ARROW MINERALS

ASX: AMD

15 November 2018

MALINDA LITHIUM-TANTALUM PROJECT EXPLORATION UPDATE

Arrow Minerals Limited (**Arrow** or the **Company**) is pleased to provide an update on exploration activities at the Company's 100%-owned Malinda Lithium-Tantalum Project (**Malinda**), located 120km north-east of Gascoyne Junction in the Gascoyne Region of Western Australia (***Figure 1***).

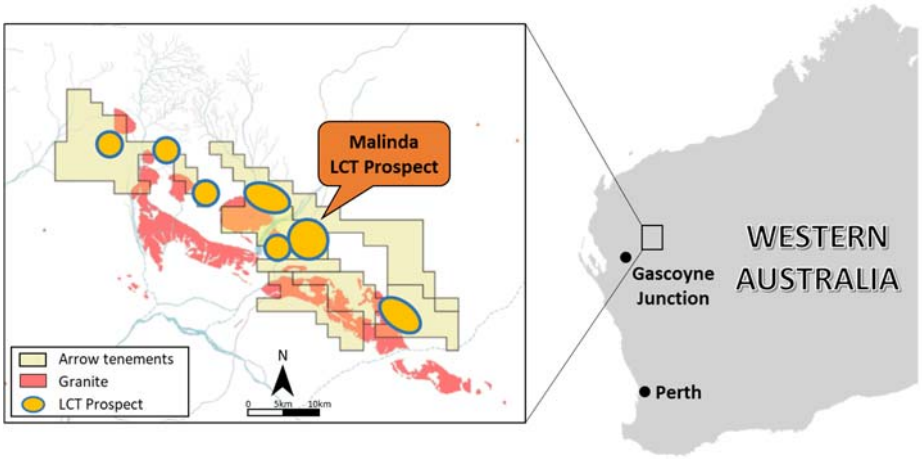

Figure 1 – Malinda project location map

Arrow commenced exploration at Malinda in mid-2016 and through stream, rock chip and soil sampling identified several lithium and tantalum-bearing pegmatites associated with granite intrusions. A maiden reverse circulation (**RC**) drilling programme of four outcropping pegmatites was completed in September 2017, intersecting up to 2.0% Li_2O (lithium) and over 800ppm Ta_2O_5 (tantalum) (***Figure 2***). In addition, XRD analysis of high-grade lithium samples from the Blade Prospect confirmed the primary lithium-bearing mineral as spodumene.

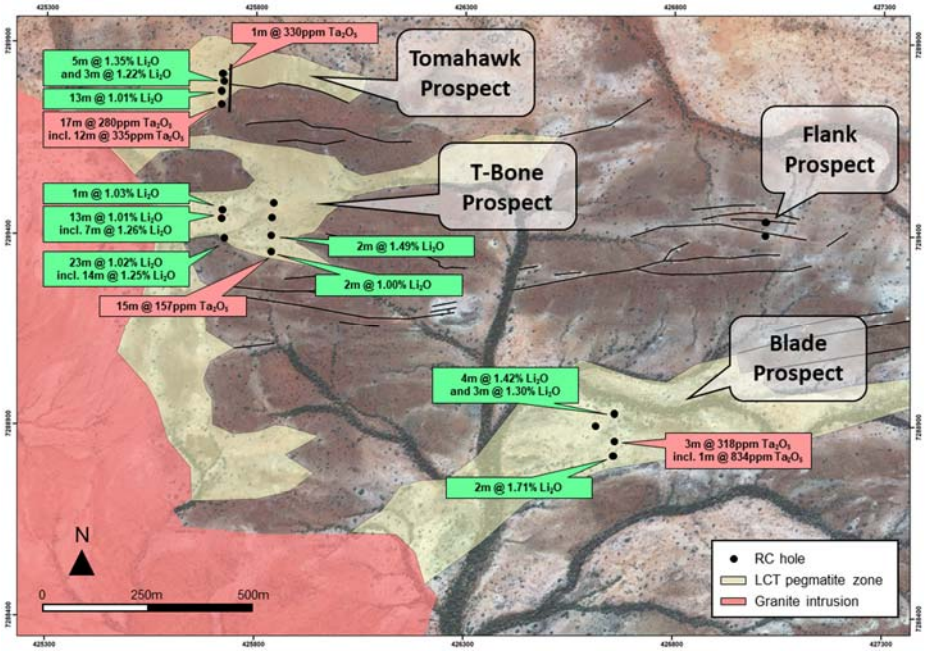

Figure 2 – RC drill results at Malinda (2017)

