

26 April 2013

AIM: AR.

Archipelago Resources plc ("Archipelago" or "the Company")

## Updated resource estimates for Archipelago's Toka Tindung Mine

Archipelago is pleased to announce an increase in the mineral resource estimate for its 95% owned Toka Tindung Mine in North Sulawesi, Indonesia.

#### HIGHLIGHTS

- Total resource has increased to over 3M Au oz. On a gold equivalent basis, the overall resource has increased to 3.1M Au Eq oz.
- Excluding silver as gold equivalent ounces and net of depletion from mining, the contained gold resource has increased by more than 400,000 ounces or 16% (in addition to the 52% increase reported in the previous update to the Company's resource statement in January 2012).
- Resource from the high grade Batupangah or southern deposits increased significantly by 34% to 1.34M Au oz.
- Studies are continuing in relation to mine optimisation and plant expansion, which will impact on the upgrade to the ore reserve. The Company expects to release an updated ore reserve estimate in conjunction with study outcomes towards the end of Q2 2013.
- Further exploration drilling is continuing at site. Archipelago expects to commence drilling on the prospective Marawuwung area to the west of the main Toka pit in the near future.

#### COMMENT

Mr Marcus Engelbrecht, Managing Director and CEO commented:

"The continued expansion of Archipelago's mineral resource is a further achievement for the Company and builds on our exploration successes during 2012. The material increase in the resource at the high grade southern deposits is particularly encouraging. Archipelago continues to focus its efforts on the optimisation, heap leach and expansion studies, with the aim of generating low cost production growth in the near to midterm. The optimisation and expansion scenarios are expected to drive an update to the ore reserve estimate, to be released in conjunction with the results of the studies."

#### DETAILS

Archipelago's Toka Tindung Mine consists of two projects: the Toka main pit and Batupangah (comprising the southern deposits). The Batupangah projects comprise the deposits of Pajajaran, Blambangan, Araren, Kopra, Bone, Jipang, Makassar and Semut.

The latter five deposits, previously part of Kopra, are now included in the mineral resource as stand-alone deposits.

Please refer to **Figure 1** for an overview of the Toka Tindung Mine and deposit locations. All deposits remain open at depth and along strike.



## Figure 1: Overview of Toka Tindung Mine and Deposit Locations



In 2012, Archipelago spent approximately \$12 million and drilled 82,391m on a targeted programme to extend the resource at known deposits (with the broader aim of a further upgrade to the overall resource following the previously significant 52% increase announced on 30 January 2012).

Archipelago has now finalised an updated JORC compliant resource for the Toka Tindung Mine, resulting in a further 16% increase to gold resource estimates (excluding silver as gold equivalent ounces and net of depletion from mining).

A summary of the updated JORC compliant resource is set out in **Figure 2**. The updated and full JORC compliant resource statement (as of 31 December 2012) appears in **APPENDIX I** to this release.

RESOURCE (INCLUSIVE OF ORE RESERVE)						
Category	Tonnes '000	Grade Au (g/t)	Contained Au '000	Grade Ag (g/t)	Contained Ag '000	Contained Au Eq Oz '000
Measured	15,110	1.35	658	3.3	1,605	682
Indicated	40,332	1.12	1,549	2.9	3,748	1,601
Inferred	14,878	1.67	800	3.9	1,878	828
TOTAL	70,311	1.33	3,006	3.2	7,231	3,104

Figure 2: Summary of Toka Tindung Mine Resource as at 31 December 2012

NB: table results are subject to rounding of figures

In summary, the resource has increased to 70.3Mt at 1.33 g/t Au for 3M contained oz Au (and 3.2 g/t Ag for 7.23M contained oz Ag) from the previous estimate of 52.6Mt at 1.53 g/t Au for 2.58M contained oz Au (and 3.7 g/t Ag for 6.14M contained oz Ag).

The resource increase is net of depletion from mining over 2012, being the first full year of production. The bulk of depletion was 0.10M oz Au from the main Toka pit. A smaller amount of depletion occurred at Batupangah (or the Southern deposits) of 0.09M oz Au.



The Batupangah resource increased significantly after depletion by  $3^{4}\%$  to 13.63Mt at 3.06g/t Au for 1.34M contained oz Au (previously 8.94Mt at 3.48g/t Au for 1.0M oz Au) and 8.7 Ag g/t for 3.79M contained oz Ag (previously 2.85M oz Ag). After depletion, the resource at the Toka pit increased 3% to 55.6Mt at 0.91g/t Au for 1.63M contained oz Au (previously 43.5Mt at 1.13g/t Au for 1.59Moz Au) and 1.9 g/t Ag for 3.35M contained oz Ag (previously 3.3Moz Ag).

Overall, the total Inferred resource has increased substantially by 86% to 0.80Moz Au from 0.43Moz Au in 2011, while total tonnages in the Measured & Indicated categories have remained relatively constant after depletion (ie: 2.17Moz in 2012 against 2.15Moz in 2011). In this regard, please refer to **Figure 3**, containing a comparison of the update resource against the prior statement.



## Figure 3: Comparison of 2011 & Updated 2012 Resource for Toka Tindung & Batupangah

The cut off grade for the updated resource has been prepared using 0.5g/t for the main Toka pit and 1.0g/t for the Batupangah deposits. Other key assumptions are contained as notes to **APPENDIX I**. In line with the updated JORC standard, additional notes on assessment and reporting criteria are set out in **APPENDIX I**.

