

8th June 2017

The Company Announcement Platform  
ASX Limited  
Exchange Centre  
20 Bridge Road  
SYDNEY NSW 2000

## Positive Metallurgical tests on Mary Valley Manganese Deposits

### HIGHLIGHTS:

- **Direct Shipping Ore (DSO) identified**
- **Amenability to beneficiation demonstrated**
- **Smelter grade concentrates produced**
- **Low phosphorous in concentrates**

Eclipse Metals (ASX:EPM or **the Company**) is pleased to announce successful initial metallurgical results for bulk samples from known manganese deposits in its Mary Valley manganese project centred 14km southwest of Gympie in Queensland (Figure 1). These results indicate that mining these deposits has demonstrable potential to produce manganese as Direct Shipping Ore (DSO) .

As reported on 4<sup>th</sup> April 2017, fieldwork by the Company included extensive examination of old workings at Amamoor and Eel Creek. Bulk samples collected from the Amamoor (MVAM) and Eel Creek (MVEC) deposits were submitted for chemical and mineralogical analysis and metallurgical characterisation to a Perth laboratory.

The samples were crushed to 20mm for analysis and a sub-sample of each crushed to 1mm for gravity profiling by heavy liquid separation (HLS) at densities of 2.8 and 3.3. The SG 3.3 sinks – or concentrates – were then subjected to mineralogical analysis by X-ray diffraction (XRD) (refer table below).

Most of these products appear to be suitable for ferroalloy smelting. MVEC01 is effectively DSO with an in-situ grade above 40% Mn. Concentrate phosphorous contents are all acceptably low, being below the 0.2% limit generally imposed. The iron contents are low, but this can be compensated for in ferroalloy smelters by adding iron ore to the furnace feed mix or by blending with high iron ores.

A drilling campaign is now planned to delineate the manganese mineralisation at depth and to gain a better understanding of its extent, mineralogy and grade distribution.

The Company is now focused on compiling the results for corporate discussions to materialise benefits from these successful bulk sample results.

Eclipse Metals Ltd is an Australian exploration company focused on exploring the Northern Territory and Queensland for multi commodity mineralisation. The company has an impressive portfolio of assets prospective for gold, manganese, base metals and uranium mineralisation. The Company's mission is to increase Shareholder wealth through capital growth and ultimately, dividends. Eclipse plans to achieve this goal by exploring for and developing viable mineral deposits to generate mining or joint venture income.

### BOARD

Carl Popal  
Executive Chairman

Craig Hall  
Non-Executive Director

Rodney Dale  
Non-Executive Director

### COMPANY SECRETARY

Eryn Kestel

### REGISTERED OFFICE

C/-NKH Knight  
Unit 19  
Level 2, Spectrum  
100 Railway Road  
Subiaco WA 6008  
Phone: +61 8 9367 8133  
Fax: + 61 8 9367 8812

### PRINCIPAL PLACE OF BUSINESS

Level 3, 1060 Hay Street  
West Perth WA 6005  
Phone: + 61 8 9480 0420  
Fax: + 61 8 9321 0320

