

Metals X Limited provides updated JORC Code tables for announcements released to the ASX on 14th May 2019 (Bell 50 Drill Results) and 24th May 2019 (Resource Update).

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Appendix A – Updated JORC Tables for Renison Resource Update Announcement of 24th May 2019

JORC CODE, 2012 EDITION

JORC TABLE 1: THE INFORMATION IN THIS TABLE REFERS TO THE FOLLOWING PROJECTS AT THE RENISON TIN OPERATIONS: RENISON BELL, RENTAILS AND MOUNT BISCHOFF

SECTION 1: SAMPLING TECHNIQUES AND DATA

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code Explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> 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. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. 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. 	<p>Diamond Drilling</p> <ul style="list-style-type: none"> The bulk of the data used in resource calculations at Renison has been gathered from diamond core. Three sizes have been used historically NQ2 (45.1mm nominal core diameter), LTK60 (45.2mm nominal core diameter) and LTK48 (36.1mm nominal core diameter), with NQ2 currently in use. This core is geologically logged and subsequently halved for sampling. Grade control holes may be whole-cored to streamline the core handling process if required. NQ and HQ core sizes have been recorded as being used at Mount Bischoff. This core is geologically logged and subsequently halved for sampling. There is no diamond drilling for the Rentails Project.
Drilling techniques	<ul style="list-style-type: none"> 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.). 	<p>Face Sampling</p> <ul style="list-style-type: none"> Each development face / round is horizontally chip sampled at Renison. The sampling intervals are dominated by geological constraints (e.g. rock type, veining and alteration / sulphidation etc.). Samples are taken in a range from 0.3m up to 1.2m in waste. All exposures within the orebody are sampled. A similar process would have been followed for historical Mount Bischoff face sampling. There is no face sampling for the Rentails Project.
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. 	<p>Sludge Drilling</p> <ul style="list-style-type: none"> Sludge drilling at Renison is performed with an underground production drill rig. It is an open hole drilling method using water as the flushing medium, with a 64mm (nominal) hole diameter. Sample intervals are ostensibly the length of the drill steel. Holes are drilled at sufficient angles to allow flushing of the hole with water following each interval to prevent contamination. There is no sludge drilling for the Mount Bischoff Project. There is no sludge drilling for the Rentails Project.



Criteria	JORC Code Explanation	Commentary
	<ul style="list-style-type: none"> Measures taken to maximise sample recovery and ensure representative nature of the samples. 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. 	<p>RC Drilling</p> <ul style="list-style-type: none"> RC drilling has been utilised at Mount Bischoff. Drill cuttings are extracted from the RC return via cyclone. The underflow from each interval is transferred via bucket to a four tiered riffle splitter, delivering approximately three kilograms of the recovered material into calico bags for analysis. The residual material is retained on the ground near the hole. Composite samples are obtained from the residue material for initial analysis, with the split samples remaining with the individual residual piles until required for re-split analysis or eventual disposal. There is no RC drilling for the Renison Project. There is no RC drilling for the Rentails Project. <p>Percussion Drilling</p> <ul style="list-style-type: none"> This drilling method was used for the Rentails project and uses a rotary tubular drilling cutter which was driven percussively into the tailings. The head of the cutting tube consisted of a 50mm diameter hard tipped cutting head inside which were fitted 4 spring steel fingers which allowed the core sample to enter and then prevented it from falling out as the drill tube was withdrawn from the drill hole. There is no percussion drilling for the Renison Project. There is no percussion drilling for the Mount Bischoff Project. All geology input is logged and validated by the relevant area geologists, incorporated into this is assessment of sample recovery. No defined relationship exists between sample recovery and grade. Nor has sample bias due to preferential loss or gain of fine or coarse material been noted.
<p>Logging</p>	<ul style="list-style-type: none"> 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. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> Diamond core is logged geologically and geotechnically. RC chips are logged geologically. Development faces are mapped geologically. Logging is qualitative in nature. All holes are logged completely, all faces are mapped completely.



