

## **ASX ANNOUNCEMENT**

31 July 2017

**ASX Code: HOR** 

Management

Mr Michael Fotios
Non-Executive Chairman

Mr Neil Porter
Non-Executive Director

Mr Alan Still
Non-Executive Director

**Issued Capital** 

**Shares: 194.6 Million** 

Share Price: \$0.018

Market Capitalisation: \$3.5 Million

## QUARTERLY REPORT PERIOD ENDED 30 JUNE 2017

## **SUMMARY**

## **Horseshoe Lights Copper-Gold Project**

- RC drilling program completed.
- 15 drill holes totalling 660 metres testing waste rock landforms, mineralised dumps and bedrock target areas.
- Results to provide new inputs to the SMART (Surface Material Re-Treatment) Project.

## **Kumarina Copper Project**

• Aircore drilling of auger anomalies planned.

## **Corporate**

- Company's 2017 Annual General Meeting held on 30 May 2017.
- The Company is reviewing copper and base metal opportunities within Australia.

## **OVERVIEW**

Horseshoe Metals Limited (ASX: HOR) ("Horseshoe" or "the Company"), through its wholly owned subsidiary, Murchison Copper Mines Pty Ltd, holds a 100% interest in the Horseshoe Lights and Kumarina Projects located in the Peak Hill Mineral Field, north of Meekatharra in Western Australia (see Figure 6). Appendix 1 contains the summary of mining tenement interests of the Company.

#### **EXPLORATION AND EVALUATION**

Horseshoe Lights Copper/Gold Project (HOR: 100%) (GRR: 3% NSR Royalty – refer to Appendix 1)

The Horseshoe Lights Project covers an area of approximately 60 km<sup>2</sup> including the previously mined Horseshoe Lights copper-gold mine, which is located 75km west of Sandfire Resources NL's (ASX:SFR) DeGrussa copper-gold mine (see Figure 6).

## Oxide Copper Project Scoping Study

The Company has previously announced (refer ASX announcement 20 August 2015) the commencement of Scoping Study work within an expanded SMART (Surface Material Re-Treatment) Project, expanding on previous work undertaken by the Company in 2014, but specifically evaluating the viability of a low-capex oxide copper treatment process.

Historical leaching test work demonstrated that oxide copper material present at Horseshoe Lights is very amenable to acid leaching with copper recoveries of over 80% achieved. The oxide resources to be considered in the Scoping Study include:

- shallow in-situ oxide copper resources which occur from surface to a depth of 100 metres;
- 2. surface stockpile material (M15 and sub-grade);
- 3. flotation tailings; and
- 4. mineralised dumps.

The conceptual production rate for the study is 5,000 tonnes per annum of contained copper metal for a period at least five years. The Scoping Study will establish the technical and economic parameters that will be required to recommence copper production at the mine.

The SMART programme required additional inputs, shortly available after a recently completed RC drilling programme.

## **Exploration activities**

The Company completed a 15-hole RC drilling program during the quarter, targeting bedrock areas and waste-rock landforms (WRL) to provide new drilling inputs to the SMART Project (refer Figure 1 and Table 1). Samples are in transit to the laboratory, and multi-element assays (primarily copper and gold) are expected in coming weeks.

## Waste Rock Landform drilling

Current generation (post-2010) drilling to the north of the pit targeting the Motters and NW Stringer Zones had to collar through the North Waste Landform from the previous mining event. These incidental samples have previously returned copper and gold intersections of economic interest. As other WRL and stockpiled mineralised dumps on the property had limited information, an initial 12 RC

hole (WRL01 - 12) drill program totalling 180 m was completed on the Northwest and Southern WRLs to investigated landforms as possible resources for the SMART Project. The programme was very broad in nature and only intended as an indicative assessment of potential, and as a secondary check of volume. Indicative results observed for copper from portable XRF (pXRF) observations at WRL drill sites were generally low grade (<0.2 %), and an assessment of the gold anomalism will follow from the assay results. Formal results from the programme are awaited.

