



# HORSESHOE METALS LIMITED

ASX ANNOUNCEMENT

29 October 2021

## Horseshoe Lights RC Drilling Results

- Assays received from Phase 1 Motters Zone RC drilling
- Significant intercepts include:
  - 45m @ 1.22 % Cu from 2m
  - 22m @ 1.87 % Cu from 12m
  - 26m @ 1.31 % Cu from 6m
  - 16m @ 1.15 % Cu from surface
- Planning for Phase 2 drilling underway
- Additional vat and stockpile results awaited

### BOARD OF DIRECTORS

Mr Craig Hall  
*Non-Executive Director*

Mr Alan Still  
*Non-Executive Director*

Ms Kate Stoney  
*Non-Executive Director,  
Company Secretary*

Horseshoe Metals Limited (ASX: HOR) ("Horseshoe" or the "Company") is pleased to update the market in relation to exploration activities at its Horseshoe Lights Copper-Gold project located in the Bryah Basin, Murchison region of Western Australia (refer Figure 1).

The Phase 1 Reverse Circulation (RC) drill definition programme at Motters Zone was designed to confirm and extend known resources, improve the confidence in the classification of the resource, and to more tightly constrain the oxide-sulphide transition.

Fifteen holes were completed for a total of 1,143m, to a maximum depth of 139m. Drilling targeted a wide NNW/SSE striking mineralised structure (refer Figure 2) which is interpreted as the sheared eastern limb of a folded Volcanogenic Massive Sulfide (VMS) horizon within the Narracoota Formation volcanics, which hosts the Horseshoe Lights Copper-Gold deposit.

Holes were designed to terminate in a post-mineralisation Proterozoic dolerite currently inferred to be around 110m thick. The dolerite strikes east-west, daylights to the north and dips flatly at around 30° to the southwest (refer Figures 4, 5). Copper mineralisation is interpreted to continue beneath this dolerite unit and will be tested in future deep drilling. The outcropping dolerite is heavily oxidised near-surface and typically carries low grade (0.5-1.0 %) copper on strike from the primary mineralised zone.

Better results from the programme included:

- |                                |               |
|--------------------------------|---------------|
| ➤ 45m @ 1.22 % Cu from 2m      | (Hole RC1151) |
| ➤ 22m @ 1.87 % Cu from 12m     | (Hole RC1152) |
| ➤ 26m @ 1.31 % Cu from 6m      | (Hole RC1149) |
| ➤ 16m @ 1.15 % Cu from surface | (Hole RC1150) |

Full results from the Motters Zone RC drill programme are listed below in Table 1.

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**Table 1: Motters Zone 2021 RC Drilling Results, Cu >= 0.50 %  
(highlighted zones >10 = m x %)**

Site ID	North MGA	East MGA	RL AHD	Dip	Azi	Depth	From	To	Length	Cu %
RC1145	7194517.1	663292.8	518.6	-55	270	20	NSI			
RC1146	7194499.5	663281.3	519.5	-55	270	20	1	7	6	0.71
RC1147	7194478.4	663280.0	520.1	-55	270	50	0	3	3	0.66
							13	14	1	0.50
							<b>20</b>	<b>29</b>	<b>9</b>	<b>0.97</b>
RC1148	7194460.4	663281.5	520.9	-60	90	31	1	2	1	0.56
RC1149	7194459.9	663266.6	521.6	-55	270	55	<b>6</b>	<b>32</b>	<b>26</b>	<b>1.31</b>
RC1150	7194442.5	663255.7	523.7	-55	90	49	<b>0</b>	<b>16</b>	<b>16</b>	<b>1.15</b>
							27	28	1	0.50
RC1151	7194442.4	663253.0	523.5	-88	90	52	<b>2</b>	<b>47</b>	<b>45</b>	<b>1.22</b>
RC1152	7194419.3	663273.1	526.5	-60	270	91	<b>12</b>	<b>34</b>	<b>22</b>	<b>1.87</b>
							37	38	1	0.77
RC1153	7194398.1	663294.8	528.5	-60	270	109	13	18	5	0.89
							<b>27</b>	<b>39</b>	<b>12</b>	<b>1.14</b>
							42	46	4	0.70
							57	61	4	0.68
							74	76	2	0.65
RC1154	7194372.4	663296.7	535.0	-55	270	139	23	25	2	2.08
							28	34	6	0.76
							37	38	1	0.61
							<b>44</b>	<b>54</b>	<b>10</b>	<b>0.95</b>
RC1155	7194349.0	663274.8	534.9	-65	90	79	NSI			
RC1156	7194349.0	663269.4	534.9	-88	300	123	35	36	1	0.61
							39	45	6	0.78
							69	70	1	1.17
							74	75	1	0.51
RC1157	7194323.6	663275.0	534.0	-60	90	80	NSI			
RC1158	7194323.5	663259.3	533.3	-88	90	134	18	23	5	0.58
							34	35	1	0.57
							47	48	1	0.59
							<b>54</b>	<b>62</b>	<b>8</b>	<b>1.03</b>
RC1159	7194373.0	663269.0	532.4	-88	148	111	35	36	1	0.74
							40	44	4	1.69
							50	52	2	0.57
							<b>59</b>	<b>72</b>	<b>13</b>	<b>0.89</b>

