7194388	663343	HLM2 390600	HLM2 39.06	
	7194126	663455			
	7193953	663427			
	7193821	663814			

Notes:

Coordinate system GDA94z50, located on high resolution (2.5cm) photography.
Lab Method Au = FA30, Cu = ICP005

Images 2 to 5

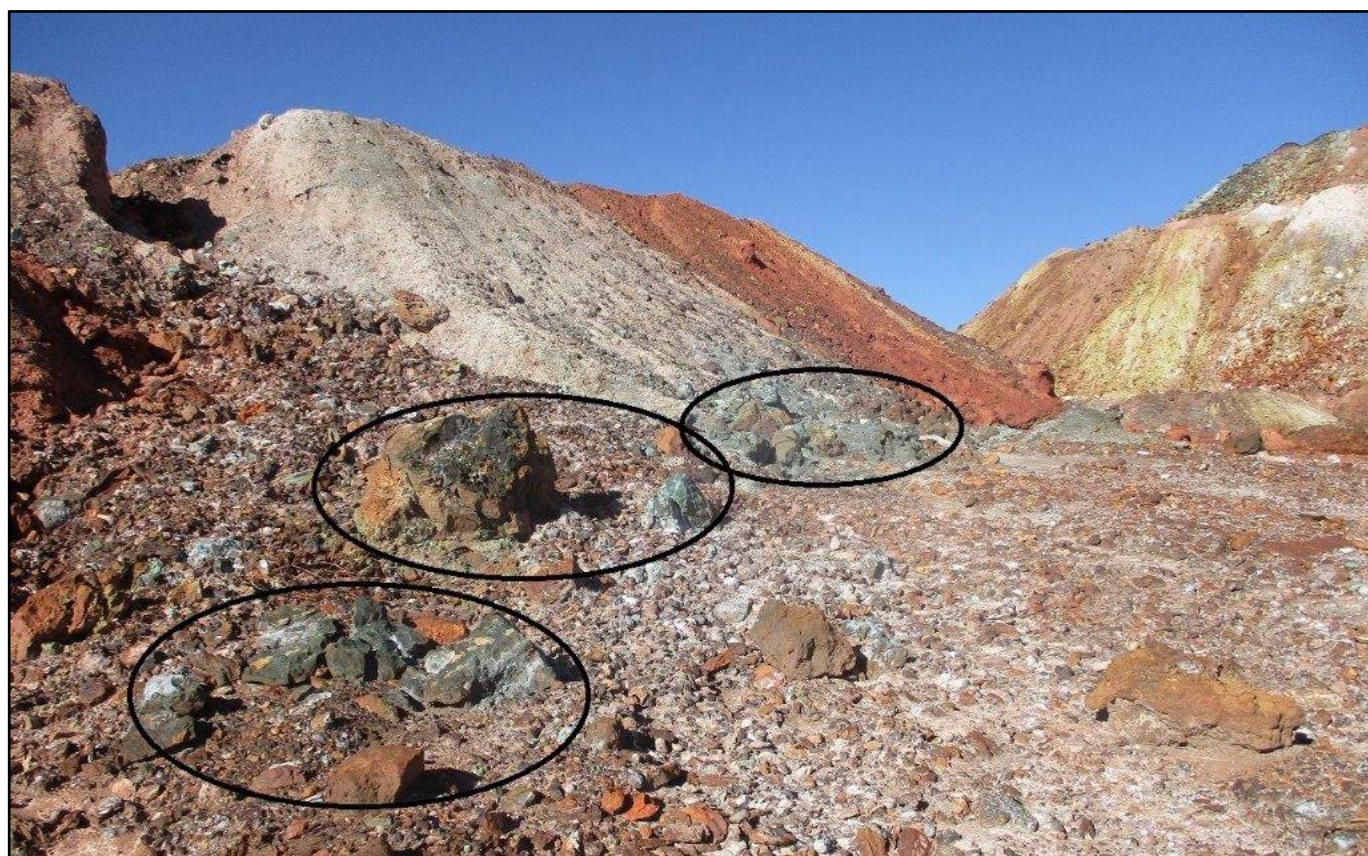


Image 2: North Face C20 Stockpile – composite sample location (7,194,388mN 663,343mE) – DSO material circled.



