

5 July 2021



#### ABOUT KASBAH

Kasbah is an Australian unlisted mineral exploration and development company.

The company (75%) and its Joint Venture partners, Toyota Tsusho Corp (20%) and Nittetsu Mining Co. (5%), are advancing the Achmmach tin project towards production in the Kingdom of Morocco.

#### PROJECTS

Achmmach Tin Project  
Bou El Jaj Tin Project

#### CAPITAL STRUCTURE

Shares on Issue: 325m  
Unlisted Rights: 4m

#### MAJOR SHAREHOLDERS

Pala Investments 71.7%  
African Lion Group 4.1%

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## Achmmach Tin Project – Resource Update

*Kasbah has continued to progress the previously announced optimisation initiatives to unlock the full resource potential of its flagship Achmmach Tin Project. The Company has updated and enlarged the Measured and Indicated Mineral Resource Estimate on the Meknes trend which forms the bulk of the Achmmach Tin Project. This confirms an updated and enlarged Mineral Resource Estimate.*

### HIGHLIGHTS

- 53% increase in the Measured and Indicated category tonnage from 14.6 million tonnes to 22.4 million tonnes.
- 27% increase in Measured and Indicated category contained tin from 123kt to 156kt of contained tin.
- Building on the work completed in 2020, examining cut-off grade optimisation with the full potential of ore sorting technology and high-pressure grind rollers has highlighted a significant improvement in the project Mineral Resource cut-off grade, leading to a re-rating of the Achmmach Measured and Indicated Mineral Resource Estimate as released on 10 September 2013.
- The previous Mineral Resource Estimate for Achmmach used an elevated cut-off grade that was notably above the breakeven cost of the 2018 Definitive Feasibility Study (“**2018 DFS**”) and a tin price assumption of US\$23,500/t. This updated Mineral Resource Estimate for Achmmach establishes a cut-off grade from optimisation work associated with the 2018 DFS to define the Mineral Resource Estimate and uses a conservative tin price assumption of US\$21,000/t (consistent with the tin price assumption in the 2018 DFS).
- This larger Mineral Resource Estimate offers Kasbah levers to study the potential to develop a life of mine plan that uses a variable cut-off grade over time to further maximise the life of mine, tin production and cashflow, materially enhancing the project’s strategic value proposition.

#### Kasbah’s board, commented on the resource update:

*“Kasbah have always believed in the larger scale potential of the Achmmach Tin Project. The Company has continued to pursue a number of value creating opportunities through 2020 and 2021 and we remain fully funded following the recent equity placement. The re-rating of the Mineral Resource highlights the significant upside and world class potential of the Achmmach tin project. The potential for a significantly longer mine life and efficiencies of scale will be further evaluated by the company in line with its value-add strategy”.*

#### For and on behalf of the Board of Directors.

For further information, contact Pradeep Subramaniam, Company Secretary at +61 3 9482 2223 or [info@kasbahresources.com](mailto:info@kasbahresources.com).

**Kasbah Resources Limited**

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Kasbah Resources Limited (“**Kasbah**” or the “**Company**”) is pleased to report an updated Mineral Resource estimate for the Meknes Trend at its Achmmach Tin Project in Morocco. The July 2021 **Mineral Resource Estimate (refer Table 1)** has been prepared by an independent consultant, Cube Consulting of Western Australia, in accordance with the 2012 edition of the JORC Code.

Throughout 2020 and 2021, Kasbah has continued to progress with a series of value add work streams to optimise the Achmmach Tin Project. A key initiative was optimisation work around cut-off grade. The 2018 Definitive Feasibility Study introduced modern ore sorting technology and high-pressure grind rolling into the processing circuit. The introduction of these initiatives combined with a revised cut-off grade analysis highlighted the potential for a significantly larger mineral resource estimate. The 2021 mineral resource estimate is based on the same block model used previously in the 10 September 2013 Achmmach mineral resource estimate. There has been no additional drilling or changes in geological interpretation. The difference is entirely due to the revised cut-off grade defined by the 2018 DFS and subsequent studies.

The larger scale mineral resource identified on the Meknes trend will underpin further ongoing work around the development of the Achmmach tin project. An example workstream Kasbah is pursuing in 2021 includes life of mine planning using a variable cut-off grade over time to target the production of a longer life of mine, with more tin production and an improved value proposition. The outcome of this study is anticipated to be a much more significant life of mine plan that will form the base to also consider tin smelting and the production of tin ingot within Morocco, offering the potential to deliver tin metal into European markets, the world’s largest combined importer of tin.

