# Ore Reserves Statement

## BKM Copper Project, Central Kalimantan

## Indonesia

## As at 11 June 2019

Prepared by Australian Mine Design and Development Pty Ltd

for

Asiamet Resource PLC

Authors: John Wyche - AMDAD

Effective Date: 11 June 2019
Submitted Date: 11 June 2019



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# 1 ORE RESERVES STATEMENT

## 1.1 SCOPE

The May 2019 Ore Reserves Estimate was prepared for Asiamet Resources Limited by Australian Mine Design and Development Pty Ltd (AMDAD). It deals with the resources for the Beruang Kanan Main (BKM) copper deposit in Central Kalimantan, Indonesia, as at 11th June 2019. It is the maiden Ore Reserves estimate for the project.

All of the reserves are for extraction by open pit mining. Processing will be by heap leaching and solvent extraction / electrowinning (SXEW) to produce copper cathode on site.

At the time of preparing this Ore Reserve Estimate the BKM Project is at the Feasibility Study Stage. There is currently no mining or processing in operation or development on the site.

## 1.2 CONTRIBUTING PERSONS

The June 2019 Ore Reserve Statement prepared by AMDAD is supported by contributions from the persons listed in Table 2.

## 1.3 ACCORD WITH JORC CODE

This Ore Reserves Statement has been prepared in accordance with the guidelines of the Australasian Code for the Reporting of Resources and Reserves 2012 Edition (the JORC Code 2012).

The Competent Person signing off on the overall Ore Reserves Estimate is Mr John Wyche, of Australian Mine Design and Development Pty Ltd, who has 31 years of relevant experience in operations and consulting for open pit metalliferous mines.

## 1.4 ORE RESERVES SUMMARY

The Ore Reserve Estimate is summarised in Table 1.

**Table 1 BKM Copper Project Ore Reserves**

| Ore Reserve Category | Volume | Tonnes | Total | Soluble | Contained Copper ktonnes | |
|---|---|---|---|---|---|---|
| | | | Copper | Copper | Total | Soluble |
| | Mbcm | Mt | % | % | kt | kt |
| **Proved Ore** | | | | | | |
| Chalcocite dominant | 5.2 | 14.9 | 0.7 | 0.5 | 103 | 77 |
| Covellite/Bornite dominant | 1.6 | 4.4 | 0.5 | 0.5 | 24 | 20 |
| Chalcopyrite dominant | 0.6 | 1.9 | 0.6 | 0.2 | 11 | 3 |
| Total Proved Ore | 7.4 | 21.1 | 0.6 | 0.5 | 137 | 101 |
| **Probable Ore** | | | | | | |
| Chalcocite dominant | 5.8 | 15.4 | 0.6 | 0.4 | 88 | 63 |
| Covellite/Bornite dominant | 2.9 | 7.8 | 0.5 | 0.4 | 40 | 31 |
| Chalcopyrite dominant | 2.7 | 7.2 | 0.5 | 0.1 | 38 | 11 |
| **Total Probable Ore** | 11.4 | 30.4 | 0.5 | 0.3 | 166 | 105 |
| Proved + Probable Ore | | | | | | |
| Chalcocite dominant | 11.0 | 30.2 | 0.6 | 0.5 | 190 | 140 |
| Covellite/Bornite dominant | 4.5 | 12.2 | 0.5 | 0.4 | 64 | 51 |
| Chalcopyrite dominant | 3.3 | 9.1 | 0.5 | 0.2 | 49 | 14 |
| **Total Proved and Probable Ore** | **18.8** | **51.5** | **0.6** | **0.4** | **303** | **206** |
| Waste Rock | 33.1 | 85.0 | | | | |
| Waste : Ore Ratio | 1.8 | 1.7 | | | | |

Notes:

1. The tonnes and grades shown in the totals rows are stated to a number of significant figures reflecting the confidence of the estimate. The table may nevertheless show apparent inconsistencies between the sum of components and the corresponding rounded totals.

**Table 2 Contributing Experts**

| Expert Person/Company | Area of Expertise | References / Information Supplied |
|---|---|---|
| Duncan Hackman<br>Hackman and Associates Pty Ltd | Mineral resource estimation | Beruang Kanan Main Zone, Kalimantan, Indonesia; 2019 Resource Estimate Report, June 2019 |
| Lufi Rachmand<br>Geomine Mining and Geotechnical Consultant | Geotechnical engineering | Pit wall slope assessment for the BKM Opencut Copper Project. |
| Simon Ballantyne<br>PT Ground Risk Management | Geotechnical engineering | GRM Technical Note 19 AMR 001 TN 001, 31 May 2019<br>Peer review and assembly of geotechnical information and final pit wall recommendations. |
| David Readett<br>MworxTDK Pty Ltd | Metallurgy | Heap leach test work and process design for the BKM Copper Project. Heap leach recoveries. |
| John Baillie<br>Whittle Consulting Pty Ltd | Strategic planning | Enterprise optimisation. |
| Ali Sahami<br>PT Lorax | Environmental | Project environmental and social impacts. Project permitting. |
| Keith Whitchurch<br>PT SMG Consultants | Mine planning | Mine operating and capital cost estimate. |
| Andrew Keith<br>PT SMG Consultants | Engineering Project Management and Mine Infrastructure | Assembly and review of Process and Infrastructure capital and Operating cost estimates prepared by contributing engineering companies including but not limited to Ausenco (Process and Infrastructure Design) and Resindo (Infrastructure Design). |
| James Deo<br>Asiamet Resource Limited | Commercial | Copper price forecast. Project financial model. |
| John Wyche<br>AMDAD Pty Ltd | Mining Engineering | Pit design. Detailed production scheduling. Competent Person for Ore Reserves. |

## 1.5 ORE RESERVE ASSESSMENT

**Table 3 JORC Table 1 Section 4, Estimation and Reporting Ore Reserves**

Sections 1, 2 and 3 of the following Table 1 are taken from "*Beruang Kanan Main Zone, Kalimantan, Indonesia; 2019 Resource Estimate Report*" prepared by Hackmann and Associates Pty Ltd.

# JORC Code, 2012 Edition – Table 1

# Section 1 Sampling Techniques and Data

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

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Sampling techniques* | • *Nature and quality of sampling (eg 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.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.* | The BKM prospect has been a focus of copper exploration in the KSK CoW for 22 years, being the subject of drilling for KSK and joint venture partners in nine distinct programmes:<br>• Prior to 2015:<br>○ KSK (19 holes in two programmes) and Oxiana Limited (in Joint Venture with KSK, 10 holes in one programme) undertook shallow to moderate depth exploration drilling (~600m) and identified that a near surface body of mineralization could exist at BKM,<br>○ ENJ (in Joint Venture with KSK) undertook delineation drilling of this mineralization (31 holes) and in a separate programme they drilled three deep holes (>1000m) into BKM.<br>• In 2015 KSK drilled 71 holes into and peripheral to the mineralised zones to better define and understand the copper mineralisation at BKM. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • In 2016-18 KSK drilled 143 holes (in two programmes) into the BKM mineralisation to confirm geological and grade continuity and to build a dataset capable of underpinning resources to be considered for Measured and Indicated classification (JORC, 2012).<br>• In 2019 KSK drilled 41 holes into the BKM mineralisation to confirm geological and grade continuity in peripheral areas of the mineralisation to expand the dataset capable of underpinning resources to be considered for Measured and indicated classification (JORC, 2012).<br><br>The BKM mineralisation has been drilled at a nominal 50m by 50m grid. The dominant drilling attitude is -60 degrees towards 270 degrees as dictated by logistics in drilling on a predominantly steeply easterly sloping mountain side. Check holes at alternate orientations and twin holes complete the resource dataset.<br><br>All holes were drilled utilizing diamond drill rigs. |
| *Drilling techniques* | • *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).* | Pre-2015 holes typically started at PQ or HQ core sizes, reducing to NQ and BQ when required due to drilling conditions and rig capabilities. The 2015, 2016-18 and 2019 holes were drilled with HQ triple tube running gear and 1.5m core barrels. 83% of the mineralization has been sampled with HQ core and 8% with PQ core. NQ and BQ holes contribute to <9% of the modelled mineralisation and this data subset shows a negative bias in copper grade that is considered deposit zonation related rather than primary sampling error related.<br><br>84% of mineralised drill core is sampled at 1m lengths, 5% at 2m lengths (2015 holes) and 5% at 3m lengths (pre-2015 holes). Sampling intervals were determined by supervising geologists and core shed technicians split core longitudinally by diamond saw to generate ½ core samples for analytical assay. Friable core was first wrapped in plastic and tape before |

| Criteria | JORC Code explanation | Commentary |
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| | | cutting. |
| *Drill sample recovery* | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *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.* | Drill core recovery was recorded for all holes on a drilling run basis where:<br>Percent length core recovered = measured core in drill run / length hole drilled * 100<br>In addition to length core recovery, the KSK 2015-19 drill core recovery was also determined on a total/complete core recovery basis. This measurement describes internal loss caused by scrubbing and washing of core during the drilling process. A four category ranking is logged on a drill run basis ranging from no loss through to extreme loss where washing and material loss is noticed immediately. Minor and moderate categories are applied to core where pitting or plucking is observed at varying degrees.<br>Triple tube HQ drilling utilising a 1.5m barrel is known to assist in minimising core loss and this configuration has assisted drillers in obtaining >90% length recovery in over 94% of the mineralised intervals at BKM. However this acceptable level of core recovery is not ubiquitous at BKM as three zones of heterogeneous and clayey material have been identified and these zones have returned variable recoveries. Although there is no certain relationship between recovery and copper grade in these zones they have been treated independently in the 2019 resource estimation and classification processes. |
| *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.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | All core has been logged prior to sampling for geotech, vein and fracture characteristics, lithology, alteration, mineralisation and structure (alpha measurements only as there is no oriented core at BKM). Additional logging of core photos was undertaken to obtain data relating to the specific metallurgical characteristics “material type” and “degradation index” and in determining the homogeneity of material for zoning and applying tonnage factors to the resource. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Sub-sampling techniques and sample preparation* | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *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.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | Industry accepted practices were employed in sub-sampling and sample preparation for assaying at BKM. Typically for each of the eight programmes core was checked on arrival at the core shed (depths, core block and tray annotation); photographed; logged for recovery, geotech, vein and fracture characteristics, lithology, alteration, mineralisation and structure; SG samples measured and returned to tray; split/cut longitudinally and sampled; re-photographed; then stored.<br>Analytical samples were prepared and assayed by accredited laboratories. Samples were crushed and split with a nominal 1kg split sample pulverised to P95 passing 200microns from which an analytical charge was taken for assay. Crusher reject material and pulps for all assay intervals are stored by KSK.<br>Assessment of pre-2015 core handling, sampling and sample preparation procedures:<br>• KSK drilling:<br>○ Core handling, logging and storage are adequate.<br>○ Sampling processes are adequate.<br>○ Sample numbering protocols are adequate.<br>○ Sample security is lax and sample compromise could accidentally occur during transport/transfer or could be intentionally introduced without evidence. In particular compromise could occur as:<br>▪ Samples are held in plastic bags sealed with masking tape.<br>▪ Sample lists are generated more than once during the transfer process of transporting them from site to the laboratory.<br>▪ Samples travelled accompanied by KSK from site to the Palangkaraya office then |

| Criteria | JORC Code explanation | Commentary |
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| | | unaccompanied by courier from Palangkaraya to PT Indoassay Laboratories in Balikpapan. PT Indoassay Laboratories confirmed the arrival and condition of samples and no adverse issues have been recorded.<br>○ Sample preparation undertaken by PT Indoassay Laboratories is not detailed.<br>• Oxiana drilling: There is no record of how Oxiana Limited core was handled during their involvement at BKM. Verbal communication with KSK personnel involved with this programme confirms that core and sampling followed the general description outlined at the start of these criteria (above).<br>• ENJ drilling:<br>○ Transporting of core from site to Tengkiling prior to logging and sampling is not ideal as core can be readily destroyed and mixed-up during the journey over rough roads.<br>○ Core handling, logging and storage are adequate.<br>○ Sampling processes are adequate.<br>○ Sample numbering protocols are adequate.<br>○ Sample security is lax and sample compromise could accidentally occur during transport/transfer or could be intentionally introduced without evidence. In particular compromise could occur as:<br>▪ Sample lists generated more than once during the transfer process of transporting them to the laboratory for processing. |

| Criteria | JORC Code explanation | Commentary |
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| | | ▪ It is not stated if dispatch and receipt paperwork was generated for transferring samples from the KSK area to the GeoAssay area of the Tengkiling core yard.<br>▪ Pulp samples traveled accompanied by courier from Tengkiling to GeoAssay Laboratories in Jakarta.<br>○ Sample security could be intentionally compromised by easy access to the sample preparation laboratory which was setup by PT GeoAssay Laboratories within the KSK compound at the tengkiling core shed.<br>○ Sample preparation appears adequate except that:<br>▪ Samples were crushed to -4mm prior to 1kg being split for pulverizing<br>▪ Pulverised material was mat rolled prior to being quartered to generate four pulps.<br><br>Evaluation of the pre-2015 copper assay subset against the remaining data shows no reason of concern regarding the validity and suitability of this early data in estimating resources at BKM.<br><br>2015 to 2019 core handling, sampling and sample preparation procedures. This subset now constitutes 82% of the BKM resource dataset:<br><br>The onsite processing workflow is as follows:<br>• Core is packed (screw-down cradles to eliminate spillage) and carried by hand (2015) and by hand and vehicle (2016-19) from drill sites to the core processing facility at camp (located to the east of the BKM mineralisation). |

| Criteria | JORC Code explanation | Commentary |
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| | | • Core blocks and tray details are checked and hole depth details recorded on core.<br>• Core trays are weighed and photographed wet.<br>• Geotechnical and geological logging undertaken.<br>• Geologist selects segments of core for SG determination, which is undertaken by core yard technicians.<br>• Sample intervals are determined by geologists and core is split longitudinally by core saw. Clayey and incompetent core is wrapped in glad-wrap and packing tape prior to cutting.<br>• CRM Standards, coarse blanks (granite), pulp blanks and coarse crush duplicates are inserted into the sample sequence (coarse crush duplicates are generated at ITS during sample preparation; empty, numbered bags are included within the sampling sequence in preparation for their creation).<br>• Core and QC samples are bagged and tagged for transport to ITS Jakarta.<br>• Dispatch paperwork is prepared for ITS which includes the list of coarse crush duplicates to be prepared and of those samples where SG segments require drying separately and recombined with the remaining material before crushing).<br>• Sampled, half core in trays is photographed both wet and dry.<br>• Core block details are inscribed onto aluminum tags which are then attached back onto core blocks. Tray details are engraved onto trays before being packed and transported by light vehicle to the Tengkiling core shed for rack storing under cover. |

| Criteria | JORC Code explanation | Commentary |
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| | | • Samples are transported in poly weave bags to the Tengkiling core yard where these bags are then paletted and transported to PT Intertek Utama Laboratories in Jakarta.<br>KSK employs the use of numbered, tamper-proof zip ties to seal sample bags being transported off-site.<br>The flow sheet presented in the following Figure depicts the sample preparation procedure conducted at PT Intertek Utama Laboratories in Jakarta (ITS). |

