

17 August 2015

**INTREPID MINES  
LIMITED**  
ASX: "IAU"

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# INTREPID MINES LIMITED: MUMBWA PROJECT - KITUMBA MINERAL RESOURCE UPDATE

**SYDNEY, 17 August 2015** : Intrepid Mines Limited (ASX: IAU) (the "Company" or "Intrepid") hereby provides an updated Mineral Resource estimate for the Kitumba deposit, located within the Mumbwa Project area in Zambia (Figure 1). Intrepid holds a 100% interest in the Mumbwa Project.

The previous Kitumba Mineral Resource Estimate, reported in December 2013, has now been updated to include the results of 30 additional diamond drill holes, totalling 12,438 metres completed in 2014.

Following the completion of the Phase 8 drilling program, the Company engaged The MSA Group ("MSA") from South Africa as an independent consultant to conduct the updated Mineral Resource estimate, which is reported in accordance with the JORC Code 2012 Edition ("JORC Code"). The previous estimate was also completed by MSA.

Using a 1% copper cut-off, the Kitumba deposit is now estimated to contain a total Measured, Indicated and Inferred Mineral Resource of 27.9 million tonnes at 2.2% copper for a total of 614,000 tonnes of copper.

The Company's CEO Scott Lowe said:

"This Mineral Resource Estimate update has been completed to take account of new data and to provide an input into work being done to assess the feasibility and economics of the Kitumba ore body.

At a 1% copper cut-off, the new mineral resource estimate confirms the high grade of the deposit reported in the December 2013 Mineral Resource update. However, there has been a reduction in the total measured and indicated tonnage.

#### Directors

Ian McMaster (Chairman)  
Mike Oppenheimer (Deputy Chairman)  
Scott Lowe (Managing Director)  
Alan Roberts (Non-executive Director)  
Derek Carter (Non-executive Director)  
Nicole Bowman (Non-executive Director)  
Richard Baumfield (Non-executive Director)  
Vanessa Chidrawi (Company Secretary)

#### Shareholder Enquiries

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#### Stock Exchange Listing

ASX symbol: IAU

The new Mineral Resource model will now form the basis of Options Study work being undertaken by SNC-Lavalin in South Africa. This work involves reviewing the underground mine plan and considering alternative development options, including lower scale operations with lower capital costs. The outcome of the Options Study, along with an updated assessment of economic potential and impact on the ore reserves will be announced in due course.

In addition to reviewing the mine plan and project scale, the Company continues to drill nearby exploration targets in an effort to identify additional resources. This drilling forms an important part of efforts to improve project economics.”

**Table 1. Kitumba Mineral Resource**

Table 1 Kitumba Mineral Resource <sup>#</sup> above a cut-off grade of 1.0% Cu, as at 29 July 2015.								
Category	Tonnes (Millions)	Cu %	Acid Soluble Cu %	Co ppm	Au g/t	Ag g/t	U ppm	Density t/m <sup>3</sup>
<u>Supergene Domain</u>								
Measured	6.3	3.25	1.29	188	0.03	1.4	28	2.51
Indicated	8.3	1.93	0.82	196	0.03	1.1	26	2.54
<b>M&amp;I</b>	<b>14.7</b>	<b>2.50</b>	<b>1.03</b>	<b>193</b>	<b>0.03</b>	<b>1.3</b>	<b>27</b>	<b>2.53</b>
Inferred	1.5	1.23	0.41	157	0.05	0.8	33	2.67
<u>Hypogene Domain</u>								
Measured	3.3	2.36	0.27	284	0.04	1.1	21	2.86
Indicated	6.9	1.92	0.33	291	0.03	1.0	28	2.81
<b>M&amp;I</b>	<b>10.2</b>	<b>2.06</b>	<b>0.31</b>	<b>289</b>	<b>0.03</b>	<b>1.0</b>	<b>26</b>	<b>2.83</b>
Inferred	1.5	1.23	0.22	342	0.05	0.8	25	2.82
<b><u>Combined Domain</u></b>								
<b>Measured</b>	<b>9.6</b>	<b>2.95</b>	<b>0.94</b>	<b>221</b>	<b>0.03</b>	<b>1.3</b>	<b>25</b>	<b>2.62</b>
<b>Indicated</b>	<b>15.3</b>	<b>1.93</b>	<b>0.60</b>	<b>239</b>	<b>0.03</b>	<b>1.1</b>	<b>27</b>	<b>2.66</b>
<b>M&amp;I</b>	<b>24.9</b>	<b>2.32</b>	<b>0.73</b>	<b>232</b>	<b>0.03</b>	<b>1.1</b>	<b>26</b>	<b>2.64</b>
<b>Inferred</b>	<b>3.0</b>	<b>1.23</b>	<b>0.32</b>	<b>247</b>	<b>0.05</b>	<b>0.8</b>	<b>29</b>	<b>2.74</b>
<b>Total</b>	<b>27.9</b>	<b>2.20</b>	<b>0.69</b>	<b>234</b>	<b>0.04</b>	<b>1.1</b>	<b>27</b>	<b>2.65</b>

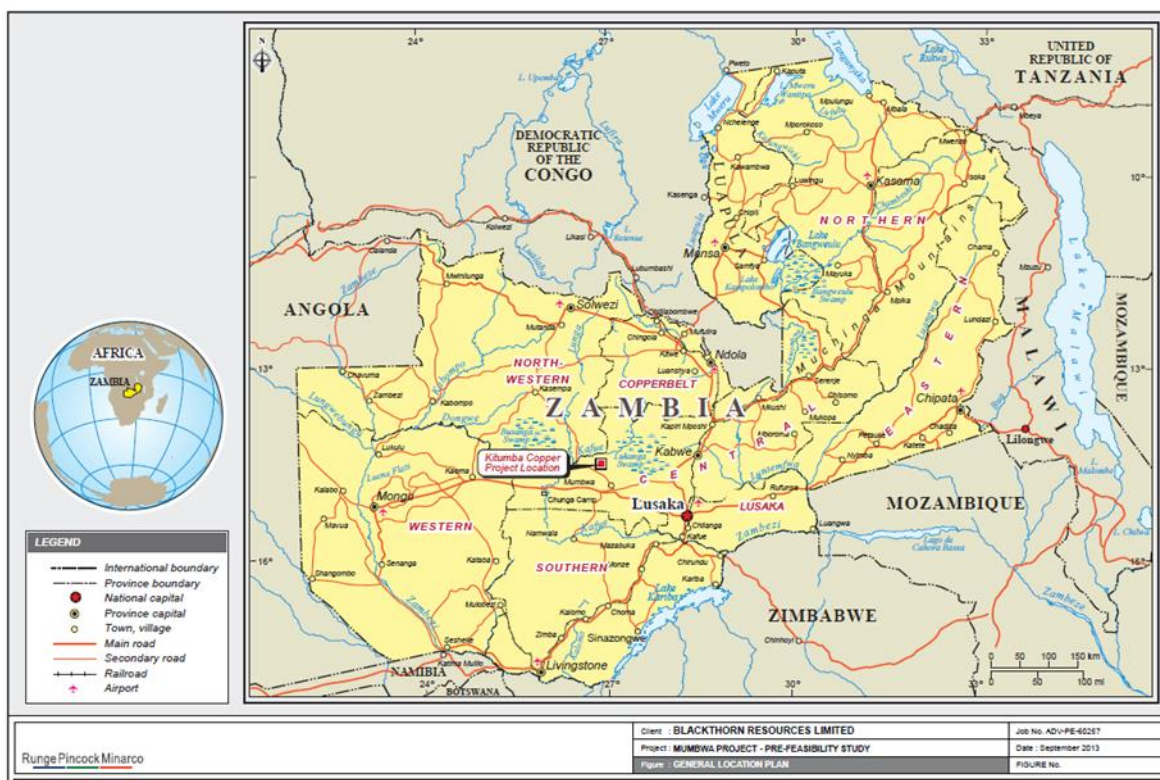
<sup>#</sup> All tabulated data have been rounded and therefore minor computational errors may occur.

