



**CASTILLO COPPER  
LIMITED**

ASX Release

6 September 2017

**CASTILLO COPPER  
LIMITED**  
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David Wheeler  
Alan Armstrong  
Neil Hutchison

**Issued Capital:**

473.5 million shares  
21 million options

**ASX Symbol:**  
CCZ

## High-grade JORC Inferred Resource at Cangai Copper Mine Exceeds Expectations

- Exceptional high-grade maiden JORC Inferred Resource at unmined working sections in Cangai Copper Mine: 3.2Mt @ 3.35% Cu implying c.108,000 tonnes of contained copper
- On a metal equivalent basis, across key base/precious metals, the results are: CuEq – 4.2%, ZnEq – 9.3%, CoEq – 0.5%, AuEq – 6.9g/t, and AgEq – 503.9g/t
- Maiden JORC Resource at Cangai is amongst the highest grade Copper JORC resources in Australia
- Resource size for Jackaderry Project set to increase substantially with incremental historic assay results and inaugural drilling campaign
- The drilling program, which is slated to commence relatively soon, will target additional supergene ore mineralisation as 3D JORC modelling has confirmed is open in all directions
- CCZ has a key competitive advantage and a clear point of difference with supergene ore, as it should be suitable for direct shipping ore, that can be easily transported to Newcastle port via excellent infrastructure already in place
- 3D JORC modelling highlights the potential to develop an open pit mine, keeping extraction costs moderate, that is potentially targeting one of Australia's highest-grade copper-zinc-cobalt resources
- Re-assaying legacy Cangai Copper Mine core samples for cobalt is progressing – this builds in further exploration upside and potential NPV outcome

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**Castillo Copper's Executive Director Alan Armstrong commented:**

*"This is an outstanding start and arguably delivers CCZ one of the highest-grade copper resources in Australia. Moving forward, the Board plans to further prove up this initial resource by expanding across the Jackaderry Project, which includes an inaugural drilling program. Within the Cangai Copper Mine, 3D JORC modelling showed there are unmined high-grade supergene ore working sections, which are potentially direct shipping ore material that could be extended further. More significantly, given the resource is relatively shallow and located on the top of a hill, an open pit deposit could potentially be developed. The project has excellent infrastructure with sealed roads that link directly to Newcastle Port."*

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Castillo Copper Limited's (**CCZ** or **Company**) Board is delighted to announce a high-grade maiden JORC Inferred Resource for Cangai Copper Mine (Cangai Mine) in unmined working sections of **3.2Mt @ 3.35% Cu** which implies circa 108,000 tonnes of contained copper. On a metal equivalent basis the key base metal results are: CuEq – 4.2%, ZnEq – 9.3% and CoEq – 0.5%, AuEq – 6.9g/t, and AgEq – 503.9g/t.

As this only accounts for a small part of CCZ's Jackaderry Project, the Board is optimistic incremental desktop work and a maiden drilling program will underpin further exploration and mineral resource size upside moving forward.

## **CANGAI COPPER MINE: MAIDEN JORC INFERRED RESOURCE**

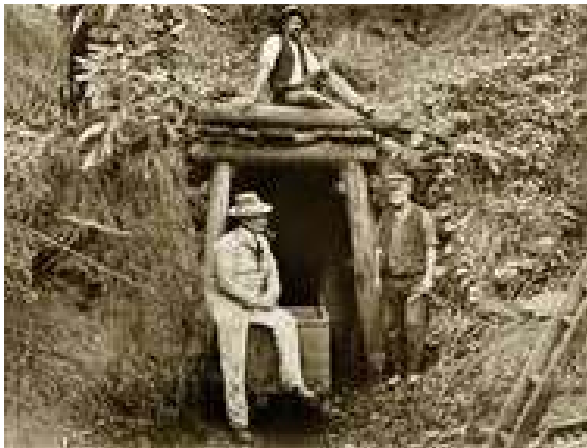
### **Background and mine history**

CCZ has organised its prospects into four groups (Jackaderry, Broken Hill, Mt Oxide and Marlborough) and has a clear strategy to model four JORC compliant resources across its mineralised footprint in a timely manner.

An initial desktop review on the Jackaderry Project by consultant geologist, ROM Resources Pty Ltd (**ROM Resources**), confirmed it contained the historic Cangai Mine within its defined area. Further research highlighted there was adequate legacy data to 3D model the mine and generate a JORC compliant Inferred Resource as a starting point for the broader Jackaderry Project.

The Cangai Mine was discovered in 1901 and was in production between 1904-17, but only ore greater than 13% copper was extracted using manual techniques. A copper smelter was built on site with other supporting infrastructure and industries established, including a tramway and sawmill (refer Figure 1A<sup>1</sup> and 1B<sup>1</sup>). During its lifecycle, the Cangai Mine produced 5,080 tonnes of copper, 1,035kg of silver and 53kg of gold.

**Figure 1A: Cangai Mine entrance**



**Figure 1B: Copper smelter & tramway**



During the last century, two groups undertook geological work at the Cangai Mine but walked away<sup>2</sup>:

- Western Mining conducted geological tests in the early 1980s and drilled one unsuccessful drill hole before relinquishing the tenement in 1984.
- CRA Exploration (CRAE; now part of Rio Tinto) conducted geological tests in 1990-92 and concluded Western Mining drilled in the wrong location. Interestingly, CRAE stated "that there is potential for further economic mineralisation", but relinquished the tenement in 1992, as Australia was in a deep recession and base metal prices were depressed.

CCZ acquired the Cangai Mine in mid-2017, as part of the Jackaderry Project, and is reviewing re-opening the mine given the encouraging initial results.

