## ASX/MEDIA RELEASE



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# HIGH-GRADE MANGANESE RESOURCE PRESENTS EARLY DEVELOPMENT OPTION

- JORC Inferred Mineral Resource Estimate 566,000t at 42.5% Mn
- Scoping Study nearing completion potential for DSO operation
- Presents opportunity for low capital project launch on Romang Island staged development of larger polymetallic mine
- Planned Feasibility Study completion Q3 CY14 Potential for extensions – drilling continues

**Robust Resources Limited ('Robust' or 'the Company')** is pleased to announce the results of a Mineral Resource Estimate of near-surface, high-grade manganese deposits at its Romang Island project in Indonesia. The estimate has been completed to standards set out in the JORC (2012) code by independent consultants Mining Associates Pty Ltd.

Substantial deposits of high-grade manganese mineralisation have been discovered in two locations in the Lakuwahi Caldera; Manganese Valley (Mn Valley) and Batu Hitam West (BHW) (Figure 1). Both deposits are near surface and partially cap gold-silver oxide and/or polymetallic mineralisation. The larger deposit, Manganese Valley (Figure 2), is situated on the eastern flank of the Batu Hitam polymetallic deposit and the smaller deposit at Batu Hitam West overlies gold-silver-lead-zinc-copper mineralisation.

Deposit	Material (t)	Mn Grade (%)	Mn Metal (t)
BHW	37,000	46.5	17, 000
Mn Valley	529, 000	41.8	221, 000
Total Inferred	566, 000	42.5	238, 000

The high-grade manganese mineral resource is outlined below:

(source: *Robust Resource Limited, Lakuwahi Project, Manganese Resource Estimate*, Mining Associates, 4 November 2013)

JORC "Table 1" is appended to this report and the complete report is available on the Company's website: <u>www.robustresources.com.au</u>.

In their report, Mining Associates, under requirements of the JORC code, have made certain assumptions that show that the Lakuwahi manganese resource has "Reasonable prospects of economic extraction". The assumptions used are shown in the table over leaf.

Parameter	Unit	Valu	Je
Capital Cost	US\$/t ore	\$	8.67
General and Admin cost	US\$/t ore	\$	3.00
Processing cost	US\$/t ore	\$	3.00
Average mining cost	US\$/t ore	\$	5.20
Total Cost	US\$/t ore	\$	19.87
Manganese Price	US\$/t ore	\$	220
Average recovery – Mn			95 %
CUT-OFF GRADE Manganese (Mn), %			10 %

(source: Robust Resource Limited, Lakuwahi Project, Manganese Resource Estimate, Mining Associates, 4 November 2013)

These figures are approximate due to the early stage of this project, and the costs are assumed costs. Robust is undertaking a scoping study into development options for the high-grade manganese deposits, at which time the above costs will be validated. The study is scheduled for completion in December 2013. Initial studies indicate a viable direct-shipping-ore (DSO) operation may be established, once an export licence is obtained from the Indonesian authorities.

Robust will undertake a feasibility study (FS) for the manganese project, which is scheduled for completion in the September quarter of 2014. This study will include additional drilling and assays to bring the mineral resource to JORC Measured and/or Indicated categories, studies on mine planning, beneficiation (if required), marketing and an estimate of project capital expenditure and operating expenditure.

The timing of the manganese FS will coincide with finalisation of the Company's efforts to obtain a mining operating licence from the Indonesian Government.

Robust's Managing Director, Gary Lewis, commented: "Robust intends to vigorously pursue the high-grade manganese opportunity on Romang Island as an early cash flow opportunity which will lead in to a much larger and potentially long-life precious metal / base metal polymetallic mine.

"The manganese resource represents a low-risk project that could be developed in a short timeframe for minimal capital and have an immediate and positive return on investment. Infrastructure established for the manganese project could be utilised during construction and operation of the subsequent polymetallic project.

"It would also allow the residents on Romang Island to become familiar with mining operations and will provide opportunities for participation, training and up-skilling of local workers. This will be a huge boost for the Romang Island, regency and provincial economies."