**Table 1: July 2021 Meknes Trend Mineral Resource Estimate (undiluted)**

**Achmmach Tin Project Meknes Trend @ 0.35% Sn cut off grade <sup>A</sup>**

<b>Category</b>	<b>M Tonnes</b>	<b>Sn %</b>	<b>Contained Tin (Kt)</b>
Measured	1.9	0.89	17.5
Indicated	20.5	0.68	138.5
Inferred	-	-	-
<b>Total</b>	<b>22.4</b>	<b>0.70</b>	<b>156.0</b>

<sup>A</sup> The 0.35% Sn cut-off grade used for reporting the resource is based on a tin price of US\$21,000/tonne and a total estimated operating cost of US\$51/tonne (operating costs: mining US\$27/tonne, processing US\$13/tonne, G&A US\$5/tonne and sustaining capital cost: US\$6/tonne). Processing recovery for tin at an average head grade of 0.70% Sn will be approximately 72%.

Bulk density was estimated by Ordinary Kriging, and has an average value within the mineralised zones of 2.89t/m<sup>3</sup>.

## Geology

The July 2021 Achmmach Mineral Resource Estimate (MRE) has been undertaken using Ordinary Kriging (“OK”) and is classified according to the JORC (2012) Code. Approximately 110,000m of drilling data was available for the estimate, with a significant amount of drilling on 20m-spaced cross-sections throughout the central Meknes-Gap Zone with some additional 40m-spaced in-fill sections drilled within the Eastern Zone (refer Figures 1 and 2).

Note that the block model underpinning the Mineral Resource Estimate has not changed since the September 2013 MRE – there has been no additional drilling or changes to the geological and mineralised zone interpretation. The increase in tonnage and contained tin metal for this July 2021 is due to lower cut-off grades resulting from the 2018 definitive feasibility and subsequent studies.

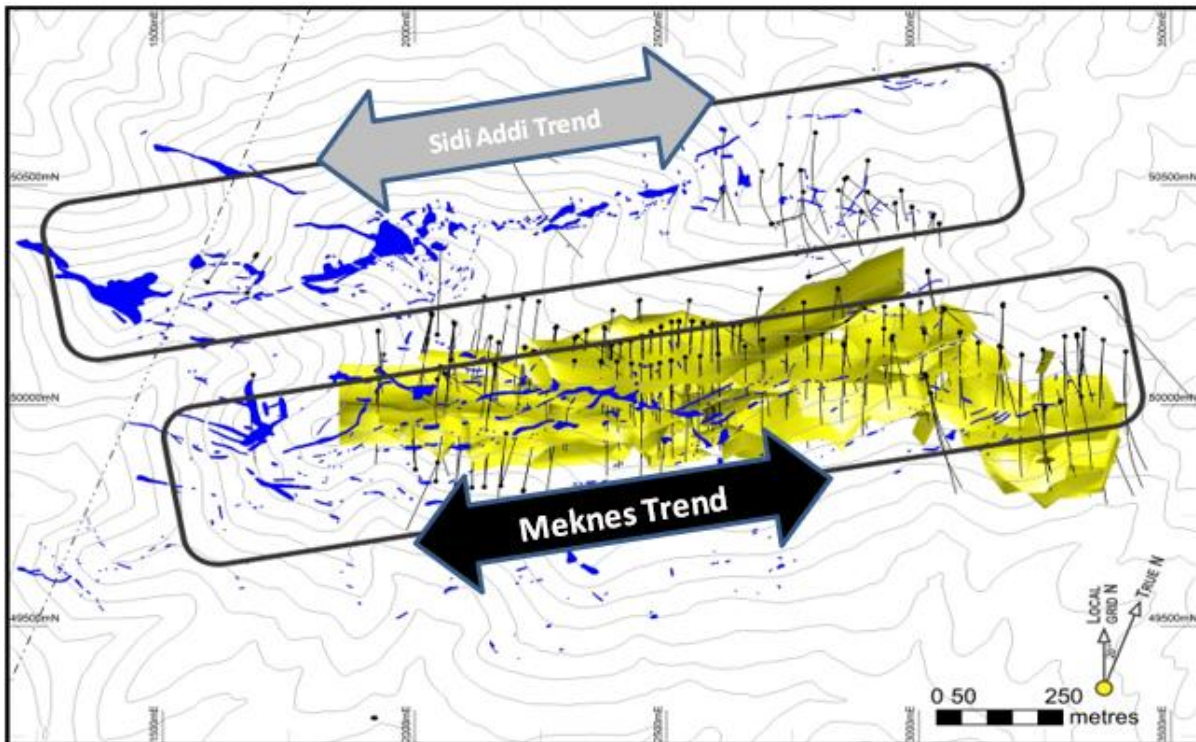


Figure 1: Achmmach Tin Project (Meknes and Sidi Addi Trends and drill holes depicted)