<sup>1</sup> Source: [www.frozentime.com.au](http://www.frozentime.com.au)

<sup>2</sup> Doctoral thesis by Carl Brauhart UNSW (1991) "The Geology & Mineralisation of the Cangai Copper Mine, Coffs Harbour Block Northeastern New South Wales," CRAE Report No: 17739

## Results and forward plans

The overall results achieved from analysing and 3D modelling legacy data for the Cangai Mine are exceptional and arguably one of the highest grades in Australia. The unmined resource estimate is **3.2Mt @ 3.35% Cu** for circa 108,000 tonnes of contained copper metal (see Figure 2) – refer to Appendix A for a breakdown of the resource by lodes/lenses within the mine area.

**Figure 2: JORC Inferred Resource – Cangai Copper Mine**

| CANGAI COPPER MINE - INFERRED RESOURCE |           |      |       |      |       |       |          |          |          |        |           |
|--|-----------|------|-------|------|-------|-------|----------|----------|----------|--------|-----------|
|  | Mass      | Cu   | Co    | Zn   | Au    | Ag    | Cu       | Co       | Zn       | Au     | Ag        |
|  | (Tonnes)  | (%)  | (%)   | (%)  | (g/t) | (g/t) | (Tonnes) | (Tonnes) | (Tonnes) | (Oz)   | (Oz)      |
| Oxide                                  | 814,267   | 4.1  | 0.010 | 0.63 | 0.06  | 27.34 | 33,391   | 78       | 5,165    | 14,550 | 715,667   |
| Fresh                                  | 2,397,342 | 3.1  | 0.003 | 0.28 | 0.89  | 17.74 | 74,198   | 75       | 6,762    | 68,349 | 1,367,456 |
| Total                                  | 3,211,609 | 3.35 | 0.005 | 0.37 | 0.8   | 20.17 | 107,589  | 153      | 11,927   | 82,899 | 2,083,123 |

Note: Totals may sum exactly due to rounding. Cut-off grade used: 1.0% Cu with top-cut applied: 10.0% Cu.

By all measures, this is clearly a high-grade deposit that delivers CCZ significant exploration upside and the potential to increase the mineral resource size within the Cangai Mine and holistically across the Jackaderry Project. The metal equivalent demonstrates this fact unequivocally, with CuEq at 4.2%, ZnEq at 9.3% and Au nearly 7g/t (Figure 3). Note however, the CoEq figure is relatively low which is reflective of the fact that legacy data did not assay specifically for cobalt and had a much higher laboratory detection limit. ROM Resources is currently in the process of conducting cobalt tests on Cangai core samples, which provides further upside to the mineral resource size and implied NPV.

**Figure 3: Metal Equivalent Results for Cangai Copper Mine**

| CANGAI COPPER MINE - METAL EQUIVALENT |             |             |             |               |               |
|---------------------------------------|-------------|-------------|-------------|---------------|---------------|
|                                       | Cu          | Co          | Zn          | Au            | Ag            |
| Spot price (US\$)                     | 3.1         | 27.5        | 1.4         | 1,300         | 17.8          |
| Unit                                  | (lb)        | (lb)        | (lb)        | (oz)          | (oz)          |
| Metal equivalent                      | CuEq<br>(%) | CoEq<br>(%) | ZnEq<br>(%) | AuEq<br>(g/t) | AgEq<br>(g/t) |
| <b>100% recovery</b>                  | <b>4.22</b> | <b>0.48</b> | <b>9.34</b> | <b>6.9</b>    | <b>503.9</b>  |

Note: Cut-off grade used: 1.0% Cu. Metal Equivalent calculations represent total contained metal equivalents within insitu resource and do not factor in mining or recovery losses. This is displayed for comparison purposes only.

For the Cangai Mine resource specifically, there are several near-term plans that the Board will undertake as a matter of priority:

- Target extensions to higher grade lenses as potential direct shipping ore material;
- Focus on proving up and extending the positions / boundaries of the defined supergene ore lodes within the resource using legacy data and an inaugural drilling program;
- Undertake a preliminary assessment of having an open pit mine, given the resource is relatively shallow and this is the most economic way to extract the ore;
- Expedite re-assaying legacy core samples for cobalt given that builds in additional upside; and
- Progress desktop work identifying other mineralised anomalous zones within the Jackaderry Project to expand the overall resource size.

## MINERAL RESOURCE STATEMENT

The Mineral Resource estimate was classified in accordance with guidelines provided in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012). The classification was based principally on geological confidence, drill hole spacing, grade continuity from available drilling data and historical mining data.

Table 1 below details the Mineral Resource by lodes for the Cangai Copper deposit. The mineralisation models and block reporting cut-off grades used in the in situ resource estimate for Cangai is 1.0% Cu. For mine planning purposes, ore loss and dilution should be considered.

The aim of this work was to generate a modern JORC 2012 compliant Mineral Resource Estimate based on verified historical data to provide an initial resource estimate for exploration targeting and resource verification/extension purposes.

