



16th October 2017

ASX: NZC

## **KALONGWE STAGE 1 FEASIBILITY STUDY DEMONSTRATES ROBUST, LOW-COST COPPER-COBALT PROJECT WITH STRONG FINANCIAL RETURNS**

*High copper and cobalt grades and low capital/operating costs underpin rapid payback with strong IRR*

### **Feasibility Study Highlights**

- **Positive Feasibility Study (FS) completed for the proposed Stage 1 development of Nzuri's 85%-owned Kalongwe Oxide Copper-Cobalt Project, DRC.**
- **Maiden Ore Reserve of 6.98Mt at 3.03% Cu and 0.36% Co for 211,494t of contained Cu and 25,128t of contained Co. All production targets and forecast financial outcomes underpinned 100% by Ore Reserves.**
- **Kalongwe Stage 1 ("K1") comprises an open pit mine and on-site 1Mtpa Dense Media Separation (DMS) processing plant:**

NPV <sub>10%</sub> US\$ (pre/post-tax)*	<b>US\$116M / US\$82M</b>
IRR % (pre/post-tax)*	<b>71% / 55%</b>
Annual Average Production (Cu/Co-in-concentrate)	<b>19,360 tonnes Cu &amp; 1,507 tonnes Co</b>
LOM (K1, years at 1Mtpa throughput)	<b>7 years</b> (1.8:1 waste to ore strip ratio)
C1 Cash Cost US\$ (including Co credits)	<b>US\$1.35/lb</b>
CAPEX US\$ (excluding working capital, ±15% accuracy)	<b>US\$53.12M</b> (includes US\$10.24M contingency, duties & taxes)
Payback (months)	<b>21 months</b>

*\*NPV/IRR based on conservative US\$3.00/lb LME Cu & US\$18.14/lb LME Cobalt sales price & a 100% project basis*

- **Project fully-permitted with 12-month timeline to production post-funding and Board approval.**
- **Significant opportunities to improve project economics and mine life through future staged project expansions, including leaching solutions for stockpiled cobalt-only ore/ mineralised rejects from the DMS plant plus improved product pricing terms at offtake finalisation.**

### **Next Steps**

- **Progress off-take and funding negotiations and advance project towards development.**
- **Pursue the further options available to unlock the broader value of the project.**

Nzuri Copper CEO and Executive Director Mark Arnesen said: "The results of this high-quality Feasibility Study show that Kalongwe is an outstanding project, characterised by high copper and cobalt grades, low capital and operating costs and strong financial returns. The relative simplicity of the Stage 1 project and anticipated 12-month timeline to production, once funding and board approvals are secured make this a very attractive foundation project for Nzuri."

"In addition, the FS highlights the significant upside that can be unlocked through future project expansions, including the potential for leaching of cobalt-only ore and mineralised rejects, potential off-take to some of the closer new SX-

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*EW plants now under construction in the region, and the significant exploration upside both in the immediate Kalongwe Licence and regionally within our Fold Thrust Belt Joint Venture, as highlighted by the major Ivanhoe Kamao/Kakula discoveries next door to us and the growing momentum of our own exploration program within the FTBJV.*

*“Nzuri is already actively pursuing these and other opportunities, which offer significant potential to increase mine life and production from Kalongwe above and beyond the Stage 1 Project. With the Stage 1 FS now complete, Nzuri already has a wide range of options available to it to secure a funding package that will minimise dilution to existing shareholders and maximise returns from the project. These include funding provided by potential off-take and strategic partners and conventional debt funding.*

*“Our immediate focus over the next few months will be to close-out one or more of these opportunities while working hard to unlock the huge upside on offer, both at Kalongwe and within our Fold Thrust Belt Joint Venture.”*

### **Feasibility Study Overview**

Nzuri Copper Limited (**ASX: NZC**) (**Nzuri** or the **Company**) is pleased to advise that the Feasibility Study (**FS**) for the proposed Stage 1 development of its flagship 85%-owned **Kalongwe Copper-Cobalt Project (Kalongwe or Project)**, located in the Kolwezi region of the Democratic Republic of Congo (DRC), has been completed, with the results confirming the Project’s strong financial and technical merits and highlighting the potential for a rapid pathway to production and cash-flow.

The FS includes a maiden Ore Reserve estimate for Kalongwe **of 6.98Mt at 3.03% Cu and 0.36% cobalt for 211,494t of contained copper and 25,128t of contained cobalt**. All production targets and forecast financial information in this announcement are underpinned 100% by Ore Reserves.

The FS has been completed to  $\pm 15\%$  accuracy and confirms the technical and financial viability of an open pit mining operation utilising an on-site 1Mtpa Dense Media Separation (DMS) processing plant to produce two high-quality dry saleable concentrate products suitable as a feedstock for off-site SX-EW processing.

The Project is forecast to produce 143,000tpa of DMS & Spiral concentrate products, equivalent to annual average metal production of 19,360t of copper and 1,507t of cobalt. C1 operating costs are forecast at US\$1.35/lb of payable copper production, including by-product credits.

A summary of the key FS outcomes is provided below:

<b>Definitive Feasibility Study Outcomes – Key Physicals (Kalongwe Stage 1)</b>	
Mining method	Open pit
Processing rate	1Mtpa
Processing method	2-stage crushing with scrubber to DMS plus a fines stream processed via gravity spirals producing two concentrate products plus lower grade rejects/ tailings
Ore Reserve (Proved and Probable)	6.98Mt at 3.03% Cu and 0.36% Co
Mine Life	7 years (1.8:1 waste-to-ore strip ratio)
Metallurgical recovery (average)	64% Cu & 40% Co
Average annual concentrate/s production	143,000tpa of DMS & Spiral concentrate products containing: - <ul style="list-style-type: none"> <li>➢ 122ktpa of DMS product average grading 15% Cu and 1.05% Co;</li> <li>➢ 21ktpa of Spiral product average grading 5.5% Cu and 1.00% Co</li> </ul>
Copper production in concentrate (LOM) Cobalt production in concentrate (LOM)	135,512 tonnes (Average annual production : 19,360tpa Cu) 10,553 tonnes (Average annual production : 1,507tpa Co)
C1 cash operating costs (LOM)	US\$1.35/lb (including by-product credits)
Project construction	12 months

The overall economics of the Project are very robust and value-accretive, with the FS assuming transportation of concentrate 377km by road to Lubumbashi.

Key financial highlights include a relatively low capital cost outlay of US\$53.12 million, a rapid project construction timeline of just 12 months and attractive economics and financial returns including a pre-tax NPV<sub>10%</sub> of US\$116 million, a post-tax NPV<sub>10%</sub> of US\$82 million and a pre-tax/post-tax Internal Rate of Return of 71% / 55%.

Definitive Feasibility Study – Key Financial Outcomes (Kalongwe Stage 1)	
Project construction	12 months
LOM Project revenue	US\$499 million
Pre-production capital	US\$53.12 million
NPV <sub>10%</sub> (Pre-Tax/Post-Tax)	US\$116 million / US\$82 million
Internal Rate of Return (IRR% Pre-Tax/Post-Tax)	71% / 55%
Project payback	21 months
LOM assumed copper concentrate price	US\$3.00/lb
LOM assumed cobalt price	US\$18.14/lb

**The strong outcomes from the FS provide a strong platform for Board approval and the Company to progress project off-take arrangements, secure project financing and commence construction.**

### Kalongwe Project Overview

The Kalongwe deposit is an outcropping high-grade copper cobalt deposit located within the western extent of the Central African Copperbelt in the Democratic Republic of the Congo (DRC) (Figure 1).



Figure 1 – Kalongwe Copper-Cobalt Project Location

The Kalongwe Copper Cobalt Project (**Kalongwe** or the **Project**) is owned by Kalongwe Mining SA (KMSA) under a joint venture agreement between Nzuri Copper Limited (Nzuri) (85%), La Generale Industrielle et Commerciale au Congo (GICC) (10%) and the Democratic Republic of the Congo Government (5%). GICC is a Congolese company which is 90%-owned by Theo Mahuku, a respected Congolese businessman who works with multiple listed companies.

KMSA holds the Exploitation Permit required to mine and process the Kalongwe ore and to sell concentrate product. Nzuri, has successfully completed a FS confirming the technical and financial viability of the Project.

The Kalongwe deposit is situated within an Exploitation Permit which covers an area of ~8km<sup>2</sup> and includes the entire area proposed for mining and Project infrastructure. This permit allows for mining and processing on site and for the transport and sale of copper / cobalt concentrate product.

In March 2015, KMSA filed an application for the conversion of the Exploration Permit to an Exploitation Permit based on a technical study and an approved environmental/social assessment (EIE). Ministerial approval was received in October 2015 with an initial term of 30 years and renewal periods of 15 years.

### **Feasibility Study Summary**

*(Includes details of site visits in Feasibility Study preparations)*

Nzuri Copper's Kalongwe Feasibility Study work has been completed to a high standard with the assistance of a group of highly experienced independent consultants and contractors, including:

<b>Lycopodium Minerals Pty Ltd</b>	Principal Feasibility Study Contractor
<b>Knight Piésold</b>	Tailings Dam and Water Balance
<b>Orelogy Pty Ltd</b>	Mine Plan and Ore Reserve Estimation
<b>CSA Global Pty Ltd</b>	Geology
<b>Miller Metallurgical Services</b>	Metallurgical Testwork and Analysis

Site visits were undertaken by representatives of Lycopodium Minerals (May 2017), Knight Piésold (May 2017), CSA (September 2017) and Orelogy (September 2015).

The FS considered all aspects related to the development of the Project including mining, metallurgical, marketing, environmental, legal, economic, social and governmental.

### **Mineral Resources**

*(Forming the basis for conversion to Ore Reserves)*

The Kalongwe Mineral Resource Estimate is based on data obtained from 98 historical and recent diamond drill-holes (16,471 m) drilled across the deposit footprint. A total of 46 diamond holes (6,016 m) were drilled in 2014, including four diamond holes twinning selected historical holes. Drill holes are located on a nominal 50 m x 50 m grid, and in places 25 m x 50 m grid. Drill holes are vertical or inclined across the dip of mineralisation.

CSA Global, who completed the resource estimate, accepted the quality of the historical drilling results for inclusion in the current Mineral Resource Estimate, which is set out in Table 1 below:

**Table 1: Kalongwe Mineral Resource Estimate**

Weathering Profile	Domain	Measured	Indicated	Inferred	Total Tonnage (Mt)	Ave. Cu (%)	Ave. Co (%)	Tonnes Cu	Tonnes Co
Oxide	Cu Only <sup>1</sup>	1.24 Mt @ 3.35% Cu	2.45 Mt @ 2.27% Cu	1.24 Mt @ 1.60% Cu	4.94	2.37	-	117,200	-
	Mixed <sup>3</sup>	2.07 Mt @ 3.76% Cu	1.67 Mt @ 2.72% Cu	0.35 Mt @ 1.98% Cu	4.08	3.19	0.66	130,000	26,800
Primary	Cu Only <sup>1</sup>	-	1.20 Mt @ 2.65% Cu	0.41 Mt @ 1.63% Cu	1.61	2.39	-	38,400	-
	Mixed <sup>3</sup>	-	0.51 Mt @ 3.06% Cu	0.03 Mt @ 2.22% Cu	0.54	3.02	0.52	16,400	2,800
	Total Cu in Cu Only and Mixed Domains	3.31 Mt @ 3.61 % Cu	5.83 Mt @ 2.55 % Cu	2.03 Mt @ 1.70% Cu	11.17	2.70	-	302,000	-
	Total Co in Mixed Domains <sup>4</sup>	-	-	-	4.62	-	0.64	-	29,700
Oxide	Co Only <sup>2</sup>	0.37 Mt @ 0.66% Co	1.34 Mt @ 0.59% Co	0.38 Mt @ 0.43% Co	2.09	-	0.57	-	11,900
Primary	Co Only <sup>2</sup>	-	0.18 Mt @ 0.53% Co	0.02 Mt @ 0.43% Co	0.2	-	0.52	-	1,000
	Total Co Domains	0.37 Mt @ 0.66% Co	1.52 Mt @ 0.58% Co	0.40 Mt @ 0.43% Co	2.29	-	0.57	-	13,000
	Total Co in Mixed and Co-only Domains <sup>5</sup>	-	-	-	6.91	-	0.62	-	42,700

**Notes**

1 The Cu only domains were reported by selecting blocks with Cu >= 0.5%.

2 The Co only domains were reported by selecting blocks with Co >= 0.2%.

3 The Mixed Domains (blocks located within overlapping Cu and Co domains) were reported by selecting blocks with Cu >= 0.5%. The Co grade from these blocks was also reported.

4 The total Co tonnes and grade within the Mixed Domain are reported from blocks where Cu >= 0.5%, and are not additional to the total Cu Mineral Resources quoted from the Mixed Domain.

5 The total Co tonnes and grade from the Mixed and Co-only Domains are presented as total tonnages only, without reference to JORC classification. The tonnes are not additional to the total Cu Mineral Resources quoted from the Mixed Domain.