### AUSTRALIAN BUSINESS NUMBER

85 142 366 541

### SHARE REGISTRY

Security Transfer Registrars  
770 Canning Highway  
Applecross WA 6153

### ASX CODE

EPM

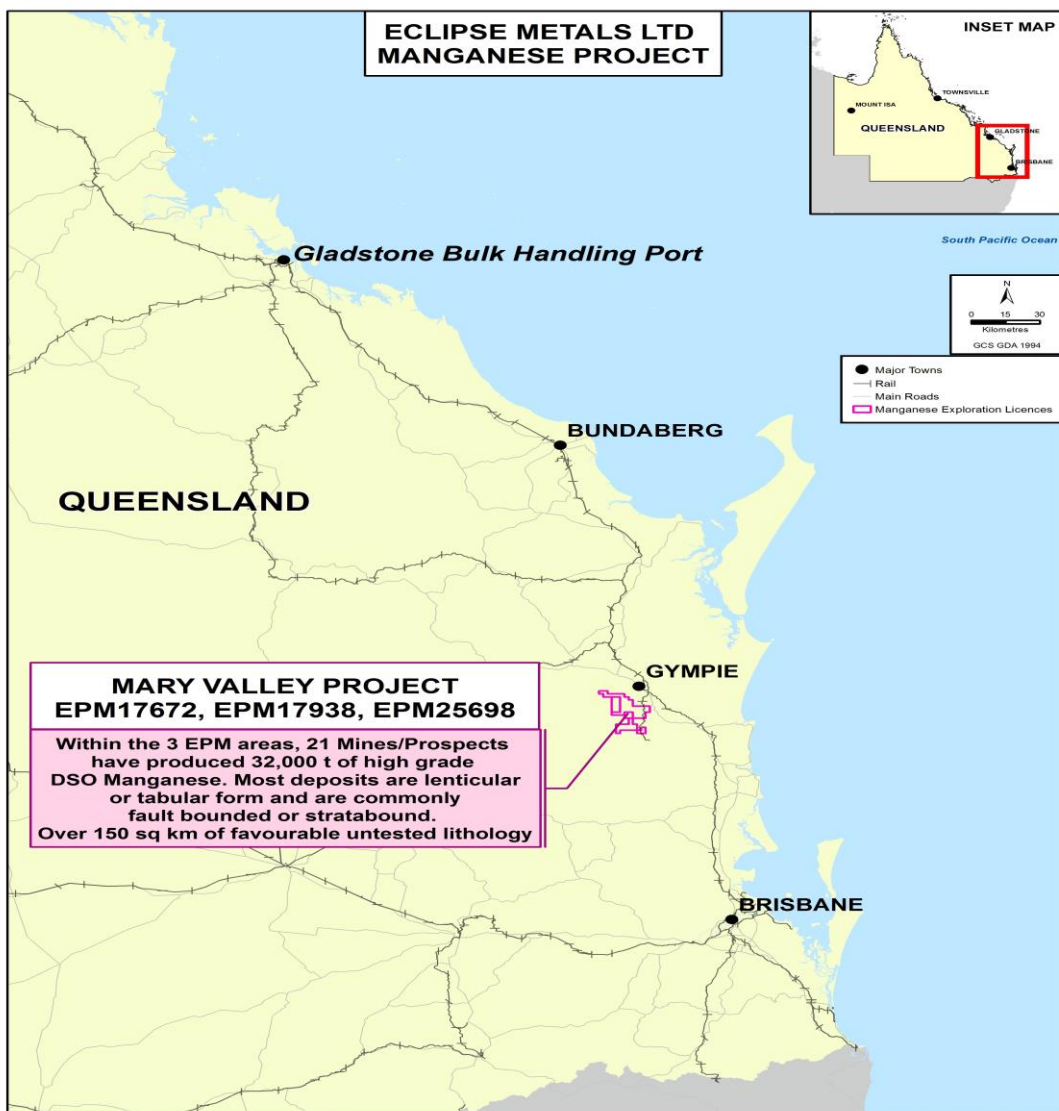
### WEBSITE

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

**Metallurgical Results for Samples from Amamoor (MVAM) and Eel Ck (MVEC) Prospects**

Sample	Head grade % Mn	Conc. grade % Mn	Conc. grade %P	Mn/Fe ratio	Conc. mass yield	Concentrate mineralogy
MVAM01	16.7	16.8	0.15	2.5	38%	Piemontite, bixbyite
MVAM02	33.9	43.2	0.06	18.9	50%	Hausmannite
MVAM03	12.9	13.2	0.14	2.5	62%	Piemontite
MVEC01	41.5	43.4	0.04	23.4	81%	Bixbyite, pyrolusite
MVEC02	15.9	33.9	0.04	4.2	27%	Andradite, pyrope

Two of the Amamoor samples, MVAM01 and MVAM03, did not respond to beneficiation and the mineralogy revealed high amorphous content related to weathering. It is expected that samples to be produced from diamond drilling exploration will better define the bulk character of fresh mineralisation below these sample sites (Figure 2).