**Table 1: Cangai Mineral Resources as at 5 September 2017**

| CANGAI COPPER MINE | Mineral Resource Category |              |                   |              |              |                |                |             |             |
|--------------------|---------------------------|--------------|-------------------|--------------|--------------|----------------|----------------|-------------|-------------|
|                    | INFERRED                  |              |                   |              |              |                |                |             |             |
|                    | Tonnes (Tonnes)           | Grade Cu (%) | Cu metal (Tonnes) | Grade Co (%) | Grade Zn (%) | Grade Au (g/t) | Grade Ag (g/t) | CuEq (%)    | AuEq (g/t)  |
| Oxide              | 814,267                   | 4.10         | 33,391            | 0.01         | 0.63         | 0.06           | 27.34          |             |             |
| Fresh              | 2,397,342                 | 3.10         | 74,198            | 0.003        | 0.28         | 0.89           | 17.74          |             |             |
| <b>TOTAL</b>       | <b>3,211,608</b>          | <b>3.35</b>  | <b>107,590</b>    | <b>0.005</b> | <b>0.37</b>  | <b>0.80</b>    | <b>20.17</b>   | <b>4.22</b> | <b>6.90</b> |

*Note: Totals may sum exactly due to rounding. Cut-off grade used: 1.0% Cu with top-cut applied: 10.0% Cu.*

## MINERAL RESOURCE ESTIMATION

ROM Resources has completed a Mineral Resource estimate for the Cangai Copper Mine located within the Jackaderry Project, New South Wales, using all available historic assay data as of 31 August 2017. The Mineral Resource estimate was classified in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012). CCZ's Competent Person has consented to the release of the attached mineral resource statement (Table 1) and Appendix B as required under the JORC 2012 code.

## ASSUMPTIONS AND METHODOLOGY

This Mineral Resource estimate for the Cangai Copper Mine is based upon several factors and assumptions:

- All of the available historic drilling data as of 31 August 2017 was used for the Mineral Resource estimate. The data was restricted to surface drilling and underground face sampling as recorded on historical mine records. The drilling data was collected between 1972 -1991 by numerous operating companies as detailed in Appendix B – JORC Table 1.
- Mineralisation outlines were interpreted using historical mine plans, geological interpretations and sectional views of the downhole assays above a grade threshold of 1.0% Cu.
- Inverse Distance Squared (IVD2) estimation was used to estimate Ag (ppm), As (ppm), Au (ppm), Cu (ppm), Co (ppm), Mn (ppm), Pb (ppm), Zn (ppm), Fe (%) and S (%) using variogram parameters defined from the drilling and historical mine workings data.

- Top cuts were applied during the estimation to Cu (10%) to remove skewing of the grade estimations.
- The Mineral Resource has been depleted using a 3D void model of recorded historical underground development and stopes dated 1917
- The Mineral Resource estimation parameters do not assume any mining methods at this early stage.
- Mineral Resource classification was based principally on historical mine records, geological re-interpretation of the mineralised lodes, geological confidence, drillhole spacing and grade continuity from available drilling data.

## **Geology & Geological Interpretation**

Mineralisation in the Coffs Harbour Block is generally associated with fine grained, siliceous metasediment, quartz magnetite or jasper. At the Cangai Copper Mine mineralisation is associated with Silurian-Devonian andesite, cherty tuff, mudstone, siltstones, lithic wackes and conglomerates of the Willowie Creek beds.

Mineralisation in other deposits in the region is interpreted to be associated with tholeiitic volcanism in a submarine environment. However, at the Cangai mine, lead isotope studies indicate that the mineralising fluids might be related to the Towgon Grange Granodiorite intrusion.

The Cangai copper lode was discovered accidentally by J. Sellars in August 1901 while hunting. He identified blue-green carbonates outcropping on the highest point of a large rock. The first shaft was sunk near this point of discovery and 80 tons of oxidised ore was raised yielding from 22-34% copper grades. Further lodes and mining took place and was sold to the Cangai Copper Mining Company who extracted 300 tons of ore, which was despatched to Newcastle and Melbourne.

## **Sampling and Sub-Sampling Techniques**

Analysing surface samples was all historical from the period 1967-2016. The data was a combination of NSW Geological Survey surface sampling database, historical annual / relinquishment reports revisited and additional data extracted. Further analyses are currently being encoded from a 1991 UNSW Honours Thesis (Brauhart 1991), while nearly 870 sample analyses from stream sediment, soil, and rock chip sources were collated and combined.

All the analyses bar a few (<75 out 2,600) samples were laboratory tested in various NATA-registered laboratories throughout Australia. Many of the earlier CRA Exploration stream sediment and soil samples were analysed by CRA internal laboratories.

Many of the sampling programs, especially from the 1990s did include reference samples and duplicate analyses and other forms of QA/QC checking. However, sampling prior to 1985 generally has higher “below detection limits” and less QA/QC checks.

Regarding historical cores from holes held by the NSW Geological Survey at the Cangai Copper Mine (closed), selected sections were re-analyzed for check sampling purposes using pXRF in June 2017. The grades quoted for cored intervals described in section 2 have been measured using a handheld pXRF Analyser. These grades are indicative grades only as the pXRF Analyser does not have the same degree of accuracy as laboratory generated results.

During the period 14-15 August 2017, samples subjected to the pXRF testing and some additional intervals where sulphide mineralisation was recognised were selected and the remaining core cut for laboratory testing.

## **Drilling Techniques**

There are several drill holes near EL 8625 that could be investigated for relevant and similar geology that are held by the department, and could be retested. The closest set of drill holes, 10 in total, with available core for analysis are in the tenure, at the Cangai copper mine. To the north of EL 8625, 17 drill holes were completed for copper-gold exploration at the Just-in-Time mine and Coaldale Prospects. Those cores are available from the NSW Core Library. Drilling was a combination of RAB, RC with limited diamond cored holes.

## **Criteria Used for Classification**

Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).

The classification of Mineral Resources was completed by ROM Resources based on geological confidence, drill hole spacing, data density and grade continuity. The Competent Person is satisfied that the result appropriately reflects his view of the deposit.

Continuous zones meeting the following criteria were used to define the resource class:

### **Measured Resource**

The Measured Mineral Resources consist of the high confidence material which has been grade control drilled (10x15m) and sill development has been completed both above and below. However, no material is categorised as Measured in this resource estimation

### **Indicated Resource**

The Indicated Mineral Resources reflects moderate confidence material with good data density. It reflects a nominal drill spacing of less than 25m x 25m resource definition drilling, through to grade control drilling (10 x 15m spacing), but no ore drives.