Criteria	JORC Code Explanation	Commentary
<p>Sub-sampling techniques and sample preparation</p>	<ul style="list-style-type: none"> • <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> • <i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i> • <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> • <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> • <i>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.</i> • <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	<ul style="list-style-type: none"> • Drill core is halved for sampling. Grade control holes may be whole-cored to streamline the core handling process if required. • Samples are dried at 90°C, then crushed to <3mm. Samples are then riffle split to obtain a sub-sample of approximately 100g which is then pulverized to 90% passing 75um. 2g of the pulp sample is then weighed with 12g of reagents including a binding agent, the weighed sample is then pulverised again for one minute. The sample is then compressed into a pressed powder tablet for introduction to the XRF. This preparation has been proven to be appropriate for the style of mineralisation being considered. • QA/QC is ensured during the sub-sampling stages process via the use of the systems of an independent NATA / ISO accredited laboratory contractor. • The sample size is considered appropriate for the grain size of the material being sampled. • The un-sampled half of diamond core is retained for check sampling if required. • For RC chips regular field duplicates are collected and analysed for significant variance to primary results.
<p>Quality of assay data and laboratory tests</p>	<ul style="list-style-type: none"> • <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> • <i>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.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • Assaying is undertaken via the pressed powder XRF technique. Sn, As and Cu have a detection limit 0.01%, Fe and S detection limits are 0.1%. These assay methodologies are appropriate for the resource in question. • All assay data has built in quality control checks. Each XRF batch of twenty consists of one blank, one internal standard, one duplicate and a replicate, anomalies are re-assayed to ensure quality control. • Specific gravity / density values for individual areas are routinely sampled during all diamond drilling where material is competent enough to do so.
<p>Verification of sampling and assaying</p>	<ul style="list-style-type: none"> • <i>The verification of significant intersections by either independent or alternative company personnel.</i> • <i>The use of twinned holes.</i> • <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> • <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> • Anomalous intervals as well as random intervals are routinely checked assayed as part of the internal QA/QC process. • Virtual twinned holes have been drilled in several instances across all sites with no significant issues highlighted. Drillhole data is also routinely confirmed by development assay data in the operating environment. • Primary data is loaded into the drillhole database system and then archived for reference. • All data used in the calculation of resources and reserves are compiled in databases (underground and open pit) which are overseen and validated by senior geologists. • No primary assays data is modified in any way.



Criteria	JORC Code Explanation	Commentary
Location of data points	<ul style="list-style-type: none"> • Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. • Specification of the grid system used. • Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> • All data is spatially oriented by survey controls via direct pickups by the survey department. Drillholes are all surveyed downhole, currently with a GyroSmart tool in the underground environment at Renison, and a multishot camera for the typically short surface diamond holes. • All drilling and resource estimation is undertaken in local mine grid at the various sites. • Topographic control is generated from remote sensing methods in general, with ground based surveys undertaken where additional detail is required. This methodology is adequate for the resource in question.
Data spacing and distribution	<ul style="list-style-type: none"> • Data spacing for reporting of Exploration Results. • Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied. 	<ul style="list-style-type: none"> • Drilling in the underground environment at Renison is nominally carried-out on 40m x 40m spacing in the south of the mine and 25m, x 25m spacing in the north of the mine prior to mining occurring. A lengthy history of mining has shown that this data spacing is appropriate for the Mineral Resource estimation process and to allow for classification of the resource as it stands. • Drilling at Mount Bischoff is variably spaced. A lengthy history of mining has shown that this data spacing is appropriate for the Mineral resource estimation process and to allow for classification of the resource as it stands. • Drilling at Rentails is usually carried out on a 100m centres. This is appropriate for the Mineral resource estimation process and to allow for classification of the resource as it stands. • Compositing is carried out based upon the modal sample length of each individual domain.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> • Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	<ul style="list-style-type: none"> • Drilling intersections are nominally designed to be normal to the orebody as far as underground infrastructure constraints / topography allows. • Development sampling is nominally undertaken normal to the various orebodies. • It is not considered that drilling orientation has introduced an appreciable sampling bias.
Sample security	<ul style="list-style-type: none"> • The measures taken to ensure sample security. 	<ul style="list-style-type: none"> • At Renison, Mount Bischoff and Rentails samples are delivered directly to the on-site laboratory by the geotechnical crew where they are taken into custody by the independent laboratory contractor.
Audits or reviews	<ul style="list-style-type: none"> • The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> • Site generated resources and reserves and the parent geological data is routinely reviewed by the Metals X Corporate technical team.



