

# ASX announcement

### 21 MAY 2015

## Exploration Update – Lumwana West, Zambia

Argonaut Resources NL (ASX: ARE) (*Argonaut* or the *Company*) is pleased to announce the recommencement of drilling at the Lumwana West copper project in Zambia.

### Highlights

- Initial 2015 exploration program:
  - ¬ A 2,000m diamond core drilling program has commenced over four prioritised targets.
  - ¬ Approximately 600 soil samples will be collected north of Kamafamba prospect in an area with encouraging structural geology.
  - The program is the part of the first phase under an option agreement with Antofagasta.
- Kabikupa prospect:
  - ¬ Results for drill holes KBDD002, KBDD003 and KBDD004 at the Kabikupa prospect have been received. The significant intercepts are:
    - » KBDD002: 17m at 0.22% copper from 230m and 10m at 0.27% copper from 266m (Figure 2 and Figure 3).
    - » KBDD003: 25m at 0.22% copper from 12m and 10.7m at 0.29% copper from 52m (Figure 3).
    - » KBDD004: **20.4m at 0.67% copper** from 151m including **7m at 0.92% copper** from 154m (Figure 2 and Figure 4).
  - ¬ Drill hole KBDD001 was reported on 19 December 2014. It returned **17.4m at 1.18% copper** from 102.6m within a broader intercept of **39m at 0.61% copper** from 81m<sup>1</sup> (Figure 2 and Figure 3).
  - ¬ Drilling now underway at Kabikupa seeks to extend the mineralised strike extent from 800m to 1,800m.
- Regional drilling program:
  - ¬ Three regional targets defined by 2014 soil sampling and 2015 structural geology interpretation have been prioritised for drill testing.
  - ¬ These areas, known as Sharamba, Kamafamba and Mufuka (Figure 1), will be drill tested between May and July 2015.

1 By weighted average. Cut-off grade not applied.

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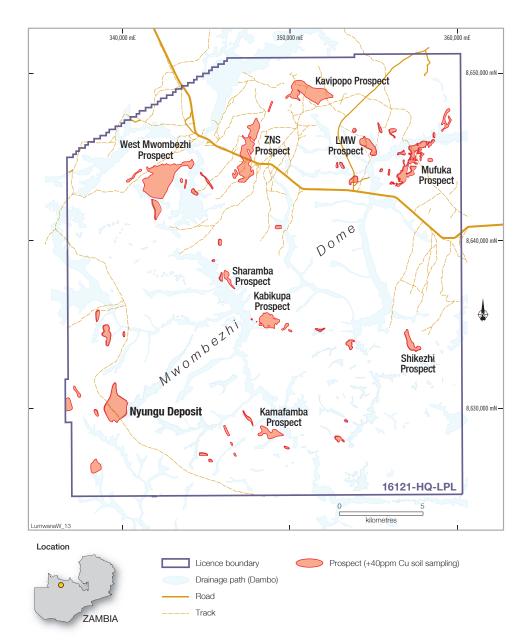


Figure 1 Lumwana West Large-scale Prospecting Licence and prospect locations.

### Lumwana West (Argonaut 90%)

The Lumwana West project is located in the Central African Copperbelt, North-Western Province, Zambia. The area is prospective for large tonnage, low to medium grade copper deposits. There are several major mines nearby to Lumwana West which are hosted in similar geological settings.

Argonaut, via its 90% held subsidiary, Mwombezhi Resources Ltd, has been successful in intercepting broad copper intercepts at the Nyungu deposit and has defined a series of large, prospective targets which are undergoing first-pass drill testing.

#### **Exploration Program**

The 2014/15 program is the first exploration phase under the option agreement between Argonaut and a wholly owned subsidiary of Antofagasta plc (*Antofagasta*), dated 28 April 2014 (the *Overlying Agreement*). According to the Overlying Agreement, exploration expenditure of US\$3.9m in the first period will earn Antofagasta a 25% interest in the project.

The drilling program, which will ultimately comprise over 8,000m, is being progressively revised on the basis of results and interpretations by a technical committee formed under the agreement. To date, 6,123m of diamond

core drilling for 25 holes has been completed. Holes have been drilled at the West Mwombezhi, Kavipopo, ZNS, LMW, Mufuka and Kapikupa prospects and at the Nyungu deposit (Figure 1).

An additional 2,000m of diamond core drilling will be completed under the first phase between May and July 2015.