- NB- mineralisation dips around 70° to the west, east dipping holes (azi -090) intersect approximately perpendicular to mineralisation, vertical (azi -360) and west-dipping (azi -270) holes are non-perpendicular to mineralisation, true widths not known.
- Analysis by NAGROM method – ICP008; 40gm Aqua Regia Digest- suite included Au, Ag, Ca, Cu, Fe, Hg, Mg, Pb, S, Se and Zn
- No upper cut applied, 0.5 g/t lower cut, allowing 2m internal waste
- Coordinate system GDA94z50. Northing and Easting obtained by handheld GPS; located on high definition photography-accuracy +/- 1m, DTM RL used, accuracy +/- 0.5m
- NSI = No Significant Intercept.

Drilling confirmed the interpreted mineralisation and the various geological controls are now better constrained. Some local upgrading of historical results was observed (refer inset, Figure 5). All intervals reported are reporting as oxide, except 74-76m in Hole RC1153, and 59-72m in Hole RC1159. Only one significant gold assay was received, being 1m @ 1.23 g/t Au from 70m in Hole RC1157 in quartz veining.

The zone of copper mineralisation immediately above the dolerite can now be targeted for more accurate geological constraining of the model. Phase 2 RC drilling will prioritise further definition and extension of the Motters Zone.

In addition, 28 shallow (maximum depth 10m) vertical RC holes for 204m were completed in the adjacent 'C20' Stockpile (refer ASX release 13 September 2021). Up to 21 known 'Chalcocite' stockpiles were utilised at Horseshoe during the copper mining event and the Company has undertaken this drilling to establish the likelihood of remnant copper-bearing material being accessible within the substantial remaining C20 stockpile. Other stockpiles remain to be tested. Assays are awaited.

Auger drilling of remnant gold vats, copper tailings filled vats, and vat wall material was also completed, and the Company will release additional results from this programme as they become available.

