METALS X LIMITED

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2019 NIFTY RESOURCE AND RESERVE UPDATE

Metals X Limited (**Metals X** or the **Company**) is pleased to announce updated Mineral Resource and Ore Reserve estimates for its underground sulphide deposit at the Nifty Copper Operations (**Nifty**).

HIGHLIGHTS

- Total Nifty Sulphide Measured, Indicated and Inferred Resource (cut-off grade of 0.75% Cu) of **36.28 Mt at 1.50% Cu for 545,600** tonnes of contained copper.
  - Total Measured and Indicated Resource of **30.55Mt at 1.58% Cu for 482,500 tonnes** of contained copper.
  - External independent review and validation of the Mineral Resource Estimate by CUBE Consulting.
- Total Nifty Sulphide Proved and Probable Reserve of **11.10 Mt of ore at 1.45% Cu for 161,200 tonnes** of contained copper.
  - Importantly, 90% of the Ore Reserve is now outside of the historical Central Zone reflecting the Company's focus on prioritising operational activities into new mining areas both west and east of the Central Zone.

Managing Director, Mr Damien Marantelli, commented:

"Since the acquisition of Nifty in 2016 we have completed over 83,000 metres of underground drilling, focusing on extending the Nifty orebody both west and east of the historical Central Zone. We have also significantly advanced our understanding of the mineralisation and controls to this massive copper system" he said.

"The updated resources and reserves are a result of this substantial effort and are a significant milestone for the Reset Plan, providing us with enhanced confidence in our mine planning and future exploration programs. The increased level of confidence is evidenced by 88% of the resource being in the Measured and Indicated categories."

"Importantly, the underground drilling program is continuing and results received since 31 March 2019, comprising approximately 16,000 metres of additional drilling, are yet to be incorporated into the resource and reserve estimates."

ENQUIRIES
Damien Marantelli
Managing Director
E: damien.marantelli@metalsx.com.au

MEDIA ENQUIRIES
Michael Weir / Cameron Gilenko
Citadel-MAGNUS
M: +61 402347032

MINERAL RESOURCE & ORE RESERVE STATEMENT – NIFTY SULPHIDE

TABLE 1. NIFTY SULPHIDE MINERAL RESOURCE ESTIMATE AT 31 MARCH 2019

The Mineral Resource estimate below is for the Nifty Sulphide underground deposit. The Mineral Resource estimates for Nifty Oxide and Nifty Heap Leach are unchanged from those reported on 31 May 2017 and are not included in the table below.

Deposit	Mineral Resource Category[1]	Mt[2]	Grade % Cu	Copper tonnes[2]
Nifty Sulphide	Measured	23.43	1.66%	388,100
	Indicated	7.12	1.32%	94,300
	Inferred	5.73	1.10%	63,100
	Total	**36.28**	**1.50%**	**545,600**

1. Mineral Resources are reported inclusive of Mineral Resources modified to produce the Ore Reserve;
2. Tonnes are reported as million tonnes (Mt) and rounded to the nearest 10,000; Cu tonnes are rounded to the nearest 100 tonnes; rounding may result in some slight apparent discrepancies in totals.
3. Cut-off grade of 0.75% Cu.

TABLE 2. NIFTY SULPHIDE ORE RESERVE ESTIMATE AT 31 MARCH 2019

Deposit	Ore Reserve Category[1]	Ore Mt[2]	Grade % Cu	Copper tonnes[2]
Nifty Sulphide	Proved	9.57	1.45%	138,300
	Probable	1.53	1.50%	22,900
	Total	**11.10**	**1.45%**	**161,200**

1. The Ore Reserve is based on the Nifty Sulphide Mineral Resource estimate at 31 March 2019, with applied modifying factors, a cut-off grade of 1.00% Cu and using a copper price of US$5,652/t Cu at an assumed exchange rate of USD/AUD 0.72 for a price of AUD$7,850/t Cu;
2. Tonnes are reported as million tonnes (Mt) and rounded to the nearest 10,000; Cu tonnes are rounded to the nearest 100 tonnes; rounding may result in some slight apparent discrepancies in totals.

KEY ASSUMPTIONS AND JORC 2012 REQUIREMENTS

Mineral Resources are reported inclusive of Ore Reserves. Mining production data up to 31 March 2019 and all exploration information has been included. Mineral Resources have been depleted for mining to 31 March 2019.

Mining Depletion since 31 August 2017 (to 31 March 2019) is 2.3 Mt @ 1.35% Cu.

The copper price assumption used to estimate Mineral Resources and Ore Reserves was US$5,652/t Cu at an assumed exchange rate of USD/AUD 0.72 giving a price of AUD $7,850/t Cu.

The Mineral Resources and Ore Reserves have been classified in accordance with the guidelines set out in the Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves, published by the Joint Ore Reserves Committee (JORC), of the Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists and the Minerals Council of Australia, December 2012 (the 'JORC Code' or 'JORC 2012').

The full Mineral Resource and Ore Reserve estimates for the Nifty Sulphide deposit at the Nifty Copper Operations are reported in Table 1 and Table 2 respectively.

