Northparkes Mines
A century of mining together

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## Memorandum – NPM Resources and Reserves Statement as at 31 December 2022

| | |
|---|---|
| **Date** | 04th December 2023 (from memo dated 13 January 2023) |
| **To** | Jianjun Tian, Glenn Person |
| **CC** | |
| **From** | Competent persons for Mineral Resources & Ore Reserves |

# 1. SUMMARY

This memo provides an overview of the annual statement of Northparkes Resources and Reserves as at 31 December 2022.

The Resource and Reserve estimates are completed using the latest approved block models, economic factors, reconciled mining production figures, processing and mining recoveries, and dilution. The estimates have been prepared by Competent Persons (CP) in accordance with the JORC Code 2012 and Northparkes Mines standards.

This statement (Resources-Reserves December 2022) reflects the best available information as at 31st December 2022.

A summary of the total Mineral Resources and Ore Reserves for Northparkes Mines 2022 is provided in Appendix A.

**Table 1:** Summary details of Northparkes Resources and Reserve as at 31st December 2022 compliant with JORC (2012).[1]

| 2022 Resources and Reserves | Million Tonnes[2] | Cu Grade % | Au Grade g/t |
|---|---|---|---|
| **Mineral Resources** | 526.9 | 0.55 | 0.19 |
| **Ore Reserves** | 101.4 | 0.53 | 0.27 |
| **Resources plus Reserves[3][4]** | 628.2 | 0.55 | 0.21 |

[1] Values in tables and figures reported to two decimal places for accounting purposes and do not imply that level of estimation precision. Totals may not balance exactly due to rounding

[2] Cut off grades as per table 2

[3] Total endowment is inclusive of Ore Reserves

[4] Mineral Resources are reported exclusive to Ore Reserves

## 2. RESOURCES UPDATE

A review of the updated economic assumptions determined that changes from 2017 assumptions were not of sufficient magnitude to warrant re-estimation of Resource cut-offs. The December 31, 2022, reported Mineral Resource use the below listed cut-off grade (COG) assumptions:

**Table 2** Cut-off grade assumptions

| Orebody Resources | Cut off Used |
|---|---|
| E26 Lift 2 | $40NSR |
| E26 Lift 3 | 0.4% eCu inside a $16/t cave shape. |
| GRPL1 and L2 | 0.4% eCu inside a $16/t cave shape. |
| MJH | 0.0 eCu Cut off on proposed 2022 cave shape ($25/t) |
| E22 | 0.35 eCu Cut off on volume outside prefeasibility cave shape |
| | |

Northparkes has reported historic Resources at E26 L3, E48 L2, GRP L1and GRP L2 based on the Step Change Project studies completed in 2013.

New resource drilling at E26 MJH supported a new block model and order of magnitude study. A preliminary mine design has added 42.0Mt of resource at 0.57% Cu and 0.11g/t Au although some of this volume replaces the historical L2NN reserve. The preliminary mining schedule in the OoM study suggests a potential reserve of 42.6Mt at 0.54% Cu and 0.10g/t Au.

No changes have been made to the E22 resource and the E26L2 remnant.

Resources at E44 remain unchanged from 2021. The additions to E31 Sulphide Resources is material within optimised pit designs but outside of approved mining designs.

The changes to tonnes and copper metal contained in the Resource are shown below.

**Table 3** Current Resources and variance by orebody from reported 2021 Resources.

| Resource | 2021 | | | Variance | | | 2022 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Tonnage (Mt) | Cu (%) | Au (g/t) | Tonnage (Mt) | Cu (%) | Au (g/t) | Tonnage (Mt) | Cu (%) | Au (g/t) |
| E22 | 15.39 | 0.41 | 0.26 | - | - | - | 15.39 | 0.41 | 0.26 |
| E48L1 | 0 | 0.0 | 0.0 | - | - | - | 0.00 | 0 | 0 |
| E48L2 | 157.60 | 0.53 | 0.22 | - | - | - | 157.60 | 0.53 | 0.22 |
| E26L2 | 11.48 | 0.78 | 0.15 | - | - | - | 11.48 | 0.78 | 0.15 |
| E26L3 | 161.60 | 0.59 | 0.15 | - | - | - | 161.60 | 0.59 | 0.15 |
| GRP314L1 | 45.20 | 0.58 | 0.13 | - | - | - | 45.20 | 0.58 | 0.13 |
| GRP314L2 | 81.30 | 0.55 | 0.19 | - | - | - | 81.30 | 0.55 | 0.19 |
| MJH | 0 | 0.0 | 0.0 | 42.04 | 0.57 | 0.11 | 42.04 | 0.57 | 0.11 |
| E44 Sulphide | 7.59 | 0.03 | 1.42 | - | - | - | 7.59 | 0.03 | 1.42 |
| E44 Oxide | 1.16 | 0.03 | 0.98 | - | - | - | 1.16 | 0.03 | 0.98 |
| E31 - Sulphide | 0 | 0.00 | 0.00 | 2.34 | 0.42 | 0.37 | 2.34 | 0.42 | 0.37 |
| E31 - Oxide | 0 | 0.0 | 0.0 | - | - | - | 0 | 0.00 | 0.00 |
| E31N - Sulphide | 0.00 | 0.00 | 0.00 | 1.07 | 0.28 | 0.54 | 1.07 | 0.28 | 0.54 |
| E31N - Oxide | 0.1 | 0.24 | 0.67 | - | - | - | 0.1 | 0.24 | 0.67 |
| **NPM Total** | **481.42** | **0.55** | **0.20** | **45.45** | **0.55** | **0.13** | **526.86** | **0.55** | **0.19** |

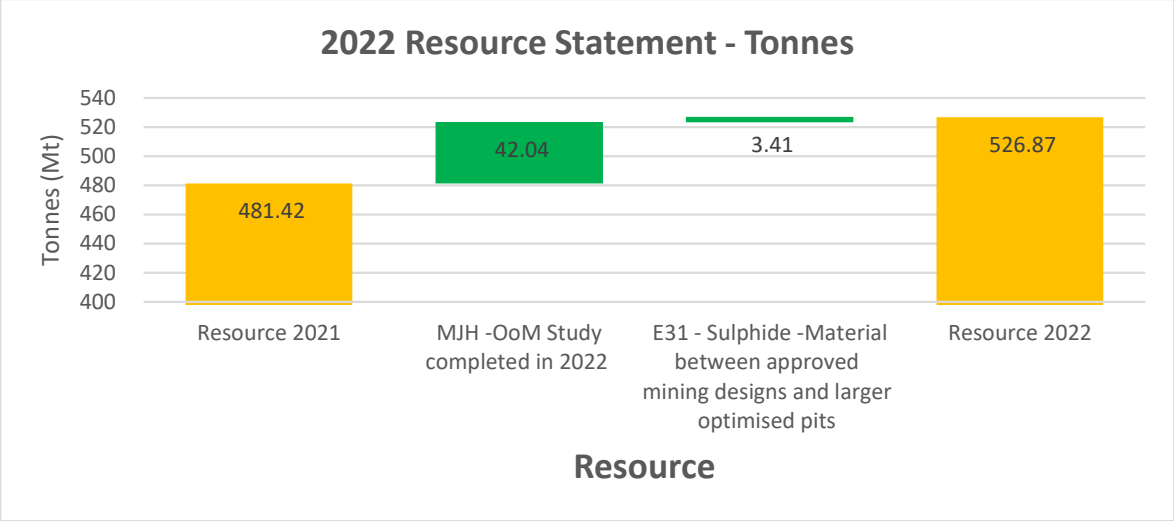


**Figure 1 :** Waterfall chart accounting for variance Resources between 2021 & 2022 statement – Tonnes

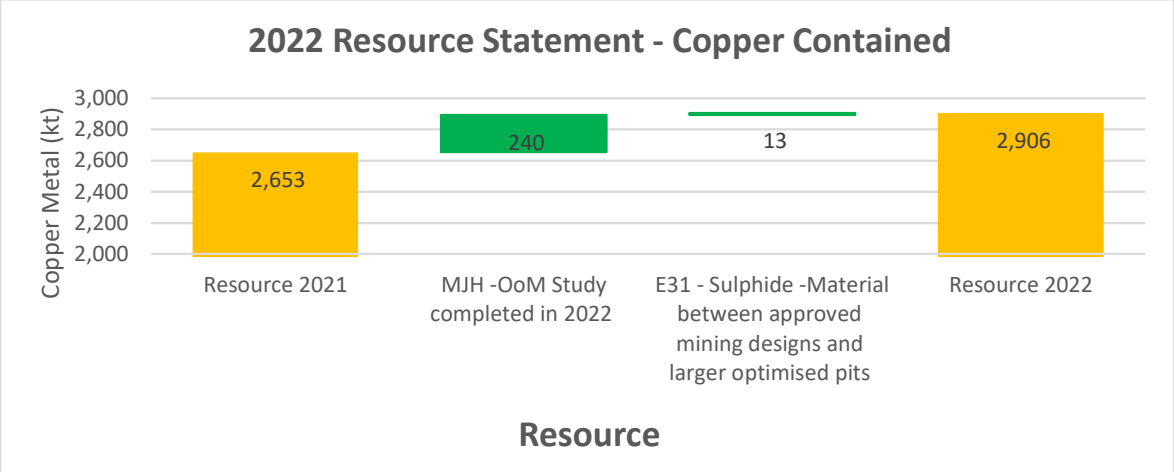


**Figure 2** Waterfall chart accounting for variance in Resources between 2021 & 2022 statements

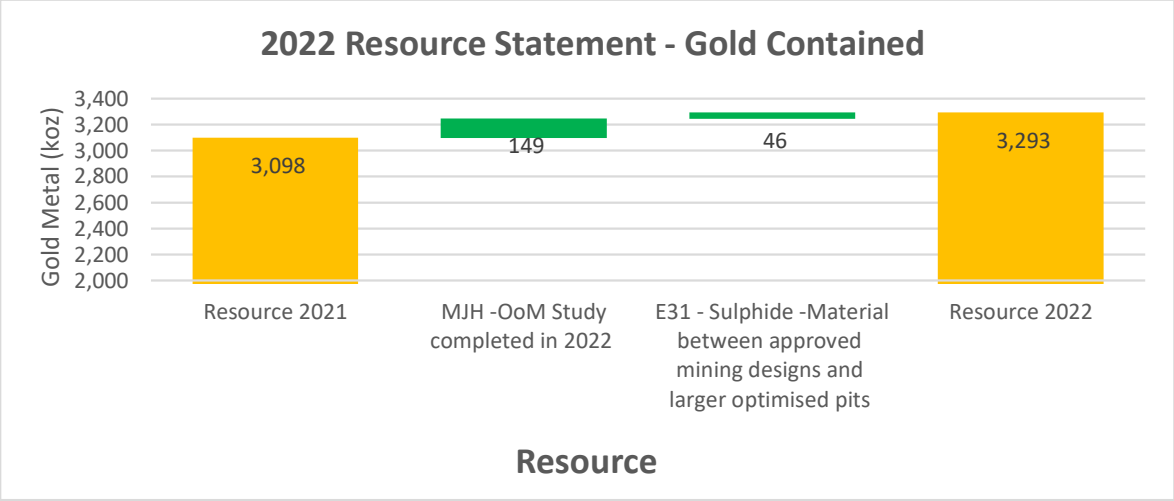


**Figure 3** Waterfall chart accounting for variance in Resources between 2021 & 2022 statements

# 3. RESERVES UPDATE

Production depletion from mining has been applied to both E26 and E48 and there was also Reserve depletion for E22 Open Cut Stockpiles due to stockpile material fed from the ROM pad. E26 Lift 2 reserve has been removed and may be incorporated into future studies with MJH as mineralised dilution. The main changes are:

- E48 Reserve depletion due to production of -3.25Mt at 0.38%Cu and 0.07 g/t Au.
- E48 Reserve adjustment based on current PCBC modelling and alignment to the production plan assumptions (-6.62Mt at 0.45%Cu and 0.12g/t Au.)
- E26 Reserve depletion due to production from the E26 Lift 1 North (L1N) of –2.71Mt at 0.62% Cu and 0.14 g/t Au.
- E26 Reserve adjustment due to E26 Lift 2 blending removed from reserves and partially included in MJH resource. MJH drilling and OoM study completed in 2022 indicated a downgrade of the western part of L2NN. The approach is to include the remaining L2NN footprint with the MJH footprint and old cave material (L2 blending) will be considered in PFS as mineralised dilution (-12.43Mt at 0.69% Cu and 0.16 g/t Au).
- E31N Sulphide adjustment due to updated design to V7E pit design vs V7D pit design last year. Cut-off grade brought down to 0.34%eCu to include additional 1.0Mt LG material. Balance between v7E and v12B (larger) design has been added to Resources.
- E31 Sulphide adjustment due to cut-off grade being reduced to 0.495%eCU to include additional 0.9Mt LG material.
- Stockpile Reserve adjustment due to stockpiling of E31 Open pit material during procurement of waste material for tailings dam construction of 0.02Mt at 0.50%Cu and 0.37 g/t Au.