### Kabikupa

The Kabikupa prospect was defined in 2014 by soil sampling. The soil geochemistry anomaly strikes southeast and measures approximately 1,000m by 500m. The peak soil sample is 0.13% copper, which is the highest copper-in-soil value returned within the licence area to date.

Four holes for 903m were completed in 2014.

- The first drill hole at Kabikupa prospect, KBDD001, returned **17.4m at 1.18% copper** from 102.6m within a broader intercept of **39m at 0.61% copper** from 81m<sup>1</sup> (Figure 3 and Figure 4).
- Drill hole KBDD002 targeted the same mineralisation down-dip and intersected weaker copper mineralisation, interpreted to be the margin of the main mineralisation zone. The hole returned 17m at 0.22% copper from 230m and 10m at 0.27% copper from 266m (Figure 2 and Figure 3).

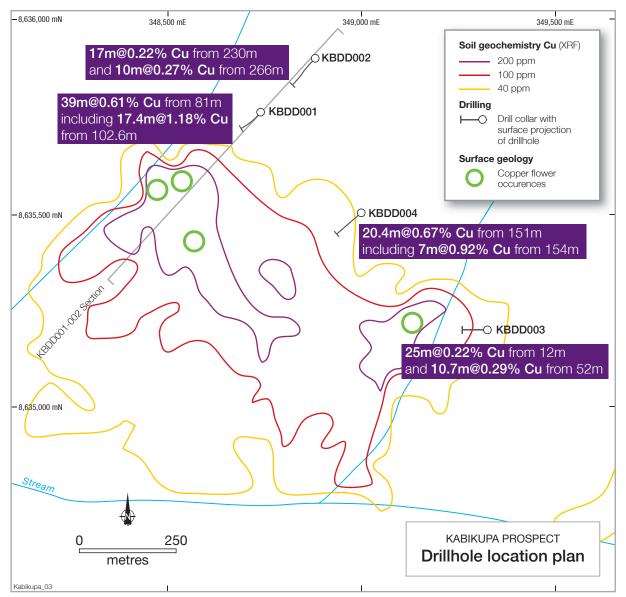


Figure 2 Kabikupa prospect soil geochemistry and drill hole locations.

1 By weighted average. Cut-off grade not applied.

- KBDD003, 800m along strike to the southeast, also intersected the interpreted margin of the main mineralised zone. KBDD003 intercepted 25m at 0.22% copper from 12m and 10.7m at 0.29% copper from 52m (Figure 2).
- KBDD004 intersected the main mineralised zone and returned 20.4m at 0.67% copper from 151m including **7m at 0.92% copper** from 154m (Figure 2 and Figure 4).

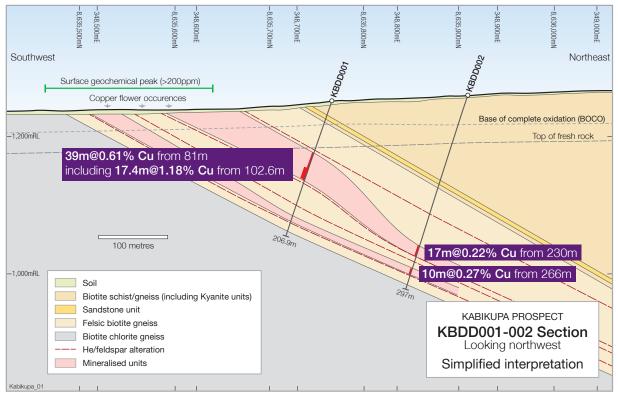


Figure 3 Interpretive cross section through the Kapikuba prospect.

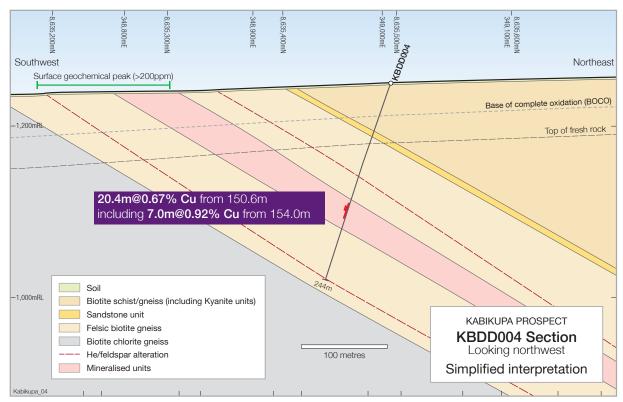


Figure 4 Preliminary interpretive cross-section through KBDD004.

