



ASX

Announcement

7 November 2014



KRUCIBLE METALS LTD

Mineral Discovery Company

ABN:12 118 788 846 ASX Code: **KRB**

About Krucible

Sean Kelly

Non-executive Chairman

Allan Branch

Managing Director & CEO

Ray Koenig

Non-executive Director

Andrew Vigar

Non-executive Director & CP

Bridgette Humphries

Senior Geologist

Mike Meintjes

Company Secretary & CFO

Office : 113 Boundary Street,

Railway Estate,

Townsville, Queensland 4810

Australia

Post: PO BOX 499

Castletown,

Townsville, Queensland 4812

Australia

Phone: +61 7 4772 5880

Fax: +61 7 4772 4999

Email:

admin@kruciblemetals.com.au

www.kruciblemetals.com.au

Listed on Australia's main stock exchange since 2007, Krucible is an Australian-based resources company with an enviable history of discovery in phosphorus and heavy rare earths as well as other elements. Krucible continues to explore for precious metals, base metals and others, and is transitioning to a combined exploration and mining company. Krucible has plans and expectations to ultimately enter joint ventures to develop mines on tenements in the mineral rich Mount Isa area of north western Queensland. Krucible has a strong industry-based board and management, who promote aggressive value-added mining projects.

Potential copper and nickel at Toomba



Krucible Metals Ltd (Krucible) is pleased to announce the results of its joint research project with the Geological Survey of Queensland (GSQ) and HDR on Krucible's Toomba (EPM15367) tenement in the Simpson Desert into the use of spinifex leaf sampling as a cost effective exploration technique.



High quality analytical data resulted, showing significantly:

- **Mafic and ultramafic rocks indicating potential Cu and Ni mineralisation**
- **Four chemically anomalous areas were identified (See Page 2)**
- **Enrichment in Au, Ag, Te, Tl and Sb found in the spinifex samples**
- **Data exhibits smoothly fractionated rare earth patterns**



Krucible's tenements in the Diamantina are very prospective for base and precious metals, as shown by the Company's ASX announcement 27 October 2014 of the recent discovery of copper at Tobermorey (EL28170) in the first hole Krucible drilled on the Elstone prospect and the previously identified copper mineralisation at Toomba's Champ prospect where previous drilling returned intersections including 27m @ 0.4% Cu from 9m (including 3m @ 2.4% Cu from 12m) in hole 09TMR-29 (AGD66 210370E, 7400968N) (ASX Announcement 21 Sept 2009).



Field sampling in April 2014



The region is remote and access is difficult, outcrops are rare and drilling programs can be expensive. Any cost-effective exploration methods able to "see through" the non-prospective cover are of benefit to further discovery.



Biogeochemical sampling and analysis is one such method, and to ensure the world's best practice in Krucible's use of phytogeochemical collection and interpretation of spinifex material as a field tool, the technique was verified in an area of cover against the Company's previous known surface and drilling results.



Leaf sample collection is inexpensive and simple compared with soil sampling or drilling, but analysis produces powerful results. Krucible provided the past data and field assistance to the HDR team to conduct the field work, while Professor Ken Collerson and the GSQ designed the research. The small out-of-pocket costs incurred by Krucible were reimbursed by HDR as part of the program.



This research opens up the mineral potential of the Diamantina Region with multiple types of mineralisation styles identified from these stage 1 results. Further results are expected in early December from the GSQ.



This work will guide the resumption of drilling plans at Toomba in early 2015, which as announced 31 Oct 2014 were deferred to Tobermorey for operational reasons.



See GSQ poster as Page 2 presented at the Mining 2014 Conference in Brisbane on 28 and 29 October, 2014. Krucible thanks the GSQ, Professor Collerson and HDR for the opportunity to be a participant in this joint R&D project.

