

### ASX/MEDIA ANNOUNCEMENT

7 APRIL 2015

**ASX Code: HOR** 

Management

**Mr Neil Marston** *Managing Director/Company Secretary* 

Mr Michael Fotios
Non-Executive Director

Mr Alan Still
Non-Executive Director

### **Issued Capital**

Shares: 169.7 Million Options:

5.4 Million (60c, exp 5/15)
Performance Rights: 2.8 M

Share Price: \$0.017

Market Capitalisation: \$2.9 Million

Cash at Bank (31 Mar 2015)

\$0.26 Million

## POSITIVE INITIAL RESULTS FROM TAILINGS TESTWORK PROGRAMME AT HORSESHOE LIGHTS PROJECT

### **SUMMARY**

- Horseshoe Metals tailings gravity separation testwork programme has produced positive preliminary results.
- Analyses and visual observations received to date indicate gravity separation methods are effective in producing a sulphide rich concentrate from the flotation tailings.
- Initial wet table concentrates grade up to 6% Cu.
- Testwork programme being conducted to assess potential for a low cost tailings re-treatment project at Horseshoe Lights.
- Full analytical results of programme expected shortly.

Horseshoe Metals Limited (ASX:HOR) ("Horseshoe" or "the Company") is pleased to announce positive preliminary results from its tailings gravity separation testwork programme at its Horseshoe Lights Copper-Gold Project in the Gascoyne region of Western Australia (see Figure 1).

The testwork programme is being conducted as part of the Company's assessment of the potential to commence a low cost tailings retreatment project at Horseshoe Lights.

The Company advises that preliminary gravity separation tests on five composite samples from the flotation and CIP tailings are nearing completion. Initial visual microscopy observations and laboratory analysis demonstrate that gravity separation methods are effective in producing a sulphide rich concentrate from the flotation tailings.



Composite Samples 1 and 5 have been fully processed over the wet table and analysis of the recovered fractions has been completed. Tables 1 & 2 below detail the analyses received for each fraction (cut) for various elements including gold and copper.

The top fractions of Composite Sample 1 from the flotation tailings assayed 6.089% Cu (Cut 1) and 4.870% Cu (Cut 2) respectively. The top fraction of Composite Sample 5 was taken from the CIP tailings which are of a much lower copper/gold grade and assayed 12.43g/t gold.

The initial results from Composite Sample 1 represent a highly positive outcome as the Company seeks to demonstrate proof-of-concept that gravity separation methods may work on the tailings to produce a saleable product.



Plate 1 – Wet Table processing tailings from Composite Sample 1 with apparent sulphides (grey/black) separation.

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When observed under a microscope the concentrates from Composite Sample 1 appear rich in sulphides with abundant pyrite and some chalcopyrite evident (see Plates 3 and 4). The Company is expecting that based on their relative specific gravities (SG), chalcocite and native copper will also be present in the concentrate.

The processing of the remaining composite samples over the wet table will be completed in the next few days. The Company expects analytical results from the full test work programme will be available shortly thereafter and it will update the market further upon receipt of additional results.

### **Testwork Details**

Samples from a 2010 auger drilling programme of the flotation and CIP tailings have been used for this testwork. Individual 1 metre samples have been composited to provide five 40-60kg size bulk samples for these tests. Figure 2 shows the location of the auger drill holes which have been composited to provide the five bulk samples (Composite Samples 1-5).

The tests involved a scrubbing process initially to achieve full particle separation before feeding the tailings as a slurry through a Falcon concentrator. The recovered concentrates from the Falcon concentrator are being processed over a wet shaking table to produce eight concentrate fractions (cuts) for analysis. The age and dryness of the samples used for these tests presented some initial delays during the scrubbing process however these were successfully overcome and should not be encountered in future when fresh, damp samples of tailings are being used. To date concentrated material processed over the wet table is separating into a heavy sulphides rich stream (see Plates 1 and 2).

It is important to note that this programme is a sighter round of tests that will not feed direct numbers into a feasibility study. Reported recoveries obtained may bear little correlation to final recoveries as none of the equipment used has been optimised to achieve maximum recoveries. Finalising the gravity process pathway and optimising equipment selection and position in the process pathway will not come directly from these results. These tests are the first part of a plan leading to a larger series of trials that will provide the data for a feasibility study.