(Blue is mapped surface tourmaline units, Yellow is Mineralised Zone Resource Wireframes)

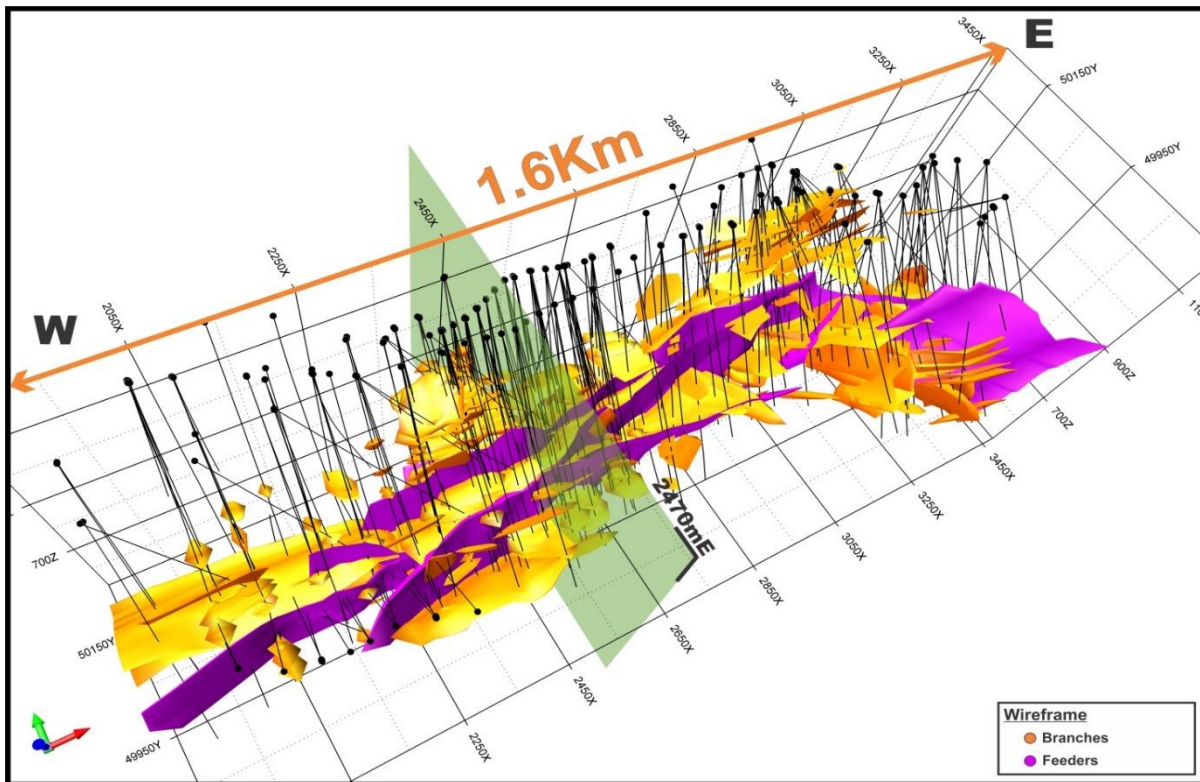


Figure 2: 3D View of the Meknes Trend Mineralised Zone Resource Wireframes (with section 2470mE depicted through Measured area of resource).

A longitudinal section of the Achmmach deposit (refer Figure 3) defines the high-grade core within the Meknes-Gap Zone area such that detailed mine planning can be completed. High resolution in this area is critical as this area is the target for early mine development.