“Grass Roots” Exploration: Spinifex Biogeochemistry in the Simpson Desert

Laurie Hutton – Queensland Department of Natural Resources and Mines

Emeritus Professor Ken Collerson PhD FAUSIMM and HDR Spinifex Team



Queensland Government Industry Priorities Initiative

Conclusions

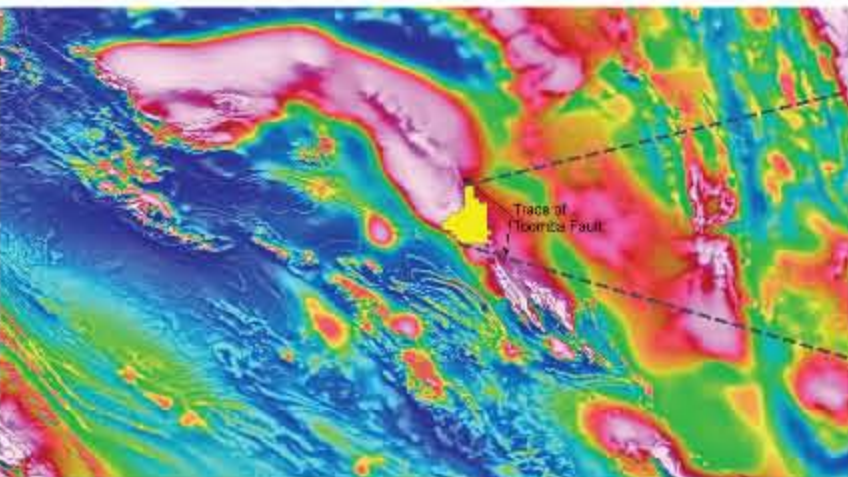
- Spinifex biogeochemistry is potentially a very cost effective technique to explore regions of Queensland where basement terranes are obscured by surficial cover
- Chondrite–normalised REE patterns from spinifex can be used to infer the source rock lithology
- Four anomalous areas have been identified, including mafic/ultramafic suites (#1), epithermal gold in calc alkaline granites (#2,3), and carbonatite phoscorite plugs (#4)
- Pilot study confirms spinifex biogeochemistry as a very effective method to identify anomalous metal-rich environments

Project

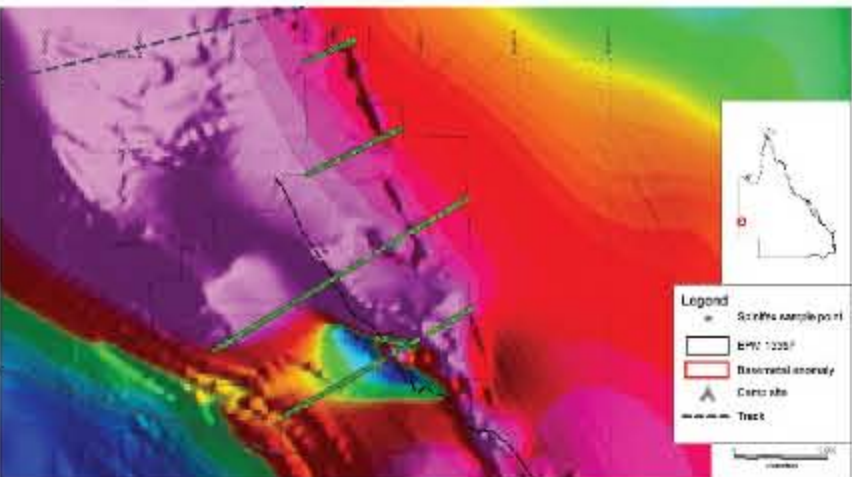
- Large regions of Queensland are obscured by surficial sediments or transported sands: conventional soil geochemical exploration techniques are ineffective
- Base and precious-metal (Cu-Pb-Zn-Au) mineralisation has been discovered by Krucible Metals Ltd. in the Simpson Desert of southwest Queensland
- However there is a dearth of outcrop and identification of further drill targets has been difficult
- Spinifex grass root systems can extend to >30 m and it is an efficient biogeochemical sampling medium to define anomalous metal concentrations in areas that lack outcrop
- Objective was to demonstrate a technique that would stimulate Au, Ag, Cu, Pb, Zn, PGEs, Cr, Ni and REE exploration in parts of the state that were unexplored or difficult to explore, due to lack of outcrop

Possible targets in survey area

- Granite-hosted IOCG mineralisation
- Mafic and ultramafic-hosted Ni, Cu, PGE mineralisation (#1)
- Epithermal / mesothermal gold and copper (#2,3)
- Carbonatite and associated phoscorite-hosted Cu, PGE and REE mineralisation (#4)