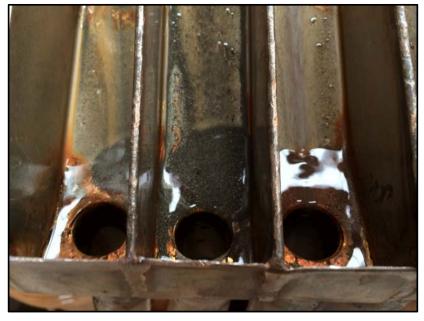


Plate 2 - Composite Sample 1 Cuts 1-3 (L-R) off the wet table showing sulphide (grey/black) material.





Plate 3 – Microscopy image of concentrates from cut 1 of Composite Sample 1 off the wet table showing abundant sulphide material. Copper grade of this cut is 6.089% Cu.



Plate 4 – Microscopy image of concentrates from cut 2 of Composite Sample 1 off the wet table showing abundant sulphide material. Copper grade of this cut is 4.870% Cu.

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### Drilling Update - Horseshoe Lights Mine

The Company advises that recent heavy rainfall in the Horseshoe Lights mine area has continued to delay the commencement of the planned next round of drilling at the project. The unsealed public access road to the site (Ashburton Downs Road) has been closed by the local authorities for much of March 2015 and remains closed. A revised commencement date for drilling will be announced once weather conditions permit site access.

This drilling is to be carried out by Whitestone Minerals Pty Ltd (Whitestone) under a drilling-for-scrip agreement, where Whitestone will undertake drilling to the value of approximately \$235,000, with payment made in Horseshoe ordinary shares, issued at a price of 2 cents per share, in lieu of cash payment (refer to ASX announcement dated 1 April 2014).

Given the unforeseen delay in the commencement of this drill program, Horseshoe and Whitestone have agreed to extend the period that Whitestone have to complete this program of over 5,000m of Reverse Circulation drilling to 30 June 2015. Horseshoe issued 11,742,257 shares to Whitestone in 2014, which are held in voluntary escrow until the completion of this drilling contract.

#### **ENDS**

### For further information please contact:

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#### **About Horseshoe Metals Limited**

Horseshoe Metals Limited is a copper and gold focused company with a package of tenements covering approximately 500km<sup>2</sup> in the highly prospective Peak Hill Mineral Field, located north of Meekatharra in Western Australia. The Company's projects are the Kumarina Project and the Horseshoe Lights Project (see Figure 1).

### **About the Horseshoe Lights Project**

The Horseshoe Lights Project includes the old open pit of the Horseshoe Lights copper-gold mine which operated up until 1994, producing over 300,000 ounces of gold and 54,000 tonnes of contained copper including over 110,000 tonnes of Direct Shipping Ore (DSO) which graded between 20-30% copper.

The Horseshoe Lights ore body is interpreted as a deformed Volcanogenic Hosted Massive Sulphide (VMS) deposit that has undergone supergene alteration to generate the gold-enriched and copper-depleted cap that was the target of initial mining. The deposit is hosted by quartz-sericite and quartz-chlorite schists of the Lower Proterozoic Narracoota Formation, which also host Sandfire Resources' DeGrussa copper/gold mine.

Past mining was focused on the Main Zone, a series of lensoid ore zones which passed with depth from a gold-rich oxide zone through zones of high-grade chalcocite mineralisation into massive pyrite-chalcopyrite. To the west and east of the Main Zone, copper mineralisation in the Northwest Stringer Zone and Motters Zone consists of veins and disseminations of chalcopyrite and pyrite and their upper oxide copper extensions.

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A Mineral Resource Estimate for the Horseshoe Lights deposit was completed by the Company in June 2013 (see 30 June 2013 Quarterly Report announced on 31 July 2013). The total Measured, Indicated and Inferred Mineral Resource Estimate is 12.85 million tonnes @ 1.00% Cu, 0.1 g/t Au and 1.9 g/t Ag for 128,600 tonnes Cu, 36,000 oz Au and 793,400 oz Ag (using a cut-off grade of 0.5% Cu).

