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### **ASX/MEDIA RELEASE**

Thursday, 15 December 2016

# Maiden Ore Reserve Al Hadeetha Copper-Gold Project

**Perth:** Australian-based minerals exploration and development company Alara Resources Limited (ASX: AUQ) (**Alara**) is pleased to announce its maiden Ore Reserve estimate for the Al Hadeetha Copper-Gold Project (the **Project**) located in the Sultanate of Oman.

Commenting on the maiden Ore Reserve, Managing Director, Justin Richard said:

"Following the upgrade of the Washihi copper-gold resource statement in September, and in light of recent feedback from the Mining Authority, Alara are pleased to confirm an Ore Reserve for the AI Hadeetha Copper-Gold Project, underpinning a 1 Mtpa copper concentration plant over an initial 10-year mine life."

### Introduction

The Al Hadeetha Copper-Gold Project is located approximately 120 km south-west of the capital city Muscat, in the Sultanate of Oman.

The Project will be operated by Al Hadeetha Resources LLC (**AHR**) which is a joint venture between Alara Oman Operations Pty Ltd (wholly owned subsidiary of Alara Resources Ltd) and Al Hadeetha Investments LLC, a privately owned Omani company. The joint venture was formed in 2011 for the purpose of exploring and developing the mineral zones within the Washihi, Al Ajal and Mullaq licence areas.

The Project includes three (3) exploration licences (i.e. Washihi, Mullaq and Al Ajal) and entails development of the Washihi deposit by means of a single open pit mine and 1 Mtpa processing facility to produce copper concentrates for export to overseas and/or domestic smelters.

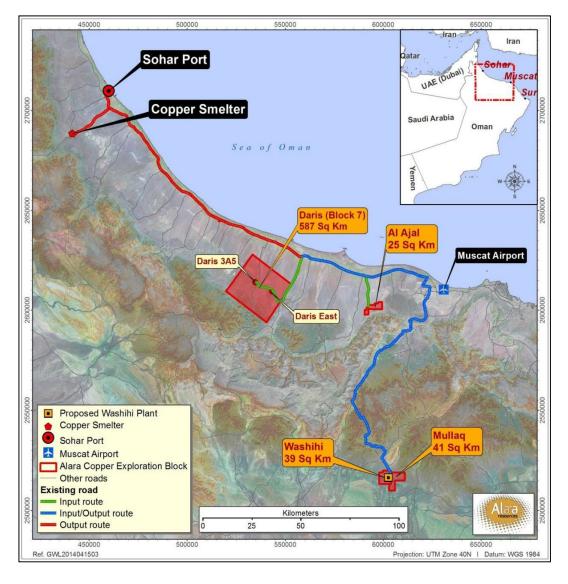
Figures 1 and 2 below show the licence areas and location of Washihi at the northern end of Oman.





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### Figure 1 Location – Washihi Exploration Licence





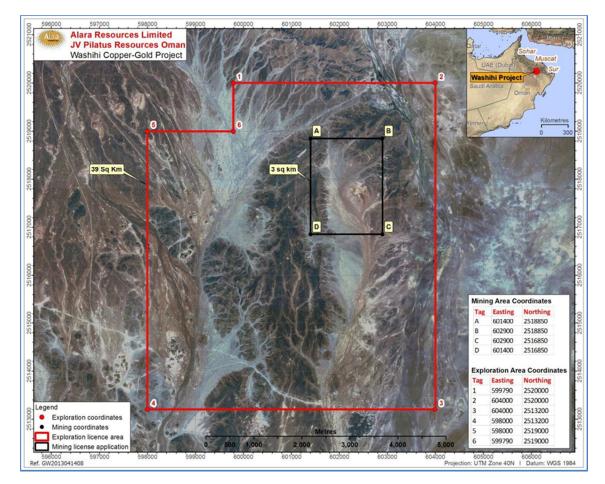


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### Figure 2 Washihi Mining Licence (pending) and Exploration Licence area



### **JORC Mineral Resource Statement**

The Ore Reserve estimate is based on the September 2016 mineral resource, as per Alara's ASX announcement of 19 September 2016, and summarized in Table 1 below.

Resource Classification	Tonnes (Mt)	Cu (%)	Au (g/t)
Indicated	12.4	0.89	0.22
Inferred	3.7	0.79	0.23
Grand Total	16.1	0.87	0.22





### JORC Ore Reserve Statement

The Ore Reserve estimate was prepared by Mining Focus Consultants Pty Ltd, an experienced and prominent mining engineering consultancy with appropriate base metal experience.

Indicated Resources were converted to a Probable Ore Reserve after the application of modifying factors, including pit optimization, mine design and an economic evaluation.

The Ore Reserve estimate, based on a 0.3% Cu cutoff, is summarized in Table 2.

### Table 2: Washihi Ore Reserve

Classification	Ore Reserve		
Classification	Tonnes (Mt) Cu Grade (9		Au Grade (g/t)
Probable	9.7	0.88	0.22

Detail of the modifying factors supporting the Ore Reserve is presented in Appendix 1 (JORC Code, 2012 Edition - Table 1).

This Ore Reserve estimate is based on a Feasibility Study (FS) undertaken by Alara during 2015-16. Contributions to the FS were made by a number of suitably qualified independent consultants, experts, vendors and contractors.

Pursuant to listing rule 5.9.1, following is a summary of material assumptions and information otherwise contained in Appendix 1:

#### **Estimation Methodology**

Sections were created at a distance of ~40m based on number of holes passing through or near the section. These sections were used to define a mineralized shell at a cut-off of 0.2% Cu, or natural break in assays. Digitized section polygons were used to create mineralized shell wireframe.

Length weighted composites of 1 metre were created using Datamine software. Composites were created within mineralized wireframe. Compositing was done on capped samples. Only blocks within interpreted Copper wireframe are reported.