Geological domains were interpreted based on host lithologies logged in the core. A weathering profile representing top of fresh rock was also modelled. Mineralisation models were prepared for copper and cobalt using cut-off grades of 0.3% Cu and 0.2% Co respectively. Wire-frames were created joining mineralisation polygons based upon the geological model of the deposit, which was derived from drill core logs and geological observations on surface.

A block model was used to define the resource and grades were estimated into the model using ordinary kriging as the primary method and inverse distance weighting squared for comparison and validation. Density data was statistically analysed to determine the appropriate density value to apply to the model. The resource estimate has been reported assuming the deposit will be mined by open pit mining methods. Mineral Resources are inclusive of Ore Reserves.

The Mineral Resource Estimate and classification was completed by Mr David Williams, a Competent Person, who is a Member of The Australasian Institute of Mining and Metallurgy and is employed by CSA Global Pty Ltd. The Mineral Resource was classified as a combination of Measured, Indicated and Inferred, and is reported in accordance with the JORC Code.

### **Mining Factors / Ore Reserves**

*(Inclusive of cut-off parameters)*

The initial Ore Reserve estimate for Kalongwe is set out below :

**Table 2: Ore Reserve**

Category	Total		
	Mt	Cu %	Co %
Proved	3.52	3.45	0.43
Probable	3.46	2.61	0.29
<b>Proved and Probable</b>	<b>6.98</b>	<b>3.03</b>	<b>0.36</b>
<b>Waste (Mt)</b>	<b>12.57</b>		
<b>Total (Mt)</b>	<b>19.55</b>		

A detailed geotechnical assessment for the Kalongwe Open Pit was completed by specialist consultants Peter O'Bryan and Associates (PBA). A total of four holes were drilled specifically to collect geotechnical data. Geotechnical logging of drill core was completed along with geotechnical testing of selected drill core.

The Kalongwe open pit mining area was divided in two geotechnical domains/design sectors, the eastern and western domains, based principally on interpreted rock weathering depth. Open pit design criteria were developed for each sector.

A groundwater evaluation was carried out by specialist consultants Knight Piésold (KP) as part of the FS. The aim of the evaluation was to assess the life of mine de-watering requirements for the open pit. The scope of work comprised: a desktop review, test production and monitoring bore drilling and pump testing, and evaluation of test results.

To limit the groundwater inflows into the pit and to depressurise the pit walls for slope stability, a borefield was recommended by KP. Nzuri has elected to install this borefield earlier than necessary in the mine life to commence this depressurization early.

The proposed mining method at Kalongwe is conventional open pit mining. Mine operations will utilise conventional drill-and-blast, truck-and-shovel open pit mining methods and technologies proven at other locations throughout the region. All these activities will be managed and undertaken by Nzuri. Contract mining was evaluated during the FS and, based on tender prices, was not considered to be cost effective.

A mining block model was generated from the resource model provided by CSA Global by allocating appropriate dilution and ore loss. The WHITTLE™ software tool was utilised by Orelogy to undertake the open pit optimisation. Only materials classified as Measured or Indicated in the resource model could report as ore, with all other materials reporting as waste. Also, only materials from the two copper enriched zones could be classified as ore.

**Material from the cobalt-only enriched zone reports as waste but are to be stockpiled separately for potential future processing.**

The Life of Mine (LOM) schedule was developed in monthly increments to allow for a detailed assessment of the ore presentation and potential uranium blending requirements.

The aim of the scheduling activity was to generate a practical, realistically achievable schedule that maximises project value within the given process plant ore feed targets. Mine scheduling was undertaken with the Maptek Evolution software.

**Table 3: Kalongwe Mining Schedule by Reserve Category**

Materials Mined by Reserve Category		Units	Year							All Years	
			-1	1	2	3	4	5	6		7
Proved	Ore Mined	Mt	0.01	0.77	0.57	0.67	0.70	0.51	0.30		<b>3.52</b>
	Cu Grade	%	3.02	3.76	3.65	3.69	3.24	3.14	2.69		<b>3.45</b>
	Co Grade	%	0.35	0.39	0.47	0.48	0.48	0.39	0.34		<b>0.43</b>
Probable	Ore Mined	Mt	0.00	0.36	0.43	0.34	0.31	0.49	0.71	0.82	<b>3.46</b>
	Cu Grade	%	1.82	2.42	2.24	1.85	1.84	2.93	2.74	3.20	<b>2.61</b>
	Co Grade	%	0.47	0.36	0.35	0.24	0.14	0.27	0.31	0.29	<b>0.29</b>
Proved and Probable	Ore Mined	Mt	0.01	1.14	1.00	1.00	1.00	1.00	1.00	0.82	<b>6.98</b>
	Cu Grade	%	2.54	3.33	3.05	3.07	2.81	3.03	2.73	3.20	<b>3.03</b>
	Co Grade	%	0.40	0.38	0.41	0.40	0.37	0.33	0.32	0.29	<b>0.36</b>
Waste		Mt	0.36	2.39	4.58	0.94	2.41	1.40	0.32	0.18	<b>12.57</b>
All Materials		Mt	0.37	3.52	5.58	1.94	3.41	2.41	1.32	1.00	<b>19.55</b>

### **Processing**

*(Including metallurgical factors and assumptions)*

Metallurgical testwork and analyses have been completed to assess the performance of the Kalongwe mineralisation in the production of a concentrate that will be sold to customers. Testwork was conducted in two stages with representative ore samples selected from purpose-developed drill holes.

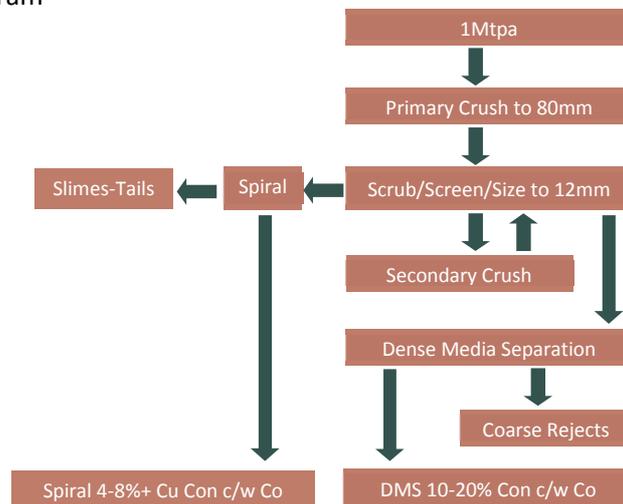
The testwork programs included head grade analysis, comminution testing, mineralogy, size distribution analysis, heavy liquid separation and analysis and leach test work. The testing showed that DMS concentrate grades of 10-20% copper grades was achievable, albeit with decreasing recovery for samples sourced from deeper sections of the deposit. Based on the overall results achieved, a DMS concentrate grade of 15% copper, a Spiral concentrate grade of 4-8% and accompanying life-of-mine copper recoveries have been used in the process design.

A process design criteria was prepared incorporating the engineering and metallurgical design criteria derived from the results of the metallurgical test work and comminution circuit modelling. Detailed flow sheets, plant layouts and the plant design basis were developed by Lycopodium. The treatment plant design incorporates the following unit process operations:

- Primary crushing to produce a coarse, crushed product;
- A live surge bin with a dead stockpile from which mineralised material can be reclaimed via a vibrating pan feeder to feed the scrubber and DMS circuit;
- Scrubber and secondary crushing with a cone crusher in closed circuit with a screen to produce feed for the DMS circuit;
- Dense media separation via two single-stage modules to produce a rejects stream and concentrate product;
- De-sliming of scrubber wet screen undersize to produce a mineralised 'sands' product that is further treated via a spirals circuit to produce a spirals concentrate product;
- DMS mineralised coarse reject stream conveyed and stacked in waste storage area;
- DMS and spiral concentrate product bagging station; and
- Tailings thickening prior to pumping to the tailings storage facility (TSF).

The DMS product will be in dry form (5% moisture) as a gravel with an average sizing of approximately 12mm. The spirals product will also be in a dry form (10-15% moisture) as a sand with an average sizing of approximately 0.1-0.85mm. The products will be assayed prior to loading into 1.5-tonne bags. The bags will be direct loading onto 40-foot semi-trailers for trucking. Approximately 5,100 truck trips per year, or 14 truck trips per day will be required to deliver the products to customers.

Process flow – block diagram



The process flowsheet incorporates tried and proven technology and includes equipment from reputable suppliers. The decoupling of the crushing circuit from the DMS plants will result in higher overall plant availability, as well as providing operation flexibility regarding the crushing circuit.

### **Environmental**

An Environmental and Social Impact Assessment for the Kalongwe Project, which in the DRC is termed Etudes D’impact Environnemental (EIE), was completed in 2014 by Bureau d’Etudes Environnementales du Congo. It aimed at identifying the baseline environmental and social conditions, and determining management of the proposed Project’s social and environmental impacts through an Environmental and Social Management Plan, which in the DRC is termed Plan de Gestion Environnementale du Projet (PGEP). The EIE was approved by the DRC Government in April 2015.

Additional works as part of the FS were also completed in the first half of 2017. These works focused on an assessment of cultural heritage issues, water, air and soil, and social and environmental assessment work associated with the site access corridor.

Geochemical testing of the DMS tailings and coarse rejects solids, supernatant (tailings), and distilled water extract (coarse rejects) was carried out to assess the acid generation potential, element enrichment and supernatant / seepage water quality against reference standards.

The samples tested recorded very low sulphur and sulphide contents, resulting in very low maximum potential acidity (MPA) values. Conversely, the samples were found to contain moderate acid neutralising capacity (ANC), resulting in negative net acid producing potential (NAPP) and circum-neutral pH values in the net acid generation (NAG) test.

As such, both samples were classed as Non-Acid Forming (NAF). Based on these results, there is no perceived risk of acid generation from the plant coarse rejects or tailings slimes.

## Infrastructure

Infrastructure and services required for the development of the Kalongwe Project include:

- Access and site roads;
- Power station and liquid fuel storage;
- Buildings and storage facilities;
- Communications and information technology;
- Water storage dam and diversion channel; and
- Mine de-watering borefield.

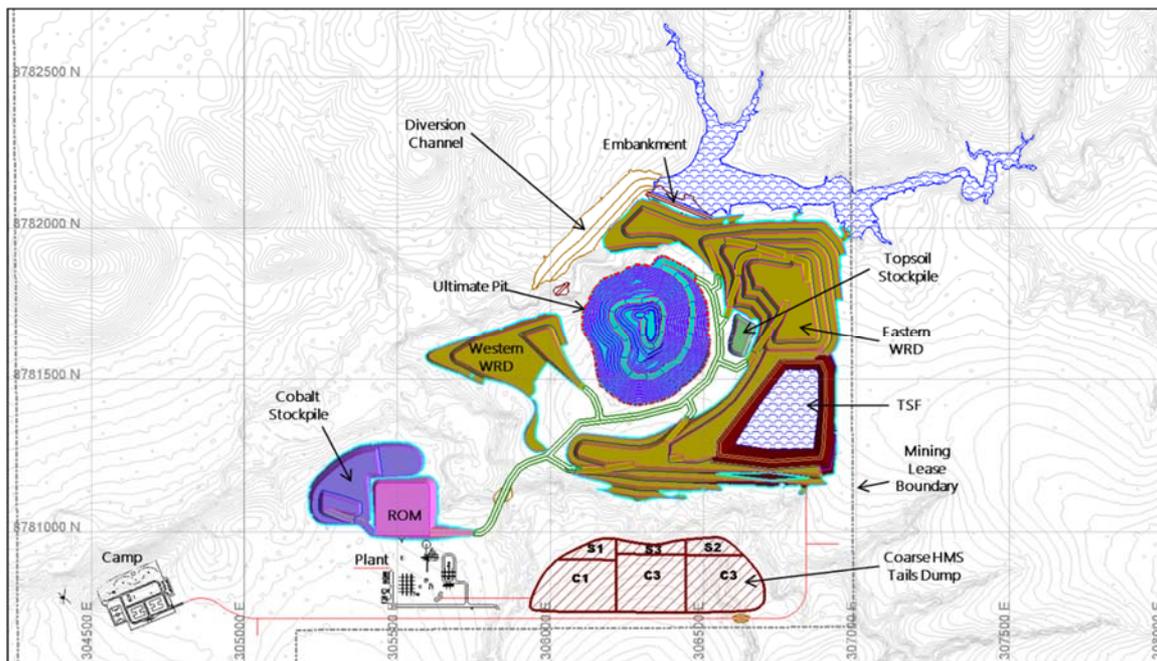


Figure 2 – Kalongwe Copper-Cobalt Project Site Layout

The site is relatively remote and will require an access road to bring in equipment, personnel and to transport concentrate to customers. Existing unsealed roads built by Ivanhoe Mines to access their Kamoia and Kakula deposits will be utilised to reach a point within 31 km (by road) from the project site, after which a new 'main access road' will be built.

The new portion of main access road will be constructed with culverted creek crossings to an all-weather standard. Site roads will also be constructed to access and connect the mine, waste dumps plant, tailings storage facility, coarse DMS tails dump and camp.

A power supply study has been carried out by ECG Engineering based on the plant and accommodation camp loads. The maximum power demand for the Project is 2,219 kW with an average continuous load of 1,681 kW.