The main mineralised zoned has been intersected over a strike length of 400m and is inferred to exist over at least 800m. Kabikupa geology features the zonation of copper sulphide minerals and persistent alteration, indicating the mineralising system is well developed.

Drilling now underway at Kabikupa seeks to extend the strike extent of the main mineralised zone, as defined by 2014 drilling, from 800m to 1,800m.

### **Regional Drilling**

Three regional targets defined by 2014 soil sampling and structural geology interpretation undertaken in January 2015 have been prioritised for drill testing.

Areas known as Sharamba, Kamafamba and Mufuka (Figure1) will be drill tested between May and July 2015.

**Lindsay Owler** Director Argonaut Resources NL

Sections of information contained in this report that relate to Exploration Results were compiled or supervised by Mr Lindsay Owler BSc, MAusIMM who is a Member of the Australasian Institute of Mining and Metallurgy and is a full time employee of Argonaut Resources NL. Mr Owler holds shares and options in Argonaut Resources NL, as described on page 9 of the Company's 2014 Annual Report. Mr Owler has sufficient experience which is relevant to the style of mineral deposits 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 Mineral Resources and Ore Reserves". Mr Owler consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

# Appendix 1

### Lumwana West - 2014 drill intercepts.

Hole	East	North	RL	Dip	Azimuth	Total Depth	From	То	Interval	Cu (%)	Co (ppm)	U (ppm)	Oxidation State	Comment
WMDD001	341940	8643000	1279.05	-60	90	252.00	58.15	61.55	3.40	0.36	212	2	fresh	DD
							63.38	71.90	8.52	0.29	176	8	fresh	DD
							168.00	170.00	2.00	0.13	41	2	fresh	DD
WMDD002	341760	8643000	1281.22	-60	90	302.80	122.80	130.40	7.60	0.17	64	5	fresh	DD
WMDD003	341630	8643000	1283.61	-70	90	287.90	152.70	153.70	1.00	0.24	127	22	fresh	DD
							159.90	160.90	1.00	0.15	32	8	fresh	DD
							166.00	166.90	0.90	0.16	42	3	fresh	DD
KVDD001	351260	8649130	1295.98	-60	210	320.80	50.00	57.00	7.00	0.23	35	6	fresh	DD
							64.00	68.25	4.25	0.12	32	10	fresh	DD
							106.05	107.00	0.95	0.45	74	2	fresh	DD
							109.00	111.00	2.00	0.29	63	4	fresh	DD
							129.00	130.00	1.00	0.20	24	67	fresh	DD
							185.57	187.37	1.80	0.23	30	3	fresh	DD
							193.00	202.00	9.00	0.27	49	11	fresh	DD
KVDD002	350870	8649245	1285.51	-60	210	350.80	22.39	23.39	1.00	0.14	47	2	fresh	DD
		22.02.0					131.54	132.12	0.58	0.18	194	1	fresh	DD
							154.96	158.35	3.39	0.10	72	1	fresh	DD
							195.19	196.00	0.81	0.10	41	1	fresh	DD
							201.59	204.00	2.41	0.18	39	2	fresh	DD
							243.04	244.00	0.96	0.45	51	17	fresh	DD
							264.00	264.94	0.94	0.10	54	3	fresh	DD
NYDD047							204.00	204.04	NSI	0.10	04	0	ilean	no visual intersect
NYDD048									NSI					no visual intersect
NYDD049	339482	8630000	1315	-60	90	254.80	159.60	165.05	5.45	0.48	84	13	transition	DD
NYU11RD021	339284	8629832	1318	-70	90	297.89			NSI					DD
NYDD050	338845	8630800	1341	-70	90	263.90			NSI					no visual intersect
WMDD004	342280	8644200	1290	-60	90	239.80	84.00	89.00	5.00	0.16	77	4	fresh	DD
WMDD005	342680	8644200	1284	-60	90	198.34	38.00	39.00	1.00	0.11	118	1	fresh	DD
	0.2000	0011200	1201				44.00	45.00	1.00	0.14	101	1	fresh	DD
							66.00	67.00	1.00	0.11	53	2	fresh	DD
							69.61	71.21	1.60	0.22	398	2	fresh	DD
							76.74	80.80	4.06	0.42	318	2	fresh	DD
							162.68	167.30	4.62	0.11	104	3	fresh	DD
							194.00	195.00	1.00	0.13	71	3	fresh	DD
WMDD006	341640	8643700	1298	-60	90	198.00	134.00	133.00	NSI	0.10	11	0	110011	עע
NYDD051	339750	8629900	1306	-60	90	248.80	34.00	35.00	1.00	0.15	178	3	oxide	DD
ZNDD001	347760	8646700	1286	-60	90	195.00	66.78	68.00	1.22	0.13	51	1	fresh	DD
	041100	0040700	1200	-00	30	190.00								
	247600	9646700	1070	60	00	012.00	171.23	173.00	1.77	0.10	33	1	fresh	DD
ZNDD002	347600	8646700	1278	-60	90	213.00	185.00	186.25	1.25	0.12	23	1	fresh	DD
ZNDD003	347360	8645900	1283	-60	90	213.00	99.00	101.00	2.00	0.12	45	1	fresh	DD
MDDagi	054505	0045005	1000		50	000.00	149.00	154.00	5.00	0.12	87	4	fresh	DD
LMDD001	354505	8645660	1283	-60	50	323.90	3.00	5.00	2.00	0.11	125	9	oxide	DD
							14.00	18.00	4.00	0.12	40	6	transition	DD
LMDD002	354620	8645940	1278	-60	180	285.00	57.00	58.00	1.00	0.10	47	5	fresh	DD
							125.80	127.00	1.20	0.24	61	2	fresh	DD
							130.00	132.00	2.00	0.14	81	3	fresh	DD
							135.93	141.20	5.27	0.13	70	8	fresh	DD