Material Information for the individual deposits, including a summary of material information pursuant to ASX Listing Rules 5.8 and 5.9 and the Assessment and Reporting Criteria in accordance with JORC 2012 requirements, is included in the body of this report and in Appendix A to this announcement.

MINERAL RESOURCE AND ORE RESERVE GOVERNANCE STATEMENT

In accordance with ASX Listing Rule 5.21.5, governance of the Company's Mineral Resources and Ore Reserves development and management activities is a key responsibility of the Executive Management of the Company.

Senior geological and mining engineering staff of the Company oversee reviews and technical evaluations of the estimates and evaluates these with reference to actual physical, cost and performance measures. The evaluation process also draws upon internal skill sets in operational and project management, ore processing and commercial/financial areas of the business.

The Executive General Manager Geology (in consultation with senior staff) is responsible for monitoring the planning, prioritisation and progress of exploratory and resource definition drilling programs across the Company and the estimation and reporting of Mineral Resources. These definition activities are conducted within a framework of quality assurance and quality control protocols covering aspects including drill hole siting, sample collection, sample preparation and analysis as well as sample and data security. The Executive General Manager Mining & Technical (in consultation with senior staff) is responsible for the reporting of Ore Reserves.

A four-level compliance process guides the control and assurance activities:

- Provision of internal policies, standards, procedures and guidelines;
- Mineral Resource and Ore Reserve reporting based on well-founded geological and mining assumptions and compliance with external standards such as the JORC Code;
- Internal review of process conformance and compliance; and
- Internal assessment of compliance and data veracity.

The Executive Management aims to promote the maximum conversion of identified mineralisation into Mineral Resources and Ore Reserves compliant with JORC 2012.

The Company reports its Mineral Resources and Ore Reserves, as a minimum, on an annual basis, in accordance with ASX Listing Rule 5.21 and clause 14 of Appendix 5A (the JORC Code).

Competent Persons named by the Company are members of the Australasian Institute of Mining and Metallurgy (AusIMM) and/or the Australian Institute of Geoscientists (AIG), and qualify as Competent Persons as defined in the JORC Code.

MINERAL RESOURCE ESTIMATE

Table 1 shows the updated Mineral Resource estimate for the Nifty Sulphide deposit at the Nifty Copper Operations at 31 March 2019.

Table 3 compares the 31 August 2017 Mineral Resource estimate (reported by Metals X on 12 October 2017) with the updated Mineral Resources estimate at 31 March 2019 for the Nifty Sulphide deposit. The Mineral Resource estimates for Nifty Oxide and Nifty Heap Leach are unchanged from 2016 and as reported in May 2017.

TABLE 3. COMPARISON OF NIFTY SULPHIDE MINERAL RESOURCE ESTIMATE: 31 MARCH 2019 VERSUS 31 AUGUST 2017

Reporting date	Category	Mt[3]	Grade % Cu	Copper tonnes[4]
31 August 2017[1] (0.75% cut-off)	Measured	25.36	1.68%	426,000
	Indicated	8.10	1.31%	106,000
	Inferred	8.12	1.11%	90,000
	Total	**41.58**	**1.50%**	**622,000**
31 March 2019[2] (0.75% cut-off)	Measured	23.43	1.66%	388,100
	Indicated	7.12	1.32%	94,300
	Inferred	5.73	1.10%	63,100
	Total	**36.28**	**1.50%**	**545,600**

1. As reported by Metals X on 12 October 2017;
2. Mineral Resources are calculated at 31 March 2019 by Metals X, adjusted for depletion to 31 March 2019, using a cut-off grade of 0.75% Cu.
3. Tonnes are reported as million tonnes (Mt) and rounded to the nearest 10,000.
4. The 31 August 2017 Cu tonnes were rounded to the nearest 1000 tonnes; 31 March 2019 Cu tonnes are rounded to the nearest 100 tonnes; rounding may result in some slight apparent discrepancies in totals.

The difference between the 31 March 2019 Nifty Sulphide Mineral Resource estimate and 31 August 2017 estimate include the following modifications:

- Included all underground diamond drill information undertaken since Metals X assumed control of the deposit;
- Incorporates from 2018/19 significant underground geological fact mapping identifying key structural and stratigraphic controls on the mineralisation; and
- Reinterpretation in 2018/19 of stratigraphic boundaries to more tightly constrain the interpolation within discrete mineralised horizons.

SUMMARY OF MATERIAL INFORMATION

Appendix A to this report contains all information material to understanding the estimates of Mineral Resources. In accordance with Listing Rule 5.8.1, the following summary of material information in this regard is provided below.

Geology and geological interpretation

The Nifty deposit is hosted within the folded late-Proterozoic Broadhurst Formation which is part of the Yeneena Group. The Broadhurst Formation is between 1000 m to 2000 m thick and comprises a stacked series of carbonaceous shales, turbiditic sandstones, dolomite and limestone. Structurally, the dominant feature is the Nifty Syncline which strikes approximately southeast-northwest and plunges at between 6 and 12 degrees to the southeast. The stratabound copper mineralisation occurs as a structurally controlled, chalcopyrite-quartz-dolomite replacement of carbonaceous and dolomitic shale within the folded sequence. The bulk of the primary mineralisation which is currently being mined is largely hosted within the keel and northern limb of the syncline.