### **Inferred Resource**

The Inferred Mineral Resource reflects uncertainty in continuity of the massive sulphides confirmed by drill intersection with poor data density. Notably, the blocks that were estimated are with samples with an average of less than 50 m distance from blocks, while there is a limited number of drill holes.

## **Sample Analysis Method**

All the analyses bar a few (<75 out 2,600) samples were laboratory tested in various NATA-registered laboratories throughout Australia. Many of the earlier CRA Exploration stream sediment and soil samples were analysed by CRA internal laboratories.

XRF geochemical data taken from field portable XRF Olympus.

Duration of sampling 30 seconds per filter (3 filters).

Calibration of the unit was carried out on the unit at the start of the sampling at the core library.

The following elements were analysed; Ag, As, Se, Ca, K, S, Ba, Sb, Sn, Cd, Pd, Zr, Sr, Rb, Pb, Hg, Zn, W, Cu, Ni, Co, V, Ti, Au, Fe, Mn, Cr, Sc, Mo, Th, U, Ta.

Over 220 surface samples have had their assays duplicated.

None of the historical data has been adjusted.

## **Estimation Methodology**

For grade estimation and interpolation into the block model inverse distance to a power of 2 with the polygonal method was used as a check estimate was completed. At this stage of the evaluation of the resource, not enough data has been collected to undertake a 3D geostatistical study, and for the maiden reporting the ID2 method deemed acceptable.

To inhibit bleed of the higher-grade ore below the oxidation boundary a transition surface was created and the blocks coded differently above and below this surface as "OXIDE" or "FRESH", with different search ellipses being employed for each domain.

It was noted that unsampled intervals were present within the mineralisation domains. These intervals represent internal waste zones, which were too narrow and not able to be wireframed separately. It should be noted, that given the current drill spacing, these may smear the overall interpolation to blocks. This may be attributed, in part, to data spacing, and may not be a true reflection of grade continuity. No assumptions have been made regarding by-products, although the copper mineralised zones contain considerable secondary mineralisation, being Au, Ag, Co, and Zn.

A single block model for Cangai was constructed using a 20 mE by 20 mN by 10 mRL parent block size with sub-celling to 10 mE by 10 mN by 5 mRL for domain volume resolution. All estimation was

completed at the parent cell scale. The size of the search ellipse for inverse distance was set to X=300 Y=100m Z=10m rotated 0 degrees in X, -70 degrees in Y and 308 degrees in Z. Octants were established with a minimum of 1 octant to be filled for a valid estimate.

### **Cut-off Grade and Basis for Selected Cut-off Grade**

The resource model is constrained by assumptions about potential economic cut-off grades. The Mineral Resource was modelled using a 0.5% Cu wireframe threshold and reported using a reporting cut-off grade of 1.0% Cu.

### **Mining and Metallurgical Methods, Parameters and Other Material Modifying Factors**

No mining or metallurgical factors have been considered at this early stage of the project. Historical mining was completed by Grafton Copper Mining Company Limited from 1904-17, with CRA Exploration the last group to conduct a geological assessment of the area from 1990-92.

### **Other Information**

The project had previously been mined from 1904-17, with remnants of the historical mine and smelting operations still present. These areas would provide a starting point for any future planned activities. The project is located on private land and contact has been made with the landholder. At this stage, there are no land access or drilling issues.

For and on behalf of Castillo Copper

**David Wheeler**

**Chairman**

### **COMPETENT PERSON STATEMENT**

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Neil Hutchison, a Competent Person who is a Member of the Australian Institute of Geoscientists. Neil Hutchison is an executive director of Castillo Copper Ltd.

Neil Hutchison has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Neil Hutchison consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Australian Securities Exchange has not reviewed and does not accept responsibility for the accuracy or adequacy of this release.

### **ABOUT CASTILLO COPPER**

Castillo Copper Limited (ASX: CCZ) is an ASX-listed base metal explorer – primarily focused on copper, cobalt, zinc and nickel – that has the bulk of its core operating assets in eastern Australia.

These assets comprise four tenure groups that collectively hold 11 highly prospective copper-cobalt-zinc-nickel project areas in New South Wales and Queensland, detailed briefly as follows:

- **Jackaderry Project** – comprises three prospects (two in the south that are contiguous) in the New England Orogen in NSW which are highly prospective for copper-cobalt-zinc. Of significance is the historic Cangai Copper Cobalt Mine (within Jackaderry South) as legacy data confirms the presence of supergene ore with up to 35% copper and 10% zinc which implies direct shipping ore is potentially feasible.
- **Broken Hill Project** – consists of two contiguous tenements that are located within a 20km radius of Broken Hill, NSW, that are prospective for copper-cobalt-zinc. A key feature of the project is an area in the southern part of the tenure, which exhibits significant high-grade zinc mineralisation.
- **Mt Oxide Project** – made up of three prospects (two are contiguous) in the Mt Isa region, northwest Queensland, and are well known for copper-cobalt systems.

- **Marlborough Project** – includes three prospects that are located north-west of Gladstone (adjacent to Queensland Nickel mining leases) in an area, which is made up of proven high-grade cobalt-nickel systems.

The Board is looking to expedite proving up four JORC compliant Inferred Resources across the Australian projects then utilise third party processors near excellent transportation infrastructure to fast-track product to key north Asian markets. If practical, Castillo Copper will sell product to third parties via the London Metal Exchange or enter into offtake agreements.

Castillo Copper also holds wholly-owned Chilean assets comprise of six exploration concessions across a total area of 1,800 hectares that are well known for high grade copper-gold projects.



## APPENDIX A: CANGAI COPPER MINE – GLOBAL INFERRED RESOURCE

The global Inferred Resource for the Cangai Mine and how it transforms to the 3D model is shown in Figures A1 and A2 below.