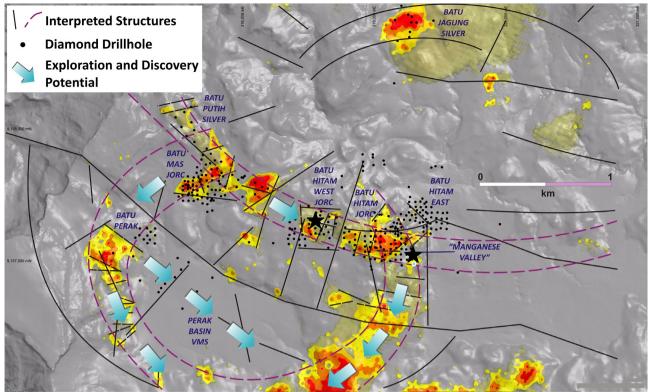


Figure 1: Location of high-grade manganese resources (Black Stars) in relationship to the other Lakuwahi caldera deposits and targets (labelled).

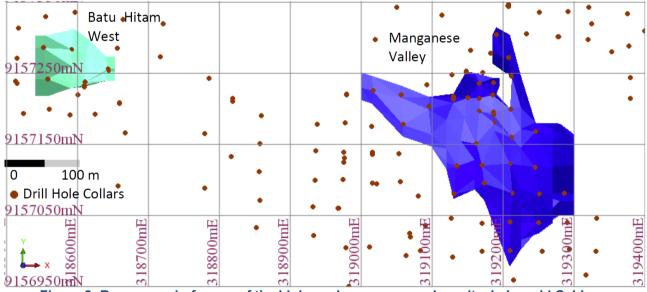


Figure 2: Resource wireframes of the high-grade manganese deposits, Lakuwahi Caldera, Romang Island (source: *Robust Resource Limited, Lakuwahi Project, Manganese Resource Estimate*, Mining Associates, 4 November 2013)

### **About Robust**

Robust Resources is a multi-commodity resource company engaged in the exploration and development of precious and base metals in Indonesia, the Kyrgyz Republic and the Philippines. It holds a 70.5% managing interest in the Romang Island polymetallic and manganese projects in Indonesia. In January 2012, the Company published a mineral resource estimate for work completed on Romang Island to the standards set out in the JORC code 2004. The Romang Island Indicated Mineral Resource totals 750 thousand ounces gold equivalent and 737 million pounds of base metals and the Inferred Mineral Resources totals 364 thousand ounces gold equivalent and 733 million pounds of base metals (details: <a href="http://www.robustresources.com.au/s/resources reserves.asp">http://www.robustresources.com.au/s/resources reserves.asp</a>).

Since the completion of the above JORC (2004) mineral resource estimate in January 2012, , Resource Robust has completed additional drilling totaling over 17,000 metres and over 200 holes with consistent positive results. The Company is currently working on an updated mineral resource estimate, which will be completed under the JORC (2012) guidelines. It is anticipated that this resource estimate will be completed by January, 2014.

Robust holds 80% of the Andash project in the Kyrgyz Republic. Published JORC (2004) Ore Reserves are 540 thousand ounces of gold and 140 million pounds of copper (details: http://www.robustresources.com.au/s/resources\_reserves.asp).

Robust's dual focus is to become a significant low cost precious and base metal producer on Romang Island and Andash as well as continuing its positive record of new discoveries from its portfolio of exploration properties. Robust trades on the Australian Securities Exchange (ASX) under the symbol ROL.