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 style="list-style-type: none"> 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. 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. 	<ul style="list-style-type: none"> All Tasmania resources are hosted within 12M1995 and 12M2006. Both tenements are standard Tasmanian mining leases. No native title interests are recorded against the Tasmanian tenements. Tasmanian tenements are held by the Bluestone Mines Tasmania Joint Venture of which Metals X has 50% ownership. No royalties above legislated state royalties apply for the Tasmanian tenements. Bluestone Mines Tasmania Joint Venture operates in accordance with all environmental conditions set down as conditions for grant of the mining leases. There are no known issues regarding security of tenure.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> The Renison and Mount Bischoff areas have an exploration and production history in excess of 100 years. Bluestone Mines Tasmania Joint Venture work has generally confirmed the veracity of historic exploration data.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> Renison is one of the world's largest operating underground tin mines and Australia's largest primary tin producer. Renison is the largest of three major Skarn, carbonate replacement, pyrrhotite-cassiterite deposits within western Tasmania. The Renison Mine area is situated in the Dundas Trough, a province underlain by a thick sequence of Neoproterozoic-Cambrian siliciclastic and volcanoclastic rocks. At Renison there are three shallow-dipping dolomite horizons which host replacement mineralisation. Mount Bischoff is the second of three major Skarn, carbonate replacement, pyrrhotite-cassiterite deposits within western Tasmania. The Mount Bischoff Mine area is situated within the Dundas Trough, a province underlain by a thick sequence of Neoproterozoic-Cambrian siliciclastic and volcanoclastic rocks. At Mount Bischoff folded and faulted shallow-dipping dolomite horizons host replacement mineralisation with fluid interpreted to be sourced from the forceful emplacement of a granite ridge and associated porphyry intrusions associated with the Devonian Meredith Granite, which resulted in the complex brittle / ductile deformation of the host rocks. Lithologies outside the current mining area are almost exclusively metamorphosed siltstones. Major porphyry dykes and faults such as the Giblin and Queen provided the major focus for ascending hydrothermal fluids from a buried ridge of the Meredith Granite. Mineralisation has resulted in tin-rich sulphide replacement in the dolomite lodes, greisen and sulphide lodes in the porphyry and fault / vein lodes in the major faults. All lodes contain tin as cassiterite within sulphide mineralisation with some coarse cassiterite as veins throughout the lodes. The Rentails Mineral Resource is contained within three Tailing Storage Facilities (TSF's) that have been built up from the processing of tin ore at the Renison Bell mine over the period 1968 to 2013.



Criteria	JORC Code Explanation	Commentary
<p>Drill hole Information</p>	<ul style="list-style-type: none"> • A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> ○ easting and northing of the drill hole collar ○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ○ dip and azimuth of the hole ○ down hole 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. 	<ul style="list-style-type: none"> • No exploration results are reported as part of this release, results relating to the deposits have been previously released.
<p>Data aggregation methods</p>	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • No exploration results are reported as part of this release, results relating to the deposits have been previously released.
<p>Relationship between mineralisation widths and intercept lengths</p>	<ul style="list-style-type: none"> • These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'). 	<ul style="list-style-type: none"> • No exploration results are reported as part of this release, results relating to the deposits have been previously released.
<p>Diagrams</p>	<ul style="list-style-type: none"> • Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views. 	<ul style="list-style-type: none"> • No exploration results are reported as part of this release, results relating to the deposits have been previously released.



Criteria	JORC Code Explanation	Commentary
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> No exploration results are reported as part of this release, results relating to the deposits have been previously released.
Other substantive exploration data	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> No relevant information to be presented.
Further work	<ul style="list-style-type: none"> The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	<ul style="list-style-type: none"> Exploration assessment and normal mine extensional drilling continues to take place at Renison. Exploration assessment continues to progress at Mount Bischoff. Project assessment continues to progress at Rentals.

