Appendix 1 : JORC 2012 Checklist of Assessment and Reporting Criteria

Table 1: Section 1 Sampling Techniques and Data *(Criteria in this section apply to all succeeding sections.)*

Criteria	Explanation	Commentary	Report Reference
Sampling techniques	• *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.*	• Samples were collected from: Sambung : 164 holes, amounting to 5,934 samples Sihayo : 562 holes, amounting to 21,698 samples Standard company core handling and sampling procedures were provided to H&SC. • H&SC observed the sampling procedure during site visits and found no mitigating circumstances beyond the established procedures.	• Section **Error! Reference source not found., Error! Reference source not found.**

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Drilling techniques	• *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.).*	• The main drilling technique was by diamond drilling using wire line triple tube.	• Section **Error! Reference source not found. Error! Reference source not found.**
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *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.*	• Diamond core recoveries have been recorded but not assessed to date • To be assessed further.	• Section **Error! Reference source not found. Error! Reference source not found.**
Logging	• *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.*	• Core logging was acceptable. However minor lapses and inconsistencies were observed and rectified. • Diamond core logging records lithology, RQD and structural measurements where possible • A metallurgical study or data has been recorded • Logging of all samples includes lithology, colour, weathering, mineralogy and mineralisation	• Section **Error! Reference source not found. Error! Reference source not found.**

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Sub-sampling techniques and sample preparation	• *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.*	• Core is half cut on site using automatic core saw and sampled from the same side • Laboratory is compliant to industry accreditation (NATA). • Internal (SM) quality procedures and standards were observed and adhered to. • Field duplicates have been taken on a 1:40 ratio for diamond drilling, the results of which show good correlation with original samples.	• Section **Error! Reference source not found. Error! Reference source not found.** • Section **Error! Reference source not found. Error! Reference source not found.** • Section **Error! Reference source not found. Error! Reference source not found.**

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Quality of assay data and laboratory tests	• *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.*	• The quality of assay data is within industry standards. • Internal quality analysis of test results is within acceptable tolerance. • Standard laboratory procedures involve the use of certified standards, duplicate samples and insertion of blanks. QAQC results suggest sample assays are accurate.	• Section **Error! Reference source not found. Error! Reference source not found.** • Section **Error! Reference source not found. Error! Reference source not found.** • **Error! Reference source not found.** • **Error! Reference source not found.**
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Duplicate samples were routinely assayed and compared. • Significant intersections have been verified by the senior geologists of SM • No adjustments or calibrations were made to any assay data used in the resource estimate, however some adjustments made to the metallurgical recovery	• Section **Error! Reference source not found. Error! Reference source not found.** • Section **Error! Reference source not found. Error! Reference source not**

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Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Drill hole collar locations have been surveyed by a local contractor. • Down-hole surveys consisted of single shot digital camera readings at, in general, 50m intervals during drilling by the drilling contractor • Topographic control was created from surveyed drill-hole collar locations	• Section **Error! Reference source not found.** • Section **Error! Reference source not found.** • Section **Error!**
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied* • *Whether sample compositing has been applied.*	• The drilling spacing is generally of a detailed nature with drilling on a predominantly 50m NW-SE line spacing, 25m SW-NE hole spacing grid pattern over the near surface mineralisation with minor infill on some critical sections down to 25m NW-SE line spacing.	• Sections **Error! Reference source not found.**, **Error! Reference source not found.**
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Majority of drilling was orientated south west. • Intersection angles are close to perpendicular in most cases. • Consistent sampling bias is not considered to be an issue for the purpose of resource estimation.	• Section **Error! Reference source not found.** • Section **Error! Reference source not found.**
Sample security	• *The measures taken to ensure sample security.*	• Chain of custody is managed by SM	• Section **Error! Reference source not found.**

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Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No formal audits or reviews have been undertaken to date.	• To be addressed

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Table 1: Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	Explanation	Commentary	Report Reference
Mineral tenement and land tenure status	• *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.*	• Details supplied to H&SC pertaining to the land tenure and history of ownership are detailed in the report reference nominate in the adjacent column. • In short, Sihayo Gold Limited (formerly Oropa Limited) acquired all of the shares of Aberfoyle Pungkut Investments Pte Ltd in April 2004, and is currently managing the project in a joint venture 75% Sihayo Limited : 25% PT Aneka Tambang (Antam). Pungkut Project funding is by way of loans to Sorikmas and under the terms of the Loan Agreement, Antam is required to repay its share of loans to Sihayo or other lenders to Sorikmas from 80% of its attributable share of available cash flow from production, until Antam's 25% share of the loans are repaid in full. • All aspects relating to security of tenure is beyond the scope of H&SC's expertees and is the responsibility of PT Sorikmas Mining.	• Section 4