## PROPERTY DESCRIPTION, LOCATION AND OWNERSHIP

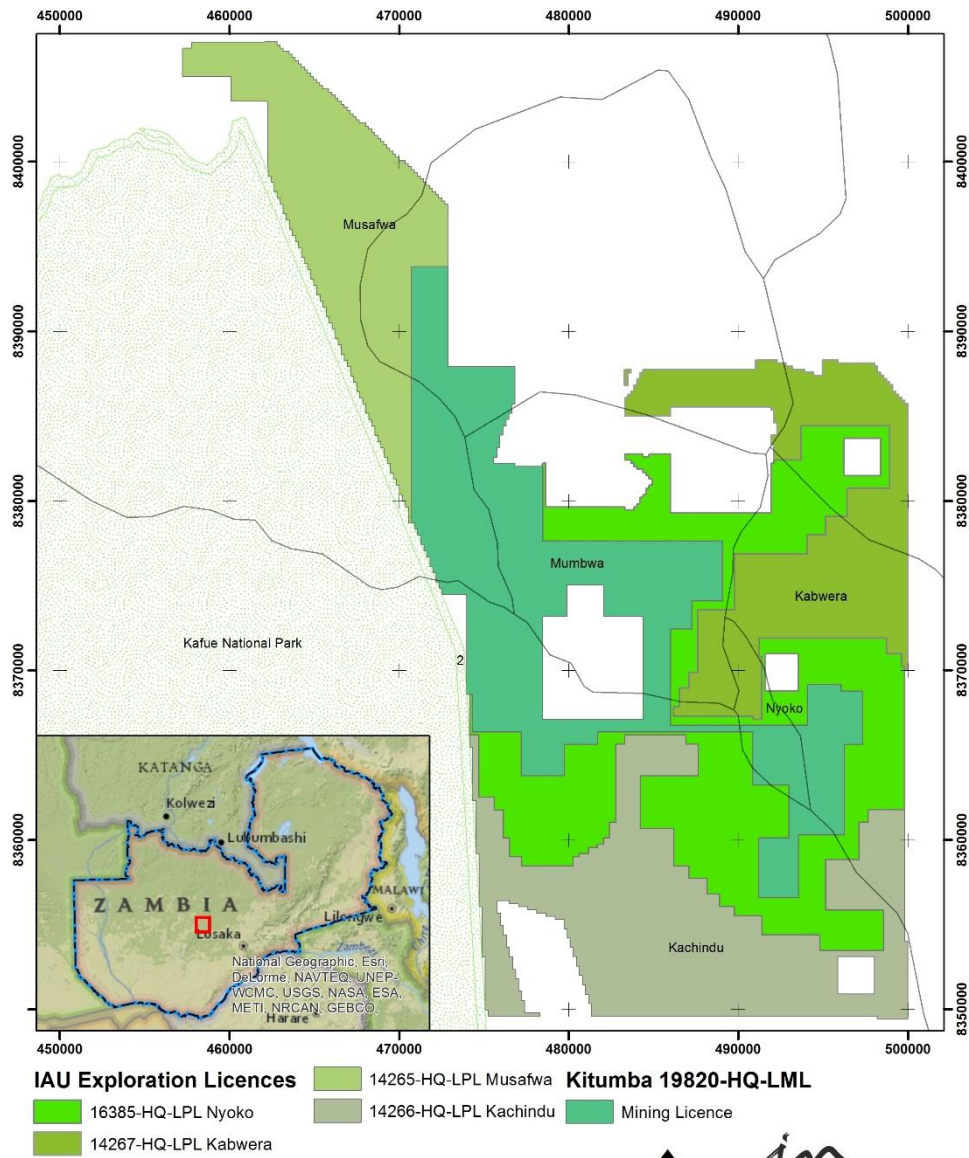
The Kitumba deposit lies within the large scale mining licence (19820-HQ-LML) which is located in the Mumbwa District, Central Province, Zambia (Figure 1). The licence lies approximately 240 km west-northwest of the capital Lusaka, and comprises one of five contiguous licences held by Blackthorn, covering an area of approximately 1,000 km<sup>2</sup> (Figure 2). The Kitumba mining licence covers an area of approximately 250 km<sup>2</sup>.

The Mumbwa prospecting licence was first granted on 14 November 2007. Zambian legislation allows for a licence to be renewed twice for a total of six years.