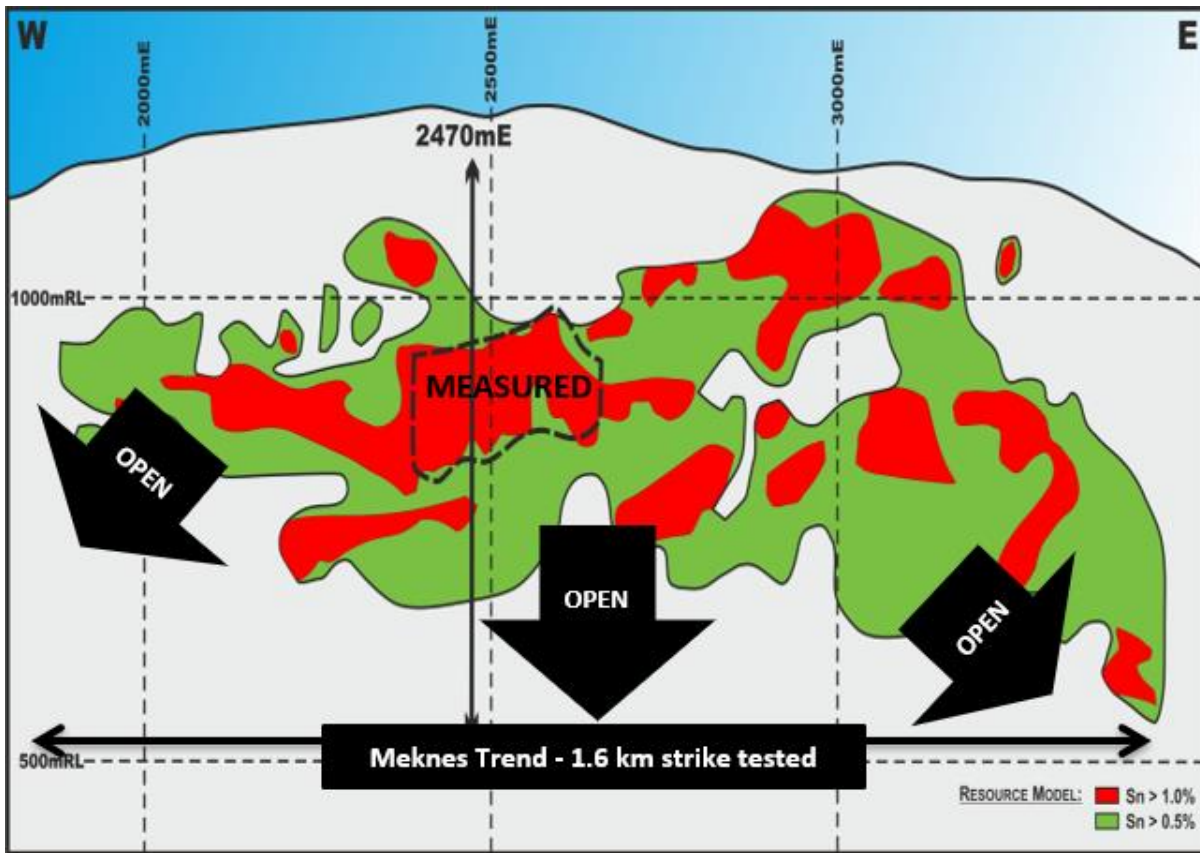


Figure 3: Simplified E-W Long section of the Achmmach Resource Estimate Model.

(Resource envelopes, Measured Mineral Resource location and cross section 2470mE depicted)

It should be noted that in many areas the deposit remains open at depth and along strike. Figure 4 below depicts cross section 2470mE through the Meknes Zone.

This cross section is a typical example section across the Meknes - Gap Zone and provides an understanding of the different sets of structures occurring along the Meknes Trend. The cross section highlights the resolution at which the deposit is now modelled and the thickness of the high grade tin areas occurring within the tourmaline zones. These high grade areas are supported by a drill spacing of 20 x 20m on section and along strike.