The changes are shown in tables and figures below:

| **Reserve** | **2021** | | | **Variance** | | | **2022** | | |
|---|---|---|---|---|---|---|---|---|---|
| | Tonnes (Mt) | Cu (%) | Au (gpt) | Tonnes (Mt) | Cu (%) | Au (gpt) | Tonnes (Mt) | Cu (%) | Au (gpt) |
| E22 | 42.35 | 0.52 | 0.39 | 0.00 | 0.00 | 0.00 | 42.35 | 0.52 | 0.39 |
| E26 2021 | 55.41 | 0.63 | 0.11 | | | | | | |
| E26L2 Adjustment | | | | -12.43 | 0.69 | 0.16 | | | |
| E26L1N Production | | | | -2.71 | 0.62 | 0.14 | | | |
| E26 2022 | | | | | | | 40.27 | 0.62 | 0.09 |
| E48 2021 | 11.23 | 0.41 | 0.10 | | | | | | |
| E48 Production | | | | -3.25 | 0.38 | 0.07 | | | |
| E48 Adjustment | | | | -6.62 | 0.45 | 0.12 | | | |
| E48 2022 | | | | | | | 1.35 | 0.29 | 0.05 |
| Open Pit 2021 | 10.83 | 0.37 | 0.53 | | | | | | |
| E31N - Sulphide Adjustment | | | | 1.03 | 0.21 | 0.39 | | | |
| E31 - Sulphide Adjustment | | | | 0.94 | 0.31 | 0.22 | | | |
| Open Pit 2022 | | | | | | | 12.80 | 0.35 | 0.50 |
| Stockpile 2021 | 6.19 | 0.34 | 0.19 | | | | | | |
| Stockpile Production | | | | -1.64 | 0.40 | 0.24 | | | |
| Stockpile Adjustment | | | | 0.02 | 0.50 | 0.37 | | | |
| Stockpile 2022 | | | | | | | 4.58 | 0.33 | 0.17 |
| **NPM Total** | **126.01** | **0.54** | **0.24** | **-24.66** | **0.59** | **0.13** | **101.35** | **0.53** | **0.27** |

**Table 4:** 2022 variance by orebody from reported 2021 Reserves

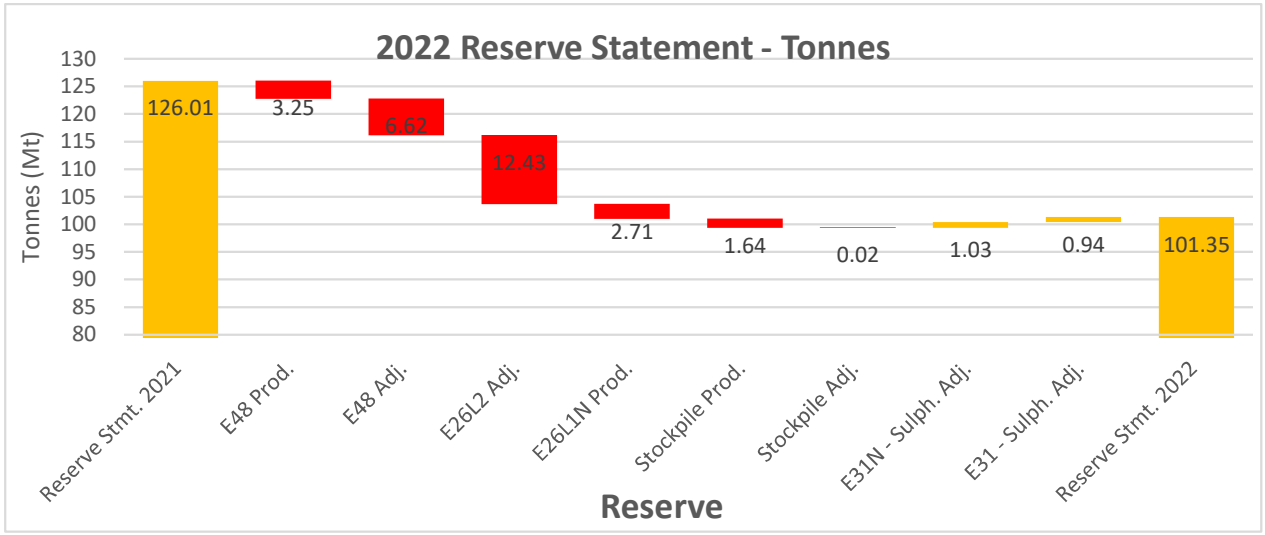


**Figure 4 2022** Waterfall chart accounting for Reserves variance between 2021 & 2022 statement – Tonnes

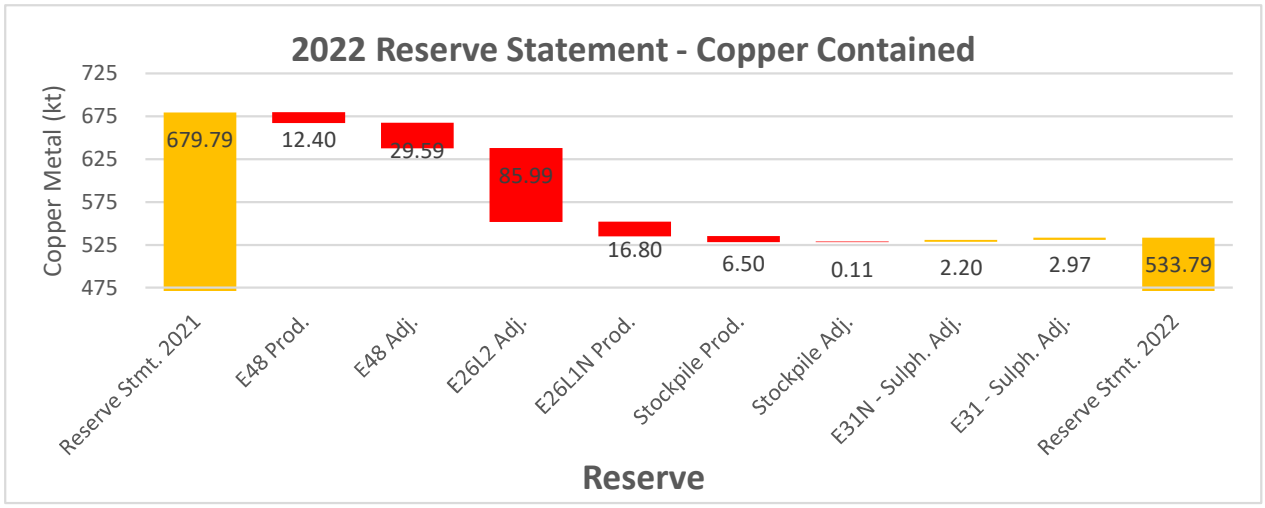


**Figure 5** 2022 Waterfall chart for Reserves variance between 2021 & 2022 statement – Copper Contained

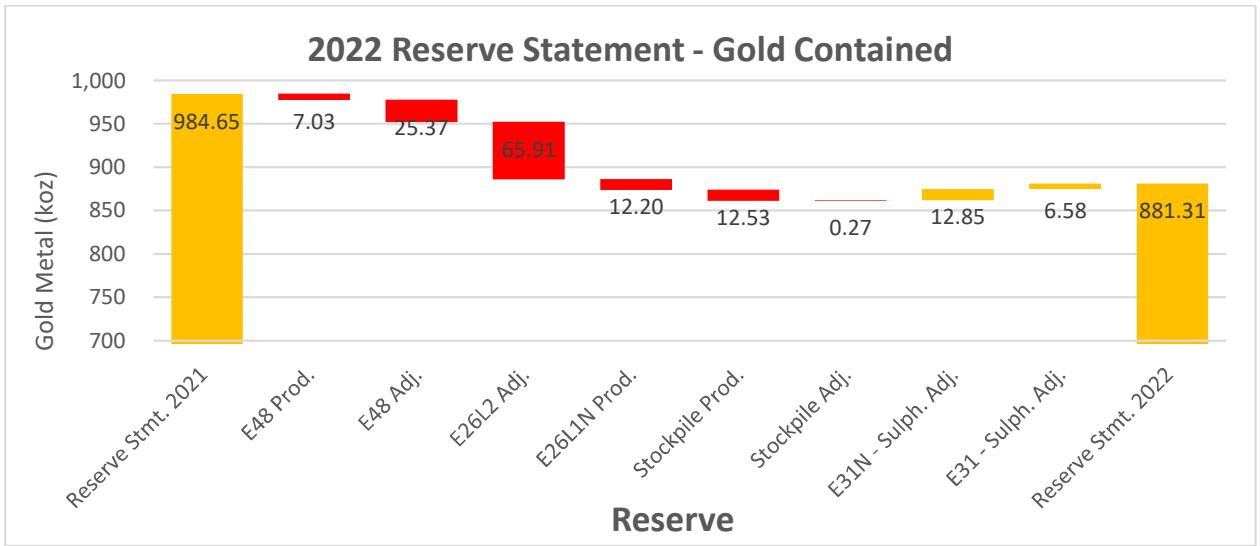


**Figure 6** 2022 Waterfall chart for Reserves variance between 2021 & 2022 statement – Gold Contained

### 3.1 Reserves Pricing Assumptions

Long-term price assumptions are in accordance with guidance from CMOC head office in 2021. No update to the price assumptions has been provided for 2022.

Reserve pricing assumptions were based on the following guidance:

- Copper price of US$3.00/lb
- Gold price of US$1,350/oz
- Exchange rate of 0.73 US$/A$

The 2021 and 2022 Reserves and Resources statement tables are shown in the Appendix A.

## 4. PROPERTY DESCRIPTION LOCATION AND ACCESS

Northparkes is operated by CMOC on behalf of the Northparkes Joint Venture, an unincorporated joint venture between CMOC (80%), SC Mineral Resources Pty Ltd. (6.7%) and Sumitomo Metal Mining Oceania Pty Limited (13.3%) (the latter two collectively, ''Sumitomo''). Northparkes operates block cave and open cut mines and an ore processing plant located 27 km north of Parkes in central New South Wales, Australia. Northparkes, which is accessible via paved road, is located at an elevation of 280 m above sea level on the plains to the west of the Great Dividing Range, in the headwaters of the Bogan River, which is part of the Murray Darling Basin. The land surrounding the operations is mainly used for farming. Annual rainfall is in the range of 400 - 1000 mm (average 600 mm).

Northparkes comprises the mining licenses ML1247, ML1367, ML1641 and ML1743, which are enclosed by the exploration licenses EL5323, EL5800, EL5801 and EL8377. The mining licenses are valid and have renewals due between 2029 and 2039 and the exploration licenses are valid and have renewals due between 2023 and 2024. Northparkes owns 6,000 ha of land around the mine, of which the mining leases cover 1,630 ha. The remaining land is actively farmed.

A four percent royalty is payable to the Government of the State of New South Wales and is calculated on an ex-mine basis, less allowable deductions, which include, inter alia, treatment and refining charges, on-site treatment, processing, marketing and penalties.