Owing to the site location and low plant loadings, no current opportunities exist for connection to the national power grid. Power will be provided by an on-site hybrid power station located adjacent to the process plant. The power station will utilise 7 x 400kW prime rated high-speed diesel generators. In addition to the generators, a photovoltaic array rated at 600kWp will supplement the onsite power station providing fuel savings to daytime generation. Solar power reduces the sites unit power cost by approximately 9% versus a straight diesel only station.

Five tanks (58,000 L capacity) are required to meet a 10-day diesel consumption criteria for the Project. These container-sized packages will be located adjacent to the power station. The power station fuel storage will comprise a vendor-supplied package made up of double skinned self-bunded fuel storage tanks and pump skids. Two similar 58,000 L packages will be positioned at the mine services area to supply the mining and the light vehicle fleets.

There are no suitable sized towns or urban centres near the Project site and therefore it will be necessary to build accommodation for the workforce. Initially, a temporary construction camp will be built with 170 beds. A permanent camp will then be constructed with 256 beds to accommodate operational personnel.

Other infrastructure to be constructed on-site includes mine services area, explosives storage facilities, electrical buildings, site laboratory, administration and process plant offices, mess and kitchen facilities, sewage treatment, car park and laydown areas.

Site communications and IT infrastructure will be installed including Enterprise Resource Planning (ERP) system, server infrastructure, networking and security, site radio network, mobile phone network, hardware and user software. DRC telecommunications company Vodacom has installed a GSM communication tower in Kalongo village. The location of the current tower provides limited coverage to the Kalongwe site and discussions are already underway with Vodacom to move the tower within the mine permit to improve coverage.

Water management is one of the key issues affecting the success of the Project. The Project hydrological and site water balance studies indicated that make-up water is required throughout the Project life. To support mining and processing operations, dewatering of the pit area will also be required and a diversion channel and dam will be built to divert the watercourse which currently flows over the proposed open pit footprint. To reduce overall water make-up requirements, process plant water will be recycled through the TSF decant system utilising a thickener and a series of pumps and overland pipelines. Potable water will be generated by a water treatment plant located at the camp.

### **Capital Cost Estimate**

The capital cost estimate has been compiled by Lycopodium with input from KP on water infrastructure and the tailings storage facility, Nzuri on project infrastructure, village, mining and Owners (KMSA) costs. The capital estimate is based on a single contract for EP, direct Owner contractor management and Owner mining with heavy equipment purchased from a known supplier in South Africa. **The total project build capital is US\$53.12M** (exc. working capital allowance).

**Table 4: Kalongwe Capital Cost Breakdown**

<b>Main Area</b>	<b>US\$'000</b>	<b>%</b>
Construction Distributable/s	3,528	7
Treatment Plant Costs	10,896	21
Reagents and Plant Services	2,446	5
Infrastructure	11,188	21
Mining	7,155	13
Management Costs	1,611	3
KMSA Owner's Project Costs	6,055	11
<b>Subtotal</b>	<b>42,879</b>	<b>81</b>
Contingency	4,968	9
Taxes and Duties	5,274	10
<b>Total Project Build Cost</b>	<b>53,121</b>	<b>100</b>

The estimate is expressed in US dollars based on prices and market conditions current at first quarter 2017 (3Q17). The following exchange rates have been used:

- US\$1.00 = R14.7 ZAR (South African Rand).
- US\$1.00 = A\$1.33 (Australian Dollar).
- US\$1.00 = €0.95 EUR (Euro).

Quantity information for the estimate was derived from a combination of sources and categorised to reflect the maturity of design information as follows:

- Project engineering that included quantities derived from detailed engineering or similar projects that have previously been constructed or were under construction at the time of the estimate preparation.
- General arrangement drawings produced by Lycopodium with sufficient detail to permit the assessment of the engineering quantities for earthworks, concrete, steelwork, mechanical and electrical for the crushing plant, processing plant, conveying systems and infrastructure.
- Study engineering that included quantities derived from concept or preliminary engineering, equipment lists and data by engineering.
- Bills of quantities for the Tailings Storage Facility (TSF), river diversion and dewatering infrastructure provided by KP based on their FS designs.
- Estimates that included quantities derived from sketches or redline mark-ups of previous project drawings / data by estimating.
- Factored quantities derived from percentages applied and based on previous estimates or projects.
- Estimate pricing was derived from the following sources:
  - Budget pricing solicited specifically for the study or project estimate or actual costs from similar projects that have recently been constructed or were under construction. Budget pricing for equipment was obtained from reputable suppliers except for low value items which were costed from Lycopodium's database
  - Historical database pricing that is less than six months old and for pricing older than six months, escalated to the current estimate base date.
  - Factored from costs with a basis.

For construction activities, craft base wages are based on current rates applying to other projects within the region. Productivity factors for all disciplines have been established by comparing recent project data from the region to Lycopodium's library of base unit manhours (Australia).

Duties and taxes have been calculated using rates based on current DRC tax law. Provisions have been included for spare parts and first-fill consumables. The following items are specifically excluded from the capital cost estimate:

- Project sunk costs as at 30 August 2017;
- Costs incurred prior to final Nzuri Board approval for the Project;
- Exchange rate variations; and
- Escalation.

Contingency has been included in the estimate to cover anticipated variances between the specific items allowed in the estimate and the final total installed project cost. The contingency does not cover scope changes, design growth, etc. or the listed qualifications and exclusion. The level of accuracy of the estimate is  $\pm 15\%$ .

## Operating Costs

Operating costs have been built up into the following cost centres:

- Mining
- Processing
- General and Administration
- Services and Utilities
- Environmental and Community

Mining costs have been calculated by mining consultants Orelgy. Processing, administration, services and utilities costs have been prepared by Lycopodium. Environmental and community costs are per the approved EIE.

**Table 5: Kalongwe Operating Costs Breakdown**

Description	Cost per years (US \$M)									Total
	2018	2019	2020	2021	2022	2023	2024	2025	2026	
Mining costs	\$ 2.11	\$ 10.04	\$ 13.23	\$ 8.00	\$ 10.50	\$ 9.23	\$ 6.99	\$ 6.86	\$ 0.21	<b>\$ 67.17</b>
Total processing costs	\$ -	\$ 9.80	\$ 10.25	\$ 10.25	\$ 10.27	\$ 10.26	\$ 10.26	\$ 10.25	\$ 0.01	<b>\$ 71.34</b>
General and administrative costs	\$ -	\$ 3.10	\$ 3.24	\$ 3.24	\$ 3.24	\$ 3.24	\$ 3.24	\$ 3.24	\$ 0.00	<b>\$ 22.55</b>
CSR contributions	\$ -	\$ 0.16	\$ 0.16	\$ 0.16	\$ 0.16	\$ 0.16	\$ 0.16	\$ -	\$ -	<b>\$ 0.98</b>
Rehabilitation fund contributions	\$ -	\$ 0.01	\$ 0.02	\$ 0.03	\$ 0.04	\$ 0.05	\$ 0.38	\$ -	\$ -	<b>\$ 0.53</b>
Sustaining capital costs	\$ -	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.04	<b>\$ 3.54</b>
Concentrate transport	\$ -	\$ 9.37	\$ 10.06	\$ 9.37	\$ 8.80	\$ 8.76	\$ 7.75	\$ 9.17	\$ 0.78	<b>\$ 64.05</b>
<b>Total operating costs</b>	<b>\$ 2.11</b>	<b>\$ 32.98</b>	<b>\$ 37.47</b>	<b>\$ 31.55</b>	<b>\$ 33.51</b>	<b>\$ 32.20</b>	<b>\$ 29.27</b>	<b>\$ 30.01</b>	<b>\$ 1.05</b>	<b>\$ 230.16</b>

*Total Opex exc. royalties, marketing fees and duties*

CSR Contributions include all initiatives identified to benefit the local community as part of the EIE and regulated rehabilitation bond payments.

The following items have been excluded from the operating costs:

- Exchange rate variations.
- Escalation from the date of estimate.
- Project financing costs excluded.
- Interest charges.
- All head office costs and corporate overheads.
- Political risk insurance.
- Royalties.
- Import duties and taxes on consumables.
- Contingency.

Taxes, royalties, project financing costs, interest charges and import duties are included in the financial model. Prices were obtained during the third quarter of 2017 (3Q17) and this is the date of the estimate. The estimate is considered to have an accuracy of  $\pm 15\%$  based on the level of engineering completed, the quality of estimates and the quantity of vendor pricing in the estimate.

## **Implementation Schedule**

An Engineering and Procurement (EP), as opposed to a more traditional Engineering Procurement Construction Management (EPCM), approach is being adopted for Project execution. The Owner's team approach to Project execution has become the norm in Africa over the past five years as many small-to-medium sized companies have moved away from the typical EPCM 'all in' style approach to save time, cost and provide a greater deal of control of site activities.

Responsibility for the execution and delivery of the various scope elements will be divided between the EP contractor and the Owner's team. Close management by the owner of Project execution risks will be undertaken to avoid cost increases and schedule delays. A draft Project Execution Plan has been developed and this will be finalised prior to commencement of the project implementation phase.

A high-level project development schedule has been developed by Lycopodium and Nzuri. The schedule assumes a late wet season early dry season commencement date and indicates a completion date for initial commissioning sign-off within 12 months on this basis. The schedule is high-level at this stage and will require further detailing as a part of the development of the Project Development Plan.

Suitable lateritic material for roads and laydown areas will be sourced from within 2km of the Kalongwe site. A good supply of aggregate is available within 70km of the project site whilst sand is available 77km from the project site.

Plant construction materials and equipment for the mine and the power station, liquid fuel for the power station, operating supplies and maintenance components will be transported to site by road from Kolwezi. The Owner's team will develop a detailed transport and logistics study for Project construction items, to ensure the timely low-cost delivery of equipment and materials to site.

A HSEC Management Plan will be prepared for the Project. The HSEC Management Plan will be issued to all contractors tendering for site work. Each contractor will be required to demonstrate a satisfactory prior commitment to safety and present a site-specific plan for their proposed involvement in the Project. Kalongwe will also develop and implement an Operational Readiness Plan to ensure a smooth transition from Project commissioning to first production.

## **Product Marketing, Payment Terms and Commodity Price Assumptions**

*(Key revenue factors and market assessment)*

The Project will produce two copper-cobalt concentrate products; a DMS product containing 15% copper and between 0.3%- 2.5% cobalt and a Spiral product containing 4-8% copper and between 0.3%-2.0% cobalt. Marketing studies have considered selling options, transport costs, off-take sales pricing/pricing mechanisms, product quality, marketing risks and opportunities. Discussions with Marketing Agent *Traxys* and potential purchasers at Kolwezi and Lubumbashi support the demand, product pricing and in-country sales approach.

The market assessment (demand, supply and pricing) for copper was based on minerals industry market research completed by CRU International Limited in 2017. The market assessment for cobalt was based on minerals industry research completed by Canaccord Genuity Group Inc. in 2017 and minerals industry market research completed by CRU International Limited in 2017.

Annual copper consumption in 2015 was 26,747kt with refined copper consumption of 21,729kt (81.2%) and direct scrap contributing 5,018kt (18.8%). Based on the most recent research by CRU International, refined copper consumption is forecast to rise by 1.6% annual (cumulative annual growth rate) between 2015 and 2025 to 25,496kt.

Annual production of copper in 2016 was 20Mt with major international copper producers being Codelco, Freeport-McMoRan, Glencore, BHP Billiton and Grupo Mexico. The major producing countries are located in South and Central America, Asia and North America. The DRC is the fifth largest copper producing country behind Chile, China, Peru and the United States of America.

CRU forecast a further increase in the supply gap based on their estimates of primary copper production versus committed mine production. A copper supply gap is predicted over the next 15+ years, with a shortfall of 495,000t in 2020 growing to 12,579,000 tonnes in 2035. According to CRU operating mines are facing both declining grades and throughput. New mines will be required to fill the gap as demand increases.

Based on an average price of US\$2.80/lb from the CRU data (nominal pricing for the 10 years preceding the project commencement) and considering the nominal average CRU pricing forecast for the period 2019-2023 of US\$3.22/lb a base copper LME price of US\$6612/tonne (\$3.00/lb) has been used for the Project financial analysis.

The actual sales achieved for the Kalongwe product will reflect LME pricing through the agreed pricing mechanism within the proposed off-take agreement terms.

In 2016 half of the cobalt consumed was in the manufacture of Li-ion batteries. The largest market for cobalt is China which has approximately 80% of the global demand. Chinese facilities convert raw cobalt material and intermediate feedstocks into chemical products such as cobalt cathode, briquettes, powder and ingots. There are expectations of significant growth in the demand for cobalt driven by e-transport and stationary energy storage requirements. Overall demand for cobalt is expected to rise by 90% from approximately 106kt in 2016 to 203kt in 2025.

DRC produces 56% of the world's mined cobalt. Other major producers include Australia, Canada and the Philippines. Most of this cobalt produced in the DRC (greater than 90%) is produced as a by-product of copper and nickel operations. The three major producers of cobalt are Glencore (26% of the world supply), China Moly/Gecamines (16%) and Sherritt (7%). Artisanal mining activity within the DRC has over the years become a significant source of market supply (approximately 10% in 2016).

