



# HORSESHOE METALS LIMITED

ASX ANNOUNCEMENT

10th September 2021

## Horseshoe Lights Phase 1 Auger Programme Completed

- **Phase 1 Auger Drilling programme completed**
- **Remnant gold leach vat and tailings wall material tested**
- **Initial results received for gold leach vats 4, 5 and 6**
- **Results average 0.59 g/t Au for remnant material inside vats**
- **Further results awaited**

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

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

The Company has recently completed the Phase 1 Auger Drilling programme to assess various surface stockpile materials that remain from historic episodes of gold and copper mining activities. The targets tested include gold bearing vat leach material, and the walls of the vats, gold tailings and copper flotation tailings (refer release dated 6<sup>th</sup> August 2021 and Figures 2 to 4)

These targets are under investigation for early development opportunities at the historic mine site, which might include offsite processing of gold bearing materials. 277 holes totalling 1195.4m were completed in Phase 1 during July and August, as outlined below (Table 1):

- 80 holes into vat leach gold-bearing material from early mining activities prior to Barrick's gold production (Vats 3, 4, 5, 6- refer Figure 2);
- 25 holes into initial copper flotation tails pumped into a Barrick-mined gold vat (Vat 2)- the same material forming the flotation tailings resource (refer Table 6);
- 72 holes in an area of initial gold production including vats covering by subsequent mining activity (Western Vats)
- 4 holes into the flotation tailings as a grade/depth check and to assess moisture content for materials handling considerations.
- 62 holes to assess the perimeter of material constructed to constrain the gold vats; and
- 34 holes of up to 10m depth being first-pass perimeter drilling of material forming the gold tailings and copper flotation tailings dams' walls (refer Figure 4).

#### **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**

ABN 20 123 133 166  
24 Mumford Place  
Balcatta WA 6021

T: +61 8 6241 1844  
F: +61 8 6241 1811  
E: [info@horseshoemetals.com.au](mailto:info@horseshoemetals.com.au)

[www.horseshoemetals.com.au](http://www.horseshoemetals.com.au)

**Table 1: Phase 1 Auger Drilling at Horseshoe Lights summary**

<b>Vat &amp; Stockpile augering</b>	<b>holes</b>	<b>m</b>
Vats 4, 5 ,6	63	267.8
Vats 2, 3	42	201.7
Western Vats	72	233
Flotation Tails	4	29.6
<b>Perimeter augering</b>	<b>holes</b>	<b>m</b>
Vats 1 to 6.	62	301.7
Tails Dams	34	161.6
<b>Totals</b>	<b>277</b>	<b>1195.4</b>

**Discussion:**

Gold Vat and Stockpile auger sampling was typically sampled every metre, and subset thereof at the bottom of hole, while perimeter sampling was undertaken every two metres down hole.

The eastern series of gold leach vats (Vats 4, 5 and 6) consists of three large lined ponds, with surface material demarcating four individual cells per pond. The Company commenced activities in this area, drilling typically five holes per cell, to establish remnant gold concentrations and to assist in determining the geometry and volume of material above the liner (refer Figure 2). Depths of holes encountered in the centre of the ponds were typically between 4-5m.

Assay results from Vats 4, 5 and 6 have now been received, averaging 0.59 length-weighted for results above the vat liners, and are summarised below in Table 2, and detailed further in Table 4:

**Table 2: Summary of auger grades- Vats 4, 5, 6**

<b>VAT</b>	<b>CELL</b>	<b>samples</b>	<b>Ave Grade Au</b>
<b>4</b>	<b>1</b>	<b>21</b>	<b>0.44</b>
<b>4</b>	<b>2</b>	<b>20</b>	<b>0.48</b>
<b>4</b>	<b>3</b>	<b>23</b>	<b>0.74</b>
<b>4</b>	<b>4</b>	<b>24</b>	<b>0.44</b>
<b>VAT 4</b>	<b>Total</b>	<b>88</b>	<b>0.53</b>
<b>VAT</b>	<b>CELL</b>	<b>samples</b>	<b>Ave Grade Au</b>
<b>5</b>	<b>1</b>	<b>24</b>	<b>0.61</b>
<b>5</b>	<b>2</b>	<b>27</b>	<b>0.59</b>
<b>5</b>	<b>3</b>	<b>20</b>	<b>1.00</b>
<b>5</b>	<b>4</b>	<b>23</b>	<b>0.79</b>
<b>VAT 5</b>	<b>Total</b>	<b>94</b>	<b>0.73</b>
<b>VAT</b>	<b>CELL</b>	<b>samples</b>	<b>Ave Grade Au</b>
<b>6</b>	<b>1</b>	<b>22</b>	<b>0.38</b>
<b>6</b>	<b>2</b>	<b>23</b>	<b>0.54</b>
<b>6</b>	<b>3</b>	<b>23</b>	<b>0.46</b>
<b>6</b>	<b>4</b>	<b>25</b>	<b>0.63</b>
<b>VAT 6</b>	<b>Total</b>	<b>93</b>	<b>0.50</b>
<b>VATS 4,5,6</b>	<b>All</b>	<b>275</b>	<b>0.59</b>

Recently uncovered historical work undertaken in 1985 to assess the gold content of these and additional vats, which included shallow (4m - 6m deep) RC drilling of Vats 4, 5, and 6 (24 holes, 8n each vat, sampled every 2m - refer Figure 4 and Table 5 for details). The work noted reasonably homogenous grades across all vats and estimated a remnant grade of 0.58 g/t Au from 63 samples for Vats 4, 5 and 6, which compares favourably with the 2021 grade estimate of 0.59g/t Au from 275 samples.