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

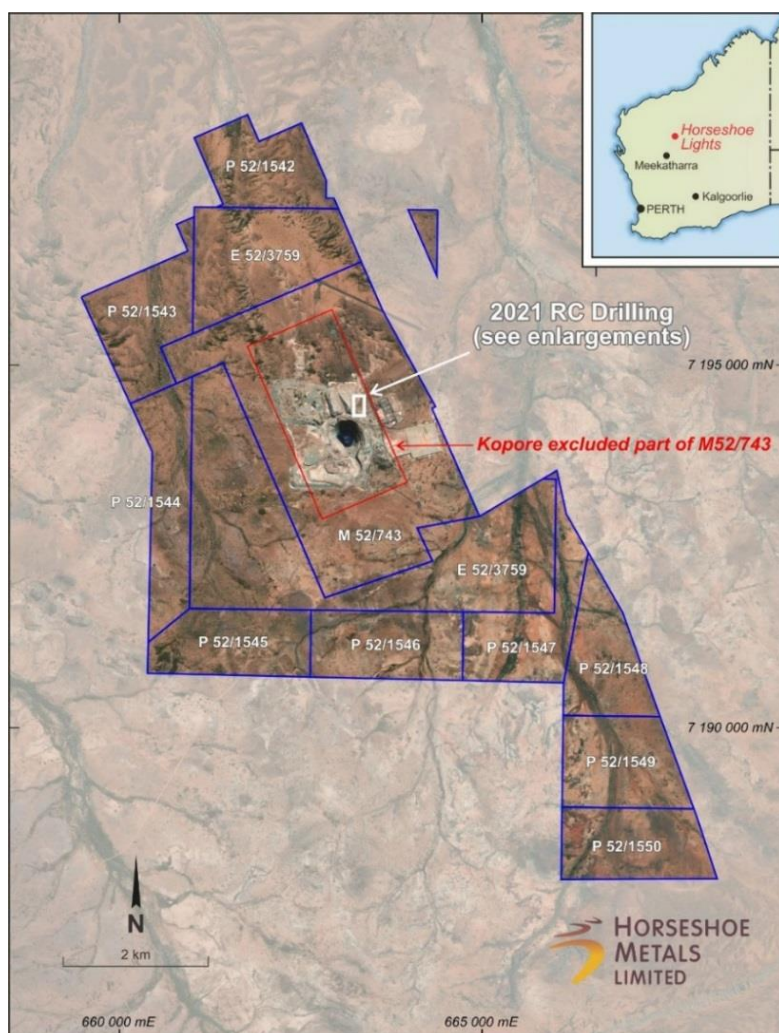
### *Enquiries*

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**Figure 1: Horseshoe Lights Project tenure and location.**