| Criteria | JORC Code explanation | Commentary |
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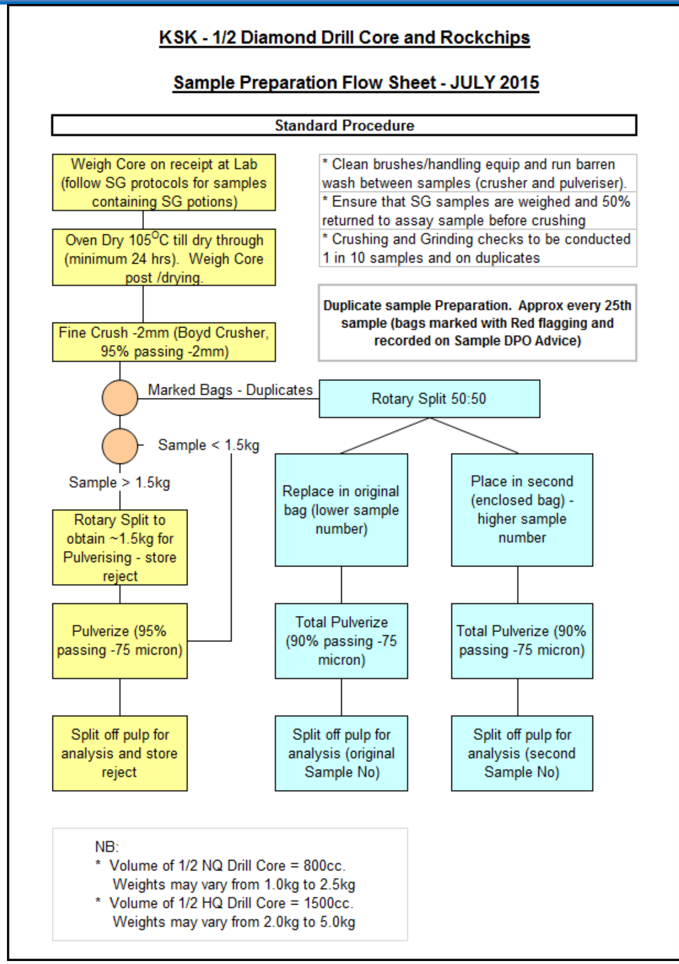
| | | |



| Criteria | JORC Code explanation | Commentary |
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| | | H&A undertook three site visits and confirmed that protocols were being executed as designed and that activities and diligence was unchanged over time. H&A also visited and reviewed sample preparation at PT Intertek Utama Laboratories in Jakarta on three occasions and found that work was being undertaken diligently and with appropriate monitoring and supervision.<br><br>Quality Control Assay samples were submitted with routine samples for the OX-KSK and ENJ-KSK and the 2015 to 2019 drilling programmes. There were no quality control samples inserted into the early KSK drill samples to assess the reliability of these copper assays. Sample comminution tests are reported as being undertaken for the ENJ and KSK 2015-19 drill programmes. Only the KSK 2015-2019 data is available for evaluation and all test show compliance at both crush and pulverise size. Although not confirmed, the compliance shown in the 2015-19 sizing QC data and the acceptable repeatability of assays in both coarse crush and pulp duplicates, adds confidence in the belief that samples in earlier drilling programmes were reliably prepared.<br><br>Copper assays from seven twin-hole pairs and a half core sampling comparison programme show that inappropriately small primary sample sizes (and numbers/counts) will introduce a precision error but not an accuracy (bias) error. Mineralisation thickness is considered in classifying the BKM Resource Estimate. |
| *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.*<br>• *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.*<br>• *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels* | All laboratories undertaking the sample preparation and assays were accredited over the duration of the BKM sample analyses. PT Intertek Utama Laboratories in Jakarta (ITS) analysed 91% of the resource assay dataset and is KAN accredited.<br><br>Quality Control Assay samples were submitted with routine samples for the OX-KSK and ENJ-KSK drilling programmes. There were no quality control samples inserted into the early KSK drill samples to check the reliability of copper results. |

| Criteria | JORC Code explanation | Commentary |
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| | *of accuracy (ie lack of bias) and precision have been established.* | Quality control programme findings:<br>ENJ-KSK compiled a detailed assay quality control report. H&A has confirmed that the assay results for the QC samples are as reported from the laboratories and agrees with the ENJ-KSK findings, these being:<br>• There is no detectable cross contamination issues to be considered<br>• The CRM assays show that the laboratories (GeoAssay, Intertek Services and Sucofindo) return reliable copper assays for all batches<br>• Check assays to reference laboratories show good correlation with the primary laboratory copper assays.<br>H&A also notes that ENJ-KSK:<br>• Submitted both barren quartz and unconsolidated sand as their blank material at the rate of one per batch. The use of sand is not ideal as exposure to crusher contamination cannot be detected. The inclusion rate of blanks is low.<br>• Sourced four standards from those used by PT Freeport Indonesia and produced one matrix matched standard from the BKM prospect. Globally the matrix matched standard BKSH-01 performs poorly wrt the other standards, H&A suspects that this is more likely due to features of the standard rather than issues with the laboratories and therefor has no reason to question the reliability of the routine assay at this stage of the project.<br>• Copper assays of the standards from ITS and SFK increase from ~+/-1% difference from their certified values pre May 2013 to +3-5% difference from these values post May 2013. The GA results |

| Criteria | JORC Code explanation | Commentary |
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| | | are acceptable for all periods bar August 2012 where they are 4% greater than the certified values. ENJ-KSK offer no reason for the deviation in assay accuracy.<br>• The inter-laboratory check sample results analysis presented by ENJ-KSK show that assays generally differ by less than 4% (mean paired difference). The ENJ-KSK report does not show direct comparisons between the primary laboratory (GeoAssay) and the check laboratory sample results. H&A undertook this analysis which confirms the ENJ-KSK findings, being that the umpire laboratories' copper assays compare well with the primary laboratory assays.<br>In addition, H&A reviewed all laboratory inserted standards, duplicate assays and repeat assays inserted by GeoAssay, Intertek Services and Sucofindo. No material issues were uncovered that would impact on assay confidence for generating and classifying the BKM 2019 Resource Estimate.<br>OX-KSK inserted blanks and standards into the routine sample stream for assay. There is no reference in the dataset supplied to H&A as to which assay results belong to the quality control samples, therefor H&A is not able to cross-check the graphs presented by OX-KSK on the assay quality control.<br>H&A notes from the OX-KSK graphs:<br>• The QC programme undertaken is limited and not ideal for assessing the reliability of assaying of samples to be utilized in generating resource estimates.<br>• There is no concern regarding the degree of cross-sample contamination. |

| Criteria | JORC Code explanation | Commentary |
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| | | • CRM standards show that laboratory performance for early batches (K30001 to K30009) is of concern, as:<br>○ All copper results for standard OREAS52pb (3338ppm Cu) are within the “warning” classification (>2StdDev from expected value as specified by the CRM documentation).<br>○ Copper results for the inserted standard OREAS50pb (7440ppm Cu) are more in alignment with their expected value, however the precision in batches K30001 to K30009 is poor compared with batches K30010 and above.<br>The reliability of copper results for batches K30001 to K30009 is yet to be confirmed. The reliability of copper assays from a single hole KBK-0021 is impacted by the diminished confidence in these assays. Clustering of holes in proximity of KBK-0021 has restricted the impact of this hole on the resource estimate and no Measured Resources have been classified proximal to KBK-0021.<br>H&A is of the opinion that the copper assays for the ENJ-KSK drill programme are suitable for underpinning resource estimates being considered for Classification under the guidelines set out in the JORC Code (2012 Edition). H&A has compared the copper assay populations from ENJ-KSK with the combined KSK and OX-KSK programmes; and the assays from pre-2015 with the 2015 KSK drilling and considers that, for the purpose of generating the BKM 2019 Resource Estimate, all populations are statistically the same. H&A is of the opinion that, although the reliability of the pre ENJ-KSK drill assay data (early KSK and OX-KSK) cannot be assessed directly, the similarity of the statistical-distributions adds confidence in this data and H&A proposes that the probability this data containing material |

| Criteria | JORC Code explanation | Commentary |
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| | | issues affecting accuracy or confidence in the BKM 2019 Resource Estimate is low.<br><br>KSK 2015 to 2019 drilling programme:<br><br>All samples were assayed for copper by ITS method IC30 with fifteen samples returning assays of >11%Cu being re-assayed by ITS method GA30. Details of the analytical methods are as follows:<br>• Sample assay charge: IC30 = 0.50g; GA30 = 0.25g<br>• Digest method: digested to incipient dryness with Nitric, Hydrochloric and Perchloric acids. The salts are re-dissolved in Hydrochloric Acid and made to final volume in a volumetric flask using distilled water.<br>• Analytical method: ICP-OES<br>• Lower limit of detection, Cu: IC30 = 2ppm; GA30 = 0.01%<br>• Upper limit of detection, Cu: IC30 = 10%; GA30 = unlimited. Reanalysis by GA30 is primarily due to the upper limit for IC30 however may also be conducted to confirm higher IC30 grade results for QC purposes.<br><br>KSK employed coarse and pulp blanks (1-4% commonly 2% of batch), standards (4-7% commonly 6% of batch) and coarse crush and split duplicates (4-5% of batch) with the routine samples to assess copper assay reliability. Coarse blanks and coarse crush and split duplicates were preferentially inserted where mineralisation was observed. KSK pulp blanks were inserted following standards. KSK utilised commercial standards in 2015, matrix matched standards from 2016 to 2018 and a mix of matrix matched and commercial standards in 2019.<br><br>ITS included blanks (2-3% of batch), standards (6-10%), second charges (same batch, 5-7%) and repeat assays (subsequent assay |

| Criteria | JORC Code explanation | Commentary |
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| | | batch, 4-6%) in the analytical stream. Sizing test results (4% of batch) show that all batches met comminution requirements for both the crushing and pulverizing stages of sample preparation.<br><br>Both the KSK and ITS QC data and results from an umpire laboratory assay programme undertaken in 2015 make up the copper assay quality control dataset for BKM. Findings regarding copper assay reliability are:<br><br>• There are no contamination or carry-over issues detected in the coarse blanks or pulp blanks (both KSK and ITS).<br>• No material issues were detected in the KSK or ITS standards. There is a +5% relative difference systematically reported for the BKM MED standard (measured vs expected) which is attributed to the determination of the certified value, where Ore Research & Exploration (certifier) eliminated the results of two laboratories that returned high grades from their analyses of the standard. With the results from these laboratories included in the certification data the expected grade lifts and the compliance of this standard improves and is more in line with the BKM LOW and BKM HIGH standards' performances.<br><br>Two batches assayed in 2019 returned spuriously low assays for the matrix matched standards inserted. Investigations indicted that the standards' integrity was compromised and re-assaying with additional standards proved this to be the case. The re-assayed values were included in the resource dataset.<br><br>• The KSK Coarse crush and split duplicate copper assays show acceptable repeatability (%AMPD = 0.5% and \|%AMPD\| = 2.4% for mineralised samples >2000ppm Cu) as |

| Criteria | JORC Code explanation | Commentary |
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| | | do the ITS second charge assay duplicates (%AMPD = -0.2% and \|%AMPD\| = 1.8% for mineralised samples >2000ppm Cu) and the ITS repeat assay duplicates (%AMPD = 0.1% and \|%AMPD\| = 1.5% for mineralised samples >2000ppm Cu).<br><br>ITS and H&A investigated the issue of 25 duplicate coarse crush and split pairs returning >5%AMPD in the 2015 drilling dataset. No definitive explanation was uncovered. H&A suspects that the discrepancy is due to a hygiene issue as the issue is not present in contiguous check samples or in the 2016-19 QC dataset. The 2015 copper assay data compares well with the pre and post 2015 datasets, indicating that any issue relating to the poor copper grade repeatability in coarse crush and split duplicate assays will not materially impact on the confidence of the 2019 Resource Estimate.<br><br>• Coarse reject and pulps from 45 mostly mineralised samples (>2000ppm Cu) were selected from the 2015 ITS assay batches and dispatched to PT GeoAssay Laboratory, Jakarta (GA) where copper <1.0% was assayed by method GAI03 (0.5g charge, 3 acid digest, ICP-OES determination) and copper >1.0% assayed by method GOA03 (1.0g charge, 3 acid digest, AAS determination).<br><br>The assaying of coarse reject material shows a %AMPD of -2.0% and \|%AMPD\| of 5.2% when compared with the original ITS assay and the check assaying of the pulp material shows a %AMPD of -3.0% and \|%AMPD\| of 5.9% when compared with the original ITS assay. Although the inter laboratory assay checks do not show excellent repeatability with the ITS assays, they support the robustness of the original ITS assays |

| Criteria | JORC Code explanation | Commentary |
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| | | and further increase view that the ITS assays are robust and reliable for use in estimating copper mineralisation at BK.<br><br>Comparison of Copper Assays from pre-2015, 2015 and 2016-19 Programmes:<br><br>The copper assays from each of the three drilling campaign periods show comparable population distributions and can be combined for estimating the 2019 resources. A base shift observed between the pre2016 and the2016-19 drill programme copper grades is explained by the spatial distribution of the holes within each drill period, with a significantly higher portion holes drilled into the better mineralised areas of the deposit pre2016 and a higher portion of the 2016-19 holes in the areas peripheral to the high grade areas (than in the pre2016 hole dataset). Additional confidence that there is no issue with combining the datasets is obtained from the reconciliation between the 2015, 2017 and 2019 resource estimates. |
| *Verification of sampling and assaying* | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | There has been no independent sampling undertaken on the BKM mineralisation.<br><br>A number of studies were undertaken which when assessed as a whole add confidence in the validity of the BKM resource dataset. These studies were:<br><br>• KSK in 2015 and ENJ-KSK in 2012-13 undertook reference laboratory programmes with acceptable results.<br>• Seven twin holes drilled at BKM allow assessment of the primary sampling error at BKM and a comparison between the KSK 2015 and 2017 drilling. A good comparison in grade tenor, mineralised intercept lengths and number of identified domains was achieved in this drilling dataset. |

| Criteria | JORC Code explanation | Commentary |
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| | | • Seventeen holes have been drilled with an easterly attitude, seven with a southerly attitude and sixteen sub-vertically. These holes form crossed pairs with westerly drilled holes to generate a dataset to assess the primary sampling error associated with drilling direction. When copper assay population distributions are assessed there is no material difference between a dataset generated by either drill hole direction for westerly holes and easterly holes and for the lower 60% of the population datasets for holes drilled southerly and westerly. It is indicated that similar resource estimates for copper mineralisation at BKM would be generated from datasets obtained from predominantly westerly or predominantly easterly drilled holes.<br>• A comparison of drilling datasets from the pre-2015 ENJ, pre-2015 KSK, 2015 KSK and 2016-19 KSK periods confirm that each of these subsets have sampled the same copper mineralisation, with the only significantly different dataset being the 2016-19 dataset which, as designed, contains a higher proportion of holes drilling peripheral and lower grade mineralisation as opposed to the earlier drilling which targeted the thicker and higher tenor mineralisation in the core of BKM.<br>• All samples from the 2015 to 2018 drilling programmes containing greater than 1000ppm copper were submitted for sequential copper assays at Bureau Veritas Minerals Metallurgical Laboratory, Perth WA. Issues relating to sample loss were encountered however results confirm that |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | copper mineralisation of the tenor established from the ITS assays exist at BKM.<br><br>A comprehensive optical mineralogy programme has identified a zoned distribution of chalcocite, covellite, bornite and chalcopyrite minerals at BKM and the global copper grade distribution reflects the relative portions of each of these minerals at various locations at BKM. |
| *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.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | All resource work is undertaken and recorded in WGS84, UTM Zone 49S. H&A has verified this at site by GPS surveying four pre-2015 drill collar locations and confirmed that the surveys match the recorded data and the inscriptions physically stamped on the drill collars. There are no translation issues at BKM and the grid references for drill holes and the LIDAR topographic surface are congruent.<br><br>Collars locations are well established by survey pickup and drill trace locations are well established through appropriately spaced downhole survey readings. There are 30 pre 2015 hole collars not surveyed and their GPS and compass and tape generated locations have been validated by confirming against original location files and by comparing RLs with the BKM LIDAR data. Confidence in the trace path of the 30 pre-2015 holes missing downhole surveys is garnered from observations in the traces from surveyed holes where deviations are small and effects of location errors minimal due to the orthogonal relationship between trace and mineralisation domain contact attitudes. |
| *Data spacing and distribution* | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *Whether sample compositing has been applied.* | The 2019 BKM resource model covers the 1300m north-south strike, 800m width and up to 300m vertical extent of the BKM mineralized system which well defines the extent of this near surface mineralisation. The model is underpinned by data from 267 mostly westerly oriented diamond drill holes (36,857m) drilled on a nominal 50m X 50m grid. This drill spacing was selected from outputs of a conditional simulation study undertaken in 2016 designed to identify the optimal drill spacing enabling resources to be consider for all resource classifications under the JORC |