The 1985 estimation outlines a tonnage for Vats 4, 5 and 6 of 131,000t of material, and the Company considers an estimate of 30,000t - 50,000t of remnant material above the liner per vat as within a reasonable exploration target range. As there is currently insufficient information to estimate a Mineral Resource for Vats 4, 5 and 6, the Company contends releasing an Exploration Target for Vats 4, 5 and 6 the most appropriate way to discuss these results. From the grade assessment, preliminary investigation of the vat volumes and anticipated density the Company considers an Exploration Target for Vats 4, 5 and 6 at Horseshoe Lights of between:

- 90,000 to 140,000 tonnes,
- Grading between 0.58 to 0.60g/t Au,
- Containing metal of between 1680 -2700 oz gold.

The above does not represent an estimate of a Mineral Resource or Ore Reserve. The Company notes that the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to estimate a Mineral Resource and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

The Company also notes the 1985 work excluded samples in the 4-6m interval that were below 0.15g/t Au (9 samples) from calculations on the basis that these were likely 'waste' material below the vat liners. Results from the 24 x 4m - 6m RC intervals drilled in 1985 averaged 0.3 g/t Au.

During the 2021 auger programme, blue liner material was noted in 61 of 63 holes (including 3 re-drills) completed, allowing relatively accurate determination of depth of the remnant gold-bearing vat material. The Company considers that the 2021 Auger grade assessment is vastly superior for depth/volume assessment and grade representation than RC drilling of shallow holes but is encouraged by the grade concurrence between the methods.

Gravelly material was typically encountered in the last 0.5m - 1m of the vats drilled above the liner, typical of the construction of such ponds at the time, allowing flow and recovery of pregnant liquor. The Company intends to model the volume of vat material after accurate survey of holes on edges of the vats, assessment of the moisture content and density of the vat material in order to estimate the tonnage of material represented in Vats 4, 5 and 6. The Company expects to report this work and an estimated Mineral Resource for remnant stockpile material within the next six months.

On occasion during the 2021 augering, 'sub-drill' below the liner was entertained to assess possible gold grades of the constructing material, which generally only occurred on the western side of the eastern vats, which are built up against larger, deeper Vats 1, 2 and 3.

Four of the sixty-three holes recovered sub-drill material below the vat liners, which is expected to be comprised of the same material tested by the vat perimeter drilling (refer pink holes inset Figure 2). Results averaged 0.88 g/t Au, though influenced by the result from sub-drill below the liner in hole VTAG072 (4.32 g/t Au), which was also the highest assay received in the programme. All sub-drill values were removed from 2021 vat grade calculations.

**Table 3: Summary of sub-drill material below Vat liners-**

Vat	Cell	Hole_ID	Samp_from	Samp_to	Au g/t
4	4	VTAG055	3.00	4.00	0.05
4	4	VTAG055	4.00	4.60	0.22
4	3	VTAG060	3.00	4.00	0.27
4	3	VTAG060	4.00	4.20	0.25
5	2	VTAG069A	4.00	4.50	0.18
5	2	VTAG072	5.00	5.50	4.32

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.