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"> 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. Data validation procedures used. 	<ul style="list-style-type: none"> Drillhole data is stored in a Maxwell's DataShed system based on the Sequel Server platform which is currently considered "industry standard". As new data is acquired it passes through a validation approval system designed to pick-up any significant errors before the information is loaded into the master database. The information is uploaded by a series of Sequel routines and is performed as required. The database contains diamond drilling (including geotechnical and specific gravity data), face chip and sludge drilling data and some associated metadata. By its nature this database is large in size, and therefore exports from the main database are undertaken (with or without the application of spatial and various other filters) to create a database of workable size, preserve a snapshot of the database at the time of orebody modelling and interpretation and preserve the integrity of the master database.
Site visits	<ul style="list-style-type: none"> Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	<ul style="list-style-type: none"> Mr. Colin Carter is employed as Renison Tin Operations' Geology Manager and is located on site on a full time basis.



Criteria	JORC Code Explanation	Commentary
Geological interpretation	<ul style="list-style-type: none"> • <i>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</i> • <i>Nature of the data used and of any assumptions made.</i> • <i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i> • <i>The use of geology in guiding and controlling Mineral Resource estimation.</i> • <i>The factors affecting continuity both of grade and geology.</i> 	<ul style="list-style-type: none"> • Mining has occurred since 1800's providing significant confidence in the currently geological interpretation across all projects. • No alternative interpretations are currently considered viable. • Geological interpretation of the deposit was carried out using a systematic approach to ensure that the resultant estimated Mineral Resource figure was both sufficiently constrained, and representative of the expected sub-surface conditions. In all aspects of resource estimation the factual and interpreted geology was used to guide the development of the interpretation. • The architecture of the Renison horst / graben system is the dominant control on geological and grade continuity. • Similarly at Mount Bischoff the extent of intrusive felsic dykes in proximity to carbonate horizons control the continuity of grade within the system. • The depositional history of Rentails is well documented.
Dimensions	<ul style="list-style-type: none"> • <i>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.</i> 	<ul style="list-style-type: none"> • Renison has currently been mined over a strike length of >1,950m, a lateral extent of >1,250m and a depth of over 1,100m. • Mount Bischoff mineralisation has currently been defined over a strike length of >600m, a lateral extent of >250m and a depth of >250m. • Rentails is deposited in three adjacent TSFs which have an aggregate length of approximately 1.8km and a width at the widest point of circa 1km. Maximum depth is in excess of 20m.



Criteria	JORC Code Explanation	Commentary
<p>Estimation and modelling techniques</p>	<ul style="list-style-type: none"> • <i>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.</i> • <i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i> • <i>The assumptions made regarding recovery of by-products.</i> • <i>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</i> • <i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i> • <i>Any assumptions behind modelling of selective mining units.</i> • <i>Any assumptions about correlation between variables.</i> • <i>Description of how the geological interpretation was used to control the resource estimates.</i> • <i>Discussion of basis for using or not using grade cutting or capping.</i> • <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i> 	<ul style="list-style-type: none"> • All modelling and estimation work undertaken by BMTJV is carried out in three dimensions via Leapfrog and Surpac Vision. • After validating the drillhole data to be used in the estimation, interpretation of the orebody is undertaken in sectional and / or plan view to create the outline strings which form the basis of the three dimensional orebody wireframe. Wireframing is then carried out using a combination of automated stitching algorithms and manual triangulation to create an accurate three dimensional representation of the sub-surface mineralised body. • Drillhole intersections within the mineralised body are defined, these intersections are then used to flag the appropriate sections of the drillhole database tables for compositing purposes. Drillholes are subsequently composited to allow for grade estimation. In all aspects of resource estimation the factual and interpreted geology was used to guide the development of the interpretation. • Once the sample data has been composited, a statistical analysis is undertaken to assist with determining estimation search parameters, top-cuts etc. Variographic analysis of individual domains is undertaken to assist with determining appropriate search parameters, which are then incorporated with observed geological and geometrical features to determine the most appropriate search parameters. • An empty block model is then created for the area of interest. This model contains attributes set at background values for the various elements of interest as well as density, and various estimation parameters that are subsequently used to assist in resource categorisation. The block sizes used in the model will vary depending on orebody geometry, minimum mining units, estimation parameters and levels of informing data available. • Grade estimation is then undertaken, with ordinary kriging estimation method is considered as standard, although in some circumstances where sample populations are small, or domains are unable to be accurately defined, inverse distance weighting estimation techniques will be used. Both by-product and deleterious elements are estimated at the time of primary grade estimation. It is assumed that by-products correlate well with tin. There are no assumptions made about the recovery of by-products. • The resource is then depleted for mining voids and subsequently classified in line with JORC guidelines utilising a combination of various estimation derived parameters and geological / mining knowledge. • This approach has proven to be applicable to Metals X's tin assets. • Estimation results are routinely validated against primary input data, previous estimates and mining output. • Good reconciliation between mine claimed figures and milled figures is routinely achieved.
<p>Moisture</p>	<ul style="list-style-type: none"> • <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i> 	<ul style="list-style-type: none"> • Tonnage estimates are dry tonnes.