Image 3: Crusher station feed area- part of sample composite (7,194,126mN 663,455mE)

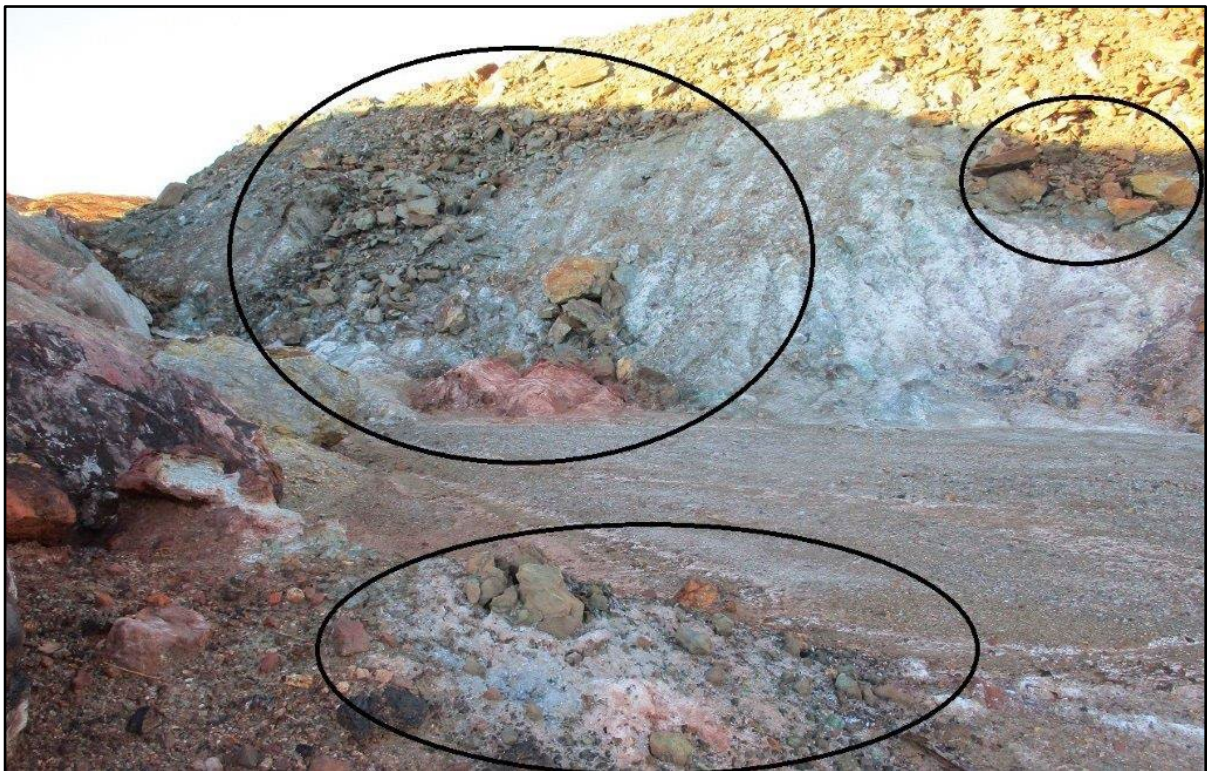


Image 4: Sub-grade stockpile- circled Chalcocite- composite sample locations (7,193,800mN 662,816mE) – DSO material circled.



Image 5: Pimple dump on CIP tailings cell- part of composite sample (7,193,821mN 663,814mE) – DSO material circled.

About Horseshoe Metals Limited

Horseshoe Metals Limited (ASX:HOR) is a copper and gold-focused Company with a package of tenements covering approximately 500km² in the highly prospective Peak Hill Mineral Field, located north of Meekatharra in Western Australian and mineral interests in South Australia. The Company manages the Horseshoe Lights Project and the Kumarina Project in Western Australia, and the Glenloth Gold Project in South Australia.