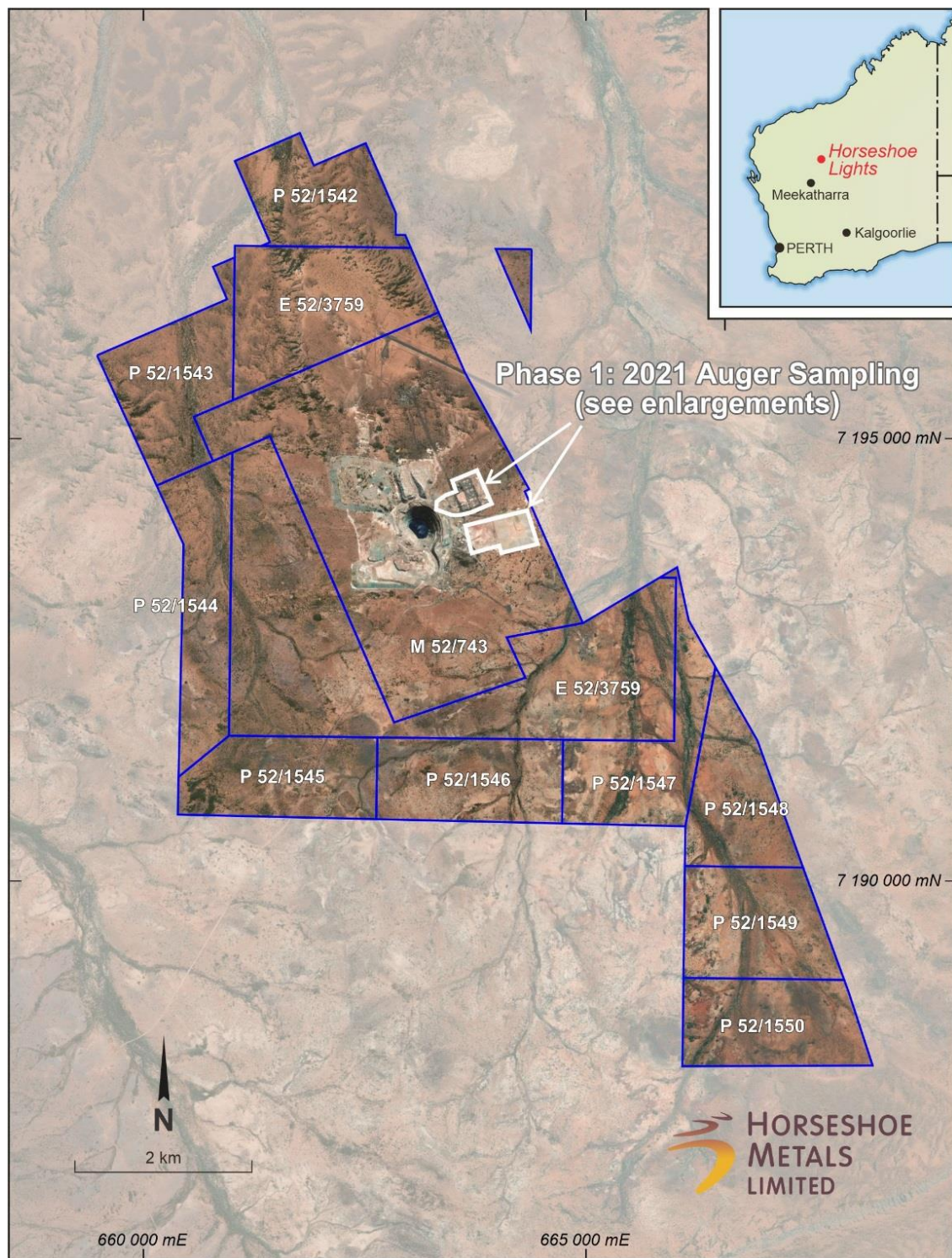
***Enquiries***

**Craig Hall**

Non-Executive Director,

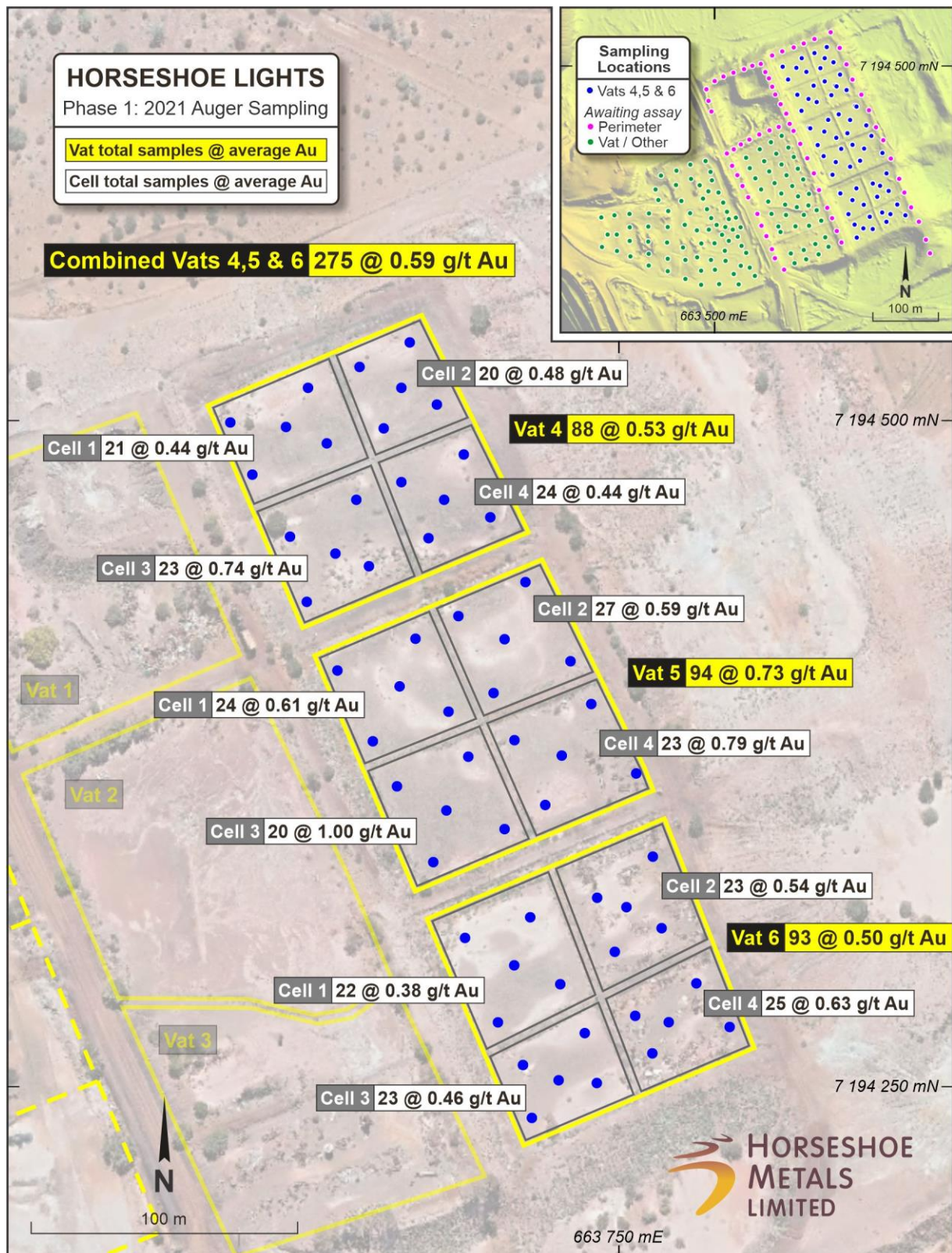
T: +61 8 6241 1844

E: [info@horseshoemetals.com.au](mailto:info@horseshoemetals.com.au)



**Figure 1: Horseshoe Lights Project tenure and location, with Figure 2 inset.**  
**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 – “Horseshoe West Copper/Gold Farm-in and JV Agreement”)**





**Figure 2: Location and average length-weighted grade of Gold Vat Leach material from 2021 Auger drilling, with drilling of Vat 4, 5 and 6 denoted by blue collars- (this release), and surrounding perimeter construction material in magenta in inset figure. Additional auger holes awaiting results also denoted in inset figure in green.**