| Criteria | JORC Code explanation | Commentary |
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| | | Code (2012 Edition). 62 holes have been drilled at alternate orientations and these holes confirm geological and grade continuity in volumes of the resource considered for Measured Classification (JORC, 2012).<br><br>84% of mineralised drill core is sampled at 1m lengths, 5% at 2m lengths (2015 holes) and 5% at 3m lengths (pre-2015 holes). |
| *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.*<br>• *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.* | The predominant westerly oriented drilling at BKM is designed to orthogonally intercept the mostly 30 degree, structurally controlled easterly dipping planar mineralised domains at BKM. 62 alternatively oriented holes create datasets to test the data gap (potential structures and mineralisation oriented at acute angles to the drill direction) and internal grade orientation(s) within the mineralised zones.<br><br>Confidence in modelled geological continuity is obtained from:<br>• Infill drilling intercepting mineralised domains where planned (TIN model updates mostly involved snapping existing surfaces to new holes).<br>• The four sets of alternately oriented holes intercepted the same number of mineralised domains and same thickness of domains as the westerly oriented holes crossing their paths.<br>• Mineralised domain orientation and grade distribution is as expected from a low angle thrust fault structural setting.<br><br>Confidence in modelled grade continuity is obtained from:<br>• The relationship between copper grade and host copper mineral species distribution.<br>• The relationship of copper grade tenor with mineralisation related alteration zonation.<br>• The correlation of copper grades in the seven twin hole pair dataset, the seventeen easterly vs westerly cross-hole paired |

| Criteria | JORC Code explanation | Commentary |
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| | | dataset and the five southerly vs westerly cross-hole paired dataset.<br>The similarity of data subsets generated by selecting each of the drilling programmes. |
| *Sample security* | • *The measures taken to ensure sample security.* | Sample security, sample provenance and chain of custody documentation has improved over time where, in 2015-19, significant metadata is recorded for each hole, including photographs depicting activities undertaken at key stages of the processing chain (in particular sampling and sample dispatching). Tamper proof and numbered zip-ties were employed in the 2015-19 drill programmes. The high degree of similarity between the 2015 and pre-2015 copper datasets adds confidence that the earlier, less secure samples have not been compromised. |
| *Audits or reviews* | • *The results of any audits or reviews of sampling techniques and data.* | H&A audited and improved the KSK core yard and ITS sample preparation protocols in June 2015. The following changes were introduced and monitored throughout the 2015-19 drilling campaigns:<br>• Reviewing analytical method; resulting in increasing the elements reported by ITS,<br>• Reviewing standard type, grade ranges, insertion positions and rates; resulting in preferentially positioning coarse blanks and duplicates in mineralised intervals, and introduction of BKM matrix matched standards,<br>• Assessing sample dispatch sizes wrt the standard inclusion rates and ITS laboratory batch/work flow sheet; resulting in an increase in batch sizes,<br>• Reviewing standards, duplicates and blanks performance for assays already received (batches BKM00[3-12, 15-24]; resulting in feedback to laboratory regarding copper assay drift and |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | correction issues and the continuation of -2mm crush and split of primary sample to produce a ~1kg subsample for pulverizing,<br>• Review of SG determination; resulting in new protocols to correctly accommodate porous material and workstation setup improvement,<br>• Review of downhole survey procedure; resulting in improved survey intervals and QA measures for monitoring survey tool reliability,<br>• Review of core handling and logging procedures; resulting in minimizing handling of core, introduction of vein logging and internal core loss logging,<br>• Review of sampling procedures; resulting in improved hygiene protocols,<br>• A visit to the ITS Jakarta laboratory to review sample preparation workstations and procedures; resulting in the following key recommendations and requests:<br>o The Boyd Crusher to be used exclusively for reducing the samples to -2mm in size,<br>o Barren wash to be processed between each sample processed through the crusher and pulveriser,<br>o Use pulp package that is capable of holding >>250g (e.g. 500g) and ensure that the 250g pulp material is not tightly packed into this satchel (allowing analytical charge to be selected from any portion of in the satchel),<br>o Both the -2mm and -75micron comminution test results to be reported with assay results.<br><br>H&A and KSK monitored adherence to protocols through on receipt and periodic evaluation of routine and QC data and through assessment during |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | periodic site visits by senior personnel. KSK personnel have followed the protocols diligently and consistently throughout all drilling programmes. |

## 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* | • *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.*<br>• *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.* | PT Kalimantan Surya Kencana (KSK, incorporated in Indonesia) is the 100% owner of the 6th generation Contract of Work (KSK CoW) within which BKM is located. KSK in turn is owned 75% by Indokal Limited (incorporated in Hong Kong) and 25% by PT Pancaran Cahaya Kahayan (incorporated in Indonesia). Indokal Limited owns 99% of PT Pancaran Cahaya Kahayan with the remaining 1% owned by Mr Mansur Geiger (held in trust for Asiamet Resources Limited). The parent company to the corporate structure is a Bermuda company, Asiamet Resources Limited (AMR), formally Kalimantan Gold Corporation Limited, which is a publicly listed company on the AIM (London) stock exchange. AMR owns 100% of the shares in Indokal Limited.<br><br>On 8 May 2019, the KSK licence was upgraded to Production Operation Stage by the Ministry of Energy and Mineral Resources, Indonesia. The impact of this upgrade means the KSK CoW is now in the Construction Period, which is a three year time frame, which is then followed by an Operation Production period for 30 years, with extensions thereafter. On 26 March 2018, the Company announced amendments to the KSK CoW of which the key features noted in public releases by KSK are:<br>• Tenure secured for 30 years and can be extended up to 50 years.<br>• KSK now has 39,000 hectares under the KSK CoW.<br>• The fiscal framework includes: |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | ○ Setting of the tax rate either at the prevailing rate (currently 25%) or no greater than 30%.<br>○ Copper royalty rate of 4%, gold 3.75% and silver 3.25%<br>○ KSK will receive a tax holiday and/or tax reduction for imported capital goods.<br>• No divestment required until after the 10th year of production<br>• The amended CoW requires the Company to work towards and assist the GOI in supporting the policy of establishing metals processing facilities in Indonesia. Asiamet plans to produce LME Grade (99.99%) copper cathode at BKM and as such will satisfy the criteria.<br>• The amended CoW currently contemplates the priority use of local labour, products and registered mining service companies. Indonesian nationals currently comprise 98% of the KSK workforce. KSK has strong community engagement and informs H&A that it will continue to support the development of local communities in the areas in which it operates. |
| *Exploration done by other parties* | • *Acknowledgment and appraisal of exploration by other parties.* | Other than drilling undertaken by joint venture parties (already discussed in appropriate sections of this document) there has been no work undertaken at BKM by other or historic companies. |
| *Geology* | • *Deposit type, geological setting and style of mineralisation.* | The KSK CoW is situated within a mid-Tertiary age magmatic arc that hosts a number of epithermal gold deposits (e.g., Kelian, Indon, Muro) and significant prospects such as Muyup, Masupa Ria, Gunung Mas and Mirah.<br><br>Copper-gold mineralization in the KSK CoW is associated with a number of intrusions that have been emplaced at shallow crustal levels at the junction between Mesozoic metamorphic rocks to the south and accreted Lower Tertiary sediments to the north. Older intrusions, and associated |

| Criteria | JORC Code explanation | Commentary |
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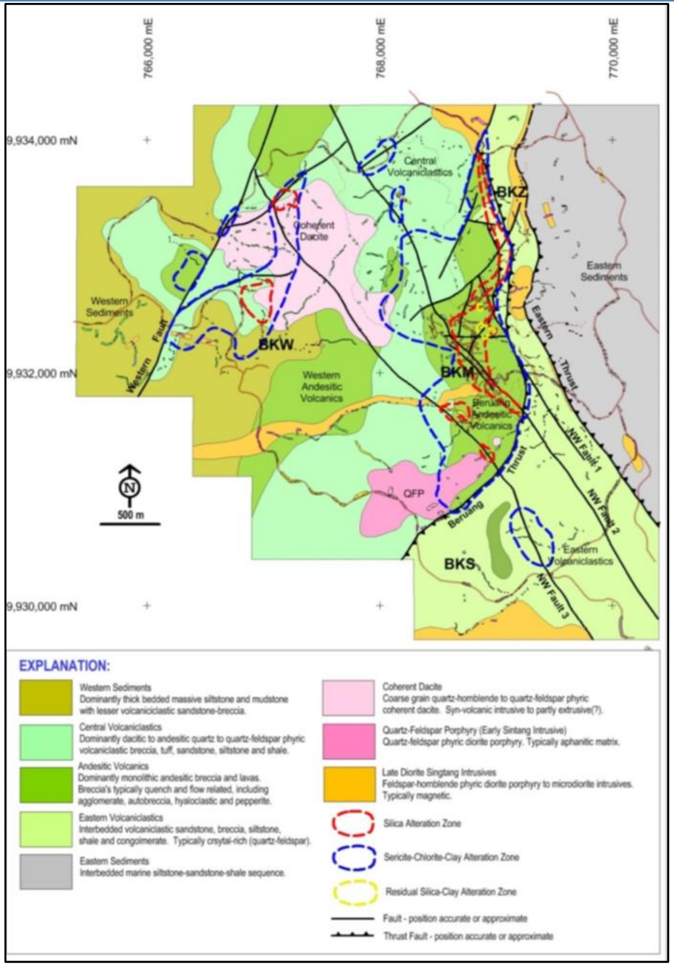
| | | volcanic and volcaniclastic rocks, of probably Cretaceous age also outcrop along this contact.<br><br>Structures in the region are dominated by a northeast striking set of faults that are interpreted to be features of the Kalimantan Suture and are probably arc parallel, or accretionary, faults. Subsidiary northwest trending arc normal, or transfer faults cross-cut the northeast structures.<br><br>Large circular features, that are evident on satellite, landsat, radar, and aerial photo images commonly coincide with the mid-Tertiary intrusions and associated magnetic high anomalies. These circular structures are interpreted to be volcanic collapse features and they host many of the porphyry copper-gold prospects within the KSK CoW. To date, more than 38 porphyry and porphyry-related copper and/or gold prospects have been defined in the KSK CoW, and only a few of these, namely the Baroi, Mansur and Beruang prospects have undergone any detailed exploration.<br><br>There have been two geological mapping programmes over the Beruang Kanan area. Early mapping (pre 2007) describes rock types and alteration and mineralisation styles in the area. This mapping and the descriptions are confirmed by the 2017 mapping which goes further in presenting the structural setting in the area and grouping lithologies into formations based on geological settings and structural domains. The 2017 mapping is presented in this document: |




*Geological summary map of the Beruang Kanan Project area (Sean Westbrook, Ore Technics, 2018).*

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | Setting and Lithologies:<br><br>The geology of the Beruang Kanan District consists of a volcano-sedimentary succession of compositionally and texturally diverse dacitic to andesitic volcanics and associated volcaniclastics intercalated with marine sedimentary sequences. The volcano-sedimentary succession is intruded by dioritic-andesitic stocks and dykes of the Sintang Intrusive suite.<br><br>Five main lithostratigraphic formations are proposed in the Beruang Kanan area on the basis of the dominant facies recorded from the mapping: (1) Western Sedimentary Formation, (2) Central Volcaniclastics Formation, (3) Eastern Volcaniclastics Formation, (4) Andesitic Volcanic Formations, and (5) Eastern Sedimentary Formation. Dioritic intrusive bodies occur throughout the Beruang Kanan District area. Two main intrusive suites appear to be present: (1) Early Sintang Intrusives (Quartz-Feldspar Porphyries) and (2) Late Sintang Intrusives (Microdiorite and Diorite Porphyry).<br><br>Structure:<br><br>Three main fault set directions were identified within the Beruang Kanan Project area: (1) N-S trending thrust faults, (2) NW trending faults, and (3) NE trending faults. At least two major N-S to NNW trending, shallow to moderate east dipping thrust faults occur along the eastern boundary of the Beruang Kanan Project area. These have been named (a) the Eastern Thrust, which forms the contact between the Eastern Sediments (hanging wall) and the Eastern Volcaniclastics (footwall) and (b) the Beruang Thrust. The Beruang Thrust marks the contact of the Eastern Volcaniclastics (hanging wall) and the Beruang Andesitic Volcanics (footwall) and also represents the approximate upper surface of a project- to district-scale, 50 to 150 m thick shear zone that is interpreted to have played a key role in the ore forming history at BKM and BKZ. |

| Criteria | JORC Code explanation | Commentary |
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| | | Shearing in the footwall of the Beruang Thrust is evident through the development of a tectonic cleavage and locally intense shear zones throughout much of the Beruang Andesitic Volcanics host sequence at BKM as well as the Eastern Volcaniclastics at BKZ. At BKM measured cleavage dip angles vary between 15 and 48 degrees, averaging around 30 degrees (overall east to southeast dip direction). Cleavage dip directions are also highly variable throughout the BKM area, indicating that the surfaces are irregular (undulating) along strike as well as down dip. The cleavage is generally absent in more competent, massive silica altered host, with deformation more commonly reflected as zones of strong to intense fracturing, brecciation and crush zones. At BKM, cleavage development and local shearing is most intense over a zone of some 50 to 150 m thick from surface.<br><br>A set of at least three significant district-scale NW trending faults were mapped transecting the project area from BKS through BKM and into the northern BKW area. Numerous other smaller faults of the similar orientation were also mapped throughout the area. These faults have dips to the northeast ranging between 59 and 75 degrees and normal to slightly oblique dip-slip sense of movement.<br><br>NE to NNE trending faults were mapped throughout the project area. Dip and dip directions on the faults are variable, ranging from moderate (50-70 degrees) through to sub-vertical (up to 85 degrees) and towards either NW or SE.<br><br>Zones of phyllic and silicic alteration and mineralisation of variable intensity is commonly observed associated with the NW and NE trending faults. Intersection of major fault sets is considered important in focusing the ore forming system at BKM and BKZ.<br><br>BKM Alteration and Mineralisation:<br><br>At BKM, quartz-sulphide and sulphide stockwork mineralisation occurs hosted in and enveloped by a zoned alteration system characterised by |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | an inner zone of intense, pervasive, texturally destructive silica dominant alteration surrounded by an outer zone of intense to moderate sericite-chlorite-clay (SCC) alteration. The mineralised system is largely hosted by the Beruang Andesite Volcanics in the footwall of the Beruang Thrust. The mineralisation and alteration zone trends broadly N-S, parallel and adjacent to the Beruang Thrust and has a sharp eastern boundary against the thrust, rarely extending into the hangingwall of the thrust.<br><br>Primary copper mineralogy at BKM occurs as chalcopyrite±bornite commonly associated with abundant pyrite. Supergene related chalcocite and covellite is common near-surface and extending to depths of greater than 100m. Mineralisation styles at BKM are variable, reflecting a complex alteration and deformation history. In the foliated and sheared outer SCC alteration zone, mineralisation occurs as disseminated, quartz-sulphide veins, sulphide veins, and semi-massive to locally massive sulphide zones that have focused along permeability induced by the tectonic foliation cleavage (interpreted to be related to deformation associated with the Beruang Thrust) and locally as fracture-fill associated with larger quartz veins and zones of more intense silica alteration. Mineralisation associated with the inner silica alteration zone is often higher grade than the outer zone and predominantly as fractured-controlled sulphide and quartz-sulphide veins and veinlet networks that have utilised permeability induced by brittle fracturing of the hard, competent intensely silicified rock and quartz veins. Textural evidence indicates that the main phase of sulphide mineralisation was relatively late.<br><br>It is proposed that several factors have combined to result in the formation of the mineralisation at BKM, including:<br><br>• Extensive quench fracturing and brecciation of andesitic lava due to the water-lava interaction in the sub-marine environment creating a high porosity in the early host; |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • An early phase nodular-textured/perlitic(?) silicification phase that exploited the permeability of the quench fractures and/or breccia matrix and resulted in textures such as the whispy breccia.<br>• Later complex polyphase alteration phases (and mineralisation?) further exploited the porosity of fractured nodular quartz silicification overprinted on this earlier quartz phase, commonly leading to further, more pervasive alteration of the host rock;<br>• Extensive shearing and development of an anastomosing tectonic cleavage in the footwall below the Beruang Thrust that enhanced permeability for sulphide mineralising fluids and later supergene processes.<br>• Extensive brittle fracturing of the inner silicic alteration zones, also increasing the porosity and enhancing fluid low;<br>• The intersection of multiple cross-cutting major faults acting to focus district to regional scale fluid flow.<br>In terms of deposit style, the BKM and BKZ mineralisation appears to have more in common with VHMS systems than a porphyry system. |
| *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:*<br>○ *easting and northing of the drill hole collar*<br>○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>○ *dip and azimuth of the hole*<br>○ *down hole length and interception depth*<br>○ *hole length.*<br>• *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 BKM prospect has been a focus of copper exploration in the KSK CoW for 22 years, being the subject of drilling for KSK and joint venture partners in nine distinct programmes totalling 318 holes (see entries under "Sampling Techniques and Data" section of this document for details regarding drillhole and drill programme metadata i.e. hole and sample location, extents of drilling, drillhole orientations, drilling and sampling techniques etc.).<br>267 holes (totalling 36,857m) intersected significant mineralisation and the BKM resource model is underpinned by 838 nominal 3m drill intervals (2,399m) in historical drill holes and 9,804 nominal 1m drill intervals (10,438m) in holes drilled from 2015 to 2019. 744 individual recognised |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *the understanding of the report, the Competent Person should clearly explain why this is the case.* | and modelled intercepts (≥2000ppm) range from 1m to 118m long, averaging 17m (79% are greater than 4m long) and 6960ppm Cu (intercept lengths approximate true thickness as westerly drilled holes orthogonally intersect the mineralised domains). See entries under the “Estimation and Reporting of Mineral Resources” for further details of mineralised intercepts and copper resource modelling. |
| *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.*<br>• *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.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | Statistical assessment of the copper assay data at BKM shows that three distinct population groupings exist. These being:<br>• An extremely low population (25% of the dataset), being less than 60ppm copper.<br>• A marginally elevated background population with grades greater than 60ppm and less than ~1000ppm copper.<br>• A mineralised population (as defined in the “Estimation and Reporting of Mineral Resources” of this document) with a lower population inflection point on a log probability plot being somewhere along a curve commencing at 1000ppm and ending at 3000ppm copper.<br>Identifying intercepts for inclusion in the resource modelling was a three pass process. These being:<br>1. Executing a compositing and data coding process that utilized the following parameters, run sequentially:<br>a. Compositing intervals ≥3m where individual sample copper grades are ≥2000ppm.<br>b. Linking sequential copper composites from first run if separated by ≤3m (i.e. maximum of 3m internal dilution).<br>c. Expanding upper and lower contacts of composites from second run incrementally if an interval within 4m has a |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | copper grade >2000ppm (i.e. 3m of edge dilution that is reset and reassessed each time the criteria is met).<br>2. Spatially reviewing the coded assay data from process 1 and refining the upper and lower domain contacts to reflect and accommodate the interpreted continuity of the domain being considered/modeled. This may include expanding intervals to include lengths of >1000ppm material which statistically may belong to the mineralised population.<br>3. Including any additional intervals in holes with copper grades ≥1000ppm (and similar dilution parameters as in pass 1) that did not meet the compositing criteria in pass 1 but fit with the spatial continuity of modeled domains within these holes' vicinity.<br><br>An assessment of the assay dataset on completion of the modelling shows that 82% of the assays within mineralised domains are ≥2000ppm copper, 12% of the assays are between 1000ppm and 2000ppm copper and a further 6% are <1000ppm copper. 32 of the 744 modelled intercepts (4%) have copper grades <2000ppm (averaging of 1590ppm copper).<br><br>Of the assay dataset outside of copper mineralised domains there are 1,004 isolated samples that do not fit within the domained mineralisation model (9% of all grades >2000ppm copper and 5% of the intervals outside of the modelled mineralisation). These samples have been included in the estimation of resources via a selective interpolation run (refer section "Estimation and Reporting of Mineral Resources \| Estimation and modelling techniques" for details).<br><br>The analysis of copper grades proximal to modelled domain contacts adds confidence that the 2000ppm copper modelling cut is a suitable hard boundary to apply in grade interpolation and that there is likely to be a geological control that appears at this lower cut. This grade tenor shift is revealed in the following table: |