Previously announced studies are continuing in relation to mine optimisation and plant expansion, which are expected to impact on the upgrade to the ore reserve. In this regard, Archipelago has decided to defer publishing a further upgrade pending completion of these studies, which is expected to occur towards the end of Q2 2013.

In 2013, Archipelago will continue drilling at the Toka Tindung Mine, which will support a further review of resource and reserve estimates in the future. In addition to drilling adjacent to known deposits, Archipelago expects to commence drilling on the prospective Marawuwung area to the west of the main Toka pit in the near future.

# **Competent Person Statement**

The information in this report that relates to mineral exploration results, together with any related assessments and interpretations, have been verified by and approved for release by Mr. Graham Petersen B Sc (Geol), MAusIMM, a qualified geologist and full-time employee for PT. Tambang Tondano Nusajaya, a subsidiary of Archipelago Resources PLC. Mr. Petersen has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of JORC. Mr. Petersen consents to the inclusion of the information contained in this report in the form and context in which it appears. The information in this report that relates to mineral resources at the Toka Tindung Deposit is based on a resource estimate prepared by

Principal Consultant Geologist Mr Rick Adams BSc GradCertGeostat AusIMM CP MAIG employed by Cube Consulting Pty Ltd. Mr. Adams consents to the inclusion in this report of the matters based on the information



relating to the Toka Tindung deposit in the form and context in which it appears. The information that relates to mineral resources in the Southern Mine Area (Batupungah) including the Pajajaren, Araren, Kopra, Blambangan, Semut Veins, Makassar, Jipang and Bone deposits is based on a resource estimate prepared by Mr. Ian Taylor BSc (Hons) MAIG, MAusIMM(CP) employed by Mining Associates Pty Ltd. Mr Taylor consents to the inclusion in this report of the matters based on the information in the Southern Mine Area (Batupungah) deposit in the form and context in which it appears. All resource estimate models and reports used in this statement pertaining to the Toka Tindung and Southern Mine Area (Batupungah) deposits have been independently audited and reviewed by Mr. Stuart Masters, BSc, GradDipCompStud, CFSG, ExecMBA, MAusIMM, GAICD, who is employed by CS-2 Pty Ltd. Mr Masters consents to the inclusion in this report of the matters based on the information at the Toka Tindung and Southern Mine Area (Batupungah) deposits in the form and context in which it appears. Mr Adams, Mr Taylor and Mr Masters are registered members of the AusIMM and have more than five years' experience relevant to gold resource estimation and each qualify as a Competent person as defined in the 2012 Edition of JORC.

#### Further information:

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## Glossary of Terms

Ag	Silver
Au	Gold
g/t	Grams per tonnes
JORC	In respect of any reference to the Resource, JORC means the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources & Ore Reserves. In respect of any reference to the Reserve, JORC means the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources & Ore Reserves.
k	Thousand
М	Million
ΟZ	Troy ounces
t	Tonnes
US\$	United States Dollars
%	Percentage
The followin	g terms have the meaning given to them by JORC: Competent Person, Indicated,

The following terms have the meaning given to them by JORC: Competent Person, Indica Inferred, Measured, Ore Reserve, Resource, Reserve.

## **About Archipelago**

Archipelago is a producing mining company listed on the AIM market of the London Stock Exchange. Archipelago's vision is to grow into a respected and regionally dominant mid-cap gold producer, managing a portfolio of gold mines and delivering significant value and returns for shareholders. Archipelago's principal activities are gold mining and exploration in Indonesia (as the 95% owner of the producing Toka Tindung Gold Mine in North Sulawesi, Indonesia). In 2013, Archipelago expects to produce between 140,000 and 155,000



Au Eq oz at a cash cost of between US\$620 and US\$680 per ounce (net of silver credits).