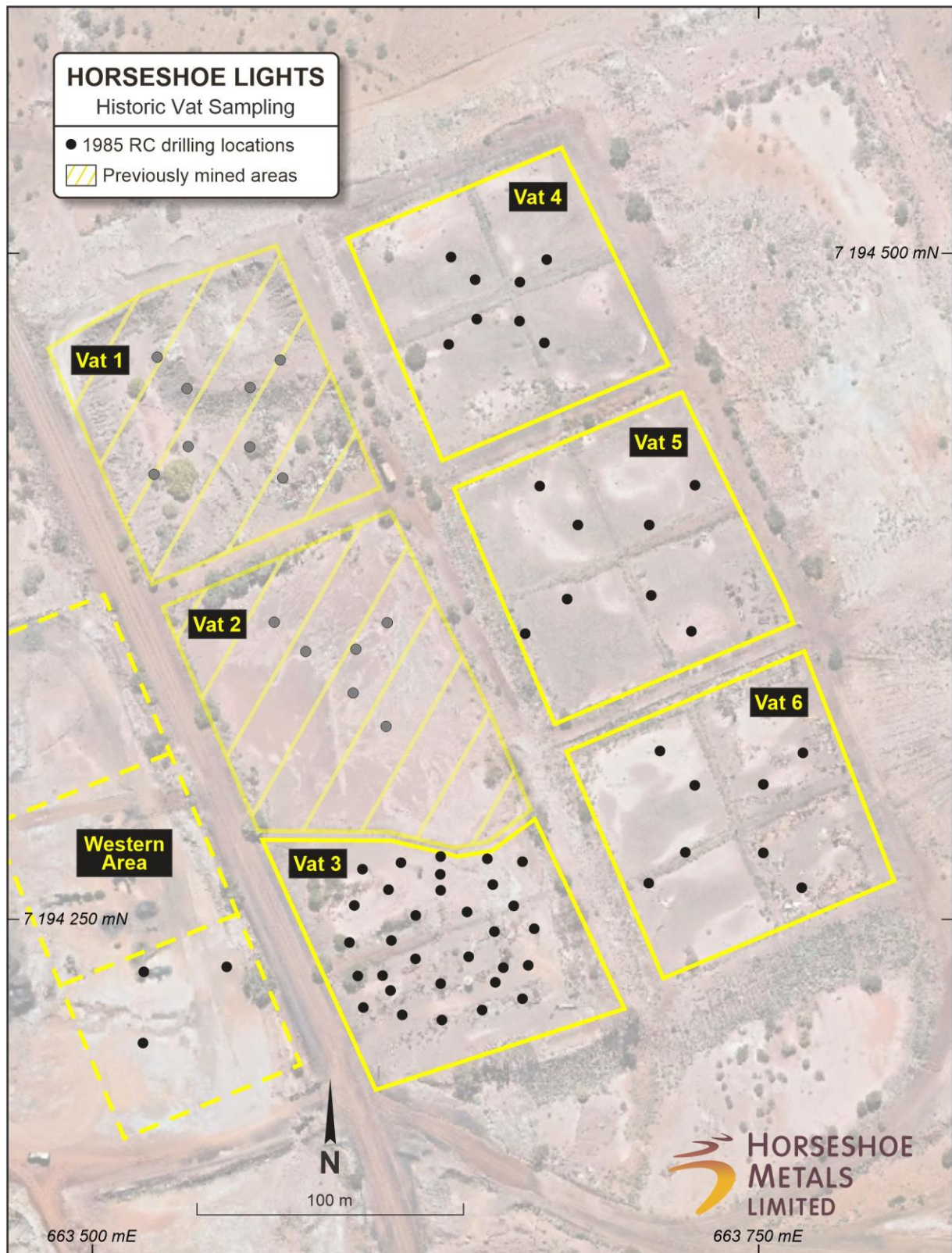
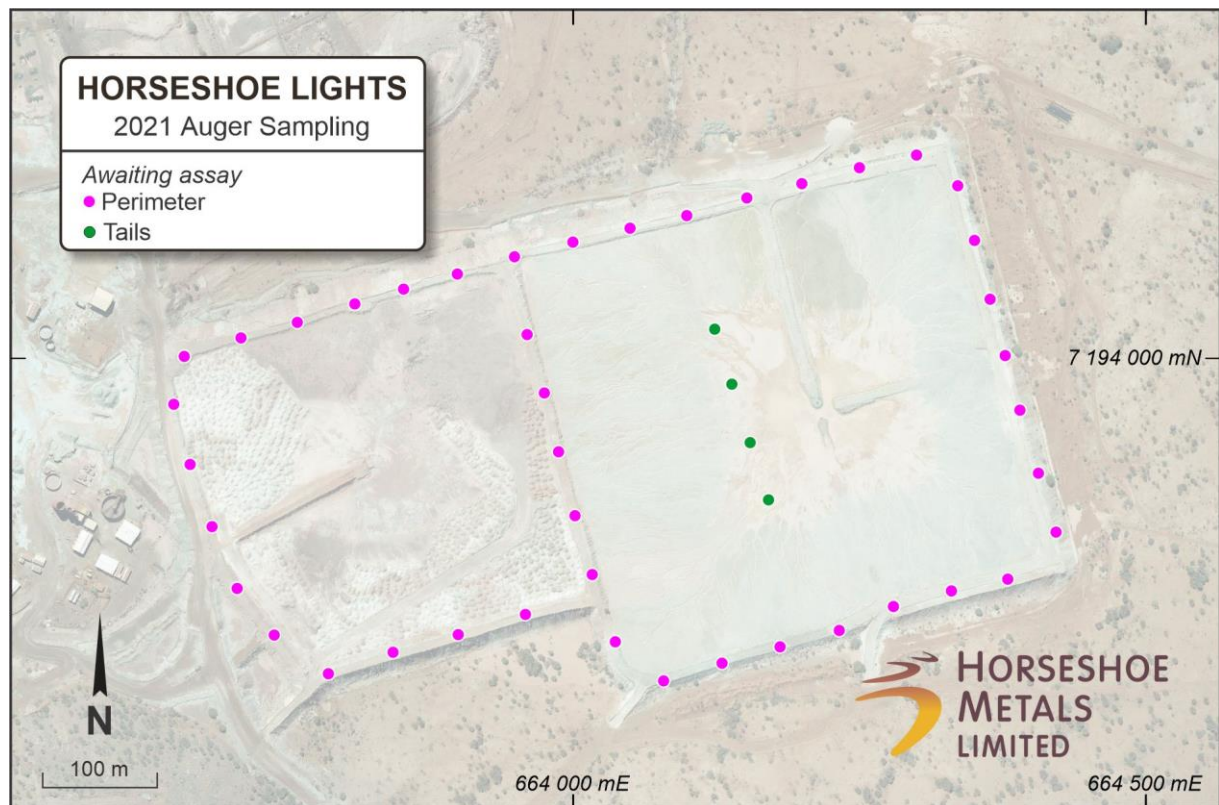