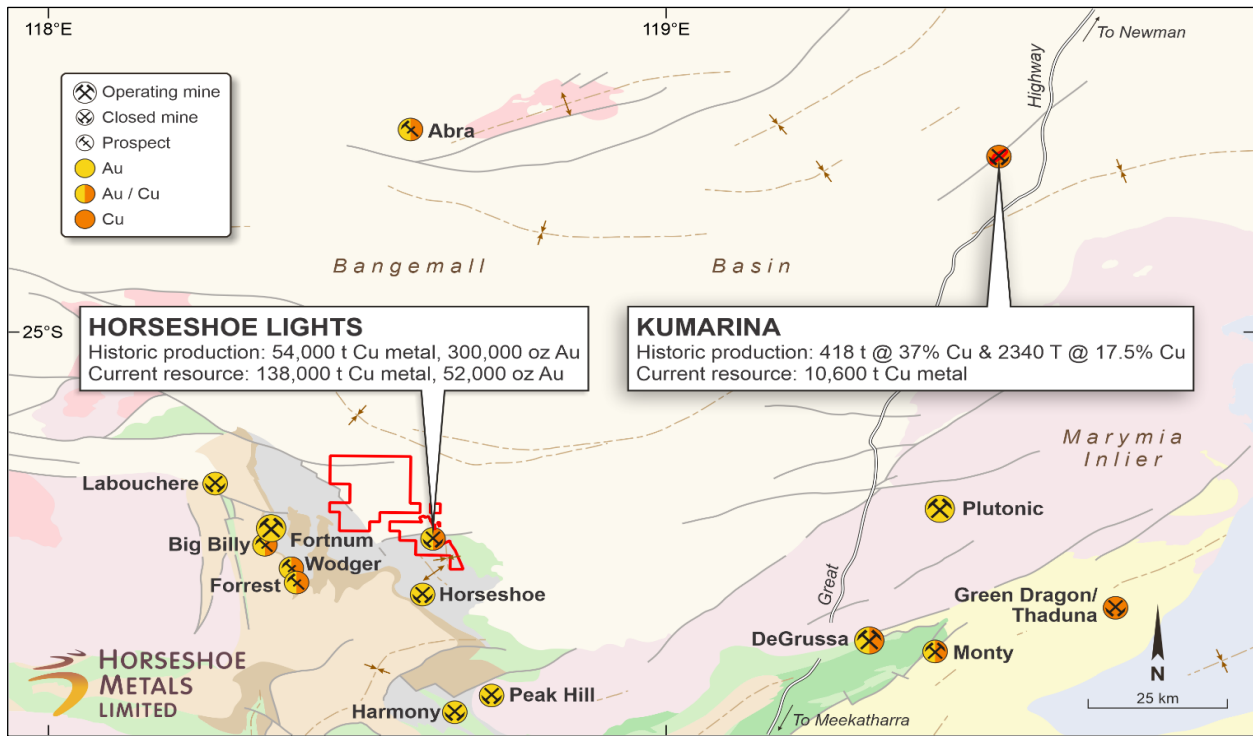


Figure 2: Location of Horseshoe Lights Copper-Gold Project and Kumarina Project in the Murchison, WA

About the Horseshoe Lights Project

The Horseshoe Lights Project includes the historic open pit of the Horseshoe Lights copper-gold mine which operated up until 1994, producing over 300,000 ounces of gold and 54,000 tonnes of contained 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 (VMS) 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.

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. Table 2 summarises the total Mineral Resources for the Horseshoe Lights Project as at 30 June 2023.

TABLE 2 HORSESHOE LIGHTS PROJECT SUMMARY OF MINERAL RESOURCES AS AT 30 June 2023									
Location	Category	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	Cu metal (tonnes)	Au metal (oz)	Ag metal (k oz)	
In-situ Deposit (0.5% Cu cut-off grade)	<i>Measured</i>	1.73	1.04	0.0	0.5	18,000	1,900	28.8	
	<i>Indicated</i>	2.43	0.95	0.0	0.7	23,200	3,400	52.2	
	<i>Inferred</i>	8.69	1.01	0.1	2.6	87,400	30,700	712.4	
	Total	12.85	1.00	0.1	1.9	128,600	36,000	793.4	
Flotation Tailings	Inferred	1.421	0.48	0.34	6.5	6,800	15,300	294.8	
M15 Stockpiles	Inferred	0.243	1.10	0.17	4.7	2,650	1,300	36.7	
Note: At 0% Cu cut-off grade unless otherwise stated						TOTAL	138,050	52,600	1,124.9

The above Mineral Resource Estimates all meet the reporting requirements of the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves".