Survey area in regional context



Survey area on magnetic image

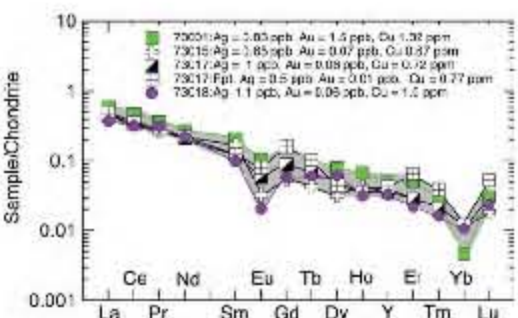
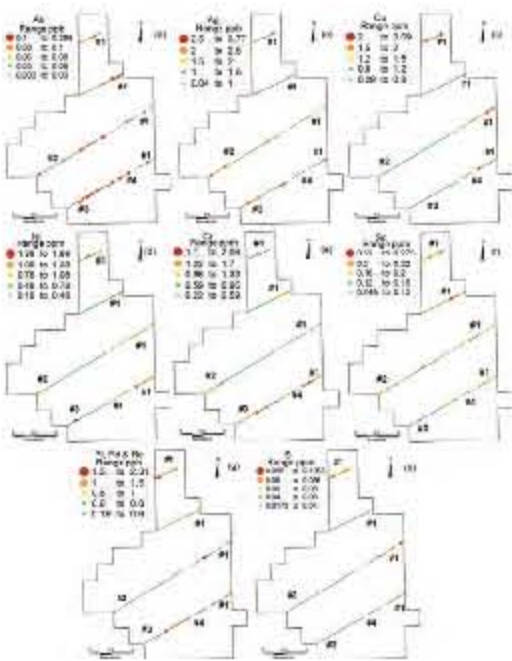


Survey area on aerial photo

Results

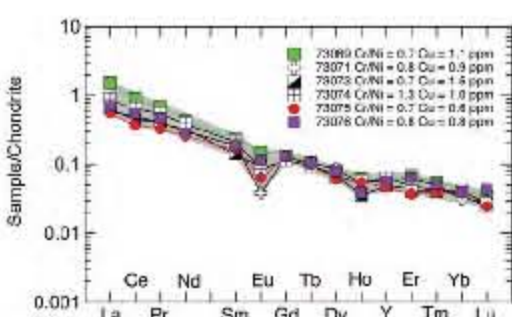
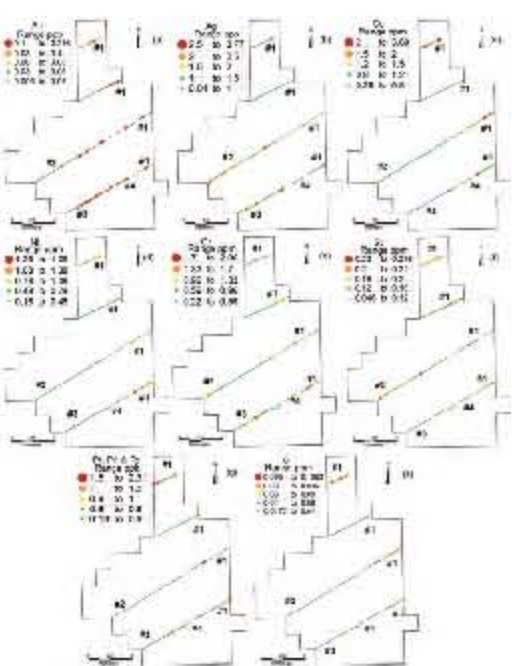
Four chemically anomalous areas have been identified in the study area. Surprisingly the spinifex chondrite–normalised REE patterns from these 4 domains closely resembles the shapes of the REE patterns of the inferred source rock lithologies, albeit at significantly lower concentration levels allowing some identification of source rock lithologies.