Canaccord Genuity forecast that the cobalt market will remain in deficit over the period 2017 to 2025 and that this will put upward pressure on price. Cobalt price is forecast to rise sharply over the next eight years. Canaccord estimate the LME price will rise from US\$55,000 per tonne in 2017 to US\$76,000 per tonne by 2025.

Based on an average price of US\$35,389/tonne (US\$16.5/lb) from the CRU data (EU nominal) for the seven years preceding the anticipated Project commencement (2012-2018) and considering the nominal average pricing forecast for the period 2019-2023 of US\$46,210/tonne (\$20.96/lb) from CRU and US\$71,000/tonne (\$32.21/lb) from Canaccord, a base cobalt LME price of US\$40,000/tonne (\$18.14/lb) has been used for Project financial analysis.

Other major factors which will impact on the realised copper and cobalt prices are the attractiveness of the Kalongwe product and the circumstances of potential customers in the DRC. Product test work has confirmed that the concentrate product has extremely low leachable impurities. This has significant economic benefit to the purchaser due to the low reagent consumption in both copper and cobalt production. Low gangue acid consumption is a direct saving in acid and reductant costs in the leach. Low total iron and aluminium will reduce the cost of reagents, including limestone, lime, oxidant, flocculant and filter spares in the iron precipitation step. Low leachable silica will result in a similar reduction on iron precipitation reagent consumption. Low manganese and zinc will have reduced reagent consumption, including MgO, flocculant and power for drying in the cobalt precipitation step.

Based on this assessment of options, Nzuri believe that direct sale to in-country purchasers with an SX/EW inclusive in the cobalt recovery circuit could potentially be an option for placement of the product. This precludes many of the current nearby Kolwezi based SXEW plants and smelters which do not give credit for cobalt. Due to the relatively high transport costs within the DRC (at 17-25c/tonne/km) and the relative location of the Project, production of a high grade 15% Cu grade concentrate is proposed.

As at September 2017, several potential customers have been approached and competitive payability terms for both copper and cobalt in concentrate have been provided by a reputable off-taker. These terms have been applied in the Base Case product pricing in the financial evaluation. The off-taker is located near Lubumbashi, which is 377 km by road from the Project site.

**Table 6: Copper and Cobalt Concentrate, Payment Terms**

Item	Value
<b>SXEW Payable Copper Terms</b>	
Payable Copper at 4 to 5 % Cu Grade	21.0% of LME Cu Price -Spiral product
Payable Copper at 15 to 16 % Cu Grade	49.0% of LME Cu Price -DMS product
<b>Smelter Payable Copper Terms</b>	
Payable Copper at 15 to 16 % Cu Grade	57% of LME Cu Price
<b>SXEW Payable Cobalt Terms</b>	
Payable Cobalt at 0 to 0.7 % Co Grade	0% of LME Co Price
Payable Cobalt at 0.5 to 1 % Co Grade	7.0% of LME Co Price
Payable Cobalt at 1 to 1.5 % Co Grade	10.0% of LME Co Price
Payable Cobalt at 1.5 to 3 % Co Grade	15.0% of LME Co Price
<b>Basis of LME Pricing</b>	<b>Average for Month of Delivery</b>
<b>Typ. Payment Terms</b>	<b>90% pre-payment based on laboratory analysis and weigh scale data</b>

### **Financial Evaluation**

*(Economic analysis and key financial outcomes)*

The key parameters and financial outcomes for the Definitive Feasibility Study are set out below:

**Table 7: Summary of Key Parameters**

Summary of Key Parameters from FS Financial Model		
Life of Mine (LOM)	Years	7
LOM Ore Mined	Mt	6.98
LOM Waste Mined	Mt	12.57
LOM Strip Ratio	(waste: ore)	1.8: 1
Plant Feed Rate	Mtpa	1.0
Average Copper Head Grade	%	3.03
Average Cobalt Head Grade	%	0.36
Average Copper Recovery	%	64%
Average Cobalt Recovery	%	40%
Average Copper in Concentrate Production	Ktpa	19,360
Average Cobalt in Concentrate Production	Ktpa	1,507
Average Forecast Copper Price	US\$/lb	3.00
Average Forecast Cobalt Price	US\$/lb	18.14
Initial Capital Cost (including 10 % contingency)	US\$M	53.12
Ave LOM Cash Operating Cost	US\$/lb Cu	1.35
<b>NPV (10% Discount Rate, Pre / Post Tax)</b>	<b>US\$M</b>	<b>116/82</b>
<b>IRR (% Pre/ Post Tax)</b>	<b>%</b>	<b>71/55</b>
<b>Payback</b>	<b>Months</b>	<b>21</b>

Project sensitivities were evaluated against standard variances in the copper and cobalt price. Appendix 1 presents the results of Project sensitivity analysis results for IRR, NPV and Payback.

In summary, the Project is most sensitive to Copper pricing variations, with a greater impact on the IRR and the NPV than when  $\pm 20\%$  variations in either operating costs or capital costs are applied. Changes to operating costs have the next greatest impact on calculated project NPVs with the impact of a  $\pm 10\%$  change in operating costs greater than a  $\pm 20\%$  change in capital costs.

Overall, the project is robust with increases in operating and capital costs within the estimation accuracies of the FS ( $\pm 15\%$ ) still supporting a cash positive and value-accretive project.

### **Project Upside**

Opportunities currently being pursued by Nzuri to improve project value above and beyond the proposed Stage 1 Kalongwe Project (K1) include:

- Improved payments terms/sales agreements;
- Two potential new toll-treatment SX-EW-cobalt extraction plants in the Kolwezi region which could take the Kalongwe concentrate and reduce transport costs;
- Resource/Reserve increase;
- Connection of the DMS plant to the grid power;
- In-situ/tank leaching of the 'cobalt-only' ore'
- DMS testwork at lower plant feed grades; and
- Leaching testwork campaigns on DMS mineralised rejects

### **Next Steps**

The Company's next steps are focussed on:

- Progressing off-take and funding negotiations and advancing the project towards development.
- Actively pursuing the key project upsides identified; and
- Maintaining a strong exploration focus.

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## Competent Person/s Statement

### *Exploration results*

Scientific or technical information in this release that relates to Exploration Results is based on and fairly represents information and supporting documentation prepared by Dr Peter Ruxton, the Company's Technical Director. Dr Peter Ruxton is a member of the Metals, Minerals and Mining (MIMMM) and a Fellow of the Geological Society of London (FGS) and has sufficient experience which is relevant to the style of mineralisation under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code). Dr Peter Ruxton consents to the inclusion in this report of the information, in the form and context in which it appears.

### *Mineral resources*

Scientific or technical information in this release that relates to the Mineral Resource estimate for the Kalongwe Project was first released by the Company in its ASX announcement entitled 'Upgraded JORC Resource at Kalongwe 302,000t Copper and 42,700t Cobalt' dated 5 February 2015. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all the material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

### *Ore reserve*

Scientific or technical information in this release that relates to the Ore Reserve estimate for the Kalongwe Project is based on and fairly represents information and supporting documentation prepared by Mr Ross Cheyne. Mr Ross Cheyne who is employed by Orelogy Consulting Pty Ltd as a Principal Consultant and Managing Director. Orelogy Consulting Pty Ltd is an independent mine planning consultancy based in Perth, Western Australia. Mr Cheyne is a Fellow of the Australasian Institute of Mining and Metallurgy and a Competent Person as defined by the 2012 JORC Code. Mr Ross Cheyne has provided his prior written consent as to the form and context in which the Ore Reserve estimate and the supporting information are presented in this announcement.

## Forward-looking Statements

This release contains statements that are "forward-looking". Generally, the words "expect," "intend," "estimate," "will" and similar expressions identify forward-looking statements. By their very nature, forward-looking statements are subject to known and unknown risks and uncertainties that may cause our actual results, performance or achievements, or that of our industry, to differ materially from those expressed or implied in any of our forward-looking statements. Statements in this release regarding the Company's business or proposed business, which are not historical facts, are "forward looking" statements that involve risks and uncertainties, such as estimates and statements that describe the Company's future plans, objectives or goals, including words to the effect that the Company or management expects a stated condition or result to occur. Since forward-looking statements address future events and conditions, by their very nature, they involve inherent risks and uncertainties. Actual results in each case could differ materially from those currently anticipated in such statements. Investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date they are made.

## About Nzuri Copper Limited

Nzuri Copper Limited (ASX: NZC) is an ASX-listed copper-cobalt company focused on the identification, acquisition, development and operation of high-grade copper and cobalt projects in the Katangan Copperbelt of the Democratic Republic of the Congo (DRC). The Company has two key projects in the DRC: the Kalongwe Copper-Cobalt development project and the Fold and Thrust Belt JV exploration project.

### ***Kalongwe Copper-Cobalt project***

The Kalongwe Copper-Cobalt deposit ("Kalongwe") is the Company's 85% owned flagship development project. Kalongwe is located in the Lualaba Province of the DRC and is situated towards the western end of the world-class Central African Copperbelt (Figure A) less than 15km from where Ivanhoe Mines Ltd (TSX: IVN, "Ivanhoe Mines") has announced a second world class copper discovery at Kakula (See announcement from Ivanhoe Mines Ltd TSX: IVN on 11 August 2016).

Kalongwe hosts a near-surface JORC resource of 302,000t contained copper and 42,700t contained cobalt as predominantly oxide ore (see ASX announcement on 5 February 2015 for further details).

***Fold and Thrust Belt JV project***

The Fold and Thrust Belt JV (“FTBJV”) project consists of five highly prospective tenements, covering an area of approximately 334 km<sup>2</sup>, contiguous to the Kalongwe copper-cobalt deposit in the Central African Copperbelt, Lualaba Province, DRC.

The Company has signed an MOU with Ivanhoe Mines Ltd (TSX: IVN, “Ivanhoe Mines”) to acquire up to a 98% interest in the project (see ASX announcement on 24 April 2015 for further details).

The FTBJV project is managed by the Company, covers an area of the western Lufilian Arc, a fold belt that contains the world largest cobalt endowment and some of the richest copper deposits in the world. The project area is considered to offer high-quality exploration targets, for Kamo-a-Kakula type targets hosted on redox boundaries within the Grand Conglomerate Formation, as well as structurally controlled copper deposits hosted within the Kamilongwe thrust akin to Mutanda, Deziwa and the Kansuki deposits which occur 60 km to the North East along the structural trend.

**Appendix 1- Financial Sensitivity Tables**
**Appendix Table 1: NPV (Post-Tax) Sensitivity for Copper and Cobalt Prices**

NPV (Post Tax) (US\$m)		Cobalt Price									
		30,000	35,000	40,000	45,000	50,000	55,000	60,000	65,000	70,000	75,000
Copper Price	5,250	26.7	29.4	32.2	34.9	37.7	40.4	43.2	45.9	48.7	51.4
	5,500	38.9	41.6	44.4	47.1	49.9	52.6	55.3	58.1	60.8	63.5
	5,750	46.3	49.0	51.7	54.5	57.2	59.9	62.6	65.3	68.1	70.8
	6,000	56.3	59.1	61.8	64.5	67.2	69.9	72.6	75.4	78.1	80.8
	6,250	63.7	66.4	69.1	71.8	74.6	77.3	80.0	82.7	85.4	88.1
	6,500	73.1	75.8	78.5	81.2	83.9	86.7	89.4	92.1	94.8	97.5
	6,614	76.5	79.2	81.9	84.6	87.3	90.0	92.7	95.5	98.2	100.9
	6,750	80.4	83.1	85.8	88.5	91.2	93.9	96.7	99.4	102.1	104.8
	7,000	87.5	90.2	93.0	95.7	98.4	101.1	103.8	106.5	109.2	112.0
	7,250	94.7	97.4	100.1	102.8	105.5	108.2	110.9	113.7	116.4	119.1
	7,500	101.8	104.5	107.2	109.9	112.6	115.3	118.0	120.7	123.5	126.2
	7,750	108.8	111.5	114.2	116.9	119.7	122.4	125.1	127.8	130.5	133.2
8,000	116.2	118.9	121.6	124.3	127.0	129.7	132.4	135.2	137.9	140.6	

**Appendix Table 2: IRR (Post-Tax) Sensitivity for Copper and Cobalt Prices**

IRR (Post Tax) (%)		Cobalt Price					
		30,000	35,000	40,000	45,000	50,000	55,000
Copper Price	5,250	25.4%	27.1%	28.7%	30.3%	32.0%	33.6%
	5,500	32.4%	34.0%	35.6%	37.2%	38.8%	40.4%
	5,750	36.3%	37.9%	39.4%	41.0%	42.6%	44.1%
	6,000	41.7%	43.3%	44.8%	46.4%	47.9%	49.5%
	6,250	45.5%	47.0%	48.6%	50.1%	51.7%	53.2%
	6,500	50.5%	52.1%	53.6%	55.1%	56.6%	58.2%
	6,614	52.2%	53.8%	55.3%	56.8%	58.3%	59.8%
	6,750	54.2%	55.7%	57.2%	58.8%	60.3%	61.8%
	7,000	57.8%	59.3%	60.8%	62.3%	63.8%	65.3%
	7,250	61.3%	62.8%	64.3%	65.8%	67.3%	68.8%
	7,500	64.8%	66.3%	67.8%	69.3%	70.8%	72.3%
	7,750	68.3%	69.8%	71.2%	72.7%	74.2%	75.7%
8,000	71.9%	73.3%	74.8%	76.3%	77.8%	79.2%	