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 5km 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. An initial Mineral Resource Estimate for the Rinaldi deposit was completed by the Company in 2013 (see 30 June 2013 Quarterly Report announced on 31 July 2013). The total Measured, Indicated and Inferred Mineral Resource Estimate as at 30 June 2023 is shown in Table 3 below.

**TABLE 3
KUMARINA PROJECT
SUMMARY OF MINERAL RESOURCES
AS AT 30 June 2023**

Location	Category	Tonnes (t)	Cu (%)	Cu metal (tonnes)
Rinaldi Prospect (0.5% Cu cut-off)	<i>Measured</i>	<i>415,000</i>	<i>1.46</i>	<i>6,100</i>
	<i>Indicated</i>	<i>307,000</i>	<i>1.16</i>	<i>3,500</i>
	<i>Inferred</i>	<i>114,000</i>	<i>0.9</i>	<i>1,000</i>
	Total	835,000	1.3	10,600

The Mineral Resource Estimate meets the reporting requirements of the 2012 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”

Forward Looking Statements

Horseshoe Metals Limited has prepared this announcement based on information available to it. No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness or correctness of the information, opinions and conclusions contained in this announcement. To the maximum extent permitted by law, none of Horseshoe Metals Limited, its directors, employees or agents, advisers, nor any other person accepts any liability, including, without limitation, any liability arising from fault or negligence on the part of any of them or any other person, for any loss arising from the use of this announcement or its contents or otherwise arising in connection with it. This announcement is not an offer, invitation, solicitation or other recommendation with respect to the subscription for, purchase or sale of any security, and neither this announcement nor anything in it shall form the basis of any contract or commitment whatsoever. This announcement may contain forward-looking statements that are subject to risk factors associated with gold exploration, mining and production businesses. It is believed that the expectations reflected in these statements are reasonable but they may be affected by a variety of variables and changes in underlying assumptions which could cause actual results or trends to differ materially, including but not limited to price fluctuations, actual demand, currency fluctuations, drilling and production results, reserve estimations, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory changes, economic and financial market conditions in various countries and regions, political risks, project delay or advancement, approvals and cost estimates.

Competent Persons Statement

The information in this report that relates to the Exploration Results and Mineral Resources at the Horseshoe Lights and Kumarina Projects is based on information reviewed by Mr Michael Fotios, who is a member of the Australian Institute of Mining and Metallurgy. Mr Fotios is contractor of Horseshoe Metals Limited and has sufficient experience which is relevant to the style of mineralisation and types of deposit under consideration and to the activity he is undertaking to qualify as Competent Persons as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012)’. Mr Fotios consents to the inclusion of the information in the form and context in which it appears.

The information in this report that relates to the Horseshoe Lights Project surface stockpile Mineral Resources is based on information compiled by a previous employee of Horseshoe Metals Limited and reviewed by Mr Craig Hall, who is a member of the Australian Institute of Geoscientists. Mr Hall is a director and former contractor to Horseshoe Metals Limited and has sufficient experience which is relevant to the style of mineralisation and types of deposit under consideration and to the activity he is undertaking to qualify as Competent Persons as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012)’. Mr Hall consents to the inclusion of the data in the form and context in which it appears. The information was previously issued in announcements released to the ASX on 26 February 2015 and 9 March 2015. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The Company confirms that the form and context in which the findings are presented have not materially modified from the original market announcements.

The information in this report that relates to the Horseshoe Lights Project In-situ Mineral Resources is based on information originally compiled by Mr Dmitry Pertel, an employee of CSA Global Pty Ltd, and reviewed by Mr Hall. This information was originally issued in the Company’s ASX announcement “40% increase in Copper Resource at Horseshoe Lights Copper/Gold Project”, released to the ASX on 5 June 2013, and first disclosed under the JORC Code 2004. This information was subsequently disclosed under the JORC Code 2012 in the Company’s ASX release “Quarterly Report Period Ended 30 June 2013”, released on 31 July 2013. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The Company confirms that the form and context in which the findings are presented have not materially modified from the original market announcements.

