

Gold Surface Materials Processing Update

- Gold surface materials processing option for Horseshoe Lights extended to 30 June 2025
- Extension granted to allow for completion of metallurgical test work
- Metallurgical samples created by compositing historic auger drilling samples from gold leach vats and gold rehandle stockpile
- To support these works, Horseshoe has provided four 30kg samples for each area ranging from 0.32 g/t Au to 2.43 g/t Au
- As reported previously, Horseshoe retains full rights to copper and mixed Cu/Au surface materials, as well as all subsurface copper and gold
- Copper DSO activities advancing with several workstreams underway
- Negotiations progressing with multiple well-known commodity traders regarding potential copper offtake and funding arrangements to advance Horseshoe Lights' ongoing redevelopment

BOARD OF DIRECTORS

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

Mr Seldon Mart
Non-Executive Director

Mr Peter Walker
Non-Executive Director

Mr Josh Merriman
Joint Company Secretary

Horseshoe Metals Ltd (ASX:HOR) (**Horseshoe** or **Company**) is pleased to provide an update regarding the Gold Surface Materials Rights Agreement (**Agreement**) between wholly owned subsidiary Murchison Copper Mines Pty Ltd (**MCM**) and Melody Gold Pty Ltd (**Melody Gold**).

The Agreement covers designated gold surface materials adjacent to the historic open pit at Horseshoe Lights ('HSL'), including four subgrade stockpiles; *the rehandle stockpile, gold leach vats, and perimeter; the gold ROM stockpile; and gold and flotation tailings* (**Gold Surface Materials**) (Figure 1 and refer release dated 20 January 2025).

Melody has requested and been granted an extension until 30 June 2025 to exercise its option in order to complete metallurgical test work. Horseshoe provided four, 30kg samples from each of the gold leach vats and gold rehandle stockpile (Table 1 and Figure 1). The samples provided cover grade ranges from 0.32 to 2.43 g/t gold and were created by compositing stored samples collected from historic auger drilling of each area.

Each of the composite samples were assayed and screen fire assayed for gold. The results confirm the weighted average composite grades, comparisons are presented in Table 1.

Melody has advised it intends to treat up to **500,000 tonnes per annum** in its proposed retreatment of the gold surface material utilising gravity recovery to produce a gold-copper-silver concentrate.

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Agreement Background

MCM is the holder of M 52/743, the mining lease covering the Gold Surface Materials (**Tenement**). Only the designated Gold Surface Materials at the Tenement are covered by the Agreement. MCM retains the rights to all subsurface gold on the Tenement, as well as all other high-grade copper and mixed copper/gold surface materials forming part of the Company's strategy for the sale of DSO material (refer ASX releases 31 October 2023 and 23 April 2024).

Historic mining and processing were conducted in two phases in the period from 1984 to 1995:

Phase 1 involved mining the gold rich part of the deposit from the surface to a depth of about 100 metres along with CIP processing. The cutoff used to feed the CIP plant was 1.5g/t and any mineralised material below this cutoff grade was stockpiled.

Phase 2 involved deepening the pit and mining initially a high-grade DSO chalcocite/digenite mineralisation followed by mining the lower grade copper sulphide underneath to a depth of about 230 metres along with sulphide flotation to produce a copper-gold concentrate. Any oxide copper mined during this phase was stockpiled on the surface (Figure 1).