Block model grades for Copper and Gold were estimated by ordinary kriging. Kriging neighbourhood analysis was carried out to optimize parameters for good confidence estimate. Beside ordinary kriging, ID2 was also tested.

Parent block size of 10 m in X direction, 10 m in Y direction and 5m in Z direction was created based on kriging neighbourhood analysis ('KNA') in Snowdens Supervisor software. The KNA exercise analyzed various block sizes with various search neighbourhood and variograms.

To preserve local grade variation, a search neighbourhood strategy with three search ellipse was used.

The block model has been validated through visual checks in section and plan view between block model and composites. Statistical validation checks were carried out to validate model. Swath plot has been generated and evaluated for different slice sizes and for all directions (X, Y, Z).





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### Classification

Mineral Resource classification is based on geological and mineralization continuity, estimation quality and validation. The scorecard system was used whereby a 50% weight was assigned to estimation methodology, validation and quality of estimate and 50% on geological and mineralization continuity.

Estimation methodology included: kriging variance, regression slope, kriging efficiency, number of holes used to estimate a block, and number of composites used to estimate a block. The block model values for these five parameters were each converted into a score of up to 10 i.e. maximum of 50.

Areas of geological continuity and mineralization continuity was reviewed in plan and section, and areas of interpolation and extrapolation were identified. Areas were assigned: very high geological confidence (50 marks), reasonable to high geological confidence (40 marks) and lower geological confidence (30 marks). The sum of all these were calculated to give each block a score out of 100.

A block with 70 to 90 score is classified as Indicated and blocks with less than 70 score are classified as Inferred. Blocks above 70 score were used to create Indicated resource boundary.

Probable Ore Reserves are declared based on the Indicated Mineral Resources contained within the pit design that was developed for the Project.

#### Mining

The Project will be exploited by means of conventional open pit mining methods, comprising drill and blast, followed by load and haul, using contract mining.

A 5% mining dilution and a 95% mining recovery was applied and the mine production schedule indicates a maximum total material movement of 8Mtpa with an average 5.2: 1 waste to ore strip ratio.

#### Processing

The plant will have a name plate capacity of 1 Mtpa. Material will be fed to the ROM bin directly by truck and withdrawn by vibrating grizzly feeder to a single toggle jaw crusher.

Crushed material will be fed directly to the fine ore bin by vibratory feeder and conveyor to the two grinding mills operating in closed circuit with a discharge double deck screen, a cone crusher as SABC combination (SAG, ball mill and a cone crusher) and hydro cyclones. Cyclones overflow will gravitate to the flotation circuit.

Flotation allows for roughing/scavenging and cleaning cells for copper recovery. Overflow will gravitate to the trash screen and then into the two conditioning tanks where conditioning with the reagents will be undertaken in two stages.

The Rougher and Scavenger concentrates will flow to the Regrind Mill Discharge Sump from which the slurry will be pumped to the Regrind Cyclones for classification. Cyclone overflow will feed the Cleaner Circuit while the underflow (coarse stream) will return to the Regrind Mill.

The Scavenger Tailings will be pumped to the tailings storage facility.

Cleaner concentrate will be pumped to a thickener prior to filtration. The dewatered concentrate will report to the concentrate storage.



ASX Code | AUQ



Tailings will discharge to a tailings dam, allowing natural filtration with clean water to be pumped back to the process plant.

Based on metallurgical testwork, the processing recovery for Cu and Au were estimated at 92% and 30% respectively.

### Regulatory

Alara is currently compliant with all legal and regulatory requirements. All government permits, licenses and statutory approvals are either granted or in the process of being granted.

### Financial Modelling

The mine plan that formed the basis of the financial modelling, and upon which the Ore Reserve was predicated, includes approximately 3.5% of Inferred Resources that is mined during the process of accessing the Indicated Resources. This Inferred Resource is not considered material to the value of the Project and is not included as part of the Probable Ore Reserve.

Operating costs of \$26.95/t are underpinned by local costs, local operators and test work showing good recoveries with minimal quantities of reagents.

A Copper price and Gold price of US\$5,593/t and US\$1,200/oz respectively were adopted as the base case for the financial modelling, which showed that the Project will deliver a Net Present Value (NPV<sub>9%</sub>) of US\$39 million (AUD\$52m)and an Internal Rate of Return (IRR) of 26%.

Total preproduction capital cost is estimated at approximately US\$50 million, including mining, processing, surface infrastructure and working capital<sup>1</sup>.

<sup>&</sup>lt;sup>1</sup> Refer Alara's ASX announcement dated 31 March 2016 for further detail on capex and opex estimates.





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### Competent Person Statements

This announcement is based on information compiled by Mr Shanker Madan, who is a Member of the Australasian Institute of Mining and Metallurgy, and consultant to Alara Resources. Mr Madan has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking to qualify as a Competent Person as defined in the JORC Code, 2012 edition. Mr Madan consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to JORC Resources of the Al Hadeetha Copper-Gold Project (Oman) is based on, and fairly represents, information and supporting documentation prepared by Mr Ravi Sharma, who is a Chartered Member of The Australasian Institute of Mining and Metallurgy, and a consultant to Alara Resources. Mr Sharma has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking to qualify as a Competent Person as defined in the JORC Code, 2012 edition. Mr Sharma approves and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to Ore Reserve (referred to in Table 2 of this announcement) of the AI Hadeetha Project was compiled by Mr Harry Warries, who is a Fellow of the Australasian Institute of Mining and Metallurgy, and a consultant to Alara Resources. Mr Warries has sufficient experience which is relevant to the style of mineralisation 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 the 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.' In assessing the appropriateness of the Ore Reserve estimate, Mr Warries has relied on various reports, from both internal and external sources, in either draft or final version, which form part of or contribute to the AI Hadeetha Project Feasibility Study. These reports are understood to be compiled by persons considered by Alara to be competent in the field on which they have reported. Mr Warries consents to the inclusion in the report of the information in the form and context in which it appears.