#### APPENDIX I Mineral Resource Statement for the Toka Tindung & Batupangah Projects as at 31 December 2012

Toka Ti	indung Proje	ect Resource	es Inclusive	of Ore Reser	ves as of 31	st December	r 2012
			Gra	de	Co	ontained Ounc	es
Deposit	Category	Tonnes	Gold	Silver	Gold	Silver	Gold Equiv
	ealogely	000	g/t	g/t	oz M	oz M	oz M
Toka Tindung	Measured	14.3	1.21	2.8	0.55	1.28	0.57
(cut off grade of	Indicated	33.0	0.83	1.6	0.88	1.74	0.90
0.5 g/t gold)	Inferred	8.3	0.71	1.2	0.19	0.33	0.19
	Total	55.6	0.91	1.9	1.63	3.35	1.67
Bone	Measured	0.0	0.00	0.0	0.00	0.00	0.00
(cut off grade of	Indicated	0.7	2.81	5.4	0.07	0.13	0.07
1.0 g/t gold)	Inferred	0.3	1.95	3.4	0.02	0.03	0.02
	Total	1.1	2.55	4.8	0.09	0.16	0.09
Jipang	Measured	0.0	0.00	0.0	0.00	0.00	0.00
(cut off grade of	Indicated	0.4	4.10	7.8	0.05	0.10	0.05
1.0 g/t gold)	Inferred	0.5	3.69	10.3	0.05	0.15	0.06
	Total	0.80	3.89	9.1	0.11	0.25	0.11
Makassar	Measured	0.0	3.71	4.7	0.00	0.00	0.00
(cut off grade of	Indicated	0.5	2.41	6.6	0.04	0.11	0.04
1.0 g/t gold)	Inferred	0.5	3.35	6.9	0.05	0.11	0.05
	Total	1.0	2.89	6.7	0.09	0.22	0.10
Semut (cut off grade of 1.0 g/t gold)	Measured	0.0	0.00	0.0	0.00	0.00	0.00
	Indicated	0.4	1.75	9.0	0.02	0.11	0.02
	Inferred	0.8	2.57	8.2	0.07	0.22	0.07
	Total	1.2	2.31	8.5	0.09	0.33	0.09
Kopra	Measured	0.2	4.13	6.7	0.03	0.05	0.03
(cut off grade of	Indicated	1.0	3.17	9.3	0.10	0.30	0.11
1.0 g/t gold)	Inferred	0.5	2.95	11.6	0.05	0.19	0.05
	Total	1.8	3.24	9.6	0.18	0.55	0.19
Pajajaran	Measured	0.3	4.30	18.5	0.04	0.18	0.04
(cut off grade of	Indicated	0.7	3.65	13.9	0.08	0.30	0.08
1.0 g/t gold)	Inferred	1.2	3.38	10.7	0.13	0.40	0.13
	Total	2.1	3.60	12.8	0.24	0.87	0.26
Blambangan	Measured	0.2	3.28	12.5	0.02	0.08	0.02
(cut off grade of	Indicated	1.6	3.80	16.1	0.19	0.81	0.20
1.0 g/t gold)	Inferred	1.5	2.48	6.5	0.12	0.30	0.12
	Total	3.2	3.17	11.5	0.33	1.19	0.35
Araren	Measured	0.1	2.41	2.8	0.01	0.01	0.01
(cut off grade of	Indicated	1.0	2.42	2.1	0.08	0.07	0.08
1.0 g/t gold)	Inferred	1.3	2.88	3.4	0.12	0.15	0.12
	Total	2.4	2.68	2.9	0.20	0.22	0.21
Stockpiles	Sub Total	1.1	1.15	2.4	0.04	0.08	0.04
	Measured	15.1	1.35	3.3	0.66	1.60	0.68
All Deposits	Indicated	40.3	1 19	2.0	1 55	3 75	1.60
	Inferred	14 9	1.13	3.9	0.80	1.87	0.82
	Total	70.3	1 22	3.0	3.00	7 22	3 10
	ivial	10.3	1.00	J.Z	5.00	1.23	5.10

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### NOTES TO MINERAL RESOURCE STATEMENT

Notes on the Southern Mine Area (Batupangah) Resource Estimates were provided by the Company and verified by Mining Associates Pty Ltd. Notes on the Toka Tindung Resource Estimate were based on data provided by Archipelago and verified by Cube Consulting Pty Ltd. The Company owns 95% of the Toka Tindung Mine (and therefore 95% of the deposits referred to above). Au Eq = Au oz + (Ag oz x (Ag price / Au price) x (Ag recovery / Au recovery)) Where Au = \$1,350/oz, Ag \$30/oz, Au Recovery = 92% and Ag Recovery = 54%. Some rounding of figures may cause numbers not to add correctly. Cut off grade used for mineral resources were as follows - Toka Tindung: 0.5g/t Au; Kopra: 1.0g/t Au; Pajajaran: 1.0g/t Au; Blambangan: 1.0g/t Au; Araren: 1.0g/t Au; Bone: 1.0g/t Au; Jipang: 1.0g/t Au; Makassar: 1.0g/t Au and Semut: 1.0g/t Au. The different cut-off grades are due to the additional ore haulage cost associated with the increased distance to the central processing plant site from the southern satellite Batupangah orebodies. Toka Tindung: The mineral resource estimate is based on 1,165 drill holes (133,600m) of which 230 (19,183m) are diamond drill holes, 936 (114,417m) RC drill holes and 4282 (89,613m) RC Grade Control holes. Cube Consulting Pty Ltd conducted a review of the Grade Control practices at Toka Tindung in June -July 2012 which included the Grade Control resource modelling procedure and conducted reviewed the Mined reconciliation against the 2011 Resource Model. This included a site visit, which resulted in some changes to the Grade Control Resource Modelling procedures for Grade Control. Batupangah (Southern deposits): In 2012 the Batupangah project consisted of the Kopra Extended (incorporating the Kopra, Blambangan South, Semut Barat, Makassar, Jipang, and Bone vein sets), Pajajaran, Blambangan, and Araren deposits. In 2013 after extensive additional drilling the deposits are individually reported except for the Semut Veins which are reported as one. The mineral resource estimate for Bone is based on 82 drill holes (9,007m) of which 14 (899m) are diamond drill holes and 68 (8,108m) are RC drill holes. The mineral resource estimate for Jipang is based on 124 drill holes (14,486m) of which 6 (458m) are diamond drill holes and 118 (14,028m) are RC drill holes. The mineral resource estimate for Pajajaran is based on 329 drill holes (32,990m) of which 100 (7,397m) are diamond drill holes and 229 (25,593m) are RC drill holes. An additional 1,694 (34,044m) RC Grade Control holes have been drilled as part of mine production. The mineral resource estimate for Blambangan is based on 338 drill holes (35,239m) of which 51 (3,869m) are diamond drill holes and 287 (31,370m) are RC drill holes. The mineral resource estimate for Araren is based on 176 drill holes (13,414m) of which 95 (6,830m) are diamond drill holes and 81 (6,584m) are RC drill holes. An additional 242 RC Grade Control holes have been drilled as part of mine production. The mineral resource estimate for Kopra is based on 156 drill holes (17,121m) of which 34 (2,260m) are diamond drill holes and 122 (14,861m) are RC drill holes. An additional 464 (9,946m) of RC Grade Control holes have been drilled as part of mine production. The mineral resource estimate for Makassar is based on 188 drill holes (18,253m) of which 44 (3,126m) are diamond drill holes and 144 (15,127m) are RC drill holes. The mineral resource estimate for Semut veins is based on 165 drill holes (16,872m) of which 40 (3,227m) are diamond drill holes and 125 (13,645m) are RC drill holes. Mining Associates Pty Ltd conducted a review of the methodologies used in previous resource estimates, which included a site visit during the course of the exploration and grade control drilling programs.