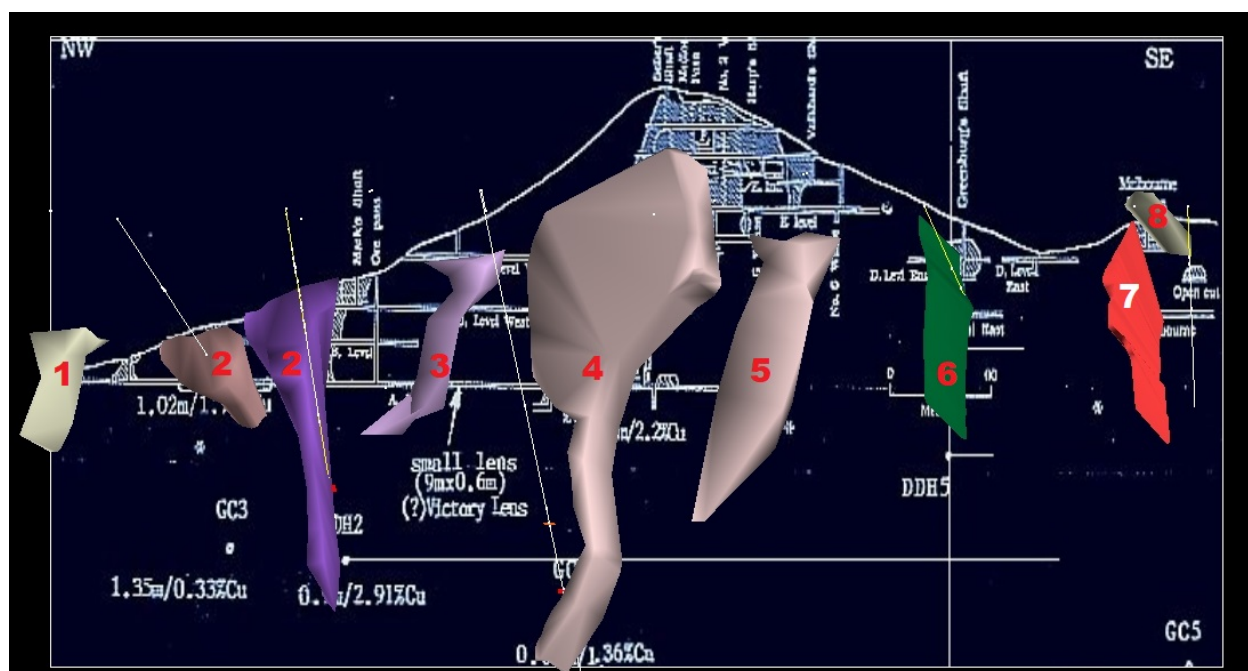
**Figure A1: Global Inferred Resource**

| CANGAI COPPER MINE - GLOBAL INFERRED RESOURCE |       |                   |             |              |             |             |              |                |                |                |               |                  |
|---|-------|-------------------|-------------|--------------|-------------|-------------|--------------|----------------|----------------|----------------|---------------|------------------|
| Lens Name                                     | Zone  | Total<br>(Tonnes) | Cu<br>(%)   | Co<br>(%)    | Zn<br>(%)   | Au<br>(g/t) | Ag<br>(g/t)  | Cu<br>(Tonnes) | Co<br>(Tonnes) | Zn<br>(Tonnes) | Au<br>(oz)    | Ag<br>(oz)       |
| Greenberg's Lens                              | Oxide | 1,754             | 4.05        | 0.010        | 0.57        | 0.00        | 32.09        | 71             | 0              | 10             | 0             | 1,810            |
| Greenberg's Lens                              | Fresh | 676,137           | 2.74        | 0.003        | 0.08        | 0.80        | 15.08        | 18,557         | 19             | 537            | 17,457        | 327,902          |
| Marks Lens                                    | Oxide | 50,073            | 2.09        | 0.014        | 0.14        | 0.17        | 6.80         | 1,048          | 7              | 69             | 271           | 10,946           |
| Melbourne Lens                                | Fresh | 556,708           | 3.08        | 0.003        | 0.19        | 0.89        | 15.48        | 17,170         | 16             | 1078           | 15,931        | 277,066          |
| Melbourne Open Cut                            | Oxide | 15,656            | 3.32        | 0.002        | 0.49        | 0.07        | 14.58        | 520            | 0              | 76             | 36            | 7,341            |
| Sellers Lens                                  | Oxide | 537,838           | 4.18        | 0.009        | 0.81        | 0.81        | 29.21        | 22,469         | 50             | 4339           | 13,955        | 505,181          |
| Sellers Lens                                  | Fresh | 1,066,027         | 3.41        | 0.003        | 0.47        | 0.97        | 21.24        | 36,312         | 37             | 5036           | 33,152        | 728,077          |
| Victory Lens                                  | Oxide | 29,889            | 2.89        | 0.010        | 0.16        | 0.25        | 9.31         | 864            | 3              | 48             | 236           | 8,946            |
| Victory Lens                                  | Fresh | 13,928            | 2.25        | 0.003        | 0.02        | 0.47        | 11.69        | 313            | 0              | 3              | 212           | 5,237            |
| Volkhardt's Shaft Lens                        | Oxide | 179,044           | 4.70        | 0.009        | 0.35        | 0.01        | 31.52        | 8,420          | 17             | 623            | 52            | 181,437          |
| Volkhardt's Shaft Lens                        | Fresh | 84,542            | 2.18        | 0.003        | 0.13        | 0.59        | 10.73        | 1,846          | 2              | 108            | 1,701         | 29,174           |
|   |       | <b>3,211,600</b>  | <b>3.35</b> | <b>0.005</b> | <b>0.37</b> | <b>0.80</b> | <b>20.17</b> | <b>107,600</b> | <b>152</b>     | <b>12,000</b>  | <b>82,900</b> | <b>2,083,100</b> |

Note: Totals may sum exactly due to rounding. Cut-off grade used: 1.0% Cu with top-cut applied: 10.0% Cu.