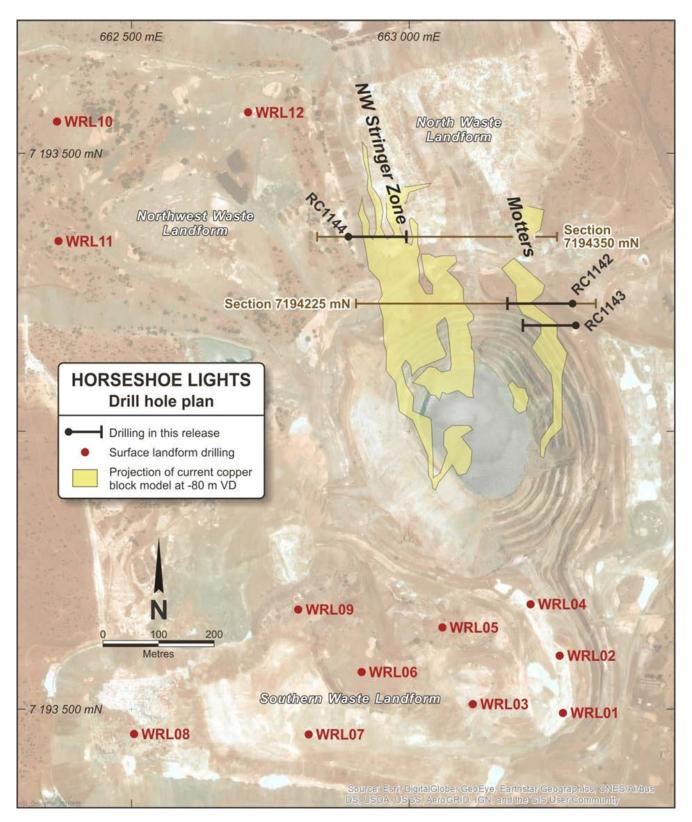


Figure 1. Drill Plan showing WRL and Bedrock drill holes.

## **Bedrock Target Areas**

## Eastern Footwall Zone

Current generation drilling of the Eastern Footwall Zone has proved to be difficult due to the position of the pit wall. A specialty drilling rig (Figure 3) completed two flat angled holes (RC1142 and RC1143) in a target area believed to be a linkage between the Main mineralised Zone and the Motters Zone. A third planned hole (refer to Quarterly Activities and Cashflow Report, as released on ASX 1 May 2017) further south was not drilled. Drilling encountered Narracoota Formation volcanic rock with disseminated chalcopyrite observed in the target zone, with pXRF readings in mineralised zones generally low grade (<0.5% Cu), and reflective of the model (refer Cross Section- Figure 2).

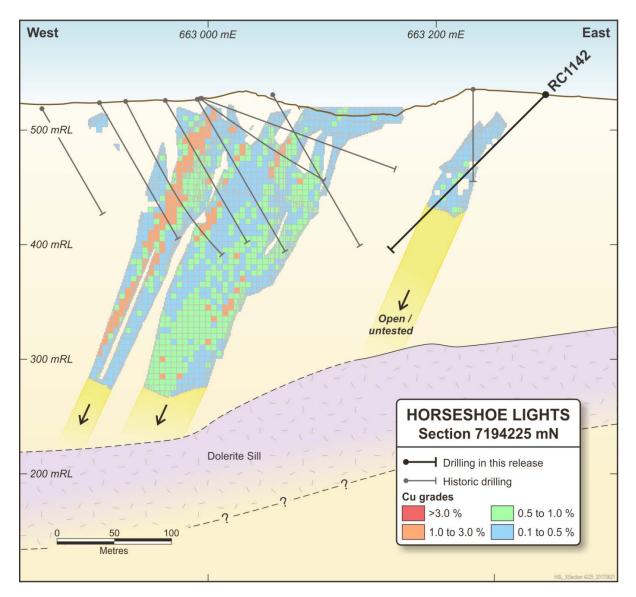


Figure 2. Drill Section 7194225 mN. Hole RC1142 targeting the Eastern Footwall Zone.