Anomaly #2,3



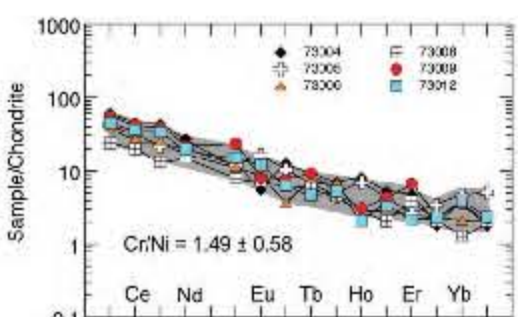
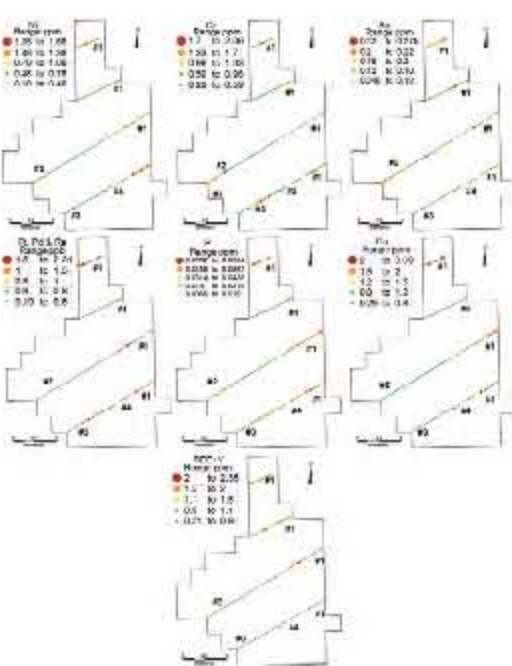
- Spinifex in this area is enriched in Au, Ag and Cu and also exhibits elevated levels of Te, Tl and Sb
- Patterns are similar REE profiles of upper continental andesitic crust and some types of granites
- Possibly an epithermal system

Anomaly #1



- Profiles are relatively smooth, confirming the quality of the analytical data
- Indicate mafic and ultramafic rocks in this terrane with potential for Cu and Ni mineralisation

Anomaly #4



- The data exhibit smoothly fractionated REE patterns
- These patterns are remarkably similar to chondrite–normalised REE patterns exhibited by Devonian age ijolite-phoscorite-carbonatite intrusions that occur ~80 – ~100 km to the southeast



Attached: Annexure A

Further Information:

AC Branch

Allan Branch

Managing Director & CEO

Krucible Metals Ltd.

WEB SITE: www.kruciblemetals.com.au



About Krucible Metals Limited:

Listed on Australia's main stock exchange since 2007, Krucible is an Australian-based resources company with an enviable history of discovery in phosphorus and rare earths as well as other elements. Krucible continues to explore for precious metals, base metals and strategic metals, and is transitioning to a combined exploration and mining company. Krucible has plans and expectations to ultimately enter joint ventures to develop mines on its tenements in the mineral rich Mount Isa area of northwestern Queensland and elsewhere. Krucible has a strong industry-based board and management, who promote aggressive value-added mining projects.

COMPETENT PERSON STATEMENT

"The information in this report that relates to Mineral resources and Exploration Results is based on information compiled by Mr Andrew J Vigar who is a Fellow of The Australasian Institute of Mining and Metallurgy and is employed by Mining Associates Limited, Hong Kong and is a non-executive director of Krucible Metals Ltd. Mr Vigar 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'. Mr Vigar consents to the inclusion in this report of the matters based on his information in the form and context in which it appears".

Spinifex sample results quoted are Laboratory results. See Annexure A for further information.

This report may contain forward-looking statements. Any forward-looking statements reflect management's current beliefs based on information currently available to management and are based on what management believes to be reasonable assumptions. A number of factors could cause actual results, or expectations to differ materially from the results expressed or implied in the forward looking statements.



Annexure A

Table 1 – Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> 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. 	Spinifex Sampling – Sample was collected from 1 spinifex bush selected for the correct characteristics. Leaves were cut at base of plant and placed in labelled calico bag.
	<ul style="list-style-type: none"> Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. 	The samples were collected at a number of sites within a 200m radius of the GPS point. Each sample was on average 200g.
	<ul style="list-style-type: none"> Aspects of the determination of mineralisation that are Material to the Public Report. 	No mineralisation
Drilling techniques	<ul style="list-style-type: none"> 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. 	No drilling competed
Drill sample recovery	<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). 	No drilling competed
	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. 	No drilling competed
	<ul style="list-style-type: none"> Measures taken to maximise sample recovery and ensure representative nature of the samples. 	No drilling competed
Logging	<ul style="list-style-type: none"> 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. 	No drilling competed
	<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. 	No drilling competed
	<ul style="list-style-type: none"> Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. 	No drilling competed



Table 1 Cont.