Robust Resources is now on Twitter. Please click on the link provided to follow: https://twitter.com/RobustResources

### \*\*\* ENDS \*\*\*

#### For further information please contact: Gary Lewis – Managing Director on +61 2 8259 4799

Competent Persons Statements

The summary review of geology and mineral resource data, and the mineral resource estimate described in this report was conducted by Mr Ian Taylor. Mr Taylor visited the site from 7 to 11th September 2013. Mr Taylor has experience relevant to epithermal gold silver style of mineralisation and associated exhalative deposits under consideration and to the activity which they are undertaking. Mr Taylor consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. Mr Taylor holds a Bachelor of Science with Honours in Geology, is a Member of The Australian Institute of Geoscientists and a Certified Professional by the Australasian Institute of Mining and Metallurgy in the discipline of geology. Mr Taylor is employed by Mining Associates Limited of Brisbane, Australia

Mr Andrew Vigar supervised the resource estimate and reporting of this Manganese Resource, Mr Vigar has sufficient experience relevant to Volcanogenic Massive Sulphide (VMS) style of deposits under consideration and to the activity which they are undertaking 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 Vigar consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. Mr Vigar holds a Bachelor of Applied Science, is a Fellow the Australasian Institute of Mining and Metallurgy. Mr Vigar is employed by Mining Associates Limited of Brisbane, Australia

## Appendix: JORC Code, 2012 Edition – Table 1

### Section 1 Sampling Techniques and Data

Criteria	this section apply to all succeeding section 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 (egg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>HQ and NQ sized diamond drill core. Triple-tube wireline standard equipment. 1 metre, half core samples collected in visually mineralized intervals. 2-metre quarter core samples in visually non-mineralised or weakly mineralised core Whole sample core pulverized to 80% passing 200 mesh. 50g charge fire assay for gold. We geochemical or XRF techniques for silver and other metals. Regular assay suite: Au, Ag, As Sb, Cu, Pb, Zn, Ba and Mn.</li> </ul>
Drilling techniques	<ul> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</li> </ul>	<ul> <li>HQ and NQ sized diamond drill core. Triple-tube wire line standard equipment. Core is oriented where ever possible using the spear technique.</li> </ul>
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>Recovery is measured in the core tube by the driller and a marker inserted into the core tray noting any core loss. Core recovery is double checked by the geologist when logging the hole. No relationship between core recovery and grade has been discovered.</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>All core is geologically logged and photographed prior to sampling. Structural measurements are obtained where core orientation has been successful. Geotechnical logging is not carried out. Logging is semi-quantitative and 100% of reported intersections have been logged.</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 instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Continuous half core is sampled over 1-metre intervals as a general rule in visually mineralized intervals. Where the core is visually unmineralised or weakly mineralized ther continuous quarter core sampling is carried our over 2 or 3 metre intervals to economize or assay and freight costs. Splitting the core is done with a diamond saw. Where there is a major geological boundary, sampling intervals are made to honour the boundary which may result in sampling intervals slightly less or slightly more than 1 metre.</li> <li>Quality control procedures include the insertion o standards (1 in 25 samples) and blanks (1 in 20 samples) into the regular sample number sequence. If any blank or standard is out of spec re-assay is requested of the laboratory.</li> <li>Sampling size is considered to be appropriate. Assay repeatability for gold and other metals has never been an issue at Lakuwahi.</li> </ul>
Quality of assay data and laboratory	<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</li> </ul>	<ul> <li>All samples are completely pulverized and assayed at Intertie Testing Services laboratory <u>http://www.intertek.com/minerals/global-services/</u> The following elements and ITS techniques are</li> </ul>