- **Renewal of the licence (LPL 374) was granted on 19 February 2010 for a period of two years and the licence number was changed to 8589-HQ-LPL.**
- **A second renewal was granted on 10 October 2012 for a period of two years commencing 14 November 2011.**
- **The licence was then granted a 7th year expiring in November 2014.**
- **In November 2014 the Company was granted a large scale mining licence (19820-HQ-LML) for the development and operation of the Kitumba Project.**



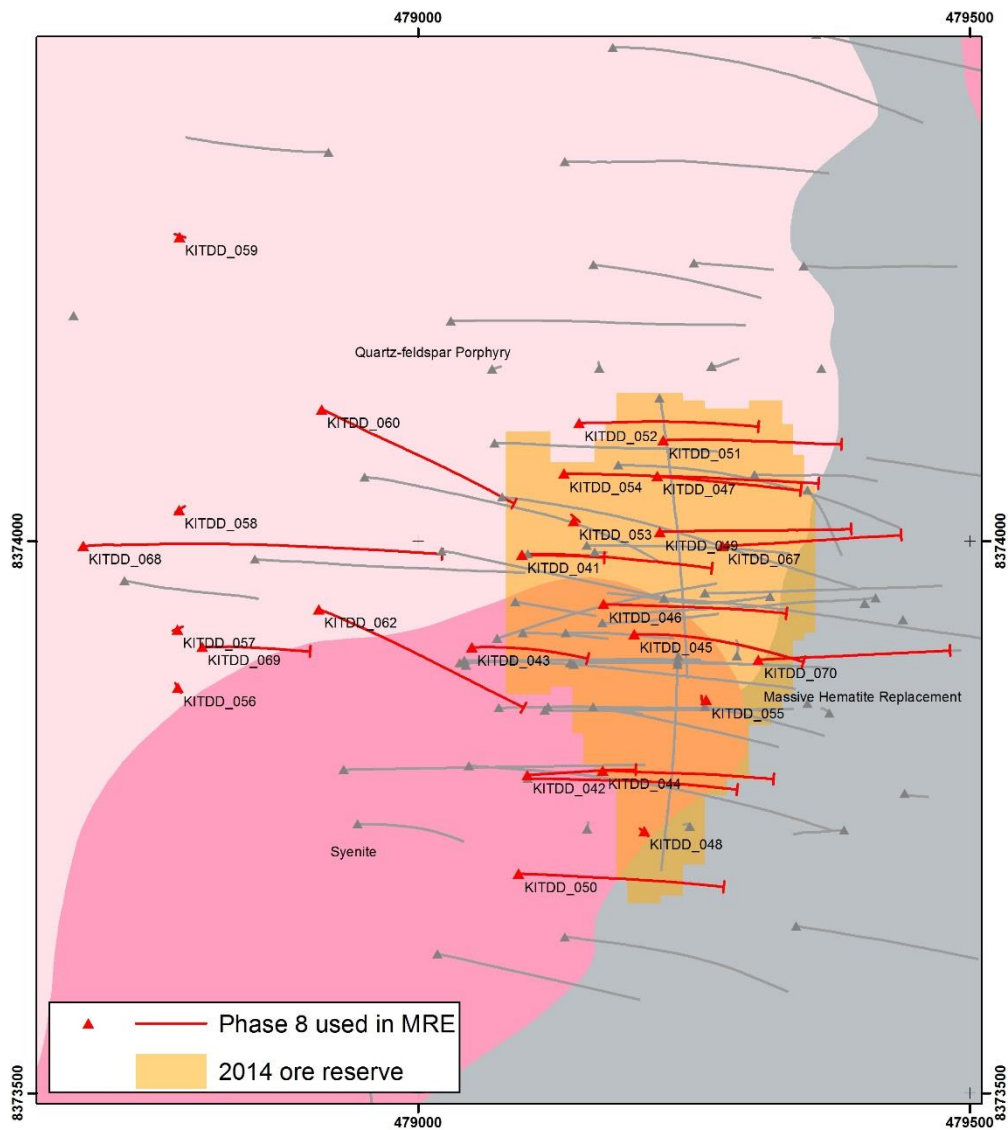
**Figure 1: Kitumba Project – Regional Location Plan**



**Figure 2. Intrepid Mines Zambia Limited exploration tenure**

## PHASE 8 DRILLING

Since the previous Mineral Resource estimate was completed by MSA in December 2013, the Phase 8 infill drilling program (Figure 3) has been completed. Phase 8 was conducted to supply material for further metallurgical studies, for geotechnical information and to further infill the Mineral Resource area.



**Figure 3. Phase 8 drilling used in the updated Mineral Resource Estimate**

## MINERAL RESOURCE ESTIMATION METHODOLOGY

104 holes with a combined length of 56,048 metres were used for the estimate. The data cut-off date for inclusion of data into this Mineral Resource estimate was 4 February 2015.

The drillholes were collared at various orientations, from inclined at various angles and directions through to vertical. Until Phase 7, the drillholes covered a grid between approximately 80 m and 100 m apart in the east-west direction along fence lines spaced between approximately 80 m and 100 m apart in the north-south direction, although peripheral areas were less well drilled, up to 200 m apart. The infill drilling completed in Phase 7 and Phase 8 provided a drilling grid of between 20 m and 40 m covering an irregular area in the order of approximately 200 m north to south by between 120 m and 200 m east to west. The infill drilling covered depths from surface down to between approximately 500 m and 600 m below surface. The different dips and directions of the drillholes have created a network of drillholes and in areas where drillholes overlap, together with one high grade intersection that was twin-drilled (S36-033 and S36-038), provided useful information on short range continuity of the mineralisation.

The estimate was guided by mineralisation domains (Leached, Supergene and Hypogene) as well as a low grade (0.5%) total copper grade shell. A waste envelope was estimated around the mineralised domains. Metal grades and density were estimated by ordinary kriging into a three dimensional block model.

The Mineral Resource was classified into Measured, Indicated or Inferred categories in accordance with the guidelines of the 2012 edition of the JORC Code. As the mining project is likely to be an underground project, a base case cut-off grade of 1.0% total copper ("Cu") was used to report the Mineral Resource.

In order to illustrate the sensitivity of the Mineral Resource to cut-off grade, the Mineral Resource is presented at a variety of cut-off grades in Table 2 for Measured and Indicated and Table 3 for Inferred Mineral Resources.

<b>Cut Off Grade (Cu%)</b>	<b>Tonnes (Millions)</b>	<b>Cu %</b>	<b>Acid Soluble Cu %</b>	<b>Co ppm</b>	<b>Au g/t</b>	<b>Ag g/t</b>	<b>U ppm</b>	<b>Density t/m<sup>3</sup></b>
0.35	38.5	1.76	0.55	227	0.03	1.06	26	2.66
0.50	37.6	1.79	0.56	228	0.03	1.07	26	2.66
<b>1.00</b>	<b>24.9</b>	<b>2.32</b>	<b>0.73</b>	<b>232</b>	<b>0.03</b>	<b>1.14</b>	<b>26</b>	<b>2.64</b>
1.40	16.7	2.87	0.94	232	0.03	1.18	27	2.63

<sup>#</sup> All tabulated data have been rounded and therefore minor computational errors may occur.