**Appendix Table 3: Payback Period (Months) Sensitivity for Copper and Cobalt Prices**

Payback Period (Months)		Cobalt Price									
		30,000	35,000	40,000	45,000	50,000	55,000	60,000	65,000	70,000	75,000
Copper Price	5,250	37.0	36.0	34.0	33.0	32.0	30.0	29.0	28.0	28.0	27.0
	5,500	32.0	30.0	29.0	28.0	28.0	27.0	26.0	26.0	25.0	25.0
	5,750	29.0	28.0	28.0	27.0	26.0	26.0	25.0	25.0	24.0	23.0
	6,000	27.0	26.0	26.0	25.0	24.0	23.0	23.0	22.0	22.0	22.0
	6,250	26.0	25.0	24.0	23.0	22.0	22.0	22.0	21.0	21.0	21.0
	6,500	23.0	22.0	22.0	22.0	21.0	21.0	21.0	20.0	20.0	19.0
	6,614	22.0	22.0	21.0	21.0	21.0	21.0	20.0	20.0	19.0	19.0
	6,750	22.0	21.0	21.0	21.0	20.0	20.0	20.0	19.0	19.0	19.0
	7,000	21.0	21.0	20.0	20.0	19.0	19.0	19.0	19.0	18.0	18.0
	7,250	20.0	20.0	19.0	19.0	19.0	18.0	18.0	18.0	17.0	17.0
	7,500	19.0	19.0	19.0	18.0	18.0	17.0	17.0	17.0	16.0	16.0
	7,750	18.0	18.0	18.0	17.0	17.0	16.0	16.0	16.0	16.0	15.0
8,000	17.0	17.0	17.0	16.0	16.0	16.0	15.0	15.0	15.0	15.0	

Appendix Table 4: NPV (Post-Tax) Sensitivity for Capital Cost &amp; Copper price

NPV (Post Tax) (US\$m)		Capex sensitivity				
		80%	90%	100%	110%	120%
Copper Price	5,250	39.7	36.0	32.2	28.4	24.7
	5,500	51.9	48.1	44.4	40.6	36.9
	5,750	59.2	55.4	51.7	48.0	44.3
	6,000	69.2	65.5	61.8	58.1	54.4
	6,250	76.5	72.8	69.1	65.4	61.7
	6,500	85.9	82.2	78.5	74.8	71.1
	6,614	89.3	85.6	81.9	78.2	74.5
	6,750	93.2	89.5	85.8	82.1	78.4
	7,000	100.3	96.6	93.0	89.3	85.6
	7,250	107.5	103.8	100.1	96.4	92.7
	7,500	114.5	110.9	107.2	103.5	99.8
	7,750	121.6	117.9	114.2	110.6	106.9
8,000	129.0	125.3	121.6	117.9	114.2	

Appendix Table 5: IRR (Post-Tax) Sensitivity for Capital Cost

IRR (Post Tax) (%)		Capex sensitivity				
		80%	90%	100%	110%	120%
Copper Price	5,250	37.8%	32.8%	28.7%	25.2%	22.3%
	5,500	46.1%	40.3%	35.6%	31.6%	28.2%
	5,750	50.7%	44.5%	39.4%	35.2%	31.6%
	6,000	57.2%	50.4%	44.8%	40.2%	36.3%
	6,250	61.7%	54.5%	48.6%	43.7%	39.5%
	6,500	67.9%	60.0%	53.6%	48.3%	43.8%
	6,614	69.9%	61.8%	55.3%	49.8%	45.2%
	6,750	72.3%	64.0%	57.2%	51.6%	46.9%
	7,000	76.6%	67.9%	60.8%	54.9%	50.0%
	7,250	80.9%	71.8%	64.3%	58.2%	53.0%
	7,500	85.2%	75.6%	67.8%	61.4%	55.9%
	7,750	89.5%	79.4%	71.2%	64.5%	58.9%
8,000	93.9%	83.3%	74.8%	67.8%	61.9%	

Appendix Table 6: NPV (Post-Tax) Sensitivity for Operating Cost

NPV (Post Tax) (US\$m)		Opex & sustaining capex sensitivity				
		80%	90%	100%	110%	120%
Copper Price	5,250	53.9	43.1	32.2	21.2	9.7
	5,500	65.9	55.2	44.4	33.5	22.5
	5,750	73.1	62.5	51.7	40.9	30.0
	6,000	83.1	72.5	61.8	51.0	40.1
	6,250	90.4	79.8	69.1	58.4	47.6
	6,500	99.8	89.2	78.5	67.8	57.1
	6,614	103.2	92.5	81.9	71.2	60.5
	6,750	107.1	96.4	85.8	75.2	64.5
	7,000	114.2	103.6	93.0	82.3	71.7
	7,250	121.3	110.7	100.1	89.5	78.8
	7,500	128.4	117.8	107.2	96.6	85.9
	7,750	135.4	124.8	114.2	103.6	93.0
8,000	142.8	132.2	121.6	111.0	100.4	

Appendix Table 7: IRR (Post-Tax) Sensitivity for Operating Cost

IRR (Post Tax) (%)		Opex & sustaining capex sensitivity				
		80%	90%	100%	110%	120%
Copper Price	5,250	40.4%	34.7%	28.7%	22.5%	15.8%
	5,500	47.0%	41.4%	35.6%	29.6%	23.4%
	5,750	50.6%	45.1%	39.4%	33.6%	27.6%
	6,000	55.9%	50.4%	44.8%	39.1%	33.3%
	6,250	59.5%	54.1%	48.6%	43.0%	37.2%
	6,500	64.4%	59.0%	53.6%	48.1%	42.4%
	6,614	66.1%	60.7%	55.3%	49.8%	44.2%
	6,750	68.0%	62.6%	57.2%	51.8%	46.2%
	7,000	71.5%	66.2%	60.8%	55.4%	49.9%
	7,250	75.0%	69.7%	64.3%	58.9%	53.5%
	7,500	78.4%	73.1%	67.8%	62.5%	57.1%
	7,750	81.8%	76.5%	71.2%	65.9%	60.6%
8,000	85.4%	80.1%	74.8%	69.5%	64.2%	

## Appendix 2- JORC Tables 1-4

### JORC– Table 1

#### 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>Historical drilling was undertaken using diamond core and RC percussion methods to obtain samples for geological logging and sampling. However, details of the sampling techniques for the historical drill holes are not known.</li> <li>Nzuri used diamond core drilling to obtain samples for geological logging and analysis and applied industry standard practice QAQC procedures by inserting standards and blacks into the sample stream</li> <li>Diamond drilling was used to obtain samples of about 1 m length. The diamond core was half-cored from crushed to &lt;-3mm and from which a 500g subsample was pulverised to produce a 50 g charge ICP</li> <li>Geochemical (soil) sampling conducted by the previous owners was carried on 200by 400m and locally on 100 by 50 spacing. It is not clear what sub-sampling treatment was applied, however, the previous owner submitted all soil samples to ALS laboratories in South Africa where they were analysed by ICP.</li> <li>Nzuri's infill soil sampling programme included collecting of about 2kg of soil material was collected from the base of a 40 by 40 by 50cm pit. Material was dried, crushed and sieved to-80mesh. This material was subjected to analysis by XRF analyser using factory standard analytical settings. No calibration was applied to the XRF instrument.</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>Historical drilling used a combination of diamond and RC percussion. Details of the core and face-sampling bit size are unknown at this stage.</li> <li>Nzuri diamond core drilling used a combination of PQ and HQ (8.5cm and 5.6cm diameter respectively) triple tube.</li> <li>No core orientations were completed.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>Historical drilling recoveries are not known.</li> <li>For Nzuri diamond drilling, core recoveries were recorded by the drillers in the field at the time of drilling and checked by a geologist.</li> <li>Diamond core was reconstructed into continuous runs for orientation marking, depths being checked against the depth marked on the core blocks. Core recoveries were calculated by measuring core recovered in the core trays versus measured drill run.</li> <li>Triple tube method was used to maximise core recoveries.</li> <li>Sample recovery is generally high (80-90%) within the mineralised zone but is variable in places due to broken ground conditions and strong weathering.</li> <li>It is not known at this stage, whether a sampling bias related to recovery is present.</li> </ul>

<p>Logging</p>	<ul style="list-style-type: none"> <li>• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>• The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>• Historical core and drill chips were recorded manually on paper logs by the on-site geologists. Selective re-logging of this data was conducted preceding entry onto an Excel spreadsheet. This data include geology, weathering, alteration and information on visible mineralisation identified.</li> <li>• Geological logging of the Nzuri core is conducted on paper by on-site geologists recording lithology, formation, weathering, alteration, visible mineralisation and geotechnical properties of the drill core.</li> <li>• All diamond core was geologically logged in full.</li> </ul>
<p>Sub-sampling techniques and sample preparation</p>	<ul style="list-style-type: none"> <li>• If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>• For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>• Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>• Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>• The sub-sampling techniques and sample preparation details for the historical drilling are not known.</li> <li>• Nzuri drill core was cut with a core saw and half core (PQ) taken or quarter core (HQ).</li> <li>• Quarter core samples were cut and submitted to the assay laboratory for the purposes of field duplicates at the rate of 1:53.</li> <li>• The sample size is considered appropriate and representative for the grain size and style of mineralisation. Nzuri determined that the sample sizes from the PQ and HQ core were of similar mass</li> <li>• Every ten's soil sample from Nzuri's geochemical soil sampling programme will be submitted to ALS laboratories for emission spectroscopy (ICP-AES) with a four acid digest. In order to calibrate the XRF results.</li> </ul>
<p>Quality of assay data and laboratory tests</p>	<ul style="list-style-type: none"> <li>• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>• For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>• Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>• Quality assurance data are not available for the historical drilling.</li> <li>• ALS Chemex Laboratories (Johannesburg) was used for all analysis work carried out on the 1m drill core samples. The laboratory techniques below are for all samples submitted to ALS and are considered appropriate for the style of mineralisation defined at the Kalongwe prospect: <ul style="list-style-type: none"> <li>➢ Samples were analysed using inductively coupled plasma atomic emission spectroscopy (ICP-AES) with a four acid digest.</li> <li>➢ Routine Cu and Co analysis had a range of 1 to 10,000 ppm with over range samples reanalysed using an ore grade method (range 0.001 – 20% for Co and 0.001 - 40% for Cu).</li> </ul> </li> <li>• The QA comprised use of standards (Certified Reference Materials), blanks and laboratory checks (pulp repeats, coarse crush duplicates, internal reference standards).</li> <li>• No significant issues or fatal flaws were identified from the QA programme.</li> <li>• The XRF results were determined using a NITON XRF analyser accepting the calibration factors supplied by the manufacturers for the use for base metal analysis.</li> </ul>
<p>Verification of sampling and assaying</p>	<ul style="list-style-type: none"> <li>• The verification of significant intersections by either independent or alternative company personnel.</li> <li>• The use of twinned holes.</li> <li>• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>• Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>• A number of historical drill intersections have been verified by the drilling of twin holes by Nzuri.</li> <li>• Nzuri completed four twin core holes in the most recent programme. A direct comparison of drill hole pairs gave very satisfactory analytical and geological results confirming the historical drilling results.</li> <li>• Geological information recorded on paper logs is transferred into digital spreadsheets on site. This information and laboratory assay files were sent directly to CSA Global (UK) for validation and compilation into the existing database. The master database is kept off site at CSA's UK office.</li> <li>• No adjustments of assay data are considered necessary.</li> </ul>

Location of data points	<ul style="list-style-type: none"> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>Historical holes have UTM (WGS84) and local grid coordinates. Based on drill hole collar coordinates in the database, Nzuri geologists located each historical drill hole within a radius of approximately 2 to 4m from the indicated position.</li> <li>Nzuri drill hole collar positions were surveyed using a differential GPS at the conclusion of the programme with centimetre accuracy.</li> <li>Grid system used is UTM (WGS84).</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>Data /drill-hole spacing is broadly at 100m centres with local infill drilling and some close spaced (&lt;10m) twin holes to confirm Historical results.</li> <li>The drill spacing, particularly in the more densely drilled areas, has confirmed the initial geological and mineralisation model.</li> <li>The use of compositing in historical work is unknown.</li> <li>No sample compositing was used for the Nzuri drilling; all results detailed are the product of 1m down hole sample intervals.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The supergene-style mineralisation is often irregular and Nzuri's drilling was designed to intersect mineralisation as perpendicularly as possible to the gross strike and dip of the deposit. A small number of 60-degree inclined holes were used to test the lateral variability zones and any steeper structural mineralisation.</li> <li>No material sampling bias is considered to have been introduced by the drilling direction.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Historical sampling security protocols are not available.</li> <li>Kalongwe Mining SA maintains a drill core collection register signed off on by the driller and geologist when drill core is collected at the drill site and a core shed register signed off by the geologist when core is received at the core shed.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>No audits and reviews are detailed for the historical drilling.</li> <li>Nzuri data is provided to independent consulting group MSA (SA) where it is stored, validated and regularly audited.</li> </ul>