Criteria	JC	RC Code explanation	Сс	ommenta	ry			
tests		instruments, etc., the parameters used in determining		used:				
		the analysis including instrument make and model,		Element	1		1	Schem
		reading times, calibrations factors applied and their derivation. etc.			Units:	Lowor	Linnor	
	•	Nature of quality control procedures adopted (egg	S	, Au			Upper	e FA51
		standards, blanks, duplicates, external laboratory			ppm	0.01	50	
		checks) and whether acceptable levels of accuracy (i.e.		<u>\g</u>	ppm	1	100	GA02
		lack of bias) and precision have been established.		Cu	ppm	50	-	GA50S
				Ър	ppm	50	-	GA50S
				Zn	ppm	50	-	GA50S
			Ν	Лn	ppm	50	-	GA50S
				As	ppm	10	-	XR02
			S	Sb	ppm	10	-	XR02
			E	3a	%	0.01	100	XR02
			A	٩g	ppm	5	10000	GA30
			•	standard samples sequend re-assay 1:50 sa indepen (Ultratra No mate have oc	ds (1 in 2 b) into ce. If any v is reque ample p dent la ce) on a erial issu curred si	25 samp the reg blank or ested. pulps ar boratory regular of es of as nce drillir	s include the les) and blar gular samp standard is e sent to in Perth guarterly frequesay bias or r ng commence	iks (1 in 20 le number out of spec a second Australia uency. epeatability ed in 2008.
Verification of sampling and assaying	•	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.	•	carried Levings Twinned conside Electrom passwol network (Roman Physica All data databas	out by C FAusIM I holes red to be ic data i rd-protec backed- g Island, I assay re entry i e geolog	Competer M. required s stored ted Geo up acros Jakarta eports ar s under ist.	cant interse nt Person Jo enerally not and reporte bank softwa ss several ph Office, Sydu e filed in Jaka control of a data are carr	hn Andrew used or d using the re. Data is nysical sites ney Office). arta office. a specialist
Location of data points	•	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control.	•	surveyo indepen survey s	rs using dently v stations.	a Total S erified	surveyed by Station and t system of t ed in UTM-UT	ied in to an riangulation
			•	Topogra	ned using	trol is ex g the LID	cellent and w AR system (p	as blus or
Data spacing and distribution	•	Data spacing for reporting of Exploration Results. 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. Whether sample compositing has been applied.	•	appropri explorat to confi spacing minerali minerali Sample explorat	ate to ion proje rm interp of 40 n sation sation. composi ion resul	the ge ct, infill d pretations netres is and 8 ting is no ts.	ot used in rep	this is an n necessary a drillhole eccias style stratabound orting
Orientation of data in relation to geological structure	•	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. 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.	•	Mangan oriented to the g VMS mi inclined to test	ese is to inters ross stri neralisat angled h the flat-l	often ir sect as po ke and o ion is su noles are ying exh	ineralisation regular and erpendicular dip of the de b horizontal. used as a c nalative zone nineralization	drilling is as possible posits. The 60 degree compromise and any

Criteria	JORC Code explanation	Commentary
		<ul> <li>No material sampling bias is considered to have been introduced by the drilling direction</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Company security personnel and Mobile Brigade Police accompany the samples from the base camp (by porter, company boat and charter plane) to Kupang in West Timor. At this point the samples are dispatched by commercial flight door to door courier to ITS laboratory in Jakarta.</li> <li>This is considered to be a secure and reasonable procedure and no instances of tampering with samples have occurred since drilling commenced in 2008.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	Audits of sampling procedure have been completed in 2011 and 2013 by Micromine Consulting and Mining Associates respectively, No material issues were raised.

# 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 licence to operate in the area.</li> </ul>	<ul> <li>Robust's tenure on Romang Island is under the Indonesian national Izin Usaha Pertambangan or Mining Business License (IUP) system. Robust, has a direct 70% interest in the 5 IUPs totaling 10,000 Ha through the title holder company PT Gemala Borneo Utama. The Robust IUPs are in exploration stage and must be converted to production stage by March 2015. It is anticipated that the conversion will take place in the first half of 2014. The other 30% shareholder in the IUPs is Indonesia's Salim Group. Salim Group is also a major shareholder in Robust Resources Limited.</li> <li>Robust's IUPs are in "production forest" and as such require a "borrow and use" permit from the Indonesian department of forestry. Robust has current borrow and use permits for its 5 IUPs.</li> <li>All 5 Robust IUPs have been published on the Indonesian Mines Department "Clean and Clear" list.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>In 1998 and 1999 Billiton (now BHP Billiton) conducted 2 diamond drilling programs totalling 14 holes within the Lakuwahi Caldera. Robust's first drill holes in 2008 was numbered LWD015 in recognition of the 14 prior Billiton holes. Results obtained by Robust are entirely consistent with the earlier results from the Billiton work.</li> </ul>
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul> <li>The mineralisation at Lakuwahi is considered to by hydrothermal in type. The mineralisation occurs in a caldera setting. Three styles of mineralisation have been recognized.</li> <li>Breccia – style containing galena, sphalerite, chalcopyrite, barite, pyrite, gold and silver (and oxidized portions of this type).</li> <li>Exhalative VMS. Laterally extensive horizon containing galena, sphalerite, chalcopyrite, barite, pyrite, gold and silver</li> <li>Manganese Oxide: replacement of limestone.</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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation</li> </ul> </li> </ul>	See separate table in this report.