## MINERAL RESOURCE ESTIMATION METHODOLOGY Continued

Table 3 Kitumba Inferred Mineral Resource <sup>#</sup> by cut-off grade, as at 29 July 2015								
Cut Off Grade (Cu%)	Tonnes (Millions )	Cu %	Acid Soluble Cu %	Co ppm	Au g/t	Ag g/t	U ppm	Density t/m <sup>3</sup>
0.35	70.7	0.53	0.13	135	0.06	0.65	28	2.72
0.50	27.8	0.73	0.21	160	0.05	0.73	31	2.69
<b>1.00</b>	<b>3.0</b>	<b>1.23</b>	<b>0.32</b>	<b>247</b>	<b>0.05</b>	<b>0.80</b>	<b>29</b>	<b>2.74</b>
1.40	0.7	1.57	0.35	219	0.05	0.71	30	2.79

<sup>#</sup> All tabulated data have been rounded and therefore minor computational errors may occur.

## CHANGES TO THE MINERAL RESOURCE ESTIMATE FROM DECEMBER 2013 TO JULY 2015

The December 2013 estimate was based on interpolation of high grades to the north and south into gaps between drillholes along the north to south steeply dipping mineralised trend, based on continuity analysis. Infill of these gaps by the Phase 8 drilling (KITDD\_040 to KITDD\_070) now shows that the higher grades are less extensive to the north and south than modelled in December 2013. Grades intersected by drilling in the western fringe areas adjacent to the high grade areas of the deposit proved to be lower than predicted by the model. As a result, the high grade area was well constrained in the west by the Phase 8 drillholes resulting in a decrease in the quantity of the Mineral Resource above cut-off grade.

The Phase 8 drilling increased the number of data for estimation considerably and allowed for better modelling of grade continuity. This resulted in adjustments to the estimation parameters that produced a more constrained estimate in the north-south direction.

The grade shell in which the grades are estimated was modelled at a 0.30% Cu threshold in December 2013. This was changed to a 0.50% Cu threshold in 2015. The result is less dilution at the edges of the deposit, although the change in the grade threshold does not impact significantly on the Mineral Resource overall above the 1% cut-off grade.

Geological interpretation carried out by Intrepid and its associates since December 2013 identified a flat lying trend to areas of the mineralisation outside of the steeply dipping core area. This interpretation has been reflected in the block model and changes to the shape of the mineralised envelope have occurred, particularly in the low grade northern areas of the deposit. The interpretation of the steep dipping high grade core area is unchanged.

The Phase 8 drilling confirmed that the high grade core of the deposit, which has been classified as Measured Mineral Resources, is robust and there has been no significant change in the model in these areas. Some of the Mineral Resources reported as Indicated in December 2013 were down-graded to Inferred in 2015 as a result of the lower continuity found from the Phase 8 drilling. The Inferred Mineral Resource area was also reduced due to less extrapolation allowed.

<b>Table 4</b>						
<b>Updated Mineral Resource estimate comparison – December 2013 vs July 2015</b>						
<b>Category</b>	<b>Tonnes (Millions)</b>	<b>Cu %</b>	<b>Cu kt</b>	<b>Tonnes (Millions)</b>	<b>Cu %</b>	<b>Cu kt</b>
	<b>July 2015</b>			<b>December 2013</b>		
Measured	9.6	2.95	283	10.4	2.93	306
Indicated	15.3	1.93	294	24.2	2.02	489
<b>M&amp;I</b>	<b>24.9</b>	<b>2.32</b>	<b>577</b>	<b>34.7</b>	<b>2.29</b>	<b>795</b>
Inferred	3.0	1.23	37	4.1	1.37	57
<b>Total</b>	<b>27.9</b>	<b>2.20</b>	<b>614</b>	<b>38.8</b>	<b>2.19</b>	<b>851</b>

## **GEOLOGICAL CONTEXT**

The Mumbwa Project area is located approximately 200 km west of Zambia's capital, Lusaka. The region is largely underlain by metasedimentary rocks of the Kundulungu Group of the Neoproterozoic Katanga Sequence which are intruded by syn- to post-tectonic rocks of the Hook Granitoid Complex. The Kitumba deposit was formed as part of a giant mineralised iron-oxide alteration system and associated breccia formation extending over a 25 km long north-south trending structural corridor.

A potassic regional alteration system grades into hematite, sericite and magnetite alteration centred on two "hot spot" magnetic highs known as Mutoya and Sugarloaf; Kitumba is hosted on the western flank of the Sugarloaf magnetic high.



## **DEPOSIT CHARACTERISTICS**

The deposit is hosted in brecciated post orogenic (Pan African, SHRIMP U-Pb zircon ages 545-539 Ma) intrusives of the Hook Granitoid Complex consisting of syenite-diorite and porphyry granite.

The main control on the formation of the breccia complex with associated alteration and copper mineralisation is the north-south oriented Kitumba Fault Zone. Copper mineralisation at Kitumba comprises a primary hypogene disseminated to semi-massive pyrite-chalcopyrite assemblage.

The Kitumba Fault Zone and acid formation through the oxidation of sulphides later facilitated extraordinarily deep weathering, remobilisation of copper minerals (chalcocite, malachite, chalcosiderite, native copper) and formation of the supergene enriched “chalcocite blanket”.

The high-grade copper zone is located between 180 m and 500 m vertical depth from surface, and extends along strike for a distance of ~500 m and across strike for ~300 m.

As implemented during Phase 6 and Phase 7 for the respective April 2013 and December 2013 Mineral Resource estimates, the definition of leached, supergene enriched and hypogene zones as well as alteration was further enhanced with the Phase 8 infill drilling.

## **FEASIBILITY STUDY**

Work on the early works Feasibility Study was initiated in November 2014 and is focused on further metallurgical testing to improve copper recoveries, as well as identifying processing options within the preferred hydrometallurgical flow sheet.

The mine plan, along with alternate mining methodologies and production rates, will also be reviewed in the light of this Mineral Resource update.

## **THIRD PARTY REVIEWS**

Specialist mining consultants Coffey International and Independent Resource Geologist Stuart Masters (from CS-2 Pty Ltd) were engaged to conduct separate independent third party reviews of the Mineral Resource estimate. Both parties have concluded that the estimate has been prepared using accepted industry practice and has been classified in accordance with the JORC (2012) Code guidelines.

