

# **Aruma Resources Limited**

ABN 77 141 335 364 ASX: AAJ

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# **BULLOO DOWNS COPPER PROJECT EXPANDING**

- Further leases optioned around Bulloo Downs Project
- > Portable XRF assays confirm results from mineralised zones
- Anomalous lead at Keep It Dark Prospect
- > High-grade gold values to be resampled and magnetics reinterpreted

Gold and copper explorer **Aruma Resources Limited (ASX: AAJ)** ("Aruma") is pleased to advise that its exciting new Bulloo Downs Copper Project in Western Australia has increased in area to more than 2000km<sup>2</sup> through the addition of new leases.



Figure 1 Bulloo Copper Project leases on geology with structures



#### **BULLOO DOWNS COPPER PROJECT EXPANDING**

Bulloo Downs is considered a premier project with the potential to be a new copper district and contains many mapped deep-seated, structurally controlled potential hydrothermal copper mineralised outcrops. The area is also highly prospective for gold, silver, lead and zinc. The extra leases have been added to the agreement with Atlas Iron Limited (ASX: AGO) ("Atlas") announced on June 18, through which Aruma has the option to earn up to 100% of a number of leases in the Bulloo Downs area. Atlas will maintain the iron ore interests and retain a 1 per cent royalty on future production. Additional leases are also being negotiated with other leaseholders and Aruma has pegged an ELA (52/83096) in the southern area (Figure 1).

Aruma Managing Director, Peter Schwann, said the company was now a major landholder in the area and had secured access to additional mineralised structures. The best assays from the new areas have confirmed the widespread mineralisation.

"With the acquisition of these additional leases, the known trends are now fully contained within the Aruma leases," Mr Schwann said. "They also confirm the strike extent of the mapped structures to more than 300km. The Company is booked to fly 1700km<sup>2</sup> HyVista Multispectral Scanning to define and confirm further mineralisation targets. The precious and base metals at all locations add a new dimension to the project."

The newer leases contain the extensions of the previously announced structures, as well as the additional Mountain Maid, Ned's Gap, Koode Magi and Keep It Dark copper prospects. Sampling at Scotties (previously announced) returned copper values to 42.9 per cent, 1.51 g/t gold and 10.3 g/t silver.

Several anomalous gold results will be resampled in the current program and check assayed by commercial laboratory.

The data from Atlas and Dynasty Resources Limited (Dynasty) (ASX: DMA) is now being collated and augmented with new surveys to give comprehensive magnetics and HyVista maps. New magnetics will help to locate structures under the recent material in the dash outlined areas on Figure 1 with the M in the centre. The databases have been placed with a specialist company for restructuring to allow maximum value to be gained from all the data.

Confirmation assays were completed on a representative suite of the Niton portable XRF rock and soil samples at Bulloo. These laboratory assays confirmed the Niton assays with a variance of 15% over some twenty samples. Full results are included in Table 1 below.

Sampling by hand-held XRF and rockchip sampling was completed along the Scotties, Keep It Dark, and Hard to Find prospects on part of the newly acquired tenement holding.

On the original Bulloo Downs lease holding E52/2024, sampling has extended the known copper anomalism along the Terry mineralisation to the east, and also to the eastern extension of the Chandra line of mineralisation.



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The interference of the laterite surface in depleting the copper assays has been overcome by the associated HyMap response and mappable features. In some locations the copper with gold and silver (lead and zinc) has been fixed in gossans and not affected by lateritisation.

Location	Sample ID	Easting	Northing	Cu %	Pb ppm	Zn ppm	Method
Scotties	VRC10001	770759	7338315	42.93	8	4	Assay
Scotties	AB502	770750	7338329	16.35*	1	1	XRF O+
Scotties	AB503	770793	7338332	0.01	985	273	XRF O
Scotties	AB519	770742	7338299	0.45	20	75	XRF O
Keep It Dark	AB552	759075	7326953	0.008	205215*	1	XRF O
Chandra	AB698	758000	7345200	0.14	599	187	XRF O
Chandra	AB695	757926	7345180	0.14	37	120	XRF O
Chandra	AB704	758120	7345244	0.12	957	250	XRF O
Terry's	AB663	755978	7347507	0.06	1195	307	XRF O
Terry's	AB665	755999	7347542	0.12	1	116	XRF O
Terry's	AB668	756031	7347566	0.57	872	590	XRF O
Terry's	AB674	756035	7347565	0.01	1392	366	XRF O
Hard To Find	AB556	728937	7344033	>10*	1	1551	XRF O
Hard To Find	AB557	728952	7344075	0.19	80	90	XRF O

## Table 1 Portable XRF Sampling Results (including an assay from Scotties)

NB \* In soil mode assays >10% are unreliable and should be treated as >10%

+ "XRF O" is an Olympus InnovX portable X Ray Fluorescence analyser

## Sampling Notes

## Scotties E52/2337

Mineralisation occurs as malachite and chrysocolla. The zone of mineralisation is some 200 metres long identified from historical workings and shallow costeans. Historical rock chip sampling results are shown in the following Table 1. Anomalous XRF results are also shown

Sampling using an Olympus InnovX XRF produced similar results with anomalous copper up to 16% in a malachite-rich sample AB502. Anomalous Pb 985ppm was reported with 273ppm Zn. These results were in ironstone away from the main lode with no associated copper anomalism.