Criteria	JORC Code Explanation	Commentary
Cut-off parameters	<ul style="list-style-type: none"> The basis of the adopted cut-off grade(s) or quality parameters applied. 	<ul style="list-style-type: none"> The resource reporting cut-off grade is 0.7% Sn at Renison. The resource reporting cut-off grade is 0.5% Sn at Mount Bischoff. There is no lower reporting cut-off grade for Rentals.
Mining factors or assumptions	<ul style="list-style-type: none"> Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made. 	<ul style="list-style-type: none"> The Renison mine predominantly applies up-hole benching and open stoping with in some cases post fill and cemented rock fill to fill voids. The mining method has been successfully applied over the past decade with small tweaks and geotechnical considerations progressively applied. A minimum mining width of underground development is 4.5m and for underground stoping a minimum width of 2.2 m. Resource models are diluted to these limits before dilution is applied. Mining recoveries vary depending upon the stopes physical shape, geological setting and size between 75% and 100%. The weighted average recovery for the reserve model is 89%. Mining dilution at Rentals is minimal.
Metallurgical factors or assumptions	<ul style="list-style-type: none"> The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made. 	<ul style="list-style-type: none"> The Renison mine produces a tin concentrate of grade varying between 50- 60 % Sn with internal process designed to reduce penalty metals such as iron, sulphur, tungsten and copper. The metallurgical process is complex and applies several stages of gravity-type concentration as well as sulphide and oxide flotation, regrinding and acid leach methods. The method is proved and has successfully operated for over 50 years. The metallurgical recovery is estimated based on regression analysis of grade recovery curves from the actual processing of ores in the plant. Metallurgical recoveries on the various ore and grades were considered as part of the cut-off grade analysis.
Environmental factors or assumptions	<ul style="list-style-type: none"> 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 style="list-style-type: none"> Both Bluestone Mines Tasmania Joint Venture operates in accordance with all environmental conditions set down as conditions for grant of the respective mining leases.