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>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.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>The ownership of PR 12198 was transferred from GICC to Kalongwe Mining SA ("Kalongwe Mining"), effective 17 June 2014. The transfer of title was endorsed by CAMI (the DRC Mining Register). Kalongwe Mining is a DRC registered company.</li> <li>Shares in Kalongwe Mining are currently held 85% by Nzuri, 10% by GICC &amp; 5% by the DRC government</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Between 2005 and 2007 African Minerals (Barbados) SPRL (now Ivanplats) completed two core and RC percussion drilling programmes.</li> <li>Approximately 57 drill holes fall within the Kalongwe deposit area for approximately 12,000m, of which</li> </ul>

Criteria	JORC Code explanation	Commentary
		approximately 10,000m was diamond drilling and the remaining RC holes.
Geology	<ul style="list-style-type: none"> <li>• Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>• The mineralisation at Kalongwe is considered a typical example of a deeply weathered, sediment-hosted copper deposit typical for the Congolese part of the Central African Copper Belt. Primary sulphide mineralisation is re-distributed during weathering in ex-dolomitic siltstones and stromatolitic dolostone and siltstones host rocks. The host rocks are deformed and occur as fragments within the core of anticlines within the Lufilian Fold Belt.</li> <li>• Mineralisation appears to be preferentially hosted in deformed sedimentary rocks of the Lower Mines Series of the Roan Group of rocks.</li> <li>• Mineralisation is predominantly secondary, and is mostly fracture controlled and in part stratabound. The principle copper oxide mineral is malachite, with minor amounts of azurite and chrysocolla. Cobalt occurs as heterogenite. Mineralisation is also found in veins and breccias.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li>• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>○ easting and northing of the drill hole collar</li> <li>○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>○ dip and azimuth of the hole</li> <li>○ down hole length and interception depth</li> <li>○ hole length.</li> </ul> </li> <li>• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>• The Company has verified and documented the location of the majority of historical drill holes by differential GPS (Garmin CS60 model). It was found that the reported coordinates corresponded well with the results of the re-surveyed collar position. The coordinates are acceptable and within the accuracy margins of the handheld instrument.</li> <li>• Subsequently drill collars recorded by Nzuri as well as 23 historic drill hole collars were surveyed using a differential GPS at the conclusion of the Phase 1 programme.</li> <li>• Dip and azimuth were recorded using “in rod” down hole orientation measurements collected approximately every 20m. The survey points were verified for anomalous readings and azimuth corrected for declination before transfer to the database.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>• Down hole intercepts are quoted to two decimal places using a &gt;0.5% lower cut-off for Cu and 0.2% cut off for Co which includes no more than 5m of internal dilution but rarely exceeds 2m (&gt;0.5% Cu).</li> <li>• No high cut-off grade has been applied.</li> <li>• No metal equivalent grades are reported.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <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 (e.g. ‘down hole length, true width not known’).</li> </ul>	<ul style="list-style-type: none"> <li>• In general down hole lengths are reported due to the vertical nature of drill holes.</li> <li>• True widths are approximately 80-90% of the reported down-hole interval.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <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</li> </ul>	<ul style="list-style-type: none"> <li>• Plan and section views of the mineralisation are included in various announcements made between March 2014 and April 2015 by the company.</li> </ul>

Criteria	JORC Code explanation	Commentary
	collar locations and appropriate sectional views.	
Balanced reporting	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>Historical drill intersections were previously reported using a 0.5% Cu and Co cut off.</li> <li>The most recent Nzuri drill results in respect to the Kalongwe resource are reported in a Press Release on 5<sup>th</sup> February 2015.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Nzuri completed a Phase II diamond drilling exploration programme to reduce drill hole spacing and for verification of the mineralisation and geological models. Nzuri reported these exploration results in a Press Release on 5<sup>th</sup> February 2015.</li> <li>The Central African Copperbelt mineral system is known to contain alongside Cu and Co also anomalous concentrations of Ni, Au, Ag, Pb, U, and Zn. Kalongwe has in the past been explored for Au and for U. The western contact of the deposit contains sporadic U minerals veinlets that affect about 3-5% of the deposit. The remainder of the deposit has U min below detection. In this regard Kalongwe is similar to the major deposits at Kolwezi.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>The most recent Nzuri exploration drill results in respect to the Kalongwe resource are reported in a Press Release on 5<sup>th</sup> February 2015.</li> </ul>

### 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
<b>Database integrity</b>	<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>Data used in the Mineral Resource estimate is sourced from a data base dump, provided in the form of an MS Access database, maintained by CSA Global (UK). Relevant tables from the data base are exported to MS Excel format and converted to csv format for import into Datamine Studio 3 software for use in the Mineral Resource estimate.</li> <li>Validation of the data import include checks for overlapping intervals, missing survey data, missing assay data, missing lithological data, and missing collars.</li> </ul>
<b>Site visits</b>	<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>No site visit has been conducted by the competent person (Mineral Resources). The competent persons for exploration results (Mr David Young and Dr Simon Dorling) have both visited site on numerous occasions.</li> <li>Dr Dorling is an employee of CSA Global and his site assessment and validation of exploration data has satisfied the CP (Mineral Resources) that there are no known problems with the data.</li> </ul>
<b>Geological interpretation</b>	<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</li> </ul>	<ul style="list-style-type: none"> <li>There is a high level of confidence in the geological interpretation, based upon lithological logging of drill core (16,741 m). Deposit scale geological mapping provide a geological framework for the interpretation.</li> <li>Drill hole intercept logging and assay results, stratigraphic and structural interpretations from drill</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>Mineral Resource estimation.</p> <ul style="list-style-type: none"> <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>	<p>core have formed the basis for the geological interpretation.</p> <ul style="list-style-type: none"> <li>The depth of the weathering profile at Kalongwe is based upon logged occurrences of sulphide mineralisation in the 2014 drilling, and geological logging from all diamond core.</li> <li>The interpretation of the mineralisation domains is based upon pre-determined lower cut-off grades for Cu and Co. A variation to the cut-off grades will affect the volume and average grade of the domains.</li> <li>Geological mapping and logging of drill samples control the interpretation of the mineralisation domains.</li> <li>Grade continuity is affected by drill hole assay results, resulting in mineralisation domains being pinched out along strike and up or down plunge.</li> </ul>
<b>Dimensions</b>	<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 Kalongwe Mineral Resource estimate is approximately 390m in strike, 550m in plan width, plunges to 510m down dip and reaches 260m depth below surface.</li> </ul>
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul style="list-style-type: none"> <li>Datamine Studio 3 software was used for all geological modelling, block modelling, grade interpolation, MRE classification and reporting. GeoAccess Professional and Snowden Supervisor were used for geostatistical analyses of data. The Cu interpretations were based upon a lower cut-off of 0.3% TCu (total copper). The Co interpretations were based upon a lower cut-off of 0.2% Co. The modelling cut-off grades were determined from the assessment of log probability plots of the sample populations, and supported by cut-off grades used by other Cu projects in the Copper Belt. The Mineral Resource model consists of 6 zones of Cu mineralisation, 7 zones of Co mineralisation and two weathering domains (oxide and fresh). Mineralisation domains were encapsulated by means of 3D wireframed envelopes. Domains were extrapolated along strike or down plunge to half a section spacing or if a barren hole cut the plunge extension before this limit. Top cuts were used to constrain extreme grade values if it was determined that the extreme high grades would potentially over-estimate local block estimates, either due to limited sample numbers, or if the individual assay result was considered too high compared to the rest of the domain's population. Top cuts vary according to the host mineralisation domain. All samples were composited to 1m intervals, flowing a review of sample length distribution that showed less than 10% of sample lengths inside mineralisation domains were &gt;1m. All drill hole data (Diamond core only) were utilised in the grade interpolation. A Quality Assurance study of the historical drilling coupled with a 4 hole due diligence twin drilling programme confirmed the historical drill hole database could be used as part of the grade interpolation.</li> <li>A block model with parent cell sizes 20m x 20m x 10m was constructed, compared to typical drill spacing of 50m x 25m within the volume classified as Measured. The majority of the Mineral Resource was drilled on a 50 m by 50 m pattern.</li> <li>Grade estimation was by Ordinary Kriging (OK) with Inverse Distance Squared (IDS) estimation concurrently</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>run as a check estimate. A minimum of 4 and maximum of 16 composited (1m) samples were used in any one block estimate for Cu, with 8 to 24 samples used for the Co grade interpolation. A maximum of 4 composited samples per drill hole were used in any one block estimate. Cell Discretisation of 10 x 10 x 10 was used. Grade interpolation was run within the individual mineralisation domains, acting as hard boundaries.</p> <ul style="list-style-type: none"> <li>• The current Mineral Resource was checked against the previously reported Mineral Resource (July 2014) and found to be of similar tonnage and grade.</li> <li>• The Mineral Resource was depleted by the volume of the shallow open pits (circa 1930's, and recent artisanal workings), with the pits incorporated into the topographic DTM. Underground excavations during the 1930's are considered to be of too low a volume of material to affect the Mineral Resource estimate. No survey data is available for these underground workings.</li> <li>• No by products were modelled.</li> <li>• No selective mining units were assumed in this model.</li> <li>• A cursory study into correlation between Cu and Co was carried out with inconclusive results.</li> <li>• The grade model was validated by 1) creating slices of the model and comparing to drill holes on the same slice; 2) swath plots comparing average block grades with average sample grades on nominated easting, northing and RL slices; and 3) mean grades per domain for estimated blocks and flagged drill hole samples. No reconciliation data exists to test the model.</li> </ul>
<b>Moisture</b>	<ul style="list-style-type: none"> <li>• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>• Tonnages are estimated on a dry basis.</li> </ul>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>• The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>• The reporting cut-off grades of 0.5% Cu and 0.2% Co were based upon the mineralisation domain cut-off grades, and are used to report a number of other copper projects in the Copper Belt.</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>• Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating 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.</li> </ul>	<ul style="list-style-type: none"> <li>• It is assumed the deposit, if mined, will be developed using open pit mining methods. No assumptions have been made to date regarding minimum mining widths or dilution.</li> <li>• The largest mineralisation domains in plan view have an apparent width of over 80m which may result in less selective mining methods, as opposed to (for example) mining equipment that would need to be used to mine narrow veins in a gold mine.</li> </ul>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li>• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>• Nzuri completed a detailed metallurgical test program using core collected from the Kalongwe deposit in 2014/2015 the results of which are reported in a Press Release on 3rd February 2017.</li> <li>• Further drilling to generate additional drill core to conduct Metallurgical variability testwork has been carried out in March- July of 2017 as reported in multiple 2017 releases by the Company. To date metallurgical testwork has not commenced on this collected material.</li> <li>• Further geo-technical &amp; hydrological drilling as part of</li> </ul>

Criteria	JORC Code explanation	Commentary
		the company's feasibility study has been carried out in 2017 as reported in multiple 2017 releases by the Company.
<b>Environmental factors or assumptions</b>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>As detailed under environmental a Environmental and Social Impact Assessment for the project (EIE), was undertaken (completed) in 2014 by Bureau d'Etudes Environnementales du Congo. It aimed at identifying the baseline environmental and social conditions, and determining management of the proposed Project's social and environmental impacts through an Environmental and Social Management Plan (PGEP). The EIE was approved by the DRC government in April 2015.</li> </ul> <p>All key local, regional and national stakeholders associated with the project development have been kept abreast of project activities, are supportive of project development. No agreements outside of those commitments outlined in the EIE have been entered into by the company</p>
<b>Bulk density</b>	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resource estimate used density values assigned to the block model based upon mineralisation domain and weathering profile. Within the oxide zone, copper mineralisation domains were assigned a density value of 2.32 t/m<sup>3</sup>; cobalt domains 2.08 t/m<sup>3</sup> and 'mixed' zones (copper and cobalt domains overlapping) 2.19 t/m<sup>3</sup>. Within the primary zone, copper mineralisation domains were assigned a density value of 2.58 t/m<sup>3</sup>; cobalt domains 2.48 t/m<sup>3</sup> and 'mixed' zones (copper and cobalt domains overlapping) 2.68 t/m<sup>3</sup>. Waste blocks were assigned density values of 2.24 t/m<sup>3</sup> (oxide) and 2.58 t/m<sup>3</sup> (fresh rock). The Competent Person considers the density values to be appropriate for the host lithology and the intensity of weathering exhibited in each weathering domain.</li> <li>Densities were measured from selected intervals of diamond drill core, using a wet immersion technique. Core samples were wrapped in cling wrap prior to immersion to prevent water intake into sample.</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (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).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul style="list-style-type: none"> <li>Classification of the Mineral Resource estimates was carried out taking into account the geological understanding of the deposit, QAQC of the samples, density data and drill hole spacing.</li> <li>The Mineral Resource is classified as a combination of Measured, Indicated and Inferred, with geological evidence sufficient to confirm geological and grade continuity for the Measured Mineral Resource.</li> <li>All available data was assessed and the competent persons' relative confidence in the data was used to assist in the classification of the Mineral Resource.</li> <li>The current classification assignment appropriately reflects the Competent Person's view of the deposit.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li>No audits or reviews of the current Mineral Resource estimate have been undertaken.</li> </ul>