**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 28<sup>th</sup> January 2021)**



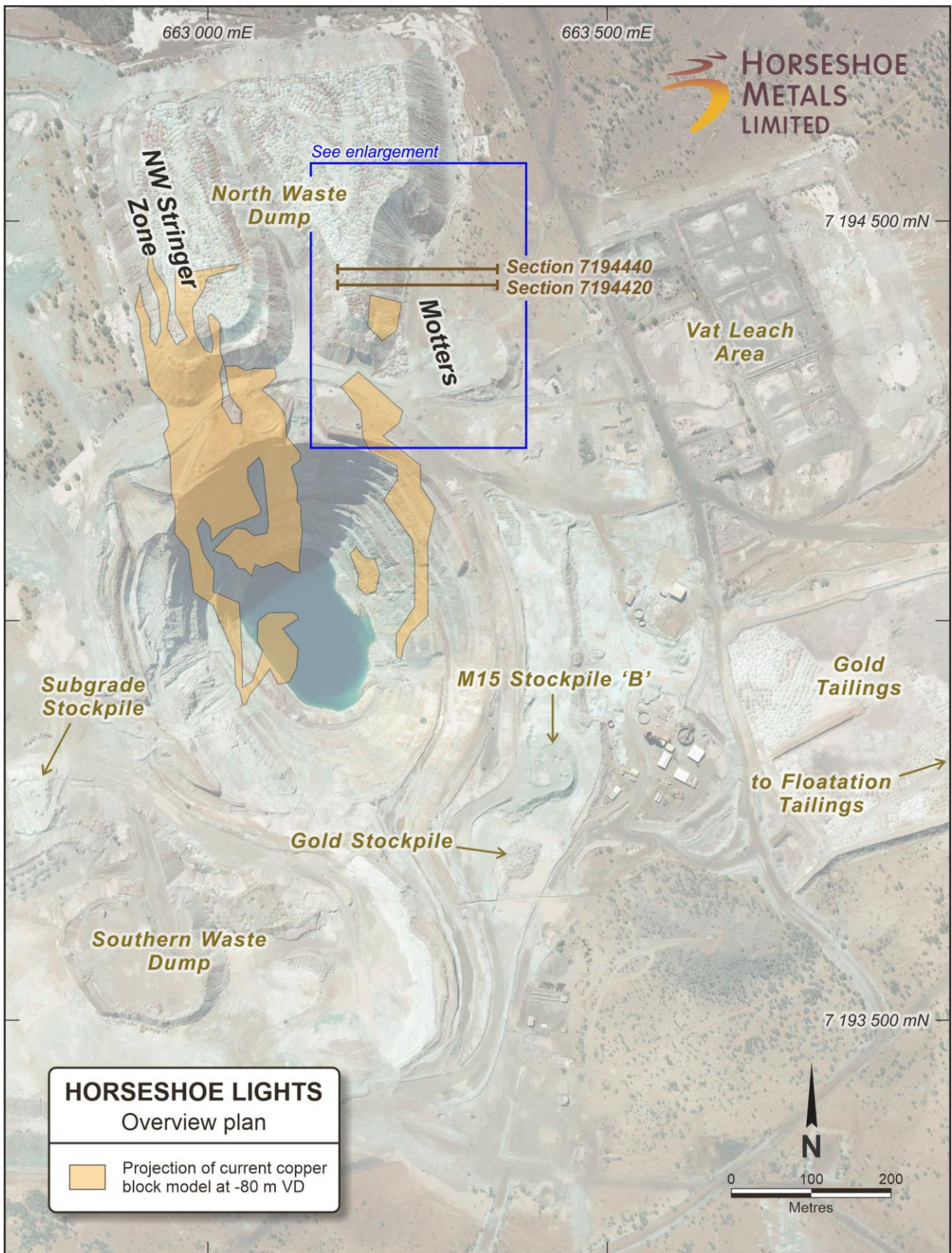


Figure 2: Horseshoe Lights Copper-Gold Project Location Plan



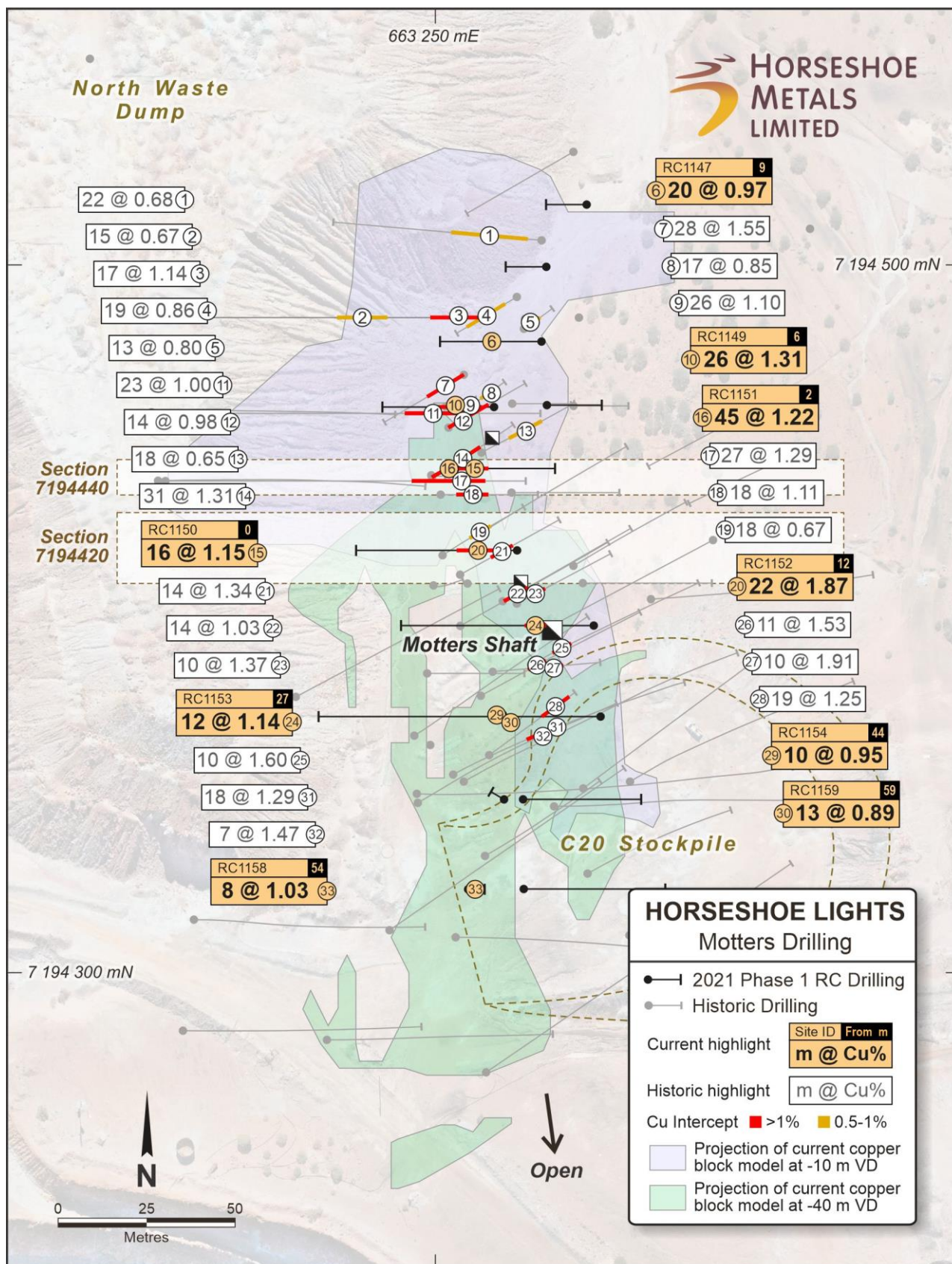


Figure 3: Drill Plan, Phase 1 RC Drilling, Motters Zone, Horseshoe Lights Copper Gold Project