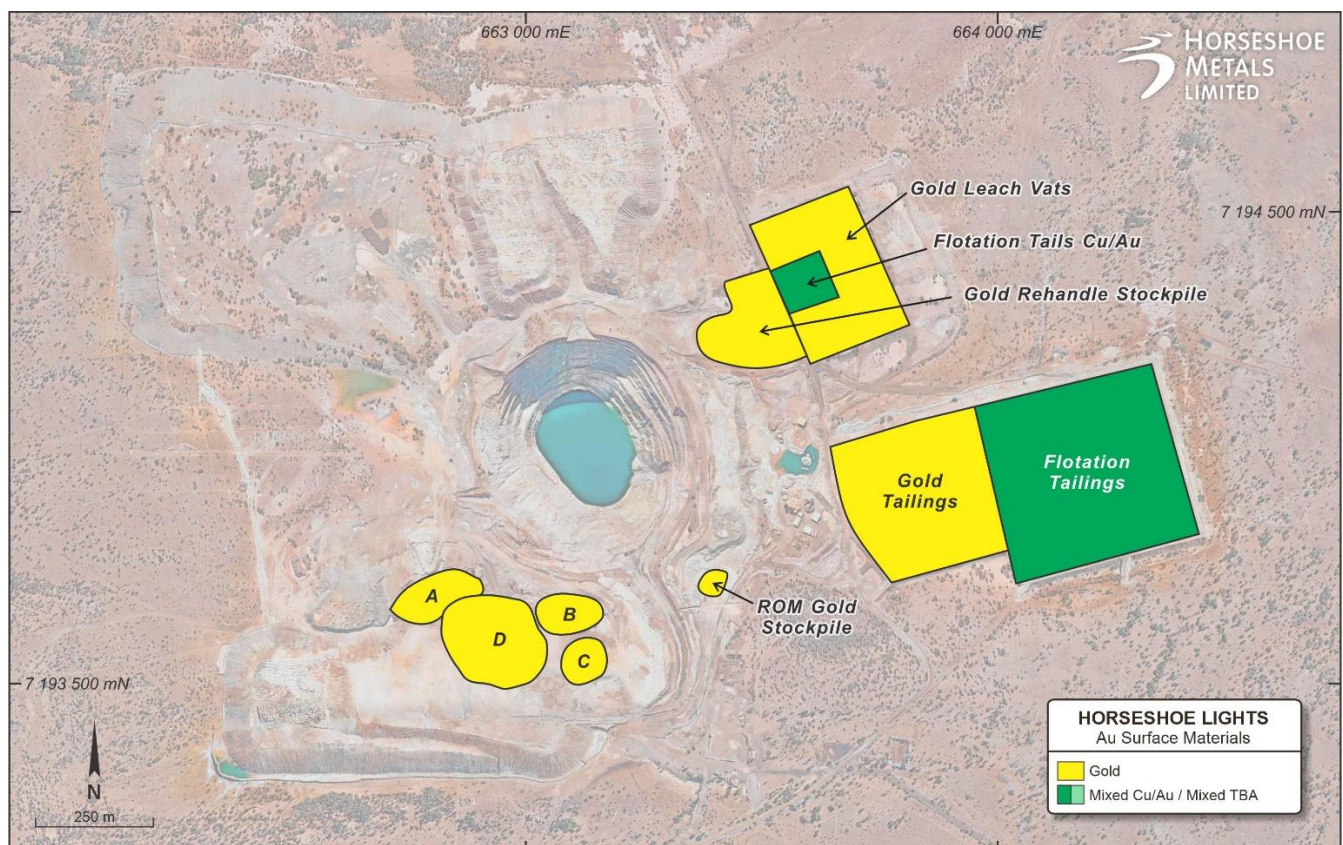


Figure 1: Gold Surface Materials covered by the Agreement (coloured in yellow and green)

The gold tailings are the residues from the CIP processing and have not been assessed; Melody intend to complete test work on the gold tailings and those stockpiles above not previously assessed.

HSL Copper strategy update

As previously communicated, Horseshoe has continued to focus its resources on the re-commencement of development activities at the HSL copper-gold system with the first stage focused on a significant early cash flow opportunity from Direct Shipping Ore ('DSO') sales of existing high-grade copper stockpiles. Multiple workstreams have commenced and consistent updates in this regard will be reported to shareholders in the near-term. A favourable copper price and outlook has given the Company the necessary impetus to now fast-track activities.

Non-Executive Director Kate Stoney commented: *"We continue to work cooperatively with Melody Gold to support their proposed gold surface processing operation and this short option extension gives them the flexibility to finalise their metallurgical test work. Alongside this, we have been advancing several workstreams to kickstart our copper DSO operation which we believe will deliver significant and indeed material cashflow for the Company."*

The DSO operation represents only the first step of a multi-staged development program we are working on at HSL. With a favourable copper price, Horseshoe is in a very unique position for a junior to have 100%-ownership of copper asset that can deliver cashflow in the immediate term, has multiple low capex development options and possesses massive exploration upside. We are now well-placed to start unlocking the project's considerable value and we expect a steady stream of updates will start to reflect this."

For additional background on the Gold Surface Materials please refer to the below ASX releases:

12/09/2018	"Exploration Update- Horseshoe Lights Project"
06/08/2021	"Horseshoe Lights Exploration Activities Update"
10/09/2021	"Horseshoe Lights Phase 1 Auger Programme Completed"
26/11/2021	"Horseshoe Lights Phase 1 Stockpile Results Received"
03/03/2022	"Horseshoe Lights Activities Update"
18/03/2022	"Review Complete on Significant Copper-Gold Surface Material at Horseshoe Lights"
11/08/2022	"Significant Drilling Results in Copper-Gold Surface Material at Horseshoe Lights"
31/10/2023	"High-Grade Surface Material Underpins DSO Strategy"
23/04/2024	"DSO Strategy to Accelerate at Horseshoe Lights Copper Project"
20/01/2025	Horseshoe Lights Project Commercial Development

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

Further information, please contact:

Enquiries

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Table 1: Composite Assaying Results**Gold Vats and Perimeter**