## Northwest Stringer Zone

Drill hole RC1444 was designed to test the continuity of oxide mineralisation between holes on Section 4350 of the Northwest Stringer Zone (Figure 4), and provide bulk material for SMART testwork. Three separate mineralised zones were encountered in Narracoota Fm volcanic rock as indicated by RC drilling chips containing coarse malachite (Figure 5), with pXRF readings in mineralised zones of economic interest, and reflective of expected grades. Material from oxide zones were retained to provide new sampling inputs to the SMART Project.



Figure 3. Specialty RC drill rig capable of drilling low-angle holes.

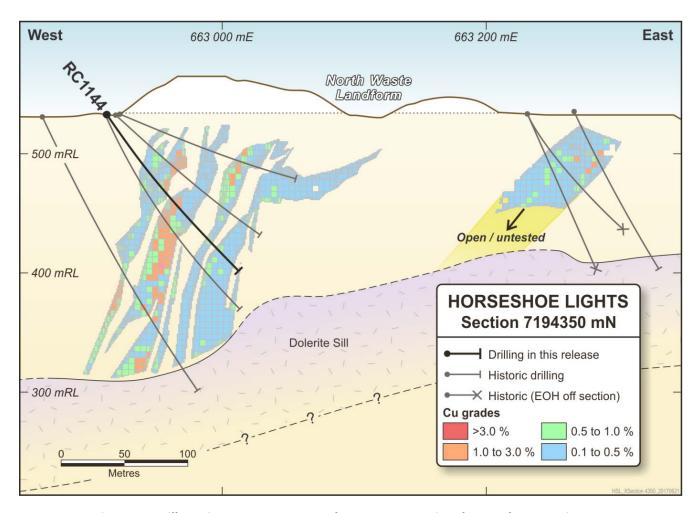


Figure 4. Drill Section 7194225 mN. Hole RC1144 targeting the Northwest Stringer Zone.

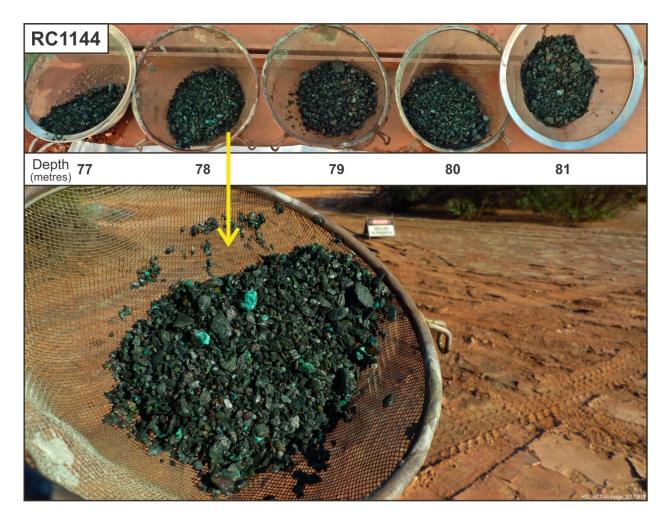


Figure 5. Example of oxidised mineralisation (visible green malachite) from upper interval in RC1144.

Table 1

Horseshoe Lights Project, 2017 RC Drilling Program: Drill Hole Information

Hole ID	Easting (m)	Northing (m)	Azimuth (degrees)	Dip	Depth (m)	Location Target Area
WRL01	663277	7193503	360	-90	12	Waste Rock Landform
WRL02	663272	7193606	360	-90	10	Waste Rock Landform
WRL03	663115	7193519	360	-90	17	Waste Rock Landform
WRL04	663219	7193698	360	-90	8	Waste Rock Landform
WRL05	663132	7193658	360	-90	9	Waste Rock Landform
WRL06	662915	7193576	360	-90	23	Waste Rock Landform
WRL07	662819	7193464	360	-90	15	Waste Rock Landform
WRL08	662504	7193465	360	-90	14	Waste Rock Landform
WRL09	662798	7193675	360	-90	12	Waste Rock Landform
WRL10	662366	7194568	360	-90	20	Waste Rock Landform
WRL11	662368	7194352	360	-90	14	Waste Rock Landform
WRL12	662710	7194585	360	-90	26	Waste Rock Landform
RC1142	663294	7194225	270	-44	155	Eastern Footwall
RC1143	663300	7194200	270	-55	160	Eastern Footwall
RC1144	662891	7194348	090	-50	165	NW Stringer Zone