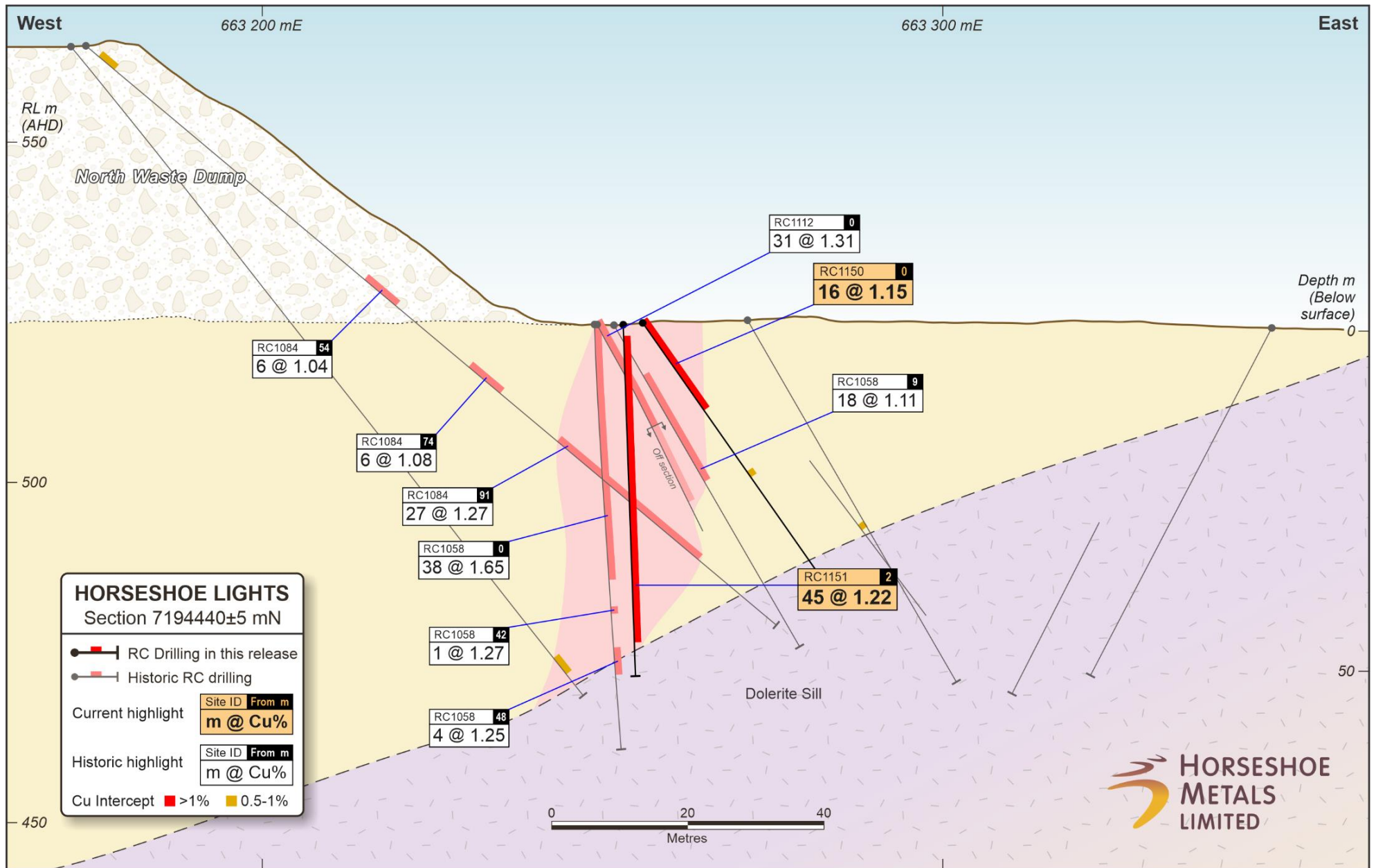


Figure 4: Cross Section 7194440mN, Phase 1 RC Drilling, Motters Zone, Horseshoe Lights Copper Gold Project