Sampling and sub-sampling techniques

The deposit has been drilled and sampled using various techniques with diamond and reverse circulation drilling, from both surface and underground. Total metres drilled within the immediate vicinity of the deposit are 289,431m.

Drilling techniques

Drilling programs have been ongoing since initial discovery to both expand the mineralisation and provide control for mining. Hole collars were surveyed by Company employees/contractors. Down hole surveys are recorded using appropriate equipment with diamond core logged for lithology and other geological features.

Criteria for classification

The criteria used to categorise Mineral Resources include robustness of the input data, confidence in the geological interpretation, including the predictability of both structures and grades within the mineralised zones, the distance from data, and amount of data available for block estimates within the respective mineralised zones. The input data is consistent and closely spaced enough to support the projection of the geological interpretation which in terms of the style of mineralisation is consistent with other deposits within the same geological setting. Infill drilling programs have successfully confirmed previous wider spaced drilling in terms of geological and grade predictions. The estimated grade correlates well with the input data given the nature of the mineralisation.

Sample analysis method

Diamond core varies from HQ to NQ in diameter and mineralised intervals and adjacent locations were sampled by cutting the core in half based on contacts of lithology and other geological features. RC samples were collected from the cyclone of the rig and spilt at site to approximately 2 to 3kg weight. Preparation and analysis was undertaken at accredited commercial laboratories with ISO/IEC 17025 accreditation.

Estimation methodology

All modelling and estimation work undertaken by Metals X is carried out in three dimensions using Leapfrog™ and/or Surpac™ software. After validating the drillhole data to be used in the estimation, interpretation of the orebody is undertaken in sectional and / or plan view to create the outline strings which form the basis of the three-dimensional orebody wireframe. Wireframing is then carried out using a combination of automated stitching algorithms and manual triangulation to create an accurate three-dimensional representation of the sub-surface mineralised body. Once the sample data has been composited, a statistical analysis is undertaken to assist with determining estimation search parameters and top-cuts. Variographic analysis of individual domains is undertaken to assist with determining appropriate search parameters and incorporated with observed geological and geometrical features to determine the most appropriate search parameters. Block sizes used in modelling vary depending on orebody geometry, minimum mining units, estimation parameters and levels of

informing data available and are determined using QKNA in Snowden's Supervisor software. Grade estimation uses ordinary kriging estimation methodology. Hard boundaries are applied to the units and grade estimated within these boundaries. The resource was then depleted for mining voids and subsequently classified in line with JORC guidelines utilising a combination of estimation derived parameters and geological / mining knowledge.

Cut-off grades

Lithological boundaries are used to define sequence units with statistical grade assessment used for confirmation. The resource reporting cut-off grade is 0.75% Cu for the sulphide resource.

Mining and metallurgical methods and parameters

Mining of the sulphide deposit is by long hole open stoping and has been demonstrated as being economically viable by the ongoing operational status. The ore currently mined is processed on site to produce copper concentrate. This has been successful over the life of the project (>10yrs) and therefore metallurgically the deposit is amenable to the method adopted.

COMPETENT PERSON'S STATEMENT

The information in this report that relates to Mineral Resources has been compiled by Metals X Limited technical employees under the supervision of Mr Kim Kremer BSc., who is a member of the Australasian Institute of Geoscientists. Mr Kremer is a full-time employee of the Company and has sufficient experience which is relevant to the style of mineralisation and types of deposit under consideration and to the activities which he is 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". Mr Kremer consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

ORE RESERVE ESTIMATE

Table 2 shows the updated Ore Reserve estimate for the Nifty Sulphide deposit at the Nifty Copper Operations at 31 March 2019.

Table 4 compares the 31 August 2017 Ore Reserve estimate (reported by Metals X Limited on 12 October 2017) with the updated Ore Reserve estimate at 31 March 2019 for the Nifty Sulphide deposit.

TABLE 4. COMPARISON OF NIFTY SULPHIDE ORE RESERVE ESTIMATE: 31 MARCH 2019 VERSUS 31 AUGUST 2017

Reporting date	Ore Reserve Category	Ore Mt[3]	Grade % Cu	Copper tonnes[4]
31 August 2017[1]	Proved	11.75	1.76%	207,000
	Probable	2.15	1.42%	30,500
	Total	**13.90**	**1.71%**	**237,500**
31 March 2019[2]	Proved	9.57	1.45%	138,300
	Probable	1.53	1.50%	22,900
	Total	**11.10**	**1.45%**	**161,200**

1. As reported by Metals X on 12 October 2017 at a cut-off grade of 1.0% Cu.
2. The Ore Reserve is based on the Nifty Sulphide Mineral Resource estimate at 31 March 2019, with applied modifying factors, using a copper price of US$5,652/t Cu at an exchange rate of USD/AUD 0.72 for a price of AUD$7,850/t Cu and a cut-off grade of 1.00% Cu;
3. Tonnes are reported as million tonnes (Mt) and rounded to the nearest 10,000.
4. The August 2017 Cu tonnes were rounded to the nearest 500 tonnes; the 31 March 2019 Cu tonnes are rounded to the nearest 100 tonnes; rounding may result in some slight apparent discrepancies in totals.

