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## ROCK CHIP RESULTS EXTEND BULLOO COPPER

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- **Bulloo Downs Copper Project rock chip results**
  - **Sampling confirms identified mineralised zones**
  - **Sampling indicates additional mineralised zones**
  - **Extensive strike length is confirmed**
  - **High copper grades in rock chips**
  - **30% of samples return anomalous copper (>500ppm)**

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Junior explorer **Aruma Resources Limited (ASX: AAJ)** ("Aruma") is pleased to advise that its latest rock chip sampling has encountered significant additional copper mineralisation on its exciting new Bulloo Downs Copper Project in Western Australia.

Aruma completed a 261 sample Niton portable XRF sampling program at Bulloo Downs, to extend the previously identified structures where the Company has optioned two granted ELs, E52/2024 and 2464. The results greater than 0.5% Copper are detailed below in Table 1.

Sample ID	Prospect	Easting	Northing	Rock Type	Cu%*
78	Chandra	754969	7344036	malachite	51.84*
G3	Madison	751970.5	7349143.5	gossan	17.78
123	Madison	752033	7349183	gossan	1.50
128	Madison	751877	7348947	gossan	1.07
98	Madison	750952	7348466	gossan	0.97
129	Madison	751877.5	7348947.5	gossan	0.73
96	Madison	750952	7348466	Fe stone	0.70
112	Madison	751773	7348995	gossan	0.53
50	Terry	754588	7345896	Fe stone	0.50

**Table 1** Significant (>0.5% Cu) assays from the rock ship survey

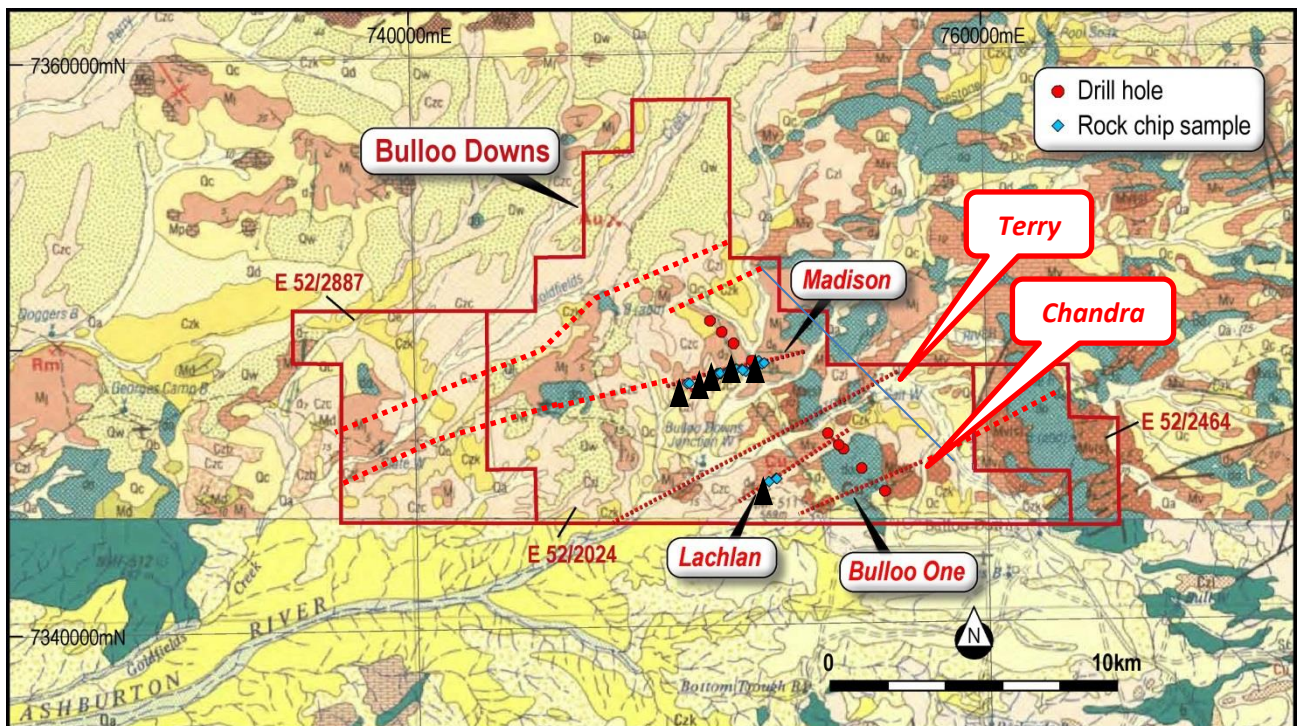
- Assays from Niton portable XRF

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Managing Director Peter Schwann said the sampling confirmed the mineralisation model at Bulloo Downs and justified further exploration of the full lease package.