## APPENDIX II Assessment and Reporting Criteria

The following table provides a summary of important criteria related to the assessment and reporting of the Toka Tindung and Batupangah Mineral Resource. These notes are based on Table 1 of the JORC Code 2012. Notes on Data and Related to Southern Mine Area (Batupangah) Resource Estimates – Data provided by Archipelago and verified by MA and on the Toka Tindung Resource Estimate – data provided by Archipelego and verified by Cube.

	JORC TABLE 1 Section 1: Sampling Techniques and Data
Criteria	Commentary
Sampling Techniques	The geological interpretation and resource estimate is based on diamond core, reverse circulation and grade control (Riffle Split) drill samples. No surface samples are used to inform the block model. RC samples are one metre composites and diamond core is selectively samples based on geological contacts. Details of the procedures are clearly documented the historical data has been reviewed and audited. The documented protocols in place should ensure that 2012 RC and diamond core samples are representative with a well-defined handling work flow to minimise any sample number confusion or mix up
Drilling Techniques	Diamond core (DDH) of PQ, HQ, NQ and BQ diameters with standard and triple tube core recovery systems and reverse circulation (RC) with a face sampling bit, were used by Aurora Gold Ltd. (Aurora). Reverse circulation (RC) with a face sampling bit has been used by Archipelago in the Toka Tindung and Southern Mine Area (Batupangah) mineralised zones. A higher % of DDH core has been collected by Archipelago in the Toka Tindung deposit with only minor DDH in the Southern Mine Area (Batupangah) mineralised zones
Drill sample recovery	Historical diamond core recoveries within the Toka Tindung deposit have been recorded and some low recoveries are apparent, potential for bias has been investigated by independent audit. No material bias is noted due to lower core recovery when logged. RC sampling during 2011 drilling has a recorded weight per metre sampled. Recovery of RC chips is not considered by Cube Consulting Pty Ltd (Cube) to be any potential risk. For the Southern Mine Area, Mining Associates Pty Ltd (MA) has reported core recovery averaged 78% and RC sample recoveries averaged 71% at Semut Barat, and 85% core recovery and 83% RC recovery at Kopra Deposit. Sample Recovery factors for the 2012 drill programme are recorded as relative numbers (1 to 4, 4 represents good recovery). RC sample recovery was determined using the estimated volume of sample recovered. Previous investigations by independent consultants (Snowden Mining Industry Consultants, 1997) expressed concern about the low recovery rates but concluded that Aurora had used industry standard procedures in drilling and sampling. Another independent consultant after reviewing data from the Kopra deposit suggested that RC sample grades be discounted by applying a small negative factor which would lead to a maximum grade reduction of 4%. It was reported based on comparative studies of twinned holes that there was no proof of smearing of grades in RC holes. The studies revealed significant differences between RC and diamond drill intercepts but it was concluded that there was no hard evidence for systematic grade bias with respect to sample type that would lead to significant over-estimation of grade. The fine grain size of gold-silver minerals (5-20 microns as free gold or electrum) may diminish concerns regarding the sampling of wet high-grade RC intercepts.
Logging	Procedures for geological logging are well established and documented. Cube and MA considers the protocols for the logging of geological observation and record keeping is to industry standard. Drill samples are logged for lithology, fracture intensity, mineralisation and alteration using a standardised logging system. Rock chip and core samples were logged on paper and data entry completed at a later date. Drill core was photographed after being logged by the geologist and prior to splitting. Drill core and RC drill chips are stored at the Toka Tindung site.
Sub-sampling techniques and sample preparation	Core is cut with a diamond saw, ½ core is used for sample preparation and analysis. RC samples are riffle split to 2-3kg if dry. Aurora initially took grab samples of 2-3kg from wet slurries following homogenisation but changed to spear sampling of wet RC samples. Archipelago riffle splits to 2-3kg from dry RC returns, grab sampling is used for wet RC samples. Diamond core sample intervals are usually 1m or shorter if based on geological boundaries. RC sample intervals are 1m down-hole in length unless the last portion of hole is part of a meter. Aurora reported that bulk density measurements were taken on DD core on a systematic basis, using wax or film coating where necessary. Measurements were taken by the weight in air/weight in water (Archimedes' principle). A table of density values was established for each deposit including the Kopra deposit. Archipelago collected 211 density samples averaging 2.55t/m <sup>3</sup> . Archipelago provided 547 density samples from the Southern Mine Area (Batupangah). Average density of all samples is 2.45t/m3. Aurora reported that all samples were sent to preparation facilities operated by commercial laboratories and samples were assayed by commercial laboratories either on-site, in Jakarta or in Australia. Core and RC samples were dried and crushed to -6mm if necessary, riffle split to 1kg and pulverised in a ring pulveriser. Archipelago have sent all RC and DD drill samples to the sample preparation facility in Manado operated by PT Intertek Utama Services where routine sample preparation protocols include drying at 105°C, crushing to a nominal 2mm, riffle splitting if greater than 1.5 kg and fine pulverising to 95% passing 75µm using ring mill pulverisers. A sub-sample of 250 grams is taken and sent by air to Intertek's Jakarta laboratory for analysis. Coarse residue and pulverized samples are returned to Toka Tindung for storage. Archipelago Grade Control samples are analysed onsite, samples are riffle split to 2-3kg if dry from one metre down hole intervals, routine sample protoc