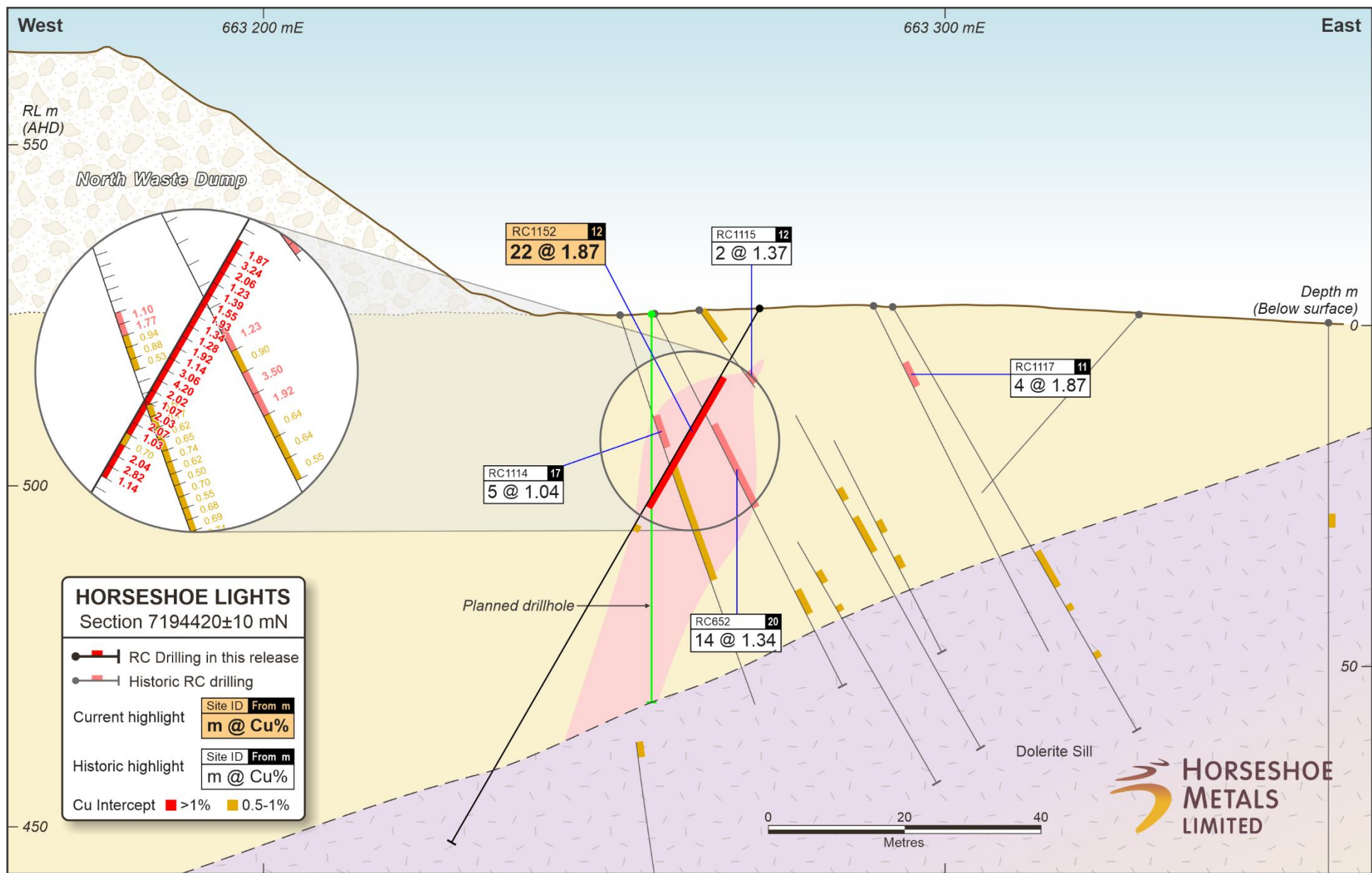


Figure 5: Cross Section 7194420mN, Phase 1 RC Drilling, Motters Zone, Horseshoe Lights Copper Gold Project. Proposed Phase 2 hole in green

### About Horseshoe Metals Limited

Horseshoe Metals Limited (ASX:HOR) is a copper and gold-focused Company with a package of tenements covering approximately 500km<sup>2</sup> in the highly prospective Peak Hill Mineral Field, located north of Meekatharra in Western Australia, 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.