	Original Results		Composite Weight	Composite Assay Results						Au ppm Differences		
Assay Method	FA or ICP			Fire Assay (FA)	Screen Fire Assay (SFA)				Method/Less/Method			
Composite ID	# of samples	Au Weighted Average ppm		Au ppm	Au ppm	+75µm mass (g)	-75µm mass (g)	Au +75µm ppm	Au -75µm ppm	FA or ICP – FA	FA or ICP - SFA	FA - SFA
VAT Comp 1	32	1.93	31.95	1.85	1.78	34.30	965.70	2.42	1.76	-0.08	0.15	0.07
VAT Comp 2	36	0.91	33.10	0.98	0.94	33.74	966.26	1.45	0.92	0.07	-0.03	0.04
VAT Comp 3	35	0.73	32.14	0.79	0.76	30.63	969.37	0.78	0.76	0.06	-0.03	0.03
VAT Comp 4	34	0.60	31.65	0.65	0.67	28.10	971.90	0.98	0.66	0.06	-0.07	-0.02

Gold Rehandle Area

Composite ID	# of samples	Au Weighted Average ppm	Mass kg	Au ppm	Au ppm	+75µm mass (g)	-75µm mass (g)	Au +75µm ppm	Au -75µm ppm	ICP - FA	ICP - SFA	FA - SFA
GR Comp 1	51	2.43	31.82	2.26	2.25	26.41	973.59	3.28	2.23	-0.17	0.18	0.01
GR Comp 2	51	0.90	31.99	0.85	0.85	32.38	967.62	0.65	0.85	-0.05	0.05	0.00
GR Comp 3	48	0.58	31.59	0.57	0.60	17.15	982.85	3.07	0.56	-0.01	-0.02	-0.04
GR Comp 4	53	0.32	32.16	0.29	0.35	24.38	975.62	1.80	0.31	-0.02	-0.03	-0.06

Notes

Composites based on descending Au weighted average ranges

of samples = number of single samples used in the final composite

ICP = Mixed Acid Digest, ICP finish

Composite weight = final mass of composited samples for each bulk sample

Fire assay and screen fire assays were derived from the final homogenous composited sample

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 1 summarises the total Mineral Resources for the Horseshoe Lights Project.

TABLE 1 HORSESHOE LIGHTS PROJECT SUMMARY OF MINERAL RESOURCES AS AT 31 December 2024								
Location	Category	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	Cu metal (tonnes)	Au metal (oz)	Ag metal (k oz)
In-situ Deposit (0.5% Cu cut-off grade)	<i>Measured</i>	1.73	1.04	0.0	0.5	18,000	1,900	28.8
	<i>Indicated</i>	2.43	0.95	0.0	0.7	23,200	3,400	52.2
	<i>Inferred</i>	8.69	1.01	0.1	2.6	87,400	30,700	712.4
	Total	12.85	1.00	0.1	1.9	128,600	36,000	793.4
Flotation Tailings	Inferred	1.421	0.48	0.34	6.5	6,800	15,300	294.8
M15 Stockpiles	Inferred	0.243	1.10	0.17	4.7	2,650	1,300	36.7
Note: At 0% Cu cut-off grade unless otherwise stated					TOTAL	138,050	52,600	1,124.9

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

About the Kumarina Project

The copper deposits at the Kumarina Project were discovered in 1913 and worked intermittently until 1973. The workings extend over nearly 5km as a series of pits, shafts and shallow open cuts. At the main Kumarina Copper Mine, the workings are entirely underground with drives from the main shaft extending for some 200m in the upper levels and for about 100m in the lower levels at a depth of 49m below surface.

Incomplete records post-1960s make it difficult to estimate the total copper production from the workings. However, indications are that the Kumarina Copper Mine was the second largest producer in the Bangemall Basin group of copper mines. Recorded production to the late 1960s is 481t of copper ore at a high-grade of 37.0% Cu and 2,340t at a grade of 17.51% Cu. An initial Mineral Resource Estimate for the Rinaldi deposit was completed by the Company in 2013 (see 30 June 2013 Quarterly Report announced on 31 July 2013). The total Measured, Indicated and Inferred Mineral Resource Estimate as at 31 December 2024 is shown in Table 2 below.

TABLE 2 KUMARINA PROJECT SUMMARY OF MINERAL RESOURCES AS AT 31 December 2024				
Location	Category	Tonnes (t)	Cu (%)	Cu metal (tonnes)
Rinaldi Prospect (0.5% Cu cut-off)	<i>Measured</i>	<i>415,000</i>	<i>1.46</i>	<i>6,100</i>
	<i>Indicated</i>	<i>307,000</i>	<i>1.16</i>	<i>3,500</i>
	<i>Inferred</i>	<i>114,000</i>	<i>0.9</i>	<i>1,000</i>
	Total	835,000	1.3	10,600