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	fine pulve Regia for	rising to 9 Au and A	95% passing Ag. Check sa	75µm amples	using are s	LM5 pi ent to	ulveris indepe	ers. A sub sample of indent laboratories in	250g is Indones	analys sia or	sed by Austra	/ Aqua alia for
Quality of assay data and laboratory tests	Check assaying. All analyses were carried out at internationally recognised, independent assay laboratories in Australia or Indonesia. Samples from Aurora drilling were initially assayed for gold by AAS and later by 50g Fire assay methods. Silver and arsenic were analysed by an Aqua Regia digestion method followed by an atomic absorption analysis. Independent consultants concluded that the procedures were appropriate for the type of samples submitted. It was concluded that there was no significant difference between the Fire assays and Aqua regia assays. Samples from Archipelago Exploration drilling are analysed at PT Intertek laboratory in Jakarta. Gold analysis is by 50g Fire Assay (Intertek method FA51). Lower detection limit is 0.01 ppm Au. Silver and arsenic are determined by Aqua Regia digestion with AAS (Atomic absorption Spectrometer) analysis, (Intertek method, GA02). Lower detection limits are 1 ppm for Ag and 40 ppm for As. Quality assurance during the Aurora drilling was provided by introduction of known certified gold standards, blanks and duplicate samples on a routine basis. Sample and assay quality was monitored by duplicating every 20th RC sample and the insertion of standards every 50th sample or, in the case, of core, every 20th sample. Archipelago inserts one commercial SRM (Standard Reference Material) in every 25 drill samples sent to either Intertek or on-site for analysis. A blank sample is inserted every 25 samples. Field duplicate samples are collected every 25 metres during RC drilling. The use of routine blanks, duplicate and internal standards as well as the referee laboratory check assaying are considered adequate for the determination of accuracy and precision of the Archipelago drill data. Grade Control samples from RC drilling are analysed at PT Interteck laboratory at the Toka Tindung minestite, with gold assayed by Aqua Regia on 40g samples and silver by atomic absorption analysis after Aqua Regia digest. The QAQC protocol is for CRM standards and blanks to be inserted at ever											
Verification of sampling and assaying	Results b grade var	etween tv iability of	vinned RC a f the quartz	nd diar veins.	nond h All as	noles a say di	re in a ata is	pproximate agreeme checked prior to loa	nt consic ading into	dering o the	the in Archi	herent belago
	database.	The Arc	hipelago dat	a base	and g	geologi	cal inte	erpretation are mana	aged by a	onsite	Archi	pelago
	the Maka	stan. Mi ssar pros	spect) that h	ad pre	viously	been	report	ed as containing go	ld. Unde	ər MA	supe	rvision
	grab sam	ples wer	e collected	from 2	2 samp fle soli	ble bag	gs cor be sau	taining wet sample	and 3 of to the F	dry sa PT Inte	mples	were
	preparatio	on facility	in Manado b	y MA.			ne su			1 mile		ampie
				\$								
	HOLE NO.	INTERVAL	MINING ASSO	CIATES S	SAMPLE	S			SAMPLE A	SSAYS	_	
			ID UNITS	Au1 PPM	Au2 PPM	Ag PPM	As PPM	ID UNITS	Au1 PPM	Au2 PPM	Ag PPM	As PPM
			DET.LIM SCHEME	0.01 FA51	0.01 FA51	1 GA02	40 GA02		0.01 FA51	0.01 FA51	1 GA02	40 GA02
	JIP008	20-21	7061001	3.01	3.01	5	<40	7016296	2.58	2.53	5	<10
	MAK007A	98-99	7061002	5.82	5.55	11	80	7011512	8.18		12	40
	MAK005 MAK005	52-53 50-51	7061004 7061005	3.73 1.86	1.91	13 4	40 <40	7011773 7011771	2.53	2.46	8	<10 <10
	MA also Pajajaran historical by Cube v	visited th and Kop data. The vith no ma	e Batupanga ora. Cube ha e performanc aterial issues	ah loca as no ce of To s identi	ation (2 knowle oka Tir fied.	2012 a edge o ndung i	ind 20 of any field di	13), inspected the c independent samplin uplicates collected 1	urrent m ng has t per 20 h	ining been d las be	opera done en rev	tion at on the viewed
Location of Data Points	Aurora dr	Il hole co	ollar positions	s were	survey	ed by	outsid	e survey contractors	. The grid	d syste	em is	based
	ground co	nditions	permitted. C	bserve	d devi	ations	are re	ported to have been	within ac	ceptal	ble lim	nits. All
	2011 and	2012 dri	Il holes have	been	survey	ved wit	h a dif	ferential global positi	ioning sy	stem (	(DGP	S) and
	recorded	in the Ar	chipelago da	ata bas	e. No	o down	holes	survey data was coll	ected du	iring tr	ne 207	12 drill
Data spacing and	Drilling ha	s been c	ompleted on	local g	grid se	ctions a	along t	he strike of the know	n minera	alised	zones	in the
distribution	Southern	Mine Are	ea (Batupung	gah) on	a nor	ninal 2	25 m s	pacing. Shallow 36 r	netre Gra	ade co	ontrol	drilling
	the miner	alised zo	nes similarly	/ comn	nences	a on a	m spa	cing and then closin	g to 25n	n and	20m.	Holes
	have been	n drilled t	o a maximur	m dept	h of 28	80m at	Pajaja	Iran. 263.5m at Semi	ut,262.1	at Kop	ora, 24	18.8 at
	Blambang	an, 209 a	at Jipang and	d 200m	in min	akassa	ar and	Bone. The majority of the data	of holes a	are dril and d	lled to	about
	sufficient	to establ	ish geologica	al and	grade	contin	uity ap	propriate for the Mi	neral Re	SOURCE	e esti	mation
	procedure	and has	s been take	n into	accou	nt in 3	D spa	ce when determinin	g the cla	assifica	ations	to be
					~ ?m	- I	holo fo			Lon our	n wire	eframe
	applied. S	Samples	were compo	sited t	motro			were depended for	n in the	due +	n tha	Veine
	applied. S constraine exception	Samples ed minera ally thin r	were compo alised zones nature. For t	sited t 5. One he Tok	metre a Tind	comp ung de	osites	were generated for drillhole spacing varie	n in the r Semut es throug	due t h the	o the	veins it from
	applied. S constraine exception 50N x 20	Samples ed minera ally thin r E at the e	were compo alised zones nature. For t extensional f	sited t s. One he Tok ringes	metre a Tind to 25N	comp ung de x 20E	posites posit of and	were generated for drillhole spacing varie closer (12.5N x 5E)	on in the r Semut es throug within the	due t h the area	to the depos	veins it from taining
	applied. S constraine exception 50N x 20 grade cor	Samples ed minera ally thin r E at the e ttrol drillir	were compo alised zones nature. For t extensional f ng. The data	sited t s. One he Tok ringes a adeq	metre a Tind to 25N uately	comp ung de 1 x 20E covers	posites posit c and the v	were generated for drillhole spacing varie closer (12.5N x 5E) v olume estimated in n	on in the r Semut es throug within the northing a	due t h the e area and ea	to the deposes contracting	veins it from taining and is
Orientation of data in	applied. S constraine exception 50N x 20 grade cor primarily	Samples ed minera ally thin r E at the e trol drillir Im downhas predor	were compo- alised zones nature. For t extensional f ng. The data nole with no o ninantly occur	sited t s. One he Tok ringes a adeq compo	metre a Tind to 25N uately siting t	comp ung de l x 20E covers pefore a ne strik	posites posit c and c the ve assaying ce of the second states of the sec	were generated fou drillhole spacing varie closer (12.5N x 5E) v olume estimated in n ng. ne known mineralise	on in the r Semut es throug within the northing a	due t h the e area and ea	to the deposed of the	veins it from taining and is