## 5. GEOLOGY AND GEOLOGICAL INTERPRETATION

The Northparkes deposits occur within the Ordovician Goonumbla Volcanics of the Goonumbla Volcanic Complex and Wombin Volcanics. The Goonumbla Volcanics form part of the Junee-Narromine Volcanic Belt of the Lachlan Orogen and consist of a folded sequence of trachyandesitic to trachytic volcanics and volcaniclastic sediments that are interpreted to have been deposited in a submarine environment.

The Goonumbla Volcanics at Northparkes have undergone little deformation, with gentle to moderate bedding dips as a result of regional folding. The dominant structure observed to date in the Northparkes area is the Altona Fault, an east-dipping thrust fault, which truncates the top of E48 and GRP314 and is known to extend from east of E26 north through E27.

The porphyries form narrow, typically less than 50 m in diameter, but vertically extensive (greater than 1,000 m) pipes. Mineralization extends from the porphyries into their host lithology. The current life-of-mine plan is focused on five porphyries, referred to as E26, E48, E22, E31 and GRP314; in addition to these zones, numerous other mineralized porphyries exist across the district. The deposits are hosted within both the Goonumbla and Wombin Volcanics, with mineralization-related intrusive rocks effectively forming part of the latter. A schematic depiction of the mineralization and major rock types encountered at Northparkes is shown in Figure 7.

Sulfide mineralization occurs in quartz stockwork veins, as disseminations and fracture coatings. Highest grades are generally associated with the most intense stockwork veining. Sulfide species in the systems are zoned from bornite-dominant cores, centered on the quartz monzonite porphyries, outwards through a chalcopyrite-dominant zone to distal pyrite. As the copper grade increases (approximately > 1.2 per cent copper), the content of covellite, digenite and chalcocite associated with the bornite mineralization also increases. Gold normally occurs as fine inclusions within the bornite; due to the intimate relationship with bornite, visible gold tends to occur within the highest-grade zones of the central portion of the deposit. A small portion of gold mineralization does not appear to be directly associated with copper sulphide minerals. Silver is associated with copper sulphide minerals and is present in solid solution and as inclusions of silver-bearing tellurides and electrum. Copper to-gold ratios differ between the different deposits and within individual deposits.

All of the Northparkes deposits are cross-cut by late faults/veins filled with quartz-carbonate and minor gypsum, anhydrite, pyrite, tennantite, chalcopyrite, sphalerite and galena, the associated sericite alteration can extend up to 10 m from the faults. Tennantite, which contributes arsenic to the final copper concentrate, is present in higher concentrations in the E48 deposit.

Oxide mineralization blankets were well developed over the E22 and E27 deposits. The upper blanket was gold-rich and copper-poor. The lower blanket was enriched in copper by supergene processes. The dominant copper oxide minerals at E22 and E27 were copper carbonates (malachite and azurite) and phosphates (pseudomalachite and libethenite) with lesser chalcocite, native copper, cuprite and chrysocolla. A gold-poor, less well developed, supergene copper blanket was also developed over the E26 deposit. At E26 the oxide copper minerals included atacamite, clinoatacamite and sampleite, in addition to those copper minerals observed in E22 and E27.

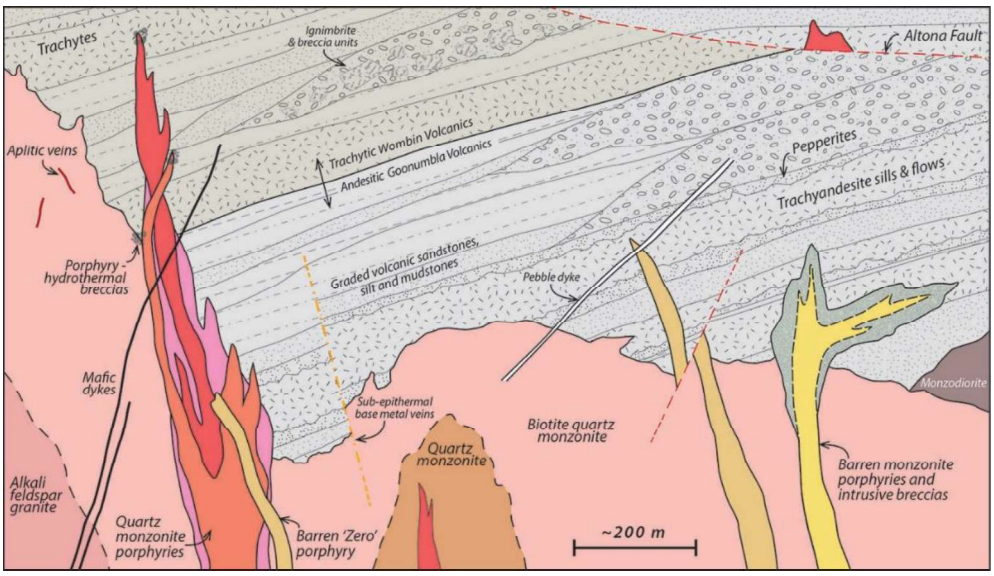


**Figure 7** Schematic depiction of the mineralization and major rock types encountered at Northparkes)

## 6. DRILLING TECHNIQUES

The Northparkes deposits are defined by a series of diamond drill core and reverse circulation drilling intercepts; the majority of diamond drill core is drilled as oriented core. The majority of the Mineral Resource is supported by drill core. Comprehensive downhole geophysical data is collected via several methods, which includes acoustic televiewer, full waveform and multichannel sonic; density, Gamma-Gamma, dual resistivity and dipmeter. All diamond drill core, reverse circulation, air core, or grab sample logging is captured electronically with AcQuire software to be ultimately housed within the master AcQuire database.

# 7. SAMPLING, ANALYSIS AND DATA VERIFICATION

Sampling of diamond drill core involves sawing samples to obtain half core which is then sampled on two-meter lengths for assay. The other half of the core is retained onsite although some samples may be utilized for metallurgical test work.

Reverse circulation samples are collected through a cone splitter at the drill rig. Samples are collected over a two-meter length, similar to core samples. A duplicate sample is taken at a minimum frequency of 1 in 20 to assess field sampling error.

Samples are sent for sample preparation and Au by fire assay analysis to ALS laboratories in Orange, New South Wales. Analysis for a 48-element suite, including Cu and other base metals, is undertaken by ALS laboratories in Brisbane, Queensland. Samples are received and dried at 105°C for 24 hours in a thermostatically controlled, gas fired oven. All samples are then crushed with 2.5 kg to 3 kg rotary divided off for pulverizing. 1 in 20 samples is checked for sizing (80% passing 2mm) as a quality control. A duplicate sample is also collected at this stage of the process at a rate of 1 in 20. The sample is then pulverized and 300 grams sub-sampled and sent for assaying. The pulverized sample is checked to ensure that 90% passed 75µm and duplicates are collected at a rate of 1 in 20.

The initial assay method for Au utilizes a trace method fire-assay where 30 grams of pulp is fused in a lead collection fire assay. The prill is digested in aqua-regia and the gold content determined by AAS. The range of this technique is 0.002 to 1ppm. Over-range values are re-analysed using an ore-grade method. The range of the ore-grade analysis is 0.01 to 100ppm.

The assay for base metals uses a 48-element suite (ME-MS61). A sub-sample of the pulp is digested using a HF/multi acid 'Near-Total' digest. Analytes tested are: Ag, Al, As, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Fe, Ga, Ge, Hf, In, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Rb, Re, S, Sb, Sc, Se, Sn, Sr, Ta, Te, Th, Ti, Tl, U, V, W, Y, Zn & Zr. An ''Ore Grade'' OG62 analysis is used to re-assay samples for Cu, for samples assaying higher than 0.4% Cu in the method outlined above. This technique is also a four-acid digest, with ICP-AES or AAS finish.

Assay results are reported electronically to Northparkes via email. Where re-assaying due to failed quality assurance and quality control occurred, the laboratory is required to report the whole batch to Northparkes (including the samples not re-assayed). QA/QC data are reviewed and monitored on a continuous basis.

A comprehensive independent quality control program is implemented by Northparkes as a standard part of each drilling programme, which includes standards, blanks and duplicate samples. A suite of matrix matched Northparkes standards are utilized. Each standard is selected by the logging geologist to match the appropriate level of Cu, Au, and As. Standards are inserted into sample batches at a minimum rate of 1:20. Blanks are also inserted into batches at the rate of 1:20 and consist of locally sourced basalt gravel. Duplicate samples are taken at various stages of sample preparation to assess sampling error; these comprise coarse field duplicates splits of RC samples (1:10); duplicate samples collected after crushing and pulverizing (1:20); internal laboratory repeats (1:20) of samples from the same pulp packet and within the same sample batch; and half core duplicates (1:100).

Dry bulk density is measured using two different methods on the same sample — the calliper method (diametric) and a water displacement (immersion) method. Measurements are generally taken at 20 m intervals downhole on diamond drill core. Samples are prepared by cutting 20 cm cylinders of core, rejecting those where substantial chipping occurred when cutting the ends. Samples are weighed after drying in air and then oven dried overnight (~12 hrs.) at around 105°C. The oven dried samples are then cooled and weighed to determine the dry sample weight. Calliper bulk density measurements are compared with water displacement measurements as a verification step. In the case of samples where the absolute percentage difference between the two methods is more than 5%, the method closest to 2.68 t/m3 (the average value) is selected as the preferred method, effectively rejecting any erroneous values. For estimation, density values less than 2.40 t/m3 are excluded and values greater than 3.00 t/m3 are cut to 3.00 t/m3.

# 8. ESTIMATION METHODS

Methods have remained consistent over many years. All of the reported estimates at NPM were done by H&S Consultants utilising Ordinary Kriging (OK) of drill hole assay composites with the exception of E44 where Multiple Indicator Kriging (MIK) was used. OK is considered appropriate for most models because of generally low coefficients of variation in the composites, few extreme outliers and good spatial grade continuity in the main value elements: copper and gold. Because of this top capping of grades is rarely necessary.

Estimation domains are based on mineralisation style (e.g. oxide vs primary) and similarities of exploratory population statistics which generally results are an almost unconstrained estimate due to the fact that mineralisation is not limited to a particular rock type or within "hard" geological boundaries. Late stage barren porphyries are an exception to this.
Variography on the major elements Cu, Au, Ag, and As is used to guide sample search ellipse dimensions and orientations tempered with the interpreted plunges and extents of mineralisation envelopes. Maximum extrapolation distance is "somewhat less than the maximum search radii". (A. van der Heyden, 2021)

All new estimates are compared to previous estimates if available and attempts made to explain reasons for differences.

Gold and silver are assumed to be recovered as by-products of copper for which the processing plant is currently optimised for. They are estimated separately to copper as the correlation varies from place to place.

Several potentially deleterious elements have been estimated separately in most models, see below although the most common is As which is included as a major modelling element.

Block size is generally 20x20x20m but may be 10x10x20 in well drilled resources. This equates to between one half and one fifth the nominal drill hole spacing which is the main driver of resource confidence category and considered appropriate for porphyry copper deposits mined by block or sub-level cave and open-pit.

Although most of the underground deposits are modelled for block cave mining where the block size is related to nominal drawpoint spacing and draw column dimensions, the mining unit is not selective like in most stoping or open cut mining methods. For the open pit deposits SMUs are chosen based on the latest mining study recommendations.

Estimates are validated by visual comparisons of block and drill grade data, summary statistics comparisons, grade swath plots, grade tonnage examination, comparisons with previous estimates and models and with any mill reconciled production data if available.

**E22**

- Potentially deleterious elements estimated in primary domain only: As, Sb, Bi, Fe, Pb, Zn, S, Mn, Mo, Se and P. As also estimated in oxide domains.
- Three estimation domains: oxide, primary upper (pencil porphyry dominated) and primary lower (broad disseminated stock hosted) relating to style of mineralisation and interpreted geology.
- Minimal top cutting in these elements which showed skewed populations at around the 99.9$^{th}$ percentile: Sb, Pb, Zn, and S. Isolated outlier Au assays reset to 2.5g/t and As to 500ppm to limit grade smearing.
- Au variogram is sensitive to high variance.
- Most variables estimated unconstrained within primary zone with the exception of the barren "zero porphyries" which were estimated separately along with the oxide and Altona Fault zones.