The information in this report that relates to the Kumarina Project (Rinaldi Prospect) Mineral Resources is based on information compiled by or under the supervision of Mr Robert Spiers, an independent consultant to Horseshoe Metals Limited and a then full-time employee and Director of H&S Consultants Pty Ltd (formerly Hellman & Schofield Pty Ltd), and reviewed by Mr Hall. The information was originally issued in the Company’s ASX announcement “Horseshoe releases Maiden Mineral Resource Estimate for Kumarina”, released to the ASX on 4 March 2013, and first disclosed under the JORC Code 2004. This information was subsequently disclosed under the JORC Code 2012 in the Company’s ASX release “Quarterly Report Period Ended 30 June 2013”, released on 31 July 2013. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The Company confirms that the form and context in which the findings are presented have not materially modified from the original market announcements.

JORC CODE, 2012 EDITION

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> Nature and quality of sampling (eg 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. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. 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 (eg '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 (eg submarine nodules) may warrant disclosure of detailed information. 	<ul style="list-style-type: none"> HOR 2021 RC Drilling- samples were collected to best represent the source material. Samples were sent to Nagrom Perth for Au analysis by ICP-OES (Method ICP-008), 50g charge with a lower detection limit of 0.001 ppm NAGROM method – ICP008; 40gm Aqua Regia Digest- suite included AAu, Ag, Ca, Cu, Fe, Hg, Mg, Pb, S, Se and Zn. Samples were pre-screened at hole for Cu for subsequent assay by portable XRF. HOR 2022 RC Drilling- samples were collected to best represent the source material. Samples were sent to Bureau Veritas Perth for Au, Cu, Ag and S analysis by BV method AR101 with either ICP-MS or ICP-AES/MS finish. Samples were pre-screened at hole for Cu for subsequent assay by portable XRF. HOR 2021 Auger drilling- samples were collected by spiral auger bit and shafts with flights 3 ½ "in diameter. Samples were collected every metre from a collared liner base of around 50cm x 40cm, into a large labelled plastic bag, and the base swept clean before proceeding with the next metre. Sub-sampling into numbered calico bag was via an aluminium scoop collecting around 500-750gm of sample from the plastic bag, which was retained at the hole over the collar. The historical 1985 RC Vat sampling programme was undertaken by a truck mounted Mole Pioneer drilling rig owned and operated by Sanfeed Drilling Contractors in Perth, using a modified rotary drill with blade bit. Samples were collected ever 2m within holes up to 6m deep, except 3 holes in Vat 3 which were sampled every 1m. HOR 2021/22 RC Drilling - Portable Niton XRF used to select sample intervals, internal checks utilised HOR 2021 Auger drilling Depth control was at the decimetre level, with depth checked against a metre stick HOR 2021/22 RC Drilling -undertaken as industry standard reverse circulation drilling, with 1m samples were split from the cyclone, with residual sample collected in plastic bags HOR 2021 Auger drilling was undertaken by experienced contractors Gyro Australia and is considered industry standard with a geochemical auger rig used to obtain 1 m samples of 5-10kg from a vertical auger hole of less than 6m in this instance. Sub samples of 500-750gm were taken via scoop and pulverised at the laboratory to produce a 50 g charge for fire assay analysis for gold only. The historical 1985 RC Vat sampling programme was considered industry standard at the time, with samples split on site by drillers and sent to Perth for analysis
Drilling techniques	<ul style="list-style-type: none"> Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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). 	<ul style="list-style-type: none"> HOR 2021/22 RC Drilling - was undertaken as industry standard reverse circulation drilling, with iDrilling completing work with a UDR450 track mounted rig and separate 900/1150 booster. Face-sampling drill bit size was 140mm HOR 2021 Auger drilling was completed using a Landcruiser mounted post-hole style auger, capable of at least 10m drill depths. Hole diameters were 3.5". The historical 1985 RC Vat sampling programme was undertaken by a truck mounted Mole Pioneer drilling rig, using a modified rotary drill with blade bit. Size of bit not stated.
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. 	<ul style="list-style-type: none"> HOR 2021 RC Drilling- Visual inspection of the RC sample volume indicates sample recovery is excellent HOR 2021 Auger drilling -Visual inspection of the auger sample volume indicates sample recovery is excellent HOR 2021 RC Drilling -all samples drilled dry with minimal clayey component. All RC samples samples are visually checked for recovery, moisture and contamination HOR 2021 Auger drilling -Visual inspection of the auger sample volume indicates sample recovery is excellent. 1985 RC Vat sampling programme- stated as 'satisfactory'. Auger samples are visually checked for recovery, moisture and contamination. Hole sides were conditioned where possible, and sample bases cleaned before proceeding. 1985 RC Vat sampling programme- not known. HOR 2021 RC Drilling - No potential for sample bias was observed, with no fine/coarse separation