SUMMARY OF MATERIAL INFORMATION

The updated Nifty Sulphide Ore Reserve estimate is based on the updated Mineral Resource estimate, as detailed in this announcement (refer to Table 1), with modifying factors applied.

The modifying factors and associated criteria used in determining the Ore Reserve are summarised below, in accordance with ASX Listing Rule 5.9.1, and detailed in Appendix A:

- Extensive drilling in recent years has changed the geological understanding and modelling of the Nifty Resource, especially outside the Central Zone;
- Improved understanding of the structural controls of the orebody and how they relate to mine design and Ore Reserves;
- Improved stope designs and mine layouts reflecting the improved geological understanding;
- Re-evaluation of the geotechnical aspects of mining of remnant material in the Central Zone on a stope by stope basis;
- Underground stoping uses a mining recovery factor of 90% depending on the individual block. Additionally, mining dilution of 12% has also been applied to individual blocks; and
- Metallurgical recoveries applied to produce copper concentrate from ore are based on historical and current recoveries from the operating Nifty copper processing plant at 92%;

Copper price assumption of US$5,652/t at an assumed exchange rate of USD/AUD 0.72 for a price of AUD $7,850/t Cu;

The Cut-off grade of 1.00% Cu was determined based upon an economic evaluation of Nifty using an updated review of the new Life of Mine schedule and projected capital and operating costs.

Material contained within designed stope shapes below the 1.00% Cut-off grade is included as internal dilution.

Conventional long hole stoping mining methodology with paste backfill is assumed as per current operations.

The operation is fully permitted, allowing production to continue for the life of mine.

Depletion since the August 2017 Ore Reserve has been 2.3 Mt at 1.35% Cu for 38,700 tonnes of Cu produced.

COMPETENT PERSON'S STATEMENT

The information in this report that relates to Ore Reserves has been compiled by Metals X Limited technical employees under the supervision of Mr Campbell Baird BEng (Mining), Master of International Finance & Member AusIMM. Mr Baird is a full time employee of the Company. Mr Baird has sufficient experience which is relevant to the style of mineralisation and types of deposit under consideration and to the activities which he is 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". Mr Baird consents to the inclusion in this report of the matters based on his information in the form and context in which it appears. Mr Baird is eligible to participate in the Company's short and long term incentive plan and holds performance rights in the Company.

APPENDIX A

INFORMATION MATERIAL TO UNDERSTANDING THE MINERAL RESOURCES AND ORE RESERVES

JORC CODE, 2012 EDITION

JORC TABLE 1: THE INFORMATION IN THIS TABLE REFERS TO THE FOLLOWING PROJECTS AT THE NIFTY COPPER OPERATIONS: NIFTY SULPHIDE, NIFTY OXIDE AND NIFTY HEAP LEACH

SECTION 1: SAMPLING TECHNIQUES AND DATA

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code Explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.*	• The deposit has been drilled and sampled using various techniques with diamond and reverse circulation drilling utilised for mineral estimation. This information comes from surface and underground and is on variable spacing along and across strike. The total metres within the immediate vicinity of the Deposit are 289,431m. The holes are drilled on most occasions to intersect as near as possible perpendicularly the synclinal east plunge mineralisation.
	• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*	• The drilling programs have been ongoing since initial discovery to both expand the mineralisation and provide control for mining. The hole collars were surveyed by Company employees/contractors with the orientation recorded. Down hole survey is recorded using appropriate equipment. The diamond core was logged for lithology and other geological features.
	• *Aspects of the determination of mineralisation that are Material to the Public Report.*	
	• *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	• The diamond core varied from HQ to NQ in diameter and mineralised intervals and adjacent locations were sampled by cutting the core in 1/2 based on contacts of lithology and other geological features. • The RC samples were collected from the cyclone of the rig and spilt at site to approximate 2 to 3Kg weight. The preparation and analysis was undertaken at accredited commercial laboratories, ALS or Intertek Genalysis. Both laboratories have attained ISO/IEC 17025 accreditation. ALS uses the ME-ICP61 four acid digest methods using a sample of 0.2g with an ICPAES finish. Over limit results (>1% Cu) are re-analysed using the ME-OG62 method, which involves subjecting a 0.4g sample to a four acid digest with an ICPAES finish. Intertek Genalysis use a four acid digest using a 0.2g sample with an ICP-OES finish. Over limit results (>1% Cu) are re-assayed using an ore grade four acid digestion of 0.2g sample, and an AAS finish. The analysis and preparation of recent diamond drilling by Metals X has been undertaken at the onsite Nifty laboratory which has been contracted to accredited analytical testing service ALS. On-site, ALS uses a Fusion XRF15C method for analysis.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	