"These results confirmed the copper mineralisation postulated when the project was secured", Mr Schwann said. "They also confirm the strike extent of the mineralised structures to **more than 60km**. Not only are the identified structures mineralised, but mapping indicates they also extend under cover in both directions".

The trends identified in the sampling will help define the current HyMap identified structures. The samples were taken along the structures where mineralisation was indicated by ironstone or gossan material. The feature of these results is they show that the copper mineralisation is continuous on the structures and has grades that encourage future exploration.



**Figure 1** Leases showing the mapped structures and the new copper trends (red dots). The first pass drilling is shown as black triangles.

Bulloo Downs is considered by Aruma to have potential to be a new copper district and has strong indications of deep-seated, structurally controlled hydrothermal copper bodies with low contaminants. The area is considered highly prospective for further discoveries.

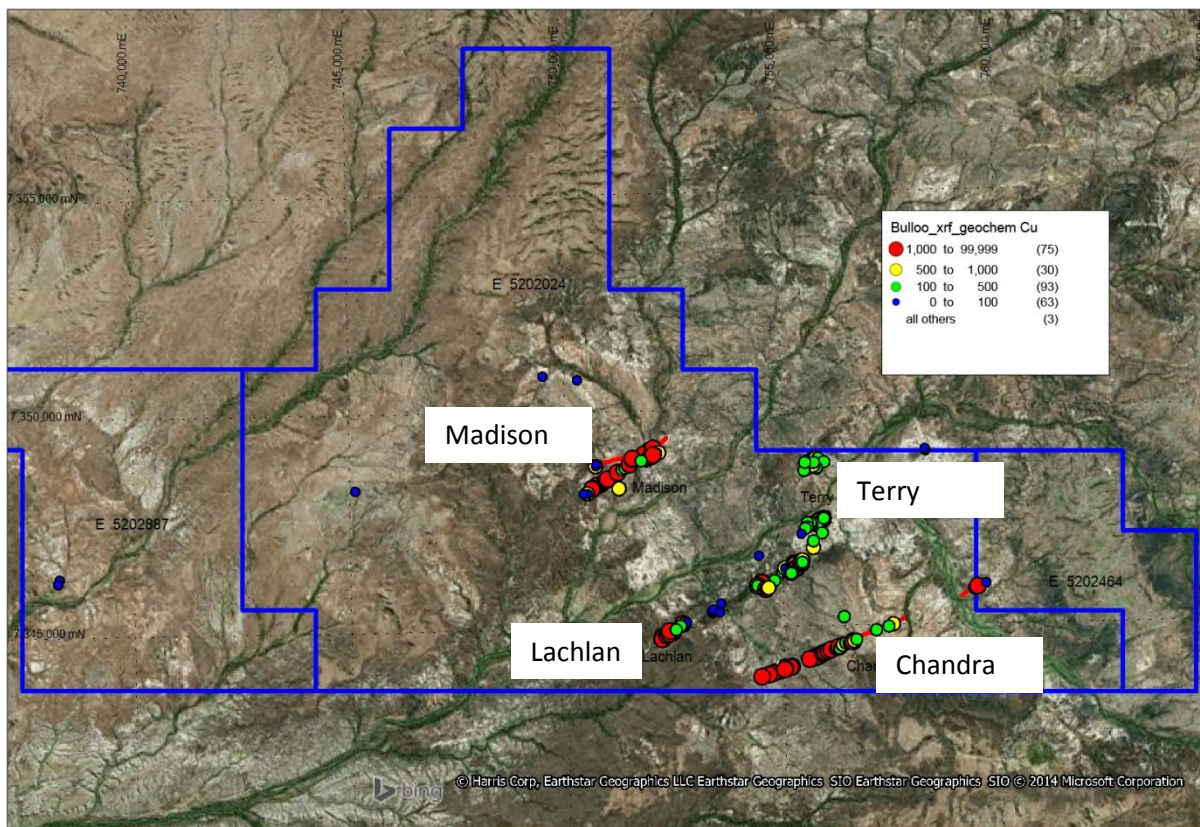
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### Current Exploration Program