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

Forward Looking Statements

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

Competent Persons Statement

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

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

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

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

JORC CODE, 2012 EDITION

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <i>Nature and quality of sampling (e.g. 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.</i> <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> <i>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 (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.</i> 	<p>2021/22</p> <ul style="list-style-type: none"> HOR 2021 RC Drilling- samples were collected to best represent the source material. Samples were sent to Nagrom Perth for Au analysis by ICP-OES (Method ICP-008), 50g charge with a lower detection limit of 0.001 ppm NAGROM method – ICP008; 40gm Aqua Regia Digest-suite included Au, Ag, Ca, Cu, Fe, Hg, Mg, Pb, S, Se and Zn. Samples were pre-screened at hole for Cu for subsequent assay by portable XRF. HOR 2022 RC Drilling- samples were collected to best represent the source material. Samples were sent to Bureau Veritas Perth for Au, Cu, Ag and S analysis by BV method AR101 with either ICP-MS or ICP-AES/MS finish. Samples were pre-screened at hole for Cu for subsequent assay by portable XRF. HOR 2021/22 RC Drilling -undertaken as industry standard reverse circulation drilling, with 1m samples were split from the cyclone, with residual sample collected in plastic bags HOR 2021 Auger drilling- samples were collected by spiral auger bit and shafts with flights 3 ½ "in diameter. Samples were collected every metre from a collared liner base of around 50cm x 40cm, into a large labelled plastic bag, and the base swept clean before proceeding with the next metre. Sub-sampling into numbered calico bag was via an aluminium scoop collecting around 500-750gm of sample from the plastic bag, which was retained at the hole over the collar. HOR 2021 Auger drilling Depth control was at the decimetre level, with depth checked against a metre stick HOR 2021 Auger drilling was undertaken by experienced contractors Gyro Australia and is considered industry standard with a geochemical auger rig used to obtain 1 m samples of 5-10kg from a vertical auger hole of less than 6m in this instance. Sub samples of 500-750gm were taken via scoop and pulverised at the laboratory to produce a 50 g charge for fire assay analysis for gold only. <p>Historic</p> <ul style="list-style-type: none"> 1985 RC Vat samples were collected ever 2m within holes up to 6m deep, except 3 holes in Vat 3 which were sampled every 1m. Vat sampling programme was considered industry standard at the time, with samples split on site by drillers and sent to Perth for analysis. All activities completed by Horseshoe Gold Mine Pty Ltd which was a wholly owned subsidiary of Barrack Mines Ltd between 1983-91 and Sabminco NL between 1992-1995. Barrack Mines Ltd drilled 43 diamond holes for 15,353m, 638 Reverse Circulation holes for 55,343m and 19 channel samples for 520m between 1983 and 1990. Sabminco NL drilled 14 HQ & NQ diamond holes for 2672.25m and 108 Reverse Circulation holes for 9,244m between 1992 and 1993. Initial hole spacing was on a nominal spacing of 50 x 50m with infill as required in the pit area. Reverse Circulation samples were collected mainly on 1m & 2m intervals and prepared for assaying at the onsite laboratory of Horseshoe Gold Mine Pty Ltd, and/or at accredited laboratories. Diamond core is HQ, NQ and BQ was mainly half cut sampled on geological intervals (0.1m to 3.1m) and assayed using the same techniques as the reverse circulation samples. RAB drilling sampled and composited on intervals from 2 to 4m, unknown contractors. The majority of holes are orientated perpendicular to mineralisation which is mainly toward mine grid east and north east at various inclinations. <p>Bedrock Geochemical Sampling</p> <ul style="list-style-type: none"> 1984 Homestake RAB bedrock geochemical drilling on a 160m x 20m grid pattern. Depth of holes ranged between 2m and 5m. The last metre of each hole was sampled and assayed for Au by Fire assay and Cu, Pb, As, and Ba by AAS. (WAMEX report a15731) <p>Rock Chip Sampling</p> <ul style="list-style-type: none"> Samantha Exploration – Unknown sampling and assay technique. Homestake 1984 – Systematic sampling of Jasperoid units. Analysis conducted AAL, Au by fire assay, multi elements by AAS Horseshoe Gold Mine - Unknown sampling and assay technique. Horseshoe Metals – Standard rock chip sampling technique, Analysis by Nagrom, Au and multi elements by method ICP008