Criteria	JORC Code Explanation	Commentary
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• The drilling was completed using a combination of surface and underground drilling. In general the orientation of the drilling is appropriate given the given the strike and dip of the mineralisation. • The core recovery is recorded in the database and in most instances was in excess of 95% within the fresh/sulphide zones. This was assessed by measuring core length against core run. There is no record of the quantity (weight) of RC chips collected per sample length. • The ground conditions in the mineralised zone are competent. In areas of less competent material core return is maximised by controlling drill speed. In the case of RC samples areas of less competent material are identified in the log. • Whilst no assessment has been reported, the competency of the material sampled would tend to preclude any potential issue of sampling bias.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	• The routine logging of core and chips describes the general geology features including stratigraphy, lithology, mineralisation, alteration etc. For the majority of holes this information is sufficient and appropriate to apply mineralisation constraints. Some core drilling is orientated and structural measurements of bedding, joints, veins etc. has occurred as well as fracture densities. • Geological logging has recorded summary and detailed stratigraphy, lithology, mineralisation content, and alteration, some angle to core axis information, vein type, incidence and frequency, magnetic content. • The entire length of all holes, apart from surface casing, was logged.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• All core to be sampled was ½ cored using a mechanical saw. It is not known if the core was consistently taken from the same side of the stick. • RC chip samples are collected via a cyclone which is cleaned with air blast between samples. The samples riffled to collect between 2 and 3kg. Most samples are dry with any moisture noted on the logs. • Field sub-sampling for chip samples appears appropriate as is the use of core cutting equipment for the submitted core. Procedures adopted in the laboratories are industry standard practises including that in the mine site facility. • In field riffles are cleaned between sampling using compressed air. The diamond cutting equipment is cleaned during the process using water. All laboratories adopt appropriate industry best practises to reduce sample size homogeneously to the required particle size. • No field duplicate information was observed. • The style of mineralisation and high sulphide content does not rely on grain size as being influential on grade. Thus there is confidence in the overall grade of the deposit being fairly represented by the sampling.

Criteria	JORC Code Explanation	Commentary
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• The assay techniques are appropriate for the determination of the level of mineralisation in the sample. • No geophysical tools were utilised to ascertain grade. • Standard and Blanks are included with all samples sent for analysis in the rate of between 1 in 20 and 1 in 50. The most recent reporting covering the majority of holes used in the estimate provide support for the quality of the Cu assays.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• The extensive data set has been reviewed by various parties including Maxwell Geoscience and DataGeo and the intersections within the mineralisation have been confirmed. • No twinned holes observed but there is a significant amount of closely spaced supportive drilling results. • Field data is captured electronically, validated by the responsible geologist and stored on corporate computer facilities. Protocols for drilling, sampling and QAQC are contained with the company operating manuals. The information generated by the site geologists is loaded into a database by the company database administrator and undergoes further validation at this point against standard acceptable codes for all variables.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• The collar positions were resurveyed by the Company surveyor or their contractors from a known datum. The survey is on a known local grid with demonstrated control. The orientation and dip at the collars is checked (aligned) by the geologist and down hole recording of azimuth and dip are taken at 30m intervals on most occasions using appropriate equipment. Accuracy tests in downhole surveys have been conducted on recent drilling, and show negligible variation against 'Gyro' survey by independent third party. • The regional grid is GDA94 Zone 50 and the drilling is laid out on a local grid. • Topographic control is from surface survey - note the deposit modelled is totally underground and is not influenced by surface topography.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• The majority of drilling utilised is on 40m x 20m grid specifically targeting lithological and hence mineralisation sequence definition. • The geological sequence is well understood from the mining which supports the current drill spacing as adequate for both grade continuity assessment and lithological modelling • The sampling reflects the geological conditions. For mineral resource estimation a 1m composite length was chosen given that this is the dominant sample length in dataset.

Criteria	JORC Code Explanation	Commentary
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Given the shape of the sequence, the drilling as best as practically possible, is orientated to intersect the sequence perpendicularly. • No sampling bias is considered to have been introduced.
Sample security	• *The measures taken to ensure sample security.*	• The samples once collected and numbered are stored in the site core yard. Each sample bag is securely tied with the pre-printed sample number on the bag and transported to either the onsite laboratory or by commercial contractors to Perth. Upon receipt at the laboratory the samples are checked against the dispatch sheets to ensure all samples are present.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Resources and reserves are routinely reviewed by the Metals X Corporate technical team. • Database management companies have over the past 2 years audited the drill hole database and found it representative of the information contained.