**E26:**

- The primary zone is divided into two estimation domains: pencil porphyry dominated and lower broad disseminated stock hosted. The oxide zone combines sub-horizontal saprolite and oxidised sub-zones. Elements in the small Altona fault zone at the top eastern corner of the model, were not estimated in the latest block model update (June 2020) because no new drilling intersected this zone.
- Minimal top cutting at around the 99.9$^{th}$ percentile was only applied to elements with a significantly skewed population: As, Bi, Sb, and Zn.
- Estimation within the primary or oxide zones was unconstrained but zero and half porphyries were estimated separately.
- A three pass estimation using searches as follows:
  1. 40x40x80m search ellipse, 16-40 samples, min 4 octants informed
  2. 80x80x160m search ellipse, 16-40 samples, min 4 octants informed
  3. 160x160x320m search ellipse, 8-40 samples, min 4 octants informed
- Major elements Cu Au Ag and As estimated with soft boundaries between the two primary domains and a hard boundary between oxide and primary.
- Z axis of search 80$^{o}$ > 015$^{o}$ for Domain 1, 75$^{o}$ > 325$^{o}$ for Domain 2 and horizontal for the oxide domain.
- The 2020 model was compared with previous models and the slight increase in grade explained by the new drilling results in the L2 east area. Reconciliation of mined areas indicates the estimation method is good.
- Potentially deleterious elements estimated in primary domain only: As, Sb, Bi, Fe, Pb, Zn, S, Mn, Mo, Se and P. As also estimated in oxide domains.
- The model uses 10x10x20m blocks compared to the nominal drill spacing of 40x40x80m. This is considered appropriate, though on the small end of the range, for this deposit.
- Although each element is estimated separately, correlation between some elements is preserved through use of their similar variography.
- All the validation checks indicate the model is good, allowing for the smoothing effect of kriging and the clustering of drill data.

**E28/E28NE:**

- The primary zone is divided into five estimation domains based on deposit locations and drilling density. The high grade massive quartz pods were also treated as a separate domain. The oxide zone contains sub-horizontal saprolite and oxidised sub-zones estimated with soft boundaries.
- Minimal top cutting at around the 99.8 to 99.9$^{th}$ percentile was only applied to elements with a significantly skewed population: As, Bi, Sb, and Zn.
- Drill samples were composited to nominal 2m lengths honouring domain boundaries.
- Estimation was only done above the Altona fault.
- Four pass estimation of primary domain using variography Y axis plunging 20$^{o}$ > 135$^{o}$ with searches as follows:
  1. 35m search sphere, 16-40 samples, min 4 octants informed

2. 70m search sphere, 16-40 samples, min 4 octants informed
3. 105m search sphere, 8-40 samples, min 4 octants informed
4. 105m search sphere, 8-40 samples, min 2 octants informed

- Oxide domains used same expansions as above but with 10m initial z radius.
- Quartz blow and half porphyry hard boundary domains used oxide search with Y axes plunging 70° > 000° and 66° > 070° respectively.
- There are no previous JORC compliant estimates or production data to compare the current resource with.
- Potentially deleterious elements estimated in primary domain only: As, Sb, Bi, Fe, Pb, Zn, S, Mn, Mo, Se and P. As also estimated in oxide domains.
- Dry Bulk Density was assigned to the model based on global averages for rock types and with respect to other NPM deposits, as there were insufficient samples for direct estimation.
- Block size is 12.5x12.5x5.0m represent the SMU. Drill spacing is twice that at E28NE but sparser at E28. The 5m z height is to match the proposed pit bench height.
- All the validation checks indicate the model is good, allowing for the smoothing effect of kriging and the clustering of drill data.

**E31:**

- Hard primary domain boundaries were used but the oxide zone was estimated with soft boundaries.
- No grade cutting was applied
- Drill samples were composited to nominal 2m lengths honouring domain boundaries.
- Three pass estimation of primary domain using variography orientations as follows:
    1. 35m search sphere, 16-40 samples, min 4 octants informed
    2. 70m search sphere, 16-40 samples, min 4 octants informed
    3. 105m search sphere, 8-40 samples, min 4 octants informed

- There are no previous JORC compliant estimates or production data to compare the current resource with, but it was found to be broadly consistent with the 2013 order of magnitude model.
- Potentially deleterious elements estimated in primary domain only: As, Sb, Bi, Fe, Pb, Zn, S, Mn, Mo, Se and P. As also estimated in oxide domains.
- Dry Bulk Density was assigned to the model based on global averages for rock types and with respect to other NPM deposits, as there were insufficient samples for direct estimation.
- Block size is 20x20x20m for sparsely drilled volumes. In parts of E31 where drilling is nominally 50x50m a block size of 20x10x20m was used and at E31N where drilling is 25x25m blocks 10x10x5m and matches the SMU.
- All the validation checks indicate the model is good, allowing for the smoothing effect of kriging and the clustering of drill data.

**E37:**

- Estimation was unconstrained except by primary deposit geography, but the zero porphyries were estimated separately. The oxide zone was estimated with soft boundaries.
- Due to a lack of data, the variography from E37 was applied to E37W and Veedas estimations.
- No grade cutting was applied as there are no strongly skewed populations.
- Drill samples were composited to nominal 2m lengths honouring domain boundaries.
- Three pass estimation of primary domain using variography orientations as follows:
    1. 25x25x50m search ellipse, 16-40 samples, min 4 octants informed
    2. 50x50x100m search ellipse, 12-40 samples, min 4 octants informed
    3. 100x100x100m search ellipse, 8-40 samples, min 4 octants informed

- The oxide zone used a flat search with initial radii of 50x50x12.5m and was rotated to plunge 82°>200° for the zero porphyries.

- There are no previous JORC compliant estimates or production data to compare the current resource with. A simple inverse distance model created in 1998 contained similar Cu metal though varied in tonnage and grade by around 20%.
- Potentially deleterious elements estimated in primary domain only: As, Sb, Bi, Fe, Pb, Zn, S, Mn, Mo, Se and P. As also estimated in oxide domains.
- Dry Bulk Density was assigned to the model based on global averages for rock types and with respect to other NPM deposits, as there were insufficient samples for direct estimation.
- Block size is 10x10x10m compared to the densest drill spacing of 20x20m. The vertical dimension is a compromise between expected bench height of 5m and the vertical continuity.
- All the validation checks indicate the model is good, allowing for the smoothing effect of kriging and the clustering of drill data.
-

**E44:**

- Estimation was constrained by hard domain boundaries. The oxide zone was estimated with the primary and surficial cover estimated with a hard boundary.
- Gold was estimated by recoverable Multiple Indicator Kriging (MIK) and all other elements by Ordinary Kriging (OK). Gold shows a high coefficient of variation so was not amenable to linear estimation. The mean of each bin was used except for the top bin which used the average of the mean and median as is common practice.
- A small amount of grade top cutting (at the 99.9$^{th}$ percentile) was applied to all OK estimates as there were several mildly skewed populations.
- Drill samples were composited to nominal 2m lengths honouring domain boundaries.
- Four pass estimation of primary domain for MIK using variography orientations as follows:
    1. 35m max search ellipse, 16-40 samples, min 4 octants informed
    2. 70m max search ellipse, 16-40 samples, min 4 octants informed
    3. 105m max search ellipse, 16-40 samples, min 4 octants informed
    4. 105m max search ellipse, 8-40 samples, min 2 octants informed
- The OK estimations used the same searches with all domains orientated according to their variography.
- The resource is similar to previous estimate done in 2018 except for the impact of recent drilling. There is no production data to compare the current resource with. The MIK estimate was comparable with both a top cut OK and an E type estimate also completed by H&S.
- It has been assumed that Ag, Pb, Zn and Cu could be recovered as by-products of the Au.
- Of the potentially deleterious elements common in the NPM deposits only As was estimated.
- Density was estimated by OK.
- Block size is 12.5x12.5x10m which represents approximately half the drill spacing. An SMU of 5x5x5m is assumed.
- All the validation checks indicate the model is good, allowing for the smoothing effect of kriging and the clustering of drill data.

**E48:**

- As most lithological/alteration contacts are not recognised in grade estimation, the wireframe modelling is not sensitive to snapping to drill holes.
- Modelling approach consistent with grade behaviour at contacts as observed in contact plots (Cu). Does not result in smearing of grade from high grade areas to low grade areas
- Constraint by a grade shell was attempted to create a sharper grade boundary in estimate, but the reduced smearing was not a significant improvement on current approach so was not used for resource reporting.
- No top cutting applied to Cu data, but a small number of Au and Ag assays were top cut.
- There is a steady decrease in data density vertically, with number of data on base level of Lift 2 cave 20% of what it is at top of cave.

**GRP314:**

All elements were estimated by ordinary kriging using updated variography.

The primary zone below the AFZ was divided into 2 domains based on location - the main central GRP314 domain (1) and the smaller Nerrad prospect to the SE (2). The oxide and transition zones were defined separately but combined into a single oxide domain for grade estimation. The primary zone above the AFZ was treated as a separate domain.

Grade top cutting for major elements with strongly skewed grade distributions, specifically Ag and As, which were cut at around the 99.9$^{th}$ percentile. No grade cutting was applied to the minor elements but might be considered in future.

Samples were composited to nominal 4.0m intervals for estimation, with a minimum length of 1.99m, honouring domain boundaries.

A three-pass search strategy was used for the estimation of the major elements in the primary domain:

1. 40x80x80m search, 16-40 samples, minimum of 4 octants informed
2. 80x1600x160m search, 16-40 samples, minimum of 4 octants informed
3. 160x320x320m search, 8-40 samples, minimum of 4 octants informed

Estimates in primary mineralisation below the AFZ were unconstrained, with soft boundaries between GRP314 and Nerrad and a hard boundary to the AFZ and oxide. Similarly, the oxide and primary zones above the AFZ were also estimated separately with hard boundaries to adjacent domains. Initial radii were 80x80x20m with the same numbers of samples and radii expansion factors as the primary domains. The oxide search was flat and unrotated, while the primary zone above the AFZ dipped 20°>060°. Only the major elements (Cu, Au, Ag & As) were estimated above the AFZ.

The maximum extrapolation distance will be somewhat less than the maximum search radii.

The 2021 model was compared to the previous estimates completed in 2013 for GRP314 and 2019 for Nerrad. Tonnage is effectively unchanged due to the fixed volume of the cave designs used for reporting and no significant change in density. Grades have decreased slightly at GRP314 but are effectively unchanged at Nerrad.

There has been no production from the GRP314 deposit, so there is no reconciliation data available.

It is assumed that Au and Ag will be recovered as by-products – these elements have been estimated independently of Cu for all domains.

A range of potentially deleterious elements have also been independently estimated. The most important of these is arsenic, which was estimated for all domains.

Density was estimated directly into the model from the drill hole samples, using a similar methodology to the other attributes; data values were cut to remove values outside the range of 2.40-3.00t/m$^3$ in the primary domains. Fewer samples were used in the density estimates because density samples are wider spaced than assays.

Block size is 20x20x20m, identical to previous estimates. The nominal drill hole spacing in the better drilled parts of the deposit is 40x40m in the plane of mineralisation, while the initial search radii were 40x80x80m. A block size one half to one quarter the hole spacing is considered appropriate for this type of deposit and the proposed mining method.

No assumptions are made regarding the correlation of variables during estimation as each element is estimated independently.

The new model was validated in a number of ways – visual comparison of block and drill hole grades, statistical analysis (summary statistics and swath plots), examination of grade-tonnage data, and comparison with the previous model.

Swath plots show the grade estimates are consistent with the overall grade trends evident in the composited data. The estimated grade profile is smoother than composites, due to the expected smoothing effect of kriging and change of support. Estimated grades are generally slightly lower than composite grades, reflecting the clustering of samples in the higher-grade parts of the deposit. This was confirmed using declustered sample statistics.