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th></th><th colspan="5">Domained Mineralisation</th><th rowspan="3">Contact</th><th colspan="5">Not Mineralised</th></tr>
<tr><th></th><th colspan="5">Av. Cu Grade (ppm)</th><th colspan="5">Av. Cu Grade (ppm)</th></tr>
<tr><th>Composites Location wrt Domaim Contact</th><th>-5</th><th>-4</th><th>-3</th><th>-2</th><th>-1</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th></tr>
<tr><td>Mineralisation Upper Contact</td><td>7292</td><td>6422</td><td>7408</td><td>7290</td><td>6709</td><td></td><td>848</td><td>732</td><td>762</td><td>702</td><td>732</td></tr>
<tr><td>Mineralisation Lower Contact</td><td>7928</td><td>7362</td><td>6739</td><td>6748</td><td>5811</td><td></td><td>830</td><td>868</td><td>882</td><td>766</td><td>900</td></tr>
</table>
3m length weighted composites, cut on mineralised domain boundaries, were generation for copper grade interpolation.</td></tr>
<tr><td>Relationship between mineralisation widths and intercept lengths</td><td>
<ul>
<li>These relationships are particularly important in the reporting of Exploration Results.</li>
<li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li>
<li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg ‘down hole length, true width not known’).</li>
</ul></td><td>The majority of drill holes are oriented such that they intercept the thrust structures and mineralised domains orthogonally. Those holes that are drilled at orientations other than westerly were found to intercept the same number of mineralised interval adding to similar lengths and comparable copper grade tenor to the westerly drilled holes that crossed their paths. There appears to be no issue regarding drilling orientation that would impact materially on the BKM resource estimate.</td></tr>
<tr><td>Diagrams</td><td>
<ul>
<li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li>
</ul></td><td>A comprehensive set of tables and figures describing the data, data analysis and information regarding mineralisation and associations, the resource modelling and estimation process and results and resource classification can be found in the “Beruang Kanan Main Zone, Kalimantan, Indonesia; 2019 Resource Estimate Report”. A comprehensive set of tables and figures describing the modelling of variables utilised by engineers in the definition and reporting of Ore Reserves can also be found in this report. A selection of the figures and tables from each report are included in this document where verbal descriptions do not adequately portray the information in line with the transparency requirement of the JORC Code.</td></tr>
<tr><td>Balanced reporting</td><td>
<ul>
<li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li>
</ul></td><td>The BKM 2019 resource report “Beruang Kanan Main Zone, Kalimantan, Indonesia; 2019 Resource Estimate Report” reports on the entire body of work undertaken in understanding and evaluating the BKM mineralisation and in producing and classifying the BKM Resource Estimate and Ore Reserve modifying variables. This document summarises information in the above mentioned report. The reader is referred to the detailed report</td></tr>
</table>

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | for detailed discussions and comprehensive descriptions of the work undertaken and knowledge gained from this work. |
| *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.* | Studies undertaken in understanding and evaluating the BKM mineralisation and in producing and classifying the BKM Resource Estimate and Ore Reserve modifying variables:<br>2014:<br>• Literature review and summary of all KSK technical reports and memorandums.<br>• Review logging data of mineralised intercepts against core photographs to assess fertility and functionality.<br>• Complete historic data audit and where required and able, rebuild all logging, SG and assay datasets.<br>• Geomorphological and geological/structural interpretation of the BKM prospect and surrounds for guiding resource estimate domaining.<br>• Site visit to assess mineralisation styles and extent.<br>• Resource data analyses, modelling, resource estimation and reporting.<br>2015:<br>• Site and laboratory visit – protocols review and adjustment.<br>• Mineralisation review through multi-element assay association investigation.<br>• Update structural interpretation with input from observations obtained in multi-element assay study.<br>• Sequential copper assay programme. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • Periodical assay quality control review (including umpire assay results).<br>• Resource data analyses, modelling, resource estimation and reporting.<br>2016:<br>• Conditional simulation investigation into optimum drillhole spacing; design resource update drilling.<br>• Create and introduce matrix matched standards.<br>• Site and laboratory visit – protocols review and adjustment.<br>• Two interim resource modelling updates and data analysis programmes for internal use in reviewing and adjusting drilling design.<br>2017:<br>• Review and revise drilling programme.<br>• Optical mineralogy programme.<br>• Sequential copper assay programme.<br>• Metallurgical materials logging programme.<br>• Identification and modelling of heterogeneous physical properties and clayey domains.<br>• Data review and interim resource modelling update for internal use in reviewing and adjusting drilling design.<br>• Resource data analyses, modelling, resource estimation and reporting.<br>2018:<br>• Degradation index logging and modelling. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • Resource data analyses, modelling, resource estimation and reporting.<br>• Ore reserve modifying factors data analyses, modelling, estimation and reporting.<br><br>2019:<br><br>Resource data analyses, modelling, resource estimation and reporting. |
| *Further work* | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | The resource work to date on the BKM mineralisation was designed to deliver inputs suitable for underpinning the current June 2019 Feasibility Study. Any further resource work on the BKM mineralisation will be planned based on information arising from the June 2019 Feasibility Study. |

## 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 |
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| *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.*<br>• *Data validation procedures used.* | In 2014, all historic drilling (collars and surveys), logging, structural, geotechnical (including recoveries and drilling data), SG and analytical datasets were reconstructed from primary logging and report files where available and assessed against the current datasets delivered by KSK. Multiple issues were uncovered (detailed in “Beruang Kanan Main Zone, Kalimantan, Indonesia; 2019 Resource Estimate Report”) and the reconstructed datasets were adopted by H&A as the valid historic (pre-2015) data for use in future resource estimates.<br><br>KSK enter all core yard generated data into Microsoft Excel$^{TM}$ based datasheets and transfer these into a Microsoft Access$^{TM}$ database. ITS generates Microsoft Excel$^{TM}$ based assay report files containing both KSK |

| Criteria | JORC Code explanation | Commentary |
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| | | supplied samples (including QC samples) and laboratory QC sample results which are also entered into the KSK Access$^{TM}$ database.<br><br>H&A has utilised all the KSK supplied datasets except for the sample location data (drillhole collar and survey data and downhole sampling/QC sample location data) and assay data. These datasets were created from source data supplied from site, surveyors and laboratories through the use of programmed import routines. Comprehensive data validation and check routines were applied on import and the final dataset, and once cross-checked against the KSK data the resource dataset, is stored in a Minesight TORQUE$^{TM}$ database. A time stamped csv copy of the coded resource drillhole assay dataset is exported on the date of each resource estimate and cross-checked against the previous resource export dataset as a check of data stability over time.<br><br>The following data validation and preparation procedures were undertaken on the resource estimation datasets:<br><br>• Sample location: Sampling intervals (overlapping and missing), downhole survey deviations (spurious surveys), collar coordinates (surveyor pickup, check against design and LIDAR topography).<br><br>Sample locations are known to a high degree of accuracy for all but 30 pre-2015 holes where collar coordinates could not be validated and drill hole traces are defined by a single collar spherical survey entry. Any error in the location of samples from these holes is unlikely to impact on the robustness of the resource estimate.<br><br>• Fundamental sample error: 17 holes oriented easterly and 5 southerly oriented holes generate dataset for testing of drill direction bias. Seven twin holes and paired half core sample |

| Criteria | JORC Code explanation | Commentary |
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| | | comparisons test for sample representivity and intra sample variance.<br><br>There would be no material difference between a dataset generated by either drill hole direction for westerly holes and easterly holes and for the lower 60% of the population datasets for holes drilled southerly and westerly.<br><br>The good comparison in the twin hole copper grade populations indicate that holes have reliably tested the mineralisation in their immediate vicinity and that, in alignment with the alteration associated replacement copper mineralisation style at BKM, short range mineralisation features that would impact on the reliability of the resource estimate are unlikely to exist.<br><br>The 381 half core comparison dataset shows no bias and a low av\|%MPD\| of 9% (half core grade vs grade of total core for samples greater than 1000ppm).<br><br>The fundamental sampling error is considered of low risk to the resource estimate.<br><br>• Sample preparation: QC samples included in batches; these being coarse blanks, crusher duplicates, pulp duplicates. ITS undertook routine sizing analysis (crusher and pulveriser) and ran barren wash material between samples.<br><br>No contamination detected, all sizing tests comply with comminution target and duplicate analyses show high correlation (92% of the 340 coarse crush duplicates returned <5% \|MPD\| with the av\|%MPD\| being 2.4%. Samples in the batches containing 25 duplicates returning >5%MPD in 2015 drilling programme were re-tested and the reason for diminished correlation could not be identified. KSK suspects a hygiene issue. Any precision issue |

| Criteria | JORC Code explanation | Commentary |
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| | | introduced in these batches will have low impact on the resource estimate.<br>• Assay data: KSK and ITS QC samples; cross-check two independently compiled datasets and historic archives; umpire laboratory checks; reconcile against sum of sequential copper assay; compare copper population statistics from each drill campaign.<br>Data quality is suitable for underpinning resource estimates being considered for all classification under the guidelines set out in the JORC Code (2012).<br>• Specific gravity data: ITS laboratory check measurements and drying tests; QA/QC protocols (scales checking, routine water replacement; static water height check); two programmes testing for sample selection bias; removal of spurious measurements (where greater than \|3 standard deviations\| from mean of measurements for Fe grade range). Porous SG samples routinely dried at ITS for determining dry bulk density.<br>4785 SG measurements (dry bulk density) make the dataset for tonnage factor determination.<br>• Core recovery: interval checks (overlapping and missing); re-logging by photograph of 2588 trays containing mineralisation (82% of mineralised trays). Remaining trays not relogged as core yard data showed no reason to suspect loss (i.e. 100% logged recovery, long runs, tray weights as expected; low number of core blocks; no clay logged).<br>All mineralised intervals assigned a recovery concern classification (no, minor, moderate, high) for assessing recovery |

| Criteria | JORC Code explanation | Commentary |
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| | | impact on assay and SG reliability. Recovery concern classification modelled spatially to define tonnage factor and classification domains.<br>• Fe and S assays: QC data available only for 2015-19 dataset show acceptable precision and accuracy for estimation of these elements into the block model for use in applying tonnage factors and estimating the sulphide distribution at BKM<br>• Sequential copper assays pre 2019: testwork undertaken to determine leach/digest parameters for BKM material, standards and blanks and duplicates included in batches, two reviews and improvements of protocols during processing of samples. Sum of sequential assays reconciled with total copper assay initially showing a 12% low bias which was reduced to 5% with improved washing and sample transfer protocols designed to minimize sample loss during these procedures. The loss of copper was proportioned back to the cyanide and residual components of the sequential assay results according to their relative concentrations. QC assessment show that the BKM pulps underwent significant oxidation at surprisingly rapid rates impacting on the reliability of the acid and cyanide component results, however the sum of the acid plus cyanide components (soluble copper component) reconcile reasonably well with the expected values for the certified standards. This data has issues, however modelling of the soluble copper component of the BKM mineralisation will present a reliable understanding of this variable's distribution.<br>• 2019 NaCN copper leach assays: QC sample assays and spatial comparison of this data with existing pre-2019 acid+CN |