structure	the target mineralised zone. Grade control drilling is dominantly orientated oblique to strike, orientated West. In Araren and Pajajaran ore bodies. Kopra Grade control is orientated perpendicular to strike. Drillhole orientation is problematic for modelling the resources at Toka Tindung, with near vertical vein lodes carrying the highest grade mineralisation. Holes have been drilled inclined west and east in an attempt to characterise the dip of vein mineralisation. Grade control drilling is west dipping, east dipping and vertical, but the density of drilling is considered sufficient to adequately define the mineralisation.
Sample Security	Samples are delivered by Toka Tindung Gold Mine personnel to PT Intertek laboratory in Manado.
Audits or reviews.	Anthony Woodward of Mining Associates Limited visited the site from 22 to 24 August, 2011 during the compilation of a review of drilling, sampling techniques, QAQC and verification sampling. Methods were found to conform to international best practise, including that required by the JORC standard. Audits of the Aurora drilling data have previously been carried out by several independent consultants. The 2011 and 2012 MA Southern Mine Area (Batupungah) Resource and the Toka Tindung Resource estimates were audited by CS-2. The most recent audits of the Classification assigned.

	JORC TABLE 1– Section 3: Estimating and Reporting of Mineral Resources
Criteria	Status
Database integrity	The Aurora exploration drill hole database, was previously audited by independent consultants and was used for the 1998 Kopra resource modelling. The authors of the 1998 resource estimate (Snowden Mining Industry Consultants) considered that the Aurora data was appropriate for the purposes of resource estimation and long-term open pit mine planning. Snowden assumed that Aurora had fully validated the position of drill holes, sample preparation, assays and lithological logging. MA used the Aurora drill hole database and combined it with the current Archipelago RC drill hole database. It is MA's opinion that the combined database is appropriate for use in a resource estimate. The Southern Mine Area (Batupangah) database is an MS Access based data base system. Digital assay data is obtained from the Laboratory, QAQC checked and imported into the database. Data tables were exported from the MS Access database, and connected directly to the Gemcom Surpac mine software used by MA for interpretation and resource estimation. Data was validated prior to resource estimation by the reporting database extents, number of data fields for each table, basic statistics for each of the grade fields, including examination of maximum values, and visual checks of drill traces and grades on sections and plans. Basic checks were carried out cross-referencing publicly released exploration results with drill information within the database supplied.
Site Visits	Ian Taylor (Mining Associates) has visited site on three occasions, each site visit approximated 10 days on site in which time discussions with site geologist and engineers were held, providing a better understanding of the geological setting and requirements of the resource model. Site Visits: 14/02/2012 to 29/02/2012, 20/05/2012 to 30/05/2012 and 16/1/2013 to 26/1/2013. Rick Adams and Ted Coupland ( Cube Consulting) visted the site in June 2012 as part of the review of the Grade Control practices and resource modelling.
Geological Interpretation	MA notes in the Southern Mine Area (Batupangah) area, located approximately 5km southeast of Toka Tindung, several quartz-adularia epithermal vein and vein-breccia systems are oriented along regional northwest and north-northeast trending bifurcating structures. The veins are hosted in a porphyritic andesite unit overlain by up to 3m of recent tephra. Wallrock alteration is characterised by narrow envelopes of strong silicification and argillic or propylitic alteration. Weathering and oxidation is localised around the main fault and vein structures to depths of greater than 75m. (AlM admission document, 2003). The composite vein system comprises several anastomosing veins, including a centrally located main vein at each deposit. The Pajajaran gold deposit mainly comprises two parallel composite veins of between 2 m and 7 m in thickness that trend towards the northwest. A narrower set of north trending composite veins bisect the northwest trending set. The Araren gold deposit, located to the northeast of Pajajaran consists of two parallel, north-trending vein sets approximately 100m to the east of between 1 m and 7 m thickness. The Blambangan gold deposit, which adjoins the Pajajaran deposit to the immediate southeast, is a single curvilinear north-trending and east-dipping composite vein ranging in thickness from 1 m to 15 m with minor flanking and splay veins. The main veins at Kopra Makassar and Jipang and Bone generally dip steeply to the northeast and ranges in thickness from 2m to 5m which are located on a major north-west trending fault structure previously termed the Makassar Trend. Several north-northeast trending sub vertical vein systems (including the Blambangan South, Semut Barat, and Semut Timur prospects) intersect the Makassar Trend. They have all been interpreted as deeper level deposit scale. At the mining bench scale minor variations in attitude, thickness and extent of mineralised volumes occur. The use of a slightly different estimation methodology for the 2012 estimate has shown that the mi
Dimensions	The main area of defined mineralisation occurs as a number of continuous narrow quartz-adularia veins over a corridor strike length of 1.6 km, 20 m wide and up to 150m down dip. There are a total of 9 currently defined vein deposits within the Batupangah Project; Araren, Pajajaran, Blambangan, Blambangan South, Kopra, Semut (Barat, Timor and Selatan) Makassar, Jipang and Bone.