All the validation checks suggest that the grade estimates are reasonable when compared to the sample composite grades.

# 9. CRITERIA USED FOR CLASSIFICATION

Block model cells are assigned an estimation search pass number according to distance from block to samples for each element. For most estimates, the Cu pass number is converted to a preliminary classification: Pass 1= Measured; pass 2= Indicated; pass 3= Inferred while for deposits with a high Au to Cu ratio an average of the Cu and Au pass numbers is used. The geostatistical slope of regression is used to downgrade individual blocks that have lower geostatistical confidence. Finally, the classification is smoothed to reduce the occurrence of patchy classification. The approach is consistent to that used previously.

The NPM CP reviews the classification in the block models generated by H&S consultants and decides with guidance from the project geologists, if the classification adequately reflects the current geological confidence and knowledge of controls and continuity. The final classification may be altered by the CP prior to reporting.

**E28:** The significant proportion of unreliable assays precludes classifying any of this resource as measured as opposed to E28NE where no serious quality issues were identified.

**E37:** A final modification to classification was made to downgrade areas where unreliable or sparse drilling/sampling methods were used.
**E44:** In addition to the pass based classification above, depth limits were added to ensure the resource had a "reasonable prospect of eventual extraction".

**E48:** Classification based on search pass.

**GRP314:** Classification based on step change project model. Initial classification as measured and indicated in latest model should be downgraded until QAQC review is completed.

# 10. MINERAL RESOURCES REPORTING CRITERIA AND CUTTOFF GRADES

Cut-off grade is calculated for each project using a copper equivalence calculation that incorporate a net smelter return (NSR) value based on the most recent financial estimates.

- The typical equivalent copper calculation is:

  *Cu equivalent = ((VCu x Cu Grade (%) x Cu Recovery) + (VAu x Au Grade (g/t) x Au Recovery)) / (VCu X Cu Grade (%) x Cu Recovery) * Cu Grade (%)*
  where VCu is the NSR of 1% copper in 1 tonne of ore and VAu is the NSR of 1g/t gold in 1 t of ore.

- Net Present Value is calculated for a number of scenarios and then the optimum cut off is selected.

- For the block caves a declining shut-off is applied to the reserve schedule.

- Block cave reserves are generated using GEOVIA's PCBC software. PCBC has been used for production scheduling and draw management at NPM since underground mining commenced and is regarded as the industry standard for block cave modelling.

- Resources are reported within mine design volumes based on the cut off and as such generally have no further cut-off applied unless stated in the reports.

**E22:** COG formula based on E48 with E22 metallurgical recoveries applied equates to:
*Cu equivalent = Cu Grade (%) + 0.628779 x Au Grade (g/t) + 0.0079475 x Ag Grade*

**E28/E28NE:** A nominal cut-off grade of 0.5 eCu (based on previous pit mining at NPM) was applied. COG formula based on E48:
*Cu equivalent = Cu Grade (%) + 0.715176 x Au Grade (g/t) + 0.009040 x Ag Grade*

**E31:** A nominal cut-off grade of 0.5 eCu (based on previous pit mining at NPM) was applied.

**E37:** A nominal cut-off grade of 0.5 eCu (based on previous pit mining at NPM) was applied.

**E44:** A nominal cut-off grade of 0.65 g/t Au (based on previous pit mining at NPM) was applied for reporting purposes.

**E48:** The resource was reported within a cave shape generated by an NSR of $16/tonne. This equates to a cut-off grade of around 0.3% Cu.

# 11. MINING TECHNIQUE, METALLURGICAL TESTING, RECOVERY AND OTHER MODIFYING FACTOR

Current mining methods at NPM include (underground) block-caving and sub-level caving of the low grade massive and reasonably large rock masses with suitable (caveability) properties. Open cut mining has been used in past and is planned for several small resources in the near future.

Mining dilution (via mixing algorithms) is incorporated into the PCBC or open cut mine modelling and schedule.

**E22:** The Pre-Feasibility mining study for E22 assessed both sublevel and block cave methods and as such the block model was constructed to suit both of these scenarios. It is stated in the report that other methods would require a new block model to be created.

**E26:** As for E22 above.

**E28/E28NE:** It is assumed E28 will be mined by open cut using a 5m bench height. External dilution is not included in the model.

**E31:** It is assumed E31 and E31N will be mined by open cut using a 5m bench height. External dilution is not included in the model.

**E37:** It is assumed E31 and E31N will be mined by open cut using a 10m bench height. External dilution is not included in the model.

**E44:** It is assumed at least the upper part of E44 will be mined by open cut using a 5m bench height. External dilution is not included in the model.

**E48:** It is assumed that the resource will be mined by block cave similar to Lift1 in production at present.

**GRP314:** The subject of ongoing mining studies. Current resource quoted based on large tonnage step change project (2013) and may no longer be valid. Update is expected in 2022.

The metallurgical recovery for each ore source is based on metallurgical test work completed from core samples and general knowledge from 20+ years of mining and processing.

The recoveries for each ore source are used in the calculation of the copper equivalence formula and life of mine studies.

**E22:** The mining and processing of transitional and fresh open pit ore provides historical data to supplement the metallurgical test work completed in 2020.

**E26:** As per E22 above.

**E28/E28NE:** Assumptions are based on mining study grinding and flotation testwork completed in 2020 on four drill hole composite samples representing "Average grade", "Low grade", "High Grade" and "High deleterious" elements.

**E31:** Locked cycle testwork on core and RC samples was completed in 2020 for the feasibility study. Primary and transition ore returned favourable results, but oxide is currently planned to be stockpiled for later processing.

**E37:** The status of metallurgical studies is unknown, but assumptions based on other similar NPM deposits have been used.

**E44:** Earlier estimates assumed CIP processing with a recovery of around 81% or gold. A review of alternate treatment options by Worley Services Pty Ltd in 2020, suggested a pyrite-gold concentrate could be produced with some modifications to the NPM plant.

**E48:** Over ten years of production and processing history of Lift1 gives good confidence around metallurgical amenability, however mineral studies done as part of the prefeasibility study for Lift 2 suggested recovery would not be as good as Lift 1 ore due to lower grade, a lower bornite to chalcopyrite ratio, higher pyrite to chalcopyrite ration, and finer sulphide grain size. From limited test-work on core the PFS report asserts a recovery of between 83 and 88% for concentrate between 19 and 24% Cu.

## 11.1 Mineral Processing and Metallurgical testing

Metallurgical testwork is performed for each new deposit area as part of the technical studies that are conducted prior to developing a new deposit or cave lift. Metallurgical studies are focused on assessing the ore treatment characteristics of the respective mining area in the Northparkes processing circuit and assessing options to optimise throughput and recovery. Northparkes ore tends to exhibit consistent and predictable metallurgical characteristics and are well understood and characterised. Metallurgical testwork typically includes detailed mineralogical characterization, comminution testwork (including grindability and abrasivity), lockedcycle floatation on composite samples and dewatering tests.

Arsenic and fluorine are the main penalty elements for Northparkes concentrates and certain offtakers also penalise aluminium (from mica) and magnesium (from carbonates). Northparkes is able to blend its ore sources to manage deleterious elements to minimise penalties and the increasing balance of E26 and E22 ore will positively impact arsenic levels.

## 11.2 Processing and Recovery Operations

Northparkes operates a conventional flow sheet for ore processing, which consists of four stages: crushing, grinding, flotation and thickening/filtering. The plant was commissioned in September 1995 and designed to process both copper gold oxide and sulphide ore; the cyanide/oxide processing circuit was decommissioned in 1996. Ore is fed to the plant from two sources; via the underground operations and the winder, or from open cut material via a surface primary crusher. After receiving ore feed, the comminution process consists of a secondary & tertiary crushing facility, followed by two parallel grinding modules, each consisting of a primary SAG mill, secondary ball mill & tertiary ball mill.

- Module 1: 2.9 MW SAG mill with a pebble crushing circuit followed by a 2.9 MW primary ball mill and 1.3 MW tertiary ball mill; throughput rates vary between 280 tph and 430tph depending on feed size, with a final product grindsize (P80) of between 90-140um; and

- Module 2: 4.9 MW SAG mill with two pebble crushers followed by a 4.9 MW primary ball mill and a 1.6 MW tertiary ball mill; throughput rates vary between 450 tph and 680tph depending on SAG mill feed size, with a final product grindsize of between 100-160um.

From grinding, the material flows through a single line flotation circuit; initially through a series of rougher/scavenger flotation cells, before entering the cleaner circuit, comprised of Jameson Cells and mechanical cleaner-scavengers. Copper and Gold bearing sulphide minerals are recovered using Hostaflot 26293 as the primary flotation collector and Flotanol 16319 as the frother as well as Sodium Hydrosulphide (NaHS) as a sulphidising agent. Concentrate produced from the flotation circuit is thickened and filtered to produce a final concentrate, with a moisture content of 8-10%. Average life-of-mine processing recoveries are expected to be 88% for copper, 77% for gold and 82% for silver, which is consistent with historical operating performance.

Since 2017, the plant has been operating at a capacity of 6.4 Mtpa. The plant capacity has recently been expanded to 7.6 Mtpa. The recent expansion project comprised of: (1) the installation of a closed loop secondary & tertiary crushing circuit to replace the existing open circuit secondary crusher; (2) upgrading of the feed conveyors, discharge screens, hoppers, cyclone clusters and pumps; and (3) Relocation of existing pre flotation cell, installing a new flotation cell and refurbishing the cleaner scavenger cells.

Copper concentrate is loaded into 26 t capacity lidded steel containers in a covered concentrate storage facility in the processing plant. The loaded containers are transported by road freight from the mine site to the Goonumbla rail siding, approximately 15 km from the mine. The containers are stored at the siding before being railed to Port Kembla. Each trainload contains approximately 1,500 t of concentrate. The containers are stacked at the port and the concentrate loaded directly into ships in approximately10,000 t cargo lots for shipping to custom smelters, predominantly in Japan and South Korea.

## 11.3 Mining Operations

Block cave mining accounts for the majority of ore production at Northparkes, with minor contributions from surface stockpile reclamation and open pit mining, on a campaign basis. Preproduction mining development work consists of establishing two working levels, the undercut level and extraction level, at the base of each ore block, as well as the development to support the associated material handling system. Northparkes has developed its own unique extraction level layout that locates the material handling system, including crusher, to the side of the extraction level, thereby alleviating the need to construct a third level dedicated to haulage. Similarly, it has established the extraction level as the primary ventilation level, thereby eliminating development to support mine ventilation. The undercut level, which is used to initiate caving, is 14-20 m vertically above the extraction level, the height being dependent on the undercutting method. Undercutting, which involves sequential firings of overlapping fans of blastholes to create the initial void for caving, is the rate controlling step for production ramp-up, controlling both the rate of undercutting ore and the start of production from drawpoints.

Northparkes has established comprehensive geotechnical models for all of its block cave mines, based on geotechnical logging of extensive diamond drill core data sets, augmented by mapping of underground openings established during the early study phases. The Northparkes rock mass, including the E48 and E26 deposits, is a highly jointed rock mass with fracture frequencies of between three and 20/m and fracture density that increases with copper grade.

Mine access for all personnel and equipment is provided by surface portal and decline. The decline has a standard 5 m wide by 5.5 m high arched profile. The hoisting shaft represents the second means of egress, and the ore skips can be fitted with a man-riding cage in the event that personnel cannot egress the mine via the decline. The mining process involves recovery of broken rock from the drawpoints by 14 t capacity electric and diesel powered LHDs, which tram the ore to a primary crushing station, consisting of a plate feeder and jaw gyratory crusher, located on the margin of the extraction level. Typically, four to five LHDs operate on a continuous basis. E48 Lift 1 is highly automated, utilizing driverless loaders. Crushed ore is fed onto highspeed inclined conveyors via an ore pass that also provides storage capacity. Ore is conveyed to the underground loading station, which consists of three ore passes feeding the hoisting system. The hoisting system consists of a ground-mounted friction winder with integrated drum and rotor, servicing two 18 t payload skips in counterbalance, running on rope guides in the 6 m diameter concrete lined shaft. Hoisted ore is transferred via an overland conveyor to a crushing circuit. The hoisting system is planned to be upgraded to facilitate the expansion to 7.6Mtpa.