#### For further information, please contact:

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#### About Alara Resources

Alara Resources Limited (ASX: AUQ) is an Australian minerals exploration company with a portfolio of projects in Saudi Arabia and Oman. Alara has completed a Definitive Feasibility Study on the Khnaiguiyah Zinc-Copper Project in Saudi Arabia, an Advanced Scoping Study on the Daris and Al Hadeetha Copper-Gold Projects in Oman and a Feasibility Study for the Al Hadeetha Project, Washihi deposit. The Company is transitioning to establish itself as a base and precious metals mine development and production company. For more information, please visit: www.alararesources.com



The following extract from the JORC Code 2012 Table 1 is provided for compliance with the requirements for the reporting of Ore Reserves:

### 'JORC Code 2012 Table 1' Section 1 Sampling Techniques and Data

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

Criteria	JORC Code Explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>reverse circulation (RC) drilling were used to obtain samples for geological logging, sampling and assaying. Reverse circulation drilling (RC) is from Alara 2012 and from 2016 infill drilling. A total of 58 drill core (DC), 17 RC (including 8 water monitoring holes) and 8 RC/DC or DC/RC are drilled. RC chip samples were routinely collected in calico bags and chip box trays at 1m intervals. In areas expected to be waste, samples are at times combined into 2m intervals. Average sample length of DC and RC samples is 1m. Sample intervals honour geological boundaries. Both logging and sampling is done following industry standard to assure high quality of sampling.</li> <li>To ensure representative sampling, drill cores were marked considering lithology, mineralization intensity then sawn. RC drill holes are generally sampled systematically at 1m intervale and entit using a consortie or experted to a properties of properties</li></ul>

Criteria	JORC Code Explanation	Commentary
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>	The project has been drilled using diamond drill core (DC) drilling technique and reverse circulation (RC) technique to obtain the samples. A total of 58 drill holes has been drilled using DC, 17 drill holes has been drilled using RC (including 8 holes which are water monitoring holes); 8 drill holes are drilled as combination of RC and DC. Drilling diameter of drill holes drilled prior Alara is not known. From Alara drilling 59% were drilled by HQ diameter, 26% by NQ diameter and remaining 15% by PQ diameter. RC Drilling was conducted using a reverse circulation rig with 115mm to 133mm face-sampling bits. Diamond drilling in 2016 infill drilling program was conducted only in drill holes where RC drilling was difficult to proceed or due to mechanical problems or encountered ground water in the hole (Only two holes WH16RD013 from 92m up to end of hole and WH16RD015 from 74m up to end of hole) out of 6 were converted to diamond core drilling). None of the drill holes provided oriented core.
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>High core recovery of plus 90% from all mineralized intervals was achieved from all drill core intervals. Recovery measurements are poor in broken rock and this was reflected in less weight of the samples. A quality drill rig and experienced team assured high core recovery achieved from all drill holes. Diamond drilling used drill muds and short runs in broken ground to maximize recovery</li> <li>RC samples were weighed on a regular basis and no sample recovery was reported nil is duly recorded as gap.</li> <li>RC samples were collected in plastic bags directly from the cyclone and laid directly on the ground in rows of 10. The sampling cyclone and sample buckets were cleaned between rod changes and after each hole to minimize down hole and/or cross contamination. RC Overweight samples (&gt;3kg) were re-split with portable riffle splitter to about 1.6 – 2.5Kg.</li> <li>Relationship between sample recovery and grade was not carried out as no issue of core loss has been encountered.</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>RC and Core Drill holes were logged for geological and geotechnical logging following standard operating procedure designed and supervised by competent person. Output of logging provided all data required for reporting of exploration results, mineral resource estimation, and basis for mining and metallurgical studies.</li> <li>Quantitative logging has been carried out where in length of interval logged and sample recovered is recorded. The minerals and % of minerals has been estimated. A qualitative description has been provided where ever required. Drill core photography has been done with a small board on which borehole number, core box number and drill core interval is marked. The entire drill holes length was logged.</li> </ul>

Criteria	JORC Code Explanation	Commentary
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 sampled.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Drill core samples were split by saw or manually (manually in case of crushed material in tectonic zones or sandy material from first few initial meters of drilling). Drill core samples represents adequate half core samples except 25 samples were 1/4 core has been used.</li> <li>RC drill holes are sampled dry at 1m intervals and split using a cone splitter attached to the cyclone to generate a split of ~3 or more kg in plastic bags. Overweight samples (&gt;3kg) were re-split with portable riffle splitter to about 1.6kg – 2.5kg. These plastic bags were then put into uniquely numbered calico bags and packed in a steel trunk before dispatching to laboratory were checked against sample submittal form, dried and crushed to 70% - 2mm then rotary split off up to 1500g (250g during 2016 drilling program); the split was pulverized to better than 85% passing a 75 micron. Pulverizer bowls were carbon steel. Details for sample preparation are included in the Alara sample flowsheet. Sampling preparation is at high quality standards and consider appropriate. Premium rotary splitting procedure was used during 2016 infill drilling program in laboratory.</li> <li>There was no inappropriateness observed with respect to RC/ Drill Core sample Preparation. Sample preparation technique is considered as appropriate for Mineral Resource Estimation.</li> <li>Quality control was adopted for all sub-sampling stages. During initial sub-sampling while drill core splitting, adequacy of splitting at laboratory was controlled by Grind QC tests. Field blanks were inserted into the sample stream to check for contamination.</li> <li>Check samples from pre Alara drilling (e.g. Pilatus drilling) in form of 1/4 drill core then Field Duplicates has been implemented. Quality control adopted along with continuous supervision on drill core splitting are considered to be sufficient measures to ensure representativeness of the sampling. The results of field duplicates inserted into sample stream are satisfactory.</li> <li>Industry standard sample p</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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	ICP-OES (Inductively Coupled Plasma Optical Emission Spectrometry); for Gold using 50g Fire Assay followed by AAS (Atomic absorption spectroscopy). Other 32 elements including Zn, Ag were analyzed by four acid digestions followed by ICP-OES (Inductively Coupled Plasma Optical Emission Spectrometry). The technique used is considered total. Assaying and laboratory procedures are considered appropriate for the commodity.
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>Calculation of drill hole intersections used as a part of the exploratory data assessment was verified by re-calculation of selected intersections by second personnel of independent company. Selected analyses are confirmed in form of check assays by check assay laboratory which is independent in fact in competition with primary assay laboratory. All analytical values of each individual sample were verified against signed laboratory PDF certificate.</li> <li>Nearest hole analysis as part of data verification of previous drilling has been carried out.</li> <li>All compiled data was checked for errors and missing data. Missing data was requested from site geologist and was used for database update by competent person. Dataset was checked for logical errors, i.e. transposition of intervals, mislabelling of data, missing data, etc. Several dozen essentially trivial transposition errors were found as well as minor discrepancies between maximum hole length and the maximum depth of the last sample in that hole. Lithological codes were created from available Lithology information. Minor lithological coding errors were also found; all errors were corrected. To save time on data compilation and database updates CP decided to create a Data Entry template to enter all data from drilling in a proper database format. This has helped immensely in database update; 3D holes file update and QAQC assessment. Electronic data are backed up at secure FTP location and physical data including primary are stored at project site and Alara office in Muscat.</li> <li>Remaining drill core (second half core) is available for all of the Alara drill hole intervals and can be used for future studies and/or confirmatory testing.</li> <li>Assay data were not adjusted.</li> </ul>