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> HOR 2021 Auger drilling -Ground conditions for auger drilling are good and drilling returned consistent size samples. No potential for sample bias was observed, with no fine/coarse separation. 1985 RC Vat sampling programme- not known
Logging	<ul style="list-style-type: none"> 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. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> HOR 2021/22 RC Drilling - logged to a level to support appropriate Mineral Resource estimation, mining studies, and metallurgical studies. C20 stockpiles and dumps not logged HOR 2021 Auger drilling Not logged as leached Vat material is relatively homogenous. All material and sampling viewed and overseen by senior geologist. 1985 RC Vat sampling programme- not known HOR 2021/22 RC Drilling- - logged to a level to support appropriate Mineral Resource estimation, mining studies, and metallurgical studies. HOR 2021 Auger drilling - N/A HOR 2021/22 RC Drilling- - All drilling logged to a level to support appropriate Mineral Resource estimation, mining studies, and metallurgical studies. HOR 2021 Auger drilling -NA.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> If core, whether cut or sawn and whether quarter, half or all core taken. 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. Whether sample sizes are appropriate to the grain size of the material being sampled. 	<ul style="list-style-type: none"> No diamond core drilled during this program. HOR 2021 RC Drilling- -Non-core drilling, generally sampled dry, wet samples noted; Sample preparation technique considered appropriate to sample type; Cyclone cleaning routinely carried out during drilling; No field duplication undertaken to date, further work planned; Sample sizes considered appropriate to the grain size of the material being sampled. HOR 2021 Auger drilling- Whole samples collected and swept off rubber lined collar pad; Auger drilling All auger samples drilled dry for the purposes of sampling. Sample sizes considered appropriate to the grain size of the material being sampled. 1985 RC Vat sampling programme- not known RC and Auger sample analysis follows industry best practice whereby samples are sorted, reconciled, placed onto trolleys and dried at 105°C in an oven, then crushed to ~2mm and a 500-700g subsample taken by rotary division for pulverisation. The subsample was pulverised >90% passing 75µm using bowl-and-disc type mills, and ~200g of pulverised sample was taken for analysis. The technique is considered appropriate for the process of sub-sampling. 1985 RC Vat sampling programme- not known Sub sampling stages are considered appropriate for the representivity of samples. RC and Auger sample analysis -Residuals and original samples sources retained for checks. C20 stockpiles original metre samples not retained RC and Auger sample analysis-The sample size is considered industry standard for base and precious metal mineralisation.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. 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, 	<ul style="list-style-type: none"> HOR 2021 RC Drilling-- RC samples were submitted to Nagrom Laboratory, an ISO_9001:2015 assay laboratory and mineral processor for analysis by Method ICP008; 40gm Aqua Regia Digest- suite included Au, Ag, Ca, Cu, Fe, Hg, Mg, Pb, S, Se and Zn. Aqua Regia digest is considered an effective but partial digestion technique. C20 stockpiles analysed by ICP008 for Copper, Gold only HOR 2022 RC Drilling- samples were collected to best represent the source material. Samples were sent to Bureau Veritas Perth for Au, Cu, Ag and S analysis by BV method AR101 with either ICP-MS or ICP-AES/MS finish. Samples were pre-screened at hole for Cu for subsequent assay by portable XRF. HOR 2021 Auger drilling -Auger samples were submitted to Nagrom Laboratory, an ISO_9001:2015 assay laboratory and mineral processor for analysis by Method FA50. 1985 RC Vat sampling programme- Fire assay analysis conducted by Classic Laboratories Pty Ltd, a NATA registered laboratory. Fire assay for gold is considered a total digestion technique. Vat 2 samples assayed by ICP008 for Copper, Gold only