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> The total length and percentage of the relevant intersections logged. 	No drilling competed
	<ul style="list-style-type: none"> If core, whether cut or sawn and whether quarter, half or all core taken. 	No drilling competed
	<ul style="list-style-type: none"> If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. 	No drilling competed
	<ul style="list-style-type: none"> For all sample types, the nature, quality and appropriateness of the sample preparation technique. 	No drilling competed
	<ul style="list-style-type: none"> Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. 	No drilling competed
	<ul style="list-style-type: none"> 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. 	No drilling competed
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> Whether sample sizes are appropriate to the grain size of the material being sampled. 	Sample sizes are considered appropriate for the material collected.
	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. 	The samples were sent to a laboratory specialising in assaying plant matter. The method of assaying is considered appropriate for this exploration.
	<ul style="list-style-type: none"> 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 types of instruments were used to determine the analysis. Results are wholly from laboratory assaying.
Verification of sampling and assaying	<ul style="list-style-type: none"> 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. 	The laboratory completes their own QAQC procedures. Blank samples were collected for every 20 th sample as a QAQC check on laboratory results. This is considered acceptable for the level of exploration.
	<ul style="list-style-type: none"> The verification of significant intersections by either independent or alternative company personnel. 	No drilling competed
	<ul style="list-style-type: none"> The use of twinned holes. 	No drilling competed
	<ul style="list-style-type: none"> Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. 	All data was collected initially on paper ledgers which have been transferred to a digital database with the company's coding templates.
Location of data points	<ul style="list-style-type: none"> Discuss any adjustment to assay data. 	The poster results were produced using levelled data.
	<ul style="list-style-type: none"> 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. 	Sample points were located using a Garmin GPS with an accuracy of approximately 5m
	<ul style="list-style-type: none"> Specification of the grid system used. 	All surveys were MGA Zone54 (GDA94)



Table 1 Cont.

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<ul style="list-style-type: none"> Quality and adequacy of topographic control. 	Topographical control is sufficient for the stage of exploration
	<ul style="list-style-type: none"> Data spacing for reporting of Exploration Results. 	Spinifex sampling was completed on 5 traverse lines spaced approximately 5km apart. With sample spacing 50m apart on the lines.
	<ul style="list-style-type: none"> 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. 	Not sufficient sampling to determine resource
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Whether sample compositing has been applied. 	Not Applied
	<ul style="list-style-type: none"> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. 	No bias attributable to orientation of sampling
Sample security	<ul style="list-style-type: none"> 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. 	No drilling completed
Audits or reviews	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	Standard sample security protocols were observed
	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	It is considered by the Company that industry best practice methods have been employed at all stages of the exploration. No reviews were completed



Table 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. 	Krucible owns 100% of all of its tenements including Toomba EPM15367 There is no native title determination over this area
	<ul style="list-style-type: none"> 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. 	The tenements are in good standing and no known impediments exist.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	Exploration was completed by HDR Salva staff.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	This is discussed in the poster as Page 2 that there are possibly multiple types of mineralisation within this project area.
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: 	No drilling competed
	<ul style="list-style-type: none"> o easting and northing of the drill hole collar 	No drilling competed
	<ul style="list-style-type: none"> o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar 	No drilling competed
	<ul style="list-style-type: none"> o dip and azimuth of the hole 	No drilling competed
	<ul style="list-style-type: none"> o down hole length and interception depth 	No drilling competed
	<ul style="list-style-type: none"> o hole length. 	No drilling competed
	<ul style="list-style-type: none"> 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. 	No drilling competed
Data aggregation methods	<ul style="list-style-type: none"> 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. 	No aggregation completed
	<ul style="list-style-type: none"> 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. 	No aggregation completed
	<ul style="list-style-type: none"> The assumptions used for any reporting of metal equivalent values should be clearly stated. 	No aggregation completed
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> These relationships are particularly important in the reporting of Exploration Results. 	No mineralisation recorded
	<ul style="list-style-type: none"> If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. 	No drilling competed
	<ul style="list-style-type: none"> 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'). 	No drilling competed



Table 2 - Cont.

Criteria	JORC Code explanation	Commentary
<i>Diagrams</i>	<ul style="list-style-type: none"> · <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> 	Figures in text
<i>Balanced reporting</i>	<ul style="list-style-type: none"> · <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> 	Maps representing all results are provided in the poster announcement.
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> · <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> 	Further work is planned for exploration including further surface sampling report compilation leading to a potential drilling program.
<i>Further work</i>	<ul style="list-style-type: none"> · <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> 	Figures in text
	<ul style="list-style-type: none"> · <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> 	Figures in text