Criteria	JORC Code Explanation	Commentary
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drillholes (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>Drill holes Collar data were surveyed using DGPS. Multi shot Downhole Survey has been done on selected holes, no significant downhole survey deviation has been observed in these holes.</li> <li>Coordinate system UTM, Zone = 40 North, Datum Transformation = WGS 84 has been used.</li> <li>Drilling area is covered by topographic survey with high accuracy. The ground levels at an average of 10m interval has been taken and the contour drawing at 0.20m interval has been prepared after control points at project site has been established.</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>This announcement relates to Mineral Resource Estimate and not on exploration results. The MRE is based on sufficient drilling information. (Drill hole collar location indicating appropriate drill spacing is presented under Figure1 of Alara's ASX Announcement dated 19 September 2016)</li> <li>Data spacing and distribution is sufficient for resource category presented. Drill spacing is adequate to define the geological and grade continuity for Mineral Resource. Classification has taken into account data/estimation quality and drill spacing.</li> <li>Sample compositing was applied only during resource estimation process. Sampling compositing was not applied during sampling or on sampling data before calculating drill hole intersections.</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>After data visualization in 3D, competent person concluded that drilling orientation doesn't introduce sampling bias. Drill orientation varies by drilling campaigns and company. 43 drill holes are drilled in azimuth 45 to 52 degrees; 40 drill holes are with azimuth 0 degrees (including 39 drill holes drilled as vertical).</li> <li>Orientation of drilling and drill location has not been found to have impact on sampling bias.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Security of samples was maintained very well from dispatch of samples up to data storage. Samples in the form of half core, RC chips, coarse rejects are stored at project site; some rejects are stored in in laboratory and will be transported back to project site. Transport to the laboratory was done using professional couriers and secured, meeting all necessary requirements for chain of custody. Tracking sheets was implemented to track sample progress.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>Data were reviewed in detail. During the site visit in 2012, 2013 and 2016 Mr. R. Sharma (Competent Person) confirmed the pillar of Alara and pre Alara drill holes. Mr. Sharma (Competent Person) in 2012 instructed to survey all holes using DGPS. Collar data was checked using DTM and compared with historical records. The site visit by included a review of logging spot checks, sampling and logging procedures as well as geology. Mr. Sharma visited the Al Hadeetha project site on several occasions between June 2012, May 2013 and in May 2016.</li> </ul>

# 'JORC Code 2012 Table 1' 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>Washihi Exploration license of Al Hadeetha Copper - Gold project is held by Al Hadeetha Resources LLC. Al Hadeetha Resources LLC is a limited liability company incorporated in the Sultanate of Oman. Shareholders in the company are Alara Oman Operations Pty Ltd (70%) a wholly owned subsidiary of Alara Resources Ltd and Al Hadeetha Investments LLC (related to the Al Naba Group of Companies). Alara Resources Limited (ASX: AUQ) is an Australian based minerals exploration and mining company with a portfolio of projects in Saudi Arabia and Oman.</li> <li>Exploration license with total area 39 km2 covering Washihi Copper - Gold mineralization was granted on January 2008 and has been renewed annually since then, with the most renewal in March 2016.</li> <li>An application for Mining License (ML) over an area 0f 3.1 sq.km within Exploration License was submitted in April 2012. As part of ML approval process the ML application has since been processed and inspected by several Government Regulatory authorities including Ministries of Tourism, Housing, Archaeology, Defence, Water Resources, Environment, Local Municipality etc. The Al Hadeetha Copper Project executive report has been submitted to the Public Authority for Mining and the Company is not aware of any reason why the license could not be issued in order to meet the proposed production schedule commencing in 2018.</li> <li>If there is mineral production within the license area all applicable royalties will be payable to Government.</li> <li>Appropriate consents have been obtained from local communities around the license area in support of grant of ML.</li> <li>Exploration license of Washihi Copper - Gold project is held by Al Hadeetha Resources LLC. Al Hadeetha Resources LLC is a limited liability company incorporated in the Sultanate of Oman. Shareholders in the company are Alara Oman Operations Pty Ltd (70%) a wholly owned subsidiary of Alara Resources Ltd and Al Hadeetha Investments LLC (related to the Al Naba Group of Companie</li></ul>