**ATTRIBUTION**

The information in this report that relates to Mineral Resources at the Mumbwa Project in Zambia is based on information compiled by Mr Jeremy C Witley, BSc (Hons), Pr.Sci.Nat., a Competent Person who is a member of The Geological Society of South Africa, which is a Recognised Professional Organisation (RPO). Mr Witley has more than 25 years' experience in base and precious metals exploration, mining geology and Mineral Resource estimation and is a Principal Consultant with the MSA Group which has been appointed by Intrepid Mines Limited to undertake exploration management and Mineral Resource reporting on the Mumbwa Project. Mr Witley has sufficient experience, that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Witley consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

**ATTRIBUTION**

The information in this report that relates to Exploration Results at the Mumbwa Project in Zambia is based on information compiled by Mr Michael J Robertson, MSc, Pr.Sci.Nat., MSAIMM, a Competent Person and a Professional Natural Scientist registered with the South African Council for Natural Scientific Professions which is a Recognised Professional Organisation (RPO). Mr Robertson has 24 years' experience in mineral exploration and is a full-time employee of the MSA Group, which has been appointed by Intrepid Mines Limited to undertake exploration management and Mineral Resource reporting on the Mumbwa Project. Mr Robertson has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Robertson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## Appendix1: JORC Code, 2012 Edition

### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (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.</li> </ul>	<ul style="list-style-type: none"> <li>The Kitumba deposit was sampled using diamond drill holes. A total of 104 drill holes were drilled for a total of 56,048 m. Holes were drilled at various inclinations from vertical through to 60 degrees, predominantly angled towards 090 at between 60 and 80 degrees.</li> <li>Diamond core only was used to sample the Kitumba deposit. Core was logged for lithology, mineralisation state, alteration, structure, density and magnetic susceptibility. Core was half split (HQ) or quarter split (PQ) and sampled following standard protocols and QAQC procedures as per industry best practice.</li> <li>Sampled on nominal 1m intervals varied in order to respect geological boundaries in mineralised zone, 2m outside.</li> <li>Each sample is dried, crushed (~2mm), milled and 150g split taken for four acid digest followed by ICP-MS, ICP-OES finish, cold sulphuric acid leach with AAS finish, and Fire Assay/AAS (Au) finish.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>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).</li> </ul>	<ul style="list-style-type: none"> <li>Diamond core only, HQ predominant and PQ for metallurgical sampling. Core is oriented using a spear (Phases 1-6) or Reflex ACT II (Phases 7-8).</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure</li> </ul>	<ul style="list-style-type: none"> <li>Core recoveries are logged, overall core recoveries are greater than 95%</li> <li>Core is reconstructed on angle iron for measurement against driller's</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>representative nature of the samples.</i></p> <ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<p>blocks, orientation lines and recording of driller's breaks.</p> <ul style="list-style-type: none"> <li>• Diamond core has high recoveries.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All core has been logged for geological (lithology, mineralisation, alteration) and geotechnical (alpha/beta angles, RQD, defect count) information, all data is stored in a database.</li> <li>• Select holes have been logged using a down-hole acoustic televiewer for geotechnical information, all holes are logged and photographed</li> <li>• All relevant intersections that have been used in the estimate have been logged.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All core is cut in half using purpose built core saws onsite, and half core (HQ and NQ size) collected for sampling, ensuring the same side of the core is consistently sampled. In the case of PQ size core, quarter core was cut and sampled. Field duplicates and blanks were submitted to monitor QC of sample preparation and laboratory assay precision.</li> <li>• Samples were prepared at various laboratories during the history of the project and crushed to 85% &lt;2mm with a 1,200g subsample split (rotary and riffler) for pulverising to 85% &lt;75µm. Regular sizing checks were undertaken and reported.</li> <li>• Sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li>• <i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable</i></li> </ul>	<ul style="list-style-type: none"> <li>• Samples were submitted to a four acid digest (sulphuric, nitric, perchloric and hydrofluoric) and ICP finish, cold sulphuric acid leach with AAS finish. and some samples for Fire Assay and AAS finish.</li> <li>• QAQC procedures include; a chain of custody protocol, the systematic submittal of 20% QA/QC samples including field duplicates, field blanks and certified reference samples into the flow of samples submitted to the laboratory as well as re-assaying of the mineralised zones and submission of samples for umpire analysis by a second accredited laboratory.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>levels of accuracy (ie, lack of bias) and precision have been established.</i>	
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Significant intersections are reported by MSA.</li> <li>• A single twinned hole (S36-033 and S36-038) has been drilled and confirmed logging and geochemical results.</li> <li>• Data entry and verification is undertaken by MSA following an established protocol, all data is stored in a digital Maxwell GeoServices DataShed database and regularly backed-up.</li> <li>• No statistical adjustments to data have been applied.</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Hole collars have been surveyed by differential GPS, down hole surveys were collected every 6m (inclined holes) and 12m (vertical holes) using Reflex and Gyro instruments during different phases of the project. Appropriate QC procedures were applied to verify down hole surveys.</li> <li>• The grid system for Kitumba is UTM WGS84, zone 35South.</li> <li>• An airborne laser elevation survey was flown as part of the Falcon™ dataset acquired in 2006.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Drill hole spacing is irregular and varied between 20m and 40m in the high grade portion to between approximately 80m and 200m outside of this extending out to 200m x 200m on the margins.</li> <li>• The grade and geological continuity within each domain is sufficient to report Mineral Resources and the classifications applied under the JORC code (2012 Edition).</li> <li>• Samples have been composited to 2m. No compositing was applied to the sample material prior to assaying</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Holes are predominantly drilled towards 090 at a 60-80 degrees dip to intersect sub vertical N-S oriented mineralisation. Holes have been drilled towards 180 and 270 confirming the sub-vertical nature of the deposit.</li> <li>• No orientation based bias had been identified in the data to this point</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Sample security</i>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>An unbroken sample chain of custody was implemented, as follows:               <ul style="list-style-type: none"> <li>Sample polyweave bags were sealed with cable ties</li> <li>Sample shipments examined on arrival at the laboratory and the sample dispatch form signed and returned with a confirmation of the security seals and the presence of all samples comprising each batch.</li> </ul> </li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Audits of the sample preparation laboratories at AH Knight in Kitwe and Intertek Genalysis in Chingola and a visit of the Intertek Genalysis laboratory in Johannesburg were conducted by Mike Robertson of MSA who is the CP for the exploration data.</li> <li>No material issues were found.</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Kitumba is located entirely within the 100% IAU owned Kitumba mining licence 19820-HQ-LML.</li> <li>• The mining licence was granted on the 21/11/2014 and is valid for a period of 25 years. The licence is held in good standing.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Mumbwa Project operated under joint venture with BHP Billiton from 2008-2011. Blackthorn Resources was taken over by Intrepid Mines in 2014.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Kitumba deposit is recognised as having IOCG type characteristics; it is hosted in a hematite breccia complex within intrusives of the Hook Granitoid suite (Early Cambrian to Neoproterozoic). Mineralisation is supergene in nature (chalcocite, malachite, chalcosiderite, native copper) to 400+m, hypogene mineralisation consists primarily of chalcopyrite and pyrite.</li> </ul>
<i>Drill hole information</i>	<ul style="list-style-type: none"> <li>• <i>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:</i> <ul style="list-style-type: none"> <li>– <i>easting and northing of the drill hole collar</i></li> <li>– <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>– <i>dip and azimuth of the hole</i></li> <li>– <i>down hole length and interception depth</i></li> <li>– <i>hole length.</i></li> </ul> </li> <li>• <i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from</i></li> </ul>	<ul style="list-style-type: none"> <li>• See Appendices 2 and 3.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>the understanding of the report, the Competent Person should clearly explain why this is the case.</i>	
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>Length-weighted average grades reported. No upper limit has been applied to copper grades in these exploration results.</li> <li>A cut-off grade of 0.25% Cu and a maximum internal dilution of 2m (drilled width) are used as a guideline when delineating the drilled thickness intervals of mineralisation. See Appendix 3.</li> <li>All metal grades reported are single element.</li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>True-widths are not quoted, as the mineralised zone is associated with a sub-vertical north-south oriented zone of brecciation.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>A plan map (Figure 3) is contained within this announcement.</li> <li>See Appendix 3 for a tabulation of intercepts.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>All results are reported.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>There is no outstanding exploration data considered material that has not been previously reported or is not contained within this report.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (e.g., tests for lateral</i></li> </ul>	<ul style="list-style-type: none"> <li>Exploration work will concentrate on satellite prospects surrounding</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>extensions or depth extensions or large-scale step-out drilling).</i></p> <ul style="list-style-type: none"> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<p>Kitumba within the Mumbwa project area.</p>

### Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Commentary
<i>Database integrity</i>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>The database is managed by MSA</li> <li>Data is loaded into “DataShed” and validated upon upload using database validation rules and visual inspection of data.</li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The competent person for the Mineral Resource Estimate has made two site visits the most recent of which was August 2013.</li> <li>The Competent Person for Exploration Results made two site visits in Phase 8, the most recent of which was October 2014.</li> </ul>
<i>Geological interpretation</i>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>The confidence in the geological interpretation of the Kitumba deposit is considered good.</li> <li>Both mineralisation (leached, supergene, hypogene) and grade domaining (low, moderate, high) was used to constrain the data</li> <li>The effect of removing the high grade domain and the use of “soft” and “semi-soft” boundaries were investigated and most appropriate method adopted.</li> <li>Intense brecciation, hydrothermal alteration and supergene enrichment has occurred independently of underlying geological controls.</li> <li>Faulting cuts-off the deposit on the east.</li> </ul>
<i>Dimensions</i>	<ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<ul style="list-style-type: none"> <li>The deposit extends approximately 500m along strike, 150-300m wide and begins from 180m below surface to over 500m at depth.</li> </ul>
<i>Estimation and modelling techniques</i>	<ul style="list-style-type: none"> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> </ul>	<ul style="list-style-type: none"> <li>Grade estimation was completed by Ordinary Kriging using Datamine Studio 3 software. Data was composited to two metres. Top cuts were applied to control outliers. No constraints to number of samples per hole or octants used. No maximum number per drillhole used due to the irregular drilling pattern crossing the mineralisation at many orientations. Search area was aligned to the semi-variogram ellipse.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li><i>The assumptions made regarding recovery of by-products.</i></li> <li><i>Estimation of deleterious elements or other non-grade variables of economic significance (eg, sulphur for acid mine drainage characterisation).</i></li> <li><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li><i>Any assumptions behind modelling of selective mining units.</i></li> <li><i>Any assumptions about correlation between variables.</i></li> <li><i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li><i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li><i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul>	<ul style="list-style-type: none"> <li>The ordinary kriged estimate was compared with a single threshold Indicator Kriged estimate. The ordinary kriged model validated better against the input data and was used to report the Mineral Resource. Comparisons between the two methods have been made.</li> <li>This estimate includes data from additional drilling and interpretation from the December 2013 estimate and was re-calculated using first principles.</li> <li>No by-product recoveries were considered.</li> <li>Sulphur, Manganese and Uranium were estimated, in addition to Copper.</li> <li>Block models 20 mN, 20mE, 20 mRL.</li> <li>No SMU was considered, the current optimal mining method is sub-level caving.</li> <li>Bi-variate analysis was carried out to determine relationships between the attributes of interest. Relationships between correlated elements were preserved by aligning estimation parameters for related elements.</li> <li>Semi-soft boundaries used that allowed selection of 6 m over each oxidation domain boundary.</li> <li>Block model was compared to drillhole data visually, statistically and by comparing average grades of the drillhole data and model in 20 m slices through the deposit vertically and in the X and Y planes. Deposit is undeveloped so no reconciliation data available.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li><i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i></li> </ul>	<ul style="list-style-type: none"> <li>Tonnages are estimated on a dry basis.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li><i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>The 1% Cu cut-off was reported as it represents a mineable cut-off as shown in previous studies.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li><i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral</i></li> </ul>	<ul style="list-style-type: none"> <li>The expected mining method is sub-level caving. Open pit mining was found to be unsuitable due to large amount of overburden that needs to be removed before encountering significant mineralisation.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i>	
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>The copper mineralisation is mainly malachite, chalcocite and chalcopyrite, which is amenable to existing processing techniques. The mining method will not differentiate between the mineralisation types and a mixed oxide-sulphide feed will be processed. Previous metallurgical assessment has indicated recoveries in the order of 92%. Metallurgical assessment is ongoing.</li> </ul>
<i>Environmental factors or assumptions</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>An Environmental Impact Statement was completed as part of the Prefeasibility Study and no adverse effects from possible mining operations were found.</li> </ul>
<i>Bulk density</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	<ul style="list-style-type: none"> <li>A total of 25,815 bulk density measurements were carried out on representative core pieces using the Archimedes method of dry weight versus weight in water. These measurements are representative for 29,372m of core.</li> <li>A total of 85 Density measurements were taken on 107m of core and analysed by instrumental technique using a gas displacement pycnometer.</li> <li>A density model was generated using ordinary kriging interpolation and used for the tonnage estimation.</li> <li>Below the leached zone the porosity is low, sensitivity to porosity is low.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Classification</i>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li><i>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).</i></li> <li><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>	<ul style="list-style-type: none"> <li>The estimate was classified on the following basis; <ul style="list-style-type: none"> <li>Measured – within 40 m drillhole spacing.</li> <li>Indicated – where estimates are achieved with a minimum of 14 composites sourced by the first search volume, i.e., all composites were within the semi-variogram range. Only estimates where there was good confidence in the 0.50% grade shell were considered for Indicated Mineral Resources.</li> <li>Inferred – Rest of &gt;0.50% grade shell within 40 m of a drillhole. .</li> </ul> </li> <li>The Mineral Resource estimate appropriately reflects the Competent Persons view of the deposit.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resource has been reviewed by an independent consultant (Stuart Masters, CS-2 Pty Ltd) and Coffey Mining (Johannesburg). There were no critical findings or fatal flaws.</li> </ul>
<i>Discussion of relative accuracy/ confidence</i>	<ul style="list-style-type: none"> <li><i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></li> <li><i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li><i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li>The estimate is influenced by the interpretation of mineralisation and grade domains. In the area classified as a Measured Resource, the control points are mostly between 20m and 40m apart and the interpretation is considered robust. In the area classified as Indicated Resources the control points are further apart (mostly between 40 m and 80m apart) and the confidence in the geological interpretation is lower and therefore significant changes to local estimates may occur.</li> <li>The close drillhole spacing in the area classified as a Measured Resource is sufficient so that any variation in the estimate of the Measured Resource area due to additional data will be unlikely to significantly affect total economic viability. Consideration of the bulk mining method with limit selectivity has been made in the Measured classification, which may not be appropriate should a highly selective method be employed.</li> <li>Despite the lower confidence in the Indicated area, the deposit is sufficiently well understood so that any changes are not expected to significantly change the total quantity and quality of the Indicated</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>Mineral Resource.</p> <ul style="list-style-type: none"> <li>The Inferred Mineral Resources that are derived from extrapolation outside of the drillhole grid or informed by sparse drilling are considered to be high risk estimates that may change significantly with additional data. It cannot be assumed that all or part of an Inferred Mineral Resource will necessarily be upgraded to an Indicated Mineral Resource as a result of continued exploration. Most of the Inferred Mineral Resource is contained within the sparsely drilled area.</li> </ul>