Criteria	JORC Code Explanation	Commentary
Bulk density	<ul style="list-style-type: none"> • 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. • 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. • Discuss assumptions for bulk density estimates used in the evaluation process of the different materials. 	<ul style="list-style-type: none"> • Bulk density of the mineralisation at Renison and Mount Bischoff is variable. Bulk density sampling is undertaken via assessments of drill core (BMTJV practice is to undertake bulk density determinations on a representative selection of drill core sent for assay), and are reviewed constantly (BMTJV practice is to collect check SG samples as a regular part of the mining cycle). Where no drill core or other direct measurements are available, SG factors have been assumed based on similarities to other zones of mineralisation. • Given the volume of the TSF's are known, and the tonnage of tailings material deposited into the dams was recorded, the insitu bulk density of the Rentails resource has been back-calculated.
Classification	<ul style="list-style-type: none"> • The basis for the classification of the Mineral Resources into varying confidence categories. • 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). • Whether the result appropriately reflects the Competent Person's view of the deposit. 	<ul style="list-style-type: none"> • Resources are classified in line with JORC guidelines utilising a combination of various estimation derived parameters, the input data and geological / mining knowledge. This approach considers all relevant factors and reflects the Competent Person's view of the deposit. At Renison, material classified as Measured must have development (with face samples) within 20m. Indicated Mineral Resource must have sufficient grade and geological continuity with drill hole intersections generally between 40m and 20m apart. Inferred Mineral Resource is material that is defined by drill holes greater than 40m apart. Geological continuity may be present but the grade estimate is lower in confidence.
Audits or reviews	<ul style="list-style-type: none"> • The results of any audits or reviews of Mineral Resource estimates. 	<ul style="list-style-type: none"> • Resource estimates are peer reviewed by the site technical team as well as Metals X's Corporate technical team.
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> • 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. • 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. • These statements of relative accuracy and confidence of the estimate should be compared with production data, where available. 	<ul style="list-style-type: none"> • All currently reported resources estimates are considered robust, and representative on both a global and local scale. • A continuing history of mining with good reconciliation of mine claimed to mill recovered provides confidence in the accuracy of the estimate for Renison and Mount Bischoff. • A detailed set of production records provides confidence in the accuracy of the estimate for Rentails.



Appendix B – Updated JORC Tables for Bell 50 Announcement of 14th May 2019

JORC CODE, 2012 EDITION

JORC TABLE 1: THE INFORMATION IN THIS TABLE REFERS TO THE FOLLOWING PROJECTS AT THE RENISON TIN OPERATIONS: RENISON BELL, RENTAILS AND MOUNT BISCHOFF

SECTION 1: SAMPLING TECHNIQUES AND DATA

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code Explanation	Commentary
<p>Sampling techniques</p>	<ul style="list-style-type: none"> 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. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. 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. 	<ul style="list-style-type: none"> The reported drill intersections are all from NQ2 diamond drill core All drill core is geologically logged and subsequently halved for sampling, generally on a 1m basis. Sample recovery is recorded for all holes drilled All geology input is logged and validated by the relevant area geologists, incorporated into this is assessment of sample recovery. No defined relationship exists between sample recovery and grade.
<p>Drilling techniques</p>	<ul style="list-style-type: none"> 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.). 	
<p>Drill sample recovery</p>	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. 	



Criteria	JORC Code Explanation	Commentary
	<ul style="list-style-type: none"> Measures taken to maximise sample recovery and ensure representative nature of the samples. 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. 	
Logging	<ul style="list-style-type: none"> 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. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> Diamond core is logged geologically and geotechnically. Logging is qualitative in nature. All holes are logged completely.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. 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. Whether sample sizes are appropriate to the grain size of the material being sampled. 	<ul style="list-style-type: none"> Drill core is halved for sampling. Samples are dried at 90°C, then crushed to <3mm. Samples are then riffle split to obtain a sub-sample of approximately 100g which is then pulverized to 90% passing 75um. 2g of the pulp sample is then weighed with 12g of reagents including a binding agent, the weighed sample is then pulverised again for one minute. The sample is then compressed into a pressed powder tablet for introduction to the XRF. This preparation has been proven to be appropriate for the style of mineralisation being considered. QA/QC is ensured during the sub-sampling stages process via the use of the systems of an independent NATA / ISO accredited laboratory contractor. The sample size is considered appropriate for the grain size of the material being sampled. The un-sampled half of diamond core is retained for check sampling if required.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. 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. 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. 	<ul style="list-style-type: none"> Assaying is undertaken via the pressed powder XRF technique. Sn, As and Cu have a detection limit 0.01%, Fe and S detection limits are 0.1%. These assay methodologies are appropriate for the resource in question. All assay data has built in quality control checks. Each XRF batch of twenty consists of one blank, one internal standard, one duplicate and a replicate, anomalies are re-assayed to ensure quality control. Specific gravity / density values for individual areas are routinely sampled during all diamond drilling where material is competent enough to do so.