Source: ROM Resources

**Figure A2: 3D JORC model of Cangai Mine<sup>3</sup>**



Source: ROM Resources

- <sup>3</sup> 1 McDonough's Lens  
 2 Marks Lens  
 3 Victory Lens  
 4 Sellers Lens  
 5 Volkhardt's Shaft Lens  
 6 Greenberg's Lens  
 7 Melbourne Lens  
 8 Melbourne Open Cut

As part of the due diligence for the Cangai Mine, CCZ's Executive Directors Alan Armstrong and Neil Hutchison visited the site and collected some copper ore samples (Figure A3) containing high grade malachite (left) and sulphides (right).

**Figure A3: High grade copper ore from the Cangai mine**



## APPENDIX B: JORC CODE, 2012 EDITION – TABLE 1 REPORT TEMPLATE; CANGAI RESOURCE ESTIMATE - SEPTEMBER 2017

### Section 1 Sampling Techniques and Data (Criteria in this section apply to all succeeding sections.)

| Criteria                   | JORC Code explanation   | Commentary   |
|----------------------------|---|--|
| <b>Sampling techniques</b> | <ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li><i>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 (eg submarine nodules) may warrant disclosure of detailed information.</i></li> </ul> | <ul style="list-style-type: none"> <li>Analysis of the surface samples was all historical from the period 1967-2016. The data was a combination of the NSW Geological Survey surface sampling database and historical annual and relinquishment reports revisited and additional data extracted. Additional analyses are currently being encoded from a 1991 UNSW Honours Thesis (Brauhart 1991).</li> <li>Nearly 870 sample analyses from stream sediment, soil, and rock chip sources were collated and combined.</li> <li>Many of the sampling programs, especially from the 1990's did include reference samples and duplicate analyses and other forms of QA/QC checking.</li> <li>Sampling prior to 1985 generally has higher "below detection limits" and less QA/QC checks.</li> <li>Regarding historical cores from holes held by the NSW Geological Survey at the Cangai Copper Mine (closed), selected sections were reanalyzed for check sampling purposes using pXRF in June 2017. The grades quoted for cored intervals described in section 2 have been measured using a handheld pXRF Analyser. These grades are indicative grades only as the pXRF Analyser does not have the same degree of accuracy as laboratory generated results.</li> <li>During the period 14-15<sup>th</sup> August 2017, samples subjected to the pXRF testing and some additional intervals where sulphide mineralisation was recognised were selected and the remaining core cut for laboratory testing. Sample details of depths considered for retesting are listed in Table 1.1, below. The results will be reported once available from the ALS Laboratory, Brisbane.</li> </ul> |