Figure 3: Location plan of 1985 shallow RC drilling in relation to Vats. Note that Vat 1 has been excavated, and Vat 2 at least partially excavated before being re-filled with initial tailings from the copper flotation circuit. The Company believe that results from 1985 RC results from Vat 3 remain *in situ*.



**Figure 4: Auger drilling completed on Horseshoe Gold (left) and Copper Flotation (Right) Tailings Dams.**

**Refer Table 6 for inferred Mineral Resource on Flotation Tailings.**

**Four check holes (green) were completed on the Flotation tails to primarily assess moisture content for materials handling purposes.**

#### **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 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.

#### **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 6 summarises the total Mineral Resources for the Horseshoe Lights Project as at 30 June 2021.



**Table 4 Auger - Vat and Cell Au Data (no upper or lower cut applied)- sub-drill below liners excluded.**

VAT	CELL	Site ID	Vat Depth	Ave Grade Au
4	1	VTAG043	3.00	0.54
4	1	VTAG044	3.00	0.75
4	1	VTAG045	4.70	0.32
4	1	VTAG046	4.70	0.33
4	1	VTAG047	4.90	0.43
<b>4</b>	<b>1</b>		<b>20.30</b>	<b>0.44</b>

VAT	CELL	Site ID	Vat Depth	Ave Grade Au
4	2	VTAG048	4.40	0.61
4	2	VTAG049	4.00	0.42
4	2	VTAG050	4.30	0.40
4	2	VTAG051	5.30	0.48
4	2	VTAG052	4.50	0.49
<b>4</b>	<b>2</b>		<b>22.50</b>	<b>0.48</b>

VAT	CELL	Site ID	Vat Depth	Ave Grade Au
4	3	VTAG058	4.10	0.60
4	3	VTAG059	4.00	0.88
4	3	VTAG060	4.00	0.67
4	3	VTAG061	4.20	0.73
4	3	VTAG062	4.40	0.82
<b>4</b>	<b>3</b>		<b>20.70</b>	<b>0.74</b>

VAT	CELL	Site ID	Vat Depth	Ave Grade Au
4	4	VTAG053	4.40	0.41
4	4	VTAG054	4.50	0.35
4	4	VTAG055	3.00	0.42
4	4	VTAG056	1.00	0.72
4	4	VTAG056A	4.60	0.50
4	4	VTAG057	4.30	0.48
<b>4</b>	<b>4</b>		<b>21.80</b>	<b>0.44</b>

<b>4</b>	<b>All</b>		<b>85.30</b>	<b>0.53</b>
----------	------------	--	--------------	-------------

VAT	CELL	Site ID	Vat Depth	Ave Grade Au
5	1	VTAG063	4.40	0.62
5	1	VTAG064	1.60	0.98
5	1	VTAG064A	2.60	0.44
5	1	VTAG065	4.00	0.76
5	1	VTAG066	5.00	0.57
5	1	VTAG067	5.00	0.50
<b>5</b>	<b>1</b>		<b>22.60</b>	<b>0.61</b>

VAT	CELL	Site ID	Vat Depth	Ave Grade Au
5	2	VTAG068	4.50	0.49
5	2	VTAG069	2.40	0.49
5	2	VTAG069A	4.00	0.57
5	2	VTAG070	5.00	0.52
5	2	VTAG071	5.00	0.61
5	2	VTAG072	5.00	0.78
<b>5</b>	<b>2</b>		<b>25.90</b>	<b>0.59</b>

VAT	CELL	Site ID	Vat Depth	Ave Grade Au
5	3	VTAG078	5.00	0.61
5	3	VTAG079	4.20	0.61
5	3	VTAG080	5.00	0.59
5	3	VTAG081	4.90	0.85
5	3	VTAG082	5.00	1.65
<b>5</b>	<b>3</b>		<b>19.10</b>	<b>1.00</b>

VAT	CELL	Site ID	Vat Depth	Ave Grade Au
5	4	VTAG073	4.50	0.49
5	4	VTAG074	3.40	0.80
5	4	VTAG075	4.00	1.23
5	4	VTAG076	5.00	0.76
5	4	VTAG077	5.00	0.73
<b>5</b>	<b>4</b>		<b>21.90</b>	<b>0.79</b>

<b>5</b>	<b>All</b>		<b>89.50</b>	<b>0.73</b>
----------	------------	--	--------------	-------------

VAT	CELL	Site ID	Vat Depth	Ave Grade Au
6	1	VTAG083	4.00	0.29
6	1	VTAG084	2.80	0.33
6	1	VTAG085	4.70	0.37
6	1	VTAG086	4.70	0.43
6	1	VTAG087	4.90	0.44
<b>6</b>	<b>1</b>		<b>21.10</b>	<b>0.38</b>

VAT	CELL	Site ID	Vat Depth	Ave Grade Au
6	2	VTAG088	4.60	0.52
6	2	VTAG089	2.60	0.45
6	2	VTAG090	4.80	0.49
6	2	VTAG091	4.20	0.42
6	2	VTAG092	4.80	0.78
<b>6</b>	<b>2</b>		<b>21.00</b>	<b>0.54</b>