### 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 3 summarises the total Mineral Resources for the Horseshoe Lights Copper-Gold Project.

TABLE 2 HORSESHOE LIGHTS PROJECT SUMMARY OF MINERAL RESOURCES AS AT 30 June 2021								
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)	Measured	1.73	1.04	0.0	0.5	18,000	1,900	28.8
	Indicated	2.43	0.95	0.0	0.7	23,200	3,400	52.2
	Inferred	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 2021 is shown in Table 4 below.



<b>TABLE 3</b> <b>KUMARINA PROJECT</b> <b>SUMMARY OF MINERAL RESOURCES</b> <b>AS AT 30 June 2021</b>				
<b>Location</b>	<b>Category</b>	<b>Tonnes (t)</b>	<b>Cu (%)</b>	<b>Cu metal (tonnes)</b>
<b>Rinaldi Prospect</b> (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>
	<b>Total</b>	<b>835,000</b>	<b>1.3</b>	<b>10,600</b>

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 Craig Hall, who is a member of the Australian Institute of Geoscientists. Mr Hall is a 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 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 Horseshoe Lights Project surface stockpile Mineral Resources is based on information compiled by a previous employee of Horseshoe Metals Limited and reviewed by Mr Hall. 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 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
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>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.</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 (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.</li> </ul>	<ul style="list-style-type: none"> <li><b>HOR 2021 RC Drilling-this release</b> - 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 Au, 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.</li> <li>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 Sanfead 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.</li> <li><b>HOR 2021 RC Drilling-this release</b>- Portable Niton XRF used to select sample intervals, internal checks utilised</li> <li>HOR 2021 Auger drilling Depth control was at the decimetre level, with depth checked against a metre stick</li> <li><b>HOR 2021 RC Drilling-this release</b> - was undertaken as industry standard reverse circulation drilling, with 1m samples were split from the cyclone, with residual sample collected in plastic bags</li> <li>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</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>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).</li> </ul>	<ul style="list-style-type: none"> <li><b>HOR 2021 RC Drilling-this release</b>- 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</li> <li>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.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li><b>HOR 2021 RC Drilling-this release</b> Visual inspection of the RC samples indicates sample recovery is excellent</li> <li>HOR 2021 Auger drilling -Visual inspection of the auger sample volume indicates sample recovery is excellent</li> <li><b>HOR 2021 RC Drilling-this release</b>-all samples drilled dry with minimal clayey component. All RC samples are visually checked for recovery, moisture and contamination</li> <li>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.</li> <li><b>HOR 2021 RC Drilling-this release</b>- No potential for sample bias was observed, with no fine/coarse separation</li> <li>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</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Logging</b>	<ul style="list-style-type: none"> <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> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li><b>HOR 2021 RC Drilling-this release-</b> logged to a level to support appropriate Mineral Resource estimation, mining studies, and metallurgical studies.</li> <li>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</li> <li><b>HOR 2021 RC Drilling-this release-</b> logged to a level to support appropriate Mineral Resource estimation, mining studies, and metallurgical studies.</li> <li>HOR 2021 Auger drilling - N/A</li> <li><b>HOR 2021 RC Drilling-this release-</b> All drilling logged to a level to support appropriate Mineral Resource estimation, mining studies, and metallurgical studies.</li> <li>HOR 2021 Auger drilling -NA.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>No diamond core drilled during this program.</li> <li><b>HOR 2021 RC Drilling-this release-</b>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.</li> <li>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</li> <li>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 &gt;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</li> <li>Sub sampling stages are considered appropriate for the representivity of samples.</li> <li>RC and Auger sample analysis -Residuals and original samples sources retained for checks.</li> <li>RC and Auger sample analysis-The sample size is considered industry standard for base and precious metal mineralisation.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li><b>HOR 2021 RC Drilling-this release-</b> 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.</li> <li>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</li> <li>N/A</li> <li><b>HOR 2021 RC Drilling-this release</b> Standards and Blanks submitted at minimum once each per hole; acceptable levels of accuracy established.</li> <li>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</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative Company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li><b>HOR 2021 RC Drilling-this release</b>-Significant intersections verified by multiple Company personnel</li> <li>Some holes approximately twinning historic drilling</li> <li>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.</li> <li>No adjustments have been made to the data as received from the laboratory</li> <li>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</li> <li>N/A</li> <li>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</li> <li>No adjustments undertaken.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li><b>HOR 2021 RC Drilling-this release</b> -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</li> <li>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</li> <li>RC and Auger sampling- Grid system coordinates are GDA94 MGA Zone 50.</li> <li>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</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li><b>HOR 2021 RC Drilling-this release</b>-Sectional E-W drilling, typically 20m spacing, otherwise various.</li> <li>HOR 2021 Auger drilling- auger drilling used approx. 20m spacing in a diamond pattern.</li> <li>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.</li> <li>No sample compositing has been applied.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li><b>HOR 2021 RC Drilling-this release</b>-Orientation of sampling has not necessarily achieved unbiased sampling of some structures, discussed in text.</li> <li>HOR 2021 Auger drilling-is vertical and considered to represent an unbiased section of the material being sampled.</li> <li>RC and Auger sampling- No knowledge of sampling bias</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>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 laboratory in Kalamunda.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>RC and Auger sampling-No audits or reviews have been performed to date.</li> </ul>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>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 three tenements, M52/27; and a mine lease application. 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</li> <li>Mining Lease 52/743 containing the exploration results and current resources is in good standing and a renewal for an additional 21 years has been made. Prospecting Licences P52/1442-50 are awaiting an Extension of Term applications. The Company is unaware of any additional impediment to it obtaining a licence to operate in the area.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>A summary of resource drilling undertaken within the Project Area is summarised in an addendum table following the JORC table documentation.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <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:</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to the body of text of this report and relevant Tables for information material to the understanding of the exploration results.</li> <li>No exclusions of information have occurred.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such</li> </ul>	<ul style="list-style-type: none"> <li><b>HOR 2021 RC Drilling-this release</b>-no high-grade cutting, copper results reported above 0.5% Cu</li> <li>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</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>aggregation should be stated and some typical examples of such aggregations should be shown in detail.</p> <ul style="list-style-type: none"> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> <li><b>HOR 2021 RC Drilling-this release-</b> N/A- only significant copper intersects reported</li> <li>HOR 2021 Auger drilling N/A, gold assay only</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>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.</li> <li>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').</li> </ul>	<ul style="list-style-type: none"> <li><b>HOR 2021 RC Drilling-this release-</b> 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</li> <li>HOR 2021 Auger drilling All intercept widths reported are downhole lengths, and equivalent to true widths for remnant vat stockpiles.</li> <li><b>HOR 2021 RC Drilling-this release-</b> typically reported as down hole length, true width not known</li> <li>HOR 2021 Auger drilling- downhole lengths considered true widths</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>See plans and sections</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Reported results considered representative, no isolation of high-grade results.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>RC Drilling-Various, substantially covered by 2013 CSA report Horseshoe Lights Project In-situ Mineral Resources</li> <li>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.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg 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 style="list-style-type: none"> <li>Planned activities discussed in text.</li> <li>Refer to diagrams in body of text.</li> </ul>