Criteria	JORC Code Explanation	Commentary
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>The Washihi prospect was discovered during the course of regional reconnaissance by Prospection Ltd. during 1976-1977. They carried out 1:2000 scale geological mapping geophysical, geochemical surveys and drilled ten diamond drill holes. The geophysical surveys included Pulse electro-magnetic and ground magnetics. Soil samples were taken.</li> <li>Exploration work by Ministry of Petroleum and Minerals: Geologists from the Ministry of Petroleum and Minerals reviewed the work undertaken by Prospection Ltd. in their report. The report concluded that the Prospection Limited drilling intersected a moderate amount of copper mineralization.</li> <li>BRGM undertook regional scale mapping (1:100,000) as well as a review and work program over a number of prospects including the Washihi prospect. More detailed investigations on Washihi were limited to the compilation and reinterpretation of previous work on the prospect including examination re-logging and limited re-sampling of drill holes from the Prospection Ltd. work.</li> <li>World Geosciences Corporation (WGC) undertook an airborne geophysical survey and interpretation over the area during 1995/1996. The WGC survey collected magnetic and gamma ray (radiometric) data and digital elevation data.</li> <li>Exploration work by National Mining Company (NMC) reviewed the Prospection Ltd. drill logs They did an initial geological survey on 1: 10,000 scale for about 10km<sup>2</sup> area. In addition, limited surface outcrops were sampled away from the gossan. They made a data set of ground geophysical survey on Washihi prospect by WGC in 1997, a basis for further exploration. Their drill targets were based on the geological mapping and geophysical data. NMC drilled 15 holes in two drilling programs following the WGC recommendation of targets.</li> <li>Exploration work by Pilatus Resources Oman (PRO). After receiving the Exploration License and evaluation of all the previous data and records PRO decided to conduct the exploration on the following thre</li></ul>

Criteria	JORC Code Explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The area is largely underlain by the Samail Ophiolite, with the Hawasina nappes appearing at the front of the Samail Nappe in Jabal al Hammah as well as in windows in Wadi Andam and Wadi Musfa.</li> <li>The area around the Washihi Prospect is structurally complex and a large part of it is covered by wadi gravels. The area contains limited outcrops of several different geological units. The Washihi gossan outcrops in the centre of the area surrounded by ophiolitic basalts and associated sediments. At the northeast of the gossan and southwest of Wadi Andam, the geology of Washihi prospect is in form of a mixture of sedimentray and igneous features. As the area is mostly devoid of any outcrops and most of the rock outcrops are covered under alluvial sediments, the interpreted geological map was developed based on the interpretation of alterations zones observed after ground geophysical surveys.</li> <li>In general Washihi copper mineralization (and gold) is typical in style of Volcanic Hosted Massive Sulphide with majority of copper occurring as stock work of sulphide mineral veins injected in to light grey basalt along with silicate veins forming highly brecciated host basalt. The recent drilling also has identified presence of Massive Sulfide lens overlying these stockworks indicating formation of black smokers on ocean floors.</li> <li>The copper ores are dominantly CHALCOPYRITE, which occurs as discrete grains between 50 µm and 100µm. There is a small proportion that is composite with payrite. A small proportion of the copper is present as BORNITE, either discrete or with chalcopyrite. The contained GANGUE consists of discrete PYRITE which is about equivalent to the composite pyrite with chalcopyrite and of similar overall dimensions usually between 20µm and 50µm.</li> <li>Although the mineralization as intersected in cores appears uniform and coherent throughout the orebody but detailed logging identified following types of stock works</li> <li>Banded jasper-chert-sulphide ass</li></ul>

Criteria	JO	RC Code Explanation	Co	mmentary
Drillhole Information	•	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes: easting and northing of the drillhole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar dip and azimuth of the hole downhole length and interception depth hole length If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	•	The collar locations, survey data, drill hole length, logging data and other data related to drilling were reviewed by competent person before Resource Estimate. Drill hole intersections of Cu and Au were generated before resource estimation as part of exploratory data assessment. Competent Person reviewed all data related to drill holes information is excluded.
Data aggregation methods	•	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. 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. The assumptions used for any reporting of metal equivalent values should be clearly stated.		Drill hole intersections were generated before resource estimation as part of exploratory data assessment and are not part of this ASX/media release. Drill hole intersections of Copper and corresponded Gold mineralization were generated as length weighted average, no top cut has been applied, Cut-off grade applied is 0.2 Cu% is potential economic cut off to delineate potential mineralization. The cut off also represent natural break/ sharp change in assays Cut-off grade for delineating potential mineralization. In exploration results reporting represents a likely optimum cut-off grade Gold mineralization were generated as length weighted average, no top cut has been applied is 0.2Cu% or natural break. In exploration results reporting Cu and Au grade for particular drill hole intersection was calculated as length weighted average to give same weight to all samples of particular drill hole intersections. No assumptions of metal equivalent have been used.
Relationship between mineralisation widths and intercept lengths	•	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported. If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. 'downhole length, true width not known').	•	Drill hole intersections results are reported as down hole lengths. True thickness has been taken in account while 3D interpretation for Mineral Resource Estimate. The mineralization is daylighting in north east and dipping in south west. Drill hole intersections are tabulated as down hole lengths for all holes with no respect to DIP of the hole. Drill hole intersection are reported only as down hole lengths. True width has not been calculated and reported.
Diagrams	•	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to, a plan view of drillhole collar locations and appropriate sectional views.	•	A plan view of the drill holes and cross-sectional interpretations can be found in the report 'Competent Person Report – Washihi Mineral Resource Estimate – 2016 Update', dated 18 September 2016, issued by Bedrock Mineral Resource Consulting.

Criteria	JORC Code Explanation	Commentary
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>Drill hole intersections as an outcome of exploration were generated and evaluated from all drill holes. This includes both high grade and low grade intersections.</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>Geology of the project area, results of geophysical survey, geochemical survey, geological observations, specific gravity testing, summary of multi element analyses of samples were studied and evaluated by Competent Person before resource estimation.</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>	Washihi, the further exploration work will involve evaluation of exploration targets within the license area. There are 5 exploration targets identified in the area.