Criteria	JORC Code explanation	Commentary
	<ul> <li>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> <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>	
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>Informing Samples have been composited to one metre lengths honouring the geological boundaries and adjusted where necessary to ensure that no residual sample lengths have been excluded (best fit).</li> <li>Samples are selected based on geological interpretation of a &gt;30% Mn 3D wireframe.</li> <li>Grade capping was deemed inappropriate for Mn values.</li> <li>Metal equivalents are not used.</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 (egg 'down hole length, true width not known').</li> </ul>	<ul> <li>In general down-hole lengths are reported due to the irregular nature of the breccia style mineralisation.</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>	<ul> <li>Plan views and sectional views are included in this report.</li> </ul>
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 intersections within the mineralised wireframe, both high and low grade are tabulated in this report.</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>Not applicable to this report.</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>	<ul> <li>Infill drilling for better definition.</li> <li>Additional assaying of Fe, Si, Al, P and other key elements important in a DSO.</li> </ul>

# Section 3 Estimation and Reporting of Mineral Resources (Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>A selection of drill holes (~5%) were selected for validation purposes by MA. Original drill logs, collar pickups, down hole survey data and core photos were inspected.</li> <li>Drill core inspection on-site.</li> <li>GBU employs a database GIS geologist in Jakarta to manage the geological database.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>Ian Taylor (AusIMM(CP)) of Mining Associates visited the property in September of 2013. Field exposures and numerous drill hole s were examined during this visit, and an assessment was made of the procedures for logging, sample</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>preparation, quality control and SG measurement.</li> <li>The mineral resource estimate was supervised by Mr Andrew J Vigar of Mining Associates and is the JORC competent person.</li> </ul>
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>mineralised structures has been surface mapping and drilling.</li> <li>Mineral resource interpretation was conducted in 3D space using OK to inform a block model. A common alternate method is a 2D metal.</li> </ul>
Dimensions	<ul> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<ul> <li>The majority of Mn mineralisation lies within the limestone replacement within manganese valley. (300m EW and between 50 and 150 m NS.</li> <li>Minor manganese mineralisation (100 m x 50 m) has been identified at Batu Hitam West.</li> <li>Generally the mineralisation occurs from surface and is up to 20 m thick.</li> </ul>
Estimation and modelling techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>Estimation is undertaken in Surpass.</li> <li>Kriging of 20 x 20 x 10 m blocks, utilising sub blocks down to 5 x 5 x 2.5m for volume definition.</li> <li>Drill hole samples were composited to 1 metre.</li> <li>Experimental variograms were modelled in Supervisor. Downhole variograms provide very low nuggets not replicated in the directional variograms.</li> <li>Variogram model, 0.2 nugget, C1, 0.55; R1, 40 m and C2, 0.43; R2, 65 m. Ansiotropy ratios of 1.625 and 2.</li> <li>Search neighbourhood: min samples 3, max 15, search 65 m, anisotropy orientated bearing 29° plunge -6° and dip of -19°, anisotropic ratios of 1.625 and 2 for semi-major and minor axis.</li> <li>No other variables were considered in this resource estimate. Sufficient additional data is not available to estimate key elements to define smelter feed quality.</li> <li>Block size was 20 m x 20 m x 5 m which considers mineralisation orientation and drill pattern. (approximately half the drill spacing).</li> <li>Sub-blocking of 5 m x 5 m x 2.5 m for volumes approximating potential selective mining unit. Ore loss and dilution for reserve conversion has not been applied.</li> <li>Wireframes were constructed based on surface mapping, and drill hole intercepts greater than at 30% Mn. Wireframes were used to constrain the estimates in 3D space.</li> <li>Informing samples were composited to one metre, no outlier grades were identified (no grade capping)</li> <li>Global mean grades for estimated blocks and drillhole samples compared closely to estimates.</li> <li>Ordinary krige estimates were compared to nearest neighbour and inverse distance</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>estimates, to assess the impact of data clustering semivariograms and sensitivity to estimation method</li> <li>No reconciliation data is available for Lakuwahi project as no mining has taken place.</li> </ul>