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| | | component of the sequential copper assays confirm that these assays are suitable for inclusion in estimating the soluble copper content of the BKM mineralisation.<br>• Copper mineral species data: visual percent estimates of mineral species from 185 coarse crush rejects of samples selected to form a 50m x 50m x 50m 3D array across the extent of mineralisation. Visual estimates merged with estimates from sequential copper determination of chalcocite, covellite/bornite and chalcopyrite content. Mineral abundance categories (absent, minor, present, prevalent and dominant) assigned to sample locations for modelling and percent soluble copper interpolation.<br>• Metallurgical material code: all holes relogged from core photos by a single person (experienced geologist) to classify intervals according to nine material types defined by consulting metallurgist. These codes describe the presence and significant abundance of oxidation, quartz/silica, sericite, sulphide/pyrite, clay and friable/crushed material.<br><br>Degradation index: all holes re-photographed and relogged from core photos by a single person (experienced geologist) to estimate the degree of degradation over time (none, some, moderate, complete) and utilized to model a material competency factor. |
| *Site visits* | • *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*<br>• *If no site visits have been undertaken indicate why this is the case.* | Three site inspections and two laboratory inspections undertaken between 2104 and 2016. A further two site inspections planned in 2017 were cancelled as landslips blocked site access. A laboratory inspection was undertaken in 2019. |

| Criteria | JORC Code explanation | Commentary |
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| | | 2014 visit achieved the goal of identifying copper mineralisation in core of the style and grade in the KSK assay dataset, obtained evidence of mineralisation in outcrop and evidence of historic drilling, sampling etc.<br><br>The 2015 and 2016 site trips achieved their goals of reviewing and upgrading work protocols where necessary. Protocols implemented in 2015 were observed being diligently followed in the 2016 site visit. The protocols setup in 2015 remained unchanged throughout the remainder of the drilling at BKM. All Laboratory visits showed ITS staff to be following protocols and diligently undertaking activities. |
| *Geological interpretation* | • *Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.*<br>• *Nature of the data used and of any assumptions made.*<br>• *The effect, if any, of alternative interpretations on Mineral Resource estimation.*<br>• *The use of geology in guiding and controlling Mineral Resource estimation.*<br>• *The factors affecting continuity both of grade and geology.* | Copper mineralisation domains are readily modelled as low to moderate angled easterly dipping planar bodies, strongly reflecting their geological low angle trust controls as discussed in the geology section of this document (above). The shearing and structural foliation logged in core is clear evidence of the deformation intensity and it is readily interpreted that the fabric in host rocks would have played a significant role in channelling mineralising fluids if they had the ability to at the time of copper mineralisation emplacement. The initial mineralisation models were constructed in 2014 and the domains modelled at that time continue to exist with infill drilling intersecting contacts where anticipated. The initial 16 planar bodies modelled in 2014 increased to 25 in 2015 and to 34 in 2019, with the majority of the additional lenses being added in the southern area of BKM (where initially only four holes existed). In addition to the confidence gained during the resource drilling of BKM further confidence in the model is gained through the non-westerly drilled holes. These holes (drilled in 2017 and 2019) all support the model, intercepting domain contacts in Measured and Indicated Resources where anticipated.<br><br>It is not possible to model the mineralisation continuity at a 2000ppm threshold at any other orientation.<br><br>Mineralisation domains are utilised in the estimation of the BKM copper resource as hard boundaries. Sample data (3m composites) and the block |

| Criteria | JORC Code explanation | Commentary |
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| | | model are coded by the domains and only those composites within the domains can inform blocks within the domains.<br><br>Ground water leaching has removed copper from the surface oxidised zone. This volume is domained and the block model coded for exclusion of any estimates to be undertaken in the contained blocks.<br><br>A surface clay zone located immediately below the oxide zone exists over most of BKM and this domain has been modelled and utilised for assigning tonnage factors to the resource. It has also been utilised as a hard boundary in generating the metallurgical material and degradation models. No Measured Resources are classified within this zone.<br><br>Two large volumes of fractured material are located at depth along the NNE and NW faults that transgress BKM. These zones are modelled and utilised for assigning tonnage factors to the resource. They have also been utilised as a hard boundary in generating the metallurgical material and degradation models. No Measured Resources are classified within these zones. |
| *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.* | The 2019 BKM resource model covers the 1300m north-south strike extent and 800m width of the BKM vein style mineralized system. Mineralisation crops out to the west, is closed-off by drilling to the north and has some potential to be extended to the north-east and south. Three deep holes under the main zones have failed to intersect significant copper mineralisation, however the depth repetition of mineralisation has not been fully tested. There are indications from the structural interpretation that repeat systems at depth and proximal to the BKM zone may exist. |
| *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.* | Domaining and coding of assay samples was undertaken in Minesight$^{TM}$ software. Compositing, block modelling and grade interpolation was undertaken in Vulcan$^{TM}$ software.<br><br>The BKM block model parameters are: |

| Criteria | JORC Code explanation | Commentary |
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| | • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*<br>• *The assumptions made regarding recovery of by-products.*<br>• *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*<br>• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*<br>• *Any assumptions behind modelling of selective mining units.*<br>• *Any assumptions about correlation between variables.*<br>• *Description of how the geological interpretation was used to control the resource estimates.*<br>• *Discussion of basis for using or not using grade cutting or capping.*<br>• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.* | Model name : postestimate_2019.bmf<br>Format : extended<br>Structure : non-regular<br>Number of blocks : 553669<br>Origin : 0.00 0.00 0.00<br>Bearing/Dip/Plunge : 90.00 0.00 0.00<br>Schema <parent><br>Offset minimum : 768200.0 9931400.0 100.0<br>maximum : 769250.0 9932900.0 600.0<br>Blocks minimum : 25.0 25.0 10.0<br>maximum : 25.0 25.0 10.0<br>No of blocks : 42 60 50<br><br>Schema <subblock><br>Offset minimum : 768200.0 9931400.0 100.0<br>maximum : 769250.0 9932900.0 600.0<br>Blocks minimum : 5.0 5.0 2.0<br>maximum : 25.0 25.0 10.0<br>No of blocks : 210 300 250<br><br>Parent block northing and easting dimensions are ½ drill spacing with parent block centroids positioned off sections lines. The parent block RL dimension was selected so that block centroids would be located roughly in the same relative position to mineralised domains dipping at 20-30degrees. Sub-block dimensions are appropriate for adequately representing the mineralised domain volumes in the model.<br><br>Ordinary Kriging was employed as the copper interpolation method. The kriging neighbourhood investigation and experimental variography was |

| Criteria | JORC Code explanation | Commentary |
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| | | undertaken by Posta Pratama of P&a geoscience. Key features of the mineralisation and domaining identified in the investigation are:<br>• The general consistency of copper grades within and between the estimation domains.<br>• Experimental semi-variograms were assessed for all domains. Variogram models involving a nugget and two spherical structures were fitted to all semi-variograms and primary directions reflect the overall geometries of the modeled domains.<br>• Blocks outside of modeled domains can be estimated by the inverse distance squared interpolator.<br>Copper grade interpolation was undertaken in five passes, reflecting the block proximity to drilling data and block relationship with mineralization domains. Once estimated, a block is excluded from subsequent estimation run passes. In summary:<br>• Pass 1: Within modeled mineralised domains and search radii of nominally 100mX70mX20m. Composites within all domains can inform blocks within domains, composites outside of domains are not used. Five search ellipsoids orientations are employed, each reflecting the overall geometry of the domains they best fit. A minimum of 8 and maximum of 40 composites are used to generate block grades. Octant search parameters are employed with a minimum of 6 octants to be informed before a grade is interpolated (except domain 95 – no octant search). Copper grades greater than 30000ppm are restricted to estimate blocks within a radius of 50mX50mX25m of their location.<br>• Pass 2: Within modeled mineralised domains and search radii of nominally 200mX150mX40m. Composites within all domains can inform blocks within domains, composites outside of |

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| | | domains are not used. Five search ellipsoids orientations are employed, each reflecting the overall geometry of the domains they best fit. A minimum of 4 and maximum of 40 composites are used to generate block grades. Octant search parameters are employed with a minimum of 4 octants to be informed before a grade is interpolated (except domain 95 – no octant search). Copper grades greater than 30000ppm are restricted to estimate blocks within a radius of 50mX50mX25m of their location.<br>• Pass 3: Within modeled mineralised domains and search radii of nominally 230mX180mX60m. Composites within all domains can inform blocks within domains, composites outside of domains are not used. Five search ellipsoids orientations are employed, each reflecting the overall geometry of the domains they best fit. A minimum of 2 and maximum of 40 composites are used to generate block grades. Octant search parameters are employed with a minimum of 4 octants to be informed before a grade is interpolated (except domain 95 – no octant search). Copper grades greater than 30000ppm are restricted to estimate blocks within a radius of 50mX50mX25m of their location.<br>• Pass 4: Outside of modeled mineralised domains, sample selection of only those composites with greater than 2000ppm copper grades, outside of the modeled mineralised domains and within a search radius of 25mX25mX10m. All other parameters are the same as for the Pass 1 for domain 60 except a minimum of 3 and maximum of 10 composites applied and the octant search criteria removed. Copper grades greater than 10000ppm are restricted to estimate blocks within a radius of 25mX25mX10m. |

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| | | • Pass 5: Outside of modeled mineralised domains, sample selection of only those composites outside of the modeled mineralised domains and within a search radius of 250mX200mX60m. All other parameters are the same as for the Pass 1 for domain 60 except a maximum of 10 composites applied and the octant search criteria removed. Copper grades greater than 2000ppm are restricted to estimate blocks within a radius of 25mX25mX10m of their location.<br><br>The resource block model coding was validated visually against both the mineralization domain models and the coded composites.<br><br>The 30000ppm copper threshold used for high grade treatment was determined from log probability graphs and targeted samples were visualised spatially to assess clustering. As a validation method to assess that 30000ppm Cu is a reasonable threshold, two check interpolation runs were undertaken with restrictions set at 44800ppmCu and at no-restriction. Swath plots show that 30000ppmCu is a reasonable level to apply the restriction as there is no significant deviation of grade from the other trials and then only where there is clustering of high grade copper intercepts on section lines (reflecting the restriction of these grades to their immediate vicinity in interpolating copper grades). The grade differential between the 30000ppm Cu restricted influence model and the uncut model cuts 1.9KT of contained copper from the estimated Measured Resources, 2.7KT from the Indicated Resources and 9.2KT from the Inferred resources.<br><br>The copper grade interpolation was cross-checked against the composite data both statistically and spatially on screen and by swath plots. An $ID^2$ check estimate and a composite selection methodology check estimate (octant search parameters removed) were generated and correlate well with the grade distribution of the BKM 2019 resource block model. The BKM copper grade interpolation strategy has produced a resource model |

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| | | that adequately reflects the grade distribution identified in both the close and broad spaced drilling of the project area.<br>The 2019 resource estimate at BKM reported at a 0.2% reporting cut is:<br>• Measured Resources: 20.6MT @ 0.7%Cu or 148.5KT of contained copper.<br>• Indicated Resources: 34.1MT @ 0.6%Cu or 212.6KT of contained copper.<br>• Inferred Resources: 15.0MT @ 0.6%Cu or 90.8KT of contained copper<br>The previous, 2017 resource estimate at BKM was reported at a 0.2% reporting cut as:<br>• Measured Resources: 20.5MT @ 0.7%Cu or 147.7KT of contained copper.<br>• Indicated Resources: 28.7MT @ 0.6%Cu or 174.9KT of contained copper.<br>• Inferred Resources: 17.7MT @ 0.6%Cu or 103.9KT of contained copper.<br>Previous drill testing of the BKM mineralisation (prior to the 2017-19 drilling update) was undertaken in two main programmes, these being:<br>• The 2015 resource drilling programme undertaken by KSK was designed to delineate the extent and continuity of the BKM mineralisation and<br>• The 2016-2017 resource drilling program designed to test primarily for geological and grade continuity of the BKM mineralisation.<br>Both programmes were completed successfully, meeting their objectives, where the 2015 drilling resulted in an increase in previously estimated |

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| | | resources (contained copper increase of 123KT (of Indicated and Inferred classification) over the 2014 resource estimate (Inferred Resource classification)) and the 2016-2017 drilling consolidated this increase by facilitating the classification of the BKM mineralisation into 31% Measured Resources and 43% Indicated Resources, with 26% remaining as Inferred Resources (JORC 2012, at 0.2% copper reporting grade).<br><br>The 2018-19 drilling was designed to improve the confidence in deeper resources in the northern and southern areas of the mineralisation, to obtain metallurgical testwork samples and collect geotechnical data for engineering studies, thus holes were targeted within the defined body of mineralisation and hence there are only incremental updates to the 2017 models and minor-material changes to the resource estimate between 2017 and 2019. The refinement of the estimate has resulted in the reduction in Measured Resources by 0.1MT an increase in Indicated Resources by 5.6MT and a reduction in Inferred Resources of 2.7MT.<br><br>Additional resource to reserve modifying variables coded and interpolated into the resource block model and made available for Ore Reserve determination and reporting:<br><br>Sulphur and iron: these elements were estimated by ordinary kriging utilising parameters in run passes 1 to 3 and pass 5 of the copper estimated excluding the high grade treatment (not applied).<br><br>Copper Mineral Species: Copper mineral species percentages determined from the sequential copper assay programme and the optical mineralogy programme were visualized together in Minesight™ and copper mineral species TIN models were used in interpolating soluble copper percentages. The coding of assay data and the block model was undertaken according to the following procedure:<br><br>1. A TIN model was individually generated for each copper mineral species. These models overlap where more than one mineral species co-exist. |

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| | | 2. Each model was used to individually populate one of four variables, these being:<br>I. Chalcocite: inside blocks/samples = 1000; outside = 0<br>II. Covellite: inside blocks/samples = 0100; outside = 0<br>III. Bornite: inside blocks/samples = 0010; outside = 0<br>IV. Chalcopyrite: inside blocks/samples = 0001; outside = 0<br>3. The final copper mineral species code was generated from the sum of the individual variables to generate a four digit binary code representing the minerals present in domains. For example a code of 1010 would refer to chalcocite and bornite minerals hosting the majority of the copper grade in a sample.<br><br>The concentrations (%), relative to the total copper concentration, for the following variables are estimated in the BKM 2019 resource Vulcan™ block model:<br>• ccperc : Percent copper in Acid soluble + Chalcocite minerals of total Cu<br>• coboperc : Percent copper in Covellite and Bornite minerals of total Cu<br>• cpyperc : Percent copper in Chalcopyrite mineral of total Cu<br><br>The copper mineral species percentage data generated from the sequential copper assays was composited at 1m lengths and, along with the block model, coded according to the copper mineral species codes. Appropriate composite search and selection parameters were borrowed from the copper mineralisation grade interpolation strategy and the relative percentages of mineral species estimated utilising the Vulcan™ $ID^2$ interpolator.<br><br>Percent Soluble Copper: The soluble copper is determined from the sequential copper assay data as the sum of the acid plus cyanide leach |

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| | | component (adjusted for losses, see "Database Integrity" section of this document) for the pre-2019 dataset and as the cyanide leach assay data for the 2019 dataset. The soluble copper content is expressed as a percentage of the total copper assay.<br><br>Kriging neighbourhood analyses and semi-variogram modelling was undertaken to determine composite length, ordinary kriging and sample search parameters for interpolating soluble copper content into the variable "solcu100" in the BKM resource block model.<br><br>Key points regarding the interpolation of percent soluble copper are:<br>• The general consistency of percent soluble copper within the following grouped copper mineral species estimation domains:<br>a. Predominantly chalcopyrite free mineralisation. These domains were combined for composite selection in interpolating soluble copper content.<br>b. Mixed chalcopyrite and blends of chalcocite, bornite and covellite copper mineralisation. These domains were combined for composite selection in interpolating soluble copper content.<br>c. Chalcopyrite rich mineralisation. This domain was estimated independently in interpolating soluble copper content.<br>• Experimental semi-variograms were assessed by the independent copper mineral species domains. Experimental variograms were fitted with models containing a nugget and two spherical structures. Primary continuity directions reflect the overall geometries of the domains.<br>• Composite search ellipsoid orientations are borrowed from the variogram models, while search extents and sample selection |

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| | | parameters are borrowed from the total copper estimate interpolation runs (Section 9.5).<br>• Only those blocks with an estimated total copper value were selected for interpolating percent soluble copper.<br>• 1m composites were utilized in the estimation. Only those composites within the grouped domains (a, b, c above) were utilized in interpolating soluble copper content into blocks within the same grouped domains.<br>The model was validated visually and through comparison with the source data through northing, easting and elevation swath plots. The estimate and source data matches well for the predominantly chalcopyrite free mineralisation (domains 1000, 1110, 1010 and 1100) which shows greater data density and a de-clustered distribution compared with the mixed chalcopyrite blends and chalcopyrite rich mineralisation (domains 1001, 1111, 1011, 1101 and 0001). The estimate is however suitable for use as an indication of the distribution of percent soluble copper at BKM.<br>Metallurgical material type model: this variable is estimated utilising both the mineralisation and tonnage factor domains (zones of significant clayey areas) as hard boundaries. Blocks within the model were stamped by their closest sample (nearest neighbour estimate, variable "matcode") within the same mineralisation/tonnage-factor domain code combination.<br>Degradation index model: Data and block model coding and populating of the degradation intensity code variable "degradation" into the resource block model follows the same parameters and procedures as undertaken for populating the material code variable. |
| *Moisture* | • *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.* | The BKM resource tonnages are estimated on a dry basis as SG measurements applied to the model are the dry bulk density measurements. Assays were undertaken on oven dried core. |