# 'JORC Code 2012 Table 1' 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>The database used in this Mineral Resource Estimate (MRE) comprises of 83 drill holes drilled by Prospection, NMC, Pilatus and Alara. Detailed data verification and QA/QC procedures were followed before using this data for the MRE. 75 drill holes are resource drill holes; remaining 8 drill holes are water-monitoring boreholes.</li> <li>Alara has carried out nearest hole analysis as part of data verification of previous drilling.</li> <li>The MS Excel spread sheet, detailing the source of information and verification process adopted in all data tables (collar, survey, geology, assay, recovery, specific gravity, magnetic susceptibility) for each hole has been documented.</li> <li>As an additional assay verification step, historical assay data (e.g. Prospection) was checked using cross sections with assay histogram published in original historical report. Selected historical Assays (e.g. Pilatus) have been verified through check samples.</li> <li>All Drill holes drilled by Alara have been surveyed by GMAP LLC, Oman using DGPS. Alara has surveyed using same technique and same company, the drill holes drilled by Pilatus drill holes drilled by NMC. These re-survey data has been noted. This gives confidence on historical collar data.</li> <li>Alara has done downhole survey for 11 non-vertical holes. Deviation, change in dip and azimuth has not been significant. Down hole survey data was checked for kinks. Verification was done visually and statistically in the form of DIP change per meter and BRG (azimuth) change per meter histogram.</li> <li>To avoid any data compilation errors of analytical data, and as independent data verification checks, approximately 80 % of the laboratory-supplied CSV format assay certificates used in assay data compilation were verified against PDF certificates provided by the lab.</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>Mr. Ravi Sharma during site visit reviewed geology, mineralization controls, density determination, drilling, logging, and sampling.</li> <li>Beside that he confirmed pillar of some drill holes from previous drilling campaigns and requested Alara for DGPS survey of all holes.</li> <li>Mr. Sharma visited the AI Hadeetha project site on several occasions between June 2012, May 2013 and in May 2016.</li> </ul>

Criteria	JORC Code Explanation	Commentary
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>data. Interpretation has been done by competent person and discussed with qualified geologist working for the project since 2012. All data used are available for review in digital or analogue format and there is good confidence in the current interpretation. The geological and mineralization continuity has been demonstrated to 100% by results of 2016 infill drilling program.</li> <li>The two dimensional sectional interpretation was carried out using the drill holes. This was carried out section-by-section incorporating geological, structural and assay information from drill holes. Sections were created at approximate distance of 40m based on number of holes passing through or near the section. These sections were used to define a mineralized shell at a cut-off of approx. 0.2% Cu or natural break in assays. The digitized section polygons were used to create mineralized shell wireframe.</li> <li>The geological and structural control on mineralization is clearly understood based on current drilling data. The best modelling method to interpret geological and mineralized grade shell were used. No other methods like probability model were attempted as was not required due to clear understanding of geology. Logging data (litho codes, alteration, structural and other) along with grade histogram has been used while sectional interpretation. Structural data, Logging data and drill core photographs helped to identify and model structure in the north-west part of the Washihi mineralization. The mineralization is well on fits structure indicates this structure to be pre-mineralized. The fracture data in logging information suggests the flow direction of mineralized fluid.</li> <li>Continuity of copper mineralization is well understood in the area of resource estimation.</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>Resource is approximately 800m in strike and approx. 160m in width (central part). Mineralization starts near surface and goes up to approx. 250m below the surface.</li> </ul>

Criteria	JORC Code Explanation	Commentary
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 hows 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 drillhole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>created at approximate distance of 40m based on number of holes passing through or near the section. These sections were used to define a mineralized shell at a cut-off of 0.2% Cu or natural break in assays. The digitized section polygons were used to create mineralized shell wireframe (Copper - Gold Wireframe).</li> <li>4.9% Cu was used to cap copper assays and 1 g/t Au was used to cap gold assays. Capping was done based on probability plot on assay samples within mineralized envelope. Length weighted composites of 1 meter were created using Datamine software. Composites were created within mineralized wireframe.</li> </ul>

Criteria	JORC Code Explanation	Commentary
Estimation and modelling techniques	(Continued)	<ul> <li>No assumption behind modelling of selective mining units has been introduced.</li> <li>During sectional interpretation it was well noted that Gold is included in Copper intersections except few cases where it is not. Statistical evaluation of composite samples within wireframe has not shown correlation between Copper and Gold.</li> <li>Only blocks within interpreted Copper wireframe are reported. Interpretation of Copper Gold wireframe is based on geological and assay information.</li> <li>4.9% Cu was used to cap copper assays and 1g/t Au was used to cap gold assays. Capping was done based on probability plot on assay samples within mineralized envelope.</li> <li>Block model has been validated through visual checks in section and plan view between block model and composites, the statistical validation checks were carried out to validate model. Swath plot has been generated and evaluated for different slice sizes and for all directions (X, Y, Z)</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>Tonnage is estimated on a dry basis.</li> </ul>
Cut-off parameters	<ul> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul> <li>Washihi mineral resource is reported at 0.25% Cu cut off and Gossan Inferred resource at 0.25g/t Au. The cut-off grade for reporting resource is based on reasonable level of operating cost parameters, assuming 1:4.5 strip ratio, 95% Cu recovery, and 30% Au recovery, \$2.80/lb long term copper price and \$1,300/oz gold price The operating cost assumptions and recovery data was provided by Alara (mining cost \$1.50/t, processing \$6.93/t milled, grade control and mine supervision \$1.79/t milled, total to \$16.97/t milled, which approximately corresponds to extraction of cost of one tome of ore with 0.25% Cu and 0.25g/t Au.</li> </ul>
Mining factors or assumptions	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 fo 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.	<ul> <li>waste/ dilutions for intersections considering these will not be mined separately. Block height of</li> <li>5m is considered assuming 10m mining bench. Mining factors such as SMU size or strip ratio has</li> <li>not been assumed. This will be taken up at Mineral Reserve calculation.</li> </ul>
Metallurgical factors or assumptions	<ul> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects fo 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.</li> </ul>	