Hole	East	North	RL	Dip	Azimuth	Total Depth	From	То	Interval	Cu (%)	Co (ppm)	U (ppm)	Oxidation State	Comment
MFDD001	358030	8645890	1239	-60	135	194.80	4.00	5.00	1.00	0.41	55	8	oxide	DD
							15.84	16.84	1.00	0.15	42	2	transition	DD
							21.00	22.20	1.20	0.12	60	3	transition	DD
							70.00	72.75	2.75	0.23	145	8	fresh	DD
MFDD002	357800	8645900	1241	-60	135	228.22	109.82	113.00	3.18	0.30	64	11	fresh	DD
							122.00	125.80	3.80	0.20	99	9	fresh	DD
							141.00	142.00	1.00	0.11	106	7	fresh	DD
							158.00	159.00	1.00	0.17	285	3	fresh	DD
							179.00	180.00	1.00	0.11	32	2	fresh	DD
							206.80	208.23	1.43	0.13	85	3	fresh	DD
							209.83	210.76	0.93	0.11	81	5	fresh	DD
KBDD001	348740	8635760	1250	-60	225	206.90	81.00	120.00	39.00	0.61	44	6	fresh	DD, includes internal dilution
including							92.00	96.00	4.00	0.43	42	4	fresh	DD
							102.60	120.00	17.40	1.18	65	12	fresh	DD
including							108.00	118.00	10.00	1.76	60	15	fresh	DD
including							108.00	109.00	1.00	3.21	59	17	fresh	DD
and							116.00	118.00	2.00	2.74	61	24	fresh	DD
							138.00	140.00	2.00	0.11	29	7	fresh	DD
							153.00	157.00	4.00	0.12	20	3	fresh	DD
							159.62	163.00	3.38	0.12	19	2	fresh	DD
							166.20	174.55	8.35	0.19	41	4	fresh	DD
							176.36	177.16	0.80	0.15	46	6	fresh	DD
KBDD002	348880	8635900	1260	-60	225	297.00	180.00	181.00	1.00	0.35	94	1	fresh	DD
							230.00	247.00	17.00	0.22	90	5	fresh	DD
including							230.00	239.00	9.00	0.31	124	8	fresh	DD
							248.80	250.82	2.02	0.15	24	3	fresh	DD
							266.00	276.00	10.00	0.27	51	3	fresh	DD
including							270.00	273.00	3.00	0.46	80	4	fresh	DD
KBDD003	349325	8635200	1246	-60	270	154.20	12.00	37.00	25.00	0.22	30	4	oxide	DD
							52.30	63.00	10.70	0.29	28	5	transition	DD
including							60.30	63.00	2.70	0.80	53	5	transition	DD
							67.00	70.00	3.00	0.16	19	4	transition	DD
							79.00	86.30	7.30	0.23	29	4	fresh	DD
KBDD004	349000	8635500	1250	-70	225	244.91	47.00	49.00	2.00	0.14	29	3	oxide	DD
							94.00	98.00	4.00	0.18	30	4	fresh	DD
							133.00	138.00	5.00	0.16	38	2	fresh	DD
							142.00	146.54	4.54	0.24	44	4	fresh	DD
							150.59	171.00	20.41	0.67	114	10	fresh	DD
including							154.00	161.00	7.00	0.92	131	7	fresh	DD
and							162.00	165.00	3.00	0.72	132	40	fresh	DD
and							167.00	170.00	3.00	0.83	104	4	fresh	DD
							177.00	181.00	4.00	0.35	79	19	fresh	DD
							189.00	195.00	6.00	0.15	24	7	fresh	DD
							198.00	201.00	3.00	0.30	26	5	fresh	DD
							205.00	210.00	5.00	0.10	28	5	fresh	DD
							225.00	227.00	2.00	0.21	24	5	fresh	DD