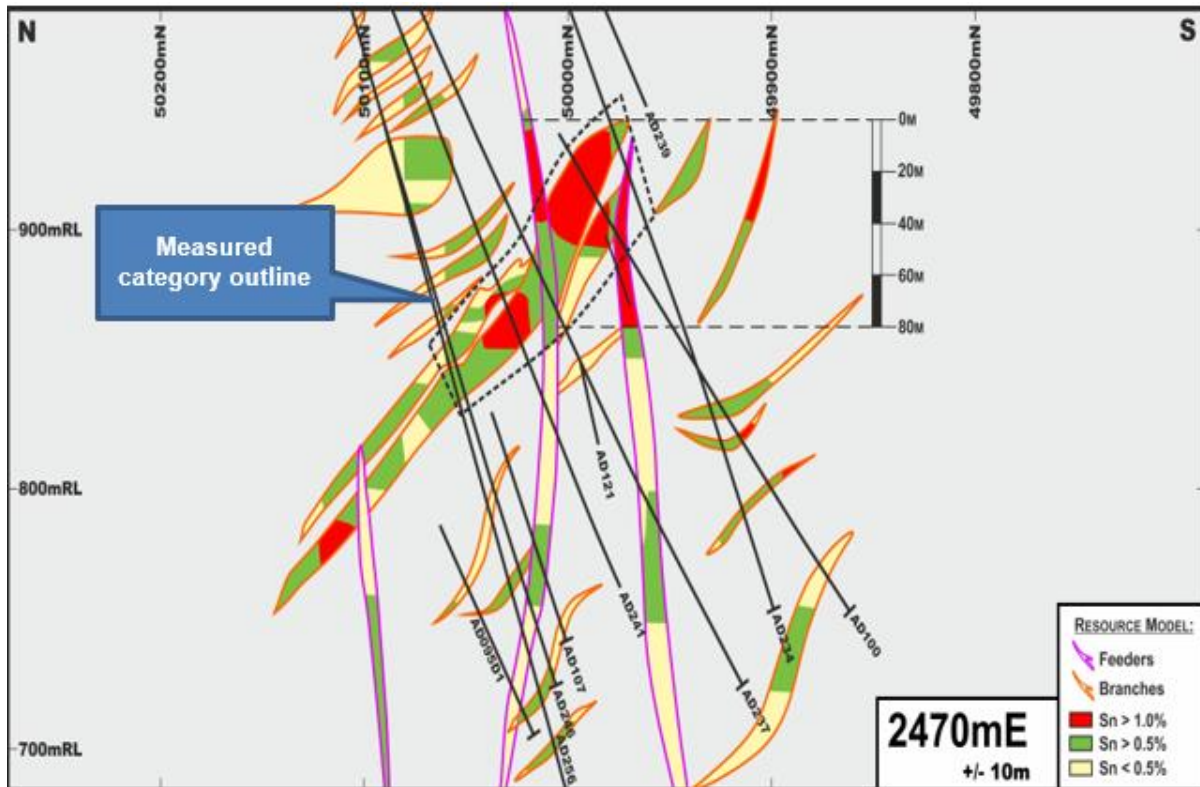


Figure 4: Cross Section 2470mE (through Meknes-Gap Zone Measured area)

### Summary of Resource Estimate and Reporting Criteria

As per the 2012 JORC reporting guidelines, a summary of the material information used to estimate the Mineral Resource is detailed below (for more detail please refer to the JORC Code Table 1 in Appendix A):

### Geology and geological interpretation

The confidence in the overall geological interpretation is good. The Achmmach tin deposit is hosted within a meta-sedimentary sequence of turbidite beds that vary from thin-bedded to graded-bedded and cyclic. Tourmaline-silica veins and breccias were formed during subsequent deformation, and following this a number of pulses of mineralisation occurred, with the tin mineralisation preferentially (but not always) precipitating in the pre-existing tourmaline-silica bodies. The tin occurs as disseminated cassiterite ( $\text{SnO}_2$ ) associated with sulphide and/or quartz veins.

### Sampling and sub-sampling techniques

All sampling used in resource estimation was derived from diamond core drilling of PQ, HQ or NQ size, which is sampled at a nominal 1m interval using industry standard protocols and QAQC procedures. These protocols and procedures are fully documented, and the quality of the data is high.

### Drilling techniques

All drilling used in the resource estimate was diamond core, with PQ or HQ at the surface and reducing to NQ at depth when required. Orientation of all core has been performed using the ACT tool method.

**Classification criteria**

The mineralised resource in the core of the Meknes Zone where the drilling spacing is 20m, and where the continuity of grade and geometry along strike is very good, is classified as Measured. The remaining resource (with at least 40m-spaced drilling) is classed as Indicated. The tonnages classified as Measured represent less than 9% of the overall classified Mineral Resource Estimate.

**Sample analysis method**

Tin assays were determined using fused bead X-Ray Fluorescence (“XRF”), which is the current industry standard for tin. This assay technique is considered “total” as it extracts and measures the entire element contained within the sample. No geophysical tools were used to determine any element concentrations used in the resource estimate.

**Estimation Methodology**

Grade estimation was by ordinary kriging (OK) for Sn%, K%, S% and bulk density using Datamine™ software. Exploratory data analysis was undertaken using Isatis™ software. The estimate was into 20m (E) x 20m (N) x 5m (RL) parent cells that had been sub-celled at the domain boundaries for accurate domain volume representation. Sample spacing is in the order of 20m (E) x 20m (N) x 1m (RL) over the central part of the deposit, but at 40m x 40m x 1m towards the eastern and western limits. Estimation parameters were based on the variogram models, data geometry and kriging estimation statistics.

**Cut-off grades**

The 0.35% Sn cut-off grade used for reporting of the Mineral Resource estimate is based on the application of a simple economic model (in US\$ - Sn price of \$21,000/t, underground mine operating costs of \$27/t, processing costs of \$13/t, G&A costs of \$5/t and sustaining capital of \$6/t. Throughput is based on annualised mining and processing of 900,000 tonnes, with 72% Sn processing recovery).

**Mining and metallurgical methods and parameters**

The 2018 definitive-feasibility study has established that underground mining by long hole stoping can be carried out economically, with a combination of bottom-up cemented rock fill and top-down open stoping methods planned. With respect to metallurgy, cassiterite is the dominant tin-bearing mineral occurring as free grains and in complex mineral composites. Acceptable recoveries are achieved from a primary grind followed by gravity concentration methods based on spiral pre-concentration and tabling. In addition, ore sorting after initial two-stage crushing is proposed for the early elimination of gangue and sub-economic material during mineral processing.