Criteria	JORC Code explanation	Commentary
<p><b>Discussion of relative accuracy/confidence</b></p>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul style="list-style-type: none"> <li>An inverse distance estimation algorithm was used in parallel with the ordinary Kriged interpolation, with results very similar to the Kriged results.</li> <li>No other estimation method or geostatistical analysis has been performed.</li> <li>The Mineral Resource is a global estimate, whereby the global Mineral Resource is reported, with the tonnages and grade above the reporting cut-off grade appropriately reported.</li> <li>Relevant tonnages and grade above nominated cut-off grades for Cu and Co are provided in the introduction and body of this report. Tonnages were calculated by filtering all blocks above the cut-off grade and sub-setting the resultant data into bins by mineralisation domain. The volumes of all the collated blocks were multiplied by the dry density value to derive the tonnages. The copper and cobalt metal values (g) for each block were calculated by multiplying the Cu and / or Co grades (%) by the block tonnage. The total sum of all metal for the deposit for the filtered blocks was divided by 100 to derive the reportable tonnages of Cu and Co metal.</li> <li>No production data is available to reconcile results with.</li> </ul>

## Section 4- JORC Table 4- Estimation and Reporting of Mineral Reserves

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

Estimation and Reporting of Ore Reserves		
Criteria	Explanation	Commentary
<b>Mineral Resource estimate for conversion to Ore Reserves</b>	<i>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</i>	<p>The resource estimate for Kalongwe was prepared by Mr David Williams (CSA Global Pty Ltd) in February 2015. Dr Peter Ruxton, Technical Director Nzuri Copper Ltd, is nominated as the competent person.</p> <p>At cut-off grades of 0.5% Cu for the copper domains and 0.2% Co for the cobalt domain the Kalongwe resource contains 13.46Mt of Measured, Indicated and Inferred materials with average grades of 2.71% Cu and 0.62% Co.</p> <p>The resource model does not provide any indication of the presence of Uranium however it's presence is common in the region. In June 2017 CSA provided wireframe details of materials with elevated uranium levels (0.38Mt with an average grade of 307 ppm U) and indicated that the background level for the deposit was 10 ppm U.</p> <p>The mineral resource report did not outline how the presence of voids affected the resource estimate. Upon querying CSA indicated that the applied depletion was adequate. Further depletion by artisanal miners after announcing the resource statement was estimated at a negligible quantity (40t). Hence no adjustments were made for the presence of voids.</p> <p>Mineral Resources are reported inclusive of Ore Reserves. Mineral Resources that are not Ore Reserves have not demonstrated economic viability.</p> <p>Reported Mineral Resources contain no allowances for unplanned dilution, or mining recovery</p> <p>The Measured and Indicated proportions of the copper domains were used as a basis for the conversion to the Ore Reserve. Materials in the cobalt domain were considered as waste as there is no economically viable processing route for this at present.</p>
	<i>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</i>	The Mineral Resources are reported inclusive of the Ore Reserves.

<p><b>Site visits</b></p>	<p><i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></p>	<p>The proposed mining site of the project was visited by Mr Ryan Locke on behalf of the Competent Person Mr Ross Cheyne. Mr Locke is employed by Orelogy Consulting Pty, Ltd as Principal Mining Consultants and Mr Cheyne is Orelogy's Managing Director.</p> <p>The site visit was undertaken during September 2015, the following observations are extracted from the site visit report:</p> <ul style="list-style-type: none"> <li>• The mining area is located approximately 50km SSW of Kolwezi in the Democratic Republic of Congo (DRC). Travel time between Kolwezi and Kalongwe was approximately 2.5hrs over 60km of unsealed roads which will have to be upgraded for haulage of concentrate.</li> <li>• The area is sparsely populated. Agriculture is not widespread, human activities mostly involve charcoal production and illegal mining.</li> <li>• There is no power or water supply infrastructure at the site and in the near vicinity.</li> <li>• Presence of the deposit has been known for decades and mining activities, including underground methods, have been undertaken off and on. Illegal mining activities were occurring during the site visit but have since ceased.</li> <li>• As a result of the past mining activities there are voids, many of them clearly visible.</li> <li>• The deposit has sections that are soft and broken intermittent with competent sections that require blasting.</li> </ul>
<p><b>Study status</b></p>	<p><i>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</i></p> <p><i>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.</i></p>	<p>A feasibility study (FS) for the Kalongwe Copper Cobalt Project is the basis for conversion of Resources to Reserves. The study was directed by Nzuri and compiled by Lycopodium between May and October 2017.</p> <p>The FS was underpinned by a mine plan detailing mining locations, ore and waste quantities, mill feed quantities, and mill head grades. Scheduling was undertaken in monthly periods.</p> <p>Mine planning activities included pit optimisation, final and interim stage pit designs, mine scheduling and mining cost estimation.</p> <p>Modifying factors considered during the mine planning process included slope design criteria, mining dilution and ore loss, processing recoveries, processing costs, general and administration costs, concentrate price and royalties, engineering and infrastructure design, land access and permitting.</p> <p>The financial evaluation carried out as part of the FS indicates that the Kalongwe Copper - Cobalt Project has a net cashflow <u>after tax</u> of \$143M, with an associated NPV of \$81.9M and an IRR of 55%. These results demonstrate that the Kalongwe Copper - Cobalt Project is technically achievable and economically viable..</p>
<p><b>Cut-off parameters</b></p>	<p><i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i></p>	<p>The mine plan is based on Measured and Indicated resource materials within the copper mineralised zones. Materials in the cobalt domain were considered as waste.</p> <p>The mine plan was based on a variable (block by block) economic cut-off calculation, determined by:</p> <ul style="list-style-type: none"> <li>• Copper and cobalt processing feed grades (by block).</li> <li>• Processing costs and concentrate transport costs.</li> <li>• Copper and cobalt processing recoveries (block allocated by recovery domain and processing route).</li> <li>• Revenue calculations (by block) including metal prices, pay abilities and royalties.</li> </ul> <p>The schedule plan targeted a Ur grade in concentrate of 80ppm or lower and the production plan demonstrates that the uranium levels in</p>

		<p>concentrate were too low to affect the concentrate price and hence the (block by block cut-off determination).</p> <p>No other quality parameters were applied during the reserve determination.</p>
<b>Mining factors or assumptions</b>	<p><i>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).</i></p>	<p>A pit optimisation was undertaken and a pit design generated from which a mining schedule was developed.</p> <p>Factors such as slope design criteria, mining dilution and ore loss, processing recoveries, processing costs, general and administration costs, concentrate price and royalties were applied as part of the pit optimisation process.</p>
	<p><i>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.</i></p>	<p>A conventional drill and blast, truck and shovel open pit mining method was chosen as the basis of the FS due to:</p> <ul style="list-style-type: none"> <li>• The near surface presentation of the copper mineralisation.</li> <li>• The relatively low stripping ratio.</li> <li>• Availability of land required to support the selected mining method.</li> </ul> <p>This method is suitable as it is well proved with standard off the shelf equipment (i.e. low risk) and, due to the low population density; the presence of mine infrastructure such as pits and waste dumps will have limited negative land use impacts on the local population.</p> <p>Mine design criteria include: minimum mining width, ramp width and gradient, pit exit location and slope design parameters.</p> <p>The mining fleet consisting of two 90t excavator matched with 40t articulated dump trucks was selected for loading and hauling of predominately oxide materials and to maintain operations during the wet season. A top hammer drill rig was selected for drilling blastholes on 5m high benches.</p> <p>Because of the presence of the voids, a period of one month of dayshift only "Pioneering" work with the main production excavator was allowed for, in order to establish efficient and safe mining conditions.</p> <p>A river diversion channel and a borefield have been allowed for to ensure that the mining operations will not be adversely affected by surface water or groundwater inflows and the negative impact from pore pressure on pit wall stability.</p>
	<p><i>The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.</i></p>	<p>The pit optimisation and pit design were based on a geotechnical assessment undertaken by geotechnical consultants Peter O'Bryan and Associates resulting. The assessment was based on:</p> <ul style="list-style-type: none"> <li>• A site visit.</li> <li>• Interpretations of geological and geotechnical conditions.</li> <li>• Structural geological assessment.</li> <li>• Results of laboratory testing of rock properties collected by the drilling of 640m of diamond core from targeted location in the proposed Kalongwe pit</li> <li>• Kinematic and Limit Equilibrium stability analysis.</li> <li>• Geotechnical experience.</li> </ul> <p>The slope design criteria were based on depressurised slopes. Provision of a borefield aims to meet this condition. The final pit design was reviewed and endorsed by Peter O'Bryan and Associates.</p> <p>Based on geological guidance from CSA, grade control was assumed to employ contract RC drilling on a 12.5m x 12.5m pattern. The allowance</p>

		was inclusive of costs for contract grade control drilling, sample collection and assaying activities was applied.
	<i>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</i>	The February 2015 Kalongwe Cu-Co Mineral Resource estimate model (kal201501md_eng_DM.csv) was used as a basis for the conversion to the Ore Reserve.  Slope design criteria and processing recoveries were applied in the pit optimisation process together with mining, processing, "General & Administration" and concentrate transport cost estimates and revenue projections.
	<i>The mining dilution factors used.</i>	To allow for the effects of material mixing during excavating and the effects of ore-waste delineation inaccuracies in the pit, mixing of ore and waste in edge blocks was modelled (edge block = ore block neighbouring a waste block).  This method reduces the Measured and Indicated resource materials within the copper domains from 9.14Mt @ 2.93%Cu and 0.30%Co to 8.93Mt @ 2.75%Cu and 0.30%Co. These reductions are a combination of dilution and recovery.
	<i>The mining recovery factors used.</i>	See above.
	<i>Any minimum mining widths used.</i>	Dual lane ramps: 12.5m wide road surface, 10% gradient max. Single lane ramps: 8.3m wide road surface, 10% gradient max. Minimum mining width 20m, 15m in final bench and good-bye cuts.
	<i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</i>	No Inferred resource materials have been included in the Ore Reserve estimate. Inferred materials were considered as waste.
	<i>The infrastructure requirements of the selected mining methods.</i>	The infrastructure for mining include fuel & oil storage facilities, fuel bay, workshop, wash bay, magazines, AN storage facility, offices, lunch and ablution facilities, and a first aid room.
<b>Metallurgical factors or assumptions</b>	<i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i>	The concentrator plant utilises crushing, grinding and Dense Medium Separation (DMS) technology to produce two products a 15% Cu copper concentrate and a 4.3%-8% Cu Spiral concentrate. The concentrate will also contain cobalt mineralisation originating from the mixed copper and cobalt geological zone. The concentrate will be transported via 377km of public roads to SXEW/ CoOH plants or Cu smelters in Lubumbashi.
	<i>Whether the metallurgical process is well-tested technology or novel in nature.</i>	Dense Media Separation and spirals are a well-tested technology and the techniques are commonly applied in the mining industry.
	<i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i>	Metallurgical test work was carried out under the direction of Mr Graeme Miller of Miller Metallurgical Services. This testwork had established metallurgical domains and copper and cobalt recoveries varying with the copper grade of the concentrate.  Metallurgical testwork had not identified any deleterious elements.  The processing flowsheet was selected by Lycopodium Mineral Pty Ltd. The flowsheet and plant design were based on the metallurgical test work and the decision by Nzuri to produce 15% Cu and 4.3%-7% Cu copper concentrates with a 1Mtpa throughput plant utilising DMS and spiral processing technology

		Limited variability testwork has presently been completed, however this testwork is planned to be conducted during the next phase of Project development with sample collection already undertaken by Nzuri.
	<i>Any assumptions or allowances made for deleterious elements.</i>	During the reserve estimation, no allowances have been made for deleterious elements. The mining schedule demonstrates that the uranium levels in concentrate can be kept below 80 ppm U (smelter penalties apply above this level).
	<i>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</i>	No bulk samples have been processed in a pilot scale test facility, however the unit processes for the selected flowsheet are proven in industry and scalable from standard laboratory testwork.
	<i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet specifications?</i>	Not Applicable because there are no minerals that are defined by a specification
<b>Environmental</b>	<i>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.</i>	<p>An Environmental and Social Impact Assessment for the project, which in the DRC is termed Etudes D'impact Environnemental (EIE), was undertaken (completed) in 2014 by Bureau d'Etudes Environnementales du Congo. It aimed at identifying the baseline environmental and social conditions, and determining management of the proposed Project's social and environmental impacts through an Environmental and Social Management Plan which in the DRC is termed Plan de Gestion Environnementale du Projet (PGEP). The EIE was approved by the DRC government in April 2015.</p> <p>Further additional works as part of the feasibility study (FS) were also completed in the first half of 2017. This work focused on an assessment of cultural heritage issues, water, air and soil, and social and environmental assessment work associated with the site access corridor.</p> <p>Geochemical testing of the DMS tailings and coarse rejects solids, supernatant (tailings), and distilled water extract (coarse rejects) was carried out to assess the acid generation potential, element enrichment and supernatant / seepage water quality against reference standards.</p> <p>The samples tested recorded very low sulphur and sulphide contents, resulting in very low maximum potential acidity (MPA) values. Conversely the samples were found to contain moderate acid neutralising capacity (ANC), resulting in negative net acid producing potential (NAPP) and circum-neutral pH values in the net acid generation (NAG) test. As such, both samples were classed as Non Acid Forming (NAF). Based on these results, there is no perceived risk of acid generation from the plant coarse rejects or tailings slimes.</p>
<b>Infrastructure</b>	<i>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.</i>	Existing unsealed roads will be utilised to reach a point 31 km from site. A new main access road will be constructed from this point during Project implementation. The road will be constructed with culverted creek crossings, to an all-weather standard. The road will be 8 m wide with well-defined drainage ditches both sides of the road and sheeted with lateritic material to be suitable for delivery of goods and the removal of concentrate from the site.