**Figure 1. Location Plan for Eclipse's Mary Valley Manganese Project**

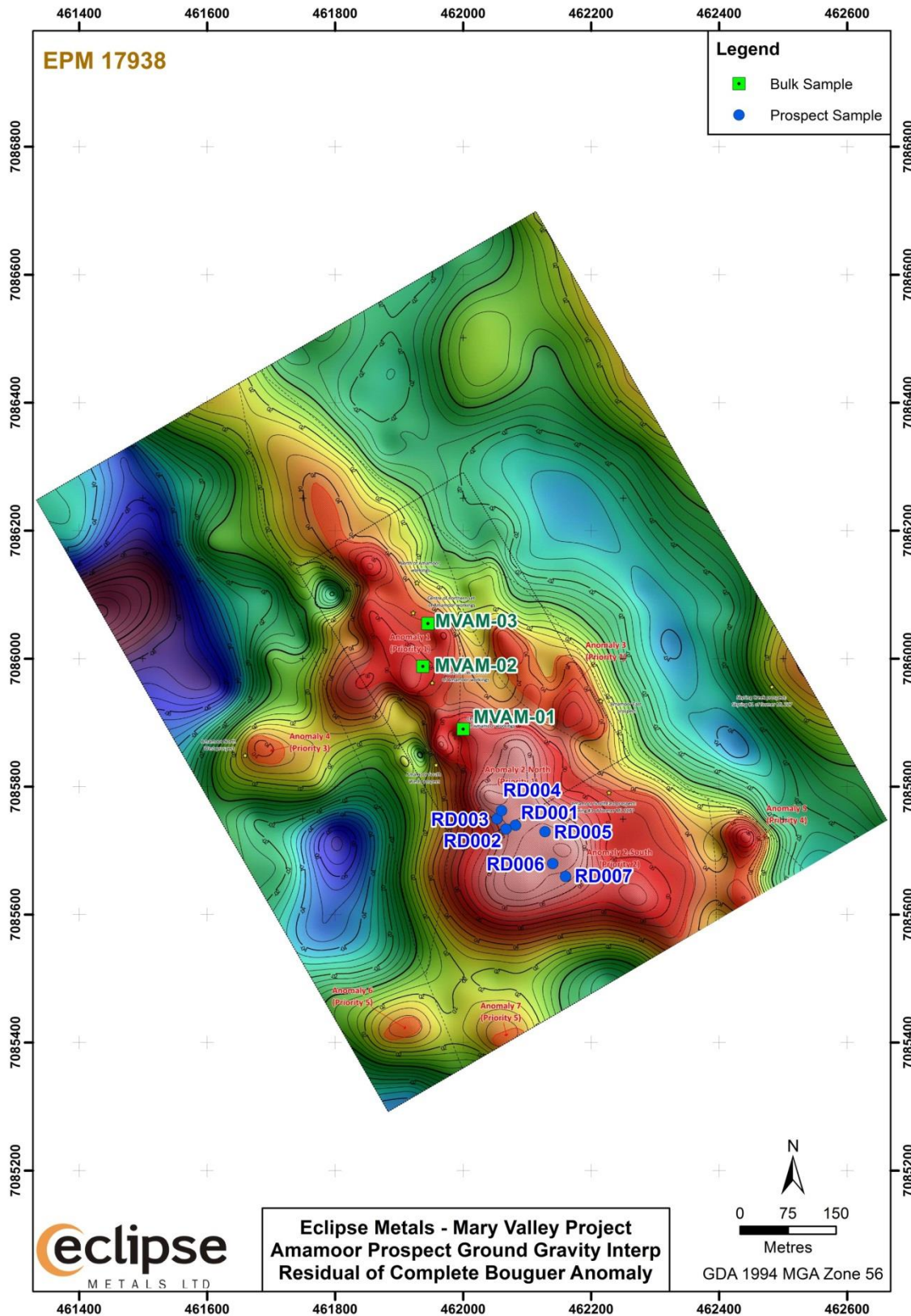


Figure 2: Amamoor gravity anomaly map with sample locations

The recent gravity survey over the Amamoor workings indicated anomalism along strike down-dip (towards the NW) from the central workings and to the south and south-east from the southern workings, indicating presence of further, previously unmapped manganese mineralisation, now confirmed by sampling.

At Eel Creek, the large gravity high extends to the east and south of known manganese mineralisation, confirming field observations of the orientation and likely continuation of the mineralisation. Refer ASX report released on 15 March 2017) (Figure 3).