VAT	CELL	Site ID	Vat Depth	Ave Grade Au
6	3	VTAG098	4.10	0.32
6	3	VTAG099	4.00	0.52
6	3	VTAG100	4.00	0.27
6	3	VTAG101	4.50	0.50
6	3	VTAG102	5.00	0.64
<b>6</b>	<b>3</b>		<b>21.60</b>	<b>0.46</b>

VAT	CELL	Site ID	Vat Depth	Ave Grade Au
6	4	VTAG093	4.10	0.32
6	4	VTAG094	5.00	0.79
6	4	VTAG095	4.10	1.27
6	4	VTAG096	4.10	0.34
6	4	VTAG097	4.20	0.41
<b>6</b>	<b>4</b>		<b>21.50</b>	<b>0.63</b>

<b>6</b>	<b>All</b>		<b>85.20</b>	<b>0.50</b>
----------	------------	--	--------------	-------------

VAT	CELL	Vat Depth	Ave Grade Au
<b>4,5,6</b>	<b>All</b>	<b>260.00</b>	<b>0.59</b>

**Table 5 Auger - RC Drilling Data Summary of March 1985 Vat Sampling Programme.**

***N.B. Vat 1 below has been mined and processed, and Vat 2 likely mined and processed before being refilled by copper flotation tailings. The status of the western area vats is unclear, but to be resolved by results from the 2021 auger programme. These results are greyed below. The Company has re-named the Vats due to some historical inconsistency.***

New Vat ID	Historic Vat ID	Historic Site ID	MGA Northing	MGA Easting	Azimuth	Dip	Depth (m)	From (m)	To (m)	Interval (m)	Au g/t
Vat 2	Vat 2	V2_1	7194362	663569	0.0	-90.0	4.0	0.0 2.0	2.0 4.0	2.0 2.0	0.81 0.71
		V2_2	7194351	663580	0.0	-90.0	4.0	0.0 2.0	2.0 4.0	2.0 2.0	0.93 1.11
		V2_3	7194352	663599	0.0	-90.0	4.0	0.0 2.0	2.0 4.0	2.0 2.0	1.05 3.73
		V2_4	7194362	663611	0.0	-90.0	4.0	0.0 2.0	2.0 4.0	2.0 2.0	1.91 0.73
		V2_5	7194335	663598	0.0	-90.0	4.0	0.0 2.0	2.0 4.0	2.0 2.0	0.82 1.63
		V2_6	7194323	663610	0.0	-90.0	4.0	0.0 2.0	2.0 4.0	2.0 2.0	0.94 0.64
Western Area	Vat 3	V3_1	7194204	663519	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	1.45 0.60 0.16
		V3_2	7194230	663520	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	0.75 0.62 0.18
		V3_3	7194232	663551	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	2.30 0.90 0.30
Vat 1	Vat 5	V5_1	7194460	663571	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	0.90 1.99 0.42
		V5_2	7194450	663559	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	1.15 1.64 1.21
		V5_3	7194428	663559	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	1.44 0.69 1.20
		V5_4	7194416	663572	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	1.06 0.61 1.22
		V5_5	7194450	663536	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	0.42 0.92 0.44
		V5_6	7194461	663525	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	0.67 1.37 0.22
		V5_7	7194428	663536	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	0.85 0.39 0.75
		V5_8	7194417	663523	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	0.75 0.65 0.36
Vat 4	Vat 6	V6_1	7194490	663644	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	0.51 6.46 0.38
		V6_2	7194499	663635	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	0.59 0.38 0.16
		V6_3	7194489	663661	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	6.40 0.78 0.20
		V6_4	7194498	663671	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	0.38 0.47 0.22
		V6_5	7194466	663634	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	1.12 0.47 0.14
		V6_6	7194476	663645	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	0.97 0.52 0.20
		V6_7	7194475	663661	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	0.69 1.94 0.08
		V6_8	7194467	663670	0.0	-90.0	6.0	0.0 2.0 4.0	2.0 4.0 6.0	2.0 2.0 2.0	0.05 0.65 0.66
Vat 5	Vat 7	V7_1	7194413	663668	0.0	-90.0	6.0	0.0	2.0	2.0	0.56