In addition a Mineral Resource Estimate for the Horseshoe Lights flotation tailings was completed by the Company in February 2015 (see announcement dated 26 February 2015). The total Inferred Mineral Resource Estimate is 1.42Mt @ 0.48% Cu, 0.34g/t Au and 6.5g/t Ag for 6,800 tonnes Cu, 15,300 oz Au and 294,800 oz Ag (using a cut-off grade of 0% Cu).

A further Mineral Resource Estimate for the Horseshoe Lights M15 stockpiles was completed by the Company in March 2015 (see announcement dated 9 March 2015). The total Inferred Mineral Resource Estimate is 243,400t @ 1.10% Cu, 0.17g/t Au and 4.7g/t Ag for 2,650 tonnes Cu, 1,300 oz Au and 36,700 oz Ag (using a cut-off grade of 0% Cu).

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".

### Competent Persons Statement

The information in the report to which this statement is attached that relates to Exploration Results is based on information compiled by Mr Geoff Willetts, BSc. (Hons) MSc. who is a Member of the Australian Institute of Geoscientists. Geoff Willetts is an employee of Horseshoe Metals Limited. Geoff Willetts has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Geoff Willetts consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to the Horseshoe Lights Project Mineral Resources is based on information compiled by Mr. Dmitry Pertel, who is a member of the Australian Institute of Geoscientists. Mr. Pertel is an employee of CSA Global Pty Ltd. The information was previously issued with the written consent of Mr Dmitry Pertel in the Company's 30 June 2013 Quarterly Report released to the ASX on 31 July 2013. The Company confirms that:

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

The information in this report that relates to the Horseshoe Lights Project flotation tailings and surface stockpiles Mineral Resources is based on information compiled by Mr Geoff Willetts, BSc. (Hons) MSc. who is a Member of the Australian Institute of Geoscientists. Geoff Willetts is an employee of Horseshoe Metals Limited. The information was previously issued with the written consent of Mr Geoff Willetts in announcements released to the ASX on 26 February 2015 and 9 March 2015. The Company confirms that:

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



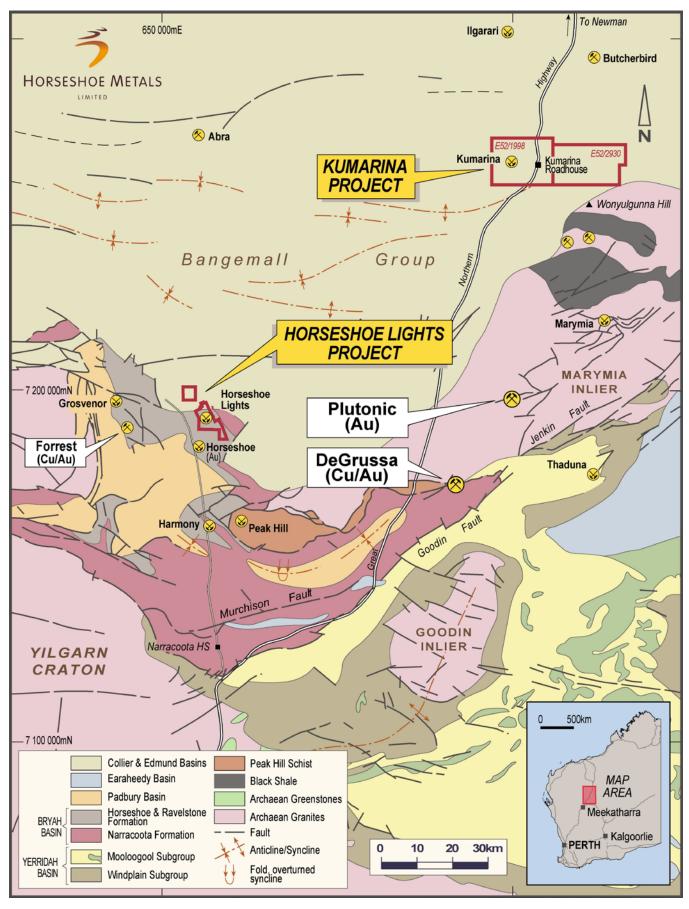


Figure 1 – Projects Location Plan



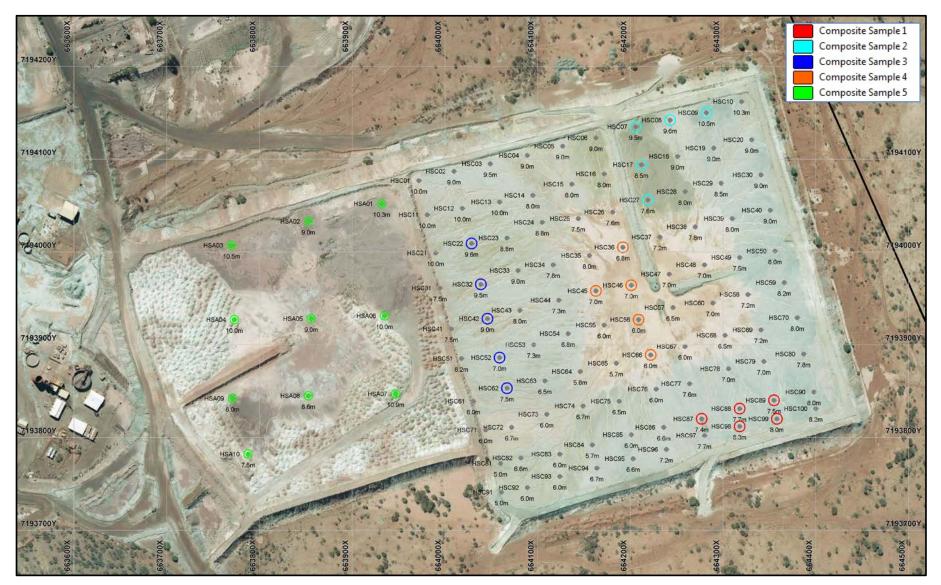


Figure 2 – Horseshoe Lights Project - Tailings Composite Samples Location Plan



# Table 1 Horseshoe Lights Project Tailings Test Programme Composite Sample 1 (Flotation Tailings) Wilfley Wet Table Concentrate Analysis

PRODUCT	Yield		Au	ı	Fe .	S	iO <sub>2</sub>		S	(	Cu
Wet Table	%	ppm	dist.	%	dist.	%	dist.	%	dist.	%	dist.
Cut 1	5.81%	0.055	0.54%	45.80	12.82%	1.03	0.11%	48.976	22.04%	6.089	30.16%
Cut 2	8.69%	0.035	0.52%	45.69	19.14%	4.12	0.63%	39.893	26.86%	4.870	36.09%
Cut 3	12.63%	0.555	11.92%	35.41	21.57%	29.57	6.63%	22.712	22.24%	1.271	13.70%
Cut 4	18.13%	0.860	26.50%	19.50	17.05%	61.62	19.82%	8.698	12.22%	0.427	6.60%
Cut 5	18.76%	0.585	18.65%	11.13	10.07%	76.26	25.38%	3.739	5.44%	0.270	4.32%
Cut 6	15.02%	0.485	12.38%	8.83	6.40%	80.09	21.34%	2.725	3.17%	0.244	3.13%
Cut 7	9.23%	0.545	8.55%	7.74	3.45%	81.28	13.31%	2.036	1.46%	0.210	1.65%
Cut 8	2.82%	0.610	2.93%	10.57	1.44%	75.33	3.77%	2.881	0.63%	0.255	0.61%
Slimes	8.91%	1.190	18.01%	18.80	8.07%	57.06	9.01%	8.597	5.93%	0.491	3.73%
Calculated Head	100.00%	0.588	100.00%	20.74	100.00%	56.37	100.00%	12.902	100.00%	1.172	100.00%
Assayed Head		0.860		18.50		60.05		11.108		0.786	



# Table 2 Horseshoe Lights Project Tailings Test Programme Composite Sample 5 (CIP Tailings) Wilfley Wet Table Concentrate Analysis

