



## SUCCESS WITH LADY ETHLEEN METALLURGICAL TEST WORK PROGRAM

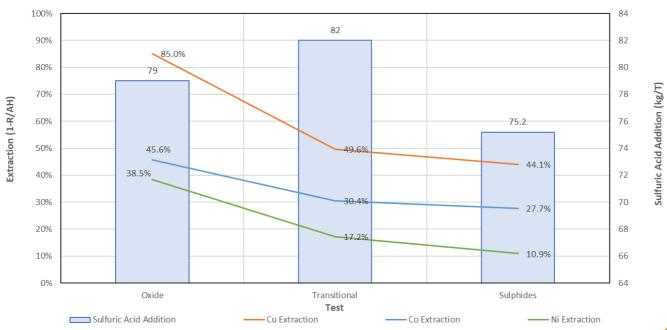
#### HIGHLIGHTS

- Copper recoveries up to 92.9% with the use of GlyLeach<sup>™</sup> as a lixiviant.
- Significant improvements over traditional acid leach results.

Cyclone Metals Limited (ASX: **CLE**) (**Cyclone Metals** or the **Company**) is pleased to announce positive initial results from the recent round of metallurgical testwork conducted on samples from its Lady Ethleen copper gold project in north-western Queensland.

The test work involved initial leach tests on all three sample types using acid only to simulate conventional leaching methods and provide reference results to enable comparison of subsequent alkaline leaching technology.

Acid only results for as received sample (P80 ~ 2mm) using ~80 kg per tonne of acid demonstrated copper recoveries of 85% for oxide, 49.6% for transitional and 44.1% for sulphide.





After curing the as received (P80 ~ 2mm) samples in dilute acid (10kg per tonne) and leaching with  $GlyLeach^{TM}$  using resin (for extraction) followed by a hot wash with water, copper recoveries were found to increase to **92.9%** for oxide, **65.2%** for transitional and **64.9%** for sulphide. These numbers are expected to increase further if the sample is ground prior to processing up to possible recoveries of ~85% for sulphide.

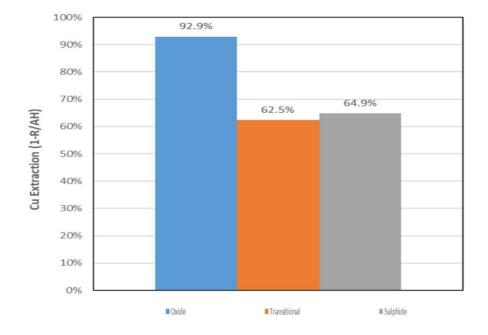
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This process allows for very minimal acid usage which is entirely consumed followed by use of the **recoverable** GlyLeach<sup>TM</sup> lixiviant leading to potentially reduced costs and a significantly more environmentally friendly process.



Based on the success of these results, stage 2 of the testwork has been approved and is now underway.

This work will consist of:

- 1. Small column leach tests on as received sample with acid cure, glycine leach stripped with resin and hot water wash to simulate heap leaching;
- 2. Continuous vat leach tests on as received sample with acid cure, glycine leach stripped with resin and hot water wash;
- 3. Reactor leach tests on as received sample with acid cure, glycine leach stripped with resin and hot water wash to simulate a horizontally rotating reactor (similar to a cement mixer truck);
- 4. Additional inclusion of cyanide using the Glycat<sup>™</sup> technology to recover any gold present in the samples.

Following success of stage 2, the Company will assess conducting pilot trials envisaging the use of truck/trailer mounted horizontal reactors based on or near site to demonstrate processing practicality at increased scale.

Cyclone Metals Non-Executive Chairman, Terry Donnelly commented, "These are very encouraging results and allow the Company to move to stage two testing. Together with the newly acquired Nickol River Mining Project and our existing Yalardy Project the company is in an excellent position to further development a portfolio of prospective projects in multiple commodities including gold, copper and rare earths."



This announcement has been approved by the Company's board of directors.

Yours faithfully Cyclone Metals Limited

Terry Donnelly Non-Executive Chairman

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# JORC Code, 2012 Edition - Table 1

#### Section 1 Sampling Techniques and Data (Criteria in this section apply to all succeeding section

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Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	N/A. No sampling conducted
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul> <li>N/A. No drilling conducted</li> </ul>
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	• N/A.



Criteria	JORC Code explanation	Commentary
	<ul> <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>	
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	• N/A
Sub- sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Samples were homogenised, split and screened to produce 25 – 50 gram composite samples at a P80 of ~ 2mm.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF</li> </ul>	<ul> <li>Lab tests were conducted by Mining and Processing Solutions (MPS innovation) in Perth.</li> <li>Diagnostic leach tests conducted initially followed by bottle roll leach tests.</li> <li>Initial acid leach was tested to provide</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>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>	reference results. <ul> <li>Alkaline leaching using GlyLeach<sup>™</sup> for final results.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twi nne d hol es.</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>	• N/A
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	• N/A
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	• N/A.



Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	• N/A
Sample security	<ul> <li>The measures taken to ensure sample security.</li> </ul>	• N/A
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	No audit or review conducted.

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<i>Mineral</i> <i>tenement</i> <i>and land</i> <i>tenure</i> <i>status</i>	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>The Lady Ethleen project is contained within granted Mining Licences; ML2771 held by Mining International Pty Ltd.</li> <li>Mining International is a wholly owned subsidiary of Cyclone Metals</li> <li>There are existing Environmental Authorities over the licence.</li> <li>The tenure is in good standing.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	• As the project is a historical mine, exploration and mining works have been conducted at different times since the 1900's. Mining was historically undertaken by hand in small scale underground production.
Geology	• Deposit type, geological setting and style of mineralisation.	<ul> <li>Shear hosted Cu, Au, Ag, Co mineralisation within/associated with amphibolite schist and quartz feldspar porphyry / quartzite host rocks. Cross cutting quartz filled joints, shears and fractures.</li> </ul>
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a</li> </ul>	• N/A



Criteria	JORC Code explanation	Commentary
Data	<ul> <li>tabulation of the following information for all Material drill holes:</li> <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> <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> <li>In reporting Exploration Results,</li> </ul>	No data aggregation undertaken.
aggregatio n methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	• No data aggregation undertaken.
Relationshi p between mineralisati on widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	• N/A



Criteria	JORC Code explanation	Commentary
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	• N/A
Balanced reporting	• 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.	• N/A
Other substantive exploration data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul> <li>No other substantive data to report.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Further work will consist of Stage 2 of the metallurgical testing program as described in the main body of the announcement.