#### Notes

Calculated using 0.1% Cu lower cut threshold, no upper cut threshold, maximum 3 metres internal dilution.
 Analysis by Intertek Genalysis - Methods 4A/OE, 4A/MS for U, ARU10/SAA for Au.
 Coordinate System: WGS84, Zone 35 South.
 NSI = No Significant Intercepts.
 DD = Diamond Core intercept.

# JORC Code, 2012 Edition – Table 1

#### Section 1 Sampling Techniques and Data – Lumwana West Project

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

<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</li> </ul>	<ul> <li>The Kabikupa prospect was sampled using diamond drill holes. A total of 3 drill holes were drilled for a total of 696.11 metres.</li> <li>Diamond drillcore only was sampled. Drillcore was logged for lithology, weathering, alteration, mineralisation and structure. Sampling was conducted as half core (NQ and HQ) or quarter core (PQ) for visibly mineralised intervals with an appropriate buffer into the unmineralised country rock. Sampling followed ARE protocols and industry best practice QA/QC procedures.</li> <li>Drillore sampled on nominal 1 metre intervals which varied with respect to lithological and geological boundaries in mineralised zones. A 2 metre maximum sample length outside mineralized zones, also varied with respect to lithological and geological boundaries.</li> <li>Samples were dried, crushed (~5mm), split up to 1.2kg, pulverised and pulp taken for four acid digest followed by ICP- OES (multi-element), ICP-MS (U) or Aqua Regia/AAS (Au) finish.</li> </ul>
coarse gold that has innerent sampling problems. Orlusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	
<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>Diamond core only, NQ3 with PQ3 or HQ3 collars. HQ and NQ drillcore was oriented using an Ezy Mark orientation tool.</li> </ul>
<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>Drillcore recoveries are logged per drilling run, overall core recoveries greater than 95%.</li> <li>Drillcore reconstructed on angle iron for run length measurement against driller's blocks, orientation lines and recording of driller's breaks.</li> <li>Diamond drillcore has high recoveries with negligible core loss recorded.</li> </ul>
<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>Drillcore has been logged for geological (lithology, mineralisation, alteration) and geotechnical (alpha/beta angles, RQD, recovery) information, all data is stored in a database and or spreadsheets.</li> <li>All holes are logged and photographed.</li> </ul>
<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> </ul>	<ul> <li>All drillcore was cut in half using core saws at AMC Kitwe, and half core (HQ and NQ size) collected for sampling, ensuring the same side (RHS looking downhole) of the drillcore was consistently sampled. Field duplicates (pulp and crush checks) were submitted routinely to monitor QC of sample preparation and laboratory analysis.</li> <li>Samples were prepared at and crushed to 85% &lt;5mm with a 1.2kg subsample split (rotary and riffle) for pulverising to 85% &lt;75µm. Regular sizing checks were undertaken and reported.</li> <li>Sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>
	<ul> <li>commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> <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> <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> <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> <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</li> </ul>