Criteria	JORC Code explanation	Commentary
Drilling techniques	<ul style="list-style-type: none"> Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc). 	<p>2021/22</p> <ul style="list-style-type: none"> HOR 2021/22 RC Drilling - was undertaken as industry standard reverse circulation drilling, with iDrilling completing work with a UDR450 track mounted rig and separate 900/1150 booster. Face-sampling drill bit size was 140mm HOR 2021 Auger drilling was completed using a Landcruiser mounted post-hole style auger, capable of at least 10m drill depths. Hole diameters were 3.5". <p>Historic</p> <ul style="list-style-type: none"> 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. Historical data: With reference to the historical database Barrack Mines Ltd and Sabminco NL used 16 rotary air blast (RAB) holes, 756 reverse circulation (RC) and 57 diamond holes for resource definition and exploration. No formal drilling reports are available outlining details of RC drill programs during the mining period 1983- 1994 but conversations with original mine personnel suggest that industry standard practices were employed during the mining period 1983-1994. Diamond drilling is HQ, NQ and BQ core with the majority using Reverse Circulation pre-collars to various depths. Only alpha angles were recorded in geological logs. Horseshoe Metals; A total of 94 Reverse Circulation holes for 16,059m and 7 diamond drill holes, including 3 diamond tails for 1111.6m were used in the resource calculation. The four diamond holes from surface totalled 1111.6m of HQ diameter core and 5.8m of NQ core. The diamond tails totalled 196.3m of which 39.5m was HQ diameter core and 156.8m of NQ diameter core. Diamond rigs use hydraulic power wireless drilling methods with three and six metre runs. RAB drilling sampled and composited on intervals from 2 to 4m, unknown contractors.
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. 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. 	<p>2021/22</p> <ul style="list-style-type: none"> HOR 2021/22 <i>in situ</i> RC Drilling- Visual inspection of the RC sample volume indicates sample recovery is excellent HOR 2021/22 stockpile RC Drilling- Visual inspection of the RC sample volume indicates sample recovery is moderate, but considered representative of the volume being tested HOR 2021 Auger drilling -Visual inspection of the auger sample volume indicates sample recovery is excellent HOR 2021 RC Drilling -all samples drilled dry with minimal clayey component. All RC samples samples are visually checked for recovery, moisture and contamination HOR 2021 Auger drilling -Visual inspection of the auger sample volume indicates sample recovery is excellent. 1985 RC Vat sampling programme- stated as 'satisfactory'. Auger samples are visually checked for recovery, moisture and contamination. Hole sides were conditioned where possible, and sample bases cleaned before proceeding. 1985 RC Vat sampling programme- not known. HOR 2021 RC Drilling - No potential for sample bias was observed, with no fine/coarse separation HOR 2021 Auger drilling -Ground conditions for auger drilling are good and drilling returned consistent size samples. No potential for sample bias was observed, with no fine/coarse separation. 1985 RC Vat sampling programme- not known <p>Historic</p> <ul style="list-style-type: none"> No formal recovery technique is recorded for RC or RAB drilling by either Barrack Mines Ltd or Sabminco NL. Diamond core recovery statistics are recorded in hard copy for the majority of historical diamond holes. No formal assessment of core recovery has been made to date. No formal report or information is available but conversations with original mine personnel suggest that industry standard practices were employed during the mining period 1984-1995.
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	<p>2021/22</p> <ul style="list-style-type: none"> HOR 2021/22 RC Drilling - logged to a level to support appropriate Mineral Resource estimation, mining studies, and metallurgical studies. C20 stockpiles and dumps not logged HOR 2021 Auger drilling Not logged as leached Vat material is relatively homogenous. All material and sampling viewed and overseen by senior geologist. 1985 RC Vat sampling programme- not known HOR 2021/22 RC Drilling- - logged to a level to support appropriate Mineral Resource estimation, mining studies, and metallurgical studies. HOR 2021 Auger drilling - N/A

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> HOR 2021/22 RC Drilling- - All drilling logged to a level to support appropriate Mineral Resource estimation, mining studies, and metallurgical studies. HOR 2021 Auger drilling -NA. <p>Historic</p> <ul style="list-style-type: none"> All reverse circulation, diamond drilling and RAB drilling was logged to a level of detail considered sufficient at the time. However, the nature of deposit that has been subject to strong weathering and alteration makes identification of stratigraphical units very difficult. The lack of an early stratigraphical interpretation model and limited understanding of the deposit style has also caused inconsistency in the logging by various geologists. As a consequence, only the overlying sediments and underlying shale and dolerite have been logged according to their primary rock type. Barrack Mines Ltd and Sabminco NL used similar mine-specific geological codes to describe the geological units. A metamorphic and alteration methodology was used to describe the volcanic stratigraphy but interpretation of the various descriptions is very difficult. Original logging of historical diamond core described lithology, colour and mineralisation content as well as some geotechnical data including core recovery, RQD data and alpha angle measurements. Approximately 10% of the original diamond holes in areas outside the existing pit have been re-logged and photographed so far. Diamond core for Horseshoe Metals holes was logged for recovery and RQD. Information on structure, lithology and alteration zones was recorded. Diamond core trays are stored on site for future reference. Original logging of reverse circulation, diamond core and RAB drilling describes lithology, colour and mineralisation content only in handwritten form on hard copies.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> <i>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.</i> <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	<p>2025 Auger sample compositing</p> <ul style="list-style-type: none"> 8 composites were created, 4 from gold vats and 4 from the gold rehandle area. Auger samples for compositing were weighted average grade range based. Selected samples were arranged to achieve an approximately 30kg final composite sample. Nagrom retrieved the selected sample from storage and combined samples into final composites. Final composites were then blended to achieve a homogenous sample for assaying. <p>2021/22</p> <ul style="list-style-type: none"> HOR 2021/22 RC Drilling- -Non-core drilling, generally sampled dry, wet samples noted; Sample preparation technique considered appropriate to sample type; Cyclone cleaning routinely carried out during drilling; No field duplication undertaken to date, further work planned; sample sizes considered appropriate to the grain size of the material being sampled. HOR 2021 Auger drilling- Whole samples collected and swept off rubber lined collar pad; Auger drilling All auger samples drilled dry for the purposes of sampling. Sample sizes considered appropriate to the grain size of the material being sampled. 1985 RC Vat sampling programme- not known RC and Auger sample analysis follows industry best practice whereby samples are sorted, reconciled, placed onto trolleys and dried at 105°C in an oven, then crushed to ~2mm and a 500-700g subsample taken by rotary division for pulverisation. The subsample was pulverised >90% passing 75µm using bowl-and-disc type mills, and ~200g of pulverised sample was taken for analysis. The technique is considered appropriate for the process of sub-sampling. 1985 RC Vat sampling programme- not known Sub sampling stages are considered appropriate for the representivity of samples. <i>In situ</i> RC and Auger sample analysis -Residuals and original samples sources retained for checks. C20 and dump stockpiles original metre samples not retained RC and Auger sample analysis-The sample size is considered industry standard for base and precious metal mineralisation. <p>Historic</p> <ul style="list-style-type: none"> All diamond core sampled intervals were half core cut for HQ, NQ and BQ diameter. No formal report or information is available but conversations with original mine personnel suggest that industry standard practices were employed during the mining period 1984-1995.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining</i> 	<p>2025 Auger sample compositing</p> <ul style="list-style-type: none"> Original auger sample were submitted to Nagrom, an ISO_9001:2015 assay laboratory and mineral processor, and assayed for Au by either FA (50g) or ICP008 (Mixed Acid Digest, ICP finish) Final composited samples were then assayed for Au by FA (50g) and SFA (Screen Fire Assay, approximately 1kg sample mass)