Arrow recently acquired ultra-high resolution aerial drone imagery and a digital terrain map over the Malinda Prospect. The survey allowed for detailed interpretation and geological mapping of the pegmatites at Malinda, leading to a systematic rock chip sampling programme to determine fractionation trends and confirm mineralisation in previously unidentified pegmatites.

A total of 217 rock chips (ave. 5.8kg) were collected, predominantly to the north and east of previous exploration work. The rock chips returned significant tantalum grades, with 79 samples grading over 150ppm Ta_2O_5, including the highest value recorded at the Project to date of 1,673ppm Ta_2O_5 (***Figure 3***). A full list of significant results is included in Appendices A and B.

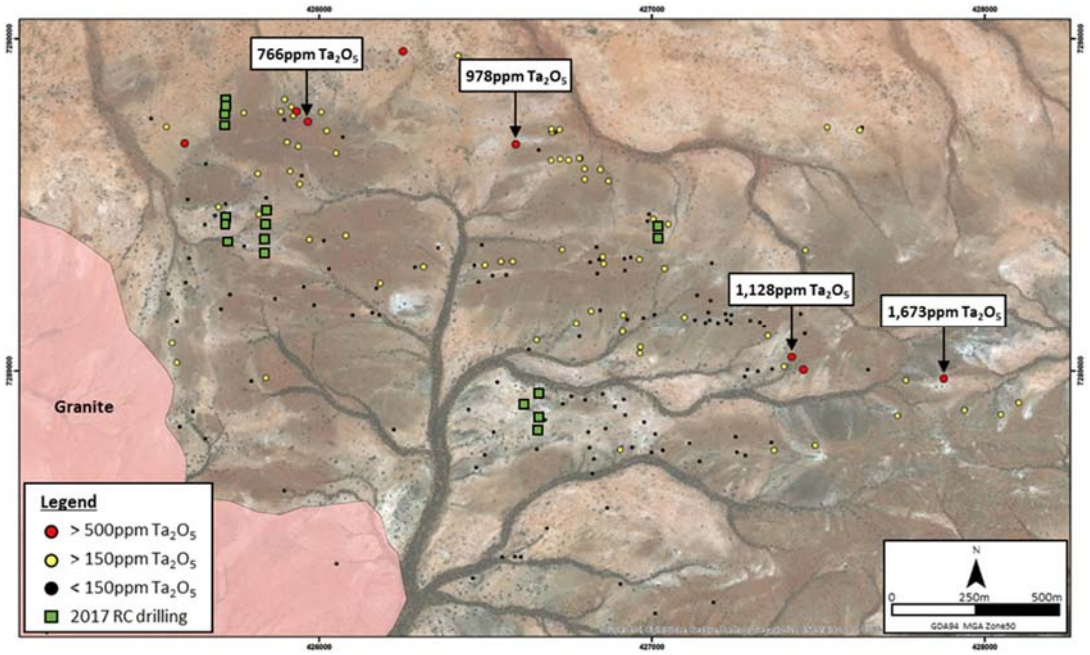

Figure 3 – New rock chip assays at Malinda

A geochemical review of the rock chip data shows a strongly developed niobium/tantalum (Nb/Ta) fractionation trend from the south-west extending to the north and north-east, indicating the granite intrusion may continue at depth. In addition, mineralised pegmatites were identified under shallow cover to the north and north-east of the previously identified pegmatites (***Figure 4***).