Moisture	<ul> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul> <li>Tonnages are based on dry tonnes. Density samples were oven dried for 12 hours prior to using the immersion method to determine the dry density of the host rock.</li> </ul>
Cut-off parameters	<ul> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul> <li>The mineral resource has been reported above 30% Mn as there is a reasonable assumption this will be a Direct Shipping Ore (DSO) as advised by the client.</li> </ul>
Mining factors or assumptions	<ul> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul> <li>Manganese mineralisation is enriched close to the surface; Robust envisages shallow open pits targeting DSO material.</li> <li>Assumptions are reasonable that the Fe, Si, Al and P levels are suitable for a DSO, further work is strongly recommended to quantify these parameters.</li> <li>This is an inferred resource and the project is in early stages of development, it is Robust's intention to obtain qualification of DSO specification before work on an indicated resource is commenced.</li> <li>MA notes these are reasonable assumptions based on experience with other Mn projects and should not be regarded as rigorous at this stage of the project.</li> <li>MA notes that the Indonesian government currently has a levy on export of DSO.</li> </ul>
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	<ul> <li>No specific metallurgical work has been completed on the Lakuwahi manganese resource.</li> <li>This is an inferred resource and the project is in early stages of development. It is Robust's intention to conducted preliminary metallurgical test work before progress on an indicated resource is commenced.</li> </ul>
Environmental factors or assumptions	· · · · · · · · · · · · · · · · · · ·	in the manganese mineralisation have very low solubility under natural environmental conditions (e.g. Ph. Zn. Cd etc) Further environmental test
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> </ul>	<ul> <li>For the specific gravity of rocks, an SG sample of split core is taken from each assay sample interval within mineralised and non-mineralised zones.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vags, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	12 hours, and then allowed to cool to room
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>Data quality, drill hole spacing and geological continuity and model have all been considered sufficient to classify the mineralisation as a resource.</li> <li>High confidence in the quality of the data justified the classification of inferred and indicated resources; the data quality does not preclude measured resources.</li> <li>Geological continuity has been demonstrated at 40 m grid spacing over the entire strike of Manganese Valley. The mineralisation commonly outcrops demonstrating continuity at surface.</li> <li>Product specification, mining and mineral export for DSO requires further quantification before confidence in "reasonable prospects for economic extraction" allows an indicated classification, for this reason the entire mineralisation is classified Inferred.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul> <li>No external audits or reviews of the resource estimate have been carried out to date.</li> <li>Previous inferred resource announced (ASX) at Lakuwahi does not include a Mn resource.</li> </ul>
Discussion of relative accuracy/ confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>There is sufficient geological and sampling information to define an Inferred resource.</li> <li>The quality of the data does not preclude the classification of indicated or measured resources.</li> <li>More details are required of the product specification particularly Fe, Si, Al and P levels to ensure the material is suitable for DSO, the inferred resource is presently assumed to be suitable.</li> <li>The ordinary kriging result, due to the high level of smoothing, should only be regarded as a global estimate, and is suitable as a life of mine planning tool. Should local estimates be required for detailed mine scheduling techniques such as Uniform conditioning or conditional simulation would be required.</li> </ul>

Section 4 Estimation and Reporting of Ore Reserves (No ore reserves are reported)