Criteria	JORC Code Explanation	Commentary
Verification of sampling and assaying	<ul style="list-style-type: none"> The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	<ul style="list-style-type: none"> Anomalous intervals as well as random intervals are routinely checked assayed as part of the internal QA/QC process. Primary data is loaded into the drillhole database system and then archived for reference. No primary assays data is modified in any way.
Location of data points	<ul style="list-style-type: none"> Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> All data is spatially oriented by survey controls via direct pickups by the survey department. Drillholes are all surveyed downhole, currently with a GyroSmart tool in the underground environment at Renison, and a multishot camera for the typically short surface diamond holes. All drilling and resource estimation is undertaken in local mine grid at the various sites. Topographic control is generated from remote sensing methods in general, with ground based surveys undertaken where additional detail is required. This methodology is adequate for the resource in question.
Data spacing and distribution	<ul style="list-style-type: none"> Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	<ul style="list-style-type: none"> Drilling in the underground environment at Renison is nominally carried-out on 40m x 40m spacing in the south of the mine and 25m, x 25m spacing in the north of the mine prior to mining occurring. A lengthy history of mining has shown that this data spacing is appropriate for the Mineral Resource estimation process and to allow for classification of the resource as it stands. Compositing is carried out based upon the modal sample length of each individual domain.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	<ul style="list-style-type: none"> Drilling intersections are nominally designed to be normal to the orebody as far as underground infrastructure constraints / topography allows. It is not considered that drilling orientation has introduced an appreciable sampling bias.
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> At Renison, Mount Bischoff and Rentails samples are delivered directly to the on-site laboratory by the geotechnical crew where they are taken into custody by the independent laboratory contractor.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> Site generated resources and reserves and the parent geological data is routinely reviewed by the Metals X Corporate technical team.



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 style="list-style-type: none"> 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. 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. 	<ul style="list-style-type: none"> All Tasmania resources are hosted within 12M1995 and 12M2006. Both tenements are standard Tasmanian mining leases. No native title interests are recorded against the Tasmanian tenements. Tasmanian tenements are held by the Bluestone Mines Tasmania Joint Venture of which Metals X has 50% ownership. No royalties above legislated state royalties apply for the Tasmanian tenements. Bluestone Mines Tasmania Joint Venture operates in accordance with all environmental conditions set down as conditions for grant of the mining leases. There are no known issues regarding security of tenure.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> The Renison and Mount Bischoff areas have an exploration and production history in excess of 100 years. Bluestone Mines Tasmania Joint Venture work has generally confirmed the veracity of historic exploration data.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> Renison is one of the world's largest operating underground tin mines and Australia's largest primary tin producer. Renison is the largest of three major Skarn, carbonate replacement, pyrrhotite-cassiterite deposits within western Tasmania. The Renison Mine area is situated in the Dundas Trough, a province underlain by a thick sequence of Neoproterozoic-Cambrian siliciclastic and volcanoclastic rocks. At Renison there are three shallow-dipping dolomite horizons which host replacement mineralisation.
Drill hole Information	<ul style="list-style-type: none"> A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole 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. 	<ul style="list-style-type: none"> All information is included in the body of the report in tables and text. No information has been excluded.



Criteria	JORC Code Explanation	Commentary
Data aggregation methods	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> In the calculation of drill intersections, standard sample length weighting has been undertaken A minimum reportable significant intersection is 1m @ 1.5% Sn No upper cut-off has been applied. No metal equivalent values are used
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'). 	<ul style="list-style-type: none"> All information is included in the body of the report. Drill intersections are true width unless otherwise marked.
Diagrams	<ul style="list-style-type: none"> Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views. 	<ul style="list-style-type: none"> Appropriate figures are included in the body of the report.
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All drill holes completed as part of this program have been reported in the body of the report.
Other substantive exploration data	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> No relevant information to be presented.
Further work	<ul style="list-style-type: none"> The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not 	<ul style="list-style-type: none"> Exploration assessment and normal mine extensional drilling continues to take place at Renison. Follow-up drilling of the Bell 50 results is currently being planned.



Criteria	JORC Code Explanation	Commentary
	<i>commercially sensitive.</i>	