### Addendum: Resource Drilling History-Horseshoe Lights Copper-Gold Project

HolePrefix	Hole ID From	Hole ID To	Drill Type	Sample Type	Company	Date
EZ	1	8	Diamond Drilling	Unknown	Electrolytic Zinc	1966
HLRC-	1	30	Reverse Circulation	RC Cuttings	Barrack Mines Ltd	1983-1984
RC-	31	703	Reverse Circulation	RC Cuttings	Barrack Mines Ltd	1985-1988
DDH-	11	63	Diamond Drilling	Half Core	Barrack Mines Ltd	1985-1989
SH-	1	26	Pit Seep Hole	RC Cuttings	Sabminco NL	1992-1994
B	445A	565D	Pit Bench Sample	Channel Cuttings	Sabminco NL	1992-1994
RC-	704	899	Reverse Circulation	RC Cuttings	Sabminco NL	1993
DDH-	64	74	Diamond Drilling	Half Core	Sabminco NL	1993-1994
HDD	1	9	Diamond Drilling	Half Core	Horseshoe Metals Ltd	2012-2013
HDD	1013	1037	Diamond Tail	Half Core	Horseshoe Metals Ltd	2012
WRL	1	12	Reverse Circulation	RC Cuttings	Horseshoe Metals Ltd	2017
RC	1000	1144	Reverse Circulation	RC Cuttings	Horseshoe Metals Ltd	2010-2017
RC	1145	1159	Reverse Circulation	RC Cuttings	Horseshoe Metals Ltd	2021