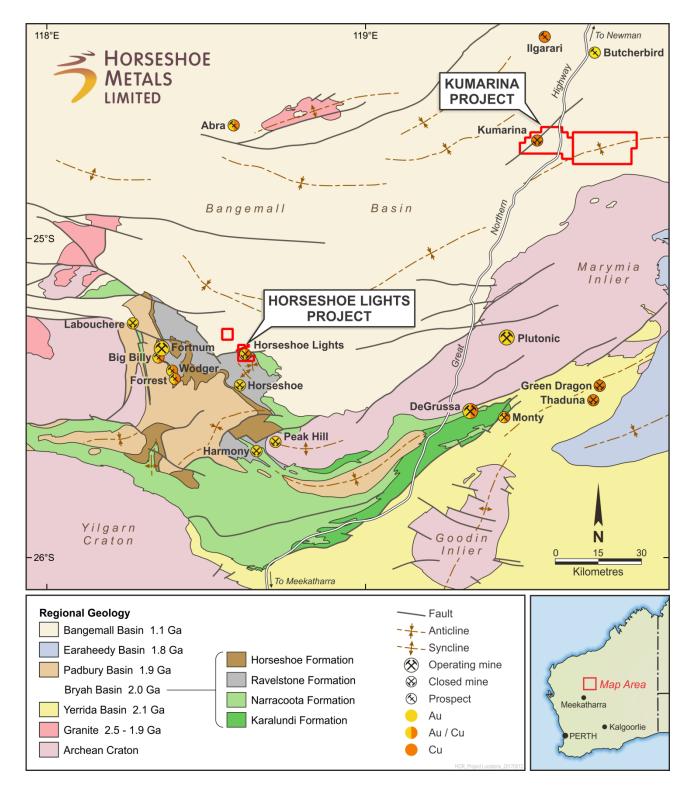


Figure 6: Project Location Plan.

## Other activities

A high-resolution remote-sensing survey using an unmanned aerial vehicle was also completed over M52/743 and E52/2042 during the quarter, generating accurate surface imagery and elevation models for geological and environmental purposes. The Company also commenced an audit of the rehabilitation of previous exploration activities.

The Company has also recently received approval for a Programme of Work on E52/2042 for proposed aircore drilling to the south of the Horseshoe Mine.

## **Kumarina Copper Project (HOR: 100%)**

The Kumarina Project consists of two exploration licences and one mining lease covering approximately 433km<sup>2</sup>. The project is located 95km north of Sandfire Resources NL's DeGrussa copper-gold mine, in the Gascoyne region of Western Australia (see Figure 6).

A site visit was undertaken by the Company during the quarter, to review access for planned aircore drilling of priority targets generated by soil auger anomalism surrounding the previous focus of drilling.

#### **CORPORATE**

The Company held its 2017 Annual General Meeting on 30 May 2017 where all resolutions were passed unanimously on a show of hands.

The Company continues reviews on copper and base metal opportunities within Australia.

#### **ENDS**

## For further information please contact:

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#### **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. The Company's projects are the Horseshoe Lights Project and the Kumarina Project (see Figure 4).

## About the Horseshoe Lights Project

The Horseshoe Lights Project includes the old 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, which also host Sandfire Resources' DeGrussa copper/gold 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.

Table 1 below summarises the total Mineral Resources for the Horseshoe Lights Project as at 31 December 2015.

TABLE 1 HORSESHOE LIGHTS PROJECT SUMMARY OF MINERAL RESOURCES AS AT 31 DECEMBER 2015								
Location	Category	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	Cu metal (tonnes)	Au metal (oz)	Ag metal (k oz)
	Measured	1.73	1.04	0.0	0.5	18,000	1,900	28.8
In-situ	Indicated	2.43	0.95	0.0	0.7	23,200	3,400	52.2
Deposit	Inferred	8.69	1.01	0.1	2.6	87,400	30,700	712.4
(0.5% Cu cut- off grade)	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% C	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 31 December 2014 is shown in Table 2 below.