Criteria	JORC Code explanation	Commentary
	<p><i>the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></p> <ul style="list-style-type: none"> <i>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.</i> 	<p>2021/22</p> <ul style="list-style-type: none"> HOR 2021 RC Drilling-- RC samples were submitted to Nagrom Laboratory, an ISO_9001:2015 assay laboratory and mineral processor for analysis by Method ICP008; 40gm Aqua Regia Digest- suite included Au, Ag, Ca, Cu, Fe, Hg, Mg, Pb, S, Se and Zn. Aqua Regia digest is considered an effective but partial digestion technique. C20 stockpiles analysed by ICP008 for Copper, Gold only HOR 2022 RC Drilling- samples were collected to best represent the source material. Samples were transported to Bureau Veritas (BV) Kalgoorlie for preparation then BV Perth for Au, Cu, Ag and S analysis by BV method AR101 with either ICP-MS or ICP-AES/MS finish. Samples were pre-screened at hole for Cu for subsequent assay by portable XRF. HOR 2021 Auger drilling -Auger samples were submitted to Nagrom Laboratory, an ISO_9001:2015 assay laboratory and mineral processor for analysis by Method FA50. 1985 RC Vat sampling programme- Fire assay analysis conducted by Classic Laboratories Pty Ltd, a NATA registered laboratory. Fire assay for gold is considered a total digestion technique. Vat 2 samples assayed by ICP008 for Copper, Gold only HOR 2021/22 RC Drilling- Standards and Blanks submitted at minimum once each per hole; acceptable levels of accuracy established. C20 and Dump Stockpile drilling- Standards submitted every 50 samples, acceptable standards of accuracy established HOR 2021 Auger drilling- Auger sampling was submitted with two standards per 100 samples, and 1 blank per 100, and acceptable levels of accuracy and precision have been established. 1985 RC Vat sampling programme- not known <p>Historic</p> <ul style="list-style-type: none"> Historical procedures: Barrack Mines Ltd and Sabminco NL predominantly used two laboratories to assay diamond drill core and RC drill cuttings. The majority of samples were processed and assayed at the on-site Horseshoe Gold Pty Ltd mine laboratory No geophysical, spectral or XRF data is available for the historical database. No formal report or information is available but conversations with original mine personnel suggest that industry standard practices were employed during the mining period 1984-1995.
<p>Verification of sampling and assaying</p>	<ul style="list-style-type: none"> <i>The verification of significant intersections by either independent or alternative Company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i> 	<p>2021/22</p> <ul style="list-style-type: none"> HOR 2021/22 RC Drilling- -Significant intersections verified by multiple Company personnel Some holes approximately twinning historic drilling Paper logs of primary data transferred to digital storage and stored, verified by alternate Company personnel; electronic records managed by Company personnel at Perth office. No adjustments have been made to the data as received from the laboratory HOR 2021 Auger drilling- Auger significant intersections and tabulations were confirmed by alternative Company personnel from first principals. 1985 RC Vat sampling programme- not known 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 <p>Historic</p> <ul style="list-style-type: none"> No formal report or procedure is available for the historical data but verification of significant intersections is considered to have been the duty of the senior mine geologist at the time. There is no information or formal report detailing how this process worked. The assumption is that during the mining period all assays from the Horseshoe Gold Mine lab had been handwritten on the geological logs along with associated sample number. These assays would have been subsequently hand entered into an ASCII format.
<p>Location of data points</p>	<ul style="list-style-type: none"> <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i> <i>Specification of the grid system used.</i> <i>Quality and adequacy of topographic control.</i> 	<p>2021/22</p> <ul style="list-style-type: none"> HOR 2021/22 RC Drilling-Initial collar locations are determined by handheld Garmin GPS but will be surveyed using DGPS before resource estimates are undertaken. Holes subsequently located by high definition photography, with estimated accuracy +/- 1m. Gyroscopic down hole surveys completed on holes RC1164-1180 HOR 2021 Auger drilling- Initial collar locations determined by handheld Garmin GPS but will be surveyed using DGPS before resource estimates are undertaken. 1985 RC Vat sampling programme- not known RC and Auger sampling- Grid system coordinates are GDA94 MGA Zone 50. RC and Auger sampling -Topographic control is available from known survey stations and Hyvista detailed aerial photography acquired in 2017. Topographic control is at the decimetre level on site. 1985 RC Vat sampling programme- not known