PRODUCT	Yield		Au	ı	Fe	S	iO <sub>2</sub>		S	(	Cu
Wet Table	%	ppm	dist.	%	dist.	%	dist.	%	dist.	%	dist.
Cut 1	2.19%	12.430	44.92%	60.61	4.30%	3.35	0.17%	1.610	12.09%	0.320	3.71%
Cut 2	6.87%	0.400	4.54%	54.57	12.16%	11.72	1.84%	0.739	17.42%	0.267	9.72%
Cut 3	9.51%	0.595	9.34%	37.66	11.62%	35.98	7.80%	0.415	13.53%	0.259	13.05%
Cut 4	12.32%	0.190	3.86%	37.13	14.83%	36.41	10.22%	0.368	15.54%	0.248	16.18%
Cut 5	15.07%	0.180	4.48%	34.65	16.93%	40.28	13.84%	0.287	14.83%	0.210	16.77%
Cut 6	17.92%	0.150	4.44%	23.11	13.43%	56.39	23.02%	0.169	10.38%	0.146	13.86%
Cut 7	15.06%	0.940	23.36%	17.84	8.71%	61.85	21.21%	0.109	5.63%	0.116	9.25%
Cut 8	4.26%	0.090	0.63%	20.46	2.83%	55.64	5.40%	0.117	1.71%	0.127	2.87%
Slimes	16.79%	0.160	4.43%	27.90	15.19%	43.13	16.50%	0.154	8.86%	0.164	14.59%
Calculated Head	100.00%	0.606	100.00%	30.84	100.00%	43.89	100.00%	0.292	100.00%	0.189	100.00%
Assayed Head		0.80		30.44		44.31		0.297		0.176	



### **APPENDIX 1 - JORC Code Reporting Criteria**

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

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC-Code Explanation	Commentary
	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.  Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	For details of original sampling and methods refer to ASX announcement made by the company on the 26 <sup>th</sup> February 2015.  185 x 1m samples from 30 selected drill holes have been composited and homogenised to form 5 composite samples. A RSD blend and composite split have been used to obtain 0.5kg for head assay analysis.
Sampling techniques	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.	
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.).	Not applicable in this instance. For details of the original drilling methods refer to ASX announcement made by the company on the 26 <sup>th</sup> February 2015.
Drill sample recovery	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.	Not applicable in this instance. For details of original recovery and results refer to ASX announcement made by the company on the 26 <sup>th</sup> February 2015.



Thether core and chip samples have been eologically and geotechnically logged to a evel of detail to support appropriate dineral Resource estimation, mining studies and metallurgical studies.  Thether logging is qualitative or wantitative in nature. Core (or costean, hannel, etc.) photography.  The total length and percentage of the elevant intersections logged.  To core, whether cut or sawn and whether warter, half or all core taken.  To non-core, whether riffled, tube sampled, patary split, etc. and whether sampled wet or dry.	Not applicable in this instance. For details of the original drilling methods refer to ASX announcement made by the company on the 26th February 2015.		
the total length and percentage of the elevant intersections logged.  To core, whether cut or sawn and whether warter, half or all core taken.  To non-core, whether riffled, tube sampled, party split, etc. and whether sampled wet	Not applicable.		
elevant intersections logged.  core, whether cut or sawn and whether uarter, half or all core taken.  non-core, whether riffled, tube sampled, otary split, etc. and whether sampled wet	Not applicable.		
uarter, half or all core taken.  non-core, whether riffled, tube sampled, otary split, etc. and whether sampled wet	Not applicable.		
non-core, whether riffled, tube sampled, otary split, etc. and whether sampled wet			
	Samples were initially rotary split whilst wet for scrubber testwork. The wet samples were subsequently split using cone and quarter method for moisture and particle size distribution analysis. The solid samples were dried and riffle split.		
or all sample types, the nature, quality nd appropriateness of the sample reparation technique.	Due to their age all original 1m samples were soaked in water for 4 days in an effort to liberate particles. Samples were subsequently composited and homogenised entirely before the scrubber test work process.		
uality control procedures adopted for all ub-sampling stages to maximise epresentivity of samples.	Sampling procedures were compliant with Australian Standards and carried out under the ISO9001 quality management system.		
deasures taken to ensure that the ampling is representative of the in situ naterial collected, including for instance esults for field duplicate/second-half ampling.	No duplicates were completed during this program.		
hether sample sizes are appropriate to ne grain size of the material being ampled.	Samples sizes are considered appropriate for this style of test work.		
he nature, quality and appropriateness of ne assaying and laboratory procedures sed and whether the technique is considered partial or total.	A minimum of 45kg from each of the 5 composite samples has been used for scrubber test work. Each sample was placed in an ISO Tumble Drum to liberate individual particles. The sample mix was 50% pulp density i.e. 50% water and 50% sample for a residence time of 180 seconds.  A 0.5kg sub-sample of this mix was removed from the scrubber output and used for moisture determination using a filter press. A further 0.5kg sub-sample was used for particle size distribution at 1, 0.71, 0.5, 0.355, 0.212, 0.150, 0.106, 0.075, 0.045 and 0.038mm. The remainder of the scrubber output was sent to a Falcon Concentrator.  The Falcon Concentrator was run on each		