Following on from mapping, successful outcrop rockchip sampling, and first pass drilling results, a detailed aeromagnetics survey is planned with a second drilling program to be conducted in selected areas. The sampling results combined with HyMap and historical and new geophysical data analysis will assist in planning the next drill program. The planned HoistEM will be replaced by detailed magnetics which has been recommended as better suited to this project.

The eastern areas of outcropping gossan (6-8% Cu rock chips) with good geochemical responses will be the primary targets along with the zone of significant grade identified by the first pass drilling (Madison).

Heritage clearance for these areas is underway. The aeromagnetic survey will be undertaken in the next quarter depending on aircraft availability.



**Figure 2** Anomalous zones showing XRF location points colour coded by Cu value over a false colour HyMap Image at 1:50,000. (red>0.1% Cu, yellow >0.05% Cu and green >.01% Cu)



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**Photo 1 Gossan at sample # 123, 1.5% Cu (Madison)**



**Photo 2 Alteration at sample #128, 1.06% Cu (Madison)**

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**Photo 3 Gossan at sample #191, 0.25% Cu (Chandra)**

**For further information please contact:**

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***Competent Person's Statement***

*The information in this release that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Peter Schwann who is a Fellow of the Australasian Institute of Mining and Metallurgy and Chartered Professional (Geology). Mr Schwann is Managing Director and a full time employee of the Company. Mr Schwann has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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 Schwann consents to the inclusion in the release of the matters based on his information in the form and context in which it appears.*

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**Appendix 1 XRF Sample Points >0.1% Cu**

Sample ID	Easting	Northing	Comment	Cu%
78	754969	7344036	malachite	51.84
G3	751970.5	7349144	Gossan Fe stone +malachite	17.78
199	752187	7944803	Fe stone vein	1.77
205	752342	7344903	Fe stone vein	1.62
123	752033	7349183	Gossan+ clay	1.50
204	752329	7344898	Fe stone vein	1.32
194	752414	7344932	Fe stone vein	1.21
128	751877	7348947	Fe stone	1.07
98	750952	7348466	Gossan	0.97
202	752303	7344879	Fe stone vein	0.93
129	751877.5	7348948	Gossan	0.73
96	750952	7348466	Gossan scree	0.70
192	752444.5	7344957	Fe stone vein	0.67
197	752231	7344831	Fe stone vein	0.67
224	756072	7344473	Fe stone subcrop	0.64
221	755896	7344390	Fe stone vein	0.62
112	751773	7348995	Fe stone float in creek	0.53
50	754588	7345896	Fe stone	0.50
107	751480	7348812	Fe stone/gossan	0.48
201	752173	7344792	Fe stone vein	0.40
80	750812	7348375	Fe stone	0.39
139	754738	7343965	Fe stone + quartz	0.37
116	751835	7349037	Fe stone	0.36
235	756596	7344659	Fe stone vein	0.36
G2	751971.5	7349145	Gossan Fe stone	0.35
127	752030	7349018	Fe stone	0.34
222	755938	7344411	Fe stone vein	0.34
210	755734	7344324	Fe stone vein	0.31
103	751207.5	7348625	Gossan	0.31
211	755694	7344310	Fe stone vein	0.30
252	759489	7345879	Fe stone/shale	0.29
140	754638	7343933	Fe stone scree	0.29
111	751556.5	7348942	Fe stone vein	0.29
141	754466	7343880	Fe stone scree	0.28