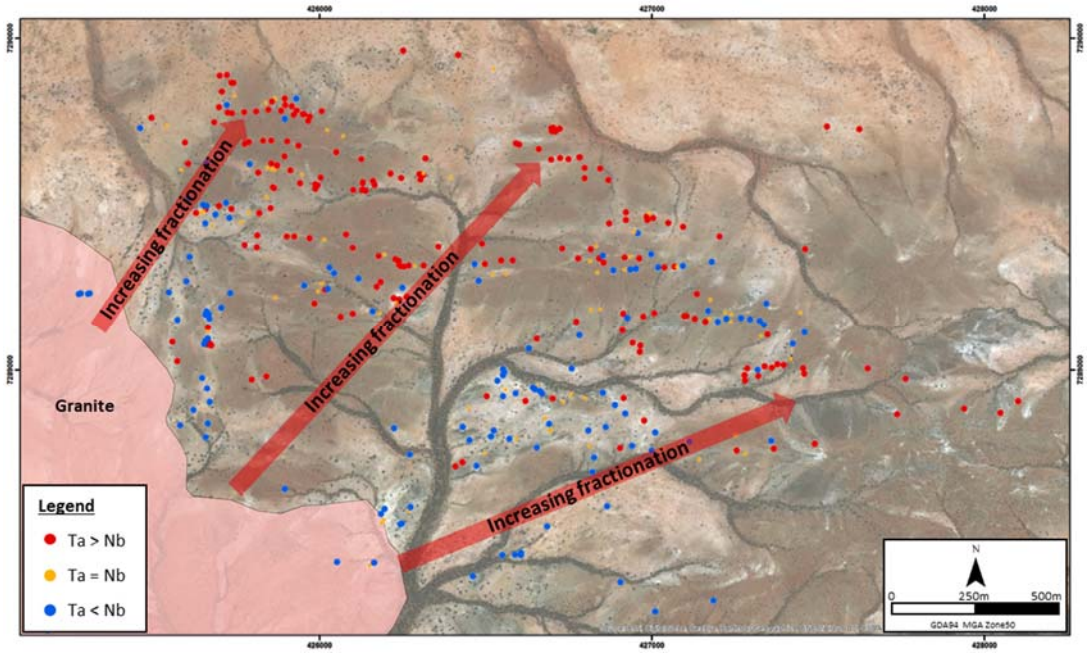

Figure 4 – Nb/Ta ratios indicating increasing fractionation away from the granite intrusion

The pegmatites at Malinda are more numerous than previously identified and appear to be strongly controlled by schistosity and faults developed in the host metasediments. Further, there appears to be a strong vertical component to the emplacement of the pegmatites as opposed to a purely lateral extension from the interpreted fertile granite in the west.

The majority of drilling completed to date at Malinda was located within the less fractionated zone closer to the granite, with the exception of the Tomahawk prospect which returned the most intense and consistent mineralisation in the first pass drilling programme. There remains potential for a significant extension of highly fractionated pegmatites under cover to the north and north-east of previous exploration work.

With Arrow's increased understanding of mineralisation at Malinda, the Company is planning on completing a project-wide geophysical survey in 1Q 2019 to fingerprint the known mineralised intrusions at Malinda and to evaluate the remaining 580km^2 tenement package to identify additional mineralised pegmatite swarms for follow up geochemical sampling and mapping. This programme would consist of an airborne magnetics survey to better understand the structural controls on emplacement and overprint and a detailed hyperspectral survey.

For further information visit www.arrowminerals.com.au or contact:

Arrow Minerals Limited

Mr Steven Michael
Managing Director
E: info@arrowminerals.com.au

Appendix A - Significant Lithium Results (>0.3% Li_2O)

SAMPLE ID	NORTHING	EASTING	Li_2O (%)
GAS04595	7289603	425913	0.57%
GAS04597	7289310	426030	0.43%
GAS04602	7289256	425954	0.88%
GAS04616	7289292	426562	0.35%

Appendix B - Significant Tantalum Results (>150ppm Ta_2O_5)