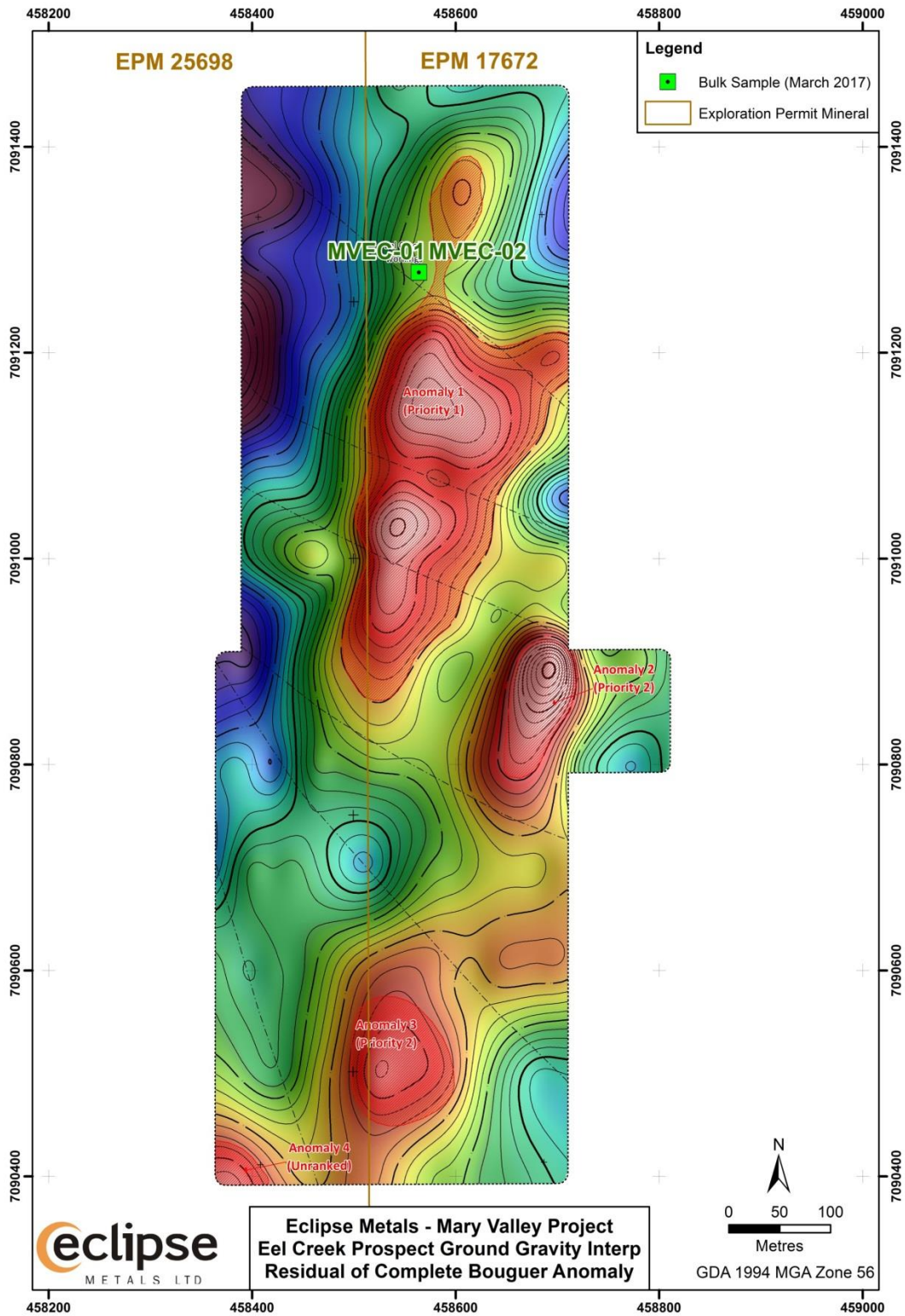


Figure 3. Eel Creek gravity anomaly map with sample locations

Commenting on these highly encouraging results, Mr Carl Popal, Executive Chairman of Eclipse Metals, said:

“Previously within only the two small areas of the Mary Valley project, technical evaluation indicated the potential for at least 167,000t of high grade manganese mineralisation. Recent geological and geophysical surveys have further provided exciting results at both Amamoor and Eel Creek. These results indicate that substantial gravity features probably represent areas of significant manganese mineralisation below shallow overburden which increases the overall size potential. Positive metallurgical results affirm that this manganese mineralisation is amenable to beneficiation with acceptable low phosphorous in concentrates. Overall the results to date have further increased potential for (DSO) manganese production in Mary Valley.