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Criteria	Explanation	Commentary	Report Reference
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Between 1995 and 1997, Aberfoyle Resources Ltd executed regional exploration work throughout the Pungkut project area • Detailed surface exploration work over the Sihayo-Sambung prospect was undertaken by Aberfoyle Resources between late 1997 and 1999 which included soils, rock chips and geophysics. • The initial drilling of the Sihayo-Sambung deposit commenced in 1999. After a cessation of drilling between 2000 and 2002, work re-commenced in 2003 and steadily increased over the years until 2009, when there was a deliberate increase in drilling activity on the project. •	• Section 8
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Sihayo-Sambung resource is situated on the north western end of the 11.5km long Sihayo - Hutabargot mineralised trend and directly adjacent to a major dilational pull apart basin • The host lithology of the Sihayo-Sambung gold mineralisation consists of Upper Palaeozoic basement of clastic volcano-sedimentary units interbedded with silty to sandy limestones and marbles. • Sihayo Gold mineralisation is categorised as Sedimentary Rock Hosted Disseminated Gold Deposit type	• Section 6

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Criteria	Explanation	Commentary	Report Reference

Drill hole Information	• *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:*
	   ◦ *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.*
		• There are no exploration results reported for the immediate Sihayo - Sambung area that have not been reported previously	• N/A

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Criteria	Explanation	Commentary	Report Reference
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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.*	• There are no exploration results reported for the immediate Sihayo - Sambung area that have not been reported previously	• N/A
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the 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 (eg 'down hole length, true width not known').*	• There are no exploration results reported for the immediate Sihayo - Sambung area that have not been reported previously	• N/A

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Criteria	Explanation	Commentary	Report Reference
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• There are no exploration results reported for the immediate Sihayo - Sambung area that have not been reported previously	• N/A
Balanced reporting	• *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.*	• There are no exploration results reported for the immediate Sihayo - Sambung area that have not been reported previously	• N/A
Other substantive exploration data	• *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.*	• There are no exploration results reported for the immediate Sihayo - Sambung area that have not been reported previously	• N/A

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Criteria	Explanation	Commentary	Report Reference
Further work	• *The nature and scale of planned further work (eg 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.*	• There are no exploration results reported for the immediate Sihayo - Sambung area that have not been reported previously	• N/A

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Table 1: Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	Explanation	Commentary	Report Reference
Database integrity	• *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.*	• Primary data was collected by SM on laptop computers in Excel or Micromine tables using drop down codes • Field data and original assay certificates compiled and validated by database administrators • Drilling data provided in Micromine tables for collar, survey, lithology and assay data • Micromine software validation procedures checks for missing intervals and drill holes • Checking inclinations, azimuths, deviations and sample intervals within a given tolerance.	• Section **Error! Reference source not found.** • Section **Error! Reference source not found.**
Site visits	• *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.*	• Site visits were conducted by H&SC staff during the period June 2011 to February 2013	• Section **Error! Reference source not found.** • Section **Error! Reference**
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• Geological Interpretation has a high degree of confidence • Interpretation based on SM diamond drilling validated geological logging and assays	• Section **Error! Reference source not found.**

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Criteria	Explanation	Commentary	Report Reference
Dimensions	• *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.*	•	• Section **Error! Reference source not found.**
Estimation and modelling techniques	• *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.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.*	• Ordinary Kriging technique employed based on low coefficient of variation between samples in the mineralised domain • Grade interpolation search ellipses based on variography	• Sections **Error! Reference source not found.,Error! Reference source not found.** • Sections **Error! Reference source not found., Error! Reference source not found.**

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Criteria	Explanation	Commentary	Report Reference
	• *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*		
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnages are estimated on a dry basis	• Section **Error! Reference source not found.** • Sections **Error!**
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• Mineralised domain interpreted on grade ≥0.5% - assumed to be reasonable cut off for small scale shallow open pit proposition • Resources estimated at a range of cut-offs	• Sections **Error! Reference source not found., Error! Reference source not found.**
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects 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.*	• Not addressed at this stage.	• (NA)

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Criteria	Explanation	Commentary	Report Reference
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• No metallurgical factors or assumptions used to restrict or modify the resource estimation. • Metallurgical recovery is estimated as a separate entity in the block model estimate	• Section **Error! Reference source not found.** • Sections **Error! Reference source not found., Error! Reference source not found.**
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• No environmental factors or assumptions used to restrict or modify the resource estimation	• (N/A)

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Criteria	Explanation	Commentary	Report Reference
Bulk density	• *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.*	• bulk density was estimated into block models based on a matrix of oxidation and lithology • Matrix based on logging records and core photography	• Section **Error! Reference source not found.** • Section **Error! Reference source not found.**
Classification	• *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.*	• Based on geological modelling, oxidation modelling, density modelling, metallurgical recovery modelling • Classification criteria deemed appropriate by H&SC	• Sections **Error! Reference source not found., Error! Reference source not found.**
Audits or reviews.	• *The results of any audits or reviews of Mineral Resource estimates.*	• No formal audits or reviews have been undertaken to date.	• (NA)

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Criteria	Explanation	Commentary	Report Reference
Discussion of relative accuracy/ confidence	• *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.*	• Outlines of resource classifications were reviewed against drill-hole data density and assays results. • Mineral resource estimate technique deemed appropriate • Estimation result concurs with internal desktop studies • Total mineral resource estimate based on global estimate • No production data available	• Sections **Error! Reference source not found.**, **Error! Reference source not found.** • Sections **Error! Reference source not found.**, **Error! Reference source not found.**

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