SAMPLE ID	NORTHING	EASTING	Ta2O5 (ppm)
GAS04525	7288905	428102	187
GAS04526	7288870	428048	169
GAS04527	7288883	427939	294
GAS04528	**7288978**	**427877**	**1,673**
GAS04529	7288973	427763	339
GAS04530	7288866	427738	171
GAS04532	7289727	427624	372
GAS04533	7289735	427527	473
GAS04534	7289366	427461	442
GAS04535	**7289963**	**426252**	**569**
GAS04537	**7289684**	**426591**	**978**
GAS04538	7289728	426723	321
GAS04540	7289635	426697	298
GAS04541	7289640	426724	308
GAS04542	7289637	426749	238
GAS04543	7289610	426798	460
GAS04544	7289579	426798	371
GAS04545	7289642	426784	322
GAS04546	7289608	426845	397
GAS04547	7289574	426869	332
GAS04548	7289459	427004	192
GAS04551	7289444	427049	338
GAS04553	7289736	425541	208
GAS04555	**7289687**	**425596**	**557**
GAS04561	7289085	425558	236
GAS04562	7289026	425573	302
GAS04568	7289496	425698	182
GAS04570	7289474	425819	385
GAS04571	7289489	425853	150
GAS04576	7288980	425840	240
GAS04578	7289596	425816	314
GAS04580	7289778	425774	225
GAS04581	7289782	425885	269
GAS04583	7289770	425923	343
GAS04584	7289796	425917	337
GAS04585	**7289783**	**425932**	**612**
GAS04586	7289819	425896	339
GAS04587	7289781	426007	447
GAS04588	7289724	426023	245

SAMPLE ID	NORTHING	EASTING	Ta2O5 (ppm)
GAS04590	7289658	426051	192
GAS04591	**7289752**	**425966**	**766**
GAS04592	7289564	425942	245
GAS04593	7289690	425903	274
GAS04594	7289677	425937	336
GAS04595	7289603	425913	186
GAS04598	7289410	426080	154
GAS04600	7289398	425970	203
GAS04606	7289267	426184	263
GAS04608	7289316	426314	321
GAS04611	7289321	426498	163
GAS04614	7289332	426581	182
GAS04617	7289332	426547	236
GAS04619	7289325	426855	298
GAS04629	7289338	426962	176
GAS04630	7289311	427038	331
GAS04632	7289171	426914	192
GAS04634	7289346	426852	204
GAS04635	7289120	426912	214
GAS04637	7289183	426817	201
GAS04638	7289146	426773	210
GAS04640	7289094	426654	247
GAS04646	7289164	427097	396
GAS04655	7289107	427348	219
GAS04661	**7289043**	**427420**	**1,128**
GAS04663	**7289005**	**427455**	**690**
GAS04664	7289014	427397	236
GAS04669	7288777	427490	383
GAS04670	7288762	427367	269
GAS04673	7288757	427255	150
GAS04681	7288764	426904	242
GAS04682	7289073	426965	310
GAS04683	7289054	426964	226
GAS04712	7289368	426730	353
GAS04713	7289642	426782	291
GAS04714	7289721	426699	338
GAS04715	7289730	426698	219
GAS04717	7289950	426417	404

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *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.*	• Rock Chips: Random rock chips have been collected as a first pass assessment and orientation of the subcropping and outcropping pegmatites in the prospect area. The samples have an irregular spacing reflecting the reconnaissance nature of the assessment and the availability of suitable (in-situ outcropping – subcropping) material for sampling. The rock chips collected during this program, while still random, were designed to infill areas of mapped pegmatite and sample newly discovered pegmatites.
	• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*	• Rock Chips: Where possible, 3-7kg samples were collected in the field to properly represent and characterize the material targeted. • Sample weights have been recorded and reported by the lab.
	• *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 (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.*	• Rock Chips: 3-7kg of material was collected from each sample location, this material was then crushed to >70% passing -6mm, split and then pulverised to >85% passing 75 micron for a four acid digest of an 0.25g aliquot followed by ICP-MS for 48 elements (ALS Laboratories technique ME-MS61). Samples which reported Ta values >100ppm were re-assayed by using lithium borate fusion of a 0.1g aliquot followed by ICP-MS (ALS Laboratories technique ME-MS85).
Drilling techniques	• *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).*	• Not applicable, no drilling has been carried out.
	• *Method of recording and assessing core and chip sample recoveries*	• Not applicable, no drilling has been carried out. drilling database.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	*and results assessed.*	
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• Not applicable, no drilling has been carried out.
	• *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, no drilling has been carried out.
Logging	• *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.*	• Basic description of hand specimen recorded in the field
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*	• All field descriptions are qualitative in nature.
	• *The total length and percentage of the relevant intersections logged.*	• Not applicable, no drilling has been carried out.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.*	• Not applicable, no drilling has been carried out.
	• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*	• Not applicable, no drilling has been carried out.
	• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	• All samples were sent to ALS Laboratories in Perth for sample preparation and analysis using standard codes and practices.
	• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	• No subsampling undertaken.
	• *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.*	• Rock Chips: No field duplicates were taken
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Rock Chips: 3-7kg of sample is considered representative for the material sampled.
Quality of assay data	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	• Rock Chips: were submitted to ALS laboratories in Perth • Sample Preparation included: Initial crush of large samples so that >70% of material passes -6mm. Then sample was riffle split to a