Criteria	JORC Code explanation	Commentary
	<p><i>external laboratory checks) and whether acceptable levels of accuracy (i.e lack of bias) and precision have been established.</i></p>	<ul style="list-style-type: none"> HOR 2021/22 RC Drilling- Standards and Blanks submitted at minimum once each per hole; acceptable levels of accuracy established. C20 Stockpile drilling- Standards submitted every 50 samples, acceptable standards of accuracy established HOR 2021 Auger drilling- Auger sampling was submitted with two standards per 100 samples, and 1 blank per 100, and acceptable levels of accuracy and precision have been established. 1985 RC Vat sampling programme- not known
Verification of sampling and assaying	<ul style="list-style-type: none"> <i>The verification of significant intersections by either independent or alternative Company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> HOR 2021/22 RC Drilling- -Significant intersections verified by multiple Company personnel Some holes approximately twinning historic drilling Paper logs of primary data transferred to digital storage and stored, verified by alternate Company personnel; electronic records managed by Company personnel at Perth office. No adjustments have been made to the data as received from the laboratory HOR 2021 Auger drilling- Auger significant intersections and tabulations were confirmed by alternative Company personnel from first principals. 1985 RC Vat sampling programme- not known N/A All auger drilling and sample data is captured in the field, then entered using established templates and verified in Perth office before upload into database. 1985 RC Vat sampling programme- not known No adjustments undertaken.
Location of data points	<ul style="list-style-type: none"> <i>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.</i> <i>Specification of the grid system used.</i> <i>Quality and adequacy of topographic control.</i> 	<ul style="list-style-type: none"> HOR 2021/22 RC Drilling-Initial collar locations are determined by handheld Garmin GPS but will be surveyed using DGPS before resource estimates are undertaken. Holes subsequently located by high definition photography, with estimated accuracy +/- 1m HOR 2021 Auger drilling- Initial collar locations determined by handheld Garmin GPS but will be surveyed using DGPS before resource estimates are undertaken. 1985 RC Vat sampling programme- not known RC and Auger sampling- Grid system coordinates are GDA94 MGA Zone 50. RC and Auger sampling -Topographic control is available from known survey stations and Hyvista detailed aerial photography acquired in 2017. Topographic control is at the decimetre level on site. 1985 RC Vat sampling programme- not known
Data spacing and distribution	<ul style="list-style-type: none"> <i>Data spacing for reporting of Exploration Results.</i> <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i> <i>Whether sample compositing has been applied.</i> 	<ul style="list-style-type: none"> HOR 2021/22 RC Drilling-Sectional E-W drilling, typically 20m spacing, otherwise various. C20 stockpile drilling was 20m x 10m, with planned infill lines removed pending results HOR 2021 Auger drilling- auger drilling used approx. 20m spacing in a diamond pattern. RC and Auger sampling- drilling spacing and results employed in this program are considered sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. No sample compositing has been applied.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> <i>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.</i> 	<ul style="list-style-type: none"> HOR 2021/22 RC Drilling-Orientation of sampling has not necessarily achieved unbiased sampling of some structures, discussed in text. HOR 2021 Auger drilling-Drilling in this program is vertical and considered to represent an unbiased section of the material being sampled. RC and Auger sampling- No knowledge of sampling bias
Sample security	<ul style="list-style-type: none"> <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> RC and Auger sampling-Prior to submission all samples were stored on-site under supervision of the Company personnel. Samples are transported to Perth by Horseshoe Metals personnel and then onto the assay