Criteria	JORC Code Explanation	Commentary
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	<ul> <li>No environmental factors assumptions have been used in mineral resource estimate.</li> </ul>
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> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, 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>	<ul> <li>Build definite definite doins are made on selected diamond drift samples using Exovariab, muscat, sultanate of Oman following International Society for Rock Mechanics (ISRM) procedure. Samples were selected to cover lateral extent, vertical extent, different rock type, alteration, and grade. Tonnages are estimated on a dry basis.</li> <li>Constant density factor was assigned to the block model. A factor was not applied to account for</li> </ul>
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>Mineral Resource classification is based on geological and mineralization continuity, estimation quality and validation. The scorecard system was where a 50% weight was assigned to estimation methodology, validation and quality of estimate and 50% on geological and mineralization continuity.</li> </ul>

Criteria	JORC Code Explanation	Commentary
Classification	(Continued)	<ul> <li>This approach is considered appropriate taking care of all relevant factors. The recent infill drilling program has confirmed grade and tonnes of already defined MRE of 2013 giving confidence on understanding of geologic and mineralization continuity.</li> </ul>
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>The geological interpretation was reviewed by an Alara geologist. No independent review has been carried out on resource model. Internal peer review was carried out.</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>accuracy as no production data is available. Washihi has not commenced production at this stage. Block model has been validated in detail (e.g. Swath plot for X, Y, Z and at different slice sizes).</li> <li>Block model validation explains the estimates are reasonably accurate with global and local variability.</li> </ul>

# 'JORC Code 2012 Table 1' Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section).

Criteria	JORC Code Explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	<ul> <li>Description of the Mineral Resource estimate used as a basis for conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported addition to, or inclusive of, the Ore Reserves.</li> </ul>	19 September 2016.
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>The Competent Person for the Ore Reserves, Mr Harry Warries, has not visited the site.</li> <li>No site visit was deemed necessary as the site is a 'greenfields' site with no existing mine workings and or site specific mine infrastructure being present.</li> </ul>
Study status	<ul> <li>The type and level of study undertaken to enable Mineral Resources to converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has b undertaken to convert Mineral Resources to Ore Reserves. Such studies have been carried out and will have determined a mine plan that is technic achievable and economically viable, and that material Modifying Factors h been considered.</li> </ul>	was undertaken by a team of industry professionals as listed below.  each will Mine Engineering Mining Focus Consultants Pty Itd Mine Engineering Mine En
Cut-off parameters	<ul> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>	• A cutoff of 0.3% Cu was adopted based on the economic parameters determined for the Project.

Criteria	JORC Code Explanation	Commentary
Mining factors or assumptions	<ul> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</li> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	<ul> <li>Conversion of Mineral Resources to Ore Reserves has been by the application of appropriate mining factors and assumptions based on the feasibility study, including geotechnical investigations.</li> <li>A 5% mining dilution and a 95% mining recovery was estimated.</li> <li>The mine plan was primarily based on Indicated Resources with 3.5% of Inferred Resources included. The Inferred Resources are mined during the process of accessing the Indicated Resources. This Inferred Resource is not considered material to the value of the Project and is not included as part of the Probable Ore Reserve. The mine plan incorporates a nine month mining ramp-up, with steady state production of 1Mtpa reached in Year 2. The maximum total material movement is less than 8Mtpa.</li> <li>The primary infrastructure required for the development of the Project are listed below:         <ul> <li>General administration and services infrastructure.</li> </ul> </li> </ul>
Metallurgical factors or assumptions	<ul> <li>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> <li>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</li> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> </ul>	<ul> <li>The proposed metallurgical process incorporates well-tested technology and comprises comminution, flotation and concentrate dewatering circuits, with associated services and ancillaries, rated to treat approximately 1.0Mtpa of Run-Of-Mine (ROM) material and recover copper (metal) into a concentrate suitable for road transport for smelling off site.</li> <li>No bulk sample or pilot scale test work were undertaken, however, core drill samples representative of the orebody as a whole were used in metallurgical and mineralogy testwork.</li> <li>The metallurgical testwork to date has focussed on providing a firm guidance on grade, recovery and mass balance. Also completed were Bond Work index and mineralogical examination of concentrate user and usage of more and usage of more and usage of more and the sample of the orebody.</li> </ul>
Environmental	<ul> <li>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</li> </ul>	<ul> <li>The Environmental and Social Impact Assessment (ESIA) was undertaken by AI Majal LLC (Oman), who is accredited by the Oman Federal Ministry of Environment (FMEnv). In terms of environmental impact, the ESIA reported that the areas directly affected by Alara's proposed</li> </ul>