SECTION 2: REPORTING OF EXPLORATION RESULTS

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

Criteria	JORC Code Explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Nifty deposit is situated on Mining Lease M271/SA, which is 100% held by Nifty Copper Pty Ltd, a wholly owned subsidiary of Metals X.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• WMC Resources Ltd discovered Nifty in 1980 by using regional ironstone sampling and reconnaissance geology. Malachite staining of an outcrop and Cu-anomalous ironstones from dune swale reconnaissance sampling were the initial indicators. This was followed up by lag sampling on a 500 x 50m grid that detected a 2.5 x 1.5km Cu-Pb anomaly. Secondary Cu mineralisation was intersected in percussion drilling in mid-1981, with high grade primary ore (20.8m at 3.8% Cu) discovered in 1983. WMC commenced open pit mining of the secondary oxide ore in 1992 and continued mining until September 1998 when Nifty was sold to Straits Resources. • The project was subsequently purchased from Straits Resources by Aditya Birla Minerals Ltd in 2003. • Open pit mining ceased in June 2006. • Copper extraction using heap leaching ceased in January 2009. • Underground mining of the primary (chalcopyrite) mineralisation started in 2009. • The project was purchased from Aditya Birla in 2016 by Metals X Ltd.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Nifty deposit is hosted within the folded late-Proterozoic Broadhurst Formation which is part of the Yeneena Group. The Broadhurst Formation is between 1000 m to 2000 m thick and consists of a stacked series of carbonaceous shales, turbiditic sandstones, dolomite and limestone. Structurally, the dominant feature is the Nifty Syncline which strikes approximately southeast-northwest and plunges at about 6-12 degrees to the southeast. The stratabound copper mineralisation occurs as a structurally controlled, chalcopyrite-quartz- dolomite replacement of carbonaceous and dolomitic shale within the folded sequence. The bulk of the primary mineralisation which is currently being mined is largely hosted within the keel and northern limb of the Syncline.

Criteria	JORC Code Explanation	Commentary

Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*
		• No exploration results are reported as part of this release, results relating to the deposit have been previously released.

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No exploration results are reported as part of this release, results relating to the deposit have been previously released.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• No exploration results are reported as part of this release, results relating to the deposit have been previously released.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• No exploration results are reported as part of this release, results relating to the deposit have been previously released.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• No exploration results are reported as part of this release, results relating to the deposit have been previously released.

Criteria	JORC Code Explanation	Commentary
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• No exploration results are reported as part of this release, results relating to the deposit have been previously released.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• The Nifty resource currently remains open to the east. • Open pit and underground feasibility works; • Validation drilling in areas of potential economic mineralisation; • Infill drill areas of data paucity proximal to the underground development. This will increase resource confidence and resultant classifications. • Validation of the underground void model.

SECTION 3: ESTIMATION AND REPORTING OF MINERAL RESOURCES

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

Criteria	JORC Code Explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• Drillhole data is stored in a Maxwell's DataShed system based on the SQL Server platform which is currently considered "industry standard". • As new data is acquired it passes through a validation approval system designed to pick up any significant errors before the information is loaded into the master database. The information is uploaded by a series of SQL routines and is performed as required. The database contains diamond drilling (including geotechnical and specific gravity data) and some associated metadata. By its nature this database is large in size, and therefore exports from the main database are undertaken (with or without the application of spatial and various other filters) to create a database of workable size, preserve a snapshot of the database at the time of orebody modelling and interpretation and preserve the integrity of the master database.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The Competent Person works on the site and commutes weekly.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The confidence in the geological interpretation comes from the history of underground mining and the closely spaced drilling and other sample information. • Only physical data obtained from the drilling and underground workings was utilised. • The application of hard boundaries to reflect the position of the mineralised sequence was supported by the underground and drilling observations. No other assessment style is thought appropriate at this time. • The sequence units are subject to vertical and horizontal dimension changes along and across strike and in thickness. The mineralisation occurs as either disseminated or massive within the sequence and thus influences the grade continuity.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The Deposit occurs over a 1,200m down plunge distance and units vary individually between 0m to 30m in true thickness. The limbs of the sequence are variously mineralised and to 400m in vertical extent.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*	• All modelling and estimation work undertaken by Metals X is carried out in three dimensions via GEOVIA Surpac. • After validating the drillhole data to be used in the estimation, interpretation of the orebody is undertaken in sectional and / or plan view to create the outline strings which form the basis of the three-dimensional orebody wireframe. Wireframing is then carried out using a combination of automated stitching algorithms and manual triangulation to create an accurate three-dimensional representation of the sub-surface mineralised body.

Criteria	JORC Code Explanation	Commentary
	• *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• Drillhole intersections within the mineralised body are defined; these intersections are then used to flag the appropriate sections of the drillhole database tables for compositing purposes. Drillholes are subsequently composited to allow for grade estimation. In all aspects of resource estimation, the factual and interpreted geology was used to guide the development of the interpretation. • Once the sample data has been composited, a statistical analysis is undertaken to assist with determining estimation search parameters, top-cuts etc. Variographic analysis of individual domains is undertaken to assist with determining appropriate search parameters. Which are then incorporated with observed geological and geometrical features to determine the most appropriate search parameters. • An empty block model is then created for the area of interest. This model contains attributes set at background values for the various elements of interest as well as density, and various estimation parameters that are subsequently used to assist in resource categorisation. The block sizes used in the model will vary depending on orebody geometry, minimum mining units, estimation parameters and levels of informing data available. This is determined via QKNA in Snowden's Supervisor software. • Grade estimation was then undertaken, with the ordinary kriging estimation method considered as standard. There are no assumptions made about recovery. • Hard boundaries were applied to the units. Grade was estimated within these boundaries. • The resource was then depleted for mining voids and subsequently classified in line with JORC guidelines utilising a combination of various estimation derived parameters and geological / mining knowledge. • This approach has proven to be applicable to Metals X's assets. • Estimation results are routinely validated against primary input data, previous estimates and mining output. • There are no by-products • There are no deleterious elements other than occasional slightly elevated fluorine
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• The tonnages were estimated using density determined by copper content thus can be considered dry.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• Lithological boundaries are used to define sequence units with statistical grade assessment used for confirmation. • The resource reporting cut-off grade is 0.75% Cu for the sulphide resource and 0.4% Cu for the oxide.