### **COMPETENT PERSONS' STATEMENT**

The information in this announcement that relates to Kasbah Resources Limited's Mineral Resource estimates for the Achmmach Tin Project is based on information compiled by Michael Job, who is a Principal Consultant of Cube Consulting Pty Ltd and a Fellow of the Australasian Institute of Mining and Metallurgy. Michael Job 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 "Australasian Code for Reporting of Exploration Results, Mineral resources and Ore Reserves" (JORC Code). Michael Job consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

### **FORWARD LOOKING STATEMENTS**

This announcement contains forward-looking statements which involve a number of risks and uncertainties. These forward looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.



## APPENDIX A

## JORC CODE TABLE 1

## Section 1: Sampling Techniques &amp; Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>All sampling used in resource estimation was derived from diamond core drilling of PQ, HQ or NQ size, which is sampled at a nominal 1m interval using industry standard protocols and QAQC procedures. These protocols and procedures are fully documented.</li> <li>Surface sampling data was not used in the Mineral Resource Estimate.</li> <li>Sample representivity was ensured by use of a high quality sample retrieval method (diamond core), and industry standard protocols for sample mass reduction to the final assayed aliquot.</li> <li>Samples were cut into half core with an automatic core saw, dried, and crushed to 80% passing 2mm to produce a 250g sample. After initial on-site sample preparation, each sample was analysed with a handheld Niton XRF analyser to identify intervals with anomalous mineralisation, and these samples were submitted to an ALS laboratory for more precise analysis. Therefore, there are gaps in the sampling, but not in the mineralised zones. The handheld XRF results were not used for resource estimation.</li> <li>At ALS (previously in Spain or Norway, but more recently Ireland), each sample was pulverised to 85% passing 75 microns and split to produce a 25 g sub-sample. Tin was assayed using fused bead preparation with XRF determination.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>All drilling used in the resource estimate was diamond core, with PQ or HQ at the surface and reducing to NQ at depth when required. Orientation of all core has been performed using the ACT tool method.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Core recovery was routinely recorded for all drill holes during geological logging. The rock is very competent, with average recovery in the order of 99% - low recoveries are associated with faults or other structures that are not related to the mineralization, and recovery in the mineralised zones is almost always 100%.</li> <li>Where difficult ground conditions were encountered, drill runs were reduced to less than a metre.</li> <li>Logging depths were checked against core blocks and rod counts were routinely carried out by drillers and upon the geologist's request.</li> </ul>
Logging	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Detailed geological logging was undertaken for lithology, alteration, weathering and structural logging from oriented core. Rock quality and other geotechnical information was also logged. Logging was to geological boundaries/contacts.</li> <li>All core was photographed both dry and wet, and the photos are kept securely in electronic format.</li> <li>The entire length of all drillholes is logged.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <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</li> </ul>	<ul style="list-style-type: none"> <li>Initial sample preparation was carried out at a custom built on-site sample preparation facility.</li> <li>Core was sawn longitudinally, using a manual core saw at project commencement and later using an automatic core saw. Samples were collected from the same side of the core, with half-core submitted for assaying and the remaining half retained for future</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>technique.</i></p> <ul style="list-style-type: none"> <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>	<p>reference. Samples are then crushed to 80% passing 2mm and rotary split to obtain a 250g sample.</p> <ul style="list-style-type: none"> <li>At this point samples were dispatched to the ALS laboratory in Ireland where they were further pulverized to 85% passing 75 microns prior to analysis.</li> <li>Duplicates of the crushed material were submitted for assaying at a rate of 1:25.</li> <li>The sample sizes were on average 1m intervals and vary from PQ, HQ or NQ diameter. This size was considered appropriate to the grain size of the material being sampled to correctly represent the tin mineralization at Achmmach.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>Kasbah tin assays were determined using fused bead X-Ray Fluorescence (XRF) which is the current industry standard for tin. This assay technique is considered "total" as it extracts and measures the entire element contained within the sample. No geophysical tools were used to determine any element concentrations used in the resource estimate.</li> <li>A Thermo Scientific Niton handheld XRF XL3t analyser was used to identify core intervals to be assayed.</li> <li>ALS conduct their own internal laboratory QAQC (including CRMs and pulp duplicates) to ensure the precision and accuracy of their analytical methods.</li> <li>For the entire drilling program, Kasbah independently inserted: <ul style="list-style-type: none"> <li>Certified Reference Materials with a range of values from 0.2% to 1.05% Sn at a rate of 1:20.</li> <li>crushed duplicates at a rate of 1:25; and</li> <li>blanks at a rate of 1:50.</li> </ul> </li> </ul> <p>In addition, 3% of pulp duplicates have been analysed externally by an independent laboratory. Statistical analysis of duplicates and standards demonstrates the data to be reliable and unbiased.</p>