	JORC TABLE 1- Section	3: Estimating a	and Repo	orting of N	lineral Res	sources	
Criteria	Status						
	Defined Mineralised Domain Extent Report						
			m	north	east	RL	
		All Resource	min	171,781	732,794	115.76	
		(database)	max	173,937	735,203	310.82	
			extent	2,156	2,408	195.06	
		Main Areas	max	175250	735550	500	
		(block model)	extent	4250	3300	600	
							I
- · · ·	The Toka Tindung depos	sit is approximate	ely 2,000r	n in northi	ng, 750m ir	n easting a	and 150m in RL extent.
Previous estimates	In October 2011 a res Associates using Ordina 2011 by Cube Consulting	ource for the S ry Kriging. The T g.	Southern Toka Tind	Mine Are lung Reso	a (Batupa urce was p	ingah) wa previously	as estimated by Mining estimated in September
Estimation and Modelling Techniques	The Southern Mine Area on a wireframes develo reviewed and re-interpre- (section grid) and using modelling work encompa- the current drill hole assa and beyond the limit of along strike and down di was generally capped at percentile. Experimenta narrow epithermal gold s ellipse ratios derived first looking for longer variog the cross strike variance domains were constraine Au and Ag were compa Neighbour block estimat clustering and the selec grade estimation uses of sub-block size of 2.5 m ( Resource categories ha samples and the conditi based on Ordinary Bloc Conditioning and Local highest grade mineralis mineralisation. The est support of 6.5N x 2.5E >	a (Batupangah) r pped on by site sted the geologic g the results of assed all previous ay database; sec drilling. Mineral p within the defir 98.5th %tile. Va al Variograms w silver deposit. At t from omnidirect ram structures ar e. Nuggets wer ed with 3D wirefr ared with the rav es, the first to te ted variogram. red with the rav es, the first to te ted variogram. (b) y 3.125 m (( we been define onal bias slope. k Kriging. A cha UC methods. I ation and a vari imate has been (2.5RL. Validat	esource geologis al contro the exte s drilling. tion interpisation is need doma arious gra- ere poorf nisotropy ional vari- nd ranges e derived ames an v drill da st the imp Swath F to a pare N) by 1.2. d using For Tok- ange of s Key assu- ying mo compare ion of the	estimate h ts using 3 ls as requi- nsive rece- Modelling pretations interprete- interpret	as been re Surpac Ge irred. Wire ant drilling work was were extern d to be cc e capping v vere applie due to the tated along nd fine-tun ent strike a vn-hole van stimated b o with bloo generated ize of 10 m was used a ensity, sam the estim rrection ha ave been horizontal uction figu as been un	evised from eological l frames we programs extended and a ma vas applied d to silver e grade d g strike ar ued by res and shorte riograms. y Ordinar ck estima d clusterin for the r n (E) by 1 against all upple quali tation of g s been un the varyin dip of th res. The idertaken	m "first principles" based Modelling Software; MA are developed in section s. Geological and grade 4 vertically to the limits of ximum of 20 m down dip between drill holes both do gold and silver, gold , between 97.5 and 99th istribution expected in a nd down dip, with search tricting variogram spread ar structures to represent The defined mineralised y Kriging. The results for tes made using Nearest g, the later the impact of najor vein models. The 2.5m (N) by 5 m (RL). A wireframes for volumes. ty, number of informing gold and silver has been ndertaken using Uniform ng dip and strike of the ne secondary stockwork a block estimate is on a and apparent anomalies
Moisture	All tonnages are reported	d on a dry in situ	basis.				
Cut-off grade	For Southern Mine Are reporting the resource of grade of 0.5g/t. Previous mill production suggests Any future increase in th this economic cut-off.	as (Batupungah estimates. The T s resources have an economic lo ne through put of	) a Lowe oka Tinc been re wer ecor the mill	er cut-off lung reso ported at ( nomic grad and an ind	grade of ource is rep 0.7g/t (pre de cut-off v crease in g	1g/t Au w ported ab 2011) and would be gold price	as applied to blocks in ove a lower cut-off gold d recent experience from higher than 0.5 g/t gold. could conceivably lower
assumptions	ine size of the Souther inputs, particularly meta portions of resource estin Mine Areas (Batupunga horizontal metres is ass juxtaposed low grade m model for the Southern M resource model, ore perr and ore loss, If a block modelling approach at mineralisation with an as taken in to account so surrounding it – where e have been included in th	al recoveries an mates not reporti ah) is the assur umed. Edge dil inieralisation (mi line Areas (Batu centage per bloc c has less than Toka Tindung sumed SMU of 6 ome dilution of ver the QSV ind e resource repor	d metal ng to futu ned extr. ution was nimum 0 pungah) k is store 50% ore resource 5.25x2.5x the high icator has	any prelim prices wh ure open p action me s taken int .5g/t) less is supplied d, this attr a, a 5% m e has be 2.5m. The er grade s been les	itary conc ich, if unr its. Open F thod with o account than the d for pit des ibute is the hining dilut en to bes e grade of mineralisat s than 1.	epiuai pit ealised, r Pit Mining a minimu during m prescribe- sign, this r e basis for ion and o t fit the each estin tion by th No mining	s is strongly affected by may result in significant Methods in the Southern im mining width of two odelling by incorporation d 1g.t cut off. A dilution model is a re-block of the r applying mining dilution ore loss is applied. The geological controls on nated block has however he lower tenor material gloss or recovery factors
Metallurgical factors and assumptions	No metallurgical factors l	nave been applie	d to any	of the resc	ources.		
Environmental factors or assumptions	EIS studies have been of waste dumps and tailing	completed by Ard dams.	chipelago	. Future N	line Sched	lules will o	determine the location of