Criteria	JORC Code Explanation	Commentary
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• Mining of this deposit is by long hole open stoping and has been demonstrated as being economically viable.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• The ore currently mined is processed on site to produce Cu concentrate. This has been successful over the life of the project and thus metallurgically the deposit is amenable to the method adopted.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• Metals X operates in accordance with all environmental conditions set down as conditions for grant of the respective mining leases.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• Determined by extensive testwork, density is applied based on oxidation intensity, stratigraphic unit and Cu grade (for copper grades in excess of 1% copper, a regressed density value has been calculated based on linear fit to the slope of the graph).

Criteria	JORC Code Explanation	Commentary
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The criteria used to categorise the Mineral Resources include the robustness of the input data, the confidence in the geological interpretation including the predictability of both structures and grades within the mineralised zones, the distance from data, and amount of data available for block estimates within the respective mineralised zones. • The input data is consistent and closely spaced enough to support the projection of the geological interpretation which in terms of style of mineralisation is consistent with other deposits within the same geological setting. Infill drilling programs have successfully confirmed previous wider spaced drilling in terms of geological and grade predictions. The estimated grade correlates well with the input data given the nature of the mineralisation. • The Mineral Resource estimate reflects the Competent Person's understanding of the Deposit.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• Resource estimates are peer reviewed by the site technical team as well as Metals X's Corporate technical team. The 2019 Mineral Resource Estimate has been externally audited by Cube Consulting who found no fatal flaws and deemed the estimation 'fit for purpose' for global mine planning.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• All currently reported resource estimates are considered robust, and representative on both a global and local scale. This is derived primarily through Metal X's understanding of the geology of the deposit and global mineralisation controls. • The statement relates to global estimates of tonnes and grade.

SECTION 4: ESTIMATION AND REPORTING OF ORE RESERVES

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

Criteria	JORC Code Explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• The Nifty 31 March 2019 Mineral Resource estimate for the Nifty Project is used as a basis for the conversion to the Ore Reserve estimate reported and was compiled by Metals X Limited (MLX) • Reported Ore Reserves are based on depleted resource models for Nifty. • Mineral Resources are reported inclusive of Ore Reserves.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The Competent Person is a full time senior Metals X Limited employee who visits the Nifty Mine Site on a regular basis and has been intimately involved in the development of the Ore Reserve.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *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.*	• Nifty is a mature underground mining operation, having been in operation in excess of 10 years. • The Ore Reserve estimate is based on an updated Life of Mine plan (LOM) based on 31 March 2019 Nifty block model that was used to compile the updated Mineral Resource estimate. • The LOM plan was developed by the MLX Technical Services group in conjunction with the MLX/Nifty Production Team. • The current operational activity performance demonstrates confidence that the project can achieve the mine plan and be operated in a technically sound and economically viable manner.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	• A starting Mine cut-off grade of 1.00% Cu was utilised & has been calculated based on the key LOM input components (mining rates, processing throughput, recovery and administration costs). • The inputs used to determine the cut-off grade were; • Copper price as per corporate guidance, applicable state royalties & current transport, treatment and refining costs. • Metallurgical parameters and recoveries are based on historical processing performance and metallurgical test work. • Mining costs are based on established owners' costs and current mining contractor rates for some development and stoping activities as per the current underground operation.