Criteria	JORC Code explanation	Commentary
		laboratory in Kalamunda.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> RC and Auger sampling-No audits or reviews have been performed to date.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> 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. 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. 	<ul style="list-style-type: none"> The Horseshoe Lights Project comprises one Mining Lease (M52/743), one Exploration Licence (E52/3759) and 9 Prospecting Licences. Current registered holder of the tenements is Murchison Copper Mines Pty Ltd (MCM) which is a wholly owned subsidiary of Horseshoe Metals Limited. Tenements E52/3759, P52/1442-50, and part of M52/743 are subject to a farm-in agreement with Kopore Metals Limited (refer ASX release 28th January 2021 –“Horseshoe West Copper/Gold Farm-in and JV Agreement”). The Kumarina project consists of two tenements, M52/27; and a mine lease application, M52/1078. MCM has 100% interest in the tenements. Unrelated party Horseshoe Gold Mine Pty Ltd (a subsidiary of Granges Resources Limited) retains a 3% net smelter return royalty in respect to all production derived from M52/743 Mining Lease 52/743 containing the exploration results and current resources is in good standing and has been recently renewed for an additional 21 years. Prospecting Licences P52/1442-50 recently received an Extension of Term for an additional 4 years. The Company is unaware of any additional impediment to it obtaining a licence to operate in the area.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> The Horseshoe Lights deposit surface gossan was discovered in 1946 and worked at a prospect level until 1949. Open pit and underground workings were operated by Asarco from 1949 to 1954. Asarco explored the deposit by sampling surface trenches, drilling one surface diamond drill hole, underground drilling and cross-cutting underground on two levels. In 1964, Electrolytic Zinc Company conducted widespread exploration including eight diamond drill holes in a search for copper. During 1969 and 1970 Planet Metals Ltd drilled seven holes. In the period 1975 to 1977, Amax Corporation and its partner Samantha Mines investigated the Horseshoe Lights area for base metals. This investigation included drilling a further three diamond drill holes including one beneath the southern end of the main ore zone. Placer Austex Pty Ltd and Homestake Mining Company Ltd also investigated the property. Previous exploration activities during the main phase of open pit mining were completed by Horseshoe Gold Mine Pty Ltd which was a wholly owned subsidiary of Barrack Mines Ltd between 1983-89. Barrack Mines Ltd drilled 43 diamond holes for 15,353m, 638 Reverse Circulation holes for 55,343m. The area was subsequently mined as a copper mine by Sabminco until 1992/3, when production ceased. The Project was re-established by current owners Horseshoe Metals in 2010 after a long period of inactivity. A summary of resource drilling undertaken within the Project Area is summarised in an addendum table following the JORC table documentation.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> VMS mineralisation at Horseshoe Lights occurs in the core of a NNW trending and SE plunging anticline. The mineralised envelope of the deposit itself is also SW dipping and plunging to the SSE, and was likely folded. It sits within altered basalt and mafic volcanoclastic units along the contact with overlying felsic volcanic schist. The VMS mineralisation in the mine area is constrained by the tightly folded and sheared stratigraphy, and appears to be affected by offsets along N-S and NE trending brittle faults.
Drill hole Information	<ul style="list-style-type: none"> 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: If the exclusion of this information is justified on the basis that the 	<ul style="list-style-type: none"> Refer to the body of text of this report and relevant Tables for information material to the understanding of the exploration results. No exclusions of information have occurred.

Criteria	JORC Code explanation	Commentary
	<i>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.</i>	
Data aggregation methods	<ul style="list-style-type: none"> <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i> <i>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.</i> <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	<ul style="list-style-type: none"> HOR 2021/22 RC Drilling- no high grade cutting, copper results reported above 0.5% Cu C20 stockpile reported above 0.3% Cu, 0.3 g/t Au. Stockpile drilling reported above 0.2% Cu, 0.2 g/t Au HOR 2021 Auger drilling- Only 1m split samples are reported and simply length weighted and averaged over the length of the hole above the vat liner; no top cut, no minimum interval , no internal dilution considered. Results are gold only unless stated N/A HOR 2021 RC Drilling - N/A- significant copper and gold intersects reported HOR 2021 Auger drilling N/A, gold assay only
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <i>These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i> 	<ul style="list-style-type: none"> HOR 2021 RC Drilling- mineralisation dips around 70° to the west, east dipping holes intersect approximately perpendicular to mineralisation, vertical and west dipping holes are non-perpendicular to mineralisation HOR 2021 Auger drilling All intercept widths reported are downhole lengths, and equivalent to true widths for remnant vat stockpiles. HOR 2021 RC Drilling- typically reported as down hole length, true width not known, C20 stockpile drilling considered true width HOR 2021 Auger drilling- downhole lengths considered true widths
Diagrams	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> See plans and sections
Balanced reporting	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> Reported results considered representative, no isolation of high-grade results.
Other substantive exploration data	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> RC Drilling-Various, substantially covered by 2013 CSA report Horseshoe Lights Project In-situ Mineral Resources Auger drilling -1985 Vat Sampling programme detail taken from in-house memo "Horseshoe Lights Vat Sampling Programme March 1985", authored by Rosalind Wright, checked and verified by V.J. Novak, M.Sc.
Further work	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> Planned activities discussed in text. Refer to diagrams in body of text.