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Sample ID	Easting	Northing	Comment	Cu%
114	751796	7349008	Fe stone	0.27
209	755784	7344340	Fe stone vein	0.26
91	750603	7348250	Fe stone	0.25
191	752444	7344956	Fe stone vein	0.25
101	750968	7348477	Gossan	0.24
77	754889	7344011	Fe stone	0.24
214	755583	7344276	Fe stone vein	0.23
46	754404	7345982	Fe stone	0.23
102	751207	7348624	Gossan	0.23
223	756014	7344449	Fe float	0.22
208	755785	7344341	Fe stone vein	0.22
117	751835.5	7349038	Fe stone	0.21
68	755421	7346470	Fe stone	0.20
220	754994	7344045	Fe stone vein	0.20
198	752178	7344834	Fe stone vein	0.19
126	751981	7348988	Fe stone	0.19
66	755300	7346367	Fe stone	0.19
215	755171	7344108	Fe stone vein	0.19
G1	751971	7349144	Gossan	0.18
207	755819	7344356	Fe stone vein	0.18
69	755421	7346475	Fe stone	0.18
39	754504.5	7346046	Fe stone	0.17
40	754504	7346045	Fe stone	0.17
203	752281	7344862	Fe stone vein	0.17
216	755140	7344098	Fe stone vein	0.17
109	751563	7348938	soil/Fe stone vein	0.16
38	754504	7346045	Fe stone	0.16
7	752655	7345122	Shale	0.15
213	755694	7344307	Fe stone vein	0.15
226	756265	7344546	Fe stone vein	0.14
206	752353	7344969	Goethite cap	0.14
45	754490	7346036	Fe stone	0.14
12	751879	7348947	Soil	0.13
122	751971	7349142	Fe stone	0.13
67	755327	7346389	Fe stone	0.13
132	751830	7349043	Fe stone	0.13

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Sample ID	Easting	Northing	Comment	Cu%
17	755874	7347449	Fe stone	0.13
64	755270	7346454	Fe stone	0.11
90	750609	7348267	Fe stone	0.11
18	755874.5	7347450	Soil	0.11
14	755942.5	7347493	Fe stone	0.11
81	750727	7348331	Fe stone	0.10
19	755822	7347427	Gossan Fe stone	0.10

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Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>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.</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 (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.</li> </ul>	<ul style="list-style-type: none"> <li>Handheld XRF sample of rock sample or soil On the HyMap anomalous structures. These were sampled with the Niton hand held XRF where the presence of goethite was noticed. Multiple readings were done with a hand specimen for later analysis was also obtained for samples over 0.2% Cu It soon became obvious that where no goethite was present, no copper could be detected (Limit of Detection).</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>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.).</li> </ul>	<ul style="list-style-type: none"> <li>No Drilling done</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>No Drilling done</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>No Drilling done</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</li> </ul>	<ul style="list-style-type: none"> <li>No Drilling done</li> </ul>

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Criteria	JORC Code explanation	Commentary
	<p><i>instance results for field duplicate/second-half sampling.</i></p> <ul style="list-style-type: none"> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>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.</i></li> <li>• <i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Niton XRF, Soil sampling mode, 30 second read, no calibration factors applied, no QC data undertaken as not relevant to this stage of exploration</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Assays of rock samples are submitted</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• <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></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Sample location by GPS.</li> <li>• All locations are GDA94 Zone 50</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <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></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Preliminary Field sampling, data spacing is based on availability of outcrop</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• <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></li> <li>• <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></li> </ul>	<ul style="list-style-type: none"> <li>• No Drilling done</li> </ul>
<b>Sample</b>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Samples digitally and physically recorded.</li> </ul>

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Criteria	JORC Code explanation	Commentary
<b>security</b>		
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>No audits or reviews were deemed necessary outside of internal standards as this is purely qualitative assaying for exploration.</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 license to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>All tenements and issues required are detailed in the reports.</li> <li>All work done under PoWs.</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>Previous work on the area not applicable</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>Structurally controlled Hydrothermal Copper</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>All in the report</li> </ul>

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Criteria	JORC Code explanation	Commentary
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>Robust results with spikes identified to mineralogy</li> </ul>
<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 (e.g. 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>N/A Field observations in weathered and</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>As done</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>All samples on the leases are shown graphically and/ or have been previously reported</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>HyVista data and figures and the relationship with the Aruma exploration and genesis model are detailed in many previous reports and presentations.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (e.g. 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>As detailed in the report.</li> </ul>

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