Criteria	JORC Code explanation	Commentary
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 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>	<ul> <li>Samples were submitted to a four acid digest (sulphuric, nitric, perchloric and hydrofluoric) and Inductively Coupled Plasma (ICP) finish.</li> <li>QAQC procedures include a chain of custody protocol, systematic submittal of 10 to 20% QA/QC samples including field duplicates, field blanks and externally sourced certified reference samples into the flow of samples submitted to the laboratory.</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>Significant intersections are reported by ARE and checked by AMSA.</li> <li>No drillholes have been twinned.</li> <li>Data entry and verification is undertaken by AMC following an established protocol into Reflex Logger software, all data is stored in a digital database (Reflex Hub) and regularly backed-up.</li> <li>No statistical adjustments to data have been applied.</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>Drillhole locations have been surveyed by averaged Garmin GPS measurements, down hole surveys were collected every 50 metres using a Reflex EZ-TRAC instrument.</li> <li>Appropriate QC procedures were applied to verify down hole surveys.</li> <li>The grid system for the Lumwana West Project is UTM WGS84, zone 35 South.</li> <li>All GPS collar locations corrected to UTS 2010 survey DTM.</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>Wide spaced exploration drilling.</li><li>No resources or reserves reported.</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>Mapping undertaken at prospect scale to refine local structural fabric and thus to drill perpendicular to the interpreted structural orientation.</li> <li>No orientation based bias had been identified in the data to this point.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>The chain of custody for sample dispatch was implemented and is as follows:         <ul> <li>Polywoven bags containing samples, labelled, sealed with cable ties and weighed.</li> <li>Sample despatch shipments were delivered to the sample preparation laboratory and the sample dispatch form signed and returned with a confirmation of the cable tie seals in place and the delivery of all samples within each batch.</li> </ul> </li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>Visits and review of the sample preparation laboratory at Intertek Genalysis in Chingola and of the Intertek Genalysis laboratory in Adelaide were conducted by the senior personnel.</li> </ul>

#### Section 2 Reporting of Exploration Results – Lumwana West Project

(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.	<ul> <li>Large Scale Prospecting Licence, 16121-HQ-LPL, Lumwana West, approximately 100 km west of Solwezi, Zambia. Licence renewed for further 2 year period. Current expiry date is 20/07/2015. Prior to expiry an application for extension of term will be submitted to the Geological Survey of Zambia. Mwombezhi Resources holds 100% of the licence, Lumwana West Resources (100% subsidiary of Argonaut Resources NL) has an earn in joint venture. Currently, have acquired 90% interest .Portions of the licence area are forest reserves requiring permission to access which has been granted.</li> </ul>
	• 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.	No known impediments.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Roan Selection Trust (1960s to 1970s) – Regional soil sampling, augering, wagon drilling and diamond drilling. Drilling at Nyungu (Drillholes MM295 and MM296).</li> </ul>
		<ul> <li>AGIP – COGEMA JV (1982 to 1987) – Systematic regional radiometric traversing, soil and stream sediment sampling, geological mapping, pitting and trenching between 1982 and 1987. No drilling.</li> </ul>
		<ul> <li>Phelps Dodge (1990s) – Soil sampling and drilling. Drilling at Nyungu and Kavipopo (Drillholes NYU1 and 2, KAV 1 and 2).</li> </ul>
		<ul> <li>Zamanglo (2000 to 2003) – Regional and infill soil sampling. Geological mapping, IP/CR/CSAMT geophysical surveys. Three phases of RC drilling, at Nyungu (MBD00RC001-011 and MBD01RC001-009) and regional program (MBD02RC001-012) including 3 drillholes at ZNS and 4 drillholes at LMW.</li> </ul>
		<ul> <li>Equinox (2003 to 2008) – unknown but some unknown drill collars are presumably from this phase.</li> </ul>
		<ul> <li>No previous exploration drilling evident or known at Kabikupa or Mufuka prospects.</li> </ul>
Geology	• Deposit type, geological setting and style of mineralisation.	<ul> <li>Style of mineralisation targeted is Lumwana style, structurally controlled, shear hosted, Cu +/- Co (+/- U and Au).</li> </ul>
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:</li> </ul>	See Table – Lumwana West Project Drillholes
	<ul> <li>Easting and northing of the drill hole collar</li> </ul>	
	<ul> <li>Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> </ul>	
	¬ Dip and azimuth of the hole	
	<ul> <li>Down hole length and interception depth</li> </ul>	
	¬ Hole length.	
	<ul> <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>	

Criteria	JORC Code explanation	Commentary
Data aggregation 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>	<ul> <li>Length-weighted average grades reported. No upper limit has been applied to copper grades in these exploration results.</li> <li>A cut-off grade of 0.1% Cu and a maximum internal dilution of 3m (downhole width) are used as a guideline when delineating the drilled thickness intervals of mineralisation.</li> <li>All metal grades reported are single element.</li> </ul>
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 (eg 'down hole length, true width not known').</li> </ul>	Down hole length, true width not known.
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>	Refer to figures within report.
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>	All results reported.
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>There is no outstanding exploration data considered material that has not been previously reported or is not contained within this 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>	<ul> <li>Further geological interpretation and structural analysis to be completed on these prospects. Target testing contingent on positive interpretation.</li> <li>All future exploration work is commercially sensitive and will not be released to the market until results are available.</li> </ul>