Northparkes has developed a comprehensive cave management system based on its experiences with operating the E26 block caves. These management systems are designed to manage the specific catastrophic safety risks particular to block caves; namely airblast, surface subsidence and inrush and large-scale rock falls. The system is also designed to support maximizing Ore Reserve recovery and optimizing mine production. The system is based on a large number of monitoring systems, including real-time microseismic event monitoring, open hole surveys using probes and video cameras, time domain reflectometers installed in grouted boreholes, convergence monitoring using extensometers and manual measurements of mine openings on the extraction level and in key underground infrastructure, drawpoint fragmentation and geology mapping, drawpoint grade sampling, subsidence zone volume surveys and water inflow measurements.

The mine ventilation system consists of two primary exhaust shafts (E26 and E48) each with two fans mounted on surface above a system of vertical and lateral return airways. The primary air intakes are the main decline, the hoisting shaft and E48 intake shaft. The ventilation system typically operates at airflows of 600- 650 m3 per second, which are shared across the various work areas.

Water inflows to the mine are relatively modest; of the order of 3 to 5 L/s. Dewatering systems are installed at the base of each extraction level and are designed to cope with large inflows from the cave volume and subsidence zone.

Open Pit Operations Open cut mining has been used to access the near-surface portions of the copper-gold deposits at Northparkes, initially to allow accelerated ore processing prior to commissioning of underground operations, but also to supplement underground production during the transition from one cave to another. As a result, open cut mining has typically been undertaken on a campaign basis, often relying upon contract mining.

The Reserve and Reserves statements for 2021 and 2022 are shown in Appendix A.

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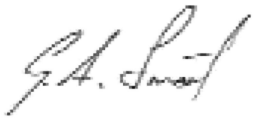

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Managing Director

# APPENDIX A

# 2022 RESERVES AND RESOURCES

## NPM Mineral Resources as at 31 December 2022[5]

| | CP | Measured Resources as at 31 December 2022 | | | | Indicated Resources as at 31 December 2022 | | | | Inferred Resources as at 31 December 2022 | | | | Total Resources as at 31 December 2022 | | | | Total Contained Metal | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Tonnage (Mt) | Cu (%) | Au (g/t) | Ag (g/t) | Tonnage (Mt) | Cu (%) | Au (g/t) | Ag (g/t) | Tonnage (Mt) | Cu (%) | Au (g/t) | Ag (g/t) | Tonnage (Mt) | Cu (%) | Au (g/t) | Ag (g/t) | Cu (Mt) | Au (Moz) | Ag (Moz) |
| E22 | DR | *10.2* | *0.43* | *0.29* | *2.06* | *4.8* | *0.37* | *0.19* | *1.52* | *0.4* | *0.35* | *0.19* | *1.31* | *15.39* | *0.41* | *0.26* | *1.87* | *0.06* | *0.13* | *0.93* |
| E48L1 | DR | *0* | *0* | *0* | *0* | *0* | *0* | *0* | *0* | *0* | *0* | *0* | *0* | *0.00* | *0* | *0* | *0* | *0* | *0* | *0* |
| E48L2 | DR | *90.2* | *0.54* | *0.25* | *1.91* | *67.4* | *0.51* | *0.17* | *1.77* | *0* | *0* | *0* | *0* | *157.60* | *0.53* | *0.22* | *1.85* | *0.83* | *1.09* | *9.37* |
| E26L2 Residual | DR | *0* | *0* | *0* | *0* | *11.5* | *0.78* | *0.15* | *2.07* | *0* | *0* | *0* | *0* | *11.48* | *0.78* | *0.15* | *2.07* | *0.09* | *0.06* | *0.76* |
| E26L3 | DR | *111.8* | *0.62* | *0.15* | *1.82* | *49.8* | *0.53* | *0.12* | *1.54* | *0* | *0* | *0* | *0* | *161.60* | *0.59* | *0.15* | *1.74* | *0.96* | *0.75* | *9.02* |
| GRP314L1 | DR | *0* | *0* | *0* | *0* | *23.0* | *0.57* | *0.12* | *1.74* | *22.2* | *0.59* | *0.14* | *1.80* | *45.20* | *0.58* | *0.13* | *1.77* | *0.26* | *0.19* | *2.57* |
| GRP314L2 | DR | *0* | *0* | *0* | *0* | *46.5* | *0.54* | *0.17* | *1.67* | *34.8* | *0.56* | *0.22* | *1.60* | *81.30* | *0.55* | *0.19* | *1.64* | *0.45* | *0.50* | *4.29* |
| MJH | DR | *34.6* | *0.6* | *0.1* | *1.5* | *7.5* | *0.5* | *0.1* | *1.3* | *0.0* | *0.0* | *0.0* | *0.0* | *42.04* | *0.57* | *0.11* | *1.49* | *0.24* | *0.15* | *2.01* |
| E44 - Sulphide | GS | *4.9* | *0.03* | *1.51* | *10.45* | *2.6* | *0.03* | *1.24* | *7.77* | *0.15* | *0.03* | *1.20* | *9.4* | *7.59* | *0.03* | *1.42* | *9.53* | *0.00* | *0.35* | *2.33* |
| E44 - Oxide | GS | *0.7* | *0.03* | *0.97* | *5.78* | *0.5* | *0.03* | *0.99* | *4.33* | *0.04* | *0.02* | *1.01* | *2.4* | *1.16* | *0.03* | *0.98* | *5.10* | *0.00* | *0.04* | *0.19* |
| E31 - Sulphide | GS | *3.4* | *0.37* | *0.42* | *1.34* | *0* | *0* | *0* | *0* | *0.00* | *0* | *0* | *0* | *3.41* | *0.37* | *0.42* | *1.34* | *0.01* | *0.05* | *0.15* |
| E31 - Oxide | GS | *0.1* | *0.24* | *0.67* | *0.70* | *0* | *0* | *0* | *0* | *0* | *0* | *0* | *0* | *0.10* | *0.24* | *0.67* | *0.70* | *0* | *0* | *0* |
| **NPM Total** | | **255.9** | **0.56** | **0.22** | **1.99** | **213.4** | **0.53** | **0.16** | **1.77** | **57.5** | **0.57** | **0.19** | **1.70** | **526.86** | **0.55** | **0.19** | **1.87** | **2.91** | **3.29** | **31.6** |

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[5] Numbers are subject to rounding and may not sum precisely.

[6] DR: David Richards
GS: Geoff Smart

## NPM Ore Reserves as at 31 December 2022[7]

| | CP | Proven Ore Reserves as at 31 December 2022 | | | | Probable Ore Reserves as at 31 December 2022 | | | | Total Ore Reserves as at 31 December 2022 | | | | Total Contained Metal | | | Metallurgical Recovery Assumptions | | | CMOC 80% Share of Production *includes metallurgical recovery estimate* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Tonnage (Mt) | Cu (%) | Au (g/t) | Ag (g/t) | Tonnage (Mt) | Cu (%) | Au (g/t) | Ag (g/t) | Tonnage (Mt) | Cu (%) | Au (g/t) | Ag (g/t) | Cu (Mt) | Au (Moz) | Ag (Moz) | Cu (%) | Au (%) | Ag (%) | Cu (Mt) | Au (Moz) | Ag (Moz) |
| **Stockpiles** | | | | | | | | | | | | | | | | | | | | | | |
| Oxide Stockpiles | JW | 0.0 | 0 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sulphide stockpiles | JW | 4.6 | 0.33 | 0.17 | 0.72 | 0.0 | 0 | 0 | 0 | 4.6 | 0.33 | 0.17 | 0.72 | 0.01 | 0.03 | 0.11 | 84 | 79 | 62 | 0.01 | 0.02 | 0.05 |
| **Total Stockpiles** | | **4.6** | **0.33** | **0.17** | **0.72** | **0.0** | **0** | **0** | **0** | **4.6** | **0.33** | **0.17** | **0.72** | **0.01** | **0.03** | **0.11** | **84** | **79** | **62** | **0.01** | **0.02** | **0.05** |
| **Open Cut** | | | | | | | | | | | | | | | | | | | | | | |
| E31N Sulphide | SE | 3.6 | 0.29 | 0.69 | 0.82 | 0.0 | 0 | 0 | 0 | 3.6 | 0.29 | 0.69 | 0.82 | 0.01 | 0.08 | 0.09 | 87 | 68 | 68 | 0.01 | 0.04 | 0.05 |
| E31N Oxide | SE | 1.2 | 0.34 | 1.10 | 0.95 | 0.0 | 0 | 0 | 0 | 1.2 | 0.34 | 1.10 | 0.95 | 0.00 | 0.04 | 0.04 | 18 | 54 | 54 | 0.00 | 0.02 | 0.02 |
| E31 Sulphide | SE | 1.7 | 0.51 | 0.47 | 1.86 | 0.4 | 0.39 | 0.29 | 1.30 | 2.1 | 0.49 | 0.44 | 1.76 | 0.01 | 0.03 | 0.12 | 88 | 82 | 82 | 0.01 | 0.02 | 0.08 |
| E28NE Sulphide | SE | 5.9 | 0.34 | 0.28 | 0.97 | 0.0 | 0.00 | 0.00 | 0.00 | 5.9 | 0.34 | 0.28 | 0.97 | 0.02 | 0.05 | 0.18 | 88 | 82 | 82 | 0.01 | 0.04 | 0.12 |
| **Total Open Cut** | | **12.4** | **0.35** | **0.51** | **1.05** | **0.4** | **0.39** | **0.29** | **1.30** | **12.8** | **0.35** | **0.50** | **1.05** | **0.04** | **0.21** | **0.43** | **81** | **71** | **76** | **0.03** | **0.12** | **0.26** |
| **Underground** | | | | | | | | | | | | | | | | | | | | | | |
| E22 | SW | 0.0 | 0 | 0 | 0 | 42.4 | 0.52 | 0.39 | 2.45 | 42.4 | 0.52 | 0.39 | 2.45 | 0.22 | 0.53 | 3.34 | 87 | 73 | 62 | 0.15 | 0.31 | 1.66 |
| E26 | JW,SW | 9.8 | 0.74 | 0.17 | 1.94 | 30.5 | 0.57 | 0.07 | 1.65 | 40.3 | 0.62 | 0.09 | 1.72 | 0.25 | 0.12 | 2.23 | 88 | 73 | 62 | 0.17 | 0.07 | 1.11 |
| E48 | JW | 1.3 | 0.29 | 0.05 | 0.00 | 0.0 | 0.00 | 0.00 | 0.00 | 1.3 | 0.29 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 88 | 76 | 62 | 0.00 | 0.00 | 0.00 |
| **Total Underground** | | **11.1** | **0.69** | **0.15** | **1.71** | **72.9** | **0.55** | **0.25** | **2.12** | **84.0** | **0.56** | **0.24** | **2.06** | **0.47** | **0.65** | **5.57** | **87** | **73** | **62** | **0.33** | **0.38** | **2.76** |
| **NPM Total** | | **28.1** | **0.48** | **0.31** | **1.25** | **73.2** | **0.54** | **0.26** | **2.11** | **101.4** | **0.53** | **0.27** | **1.87** | **0.53** | **0.88** | **6.11** | **87** | **73** | **63** | **0.37** | **0.51** | **3.08** |