1	JORC TABLE 1– Section 3: Estimating and Reporting of Mineral Resources
Criteria	Status
Bulk Density	847 (Toka) and 336 (Southern Mine Area) Archipelago density determinations are available. The density used to convert volumes into tonnages is 2.45 t/m3.Density is varied in the block model based on distance below topography; totally oxidised material is considered to exist to 15m below the surface and is assigned a density of 1.9. Partially oxidised material is considered to a depth of 50m below the surface and is assigned a density of 2.3. The density of fresh rock is assigned 2.45. These figures are based on mining experience at Toka Tindung, Pajajaran, Araren and Kopra.
Classification	Resource classification is based drill density, average distance to informing samples, number of informing samples, sample quality, kriging efficiency, conditional bias slope, and vein consistency (geological continuity). Blocks within the defined wireframes domains are classified as indicated or inferred based on the following summarised criteria: Measured – grade control drilling, good sample recovery, distance to nearest sample is less than ¼ the variogram range, average distance to samples as ½ the variogram range, maximum number of informing samples and a conditional bias slope generally greater than 0.8 Indicated – drill density better than 50m x 50m, above the base of drilling, distance to nearest sample is less than 1/3 the variogram range, average distance to informing samples is less than the variogram range, ½ maximum number of informing samples, conditional bias slope generally greater than 0.6 Inferred – block estimated within wireframes, above minimum number of informing samples within extrapolated extents of wire frame. Generally samples were assayed for gold and silver with the notable exception of Semut Selatan (Semut 4 & 5). In these specific cases silver is not reported because of insufficient supporting data.
Audits or Reviews	Block models were validated by visual and statistical comparison of drill hole and block grades. Drill holes and blocks were compared by basic statistical analysis by domain and Swath Plots by Northing. Kriged gold and silver estimates were validated against Nearest Neighbour and inverse distance squared estimates. These alternative models achieved very close agreement with the reported results. Swath plots were generated for the main mineralised veins. An audit of this work has been completed by CS-2, which found no material errors.
Discussion of relative accuracy/ confidence	The resource is estimated using Ordinary Kriging, which provides a single estimate which if the search radius is large enough and blocks have access to sufficient informing samples, will provide a BLUE estimate. (Best linear unbiased estimate). However it does not directly provide an indication of the potential variability of each estimate and hence cannot indicate the level of risk involved in accepting these estimates. To determine accuracy or apply a statistical confidence level to the resource a conditional simulation model will be required. Conditional simulation is useful to model variability, uncertainty, quantifying estimation error. Simulations can also be used for risk-taking grade control approaches (such as it is better to process a bit of waste than lose some high grade ore). However, it is important to be aware that any single simulation has very high local inaccuracy and should not be used for mine planning. The Toka Tindung resource estimate of mill feed compares closely to grade control modelled production data, and with acceptable limits these both compare to reported production. In areas without the benefit of grade control data it would be expected that the resource may vary from mill production.