TABLE 2  KUMARINA PROJECT  SUMMARY OF MINERAL RESOURCES  AS AT 31 DECEMBER 2014					
Location	Location Category Tonnes Cu Cu metal (t) (%) (tonnes)				
	Measured	415,000	1.46	6,100	
Rinaldi Prospect	Indicated	307,000	1.16	3,500	
(0.5% Cu cut-off)	Inferred	114,000	0.9	1,000	
	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"

## APPENDIX 1 Summary of Mining Tenement Interests as at 30 June 2017

Location	Tenement	Interest At Beginning Of Quarter (%)	Interests relinquished, reduced or lapsed (%)	Interests acquired or increased (%)	Interest At End Of Quarter (%)
Horseshoe Lights	M52/743	100%¹	-	-	100%¹
Horseshoe Lights	E52/2042	100%¹	-	-	100%¹
Horseshoe Lights	L52/42	100%¹	-	-	100%¹
Horseshoe Lights	L52/43	100%¹	-	-	100%¹
Horseshoe Lights	L52/44	100%¹	-	-	100% <sup>1</sup>
Horseshoe Lights	L52/45	100%¹	-	-	100% <sup>1</sup>
Horseshoe Lights	L52/66	100%¹	-	-	100%¹
Horseshoe Lights	E52/2569	100%²	100%²-	-	0%²
Kumarina	M52/27	100%	-	-	100%
Kumarina	E52/1998	100%	-	-	100%
Kumarina	E52/2930	100%	-	-	100%

#### Notes:

- 1. Horseshoe Gold Mine Pty Ltd (a wholly owned subsidiary of Grange Resources Limited) retains a 3% net smelter return royalty in respect to all production derived from some of the Horseshoe Lights tenements being M52/743, P52/1203 1206, E52/2042 (portion only) L52/42 45 and L52/66.
- 2. Horseshoe Metals Limited had a two year option-to-purchase agreement with Elysium Resources Limited in respect to E52/2569, which had been extended to 30 April 2017. Horseshoe has elected not to pursue the terms of the agreement.

#### For further information please contact:

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#### **Forward Looking Statements**

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## **JORC CODE, 2012 EDITION**