## Keep it Dark E52/2803

XRF samples were taken from a small pit near to the site of Keep It Dark mineralisation reported by Mindax. A best result of 20.5%\* lead was obtained with sample AB552. No anomalous copper, zinc or silver was measured here.

## Chandra E52/2024

Sampling by XRF extended the known anomalous strike of the Chandra zone for another 800m from the previous sampling. The anomalous zone has now been traced and sampled by XRF for a



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strike length of 5.4km. The zone is hidden to the south west by recent colluvium. Further sampling on the north eastern extent is planned.

## Terry's E52/2024

Terry's was extended by 100m to the north east with sampling by XRF. Better results are shown. Anomalous lead and zinc were also recorded. Terry's anomalous zone has now been sampled for a strike length of 300m and is open to the north east.

## Hard to Find E52/2887

A small zone of copper mineralisation was sampled at the historic Hard to Find workings. The zone of anomalism was identified over a small strike extent of 100m in the Discovery Chert.

## **Current Exploration Program**

The access to a greater ground package with multiple targets has required a major data accumulation and additional geophysics in HyVista and magnetics to be flown. So that the project can be evaluated as a whole, with targets ranked for drilling, the previously proposed drilling will now take place in Q2 of the current financial year. The areas will again be Heritage cleared for drilling over some 15km of first order targets, including the east gossan at the east end of Madison and Scotties. The other prospects will be evaluated and sampled prior to drilling.

## Glandore

The aircore programme will now take place in August, whilst the HyMap and magnetics are being collected and processed at Bulloo Downs. Some 3,000m is programmed to cover the HyMap and Fluid Flow targets on the lake.

## Jundee South

Discussions are currently underway to JV or sell this project to a major player in the district.

## 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.



# **Section 1 Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <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> <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). These were confirmed by assays at SGS.</li> </ul>
Drilling techniques	• 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.).	No Drilling done
Drill sample recovery	<ul> <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> <li>No Drilling done</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>	<ul> <li>No Drilling done</li> </ul>
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</li> </ul>	No Drilling done

#### **Aruma Resources Limited**

Criteria	JORC Code explanation	Commentary
	instance results for field duplicate/second-half sampling.	
Quality of assay data and laboratory tests	<ul> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> <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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.</li> </ul>	<ul> <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> <li>Assays at SGS by AR133, AAS42S and AAS43B.</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 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> <li>Assays at SGS by AR133, AAS42S and AAS43B.</li> </ul>
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>	<ul><li>Sample location by GPS.</li><li>All locations are GDA94 Zone 50</li></ul>
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>	<ul> <li>Preliminary Field sampling, data spacing is based on availability of outcrop</li> </ul>
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>	<ul> <li>No Drilling done</li> </ul>
Sample security	The measures taken to ensure sample security.	Samples digitally and physically recorded.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>No audits or reviews were deemed necessary outside of internal standards as</li> </ul>

Criteria	JORC Code explanation Commentary	
		this is purely qualitative assaying for exploration.

# **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	<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 license to operate in the area.</li> </ul>	<ul> <li>All tenements and issues required are detailed in the reports.</li> <li>All work done under PoWs.</li> </ul>
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	Previous work on the area not applicable
Geology	• Deposit type, geological setting and style of mineralisation.	Structurally controlled Hydrothermal     Copper
Drill hole Information	<ul> <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> <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>	All in the report
Data aggregation methods	<ul> <li>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.</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> <li>Robust results with spikes identified to mineralogy</li> </ul>

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Criteria	JORC Code explanation	Commentary
Relationship between mineralisation 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 (e.g. 'down hole length, true width not known').</li> </ul>	<ul> <li>N/A Field observations in weathered rock and soil</li> </ul>
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>	• As done
Balanced reporting	<ul> <li>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.</li> </ul>	<ul> <li>All samples on the leases are shown graphically and/ or have been previously reported</li> </ul>
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>HyVista data and figures and the relationship with the Aruma exploration and genesis model are detailed in many previous reports and presentations.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (e.g. 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>	• As detailed in the report.