### 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 style="list-style-type: none"> <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 style="list-style-type: none"> <li>The geological data is stored in a GBIS™ database. Geological logging was on paper log sheets with pre-defined templates. This data was then entered into comma delimited Excel spreadsheets, before import into the database. Validation occurs during import, where only licit values for the various fields are accepted. Geologists then visually checked and validated the data. Sample despatch and sample number information was also recorded in spreadsheets, and entered into the database. The assay data was supplied by the lab in *.sif text file format, which loaded directly to the database.</li> </ul>
Site visits	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The Competent Person for this resource estimate, Michael Job, has not visited the site. However, personnel employed by QG Consulting (who Michael Job was previously employed by) visited the site in April 2009 and March 2010.</li> </ul>
Geological interpretation	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>The confidence in the overall geological interpretation is good. The Achmmach tin deposit is hosted within a sedimentary sequence of turbidite beds that vary from thin-bedded to graded-bedded cyclic. Tourmaline-silica breccias were formed during subsequent deformation, and following this a number of pulses of mineralisation occurred, with the tin mineralisation preferentially (but not always) precipitating in the pre-existing tourmaline silica breccias. The tin occurs as disseminated cassiterite (SnO<sub>2</sub>) associated with sulphide</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<p>and/or quartz veins.</p> <ul style="list-style-type: none"> <li>For the resource estimate, the main aim was to produce an interpretation of the tourmaline breccias – this consists of a series of E-W trending 'vertical feeders' from 2 to 5m thick, and a series of moderately north-dipping mineralised zones that extend up and down dip of the vertical feeders in the sedimentary package. .</li> <li>The tourmaline breccias have been used as 'hard-boundaries' for the tin (and potassium and sulphur) estimates.</li> </ul>
Dimensions	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Overall tin mineralisation at Achmmach extends 1.6km in strike length, is 300m wide and extends from the surface to 600m below the surface. The high-grade parts of the Meknes and Fez zones, which are of the most interest, are 400m in strike length, 200m wide and located from 150m below surface to 400m below surface.</li> </ul>
Estimation and modelling techniques	<ul style="list-style-type: none"> <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 behind modelling of selective mining units.</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 style="list-style-type: none"> <li>Grade estimation was by ordinary kriging (OK) for Sn%, K%, S% and bulk density using Datamine™ software. Exploratory data analysis was undertaken using Isatis™ software. The estimate was into 20m (E) x 20m (N) x 5m (RL) parent cells that had been sub-blocked at the domain boundaries for accurate domain volume representation. Sample spacing is in the order of 20m (E) x 20m (N) x 1m (RL) over the central part of the deposit, but at 40m x 40m x 1m towards the eastern and western limits. Estimation parameters were based on the variogram models, data geometry and kriging estimation statistics. The estimates were within and outside the interpreted tourmaline-silica breccia wireframes (hard boundary between mineralised and non-mineralised zones).</li> <li>The experimental variograms for Sn were generated with back-transformed Gaussian variograms for most domains, with the exception of the shallow part of the East Zone. The variograms were modelled with a nugget effect and two spherical structures. The relative nugget effect for Sn is high at about 60% of the total sill, and the ranges are in the order of 100m to 150m. All variables were modelled independently, as the correlations are relatively weak, ranging from -0.32 (Sn-K), to -0.05 (Sn-S) to 0.26 (K-S).</li> <li>Top-cuts were not used for any of the variables. Sn is positively skewed, but there are very few extreme samples in the upper tail. Comparisons between an estimate using uncut data, and one using a cut-off of 6.5% shows that the estimates only differ by 0.03% Sn (absolute) globally, with no difference in tonnages reported above a 0.35% Sn cut-off.</li> <li>The model estimates were assessed against the drill-hole sample data for Sn visually, and the global statistics of declustered input and output data were compared. The estimates were also validated by graphing summary statistics for the samples and estimates within 40m spaced easting slices, 40m spaced northing slices and 20m spaced RL slices for each domain. All of the above checks indicate that the model honours the sample data satisfactorily. As there has been no mining at Achmmach, no reconciliation data is available.</li> </ul>
Moisture	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Tonnages are estimated on a dry basis.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>The 0.35% Sn cut-off grade used for reporting of the Mineral Resource estimate is based on the application of a simple economic model (in US\$ - Sn price of \$21,000/t, underground mine operating costs of \$26.56/t, processing costs of \$13.35/t, G&amp;A costs of \$5.25/t and \$6/t sustaining capital cost. This is based on an annualised mining rate of 900 kTonnes, with 72% Sn processing recovery).</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <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</li> </ul>	<ul style="list-style-type: none"> <li>The 2018 definitive feasibility study has established that underground mining by mechanised long hole stoping can be carried out economically. Twin portals were proposed, which will lead to a series of east-west running declines in the footwall of the deposit – ramps and cross-drives will provide access to the selected ore blocks. Stope dimensions of up to 20mE x 20mN x 25mRL were proposed, with cemented rock fill used to minimise metal loss to pillars.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>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.</i></p>	