Criteria	JORC Code Explanation	Commentary
Infrastructure	<ul> <li>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</li> </ul>	
Costs	<ul> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	<ul> <li>estimated by the study contributors as listed under the Study Status criteria discussed above. Contract mining was adopted as the basis of the Project and, as such, the mine equipment ownership cost is incorporated into the mine operating costs.</li> <li>No deleterious elements are present, with Cu prices based on long-term forecasts by the World Bank. The gold price was based on the prevailing gold price.</li> <li>The Omani Rial (RO) is pegged to the US\$ with a foreign exchange rate of 2.60 (US\$ : RO)</li> <li>Road transport of Cu concentrate to a local smelter at Lasail, some 370km to the northwest of the Project at a cost of US\$18.30/t.</li> <li>Copper smelter terms were based on preliminary discussions with buyers and prevailing industry costs, with \$80/t and \$0.08/lb adopted for treatment charges and refining costs respectively.</li> <li>The estimated capital costs for the Project are US\$49.7M as summarised below.</li> <li>o Pre-production mining US\$ 6.3</li> <li>o Processing US\$17.7M</li> <li>o Utilities and Infrastructure US\$16.2M</li> <li>o Indirects - EPCM and working capex US\$6.3M</li> <li>- Contingency US\$3.2M</li> </ul>
Revenue factors	<ul> <li>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	<ul> <li>The estimated operating costs for the Project are US\$3,698/t of copper.</li> <li>An average, life of mine head grade of 0.87% cu has been estimated. Cu recovery was estimated at 92%, producing a 24.6% copper concentrate. The average, life of mine gold grade was estimated at 0.22g/t. Au recovery was estimated at 30.3%.</li> <li>Payable copper of 96.5% was adopted, with Cu treatment and refining charges of US\$80/t and US\$0.08/lb respectively. 90% payable gold was assumed, incurring refining charges of US\$5/oz.</li> <li>Cu pricing was based on the World Bank Cu pricing forecast for 2019 of US\$5,593/t. The gold price was set at US\$1,200/oz, based on the prevailing gold price.</li> </ul>

Criteria	JORC Code Explanation	Commentary	
Market assessment	<ul> <li>The demand, supply and stock situation for the particular common consumption trends and factors likely to affect supply and demand into future.</li> <li>A customer and competitor analysis along with the identification of likely mawindows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and accepta requirements prior to a supply contract.</li> </ul>	The market assessment was undertaken by Alara. Alara research found that its copper sulphide concentrate specification has broad acceptance amongst the world's pyro metallurgical copper smelters. The anticipated copper grade range of 23-25% and the relatively high iron and sulphur level is attractive to smelters utilising flash furnaces smelting technology. In addition to a wide acceptance within Japan, Korea, Europe and Australia, the concentrate is appealing to Chinese and Indian smelters due to relatively low precious metals content. Based on World Bank and the Economist Intelligence Unit projections, with copper stocks being relatively low, the copper price are projected to rise and the Cu pricing adopted for the economic analysis was based on the World Bank Cu pricing forecast for 2019 of \$5,593/t. The World Bank forecast the Cu price to rise to \$7,000/t by 2025.	
Economic	<ul> <li>The inputs to the economic analysis to produce the net present value (NPV the study, the source and confidence of these economic inputs inclue estimated inflation, discount rate, etc.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions inputs.</li> </ul>	<ul> <li>US\$39M and an internal rate of return (IRR) of 26%.</li> <li>The key financial parameters were:</li> </ul>	
Social	<ul> <li>The status of agreements with key stakeholders and matters leading to so licence to operate.</li> </ul>		

Criteria	ORC Code Explanation	с	Commentary
Other	<ul> <li>estimation and classification of the Or</li> <li>Any identified material naturally occur</li> <li>The status of material legal agreement</li> <li>The status of governmental agreement</li> <li>the project, such as mineral teneme approvals. There must be reasonab</li> <li>Government approvals will be receive</li> <li>Pre-Feasibility or Feasibility study. Hit</li> </ul>	rring risks.	<ul> <li>Alara has submitted the ESIA and has no reason to believe that, after the public consultation period and a formal review of the ESIA, the necessary Government approvals will not be received within the timeframes anticipated in the feasibility study.</li> </ul>
Classification	<ul> <li>The basis for the classification of the categories.</li> <li>Whether the result appropriately reflected by the deposit.</li> </ul>	ects the Competent Person's view of the Reserves that have been derived from	<ul> <li>Probable Ore Reserves were declared based on the Indicated Mineral Resources contained within the pit design that was developed for the Project. The financial analysis showed that the Project is economically viable and the risk analysis did not identify any insurmountable risks.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews or</li> </ul>	f Ore Reserve estimates.	<ul> <li>No external audits or reviews of the Ore Reserve estimates have been undertaken.</li> </ul>
Discussion of relative accuracy/ confidence	<ul> <li>the Ore Reserve estimate using an apply the Competent Person. For exgeostatistical procedures to quantify it stated confidence limits, or, if such a qualitative discussion of the factors w confidence of the estimate.</li> <li>The statement should specify wheth and, if local, state the relevant tonnage and economic evaluation. Documen and the procedures used.</li> <li>Accuracy and confidence discussions any applied Modifying Factors that may viability, or for which there are remastudy stage.</li> <li>It is recognised that this may result.</li> </ul>	e relative accuracy and confidence level in pproach or procedure deemed appropriate xample, the application of statistical or the relative accuracy of the reserve within an approach is not deemed appropriate, a hich could affect the relative accuracy and her it relates to global or local estimates, ges, which should be relevant to technical tation should include assumptions made s should extend to specific discussions of ay have a material impact on Ore Reserve aining areas of uncertainty at the current not be possible or appropriate in all f relative accuracy and confidence of the oduction data, where available.	<ul> <li>The relative accuracy and confidence of the Ore Reserve estimate is inherent in the Ore Reserve Classification.</li> <li>The statement relates to global estimates.</li> <li>No mine production data is available at this stage for reconciliation and/or comparative purposes.</li> <li>Factors that may affect the global tonnages and the associated grades include:-         <ul> <li>Accuracy of the Mineral Resource estimate</li> <li>Mining dilution</li> <li>Mining recovery</li> <li>Process plant performance</li> </ul> </li> <li>There exists some uncertainty with regards to the hydro (geo) logical circumstances at the Project. In addition, it is recommended that the Unconfined Compressive Strength (UCS) database upon which the geotechnical assessment was based be enlarged so as to gain an increased understanding of the variability within the deposit. Furthermore, the collection of structural data to assess the existence and or the level of continuity of discontinuity planes that dip out of the batter face at angles between 50° and 55° should be confirmed with specifically designed geotechnical drilling and surface mapping programmes. Similarly, a structural geologic investigation should be undertaken to assess the existence of major structures in the footwall and hanging wall.</li> </ul>