		<p>In addition to the requirements of the DRC regulatory authorities, an environmental and social risk assessment work has been undertaken with reference to the International Finance Corporation’s Environmental, Health and Safety Guidelines for Mining. An EIE for the road corridor was granted in August of 2017 enabling road construction to proceed.</p> <p>Land available on lease – no villages, environmental or heritage constraints</p> <p>Power will be provided by an onsite diesel power station located adjacent to the process plant.</p> <p>Water for the processing facilities will be sourced from a dewatering borefield located circumferentially around the open pit and from a water storage dam created by construction of a water dam in the Kalongwe River.</p> <p>Process water will be recycled within the main process plant by the use of a slimes thickener and the Tailings Storage Facility (TSF) decant system.</p> <p>Potable water will be generated by a water treatment plant located at the camp and fed via a HDPE pipeline and pump located at the water storage dam. Potable water will be reticulated to the plant and mine services area via a pressurised HDPE pipeline.</p> <p>A paddock-style tailings storage facility was selected for storage of the DMS tailings which will allow for staged development. Waste rock generated from the open pit will be deposited around the perimeter of the tailings dam and will eventually be used to encapsulate the TSF following completion of the first seven years of operation.</p> <p>Construction of a 500m long river diversion channel, located north of the pit, has been incorporated in the Project design to avoid any river water entering the pit.</p> <p>The labour force will be hired from Kolwesi and surrounding villages where practical on a roster using 3 weeks on with 1 week off. A small proportion of senior expatriate managers will complement the local workforce on a roster using 6 weeks on and 3 weeks off.</p> <p>There are no sizable settlements in close proximity to the Project and therefore a permanent camp to accommodate the workforce will be constructed. The camp suitable for 256 persons will be built comprised of 40 en-suited rooms and 36 six-person dormitory style bunk bed rooms.</p>
<p><b>Costs</b></p>	<p><i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i></p> <p><i>The methodology used to estimate operating costs.</i></p>	<p>Mining costs were estimated from first principles for an owner operator scenario. Basis for the estimate are the mining schedule, associated haulage profiles and productivity assumptions, to estimate the resources for the activities (Clearing, Topsoil removal, Haulroad construction, Grade control drilling, Drilling, Blasting, Loading, Hauling, Rehandle, Rehabilitation) required to meet the schedule.</p> <p>Mining capital costs were estimated from the equipment numbers necessary to achieve the schedule and quoted item prices sourced from South Africa.</p> <p>Mining operating costs include equipment maintenance and operating costs for items such as personnel, fuel, tyres, explosives, ground engaging</p>

		<p>tools with budget prices obtained for mobile equipment parts, explosives and tires.</p> <p>Capital costs for processing and onsite infrastructure have been estimated from the designs and equipment requirements. In excess of 80% of the estimate was compiled from current quotations and Lycopodium’s actual project database and the estimate is within the +/- 15% accuracy level.</p> <p>Processing operating costs were developed for crushing, DMS, product bagging, de-sliming, thickening and tailings discharge activities with key inputs being general reagents and consumables, power, diesel, water, labour, equipment maintenance and general administrative costs.</p> <p>The diesel fuel price was supplied by Nzuri Copper Ltd based on typical in country pricing.</p> <p>The number of personnel on site and the salary levels were based on bench marking of similar African operations.</p>
	<i>Allowances made for the content of deleterious elements.</i>	Metallurgical testwork had not identified any deleterious elements. During the Reserve estimation, no allowances have been made for deleterious elements.
	<i>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.</i>	<p>Pricing was based on an indicative terms offered by the base case customer and research from marketing consultants Traxys/ CRU :-</p> <ul style="list-style-type: none"> <li>➤ Copper price US\$3.00/lb (US\$6,612/t)</li> <li>➤ Cobalt price \$18.14/lb (US\$40,000/t)</li> <li>➤ Concentrate grade of 15% Cu, payability of 49% for SXEW supply, 57% for smelter feed &amp; 21-38% for spirals concentrate.</li> <li>➤ Cobalt payability of 7-15% for all concentrate with grades over 0.7% Co.</li> </ul>
	<i>Derivation of transportation charges.</i>	Concentrate transport costs were estimated based on a formal quotation using 40t road trucks over a 300km distance between Kolwezi and Lubumbashi and then applied for the entire distance between site and Lubumbashi at US\$0.17/t/km inclusive of toll charges.
	<i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i>	Concentrate sold to SXEW/ smelters at prices and payabilities outlined above.
	<i>The allowances made for royalties payable, both Government and private.</i>	All applicable royalties have been considered in the assessment, those being royalties to Traxys, GICC and the DRC Government.
<b>Revenue factors</b>	<i>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.</i>	<p>Nzuri has elected to produce 15% Cu and 4.3%-7% Cu copper concentrates respectively from the DMS and the spirals plants. Metallurgical testwork has indicated that producing these concentrates is feasible and the payabilities are as detailed above.</p> <p>The exchange rates for the project are:</p> <p>1 \$A = \$0.75US</p> <p>1 \$A = 11 Rand.</p> <p>1 \$A = 0.71 Euro.</p> <p>Concentrate transportation costs have been outlined above.</p> <p>Treatment charges, penalties or net smelter return are not applicable</p>

	<i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i>	CRU marketing research was purchased and used for the derivation of applicable Copper and Cobalt pricing and demand. Additional research published from multiple industry analysts including Canaccord, Deutch Bank were used as the applicable.
<b>Market assessment</b>	<i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i>	As detailed above.
	<i>A customer and competitor analysis along with the identification of likely market windows for the product.</i>	A base case customer in the Lubumbashi region was used for the feasibility study.
	<i>Price and volume forecasts and the basis for these forecasts.</i>	As detailed above.
<b>Economic</b>	<i>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</i>	<p>The project economic analysis has been performed by Ormico on behalf of Nzuri.</p> <p>The assumptions used in the economic analysis are as follows:</p> <ul style="list-style-type: none"> <li>• All Inferred material assigned zero value and assumed to be waste.</li> <li>• 10% discount real.</li> </ul> <p>The economic analysis demonstrated:</p> <ul style="list-style-type: none"> <li>• LoM C1 Cash costs: -\$1.35/recovered lb copper</li> <li>• Payback Period 21 months from first ore</li> <li>• NPV \$116M USD Real before tax</li> <li>• NPV \$81.9M USD Real after tax</li> <li>• IRR 71% Real before tax</li> <li>• IRR 55% Real after tax</li> <li>• Pre-production capital of 53.12M USD incl. of VAT &amp; duties</li> </ul>
	<i>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i>	<p>±20% variations were carried out with all key parameters</p> <p>In summary, the Project is most sensitive to Copper pricing variations, with a greater impact on the IRR and the NPV than when ±20% variations in either operating costs or capital costs are applied. Changes to operating costs have the next greatest impact on calculated project NPVs with the impact of a ±10% change in operating costs greater than a ±20% change in capital costs.</p>
<b>Social</b>	<i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i>	<p>As detailed under environmental a Environmental and Social Impact Assessment for the project (EIE), was undertaken (completed) in 2014 by Bureau d'Etudes Environnementales du Congo. It aimed at identifying the baseline environmental and social conditions, and determining management of the proposed Project's social and environmental impacts through an Environmental and Social Management Plan (PGEP). The EIE was approved by the DRC government in April 2015.</p> <p>All key local, regional and national stakeholders associated with the project development have been kept abreast of project activities, are supportive of project development.</p> <p>No agreements outside of those commitments outlined in the EIE have been entered into by the company</p>

<p><b>Other</b> To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves.</p>	<p>Any identified material naturally occurring risks.</p>	<p>A risk analysis was undertaken and summarised by Lycopodium in the FS report. The key risks identified were:</p> <ul style="list-style-type: none"> <li>• Road/traffic incident.</li> <li>• Freight and logistics delays.</li> <li>• Serious medical accident / diseases.</li> </ul> <p>To mitigate these identified key risks a number of initiatives will be implemented during project implementation and operations including stringent driver training, the separation of haul road and service roads, fencing the complete site to restrict entry of non-mining related vehicles and pedestrians, identification of reliable freight and logistics contractors by trials during early works, use of dedicated experienced freight and logistics personnel, the use of an experienced Project team, employing a local doctor with a clinic, health education and development of comprehensive plans for safety and medical of personnel.</p>																														
	<p>The status of material legal agreements and marketing arrangements.</p>	<p>A marketing agreement is in place with trader Traxys for all Kalongwe products.</p>																														
	<p>The status of government 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.</p>	<p>Exploitation Permit PE No12198, valid for an initial term of 30 years, was granted to Kalongwe Mining SA (KMSA) on 23rd October 2015. KMSA is 85% owned by Nzuri, 10% by GICC and the DRC government owns 5%.</p> <p>Project permit status is given in the table below :-</p> <table border="1" data-bbox="759 1171 1484 1933"> <thead> <tr> <th>Permit</th> <th>Status</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>Mining Permit (PE 12198)</td> <td>Approved / Issued</td> <td>Issued in October 2015</td> </tr> <tr> <td>D'impact Environnemental (EIE) - Project Site</td> <td>Approved / Issued</td> <td>Issued in April 2015,</td> </tr> <tr> <td>Water Extraction Permit</td> <td>In place / Issued</td> <td>To be increased as project activities increase</td> </tr> <tr> <td>D'impact Environnemental (EIE) - Access road corridor</td> <td>Submitted to DRC environmental agency (ACE) in July 2017</td> <td>Issued in August 2017</td> </tr> <tr> <td>Explosives Storage Permit</td> <td>Not Yet required</td> <td>Required in operation phase</td> </tr> <tr> <td>Diesel Storage Permit</td> <td>Required /outstanding</td> <td>Required as part of construction for volumes more than 5 kl</td> </tr> <tr> <td>Transport Permit</td> <td>Not Yet required</td> <td>Required for transport of concentrate in operation phase</td> </tr> <tr> <td>Core Storage Permit</td> <td>Not Yet required</td> <td>Required at point prior to decommissioning of the mine</td> </tr> <tr> <td>Commencement of Work Permit</td> <td>Not Yet required</td> <td>Required prior to commencement of the Project construction activities</td> </tr> </tbody> </table>	Permit	Status	Comment	Mining Permit (PE 12198)	Approved / Issued	Issued in October 2015	D'impact Environnemental (EIE) - Project Site	Approved / Issued	Issued in April 2015,	Water Extraction Permit	In place / Issued	To be increased as project activities increase	D'impact Environnemental (EIE) - Access road corridor	Submitted to DRC environmental agency (ACE) in July 2017	Issued in August 2017	Explosives Storage Permit	Not Yet required	Required in operation phase	Diesel Storage Permit	Required /outstanding	Required as part of construction for volumes more than 5 kl	Transport Permit	Not Yet required	Required for transport of concentrate in operation phase	Core Storage Permit	Not Yet required	Required at point prior to decommissioning of the mine	Commencement of Work Permit	Not Yet required	Required prior to commencement of the Project construction activities
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	<p>The basis for the classification of the Ore Reserves into varying confidence categories. Whether the result appropriately reflects the Competent Person's view of the deposit. The</p>	<p>In general, "Measured" resources converted to "Proved" reserves and "Indicated" resources converted to "Probable" reserves.</p>																														

	<i>proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</i>	However, due to the presence of near surface voids and the risk of additional dilution and ore loss, all Proved reserves above the 1325m RL were converted to "Probable" reserves.
<b>Classification</b>	<i>The results of any audits or reviews of Ore Reserve estimates.</i>	As this is the first declaration of an Ore Reserve and it is supported by a current FS, no external audits have been undertaken at this time.
<b>Audits or reviews</b>	<i>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.</i>	<p>The confidence level in the resource is defined by the resource categories.</p> <p>Costs can be estimated with reasonable confidence to have an accuracy of <math>\pm 15\%</math>.</p> <p>Predicting metal price levels (revenue) and exchange rates is inherently problematic, and these may vary substantially during the life of the project even if the average metal prices and exchange rates for the project are accurate.</p> <p>The Reserve is based on a current FS completed in October 2017. Economic assumptions are based on current pricing and reflect current economic circumstances.</p>
<b>Discussion of relative accuracy/ confidence</b>	<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>	The resource, and hence the associated reserve, relate to global estimates.
	<i>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.</i>	All mining related modifying factors applied (e.g. ore loss and dilution, downgrading classification around voids, wall slope parameters etc) as discussed above are considered reasonable and defensible. The accuracy of the base supplied costs are considered reasonable for the DRC environment but may be subject to unforeseen market variations prior to project execution.
	<i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i>	Project has completed a Feasibility study. An absence of production data precludes comment further comment.