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Cassiterite is the dominant tin-bearing mineral occurring as free grains and in complex mineral composites. Liberation generally commences at a grind of 150 microns and is largely complete at 40 microns. Acceptable recoveries are achieved from a primary grind followed by gravity concentration methods based on spiral pre-concentration and tabling. Secondary tin recovery can be achieved with the use of flotation techniques. Impurities and sulphides can be removed from the gravity concentrate with the use of magnetic and flotation techniques. Tin recovery based on these methods ranges from 48%, increasing up to 85% for some Achmmach ores. At a grade of 0.7% Sn, recovery is expected to be 72%.</li> </ul>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Past exploration and forestry activity at Achmmach has left a large area of disturbed and cleared ground to the immediate south of the deposit that has been selected as the site for a future ROM pad, treatment plant, paste plant and other infrastructure. The tailings management facility will be located in the adjacent cleared valley. Fresh ground disturbance will therefore be minimal. The tails will be mildly acid generating due to the minor sulphides in the ore – it is proposed to neutralise the acid by adding local crushed limestone to the tails. Crushed limestone will also be added to the waste dump in layers to mitigate acid formation.</li> </ul>
Bulk density	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Bulk density data was routinely gathered from the diamond core for both the mineralised and non-mineralised zones. The water immersion technique was used on solid lengths of core (0.2m to 0.4m), and the scale was calibrated every day with a certified set of weights.</li> <li>As the vast majority of the core is within solid, fresh rock, there was no need for dipping in wax before immersion in water, and there is very little moisture content and low porosity in the rock.</li> <li>Bulk density was estimated by OK, and due to the good coverage over the deposit, no assumed values were needed. The bulk density of the tourmaline breccias is very consistent.</li> </ul>
Classification	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The estimate has been classified as Measured, Indicated and Inferred according to the JORC 2012 code, with the following factors taken into account in classification: data quality and quantity (including sampling and assaying, spatial locations; and geological logging); geological interpretation (particularly aspects that impact on mineralisation) and domaining (including spatial continuity of Sn mineralisation); the quality of the Sn estimate; and how the resource has been classified in previous estimates.</li> <li>Diamond drill spacing is generally on 20m or 40m spaced sections, with data quantity considered very good for the 20m drilled sections of the Meknes Zone, and good for the rest of the deposit. There were no areas that were considered poorly sampled, assayed or logged that could affect resource classification in a detrimental manner.</li> <li>Geological domaining is considered appropriate, and the geometry of the domains is considered to be reasonably robust in well-drilled areas. The interpretations have not been extrapolated far beyond the limits of drilling (usually about 20m up and down dip, and 20m to 40m along strike, depending on the drilling spacing), so the resulting volume (and tonnage) is not considered overly-optimistic</li> <li>Taking into account all of the above, the material in the core of the Meknes Zone where the drilling spacing is 20m, and where the continuity of grade and geometry along strike is very good, is classified as Measured. The rest of the mineralised zones of the deposit are classified as Indicated.</li> </ul>



Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>Background (sub-grade) material has not been classified as a mineral resource (will not meet 'reasonable prospects of eventual economic extraction' criteria).</li> <li>The resulting Mineral Resource classification appropriately reflects the view of the Competent Person.</li> </ul>
<p><i>Audits or reviews</i></p>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>The previous mineral resource estimate was independently reviewed by Snowden Mining Industry Consultants in May 2014. They considered that the estimate was a reasonable representation of the tin mineralisation globally, although the local grade trends were not always accurately represented.</li> <li>They were therefore of the opinion that the portion of the resource classified as Measured may be optimistic.</li> <li>However given that there is little scope for alternative geological interpretation the small, very-well drilled portion of the resource classified as Measured (&lt;9% of the tonnes and &lt;11% of the contained tin metal of the total estimate is classified as Measured), then the Competent Person for this current estimate does not agree with Snowden's opinion.</li> </ul>
<p><i>Discussion of relative accuracy/ confidence</i></p>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li>The relative accuracy of the Mineral Resource estimate is described in the above discussion on Classification, and is as per the guidelines of the JORC 2012 code.</li> <li>The statement relates to global estimates of tonnes and grade.</li> <li>No production data is available.</li> </ul>