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| *Cut-off parameters* | • *The basis of the adopted cut-off grade(s) or quality parameters applied.* | Details within the 2016 BKM PEA study, subsequently updated in the June 2019 Feasibility Study, where the life of mine schedule was developed utilizing a variable cut-off grade strategy that is optimized over time to maximize the project value determine that the optimized cut-off grade ranges between the Break Even Cutoff Grade of 0.11% Cu (Soluble) and an elevated cut-off of approximately 0.14% Cu (Soluble) over the life of the project. This equates to a Cu (Total) cut-off grade range of approximately 0.16% to 0.20%. Therefore the use of a resource cut-off of 0.2% Cu (Total) can be considered appropriate for reporting of the 2019 Resource Estimate. 0.2% copper is also a natural or geological cut in drill intervals that intercept significant and modeled mineralisation.<br><br>In addition, a review of parameters utilized for determining reporting cuts from similar deposits uncovered that, utilising a similar approach and parameters as those in the June 2019 Feasibility Study:<br>• GeoVector Management Inc. determined a 0.2% copper reporting cut for the Las Posadas Copper Deposit, Chile, as part of PEA prepared for Global Hunter Corp. (October 2012).<br>• Tetra Tech Inc. determined a 0.25% copper reporting cut for the Zonia Copper-Oxide Deposit, Arizona, USA, as part of a resource report prepared for Cardero Resource Corp. (December 2015).<br><br>A 0.2% Cu cut is an appropriate base case reporting cut in stating the BKM Mineral Resources and that any upward movement in reporting cut to 0.3%Cu (based on any sensitivity studies) would not materially alter the reported Measured, Indicated or Inferred Resources. |
| *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* | Mining factors and assumptions were addressed in the 2016 PEA study and subsequently updated in the June 2019 Feasibility Study which showed positive and favourable economics for the project and concluded that there are reasonable prospects for eventual economic extraction of |

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| | *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.* | copper at BKM. |
| *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.* | Metallurgical factors and assumptions for heap leach SX/EW recovery of copper are addressed in the 2018 Ausenco "Feasibility Study Report" Rev B 102399-RPT-001 June 2018. These factors and assumptions were incorporated in the June 2019 Feasibility Study which showed positive and favourable economics for the project and concluded that there are reasonable prospects for eventual economic extraction copper at BKM. |
| *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.* | Environmental factors and assumptions are addressed in the 2016 PEA study which showed positive and favourable economics for the project and concluded that there are reasonable prospects for eventual economic extraction copper at BKM. |
| *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.*<br>• *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.* | The tonnage factors (variable "dbdregress") were stamped onto the model according to the following:<br>• Soil and oxide domain: Tonnage Factor = 1.77 t/m$^3$ (determined from 68 validated dry bulk density measurements). |

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| | • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.* | • Surface clay/poor-recovery heterogeneous domain: Tonnage Factor = 2.25 $t/m^3$ (determined from 139 validated dry bulk density measurements).<br>• Deep heterogeneous and variable porous domains: Tonnage Factor = 2.61 $t/m^3$ (determined from 370 validated dry bulk density measurements).<br>• Homogeneous and predominantly non-porous domain: Tonnage Factor = (0.025 * Block_Fe_OK_grade + 2.65) $t/m^3$ (determined from 4208 validated dry bulk density measurements).<br>The application of tonnage factors to the resource was checked visually and by swath plots which confirm that the tonnage factors in the model vary with iron grade where intended. The average for tonnage factors assigned to the homogeneous and predominantly non-porous domain is 2.88 $t/m^3$ which is in agreement within 1% of the average of the dry bulk density measurements taken from samples in this domain (av. 2.85 $t/m^3$). |
| *Classification* | • *The basis for the classification of the Mineral Resources into varying confidence categories.*<br>• *Whether appropriate account has been taken of all relevant factors (ie 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).*<br>• *Whether the result appropriately reflects the Competent Person's view of the deposit.* | The resources at Beruang Kanan as estimated in 2019 are classified as Measured, Indicated and Inferred Resources under guidelines set out in the JORC Code (2012). The key considerations in assigning this classification are as follows and risk reduction associated with these criteria will assist with expanding the Indicated and Measured Resources by assigning higher classifications to the Indicated and Inferred Resources in future estimates:<br>• Low to moderate risk associated within the three volumes showing significant intervals of poor core recovery and variable physical properties reducing confidence in the assay and DBD samples used to determine the copper estimate and tonnage factors for these zones.<br>• Low risk associated with the current drill spacing and orientation in reliably testing Indicated mineralisation in the north of the |

| Criteria | JORC Code explanation | Commentary |
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| | | deposit where mineralisation is tested only by westerly drilled holes.<br>• Low risk associated with the unknown suitability of the sample comminution and sub-sampling strategy employed by historic workers.<br>• Low risk associated with inability to directly validate historic data.<br><br>The classification process involved:<br>• Utilising findings from a conditional simulation study undertaken in early 2016 and designed to determine the maximum (optimal) drill/sample spacing for defining Measured, Indicated and Inferred resources at BKM.<br>• Defining volumes of the resource for Measured Resource consideration by:<br>  ○ Delineating the mineralisation where geological and grade continuity is proven by holes drilled at orientations other than (and along with) the primary westerly testing direction.<br>  ○ Identifying volumes of the mineralisation where copper grades were estimated;<br>    ▪ in the first interpolation pass,<br>    ▪ with more than 35 composites,<br>    ▪ with the average composite distance being less than 50m,<br>    ▪ with composites being sourced from more than three drillholes (mostly more than six drillholes),<br>    ▪ with a Kriging variance of less than 0.2. |

| Criteria | JORC Code explanation | Commentary |
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| | | ○ Defining exclusion volumes where confidence in copper grade estimate is compromised by poor core recovery and confidence in tonnage factors is compromised by suspected selective sampling and low sample numbers where material heterogeneity exists.<br>• Defining volumes of the resource for exclusion from Measured and Indicated resource consideration by:<br>○ Identifying volumes of the mineralisation where copper grades were estimated;<br>▪ in the second and third interpolation pass,<br>▪ with less than 35 composites,<br>▪ with the average composite distance being greater than 50m (mostly greater than 75m),<br>▪ with composites being sourced primarily from 3 to 6 drillholes (but can be significantly more),<br>▪ with a Kriging variance of greater than 0.2 (mostly 0.3 to 0.4).<br>○ Identifying all mineralisation not belonging to modeled estimation domains.<br>• By default any resources not classified as Measured or Inferred are classified as Indicated Resources.<br>Copper grades for 97% of the Measured Resources and 86% of the Indicated Resources were interpolated in the first pass of the estimation runs. This pass has most stringent criteria in selecting samples for estimating block grades. In contrast 49% of Inferred resources were interpolated in the first pass of estimation runs.<br>The following lists the technical areas considered in classifying the BKM 2019 Copper Resource Estimate: |

| Criteria | JORC Code explanation | Commentary |
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| | | • Geological understanding (geological and copper grade continuity):<br>KSK and joint venture workers have undertaken sufficient work to understand the style(s) of mineralization at BKM for the classification of Measured Resources.<br>Geological and grade continuity has been tested by holes drilled at orientations other than the primary testing direction of $270^{O}$ in volumes of the mineralisation classified as Measured Resources. Of concern regarding confidence in the Indicated and Inferred mineralisation is that:<br>○ There is no structural control to assess the suitability of drilling direction with respect to the geometry of mineralization and where mineralisation thins and copper grade tenor diminishes the grade continuity is assumed by extrapolation from volumes where continuity is confirmed.<br>○ The vein mineralization continuity is not understood and may be at orientations other than that described by the overall geometry of the mineralization which presents as a higher risk to local estimates where mineralisation is thinner and of lower grade tenor than in thicker, higher grade volumes.<br>• Drilling density and configuration:<br>The drilling is mostly oriented at $-60^{O}$ towards $270^{O}$ and at nominal 50m centres along 50m spaced grid lines over the main zone of mineralization. Measured Resources have also been drill tested |

| Criteria | JORC Code explanation | Commentary |
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| | | at alternate orientations. Of concern regarding confidence in the Indicated and Inferred Resources is that:<br>○ There has been no investigation into attitude of the mineralised veins/vein-sets or on the controls on the replacement style mineralisation and therefor no evaluation as to the suitability of drill hole orientation with respect to the styles of mineralization.<br>○ The drill density is such, and the structural information negligible, that it is not possible to assess the internal grade distribution, therefor the estimate can only be considered for classification at a global scale where continuity is not proven at local scale by alternate drilling directions.<br><br>• Sample location:<br>The collar locations of holes are considered well known. Down hole survey information is lacking for 30 of the holes drilled into the BKM mineralisation. Of concern regarding confidence in the resource estimate is that:<br>○ Although the locations of samples from these holes delineating the mineralization cannot be validated, the reasonable predictability of hole trace locations for those with survey information lends support to the reliability of hole traces defined by a single collar survey azimuth and declination. The 2015 drilling results support the earlier hole results indicating that collar location issues are likely to pose only a minor risk to the estimate. The sample locations are considered well enough |

| Criteria | JORC Code explanation | Commentary |
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| | | established to consider the BKM resource estimate for classification at local and global scales.<br><br>• Primary sample size:<br>The mineralization has been tested primarily with HQ triple-tube core however holes have been drilled at sizes of PQ, NQ and BQ. Workers for the pre 2015 drilling employed a nominal 3m sample interval (5% of samples within mineralisation) and a significant number of 2m intervals were sampled by workers in the 2015 drilling campaign (also 5% of samples within mineralisation). Of concern regarding confidence in the resource estimate is that:<br>○ There is an observed copper grade tenor shift of 26% between the NQ-BQ drill core samples (lower) and the PQ-HQ drill core samples (higher). This is most likely due to natural grade variability throughout the mineralization but may reflect a fundamental sampling error effect in dealing with inherent heterogeneity of the mineralization. The dataset for the 2019 BKM resource estimate now comprises of <9% samples from NQ/BQ drilling which are spatially interspersed with HQ/PQ samples and the impact of any sampling error, if present, on the 2019 resource estimate will be minimal.<br>○ The large primary sample size and the sample comminution and reduction process employed are not theoretically ideal (according to Gy's generalized sampling nomogram) however the relatively narrow band of copper assays within the mineralization suggests that any issues may not be of significance when the risk is assessed at the global scale. The |

| Criteria | JORC Code explanation | Commentary |
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| | | coarse crush duplicate analysis undertaken in the 2015 and 2016-19 QC programmes show no concern wrt sample reduction procedure's effect on copper assay reliability.<br><br>• Sample preparation and assay:<br>Large mineralised samples (2m and 3m lengths) were crushed to -4mm (3m samples) and -2mm (2m samples) before being sub-sampled to 1kg for pulverizing. All digests were conducted by 3 acid digest. Of concern regarding confidence in the resource estimate is that:<br>○ The sample comminution and reduction process employed are not theoretically ideal (according to Gy's generalized sampling nomogram) however the relatively narrow band of copper assays within the mineralization suggests that any issues may not be of significance when the risk is assessed at the global scale. The QC evaluation of the coarse crush and split duplicates undertaken during the 2015 and 2016-19 drilling campaigns showed no concern regarding sample preparation procedures on the reliability of copper assays for the BKM resource estimate.<br>○ Three acid digests are akin to total digests. This is only an issue if copper silicates are present within the mineralization at BKM. There is one recording of the copper silicate, chrysocolla, in an early thin section report and none in the 2017 petrology work or core logging. Three acid digests will give total copper content |

| Criteria | JORC Code explanation | Commentary |
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| | | of samples and hence the 2019 BKM resource estimate is a total copper estimate.<br><br>• Assay data quality:<br>The 2015-19 assay QC programme and QC work undertaken by ENJ-KSK contains sufficient quality control samples to assess reliability of the copper assays. Earlier work by OX-KSK contained limited quality control samples and there were no quality control samples submitted with assays for the early work undertaken by KSK (pre 2002). Of concern regarding confidence in the resource estimate is that:<br>○ Quality control samples submitted with the 2015, 2016-19 KSK programmes show that the copper assaying for these periods are of acceptable quality for classifying resources.<br>○ Quality control samples submitted with the ENJ-KSK programme show that the copper assaying for this period is of acceptable quality for classifying resources.<br>○ Quality control samples submitted with the OX-KSK programme show that there may be issues with copper assays from early batches of their work, however only one hole is affected by this issue and therefor assays from this period are of acceptable quality for classifying resources. Resources in the proximity of the affected hole have been classified as Inferred.<br>○ The copper assays data population from the early OX-KSK and early KSK work is comparable with the assay population from the 2015 KSK and ENJ-KSK work, leading H&A to conclude that, even though there is |

| Criteria | JORC Code explanation | Commentary |
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| | | limited/no quality control on the early work, the copper assays from these periods are suitable for inclusion in the BKM 2019 Resource Estimate and acceptable for classifying resources.<br><br>• Tonnage factors:<br>Dry Bulk Density measurements were taken from core during KSK 2015 and 2016-18 drilling programmes. Of concern regarding confidence in the resource estimate is that:<br>○ Diminished confidence exists in the tonnage factors applied to the resources from two heterogeneous and variably porous areas of the BKM mineralisation due to low DBD sample counts and suspected sample selectivity. Mineralisation in these areas has been held back from being classified as Measured Resources.<br><br>• Resource copper grade interpolation:<br>The copper grade has been estimated by ordinary kriging interpolation methods. Of concern regarding confidence in the resource estimate is that:<br><br>The resource estimate reconciles well with the source (composite) dataset and compares well with alternative estimates utilising $ID^2$ methodologies and various check high grade restriction and composite selection strategies. The copper grade interpolation strategies are robust for the BKM estimate and acceptable for classifying the resource at the local scale. |
| *Audits or reviews* | • *The results of any audits or reviews of Mineral Resource estimates.* | An interim BKM 2018 resource model (undertaken according to the descriptions within regarding the 2019 Resource Estimate), resource |

| Criteria | JORC Code explanation | Commentary |
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| | | report and Resource Section for the DFS report were reviewed by AMC. Key findings:<br>1. AMC considers the BKM Mineral Resource estimate has been completed using usual industry practices and in accordance with the requirements and guidelines of the JORC Code 2012.<br>2. AMC considers that the model, a global estimate, forms a suitable basis for Mineral Resource reporting and for use in Ore Reserve and mining studies.<br>3. Notes the diligence with which the copper mineral species have been evaluated, modeled and reported in the Feasibility Study resource report and considers this adds to the effectiveness of the resource model as input to the Feasibility Study.<br>4. Conclude that the estimate is considered to provide a robust global estimate however they believe that the copper estimates are overly smoothed and are not likely to reflect local grade variability.<br>5. Identifies risk associated with the mineralised domaining, however concur with KSK that the main mineralised bodies demonstrate overall three-dimensional continuity. AMC expresses concern regarding the grade distribution in the peripheral, narrower wireframe domains which does not necessarily affect the global estimate but may be an issue at SMU sized blocks.<br><br>KSK, on the review of the additional studies undertaken by H&A and advice from AMDAD, has opted to accept the AMC opinion that the BKM 2018 model (and hence 12019 model) is “suitable for use in Ore Reserve and mining studies” and, at this stage, not to pursue any additional studies to investigate the accuracy and impact of the unsupported statement that |

| Criteria | JORC Code explanation | Commentary |
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| | | AMC "believe that the copper estimates are overly smoothed and are not likely to reflect local grade variability". H&A and KSK's additional investigation on possible over smoothing and conditional bias has not uncovered any conclusive evidence to support AMC's statement and, supported by the AMDAD assessment, believe that any increase in local resource variance will be countered by the smoothing effect of the mining and treatment processes and the impact of the leaching rates (curves) on copper production that underpins the financial modelling in the feasibility study.<br><br>KSK acknowledges that additional geostatistical investigations are available to investigate the degree of smoothing/conditional bias within the BKM resource model, however have advised H&A that they will not instigate these at this time. |
| *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.*<br>• *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.*<br>• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.* | The risk associated with the current resource estimate is reflected in the assigned Measured, Indicated and Inferred classifications (JORC, 2012). The drilling density and orientation suitability, primary sampling reliability, certainty in geological and grade continuity, tonnage factor representivity, sample reduction strategy suitability and the unknown reliability of historic assay data are the key factors in determining the resource classification. The completed 50mX50m spaced drilling at BKM is deemed statistically acceptable for assigning Measured and Indicated Resource classifications however only those resources with confirmed geological and grade continuity gained from holes drilled at orientations other than, and in addition to, the predominant westerly orientation have been assigned the Measured Resource classification. Volumes of the mineralisation where confidence in copper grade and tonnage factors is questioned, due to drill core recovery issues and dry bulk density sample representivity, have been restricted to Indicated and Inferred Resource Classifications. Geological and grade continuity and grade interpolation confidence are the primary factors in separating Indicated (thicker and higher grade domains) from Inferred Resources at BKM. The BKM mineralisation has |

| Criteria | JORC Code explanation | Commentary |
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| | | been classified into 33% Measured Resources and 47% Indicated Resources, with 20% Inferred Resources (JORC Code 2012, at 0.2% copper reporting grade).<br><br>Risks associated with the 2019 BKM resource estimate can be better understood or alleviated with further work on the project which will involve infill drilling and appropriate studies on core and sampling protocols (particularly core recovery and DBD) aimed at improving the confidence in the data and greater understanding of grade continuity and geological controls on mineralisation (at all scales). However KSK may choose not to undertake this work if they deem that the current resource classification is sufficient for a definitive feasibility study which, in part, is related to acceptable risks for their selected project advancement strategy. |