Criteria	JORC Code explanation	Commentary
		<p>Historic</p> <ul style="list-style-type: none"> The Mine surveyors used standard industry practices at the time to mark out and pick up collar coordinates in mine grid format. The mine grid coordinates have subsequently been transformed into MGA_GDA94 format. All available historic collar locations still visible at surface have recently been surveyed using RTK DGPS system by MHR Surveyors Pty Ltd. Downhole surveys were taken from Eastman camera discs employed by the various drilling companies at that time. Several available historic collar locations still visible at surface have recently been surveyed down hole either by re-entering the drill hole with a drill rig then downhole surveying using single shot digital camera readings or by DHS (Aust) Pty Ltd using an Electronic Multishot tool with readings in and out of the hole every 5m. Stated accuracies are +/- 0.2° for dip and 0.3° for azimuth. Barrack Mine Ltd created a NW mine grid orientated over the pit area with an east-west azimuth equivalent to 89°. The mine grid RL was offset from real RL by 62.2m. These coordinates have subsequently been transformed to MGA_GDA94 zone 50 using the historic grid transformation. Rock chip and geochemical sample locations have been extracted from WAMEX reports or digitised from georeferenced plans.
Data spacing and distribution	<ul style="list-style-type: none"> <i>Data spacing for reporting of Exploration Results.</i> <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i> <i>Whether sample compositing has been applied.</i> 	<p>2021/22</p> <ul style="list-style-type: none"> HOR 2021/22 RC Drilling-Sectional E-W drilling, typically 20m spacing, otherwise various. C20 stockpile drilling now 10m x 10m upon completion of 2022 infill lines HOR 2021 Auger drilling- auger drilling used approx. 20m spacing in a diamond pattern. RC and Auger sampling- drilling spacing and results employed in this program are considered sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. No sample compositing has been applied. <p>Historic</p> <ul style="list-style-type: none"> The historical data spacing and distribution was not considered sufficient for the purpose of a modern resource estimation. Follow up drilling has been completed to infill obvious gaps in order to provide sufficient geological and grade continuity. When the drilling was complete, the mineralised domains display sufficient geological and grade continuity for the mineral resource procedures and classifications applied to support the definition of Measured Indicated and Inferred Mineral Resources under the 2012 JORC code.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i> 	<p>2021/22</p> <ul style="list-style-type: none"> HOR 2021/22 RC Drilling-Orientation of sampling has not necessarily achieved unbiased sampling of some structures, discussed in text. HOR 2021 Auger drilling-Drilling in this program is vertical and considered to represent an unbiased section of the material being sampled. RC and Auger sampling- No knowledge of sampling bias <p>Historic</p> <ul style="list-style-type: none"> The majority of drilling was orientated mine grid east which is slightly oblique to the mineralised trends but intersection angles are closer to perpendicular in most cases. A consistent sampling bias is not considered to be an issue for the purpose of this resource estimation. Diamond drilling confirmed that drilling orientation did not introduce any bias regarding the orientation of key mineralised structures.
Sample security	<ul style="list-style-type: none"> <i>The measures taken to ensure sample security.</i> 	<p>2021/22</p> <ul style="list-style-type: none"> RC and Auger sampling-Prior to submission all samples were stored on-site under supervision of the Company personnel. Samples are transported to Perth by Horseshoe Metals personnel and then onto the assay laboratory. <p>Historic</p> <ul style="list-style-type: none"> All drill samples were assayed onsite at the Horseshoe Gold Mine Pty Ltd laboratory or at Laboratories in Perth or Meekatharra
Audits or reviews	<ul style="list-style-type: none"> <i>The results of any audits or reviews of sampling techniques and data.</i> 	<p>2021/22</p> <ul style="list-style-type: none"> RC and Auger sampling-No audits or reviews have been performed to date. <p>Historic</p> <ul style="list-style-type: none"> Sampling techniques are consistent with industry standards. Consistency of data was validated by CSA Global Pty Ltd while loading into the database (Depth from < Depth to; interval is within hole depth, check for overlapping samples or intervals, etc.). Any data which fails the database constraints and cannot be loaded is returned to Horseshoe Metals for validation and correction. Global consistency was also checked later on by plotting sections using the database and reconciling assays.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	<ul style="list-style-type: none"> The Horseshoe Lights Project comprises one Mining Lease (M52/743), eight Exploration Licence (E52/3906, E52/3759, E52/3908, E52/3909, E52/3939, E52/4229, E52/4230 and E52/4372) and nine Prospecting Licenses (P52/1542 to P52/1550). Current registered holders of the tenements are Murchison Copper Mines Pty Ltd (MCM) a wholly owned subsidiary of Horseshoe Metals Limited, and Horseshoe Metals Limited The Kumarina project consists of two tenements, M52/27; and a mine lease application, M52/1078. MCM has 100% interest in the tenements. Unrelated party Horseshoe Gold Mine Pty Ltd (a subsidiary of Granges Resources Limited) retains a 3% net smelter return royalty in respect to all production derived from M52/743 Tenements are in good standing and the Company is unaware of any additional impediment to it obtaining a licence to operate in the area.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> The Horseshoe Lights deposit surface gossan was discovered in 1946 and worked at a prospect level until 1949. Open pit and underground workings were operated by Asarco from 1949 to 1954. Asarco explored the deposit by sampling surface trenches, drilling one surface diamond drill hole, underground drilling and cross-cutting underground on two levels. In 1964, Electrolytic Zinc Company conducted widespread exploration including eight diamond drill holes in a search for copper. During 1969 and 1970 Planet Metals Ltd drilled seven holes. In the period 1975 to 1977, Amax Corporation and its partner Samantha Mines investigated the Horseshoe Lights area for base metals. This investigation included drilling a further three diamond drill holes including one beneath the southern end of the main ore zone. Placer Austex Pty Ltd and Homestake Mining Company Ltd also investigated the property. Previous exploration activities during the main phase of open pit mining were completed by Horseshoe Gold Mine Pty Ltd which was a wholly owned subsidiary of Barrack Mines Ltd between 1983-89. Barrack Mines Ltd drilled 43 diamond holes for 15,353m, 638 Reverse Circulation holes for 55,343m. The area was subsequently mined as a copper mine by Sabminco until 1992/3, when production ceased. The Project was re-established by current owners Horseshoe Metals in 2010 after a long period of inactivity.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> VMS mineralisation at Horseshoe Lights occurs in the core of a NNW trending and SE plunging anticline. The mineralised envelope of the deposit itself is also SW dipping and plunging to the SSE, and was likely folded. It sits within altered basalt and mafic volcanoclastic units along the contact with overlying felsic volcanic schist. The VMS mineralisation in the mine area is constrained by the tightly folded and sheared stratigraphy, and appears to be affected by offsets along N-S and NE trending brittle faults.
Drill hole Information	<ul style="list-style-type: none"> A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: If the exclusion of this information is justified on the basis that the 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. 	<ul style="list-style-type: none"> Refer to the body of text of this report and relevant Tables for information material to the understanding of the exploration results. No exclusions of information have occurred.
Data aggregation methods	<ul style="list-style-type: none"> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. 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 	<ul style="list-style-type: none"> HOR 2021/22 RC Drilling- no high-grade cutting, copper results reported above 0.3% Cu C20 stockpile reported above 0.3% Cu, 0.3 g/t Au. Stockpile drilling reported above 0.2% Cu, 0.2 g/t Au HOR 2021 Auger drilling- Only 1m split samples are reported and simply length weighted and averaged over the length of the hole above the vat liner; no top cut, no minimum interval, no internal dilution considered. Results are gold only unless stated HOR 2021/22 RC Drilling - significant copper and gold intersects reported HOR 2021 Auger drilling, gold assay only