“We look forward to updating the market on further progress with the development of our projects and results from planned drilling for confirmation of manganese mineralisation at depth”

**For and of behalf of the board.**

**Carl Popal**  
**Executive Chairman**

For further information please contact:

Carl Popal  
Executive Chairman  
T: +61 8 9480 0420

Rodney Dale  
Non-Executive Director  
T: +61 8 9480 0420

### **Competent Persons Statements**

**Metallurgy** *The information in this release that relates to metallurgy and metallurgical test work has been reviewed by Mr Noel O'Brien, FAusIMM, MBA, B. Met Eng. Mr O'Brien is employed as a contract consultant by Eclipse. Mr O'Brien is a Fellow of the Australasian Institute of Mining and Metallurgy, and he has sufficient experience with the style of processing response and type of deposit under consideration, and to the activities undertaken, to qualify as a competent person as defined in the 2012 edition of the "Australian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves" (The JORC Code). Mr O'Brien consents to the inclusion in this report of the contained technical information in the form and context as it appears. Mr O'Brien meets the requirements to act as a Qualified Person .*

**Geology** *The information contained in this release that pertains to Exploration Results comprised of the gravity survey in relation to the Mary Valley manganese project, is based upon, and fairly represents, the information and supporting documentation prepared by Mr Rodney Dale, FRMIT, FAusIMM, a Non-Executive Director of Eclipse Metals Limited. Mr Dale is a Fellow of the Australasian Institute of Mining and Metallurgy and has sufficient experience relevant to the styles of mineralisation under consideration and to the activity being reported 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.*

*Mr Dale has verified the data disclosed in this release and consents to the inclusion in this release of the matters based on the information in the form and context in which it appears.*

**JORC Code, 2012 Edition – Table 1 report****Section 1 Sampling Techniques and Data**

<b>Criteria</b>	<b>JORC Code explanation</b>	<b>Commentary</b>
<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.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>Chip sampling from outcrop and old mining exposure. Over 100kg combined weight of samples collected.</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>Not applicable as no drilling was undertaken</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>Not applicable as no drilling was undertaken</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 applicable as no drilling was undertaken</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no drilling was undertaken.</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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>All assays carried out by Nagrom Metallurgical Laboratory to professional standards.</li> <li>Gravity measurements taken with a Scintrex CG-5. Passive Seismic with a Tromino instrument.</li> <li>Daily duplicate checks undertaken on completed work; acceptable levels of accuracy and precision established</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no drilling was undertaken.</li> <li>Not applicable</li> <li>Electronic data capture, storage and transfer as .csv. Routine QC checks performed by contractor and independent geophysical consultant. Data were found to be of high quality and in accordance with contract specifications</li> <li>The gravity data were reprocessed by an independent geophysical consultant using in-house gravity reduction software, utilising the GDA94/MGA56 datum/projection, AAGD07 gravity datum and GDA94 ellipsoidal elevation datum. Bouguer anomaly data were calculated using a correction density of 2.2 g/cm<sup>3</sup> for Amamoor and Upper Kandanga, and 2.3 g/cm<sup>3</sup> (BA230) for Eel. Additionally, terrain-corrected Bouguer anomaly data were generated in order to account for the influence of local and regional variations in topography</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>Coordinate information was collected using a hand-held GPS using MGA Zone 56 (GDA 94).</li> <li>Not applicable</li> <li>DEM derived from differential GPS survey as part of gravity survey</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>Samples collected from outcrop and exposure as available.</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>Not applicable</li> <li>Not applicable as no drilling undertaken.</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>All data transmitted in digital format</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Audits or reviews</b>	<ul style="list-style-type: none"><li><i>The results of any audits or reviews of sampling techniques and data.</i></li></ul>	<ul style="list-style-type: none"><li>Standard laboratory QA / QC</li></ul>



## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section)

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>EPM17672 &amp; EPM17938 are held beneficially for Eclipse Metals Limited in its subsidiary Walla Mines Pty Ltd. Eclipse holds 87% of the current securities within Walla Mines Pty Ltd.</li> <li>EPM 25698 held 100% by Eclipse Metals Ltd</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Manganese ore has been mined intermittently from deposit in the Mary Valley since 1920's, with the bulk of the output occurring from 1957-1960.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>In the Mary Valley Manganese Project, deposits were formed by geochemical separation of manganese from iron in a submarine exhalative system. Deposition of the manganese oxide has apparently been controlled by faulting and fracturing of the incompetent cherty and jasperoidal bed, with the fractures providing the fluid channel-way and replacement of the host rock by manganese oxides occurring progressively away from those fractures.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>No applicable as no drilling was undertaken</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no data averaging has been used</li> </ul>

Criteria	JORC Code explanation	Commentary
<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 known').</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable as no drilling undertaken.</li> </ul>
<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 Map in release</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>• Not applicable</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>• Geological background provided in previous reports.</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>• Diamond drilling programme being planned.</li> </ul>