## Section 4 Estimation and Reporting of Ore Reserves

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

| Criteria | JORC Code explanation | Commentary |
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| *Mineral Resource estimate for conversion to Ore Reserves* | • *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.*<br>• *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.* | The Mineral Resource Estimate was prepared by Duncan Hackman of Hackman and Associates Pty Ltd in June 2019. Details are as set out in Section 3 above.<br><br>The resource block model "*postestimate2019*" was used in the Enterprise Optimisation, pit design and production schedule.<br><br>The Mineral Resources are inclusive of the Ore Reserves. |
| *Site visits* | • *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*<br>• *If no site visits have been undertaken indicate why this is the case.* | John Wyche visited the BKM site on 23 and 24 January 2018. Areas inspected included the:<br>• Site access road,<br>• Pit area, |

| Criteria | JORC Code explanation | Commentary |
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| | | • ROM pad area, and<br>• Waste rock dump area.<br>Several exploration and geotechnical drill hole sites were visited.<br>Dense tall vegetation made it difficult to view the overall site but examination of roads and shallow excavations on foot gave a good appreciation of the steep terrain and weathered surface materials.<br>Discussions were held with the exploration geologists, a geotechnical engineer who was supervising the pit geotechnical drilling program and a consultant structural geologist who was on site at the time.<br>The visit confirmed that assumptions made for the mine design and operations are appropriate for the site logistics, climate and topography. |
| *Study status* | • *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.*<br>• *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.* | Asiamet Resources presented a Feasibility Study to the Government of Indonesian to demonstrate that the BKM Project meets Indonesian regulatory standards. The Government of Indonesia formally approved the Indonesian Feasibility Study in March 2019.<br>The Ore Reserves have been compiled as part of a Detailed Feasibility Study (DFS) which incorporates additional drilling and further information gathered since the Indonesian Feasibility Study which further enhance the project. The DFS covers all aspects of the project:<br>• Mineral resource estimation,<br>• Geotechnical assessment of pit wall slopes based on drilling, mapping, rock strength testing, hydrogeological assessment and numerical modelling,<br>• Heap leach assessment based on column test work and heap stability and permeability assessment,<br>• Mine cost estimation based on detailed budget pricing from experienced local mining contractors,<br>• Detailed design of the heap leach pad earthworks, liners and |

| Criteria | JORC Code explanation | Commentary |
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| | | reticulation,<br>• Detailed design of the crushing, conveying and stacking system,<br>• Detailed design of the SXEW and water treatment facilities,<br>• Process cost estimation for the designed facilities matched to the scheduled ore feed from the mine,<br>• Site services and administration cost estimation,<br>• Copper price forecasting for cathode product,<br>• Transport cost estimation for cathode to market,<br>• Enterprise optimisation based on the above parameters to define the pit shape and overall strategic plan,<br>• Detailed pit design including staging and design of access for ore and waste to the ROM pad and waste rock dump respectively,<br>• Detailed production scheduling of the mine and cathode production from the heap leach,<br>• Capital costs for the above items based primarily on quotations from detailed material take offs,<br>• Sustaining capital cost estimation,<br>• Mine closure cost estimation,<br>• Financial modelling,<br>• Environmental and social assessment through the Indonesian AMDAL process.<br><br>The Feasibility Study is based on a strategic plan guided by Enterprise Optimisation analysis which help maximise project value through shape and sequencing of the pit stages and delivery of ore to the leach pads. Enterprise Optimisation considers all the physical and commercial aspects of the project and constraints imposed by factors such as environmental or social requirements. Traditional pit optimisation focusses mainly on mining and processing. By taking a broader view of the project, Enterprise |

| Criteria | JORC Code explanation | Commentary |
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| | | Optimisation not only improves value but improves confidence by better aligning the overall strategic plan with all the factors influencing it. |
| *Cut-off parameters* | • *The basis of the cut-off grade(s) or quality parameters applied.* | Copper cut off grades are calculated using:<br>• Soluble copper grades adjusted for estimated mining loss and dilution,<br>• Heap leach recoveries, based on soluble copper grades, for three ore types defined for the deposit:<br>  ○ CPY proportion CPY >= 70%<br>  ○ CC proportion chalcocite >= proportion covellite/bornite<br>  ○ COBO proportion covellite/bornite > proportion chalcocite<br>  ○ Copper mineralisation at BKM is predominantly as chalcocite, then bornite/covellite, then chalcopyrite.<br>• Process and site general and administration operating costs,<br>• Copper price less realisation costs.<br><br>Cut off grades were calculated as:<br>$\frac{\text{Process + G\&A Cost per tonne}}{\text{Recovered value of 1\% Cu}_{\text{sol}}\text{ per tonne} - \text{Realisation costs}}$<br><br>Column test work on each of the ore types was used to define heap leach time recovery curves. Rate of recovery flattened out around 12 months so terminal recoveries were assumed to be at 12 months. |

| Criteria | JORC Code explanation | Commentary |
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| | | The leach curves were de-rated to allow for scaling up from columns to an operating heap leach. Final terminal recoveries used in the pit optimisation, production schedule and Ore Reserve are: |

| Ore Type | Terminal Recovery |
|---|---|
| CC | 80% |
| COBO | 75% |
| CPY | Formula<br>Avg 77% |

CPY forms 18% of the ore tonnes and 7% of the contained soluble copper in the Ore Reserve Estimate. It was assessed separately from the main ore types to avoid possible overestimation of recovery for ore with a high proportion of chalcopyrite which has low acid solubility, although application of recoveries to soluble as opposed to total copper already accounts in part for the proportion of chalcopyrite.

Data from column test containing high proportions of chalcopyrite showed an empirical relationship between recovery and the ratio of:

(Soluble COBO + Soluble CPY) to Soluble CC

referred to as the copper solubility ratio (cu_sol_ratio).

Recovery of the CPY ore type is estimated using the formula:

$$CPY_{Rec} = -8.0949*cu\_sol\_ratio2 + 10.35*cu\_sol\_ratio + 76.963$$

where:

$$cu\_sol\_ratio = \frac{\text{Proportion COBO}*95\% + \text{Proportion CPY}*15\%}{\text{Proportion CC}*100\%}$$

| Criteria | JORC Code explanation | Commentary |
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| | | The % refer to the theoretical acid solubility of each copper species.<br><br>The average recovery of the CPY ore type reported from the block model after applying this formula is higher than the COBO recovery. This is interpreted as being due to the high chalcopyrite areas having more chalcocite than covellite/bornite as the secondary copper species and the fact that the recoveries apply to soluble rather than total copper.<br><br>The financial model varies some key inputs such as copper price over the mine life. The Enterprise Optimisation model accounts for these variations and further adjusts the cut off grade to ensure that the crusher feed ore in each period maximises present value of the project. This results in variable cut off grades for the three ore types over the mine life. As an indication, using average costs and copper price over the mine life, the nominated recoveries for each type and the assumed mining recovery and dilution, average cut off grades for the three ore types are generally in the range of 1100 to 1400 ppm soluble copper. |
| *Mining factors or assumptions* | • *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).*<br>• *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.*<br>• *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.*<br>• *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).*<br>• *The mining dilution factors used.*<br>• *The mining recovery factors used.*<br>• *Any minimum mining widths used.* | Ore Reserves are based on opencut mining using hydraulic excavators and trucks. The ore zones are shallow, often outcropping in the hillside and most of the copper grades are too low to support underground mining.<br><br>Wall slopes for pit optimisation and design are based on assessment by PT Geomine geotechnical engineers. The geotechnical work has comprised three phases of investigation and engineering. Some of these phases conflicted, although great length was extended to resolve these conflicts and achieve consensus. Consensus was achieved and final wall design parameters have been based on this consensus. Final slope recommendations are based on rock mass strength modelling modified around major structural features. The work was peer reviewed by PT Ground Risk Management geotechnical engineer who assembles geotechnical information and final pit wall recommendations as set out in |

| Criteria | JORC Code explanation | Commentary |
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| | • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.*<br>• *The infrastructure requirements of the selected mining methods.* | GRM Technical Note 19 AMR 001 TN 001.<br><br>Mining recovery was assumed to be 97% and mining dilution 9% at zero grade. The loss and dilution factors were estimated by re-blocking the irregular block sizes in the resource block model to 5x10x5 (EWxNSxElev) metres. The resource model blocks are clipped against interpreted boundaries for the mineralisation. The regular re-blocked block size reflects a workable mining size for the proposed scale of mining and grade control and the geometry of the mineralisation. The loss and dilution factors represent the global difference between reporting the insitu resource using the original irregular blocks at the estimated insitu economic copper cut off grade and the regular re-blocked blocks at the estimated run of mine economic copper cut off grade.<br><br>The Enterprise Optimisation work applied these global factors to 5x5x5 metre regularised blocks. This added another level of modelled dilution. Reporting of tonnes and grades for this Ore Reserve estimate also used 5x5x5 metre regularised blocks so the effective dilution is slightly higher than the 9% global factor.<br><br>Final and staged pit shells were defined in the Enterprise Optimisation analyses. This work included Measured, Indicated and Inferred resources. Inferred resources account for 9% of the above cut off grade material in the optimised pits and 7% of the copper cathode produced. Most of the Inferred material is along the base of the final pit stages and appears late in the nine year Feasibility Study production schedule. The Feasibility Study financial model shows that excluding revenue derived from Inferred resources still achieves a significant after tax net present value. While it is possible that some or all of the Inferred resources may not be realised in the mine the project is still viable without them. The opportunity exists to further drill the Inferred resources before the later pit stages are mined so that any necessary changes to the pit designs can be made which could improve the project value beyond the Feasibility Study estimate with Inferred excluded. |

| Criteria | JORC Code explanation | Commentary |
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| | | The working pit design was prepared using the optimised pit shell from the Enterprise Optimisation as a guide and berm / batter configurations consistent with the wall slopes recommended by PT Geomine. Most of the pit height opens onto the eastern side of the hill containing the mineralisation so it was possible to keep ramps off the final western wall which is the highest wall with highest risk of localised wall failures. The pit is designed in stages to access high grade ore early, defer waste stripping costs and to limit the length of the final western wall above current working areas.<br><br>The ROM stockpile and crusher area is immediately east of the pit at close to the same elevation as the pit exit.<br><br>The waste rock dump is in a narrow valley immediately west of the pit. The mid-height of the waste rock dump is at the elevation of the pit exit. The valley has limited catchment and a narrow downstream exit which will be dammed to facilitate catchment and treatment of any acid run off or seepage from the waste rock.<br><br>Infrastructure for the mining operation included in the DFS includes:<br>• A mining contractor area adjacent to the pit,<br>• Cut off drains above the pit and waste rock dump to divert clean water around the mining areas,<br>• Water traps and an acid neutralisation facility for water coming into contact with the exposed pit surfaces or waste rock dump,<br>• An explosives magazine. |
| *Metallurgical factors or assumptions* | • *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.*<br>• *Whether the metallurgical process is well-tested technology or novel in nature.* | Copper ore will be processed using heap leaching and solvent extraction and electrowinning (SXEW) to produce copper cathodes on site. Ore from the pits will be crushed and, if required, agglomerated prior to conveyor stacking on the heap leach pads. Sulphuric acid will be used as the |

| Criteria | JORC Code explanation | Commentary |
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| | • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.*<br>• *Any assumptions or allowances made for deleterious elements.*<br>• *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.*<br>• *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?* | leaching agent on the heaps.<br><br>Heap leaching and SXEW is a well established method of copper ore processing for amenable ores throughout the world. The method is practised in areas with similar climate and topography at other projects in Indonesia and throughout South East Asia.<br><br>Project assessment is based on the soluble copper portion of the mineralisation which was determined using extensive sequential assays throughout the deposit.<br><br>Crush size, target copper recoveries and leach time curves were estimated using extensive column test work. Recoveries from the column test work were down rated to allow for loss of efficiency from the columns to a full scale leach pad.<br><br>Sample selection for the column test work was designed to be provide representative of spatial, mineralogical and grade variability through the deposit.<br><br>Geotechnical test work was undertaken to confirm the proposed stacking arrangement, lift heights and overstacking for the heaps. |
| *Environmen-tal* | • *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.* | Extensive environmental baseline studies have been conducted for the BKM Project from 2016 to 2018, providing a comprehensive understanding of the existing environment and seasonal (wet and dry) and intra-annual variability in key baseline components including meteorology, hydrology, surface water quality, groundwater quality, aquatic ecology, terrestrial ecology (flora and fauna), air quality and noise. In additional, full geochemical characterisation of waste and ore from the BKM Project has been completed through static (Acid Base Accounting and Net Acid Generation tests) and kinetic (column tests) acid rock drainage/metal leaching studies.<br><br>Site options analyses have been conducted for both the heap leach facility and waste dump based on geotechnical, engineering, environmental, |