|  |  | <table><tr><th colspan="9">Table 1.1: Cangai Core Re-Sample Details</th></tr><tr><th>Hole name</th><th>Core Library</th><th>Core Library Location</th><th>Drilling Program</th><th>Year Drilled</th><th>Depth</th><th>Testing Depths 1</th><th>Testing Depths 2</th><th>Testing Depths 3</th></tr><tr><td>DD91CG 5</td><td>Londonderry</td><td>3D/L7/8-9</td><td>Cangai Copper Mine - Grafton</td><td>1991</td><td>275</td><td>35 - 60</td><td>210 - 240</td><td></td></tr><tr><td>DD91CG 4</td><td>Londonderry</td><td>3D/L7/6-7</td><td>Cangai Copper Mine - Grafton</td><td>1991</td><td>180</td><td>105 -120</td><td>165 -180</td><td></td></tr><tr><td>DD91CG 3</td><td>Londonderry</td><td>3D/L7/3-5</td><td>Cangai Copper Mine - Grafton</td><td>1991</td><td>402.4</td><td>70 - 85</td><td>145 - 165</td><td>270 - 300</td></tr><tr><td>DD91CG 2</td><td>Londonderry</td><td>3D/L6/18-19</td><td>Cangai Copper Mine - Grafton</td><td>1991</td><td>421.1</td><td>80 - 100</td><td>140 - 160</td><td>236 - 370</td></tr><tr><td>DDH5</td><td>Londonderry</td><td>5B/L7/17-18</td><td>Cangai Copper Mine - Grafton</td><td>1972</td><td>132.7</td><td>70 - 130</td><td></td><td></td></tr><tr><td>DDH2</td><td>Londonderry</td><td>5B/L7/17</td><td>Cangai Copper Mine - Grafton</td><td>1972</td><td>228.6</td><td>190 - 228</td><td></td><td></td></tr><tr><td>BJAC1</td><td>Londonderry</td><td>3I/L6/4</td><td>Jackadgery - Cangai</td><td>1982</td><td>226.7</td><td>34 - 66</td><td>100 - 108</td><td>121 - 220</td></tr><tr><td>BJAC2</td><td>Londonderry</td><td>3I/L6/5</td><td>Jackadgery - Cangai</td><td>1982</td><td>193.5</td><td>36 - 55</td><td>64 - 75</td><td>122 - 190</td></tr></table> | Table 1.1: Cangai Core Re-Sample Details |              |       |                  |                  |                  |  |  |  | Hole name | Core Library | Core Library Location | Drilling Program | Year Drilled | Depth | Testing Depths 1 | Testing Depths 2 | Testing Depths 3 | DD91CG 5 | Londonderry | 3D/L7/8-9 | Cangai Copper Mine - Grafton | 1991 | 275 | 35 - 60 | 210 - 240 |  | DD91CG 4 | Londonderry | 3D/L7/6-7 | Cangai Copper Mine - Grafton | 1991 | 180 | 105 -120 | 165 -180 |  | DD91CG 3 | Londonderry | 3D/L7/3-5 | Cangai Copper Mine - Grafton | 1991 | 402.4 | 70 - 85 | 145 - 165 | 270 - 300 | DD91CG 2 | Londonderry | 3D/L6/18-19 | Cangai Copper Mine - Grafton | 1991 | 421.1 | 80 - 100 | 140 - 160 | 236 - 370 | DDH5 | Londonderry | 5B/L7/17-18 | Cangai Copper Mine - Grafton | 1972 | 132.7 | 70 - 130 |  |  | DDH2 | Londonderry | 5B/L7/17 | Cangai Copper Mine - Grafton | 1972 | 228.6 | 190 - 228 |  |  | BJAC1 | Londonderry | 3I/L6/4 | Jackadgery - Cangai | 1982 | 226.7 | 34 - 66 | 100 - 108 | 121 - 220 | BJAC2 | Londonderry | 3I/L6/5 | Jackadgery - Cangai | 1982 | 193.5 | 36 - 55 | 64 - 75 | 122 - 190 |
|--|--|---|--|--------------|-------|------------------|------------------|------------------|--|--|--|-----------|--------------|-----------------------|------------------|--------------|-------|------------------|------------------|------------------|----------|-------------|-----------|------------------------------|------|-----|---------|-----------|--|----------|-------------|-----------|------------------------------|------|-----|----------|----------|--|----------|-------------|-----------|------------------------------|------|-------|---------|-----------|-----------|----------|-------------|-------------|------------------------------|------|-------|----------|-----------|-----------|------|-------------|-------------|------------------------------|------|-------|----------|--|--|------|-------------|----------|------------------------------|------|-------|-----------|--|--|-------|-------------|---------|---------------------|------|-------|---------|-----------|-----------|-------|-------------|---------|---------------------|------|-------|---------|---------|-----------|
| Table 1.1: Cangai Core Re-Sample Details |  |   |  |              |       |                  |                  |                  |  |  |  |           |              |                       |                  |              |       |                  |                  |                  |          |             |           |                              |      |     |         |           |  |          |             |           |                              |      |     |          |          |  |          |             |           |                              |      |       |         |           |           |          |             |             |                              |      |       |          |           |           |      |             |             |                              |      |       |          |  |  |      |             |          |                              |      |       |           |  |  |       |             |         |                     |      |       |         |           |           |       |             |         |                     |      |       |         |         |           |
| Hole name                                | Core Library   | Core Library Location   | Drilling Program                         | Year Drilled | Depth | Testing Depths 1 | Testing Depths 2 | Testing Depths 3 |  |  |  |           |              |                       |                  |              |       |                  |                  |                  |          |             |           |                              |      |     |         |           |  |          |             |           |                              |      |     |          |          |  |          |             |           |                              |      |       |         |           |           |          |             |             |                              |      |       |          |           |           |      |             |             |                              |      |       |          |  |  |      |             |          |                              |      |       |           |  |  |       |             |         |                     |      |       |         |           |           |       |             |         |                     |      |       |         |         |           |
| DD91CG 5                                 | Londonderry  | 3D/L7/8-9   | Cangai Copper Mine - Grafton             | 1991         | 275   | 35 - 60          | 210 - 240        |                  |  |  |  |           |              |                       |                  |              |       |                  |                  |                  |          |             |           |                              |      |     |         |           |  |          |             |           |                              |      |     |          |          |  |          |             |           |                              |      |       |         |           |           |          |             |             |                              |      |       |          |           |           |      |             |             |                              |      |       |          |  |  |      |             |          |                              |      |       |           |  |  |       |             |         |                     |      |       |         |           |           |       |             |         |                     |      |       |         |         |           |
| DD91CG 4                                 | Londonderry  | 3D/L7/6-7   | Cangai Copper Mine - Grafton             | 1991         | 180   | 105 -120         | 165 -180         |                  |  |  |  |           |              |                       |                  |              |       |                  |                  |                  |          |             |           |                              |      |     |         |           |  |          |             |           |                              |      |     |          |          |  |          |             |           |                              |      |       |         |           |           |          |             |             |                              |      |       |          |           |           |      |             |             |                              |      |       |          |  |  |      |             |          |                              |      |       |           |  |  |       |             |         |                     |      |       |         |           |           |       |             |         |                     |      |       |         |         |           |
| DD91CG 3                                 | Londonderry  | 3D/L7/3-5   | Cangai Copper Mine - Grafton             | 1991         | 402.4 | 70 - 85          | 145 - 165        | 270 - 300        |  |  |  |           |              |                       |                  |              |       |                  |                  |                  |          |             |           |                              |      |     |         |           |  |          |             |           |                              |      |     |          |          |  |          |             |           |                              |      |       |         |           |           |          |             |             |                              |      |       |          |           |           |      |             |             |                              |      |       |          |  |  |      |             |          |                              |      |       |           |  |  |       |             |         |                     |      |       |         |           |           |       |             |         |                     |      |       |         |         |           |
| DD91CG 2                                 | Londonderry  | 3D/L6/18-19   | Cangai Copper Mine - Grafton             | 1991         | 421.1 | 80 - 100         | 140 - 160        | 236 - 370        |  |  |  |           |              |                       |                  |              |       |                  |                  |                  |          |             |           |                              |      |     |         |           |  |          |             |           |                              |      |     |          |          |  |          |             |           |                              |      |       |         |           |           |          |             |             |                              |      |       |          |           |           |      |             |             |                              |      |       |          |  |  |      |             |          |                              |      |       |           |  |  |       |             |         |                     |      |       |         |           |           |       |             |         |                     |      |       |         |         |           |