## **Section 1 Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <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.</li> <li>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> <li>Exploration results are collected using standard industry practices for sampling, assay methods and QAQC. Reverse circulation (RC) samples weighing approx. 3kg are collected as individual 1m samples through a cyclone which are riffle split for analysis. Each sample is analysed with a handheld Niton XRF in the field.</li> <li>RC samples within zones of visual oxide or sulphide mineralisation or producing elevated readings of copper as determined by handheld XRF are sent for laboratory assaying as 1m riffle split samples. The remaining intervals of the drill hole are submitted as 3m speared composite samples. Any anomalous composite samples are to be re-submitted as original 1m split samples. The handheld XRF was regularly calibrated as per manufacturer's specifications.</li> <li>Industry standard practice was used for copper analysis whereby a 3kg RC drill sample representing a 1m sample interval was used to obtain a 150g pulp for analysis. Similarly for gold analysis the same sample was used to obtain a 10g charge for aqua regia analysis.</li> </ul>
Drilling techniques	<ul> <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> <li>The drill holes were completed using the Reverse Circulation (RC) technique with a 5%" face sampling bits.</li> </ul>
Drill sample recovery	<ul> <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> <li>Visual inspection of the sample volume indicates sample recovery is excellent. Any poor sample recovery or condition is noted in the drill hole database.</li> <li>RC samples are visually checked for recovery, moisture and contamination. A cyclone and splitter are used to provide a uniform sample and these are routinely cleaned. The drill contractor blew out the hole at the beginning of each drill rod to remove excess water and maintain dry samples.</li> <li>Ground conditions for RC drilling are good and drilling returned consistent size samples. RC recoveries are high enough to preclude the potential for sample bias.</li> </ul>
Logging	<ul> <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> <li>Logging of RC drilling identifies all aspects of lithology, colour, weathering texture, alteration and mineralisation including percentage estimates of oxide/sulphide content. All primary recorded on site data was directly imported into a drill hole database and checked against the original data. During logging part of the RC sample was sieved, logged and placed in RC chip trays.</li> <li>The lithology data is qualitative. All reverse circulation samples have been photographed in wet form and the chip trays are retained for physical inspection on-site and in the Perth office.</li> <li>All RC holes are logged from start to end of hole.</li> </ul>
Sub- sampling techniques and sample preparation	<ul> <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</li> </ul>	<ul> <li>No diamond core drilled during this program.</li> <li>All RC samples are initially riffle split on a 1:7 ratio and only dry samples are assayed.</li> <li>RC sample procedure follows industry best practice whereby samples are sorted, reconciled, placed onto trolleys and dried in a gas oven at 110°C for minimum of 8 hours or until dry. Samples ranging from 300g - ≤3kg are crushed to nominal ~10mm using a jaw crusher and then pulverised using LM2, LM5 or Mixer Mill pulverisers.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>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> <li>Laboratory QAQC methods include insertion of blanks and undertaking check samples for significant assay results.</li> <li>The sample size is considered industry standard for base metal mineralisation.</li> </ul>
Quality of assay data and laboratory tests	<ul> <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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>All samples are to be submitted to a NATA accredited laboratory for multi-element analysis. The copper assay is derived using a mixed acid digest of nitric, hydrofluoric, perchloric and hydrochloric acids on 0.2g of sample and analysed using ICP Optical Emission Spectrophotometry. The gold assay will be typically derived using an aqua regia technique where 10g of prepared sample is digested using nitric and hydrochloric acid. The sample is then solvent extracted using Methyl isobutyl ketone and read on a Graphite Furnace Atomic Absorption Spectrometer.</li> <li>The Handheld XRF used to determine sample type i.e. 1m split or composite sample is a Niton. All data is collected using 30 second reading time for all 3 beams on soil mode. The instrument is calibrated according to manufacturer's specification and tested regularly.</li> <li>In addition to internal laboratory checks the Company submits standards on a 1:25 ratio.</li> </ul>
Verification of sampling and assaying	<ul> <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> <li>External laboratory checks are planned for significant assay results but have yet to be completed.</li> <li>Some holes have previously been drilled to twin old holes. The purpose of the broader drill program is to infill and verify mineralised intervals and grades determined from existing drilling. These holes are generally designed as infill to the current resource.</li> <li>All drilling and sample data is captured in the field electronically using established templates and verified in Perth office before upload into database.</li> <li>No adjustments undertaken.</li> </ul>
Location of data points	<ul> <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> <li>Initial collar locations are determined by handheld Garmin GPS but will be surveyed using DGPS by licensed surveyors before resource estimates are undertaken. No down-hole surveys have been completed on the deeper drilling at the present time, but are planned.</li> <li>Grid system coordinates are GDA94 MGA Zone 50.</li> <li>Topographic control was created from known survey stations and air photography in strict accordance with Mines Regulation Act 1946 by the authorised mine surveyor.</li> </ul>
Data spacing and distribution	<ul> <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> <li>Resource drilling in this program to date used approx. 20m spacing.</li> <li>The resource drilling spacing and results employed in this program are consistent with previous drill spacing and results that are part of a JORC compliant mineral resource.</li> <li>Composite sampling over 4m has been employed for non-mineralised samples producing a XRF reading below 1000ppm.</li> </ul>
Orientation of data in relation to geological structure	<ul> <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> <li>Drilling in this program is orientated east-west to maintain consistency and spacing with previous drilling.</li> <li>As stated above.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Prior to submission all samples are stored on-site under supervision of the project geologist. Samples are transported to Perth by Horseshoe Metals personnel and then onto the assay laboratory by licensed couriers.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	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> <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> <li>The Horseshoe Lights Project comprises one Mining Lease (M52/743), one Exploration Licence (E52/2042), nine Prospecting Licences (P52/1203-1211) and five Miscellaneous Licences (L52/42 -45 and L52/66) covering an area of approximately 60 km2 (6,000 hectares). Current registered holder of the tenements is Murchison Copper Mines Pty Ltd (MCM) which is a wholly owned subsidiary of Horseshoe Metals Limited.</li> <li>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 some of the Horseshoe Lights Project tenements, namely M52/743, E52/2042.</li> <li>Mining Lease 52/743 is in good standing and the Company is unaware of any impediments to it obtaining a licence to operate in the area.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <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.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <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.</li> </ul>
Drill hole Information	<ul> <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> </ul>	Refer to the body of text of this report and Table 1 for all information material to the understanding of the exploration results.
	<ul> <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>	No exclusions of information have occurred.
Data aggregation methods	<ul> <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 aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	Only 1m split samples are reported and simply averaged over the mineralised interval. A 0.25% cut-off grade will be used unless otherwise noted.



Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>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> <li>All intercept widths reported are down hole lengths. No attempt has been made here to report true widths.</li> <li>Intercepts that consist of high grade results within a longer lower grade zone will be detailed separately to avoid confusion</li> <li>Exploration drilling in this program is either vertical or orientated perpendicular to interpreted mineralisation trend.</li> </ul>
Diagrams	<ul> <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>	See plans and sections
Balanced reporting	<ul> <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>	See Table 1 for all exploration data
Other substantive exploration data	<ul> <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>	In the Company's opinion this material has been adequately reported in previous announcements and the detail is not relevant for reporting of these exploration results.
Further work	<ul> <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> <li>Drilling is planned to upgrade the resources and check the extent of the mineralised zones to the east of the existing pit as stated.</li> <li>Refer to diagrams in body of text.</li> </ul>

## **Competent Persons Statement**

The information in the report to which this statement is attached that relates to Exploration Results is based on information compiled by Mr. Craig Hall who is a Member of the Australian Institute of Geoscientists. Craig Hall is an employee of Horseshoe Metals Limited and has sufficient experience which is 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 2012 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.

The information in this report that relates to the Horseshoe Lights Project 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. The information was previously issued with the written consent of Mr Dmitry Pertel in the Company's 30 June 2013 Quarterly Report released to the ASX on 31 July 2013. The Company confirms that:

- (a) the form and context in which Mr. Dmitry Pertel's findings are presented have not been materially modified.
- (b) it is not aware of any new information or data that materially affects the information included in the 31 July 2013 ASX announcement and that all the material assumptions and technical parameters underpinning the estimate in the 31 July 2013 ASX announcement continue to apply and have not materially changed.
- (c) it is uncertain that following evaluation and/or further exploration work that the historical estimates will be able to be reported as mineral resources in accordance with the JORC Code.



## **Competent Persons Statement**

#### Competent Persons Statement

The information in this report that relates to the Horseshoe Lights Project 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. The information was previously issued with the written consent of Mr Dmitry Pertel in the Company's 30 June 2013 Quarterly Report released to the ASX on 31 July 2013. The Company confirms that:

- (a) the form and context in which Mr. Dmitry Pertel's findings are presented have not been materially modified.
- (b) it is not aware of any new information or data that materially affects the information included in the 31 July 2013 ASX announcement and that all the material assumptions and technical parameters underpinning the estimate in the 31 July 2013 ASX announcement continue to apply and have not materially changed.
- (c) it is uncertain that following evaluation and/or further exploration work that the historical estimates will be able to be reported as mineral resources in accordance with the JORC Code.

The information in this report that relates to the Horseshoe Lights Project flotation tailings and surface stockpiles Mineral Resources is based on information compiled by a previous employee of Horseshoe Metals Limited, and reviewed by Mr Craig Hall. The information was previously issued in announcements released to the ASX on 26 February 2015 and 9 March 2015. The Company confirms that:

- (d) the form and context in which these findings are presented have not been materially modified.
- (e) it is not aware of any new information or data that materially affects the information included in the 26 February 2015 and 9 March 2015 ASX announcements and that all the material assumptions and technical parameters underpinning the estimates in the 26 February 2015 and 9 March 2015 ASX announcements continue to apply and have not materially changed.
- (f) it is uncertain that following evaluation and/or further exploration work that the historical estimates will be able to be reported as mineral resources in accordance with the JORC Code.