Criteria	JORC Code explanation	Commentary
and laboratory tests		maximum of 3kg and pulverized to 85% passing 75 micron. • Four acid digest of a 0.25g aliquot followed by ICP-MS for 48 elements (ALS Laboratories technique ME-MS61) • Four acid digest is considered a "near total" digest. • Samples which reported Ta values >100ppm were re-assayed by using lithium borate fusion of a 0.1g aliquot followed by ICP-MS (ALS Laboratories technique ME-MS85). • Lithium borate fusion is considered a total digest • This procedure is considered appropriate for LCT pegmatite analysis.
	• *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 geophysical results discussed.
	• *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 analyses a range of internal and industry standards, blanks and duplicates as part of the analysis. • All standards, blanks and duplicates were within acceptable levels of accuracy and precision.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	• No verification of significant results has taken place at this time.
	• *The use of twinned holes.*	• No twin holes have been drilled.
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	• Primary data is recorded in the field in geological log books. This data is then recorded in a spreadsheet and imported to a digital database software package.
	• *Discuss any adjustment to assay data.*	• Data from the lab is reported as percent for Li, and ppm for Ta. • Li has been converted to Li_2O by multiplying the Li (%) by 2.153 to get Li_2O (%) • Ta has been converted to Ta_2O5 (ppm) by multiplying the Ta (ppm) by 1.2211. • No other adjustments to assay data has been undertaken.

Criteria	JORC Code explanation	Commentary
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.*	• Sample locations were recorded with a Garmin handheld GPS which has an accuracy of +/-5m.
	• *Specification of the grid system used.*	• GDA94 MGA Zone 50.
	• *Quality and adequacy of topographic control.*	• The level of topographic control offered by the handheld GPS is considered sufficient for the work undertaken.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results*	• Rock Chips: There was no predetermined grid spacing to the programme, however sample locations were chosen on the back of detailed orthophoto interpretation and mapping.
	• *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 and distribution is not sufficient to establish the degree of geological and grade continuity appropriate for Mineral Resource estimation purposes.
	• *Whether sample compositing has been applied.*	• Samples have not been composited.
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.*	• Rock Chips: Sampling was carried out over small areas of the project and interpreted pegmatite and are not considered representative of the pegmatite body.
	• *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, no drilling has been carried out.
Sample security	• *The measures taken to ensure sample security.*	• Samples were collected, stored and delivered to the lab by company personnel.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits or reviews have been undertaken.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *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.*	• The sampling reported herein is within tenement E09/2169. • E09/2169 is held by Next Advancements Pty Ltd which is a 100% owned subsidiary of Arrow Minerals Limited. • At the time of this Statement, the exploration license is live and in good standing. To the best of the Company's knowledge there are no impediments to Arrow's operations within the tenement.
	• *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 tenement is live and in good standing and no known impediments exist.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• This report refers to data generated by Arrow Minerals. • No previous LCT pegmatite exploration has been carried out over the project area.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Pegmatites that are prospective for lithium, caesium and tantalum (LCT).
Drill hole Information	• *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:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.* • *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.*	• Refer to Appendix A.

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• *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 weighted averaging techniques used.
	• *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 aggregate intercepts reported.
	• *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No metal equivalent values reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *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 has been carried out.
Diagrams	• *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.*	• Refer to figures within the announcement.
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.*	• Rock Chips: All relevant assay results are reported.
Other substantive exploration data	• *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.*	• All meaningful and material exploration data has been reported.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	• Planned future work includes further mineralogical testing,

Criteria	JORC Code explanation	Commentary
		hyperspectral interpretation of the project area and step out drilling.
	• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Refer to figures within the announcement.