Criteria	JORC Code Explanation	Commentary
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).*	• Initial stope shapes have been created using the Datamine Stope Optimiser & the use of manually designed current stopes & current development designs. • The stope shapes were then individually inspected and where required, manually adjusted to reflect practical mining shapes. • A Mine design and a schedule were then completed and form the basis of the LOM plan.
	• *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.*	• Longhole open stoping, was considered the most appropriate mining method based on ore geometry, geotechnical and economic factors and has been successfully undertaken at Nifty for the past 12 years. • Stope voids where applicable will be filled with cemented paste fill.
	• *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.*	• There is considerable stoping experience at Nifty, which was used as the basis for the geotechnical assessment and mine design guidelines for all stopes in Nifty.
	• *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).*	• Standard and historical geotechnical parameters were used for all stope and mine designs.
	• *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.*	The Ore Reserve estimate is based on the (31 March 2019) Mineral Resource estimate prepared by MLX. • Unplanned stope dilution was estimated as 12%, this dilution factor has been applied globally for this Reserve process, ongoing stope reconciliation studies will be used to provide a regional and stope by stope dilution estimate for future studies. Historically dilution has been approximately 12% within the central zone of Nifty. • Mining recovery was set at 90% for all areas, based on historically estimated performance from within the Central zone of Nifty
	• *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.*	• No inferred material has been included.
	• *The infrastructure requirements of the selected mining methods.*	• The surface infrastructure to support the underground mine is already in place, such as accommodation camp, airport, haul roads, workshops, and offices.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.*	• The ore will be processed on site in the existing Nifty copper concentrator using conventional crushing, grinding, and flotation circuits. • The plant has a nominal feed capacity of ~3.0 Mtpa.
	• *Whether the metallurgical process is well-tested technology or novel in nature.*	• The Nifty processing plant has a long history of treating ore from the Nifty mine. • The metallurgical process is well established and tested.
	• *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.*	• Metallurgical testing of Nifty ore has been undertaken on underground samples. • An average metallurgical recovery of 92% was used in the LOM plan and is based on the historical recovery.

Criteria	JORC Code Explanation	Commentary
	• *Any assumptions or allowances made for deleterious elements.*	• The Nifty orebody contains only minor amounts of deleterious elements. The current sales contract has been utilized for modifying factors.
	• *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.*	• Not applicable, given established history of processing Nifty ore.
	• *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	• Not applicable, given established history of processing Nifty ore.
Environmental	• *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.*	• Mining and processing at Nifty are covered by current licenses. • The Nifty operation is located entirely within existing mining leases. • Waste rock from Nifty Underground is stored within the existing Nifty open pit. • Process tailings will be deposited in the existing Tailings Storage Facility (TSF).
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	• All necessary infrastructure to support mining operations at Nifty is in place. This includes a processing plant, offices and workshops, TSF and accommodation facilities. • Nifty currently has an owner's team and contractor labour to support existing and future operations. • Existing road infrastructure will continue to be used for transporting of concentrate. • Water supply for operations will continue to be provided through the existing water supply system. • Electrical power will continue to be provided from the site based gas power station.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.*	• As site infrastructure and underground mining operations are already established, the majority of capital costs relate to mine development & refreshing of current LOM infrastructure. • Mining capital costs are based on historical operational and contract mining costs. The mine development costs are based on mine physicals, current operational costs and a schedule-of-rates from the mining contractor currently at site.
	• *The methodology used to estimate operating costs.*	• Processing cost and administration costs are based on MLX employees undertaking these activities and are sourced from forecasts and historical data for Nifty
	• *Allowances made for the content of deleterious elements.*	• The Nifty orebody contains only minor amounts of deleterious elements. The current sales contract has been utilized for modifying factors.
	• *The derivation of assumptions made of metal or commodity prices(s), for the principle minerals and co-products*	• Single commodity pricing for copper only, using a long-term copper price of $7,850 AUD/tonne as per MLX corporate guidance.
	• *The source of exchange rates used in the study.*	• The exchange rate used to prepare the Ore Reserve estimate was based on MLX forecasts, USD to AUD of 0.72.

Criteria	JORC Code Explanation	Commentary
	• *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	• Concentrate transport charges are based on existing contracts. • Treatment and refining charges are based on existing contracts with MLX's main copper off-taker. • Royalties from the Western Australian Government of 5% are allowed for in the calculation of payable metal in concentrate.
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	• Production and recovery for revenue factors were sourced from the LOM schedule used as the basis for the Ore Reserve estimate. • Concentrate transport, smelting and refining charges are based on existing contracts. • As per MLX Corporate Guidance
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	• MLX has established markets for its products from Nifty.
Economic	• *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.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	• The Ore Reserves have been economically evaluated through a standard financial model. All operating and capital costs and revenue factors were included in the financial model. • A discount rate of 10% was used • Sensitivities were run on copper price, AUD and key operating costs
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• Nifty is an established mining operation located in Western Australia and maintains a social license to operate.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	• Nifty operates under a mining license granted in 1992 as part of a WA State agreement. • MLX has established markets for its products from Nifty.

Criteria	JORC Code Explanation	Commentary
Classification	• *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 proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	• The Classification of the Nifty Ore Reserve has been carried out in accordance with the JORC Code 2012 • The Results appropriately reflect the Competent Persons view of the deposit. • 77% of the Ore Reserve is in the Proved category and 23% of the Ore Reserve is in the Probable category.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• The Ore Reserve has been internally reviewed in line with MLX's governance standards for Ore Reserves and Mineral Resources. There have been no external reviews if this Ore Reserve estimate.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* • *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.* • *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.* • *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.*	• The Ore Reserve estimate is based on the latest Mineral Resource estimate (31 March 2019). • The design, schedule and financial model are based on the current Nifty operating LOM Plan • Previous mining has provided an understanding of rock mass conditions and the general underground environment. • The modifying factors used in the Ore Reserve estimate are based on current & historical mining performance at Nifty.