8

[7] Numbers are subject to rounding and may not sum precisely

[8] JW: Jamie Widauer
SE: Sam Ervin
SW: Sarah Webster

# APPENDIX 2021 RESERVES AND RESOURCES

## NPM Mineral Resources as at 31 December 2021[9]

| | CP | Measured Resources as at 31 December 2021 | | | | Indicated Resources as at 31 December 2021 | | | | Inferred Resources as at 31 December 2021 | | | | Total Resources as at 31 December 2021 | | | | Total Contained Metal | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Tonnage (Mt) | Cu (%) | Au (g/t) | Ag (g/t) | Tonnage (Mt) | Cu (%) | Au (g/t) | Ag (g/t) | Tonnage (Mt) | Cu (%) | Au (g/t) | Ag (g/t) | Tonnage (Mt) | Cu | (%) Au | (g/t) Ag | (g/t) | Cu (Mt) | Au (Moz) | Ag (Moz) |
| E22 | DR | 10.2 | 0.43 | 0.29 | 2.06 | 4.8 | 0.37 | 0.19 | 1.52 | 0.4 | 0.35 | 0.19 | 1.31 | 15.4 | 0.4126 | 0.2587 | 1.8748 | | 0.06 | 0.13 | 0.93 |
| E48L1 | DR | 0.0 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0000 | 0.0000 | 0.0000 | | 0.00 | 0.00 | 0.00 |
| E48L2 | DR | 90.2 | 0.54 | 0.25 | 1.91 | 67.4 | 0.51 | 0.17 | 1.77 | 0 | 0 | 0 | 0 | 157.6 | 0.5279 | 0.2152 | 1.8499 | | 0.83 | 1.09 | 9.37 |
| E26L2 Residual | DR | 0 | 0 | 0 | 0 | 11.5 | 0.78 | 0.15 | 2.07 | 0 | 0 | 0 | 0 | 11.5 | 0.7786 | 0.1532 | 2.0720 | | 0.09 | 0.06 | 0.76 |
| E26L3 | DR | 111.8 | 0.62 | 0.15 | 1.82 | 49.8 | 0.53 | 0.12 | 1.54 | 0 | 0 | 0 | 0 | 161.6 | 0.5920 | 0.1450 | 1.7370 | | 0.96 | 0.75 | 9.02 |
| GRP314L1 | DR | 0 | 0 | 0 | 0 | 23.0 | 0.57 | 0.12 | 1.74 | 22.2 | 0.59 | 0.14 | 1.80 | 45.2 | 0.5800 | 0.1300 | 1.7700 | | 0.26 | 0.19 | 2.57 |
| GRP314L2 | DR | 0 | 0 | 0 | 0 | 46.5 | 0.54 | 0.17 | 1.67 | 34.8 | 0.56 | 0.22 | 1.60 | 81.3 | 0.5500 | 0.1900 | 1.6400 | | 0.45 | 0.50 | 4.29 |
| E44 - Sulphide | GS | 4.9 | 0.03 | 1.51 | 10.45 | 2.6 | 0.03 | 1.24 | 7.77 | 0.15 | 0.03 | 1.20 | 9.4 | 7.6 | 0.0275 | 1.4151 | 9.5261 | | 0.00 | 0.35 | 2.33 |
| E44 - Oxide | GS | 0.7 | 0.03 | 0.97 | 5.78 | 0.5 | 0.03 | 0.99 | 4.33 | 0.0 | 0.02 | 1.01 | 2.4 | 1.2 | 0.0265 | 0.9836 | 5.1041 | | 0.00 | 0.04 | 0.19 |
| E31 - Sulphide | GS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0000 | 0.0000 | 0.0000 | | 0.00 | 0.00 | 0.00 |
| E31 - Oxide | GS | 0.1 | 0.24 | 0.67 | 0.70 | 0.0 | 0.00 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2409 | 0.6678 | 0.6962 | | 0.00 | 0.00 | 0.00 |
| **NPM Total** | | **217.9** | **0.56** | **0.23** | **2.07** | **206.0** | **0.53** | **0.17** | **1.78** | **57.5** | **0.57** | **0.19** | **1.70** | **481.4** | **0.55** | **0.20** | **1.90** | | **2.65** | **3.10** | **29.5** |

[10]

[9] Numbers are subject to rounding and may not sum precisely

[10] DR: David Richards
GS: Geoff Smart

## NPM Ore Reserves as at 31 December 2021[11]

| | CP | Proven Ore Reserves as at 31 December 2021 | | | | Probable Ore Reserves as at 31 December 2021 | | | | Total Ore Reserves as at 31 December 2021 | | | | Total Contained Metal | | | Metallurgical Recovery Assumptions | | | CMOC 80% Share of Production *includes metallurgical recovery estimate* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Tonnage (Mt) | Cu (%) | Au (g/t) | Ag (g/t) | Tonnage (Mt) | Cu (%) | Au (g/t) | Ag (g/t) | Tonnage (Mt) | Cu (%) | Au (g/t) | Ag (g/t) | Cu (Mt) | Au (Moz) | Ag (Moz) | Cu (%) | Au (%) | Ag (%) | Cu (Mt) | Au (Moz) | Ag (Moz) |
| **Stockpiles** | | | | | | | | | | | | | | | | | | | | | | |
| Oxide Stockpiles | JW | 0.0 | 0 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sulphide | JW | 6.2 | 0.34 | 0.19 | 1.87 | 0.0 | 0 | 0 | 0 | 6.2 | 0.34 | 0.19 | 1.87 | 0.02 | 0.04 | 0.37 | 84 | 79 | 62 | 0.01 | 0.02 | 0.18 |
| **Total Stockpiles** | | **6.2** | **0.34** | **0.19** | **1.87** | **0.0** | **0** | **0** | **0** | **6.2** | **0.34** | **0.19** | **1.87** | **0.02** | **0.04** | **0.37** | **84** | **79** | **62** | **0.01** | **0.02** | **0.18** |
| **Open Cut** | | | | | | | | | | | | | | | | | | | | | | |
| E31N Sulphide | SE | 2.6 | 0.32 | 0.81 | 0.88 | 0.0 | 0 | 0 | 0 | 2.6 | 0.32 | 0.81 | 0.88 | 0.01 | 0.07 | 0.07 | 87 | 68 | 68 | 0.01 | 0.04 | 0.04 |
| E31N Oxide | SE | 1.2 | 0.34 | 1.10 | 0.95 | 0.0 | 0 | 0 | 0 | 1.2 | 0.34 | 1.10 | 0.95 | 0.00 | 0.04 | 0.04 | 18 | 54 | 54 | 0.00 | 0.02 | 0.02 |
| E31 Sulphide | SE | 0.7 | 0.75 | 0.79 | 2.79 | 0.4 | 0.39 | 0.29 | 1.30 | 1.1 | 0.63 | 0.62 | 2.30 | 0.01 | 0.02 | 0.08 | 88 | 82 | 82 | 0.00 | 0.01 | 0.05 |
| E28NE Sulphide | SE | 5.9 | 0.34 | 0.28 | 0.97 | 0.0 | 0.00 | 0.00 | 0.00 | 5.9 | 0.34 | 0.28 | 0.97 | 0.02 | 0.05 | 0.18 | 88 | 82 | 82 | 0.01 | 0.04 | 0.12 |
| **Total Open Cut** | | **10.5** | **0.37** | **0.54** | **1.08** | **0.4** | **0.39** | **0.29** | **1.30** | **10.8** | **0.37** | **0.53** | **1.08** | **0.04** | **0.19** | **0.38** | **80** | **70** | **76** | **0.03** | **0.10** | **0.23** |
| **Underground** | | | | | | | | | | | | | | | | | | | | | | |
| E22 | SW | 0.0 | 0 | 0 | 0 | 42.4 | 0.52 | 0.39 | 2.45 | 42.4 | 0.52 | 0.39 | 2.45 | 0.22 | 0.53 | 3.34 | 87 | 73 | 62 | 0.15 | 0.31 | 1.66 |
| E26 | JW,SW | 8.8 | 0.74 | 0.18 | 1.95 | 46.6 | 0.61 | 0.10 | 1.70 | 55.4 | 0.63 | 0.11 | 1.74 | 0.35 | 0.20 | 3.10 | 88 | 70 | 62 | 0.25 | 0.11 | 1.54 |
| E48 | JW,SW | 6.1 | 0.45 | 0.08 | 1.51 | 5.1 | 0.36 | 0.11 | 1.22 | 11.2 | 0.41 | 0.10 | 1.38 | 0.05 | 0.03 | 0.50 | 88 | 76 | 62 | 0.03 | 0.02 | 0.25 |
| **Total Underground** | | **14.9** | **0.62** | **0.14** | **1.77** | **94.1** | **0.56** | **0.23** | **2.01** | **109.0** | **0.57** | **0.22** | **1.98** | **0.62** | **0.76** | **6.93** | **87** | **72** | **62** | **0.43** | **0.44** | **3.44** |
| **NPM Total** | | **31.5** | **0.48** | **0.28** | **1.56** | **94.5** | **0.56** | **0.23** | **2.01** | **126.0** | **0.54** | **0.24** | **1.90** | **0.68** | **0.98** | **7.68** | **87** | **73** | **63** | **0.47** | **0.57** | **3.85** |

[12]

[11] Numbers are subject to rounding and may not sum precisely

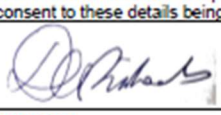
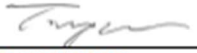
[12] JW: Jamie Widauer
SE: Sam Ervin
SW: Sarah Webster

# APPENDIX B

## Competent persons statement

www.
northparkes.
com

NORTHPARKES MINES
PO BOX 995 PARKES NSW 2870 AUSTRALIA
T +61 2 6861 3000 F +61 2 6861 3101

| | NPM COMPETENT PERSON APPOINTMENT (JORC Code 2012) | | | | |
|---|---|---|---|---|---|
| 1 | CP Name: | David A Richards | | | |
| 2 | Job title: | Senior Mine Geologist | | | |
| 3 | Academic Qualifications: | BAppSc(Geol); Grad Dip Natural Resources (Mineral exploration) | | | |
| 4 | Direct Employer | Northparkes Mines | | | |
| 5 | Current membership of Professional Bodies: | AUSIMM; AIG | | | |
| 6 | AusIMM /AIG Membership Grade and Number: | Member AUSIMM 203408; Member AIG 5354 | | | |
| 7 | or other Membership Details: | | | | |
| 8 | Please list project(s) or operation(s) and whether for resource or reserve.<br><br>If the CP is nominating for multiple resources/reserves reports on this form, please list all projects/operations | Project / Operation | Resource | Reserve | Exploration Results |
| | | Northparkes Mines UG projects and operating | ☑ | ☐ | ☐ |
| | | | ☐ | ☐ | ☐ |
| | | | ☐ | ☐ | ☐ |
| 9 | Brief Description of Relevant Experience to project(s) / operation(s): | 9 years mine geology, grade control and resource estimation at Silurian porphyry copper-gold deposit NSW.<br>8 years mine geology and resource estimation at Archaen porphyry related lode gold deposit.<br>3 years mine geology grade control and resource estimation at Proterozoic Fe hosted Copper-gold-bismuth deposit.<br>5 years grassroots and resource definition work for epithermal gold in QLD and West Turkey. | | | |
| 10 | List additional relevant experience (years / project type / location) | | | | |
| 11 | Mailing Address: | PO Box 149 Parkes NSW 2870 | | | |
| | Telephone: | Office: 02 6861 3177 | Mob: 0448 063 154 | Fax: | |
| | E-mail: | David.Richards@au.cmoc.com | | | |
| 12 | Competent Persons Declaration | I declare by signature below that I understand the requirements of the JORC code (2012) and am satisfied in my own mind that I could face my peers and demonstrate competence in the commodity, type of deposit and situation under consideration. I consent to personal information associated with my role as a competent person being stored (in any format), processed or transferred for all purposes connected with my role as a competent person by Northparkes Mines and associated companies. Without limiting the generality of the foregoing, I also consent to these details being transferred to the relevant regulatory authorities. | | | |
| 13 | Signed: |  | | | |
| | Date: | 4/12/2023 | | | |
| Part2 | Managing Director (or equivalent) Authorisation of Appointment | | | | |
| 14 | Business Unit Division: | Northparkes Mines | | | |
| | MD (or equivalent) Name: | Jianjun Tian | | | |
| | Signed: |  | | | |
| | Date: | 04/12/2023 | | | |
| 15 | Attached is a full résumé supporting the relevant professional association membership, experience and qualifications of the CP. | | | | |