| Criteria | JORC Code explanation | Commentary |
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| | | social and economic considerations during the Feasibility Study. The preferred options have been carried forward and are reflected in the present layout of the facilities.<br><br>Given the majority of waste rock and ore are acid generating extensive assessment of potential impacts have been carried out and mitigation strategies have been developed. A detailed site wide water balance has been developed for the site during operations and post-closure and geochemical source terms (for the waste dump, heap leach facility and pit) derived from kinetic test results have been used in the development of a water quality model for the site. The output from the water quality model have been used for the design and sizing of a water treatment (neutralisation) plant for the Project. A water treatment/management plan for operations and post-closure has been developed to ensure compliance with Indonesian and International Finance Corporation (IFC) mine discharge standards as well as Indonesian ambient water quality standards to ensure protection of the aquatic resources in the downstream receiving environment.<br><br>The above impacts assessments and mitigation/management plans as well as others relating to aquatic ecology, terrestrial ecology, air quality and noise have been documented in the approved Environmental and Social Impact Assessment (AMDAL in Indonesian) and the Government of Indonesia Feasibility Study for the Project, which represents Government approval for the proposed project description and environmental management plans.<br><br>A conceptual mine closure plan has been developed for the BKM Project in order to provide a basis for the estimation of site reclamation and closure costs. In order to limit the ingress of oxygen and water into the closed heap leach facility and the waste dump (reducing the potential for acid generation and poor quality drainage), a low permeability cover system has been proposed for these facilities. Water management at closure is achieved through design of closure water management |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | structures and a combination of active (neutralisation) and passive treatment. |
| *Infrastructure* | • *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.* | Current infrastructure at the BKM site is limited to the exploration camp and associated facilities.<br>The DFS includes design and cost estimation for all infrastructure required by the project including:<br>• Mining contractor's area, workshop and offices,<br>• Explosives magazine,<br>• ROM stockpile,<br>• Crusher and conveyor to the pad area,<br>• Agglomerator,<br>• Leach pad conveyors and stacker,<br>• Leach pads,<br>• SXEW and process and stormwater ponds,<br>• KSK offices, stores, workshops and laboratory,<br>• Power station and electricity reticulation,<br>• Fuel storage,<br>• KSK and contractor camp,<br>• Site access road,<br>• Off site facilities (road to port, port facilities),<br>• Surface and groundwater management, and<br>• Acid neutralisation facilities.<br>The overall level of infrastructure design and capital cost estimation is commensurate with a Feasibility Study. |
| *Costs* | • *The derivation of, or assumptions made, regarding projected capital costs in the study.*<br>• *The methodology used to estimate operating costs.* | Mine operating costs are based on quotations from two major experienced Indonesia based mining contractors, a detailed explosives supply quotation and the current diesel price. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • *Allowances made for the content of deleterious elements.*<br>• *The source of exchange rates used in the study.*<br>• *Derivation of transportation charges.*<br>• *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.*<br>• *The allowances made for royalties payable, both Government and private.* | Process operating costs are based on a detailed quotation for power supply, vendor quotes for acid and other consumables, current Indonesian labour rates and detailed estimates of equipment operating costs.<br>General and administrative costs are estimated for the planned workforce and a detailed list of non-operating tasks and resources.<br>Capital costs are mainly estimated using vendor quotes applied to equipment items and material take offs for earthworks and construction items designed to a Feasibility Study standard.<br>Royalties are as set by the Government of Indonesia and in an existing agreement with Freeport.<br>Cost estimates cover the periods through construction, operation, closure and post closure. |
| *Revenue factors* | • *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.*<br>• *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.* | Copper price assumptions used for the June 2019 Feasibility Study and Ore Reserve Estimate are based on long-term analyst consensus price forecasts for copper from a range of global banks who have active research in copper and other commodities. |
| *Market assessment* | • *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.*<br>• *A customer and competitor analysis along with the identification of likely market windows for the product.*<br>• *Price and volume forecasts and the basis for these forecasts.*<br>• *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.* | Wood Mackenzie forecast continued growth in global copper consumption through to 2035. Growth is driven by electric vehicles, renewable energy and infrastructure investment. Global mine supply is forecast to be constrained by declining grades and continued project deferrals. In this global context 25,000 tonnes of cathode per year from the BKM project should be easily placed in the market.<br>Cathode copper will be sold within Indonesia and internationally. As a producer of copper cathode the BKM Project will not be affected by Indonesian restrictions on export of unrefined products. |
| *Economic* | • *The inputs to the economic analysis to produce the net present value* | The Feasibility Study financial model is driven by the pit design and |

| Criteria | JORC Code explanation | Commentary |
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| | *(NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.*<br>• *NPV ranges and sensitivity to variations in the significant assumptions and inputs.* | production schedule which include Inferred resources. For the purpose of assessing reasonable prospects for extraction in the short term for this Ore Reserve estimate revenue derived from Inferred resources was deducted from the cash flow. This is slightly conservative because all the mining and processing costs are still applied to the above cut off Inferred resources but they do not contribute to revenue.<br><br>Other inputs for the financial analysis include the capital and operating costs, copper price forecast and realisation costs described elsewhere in this Table 1, Section 4. Mining and processing production rates are estimated with regard to the operating environment and compare well against similar projects in the region. Heap leach and SXEW performance is well supported by test work. Capital costs in all areas are supported by detailed design and vendor quotes. Operating costs in all areas are supported contractor and vendor quotes or detailed estimates using local cost inputs. Copper prices are based on forecasts from a leading global metals and mining research consultancy.<br><br>Net present value (NPV) is estimated on an after tax basis using an 8% discount rate. Taxation is in accordance with the laws of Indonesia. The estimate is on a 100% equity basis.<br><br>Sensitivity analyses were conducted by varying capital costs, operating costs, copper price and copper recovery ±10% from the Base Case. In this range project value is only moderately sensitive to capital and operating costs. Value stays strongly positive for a 10% increase in either capital or operating costs. NPV is more sensitive to changes in both copper price and heap leach copper recovery. A 10% decrease in either copper price or recovery makes the project value marginal. |
| *Social* | • *The status of agreements with key stakeholders and matters leading to social licence to operate.* | The Company has had a long-term and participatory engagement policy towards local communities. In 1997, the Company established a community development foundation called Yayasan Tambuhak Sinta |

| Criteria | JORC Code explanation | Commentary |
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| | | (YTS) with the purpose of ensuring the local people would benefit from any mineral development in the area. The Company has provided management, staffing, and financial support for the YTS Foundation since its inception - continuing the earlier initiatives in health and education, as well as new initiatives in livelihoods. Asiamet has focused its efforts and resources on improving the welfare of people living close to the BKM Project site. These corporate social responsibility (CSR) programs started during early exploration, through hiring and training of local residents to become part of the exploration team. YTS has also provided technical assistance to local Government to assist in improving their planning and budgeting processes, and their service delivery to communities. This has resulted in improved economic livelihoods, as well as social services, such as health and education.<br><br>YTS has been working in 22 villages in the area surrounding the Contract of Work, providing support for livelihood activities, such as fish farming, pig rearing, rubber cultivation, and vegetable growing. Some communities have been providing vegetables, fish and other local produce to the company's exploration camps. YTS helps villagers to analyse, plan, set priorities and make decisions on a whole range of issues affecting their daily life, everything from local education and health services to economic and livelihood opportunities, and the development of local infrastructure. The overall impact of the development program has been to improve community relations both with the company and the local government. These initiatives have resulted in strong and widespread support by the local communities for the Company and its activities.<br><br>In addition to the long term routine stakeholder engagement described above, social baseline programs have been completed and mandatory stakeholder consultations have been held in support of the AMDAL and Mine Closure Plan development for the BKM Project. Although the BKM site is remote, with the nearest settlement being approximately 15 km from the site of mining and processing operations, 15 villages in the proximity of the site and access road have been identified as potentially affected |

| Criteria | JORC Code explanation | Commentary |
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| | | communities as part of the AMDAL process, which will be the focus of consultation and community development projects by the Company.<br><br>There is strong support from local communities and local government agencies for the development of the BKM Project, as reflected by stakeholder inputs documented in the AMDAL and Mine Closure Plan documents. |
| *Other* | • *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:*<br>• *Any identified material naturally occurring risks.*<br>• *The status of material legal agreements and marketing arrangements.*<br>• *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.* | Risk assessment.<br><br>Physical risks identified for the project such as high rainfall and acid drainage have been mitigated through design and operational strategies. Commercial risks such as copper price have been assessed by sensitivity analysis across reasonably foreseeable ranges and the project remains viable.<br><br>None of the risks identified decrease confidence in the project to the extent that would affect classification of the Ore Reserves.<br><br>Legal agreements<br><br>An existing agreement with Freeport is covered in the royalty arrangements used in the Enterprise Optimisation and financial modelling.<br><br>Marketing Arrangements<br><br>The BKM project is forecast to produce LME Grade A specification copper cathode. Copper cathode is and easily traded commodity and is highly liquid with respect to financial and investment market. Semi-fabricators are considered to be the first users of refined copper and include wire rod plants and brass mills, a number of these customers are available in Indonesia. Given the modest supply from the BKM mine it is likely a large portion of the end product will be consumed within local markets. Export of copper cathode is available to the Company to LME warehouses in Malaysia and Singapore. |

| Criteria | JORC Code explanation | Commentary |
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| | | Government agreements and approvals<br><br>BKM Contract of Work (CoW) is in good standing and valid for a period of 30 years from commencement of mining operations with 2 potential extensions, each for 10 years, in the form of a Special Mining Licence, the licencing system under Indonesian Mining Law of 2009 which replaced the CoW system.<br><br>The 4 key permits/approvals in support of the construction permit for the BKM Projects are: 1) Environmental and Social Impact Assessment (AMDAL in Indonesian) and associated Environmental Licence; 2) Government of Indonesia Feasibility Study; 3) 5-year Reclamation and Mine Closure plans; and, 4) Operations/Production Forestry “Borrow-to-Use” Permit. The status of these permits/approvals are as follows:<br><br>• BKM AMDAL was approved by the Government of Central Kalimantan and the associated Environment Licence was issued in January 2019<br><br>• BKM Government of Indonesia Feasibility Study was approved by the Ministry of Energy and Mineral Resources (MEMR) in February 2019.<br><br>• The BKM Mine Closure Plan and the 5-Year Reclamation Plan were submitted to MEMR on 1 March 2019 and 11 March 2019, respectively. Presently the plans are undergoing review by MEMR and approval of these plans is expected in July 2019.<br><br>The first step in the application process for the Forestry Permit has been completed though issuance of Decree by MEMR in May 2019 officially transitioning the BKM Project into the Operations/Production Phase. The application process for this final major permit is ongoing through a series of sequential steps, as mandated by forestry regulations, and issuance of the Operations/Production Forestry Permit for the BKM Project is expected in the second quarter of 2020. |

| Criteria | JORC Code explanation | Commentary |
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| *Classification* | • *The basis for the classification of the Ore Reserves into varying confidence categories.*<br>• *Whether the result appropriately reflects the Competent Person's view of the deposit.*<br>• *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).* | Probable Ore Reserves are derived from the economically mineable portion of Indicated Resources within the pit design.<br>Proved Ore Reserves are derived from the economically mineable portion of Measured Resources within the pit design.<br>No Probable Ore Reserves are derived from Measured Resources.<br>In the opinion of the Competent Person, John Wyche, technical, commercial and other modifying factors for the BKM Copper Project are well enough defined in the DFS that classification of Probable Ore Reserves from Indicated Resources and Proved Ore Reserves from Measured Resources is appropriate. |
| *Audits or reviews* | • *The results of any audits or reviews of Ore Reserve estimates.* | No external audits or reviews of the Ore Reserves have been undertaken. |
| *Discussion of relative accuracy/ confidence* | • *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve 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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.*<br>• *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.*<br>• *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.*<br>• *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence* | As a pre-mining Ore Reserve with no operational results to reconcile against assessment of the relative accuracy and confidence in the Ore Reserve is based on the Mineral Resource Estimate and the mine plan and processing system designed to recover the copper metal. The Mineral Resource Estimate has been thoroughly documented and audited so the Measured and Indicated portions forming the basis of the Ore Reserve are at the levels of confidence described in the JORC Code 2012. The mine plan has been developed over several years by experienced Indonesian and Australian based engineers. Mining methods and rates are consistent with similar Indonesian projects and mining costs are well supported by contractor and vendor quotations. Process methods, recoveries and costs are well supported by metallurgical test work, detailed designs, vendor quotes and local costs. While further adjustments will be required as the project is developed there is a high degree of confidence that the general plan and cost estimate is adequate to allow the global Ore Reserve to be realised.<br>Until sufficient mining benches have been exposed, mapped and grade |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *of the estimate should be compared with production data, where available.* | controlled to allow reconciliation and any necessary adjustment of the mining model the Ore Reserve should be regarded as highly reliable for Measured Resources and reliable for Indicated resources at a global level. Information from operations should allow local reliability to be established over the first year of operations. As a pre-mining Ore Reserve estimate it is likely that will be variable reconciliation between the Ore Reserve and the as-mined tonnes and grades on a month to month basis but the variability should be much less over a three to six month period. Future Ore Reserve updates incorporating knowledge of the exposed orebody should allow closer reconciliation on a local short term basis. |

## 1.6 RESOURCE AND RESERVE CATEGORIES – EXPLANATION

According to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code) 2012 Edition:-

A 'Mineral Resource' is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.

An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to an Ore Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered.

An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Ore Reserve.

A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered.

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Ore Reserve or under certain circumstances to a Probable Ore Reserve.

An 'Ore Reserve' is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

The guidelines in the JORC Code state that the term ‘economically mineable’ implies that extraction of the Ore Reserves has been demonstrated to be viable under reasonable financial assumptions. This will vary with the type of deposit, the level of study that has been carried out and the financial criteria of the individual company. For this reason, there can be no fixed definition for the term ‘economically mineable’.

A ‘Probable Ore Reserve’ is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Ore Reserve is lower than that applying to a Proved Ore Reserve.

A ‘Proved Ore Reserve’ is the economically mineable part of a Measured Mineral Resource. A Proved Ore Reserve implies a high degree of confidence in the Modifying Factors.

The guidelines provided in the JORC Code note that “A Proved Ore Reserve represents the highest confidence category of reserve estimate and implies a high degree of confidence in geological and grade continuity, and the consideration of the Modifying Factors. The style of mineralisation or other factors could mean that Proved Ore Reserves are not achievable in some deposits.”

The following figure, from the JORC Code, sets out the framework for classifying tonnage and grade estimates to reflect different levels of geological confidence and different degrees of technical and economic evaluation.

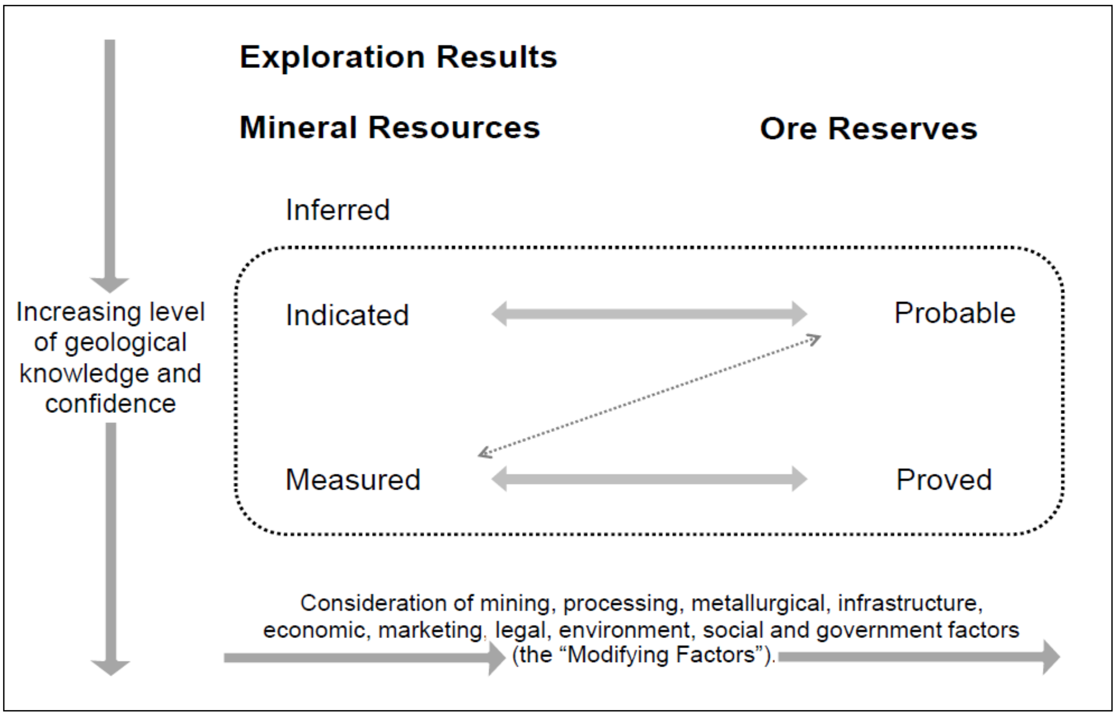


**Figure 1 General relationship between Exploration Results, Mineral Resources and Ore Reserves, from 2012 JORC Code Figure 1**

Mineral Resources can be estimated on the basis of geoscientific information with some input from other disciplines. Ore Reserves, which are a modified sub-set of the Indicated and Measured Mineral

Resources (shown within the dashed outline in the Figure above), require consideration of the Modifying Factors affecting extraction, and should in most instances be estimated with input from a range of disciplines.

Measured Mineral Resources may be converted to either Proved Ore Reserves or Probable Ore Reserves. The Competent Person may convert Measured Mineral Resources to Probable Ore Reserves because of uncertainties associated with some or all of the Modifying Factors which are taken into account in the conversion from Mineral Resources to Ore Reserves.

Inferred Resources cannot convert to Ore Reserves.