## APPENDIX 2: DRILL HOLES

Hole_ID	Easting	Northing	RL	Inclination	Azimuth	Start_Depth	Max_Length
KITDD_001	479439	8373929	1489	-90	0	0	231.72
KITDD_001-1	479439	8373929	1489	-90	0	170.72	329.72
KITDD_002	479441	8373771	1505	-90	0	0	178.50
KITDD_002-1	479441	8373771	1505	-90	0	126.5	555.85
KITDD_003	479386	8373738	1493	-85	270	0	602.65
KITDD_004	479373	8373844	1480	-90	0	0	597.49
KITDD_005	479073	8373849	1412	-65	90	0	620.65
KITDD_006	479076	8374040	1403	-65	90	0	725.36
KITDD_007	479365	8374156	1450	-90	0	0	548.50
KITDD_008	479046	8373796	1409	-70	90	0	881.14
KITDD_009	479141	8373888	1421	-90	0	0	639.10
KITDD_010	479405	8373944	1479	-90	0	0	620.10
KITDD_011	478933	8373793	1395	-70	90	0	437.50
KITDD_011-2	478933	8373793	1395	-70	90	295.52	781.52
KITDD_012	479555	8374049	1445	-90	0	0	394.60
KITDD_013	479022	8373991	1400	-70	90	0	645.60
KITDD_014	479067	8374156	1419	-90	0	0	627.30
KITDD_015	478852	8373984	1391	-70	90	0	692.65
KITDD_016	479044	8373888	1407	-90	0	0	601.20
KITDD_017	479018	8373626	1422	-70	100	0	572.30
KITDD_018	479133	8374343	1411	-70	90	0	617.49
KITDD_019	479069	8374089	1409	-70	90	0	632.50
KITDD_020	478688	8374204	1384	-90	0	0	452.44
KITDD_021	479529	8374809	1439	-75	100	0	621.30
KITDD_022	479794	8373453	1405	-90	0	0	476.35

Hole_ID	Easting	Northing	RL	Inclination	Azimuth	Start_Depth	Max_Length
KITDD_023	478921	8374347	1396	-80	270	0	659.24
KITDD_024	479148	8373883	1422	-60	90	0	449.65
KITDD_025	479116	8373842	1419	-81	90	0	530.64
KITDD_026	479043	8373884	1407	-68	90	0	557.55
KITDD_027	479092	8373885	1413	-60	90	0	539.90
KITDD_028	479047	8373884	1408	-60	90	0	562.40
KITDD_029	479096	8373914	1413	-80	90	0	419.70
KITDD_030	479119	8373842	1420	-68	90	0	575.75
KITDD_031	479166	8373916	1422	-80	90	0	539.60
KITDD_032	479141	8373912	1419	-80	90	0	581.55
KITDD_033	479160	8373990	1415	-70	90	0	527.50
KITDD_033A	479160	8373990	1414	-70	90	0	33.90
KITDD_034	479032	8374195	1420	-72	88	0	728.50
KITDD_035	479230	8373944	1433	-65	90	0	650.95
KITDD_036	479266	8373950	1441	-65	90	0	449.55
KITDD_037	479075	8373907	1410	-70	70	0	563.40
KITDD_038	478495	8373265	1368	-60	90	0	401.60
KITDD_039	478987	8374646	1394	-65	270	0	476.93
KITDD_039-1	478987	8374646	1394	-90	270	468	543.65
KITDD_040	478034	8373234	1317	-60	90	0	423.20
KITDD_041	479094	8373988	1405	-75	90	0	318.17
KITDD_041A	479099	8373988	1406	-75	90	0	598.92
KITDD_042	479099	8373788	1418	-70	90	0	287.45
KITDD_042A	479100	8373785	1418	-70	90	0	538.50
KITDD_043	479049	8373904	1407	-78	90	0	467.70
KITDD_044	479167	8373792	1431	-70	90	0	458.55
KITDD_045	479196	8373916	1429	-75	90	0	542.55
KITDD_046	479168	8373943	1420	-70	90	0	455.32



Hole_ID	Easting	Northing	RL	Inclination	Azimuth	Start_Depth	Max_Length
KITDD_047	479217	8374059	1418	-66	90	0	357.55
KITDD_048	479205	8373738	1444	-90	90	0	542.44
KITDD_049	479219	8374008	1424	-70	90	0	500.45
KITDD_050	479091	8373699	1422	-70	90	0	467.55
KITDD_051	479222	8374091	1419	-70	85	0	422.60
KITDD_052	479146	8374107	1415	-70	90	0	443.55
KITDD_053	479141	8374018	1411	-90	0	0	497.15
KITDD_054	479132	8374061	1408	-90	0	0	551.40
KITDD_055	479261	8373856	1448	-90	0	0	602.50
KITDD_056	478783	8373867	1383	-90	0	0	195.74
KITDD_057	478782	8373920	1385	-90	0	0	195.70
KITDD_058	478784	8374028	1392	-90	0	0	329.30
KITDD_059	478784	8374275	1388	-90	0	0	213.80
KITDD_060	478913	8374119	1407	-70	115	0	521.55
KITDD_061	478578	8373947	1378	-70	239	0	140.90
KITDD_062	478910	8373938	1391	-70	115	0	499.64
KITDD_063	478369	8373823	1356	-90	0	0	84.80
KITDD_064	478174	8373708	1372	-70	59	0	70.70
KITDD_065	478097	8373660	1376	-70	239	0	60.80
KITDD_066	478003	8373599	1377	-70	239	0	46.00
KITDD_067	479276	8373996	1438	65	88	0	401.55
KITDD_068	478697	8373996	1385	55	87	0	539.35
KITDD_069	478805	8373904	1385	-70	90	0	249.00
KITDD_070	479308	8373893	1456	-65	88	0	413.55
KR1_D	478734	8373964	1388	-60	100	0	250.45
S1_001	479473	8372216	1348	-90	0	0	499.15
S1_002	479500	8371750	1340	-90	0	0	500.60
S36_001	479181	8374069	1415	-70	90	0	697.40