New Vat ID	Historic Vat ID	Historic Site ID	MGA Northing	MGA Easting	Azimuth	Dip	Depth (m)	From (m)	To (m)	Interval (m)	Au g/t
		V7_2	7194398	663683	0.0	-90.0	6.0	2.0	4.0	2.0	0.69
								4.0	6.0	2.0	0.10
								0.0	2.0	2.0	0.62
		V7_3	7194398	663709	0.0	-90.0	6.0	2.0	4.0	2.0	0.69
								4.0	6.0	2.0	0.22
								0.0	2.0	2.0	0.43
		V7_4	7194413	663727	0.0	-90.0	6.0	2.0	4.0	2.0	0.96
								4.0	6.0	2.0	1.82
								0.0	2.0	2.0	0.45
		V7_5	7194357	663663	0.0	-90.0	6.0	2.0	4.0	2.0	0.72
								4.0	6.0	2.0	0.12
								0.0	2.0	2.0	0.74
		V7_6	7194370	663678	0.0	-90.0	6.0	2.0	4.0	2.0	0.66
								4.0	6.0	2.0	0.08
								0.0	2.0	2.0	0.55
		V7_7	7194372	663710	0.0	-90.0	6.0	2.0	4.0	2.0	0.69
								4.0	6.0	2.0	0.08
								0.0	2.0	2.0	0.71
Vat 6	Vat 8	V8_1	7194301	663752	0.0	-90.0	6.0	2.0	4.0	2.0	0.36
								4.0	6.0	2.0	0.62
								0.0	2.0	2.0	0.08
		V8_2	7194313	663767	0.0	-90.0	6.0	2.0	4.0	2.0	0.97
								4.0	6.0	2.0	0.48
								0.0	2.0	2.0	0.38
		V8_3	7194300	663726	0.0	-90.0	6.0	2.0	4.0	2.0	0.28
								4.0	6.0	2.0	0.83
								0.0	2.0	2.0	0.12
		V8_4	7194313	663713	0.0	-90.0	6.0	2.0	4.0	2.0	0.69
								4.0	6.0	2.0	0.67
								0.0	2.0	2.0	0.18
		V8_5	7194275	663723	0.0	-90.0	6.0	2.0	4.0	2.0	0.55
								4.0	6.0	2.0	0.53
								0.0	2.0	2.0	0.36
		V8_6	7194264	663709	0.0	-90.0	6.0	2.0	4.0	2.0	0.44
								4.0	6.0	2.0	0.65
								0.0	2.0	2.0	0.30
Vat 3	Vat 9	V8_7	7194275	663752	0.0	-90.0	6.0	2.0	4.0	2.0	0.43
								4.0	6.0	2.0	0.63
								0.0	2.0	2.0	0.10
		V8_8	7194262	663767	0.0	-90.0	6.0	2.0	4.0	2.0	0.69
								4.0	6.0	2.0	0.65
								0.0	2.0	2.0	0.30
		V9_1	7194232	663655	0.0	-90.0	7.0	2.0	4.0	2.0	0.43
								4.0	6.0	2.0	0.63
								0.0	2.0	2.0	0.10
		V9_2	7194229	663609	0.0	-90.0	6.0	1.0	2.0	1.0	0.69
								2.0	3.0	1.0	0.65
								3.0	4.0	1.0	0.47
		V9_3	7194267	663631	0.0	-90.0	8.0	4.0	5.0	1.0	0.45
								5.0	6.0	1.0	0.95
								6.0	7.0	1.0	0.61
		V9_4	7194217	663602	0.0	-90.0	6.0	7.0	8.0	1.0	0.10
								0.0	1.0	1.0	1.23
								1.0	2.0	1.0	0.50
		V9_5	7194214	663617	0.0	-90.0	6.0	2.0	3.0	1.0	0.42
								3.0	4.0	1.0	0.26
								4.0	5.0	1.0	0.36
		V9_6	7194212	663632	0.0	-90.0	6.0	5.0	6.0	1.0	0.34
								6.0	7.0	1.0	1.39
								7.0	8.0	1.0	1.16
		V9_7	7194216	663647	0.0	-90.0	6.0	2.0	3.0	1.0	0.38
								3.0	4.0	1.0	0.57
								4.0	5.0	1.0	0.01
								5.0	6.0	1.0	1.37
								6.0	7.0	1.0	0.18
								7.0	8.0	1.0	0.08
								0.0	2.0	2.0	0.55
								2.0	4.0	2.0	0.18
								4.0	6.0	2.0	0.04
								0.0	2.0	2.0	0.70
								2.0	4.0	2.0	0.68
								4.0	6.0	2.0	0.43
								0.0	2.0	2.0	0.79
								2.0	4.0	2.0	0.36
								4.0	6.0	2.0	0.72
								0.0	2.0	2.0	0.47
								2.0	4.0	2.0	0.28



New Vat ID	Historic Vat ID	Historic Site ID	MGA Northing	MGA Easting	Azimuth	Dip	Depth (m)	From (m)	To (m)	Interval (m)	Au g/t
		V9_8	7194220	663662	0.0	-90.0	6.0	4.0	6.0	2.0	0.01
								0.0	2.0	2.0	0.34
								2.0	4.0	2.0	0.18
								4.0	6.0	2.0	0.04
		V9_9	7194233	663664	0.0	-90.0	6.0	0.0	2.0	2.0	0.41
								2.0	4.0	2.0	0.50
								4.0	6.0	2.0	0.58
		V9_10	7194227	663652	0.0	-90.0	6.0	0.0	2.0	2.0	0.80
								2.0	4.0	2.0	1.02
								4.0	6.0	2.0	0.71
		V9_11	7194226	663631	0.0	-90.0	6.0	0.0	2.0	2.0	0.43
								2.0	4.0	2.0	0.51
								4.0	6.0	2.0	1.44
		V9_12	7194224	663612	0.0	-90.0	6.0	0.0	2.0	2.0	0.48
								2.0	4.0	2.0	1.26
								4.0	6.0	2.0	0.96
		V9_13	7194229	663600	0.0	-90.0	6.0	0.0	2.0	2.0	0.34
								2.0	4.0	2.0	0.30
								4.0	6.0	2.0	0.26
		V9_14	7194235	663622	0.0	-90.0	6.0	0.0	2.0	2.0	0.75
								2.0	4.0	2.0	0.77
								4.0	6.0	2.0	1.36
		V9_15	7194236	663642	0.0	-90.0	6.0	0.0	2.0	2.0	0.30
								2.0	4.0	2.0	1.06
								4.0	6.0	2.0	0.92
		V9_16	7194246	663651	0.0	-90.0	6.0	0.0	2.0	2.0	0.63
								2.0	4.0	2.0	0.48
								4.0	6.0	2.0	0.68
		V9_17	7194247	663666	0.0	-90.0	6.0	0.0	2.0	2.0	0.36
								2.0	4.0	2.0	0.83
								4.0	6.0	2.0	0.06
		V9_18	7194242	663597	0.0	-90.0	6.0	0.0	2.0	2.0	0.54
								2.0	4.0	2.0	0.48
								4.0	6.0	2.0	0.29
		V9_19	7194242	663613	0.0	-90.0	6.0	0.0	2.0	2.0	0.53
								2.0	4.0	2.0	0.36
								4.0	6.0	2.0	2.51
		V9_20	7194252	663622	0.0	-90.0	6.0	0.0	2.0	2.0	0.50
								2.0	4.0	2.0	0.44
								4.0	6.0	2.0	1.60
		V9_21	7194253	663641	0.0	-90.0	6.0	0.0	2.0	2.0	0.59
								2.0	4.0	2.0	0.90
								4.0	6.0	2.0	3.30
		V9_22	7194255	663658	0.0	-90.0	6.0	0.0	2.0	2.0	1.46
								2.0	4.0	2.0	1.17
								4.0	6.0	2.0	0.58
		V9_23	7194263	663651	0.0	-90.0	6.0	0.0	2.0	2.0	0.36
								2.0	4.0	2.0	0.90
								4.0	6.0	2.0	1.03
		V9_24	7194261	663631	0.0	-90.0	6.0	0.0	2.0	2.0	0.50
								2.0	4.0	2.0	0.49
								4.0	6.0	2.0	1.50
		V9_25	7194261	663611	0.0	-90.0	6.0	0.0	2.0	2.0	0.40
								2.0	4.0	2.0	0.45
								4.0	6.0	2.0	0.97
		V9_26	7194255	663599	0.0	-90.0	6.0	0.0	2.0	2.0	0.43
								2.0	4.0	2.0	0.51
								4.0	6.0	2.0	2.22
		V9_27	7194269	663602	0.0	-90.0	6.0	0.0	2.0	2.0	0.89
								2.0	4.0	2.0	0.14
								4.0	6.0	2.0	0.22
		V9_28	7194271	663616	0.0	-90.0	6.0	0.0	2.0	2.0	0.51
								2.0	4.0	2.0	0.24
								4.0	6.0	2.0	0.10
		V9_29	7194274	663631	0.0	-90.0	6.0	0.0	2.0	2.0	1.07
								2.0	4.0	2.0	0.81
								4.0	6.0	2.0	0.42
		V9_30	7194273	663649	0.0	-90.0	6.0	0.0	2.0	2.0	0.44
								2.0	4.0	2.0	0.56
								4.0	6.0	2.0	1.84
		V9_31	7194272	663662	0.0	-90.0	4.0	0.0	2.0	2.0	1.57
								2.0	4.0	2.0	0.44