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, who is a member of the Australian Institute of Geoscientists. Mr Robert Spiers is an independent consultant to Horseshoe Metals Limited and a full time employee and Director of H&S Consultants Pty Ltd (formerly Hellman & Schofield Pty Ltd). The information was previously issued with the written consent of Mr Robert Spiers in the Company's 30 June 2013 Quarterly Report released to the ASX on 31 July 2013. The Company confirms that:

- (a) the form and context in which Mr Robert Spiers' findings are presented have not been materially modified.
- (b) it is not aware of any new information or data that materially affects the information included in the 31 July 2013 ASX announcement and that all the material assumptions and technical parameters underpinning the estimate in the 31 July 2013 ASX announcement continue to apply and have not materially changed.
- (c) it is uncertain that following evaluation and/or further exploration work that the historical estimates will be able to be reported as mineral resources in accordance with the JORC Code.

+Rule 5.5

## **Appendix 5B**

# Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

## Name of entity

Horseshoe Metals Limited

ABN

Quarter ended ("current quarter")

20 123 133 166

30 June 2017

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	(13)	(38)
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(13)	(34)
	(e) administration and corporate costs	(6)	(32)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	-	-
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Research and development refunds	-	-
1.8	Other (provide details if material)	-	-
1.9	Net cash from / (used in) operating activities	(32)	(104)

2.	Cash flows from investing activities		
2.1	Payments to acquire:		
	(a) property, plant and equipment	(6)	(6)
	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-

<sup>+</sup> See chapter 19 for defined terms

1 September 2016

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Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) property, plant and equipment	-	-
	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	(6)	(6)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of shares	-	-
3.2	Proceeds from issue of convertible notes	-	-
3.3	Proceeds from exercise of share options	-	-
3.4	Transaction costs related to issues of shares, convertible notes or options	-	-
3.5	Proceeds from borrowings	33	100
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from / (used in) financing activities	33	100

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	8	13
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(32)	(104)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(6)	(6)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	33	100
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	3	3

<sup>+</sup> See chapter 19 for defined terms 1 September 2016

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5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	3	8
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	3	8

6.	Payments to directors of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to these parties included in item 1.2	-
6.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-
6.3	Include below any explanation necessary to understand the transactio items 6.1 and 6.2	ns included in
N/A		
1		
7.	Payments to related entities of the entity and their associates	Current quarter \$A'000
7.1	Aggregate amount of payments to these parties included in item 1.2	-
7.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-
7.3	Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2	
	Nome / / and / /2	

+ See chapter 19 for defined terms 1 September 2016 Page 3

8.	Financing facilities available Add notes as necessary for an understanding of the position	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1	Loan facilities	1,000	52
8.2	Credit standby arrangements	-	-
8.3	Other (please specify)		

8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.

The Company has an unsecured loan agreement up to \$1,000,000 with entities associated with Mr Michael Fotios with an interest rate of 8% p.a.

9.	Estimated cash outflows for next quarter	\$A'000
9.1	Exploration and evaluation	120
9.2	Development	-
9.3	Production	-
9.4	Staff costs	5
9.5	Administration and corporate costs	15
9.6	Other (provide details if material)	-
9.7	Total estimated cash outflows	<b>140</b> <sup>1</sup>

1. To be financed through the loan facility in place unless an alternative capital raising is undertaken.

10.	Changes in tenements (items 2.1(b) and 2.2(b) above)	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
10.1	Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	Horseshoe Lights E52/2569	Relinquished	100%	0%
10.2	Interests in mining tenements and petroleum tenements acquired or increased	Nil			

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<sup>+</sup> See chapter 19 for defined terms

## **Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

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		31 July 2017
Sign here:	(Director/ <del>Company secretary</del> )	Date:
Print name:	Michael Fotios (Director)	

#### **Notes**

- 1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
- 2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
- 3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.

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<sup>+</sup> See chapter 19 for defined terms 1 September 2016