Hole_ID	Easting	Northing	RL	Inclination	Azimuth	Start_Depth	Max_Length
S36_003	479130	8374643	1411	-70	90	0	432.00
S36_004	479558	8374448	1399	-70	90	0	400.00
S36_005	479347	8374660	1426	-70	90	0	484.05
S36_006	479163	8374846	1417	-70	90	0	685.60
S36_007	479361	8374458	1422	-70	90	0	662.00
S36_008	479353	8374046	1454	-70	90	0	196.50
S36_009	479177	8374447	1408	-70	90	0	792.00
S36_010	478952	8374058	1403	-70	90	0	866.65
S36_011	479343	8373652	1493	-70	90	0	512.00
S36_012	479354	8373252	1490	-70	90	0	458.50
S36_013	479548	8374055	1447	-90	0	0	450.00
S36_013A	479553	8374058	1454	-70	270	0	412.50
S36_014	479133	8373642	1443	-70	90	0	594.00
S36_015	479305	8374060	1445	-70	90	0	351.50
S36_016	479159	8374250	1430	-70	90	0	438.50
S36_017	479159	8373850	1429	-70	90	0	500.50
S36_018	479260	8373850	1451	-70	90	0	332.00
S36_020	479250	8374252	1441	-70	90	0	220.00
S36_021	479349	8374249	1452	-70	90	0	403.00
S36_022	479370	8374823	1456	-70	90	0	851.50
S36_023	479319	8373950	1452	-70	270	0	483.05
S36_024	479246	8373742	1454	-90	0	0	583.48
S36_025	479414	8373949	1479	-65	270	0	532.32
S36_026	479266	8374158	1439	-60	0	0	614.82
S36_026-1	479266	8374158	1439	-90	0	510.4	614.82
S36_026-2	479266	8374158	1439	-90	0	614.82	707.20
S36_027	479153	8373739	1433	-90	0	0	509.00
S36_028	479164	8374157	1428	-90	0	0	524.46

Hole_ID	Easting	Northing	RL	Inclination	Azimuth	Start_Depth	Max_Length
S36_028-1	479164	8373156	1427	-90	0	524.46	986.30
S36_029	479303	8373440	1496	-70	270	0	600.80
S36_030	478946	8373744	1398	-80	90	0	506.50
S36_031	479035	8374617	1398	-60	325	0	500.20
S36_032	479289	8373896	1451	-90	0	0	500.50
S36_032-2	479289	8373896	1451	-90	0	500.5	586.20
S36_033	479235	8373891	1440	-90	0	0	463.36
S36_034	479319	8373950	1452	-90	0	0	500.55
S36_035	479235	8373888	1439	-70	180	0	500.20
S36_036	479219	8374129	1428	-70	180	0	653.54
S36_038	479236	8373896	1439	-90	0	0	653.55
ZMMUM0001	478863	8374853	1391	-60	90	0	1004.55
ZMMUM0004	479638	8373335	1444	-60	0	0	932.65
ZMMUM0005	478992	8373169	1415	-60	0	0	732.00

### APPENDIX 3: KEY INTERSECTIONS

Hole ID	From	To	Length m	Cu Grade %
S36_001	170	487	317	0.8
S36_010	274	458	184	0.48
S36_014	242	272	30	0.5
S36_016	142	339	197	0.62
S36_017	203	431	228	1.5
S36_023	182	461	279	1.1
S36_024	142	407	265	0.74
S36_025	294	529	235	2.06
S36_026	569	610	41	2.31
S36_026	277	434	157	0.5
S36_026	195	202	7	0.97
S36_029	350	399	49	0.57
S36_032	311	498	187	2.62
S36_034	245	464	219	2.02
S36_035	190	439	249	1.33
S36_036	198	450	252	1.94
S36_038	188	493	305	4.05
KITDD_005	206	426	220	3.02
KITDD_006	55	477	422	1.27
KITDD_006	230	405	175	2.03
KITDD_008	326	522	196	0.73
KITDD_009	203	435	232	1.12
KITDD_010	257	289	32	0.87
KITDD_013	174	393	219	1.21
KITDD_015	103	382	279	0.5
KITDD_016	169	295	126	0.53

Hole ID	From	To	Length m	Cu Grade %
KITDD_018	184	218	34	0.57
KITDD_018	297	305	8	1.1
KITDD_019	303	445	142	0.49
KITDD_019	191	261	70	0.53
KITDD_024	304	385	81	1.03
KITDD_025	208	238	30	2.02
KITDD_026	311	422	111	1.07
KITDD_026	213	245	32	1.12
KITDD_027	208	451	243	5
KITDD_028	240	414	174	5.04
KITDD_029	211	277	66	1.58
KITDD_030	278	462	184	2.71
KITDD_031	199	365	166	7.14
KITDD_032	183	406	223	3.22
KITDD_033	236	346	110	4.08
KITDD_036	321	357	36	2.11
KITDD_037	221	407	186	2.25
KITDD_041	188	306	118	1.33
KITDD_041A	252	294	42	2.21
KITDD_042A	342	424	82	2.29
KITDD_043	203	346	143	0.85
KITDD_044	253	313	60	1.17
KITDD_045	230	411	181	2.8
KITDD_046	233	447	214	1.76
KITDD_048	340	382	42	1.73
KITDD_049	263	345	82	1.37
KITDD_051	360	398	38	1.01
KITDD_052	356	378	22	1.68

Hole ID	From	To	Length m	Cu Grade %
KITDD_053	226	290	65	1.55
KITDD_054	378	404	26	1.52
KITDD_055	197	536	339	2.47
KITDD_057	32	63	31	0.47
KITDD_060	322	345	23	0.94
KITDD_062	344	351	7	1.48
KITDD_068	380	419	39	0.75
KITDD_070	289	309	20	0.97