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NORTHPARKES MINES
PO BOX 995 PARKES NSW 2870 AUSTRALIA
T +61 2 6861 3000 F +61 2 6861 3101

| | NPM COMPETENT PERSON APPOINTMENT (JORC Code 2012) | | | | |
|---|---|---|---|---|---|
| 1 | CP Name: | Sarah B Webster | | | |
| 2 | Job title: | Study Leader LOM and Exploration | | | |
| 3 | Academic Qualifications: | BSc Hons (Geol); Masters of Engineering Science, (Mining Geomechanics) | | | |
| 4 | Direct Employer | Northparkes Mines | | | |
| 5 | Current membership of Professional Bodies: | AUSIMM; | | | |
| 6 | AusIMM /AIG Membership Grade and Number: | MAusIMM(CP geotechnical) 228953 | | | |
| 7 | or other Membership Details: | Board of Professional Engineers of Queensland | | | |
| 8 | Please list project(s) or operation(s) and whether for resource or reserve.<br><br>If the CP is nominating for multiple resources/reserves reports on this form, please list all projects/operations | Project / Operation | Resource | Reserve | Exploration Results |
| | | Northparkes Mines UG projects | ☐ | ☑ | ☐ |
| | | | ☐ | ☐ | ☐ |
| | | | ☐ | ☐ | ☐ |
| 9 | Brief Description of Relevant Experience to project(s) / operation(s): | 6 years study leader for studies of block cave and sub level caves on porphyry deposits.<br>5 years senior geotechnical engineer block caving and sub level caving studies, hydrofracturing and operations in porphyry deposits.<br>5 years geotechnical engineering at underground stoping and open cut, narrow vein gold operations.<br>3 years geotechnical engineering at open pit Cu-Au porphyry operation.<br>2 years grade control, resource definition and exploration of porphyry Cu-Au deposits. | | | |
| 10 | List additional relevant experience (years / project type / location) | | | | |
| 11 | Mailing Address: | PO Box 666 Parkes NSW 2870 | | | |
| | Telephone: | Office: 02 6861 3451 | Mob: 0417 454 474 | Fax: | |
| | E-mail: | Sarah.Webster@au.cmoc.com | | | |
| 12 | Competent Persons Declaration | I declare by signature below that I understand the requirements of the JORC code (2012) and am satisfied in my own mind that I could face my peers and demonstrate competence in the commodity, type of deposit and situation under consideration. I consent to personal information associated with my role as a competent person being stored (in any format), processed or transferred for all purposes connected with my role as a competent person by Northparkes Mines and associated companies. Without limiting the generality of the foregoing, I also consent to these details being transferred to the relevant regulatory authorities. | | | |
| 13 | Signed: | Sarah Webster | | | |
| | Date: | 04/12/2023 | | | |
| Part2 | Managing Director (or equivalent) Authorisation of Appointment | | | | |
| 14 | Business Unit Division: | Northparkes Mines | | | |
| | MD (or equivalent) Name: | Jianjun Tian | | | |
| | Signed: | | | | |
| | Date: | 04/12/23 | | | |
| 15 | Attached is a full résumé supporting the relevant professional association membership, experience and qualifications of the CP. | | | | |

Northparkes Mines
A century of mining together

PO Box 995 Parkes NSW 2870 Australia
T +61 (0) 2 6861 3533
ABN 17 164 997 317
www.northparkes.com

| | NPM COMPETENT PERSON APPOINTMENT (JORC Code 2012) | | | | |
|---|---|---|---|---|---|
| 1 | CP Name: | Samuel Ervin | | | |
| 2 | Job title: | Senior Mining Engineer | | | |
| 3 | Academic Qualifications: | B Eng (Mining) | | | |
| 4 | Direct Employer | Northparkes Mines | | | |
| 5 | Current membership of Professional Bodies: | AUSIMM | | | |
| 6 | AusIMM /AIG Membership Grade and Number: | Member AUSIMM 335108 | | | |
| 7 | or other Membership Details: | | | | |
| 8 | Please list project(s) or operation(s) and whether for resource or reserve.<br><br>If the CP is nominating for multiple resources/reserves reports on this form, please list all projects/operations | Project / Operation | Resource | Reserve | Exploration Results |
| | | Northparkes Mines open-cut projects (E31, E31N, E28NE) | ☐ | ☑ | ☐ |
| | | | ☐ | ☐ | ☐ |
| | | | ☐ | ☐ | ☐ |
| 9 | Brief Description of Relevant Experience to project(s) / operation(s): | 15 years employment in mine planning, design, scheduling, estimation, and supervision within the Australian and Canadian mining industries. | | | |
| 10 | List additional relevant experience (years / project type / location) | | | | |
| 11 | Mailing Address: | 18 Arana Pl, Parkes, NSW, 2870 | | | |
| | Telephone: | Office: 02 6861 3452 | Mob: 0408 846 604 | Fax: | |
| | E-mail: | samuel.ervin@au.cmoc.com | | | |
| 12 | Competent Persons Declaration | I declare by signature below that I understand the requirements of the JORC code (2012) and am satisfied in my own mind that I could face my peers and demonstrate competence in the commodity, type of deposit and situation under consideration. I consent to personal information associated with my role as a competent person being stored (in any format), processed or transferred for all purposes connected with my role as a competent person by Northparkes Mines and associated companies. Without limiting the generality of the foregoing, I also consent to these details being transferred to the relevant regulatory authorities. | | | |
| 13 | Signed: | S Ervin | | | |
| | Date: | 04/12/2023 | | | |
| Part2 | Managing Director (or equivalent) Authorisation of Appointment | | | | |
| 14 | Business Unit Division: | Northparkes Mines | | | |
| | MD (or equivalent) Name: | Jianjun Tian | | | |
| | Signed: | | | | |
| | Date: | 04/12/23 | | | |
| 15 | Attached is a full résumé supporting the relevant professional association membership, experience and qualifications of the CP. | | | | |

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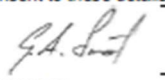
NORTHPARKES MINES
PO BOX 995 PARKES NSW 2870 AUSTRALIA
T +61 2 6861 3000 F +61 2 6861 3101

| | NPM COMPETENT PERSON APPOINTMENT (JORC Code 2012) | | | | |
|---|---|---|---|---|---|
| 1 | CP Name: | Jamie F. D. Widauer | | | |
| 2 | Job title: | Mine Technical Services Superintendent | | | |
| 3 | Academic Qualifications: | Masters in Mining Engineering, BBA, BComm in Acog | | | |
| 4 | Direct Employer | CMOC Mining Services | | | |
| 5 | Current membership of Professional Bodies: | AUSIMM | | | |
| 6 | AusIMM /AIG Membership Grade and Number: | AUSIMM Member 333687 | | | |
| 7 | or other Membership Details: | | | | |
| 8 | Please list project(s) or operation(s) and whether for resource or reserve.<br><br>If the CP is nominating for multiple resources/reserves reports on this form, please list all projects/operations | Project / Operation | Resource | Reserve | Exploration Results |
| | | Northparkes Mines | ☐ | ☑ | ☐ |
| | | | ☐ | ☐ | ☐ |
| | | | ☐ | ☐ | ☐ |
| 9 | Brief Description of Relevant Experience to project(s) / operation(s): | 2.5 years at Northparkes Mines – Operational planning across both block cave and Sub-level cave operations as Senior Production Engineer and Mine Technical Services Superintendent.<br><br>6.5 years at Cadia Valley Operations – Operational planning and execution across both Block cave and Sub-level cave operations in UG Mining, Engineering and Planning roles. | | | |
| 10 | List additional relevant experience (years / project type / location) | 7 months project work at MMG Dugald River zinc and Glencore's CSA copper hard rock metalliferous mines both providing exposure to production planning functions. | | | |
| 11 | Mailing Address: | PO Box 995 Parkes NSW 2870 | | | |
| | Telephone: | Office: 02 6861 3397 | Mob: 0421082334 | Fax: | |
| | E-mail: | Jamie.Widauer@au.cmoc.com | | | |
| 12 | Competent Persons Declaration | I declare by signature below that I understand the requirements of the JORC code (2012) and am satisfied in my own mind that I could face my peers and demonstrate competence in the commodity, type of deposit and situation under consideration. I consent to personal information associated with my role as a competent person being stored (in any format), processed or transferred for all purposes connected with my role as a competent person by Northparkes Mines and associated companies. Without limiting the generality of the foregoing, I also consent to these details being transferred to the relevant regulatory authorities. | | | |
| 13 | Signed: | J.Widauer | | | |
| | Date: | 04/12/2023 | | | |
| Part2 | Managing Director (or equivalent) Authorisation of Appointment | | | | |
| 14 | Business Unit Division: | Northparkes Mines | | | |
| | MD (or equivalent) Name: | Jianjun Tian | | | |
| | Signed: | | | | |
| | Date: | 04/12/2023 | | | |
| 15 | Attached is a full résumé supporting the relevant professional association membership, experience and qualifications of the CP. | | | | |

www.
northparkes.
com

NORTHPARKES MINES
PO BOX 995 PARKES NSW 2870 AUSTRALIA
T +61 2 6861 3000 F +61 2 6861 3101

| | NPM COMPETENT PERSON APPOINTMENT (JORC Code 2012) | | | | |
|---|---|---|---|---|---|
| 1 | CP Name: | Geoffrey Alan Smart | | | |
| 2 | Job title: | Senior Exploration Geologist | | | |
| 3 | Academic Qualifications: | BSc (Appl.Geol) | | | |
| 4 | Direct Employer | CMOC - Northparkes Mines | | | |
| 5 | Current membership of Professional Bodies: | AusIMM | | | |
| 6 | AusIMM /AIG Membership Grade and Number: | Member AusIMM 106459 | | | |
| 7 | or other Membership Details: | | | | |
| 8 | Please list project(s) or operation(s) and whether for resource or reserve.<br><br>If the CP is nominating for multiple resources/reserves reports on this form, please list all projects/operations | Project / Operation | Resource | Reserve | Exploration Results |
| | | Northparkes Mines Open Pits | ☑ | ☐ | ☐ |
| | | | ☐ | ☐ | ☐ |
| | | | ☐ | ☐ | ☐ |
| 9 | Brief Description of Relevant Experience to project(s) / operation(s): | 14 years mine geology, grade control, resource evaluation and exploration at Ordovician-Silurian porphyry copper-gold deposits NSW.<br>2 years mine geology, resource evaluation and exploration Cenozoic epithermal gold deposit PNG.<br>3 years mine geology, grade control, resource evaluation and exploration Archaean greenstone gold deposit WA.<br>3 years mine geology, grade control, resource evaluation and exploration at Palaeozoic orogenic gold deposit NT<br>11 years mine geology, grade control, resource evaluation and exploration at copper-gold, gold and tin skarn deposits in NSW and Tas. | | | |
| 10 | List additional relevant experience (years / project type / location) | 5 years contract drilling management and varied contract geology roles | | | |
| 11 | Mailing Address: | PO Box 149 Parkes NSW 2870 | | | |
| | Telephone: | Office: 02 6861 3469 | Mob: 0407 604 393 | Fax: | |
| | E-mail: | geoff.smart@au.cmoc.com | | | |
| 12 | Competent Persons Declaration | I declare by signature below that I understand the requirements of the JORC code (2012) and am satisfied in my own mind that I could face my peers and demonstrate competence in the commodity, type of deposit and situation under consideration. I consent to personal information associated with my role as a competent person being stored (in any format), processed or transferred for all purposes connected with my role as a competent person by Northparkes Mines and associated companies. Without limiting the generality of the foregoing, I also consent to these details being transferred to the relevant regulatory authorities. | | | |
| 13 | Signed: |  | | | |
| | Date: | 04/12/2023 | | | |
| Part2 | Managing Director (or equivalent) Authorisation of Appointment | | | | |
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| | Signed: |  | | | |
| | Date: | 04/12/2023 | | | |
| 15 | Attached is a full résumé supporting the relevant professional association membership, experience and qualifications of the CP. | | | | |