Criteria	JORC-Code Explanation	Commentary
		The Falcon concentrate was dried at 70°C and riffle split to obtain a 0.1kg charge for analysis and microscopy. The reminder was sent to a Wilfley Wet Table.  The Wilfley Wet Table process produced eight cuts. Each fraction was dried at 70°C and a 0.05kg charge was riffle split for analysis and microscopy.  Yet to be completed analyses are:  A 1kg charge was split from the Falcon tailing by cone & quarter for analysis, moisture determination using a filter press, and microscopy. A further 1kg charge was obtained by the same method for cyanidation bottle roll tests with the following parameters:  • 50% solids  • 1000ppm NaCN (maintained)  • pH 10.5 (maintained with lime)  • 24 hour residence time  • No carbon addition  The cyanidation bottle roll test will produce a single leach residue, leach liquor and leach wash sample. Subsampling occurred at 1, 2, 4, 6 and 24 hours.  The remainder of the Falcon tailing will be analysed for total acid soluble copper.  All solid samples were analysed via Aqua Regia and XRF for Au, Ag, Fe, SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> , MnO, CaO, P, S, MgO, K2O, Zn, Pb, Cu, Ba, V, Cr, Cl, As, Ni, Co, Sn, Sr, Zr, Na <sub>2</sub> O, LOI <sub>1000</sub> . In addition the head assay charge was analysed for water soluble copper.  All liquor samples will be analysed via ICP for Au, Ag and Cu as well as pH and free cyanide determination.
	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.	No such instruments used in the analysis.
	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.	No external quality control (QC) procedures are adopted for this initial test program. Head Assay pulps are still in laboratory storage and can be re-assayed when QC procedures are required.
Varification of a 11	The verification of significant intersections by either independent or alternative company personnel.	None undertaken in this programme
Verification of sampling and assaying	The use of twinned holes.	Not applicable in this context.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	



Criteria	JORC-Code Explanation	Commentary
	Discuss any adjustment to assay data.	No adjustments undertaken.
Location of data points	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.  Specification of the grid system used.  Quality and adequacy of topographic control.	For details of original data location methods refer to ASX announcement made by the company on the 26 <sup>th</sup> February 2015.
	Data spacing for reporting of Exploration Results.	Not applicable in this instance. For details of original data spacing and distribution refer to ASX announcement made by the company on the 26 <sup>th</sup> February 2015
	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.	The data spacing is considered acceptable for this preliminary assessment.
Data spacing and distribution	Whether sample compositing has been applied.	For details of original compositing methods for drillholes used in the Mineral Resource Estimate refer to ASX announcement made by the company on the 26 <sup>th</sup> February 2015.  For the purpose of the gravity separation test work the original 1m samples from 5 selected drillholes within the copper flotation tailings have been composited together to form a composite test sample. 4 Composite sample were produced by this method. The composite samples are compiled from 32 – 43 original 1m samples and weigh between 47.5 – 65.7Kg. In addition, another composite sample (#5) was also compiled from the top 3 individual 1m samples from 10 drillholes within the CIP gold tailings for a total of 30 samples with a combined weight of 42.5Kg.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.  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.	Not applicable in this instance. For details of original data orientation in relation to geological structure refer to ASX announcement made by the company on the 26 <sup>th</sup> February 2015.
Sample security	The measures taken to ensure sample security.	Prior to submission all samples are stored on-site under supervision of the senior geologist. Samples are transported to Meekatharra by Horseshoe Metals personnel and then onto the assay laboratory by licensed couriers.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews have been performed to date.