**TABLE 6**  
**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)
<b>In-situ Deposit</b> (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
	<b>Total</b>	<b>12.85</b>	<b>1.00</b>	<b>0.1</b>	<b>1.9</b>	<b>128,600</b>	<b>36,000</b>	<b>793.4</b>
<b>Flotation Tailings</b>	<b>Inferred</b>	<b>1.421</b>	<b>0.48</b>	<b>0.34</b>	<b>6.5</b>	<b>6,800</b>	<b>15,300</b>	<b>294.8</b>
<b>M15 Stockpiles</b>	<b>Inferred</b>	<b>0.243</b>	<b>1.10</b>	<b>0.17</b>	<b>4.7</b>	<b>2,650</b>	<b>1,300</b>	<b>36.7</b>
Note: At 0% Cu cut-off grade unless otherwise stated					<b>TOTAL</b>	<b>138,050</b>	<b>52,600</b>	<b>1,124.9</b>

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 7 below.

**TABLE 7**  
**KUMARINA PROJECT**  
**SUMMARY OF MINERAL RESOURCES**  
**AS AT 30 June 2021**

Location	Category	Tonnes (t)	Cu (%)	Cu metal (tonnes)
<b>Rinaldi Prospect</b> (0.5% Cu cut-off)	<i>Measured</i>	415,000	1.46	6,100
	<i>Indicated</i>	307,000	1.16	3,500
	<i>Inferred</i>	114,000	0.9	1,000
	<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>Phase 1 2021 Auger samples (this release) 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>Depth control was at the decimetre level, with depth checked against a metre stick</li> <li>The augering 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>The auger holes were 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>Visual inspection of the auger sample volume indicates sample recovery is excellent. 1985 RC Vat sampling programme- stated as 'satisfactory'.</li> <li>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>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>
<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>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>N/A</li> <li>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> </ul>	<ul style="list-style-type: none"> <li>No diamond core drilled during this program.</li> <li>All auger samples drilled dry for the purposes of sampling. 1985 RC Vat sampling programme- not known</li> <li>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> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <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>Residuals and original samples sources retained for checks.</li> <li>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>Auger samples were submitted to Nagrom Laboratory, an ISO_9001:2015 assay laboratory and mineral processor. 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>The 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>
<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>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>Initial collar locations are 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>Grid system coordinates are GDA94 MGA Zone 50.</li> <li>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>Resource drilling in this auger program to date used approx. 20m spacing in a diamond pattern.</li> <li>The resource 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>Drilling in this program is vertical and considered to represent an unbiased section of the material being sampled.</li> <li>As stated above.</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>Prior to submission all samples were stored on-site under supervision of the project geologist. Samples are transported to Perth by Horseshoe Metals personnel and then onto the assay laboratory.</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>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</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 Licenses. 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</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>national park and environmental settings.</i></p> <ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<p>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</p> <ul style="list-style-type: none"> <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. 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><i>Acknowledgment and appraisal of exploration by other parties.</i></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> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></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><i>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:</i></li> <li><i>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.</i></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><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></li> <li><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></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>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> <li>N/A</li> <li>N/A, gold only</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><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</i></li> </ul>	<ul style="list-style-type: none"> <li>All intercept widths reported are downhole lengths, and equivalent to true widths for remnant vat stockpiles.</li> <li>N/A.</li> <li>N/A.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>known’).</i>	
<b>Diagrams</b>	<ul style="list-style-type: none"> <li><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></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><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></li> </ul>	<ul style="list-style-type: none"> <li>See Table 4 and 5 for data. Table 4 summarised data for the cell of each vat, the 1985 data is reproduced in its entirety, being around a quarter of the size.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li><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></li> </ul>	<ul style="list-style-type: none"> <li>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><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><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></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>