Criteria	JORC Code explanation	Commentary
	<p>detail.</p> <ul style="list-style-type: none"> The assumptions used for any reporting of metal equivalent values should be clearly stated. 	
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'). 	<ul style="list-style-type: none"> HOR 2021/22 RC Drilling- mineralisation dips around 70° to the west, east dipping holes intersect approximately perpendicular to mineralisation, vertical and west dipping holes are non-perpendicular to mineralisation HOR 2021 Auger drilling All intercept widths reported are downhole lengths, and equivalent to true widths for remnant vat stockpiles. HOR 2021/22 RC Drilling- typically reported as down hole length, true width not known, C20 stockpile drilling considered true width HOR 2021 Auger drilling- downhole lengths considered true widths
Diagrams	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> See plans and sections
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Reported results considered representative, no isolation of high-grade results.
Other substantive exploration data	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> RC Drilling-Various, substantially covered by 2013 CSA report Horseshoe Lights Project In-situ Mineral Resources Auger drilling -1985 Vat Sampling programme detail taken from in-house memo "Horseshoe Lights Vat Sampling Programme March 1985", authored by Rosalind Wright, checked and verified by V.J. Novak, M.Sc.
Further work	<ul style="list-style-type: none"> The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	<ul style="list-style-type: none"> Planned activities discussed in text. Refer to diagrams in body of text.