| DDH5                                     | Londonderry  | 5B/L7/17-18   | Cangai Copper Mine - Grafton             | 1972         | 132.7 | 70 - 130         |                  |                  |  |  |  |           |              |                       |                  |              |       |                  |                  |                  |          |             |           |                              |      |     |         |           |  |          |             |           |                              |      |     |          |          |  |          |             |           |                              |      |       |         |           |           |          |             |             |                              |      |       |          |           |           |      |             |             |                              |      |       |          |  |  |      |             |          |                              |      |       |           |  |  |       |             |         |                     |      |       |         |           |           |       |             |         |                     |      |       |         |         |           |
| DDH2                                     | Londonderry  | 5B/L7/17  | Cangai Copper Mine - Grafton             | 1972         | 228.6 | 190 - 228        |                  |                  |  |  |  |           |              |                       |                  |              |       |                  |                  |                  |          |             |           |                              |      |     |         |           |  |          |             |           |                              |      |     |          |          |  |          |             |           |                              |      |       |         |           |           |          |             |             |                              |      |       |          |           |           |      |             |             |                              |      |       |          |  |  |      |             |          |                              |      |       |           |  |  |       |             |         |                     |      |       |         |           |           |       |             |         |                     |      |       |         |         |           |
| BJAC1                                    | Londonderry  | 3I/L6/4   | Jackadgery - Cangai                      | 1982         | 226.7 | 34 - 66          | 100 - 108        | 121 - 220        |  |  |  |           |              |                       |                  |              |       |                  |                  |                  |          |             |           |                              |      |     |         |           |  |          |             |           |                              |      |     |          |          |  |          |             |           |                              |      |       |         |           |           |          |             |             |                              |      |       |          |           |           |      |             |             |                              |      |       |          |  |  |      |             |          |                              |      |       |           |  |  |       |             |         |                     |      |       |         |           |           |       |             |         |                     |      |       |         |         |           |
| BJAC2                                    | Londonderry  | 3I/L6/5   | Jackadgery - Cangai                      | 1982         | 193.5 | 36 - 55          | 64 - 75          | 122 - 190        |  |  |  |           |              |                       |                  |              |       |                  |                  |                  |          |             |           |                              |      |     |         |           |  |          |             |           |                              |      |     |          |          |  |          |             |           |                              |      |       |         |           |           |          |             |             |                              |      |       |          |           |           |      |             |             |                              |      |       |          |  |  |      |             |          |                              |      |       |           |  |  |       |             |         |                     |      |       |         |           |           |       |             |         |                     |      |       |         |         |           |
| Drilling techniques                      | <ul style="list-style-type: none"><li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (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.).</li></ul>  | <ul style="list-style-type: none"><li>There are several drillholes near EL 8625 that could be investigated for relevant and similar geology that are held by the department, and could be retested.</li><li>The closest set of drill holes (ten (10) in total) with available core for analysis are in the tenure, at the Cangai copper mine. To the north of EL 8625, seventeen (17) drill holes were completed for copper-gold exploration at the Just-in-Time mine and Coaldale Prospects. Those cores are also available from the NSW Core Library. Drilling was a combination of RAB, RC with limited diamond cored holes.</li></ul>   |  |              |       |                  |                  |                  |  |  |  |           |              |                       |                  |              |       |                  |                  |                  |          |             |           |                              |      |     |         |           |  |          |             |           |                              |      |     |          |          |  |          |             |           |                              |      |       |         |           |           |          |             |             |                              |      |       |          |           |           |      |             |             |                              |      |       |          |  |  |      |             |          |                              |      |       |           |  |  |       |             |         |                     |      |       |         |           |           |       |             |         |                     |      |       |         |         |           |
| Drill sample recovery                    | <ul style="list-style-type: none"><li>Method of recording and assessing core and chip sample recoveries and results assessed.</li><li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li><li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li></ul> | <ul style="list-style-type: none"><li>Not applicable in this study as no new drilling has been undertaken yet.</li></ul>  |  |              |       |                  |                  |                  |  |  |  |           |              |                       |                  |              |       |                  |                  |                  |          |             |           |                              |      |     |         |           |  |          |             |           |                              |      |     |          |          |  |          |             |           |                              |      |       |         |           |           |          |             |             |                              |      |       |          |           |           |      |             |             |                              |      |       |          |  |  |      |             |          |                              |      |       |           |  |  |       |             |         |                     |      |       |         |           |           |       |             |         |                     |      |       |         |         |           |
| Logging                                  | <ul style="list-style-type: none"><li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li><li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li></ul>   | <ul style="list-style-type: none"><li>The drilling that did occur was completed to modern-day standards.</li><li>No downhole geophysical logging took place, except for acid etching for hole deviation in DDH2 and DDH5.</li></ul>   |  |              |       |                  |                  |                  |  |  |  |           |              |                       |                  |              |       |                  |                  |                  |          |             |           |                              |      |     |         |           |  |          |             |           |                              |      |     |          |          |  |          |             |           |                              |      |       |         |           |           |          |             |             |                              |      |       |          |           |           |      |             |             |                              |      |       |          |  |  |      |             |          |                              |      |       |           |  |  |       |             |         |                     |      |       |         |           |           |       |             |         |                     |      |       |         |         |           |



|   |   |  |
|---|---|--|
|   | <ul style="list-style-type: none"> <li>• The total length and percentage of the relevant intersections logged.</li> </ul>   |  |
| <b>Sub-sampling techniques and sample preparation</b> | <ul style="list-style-type: none"> <li>• If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>• If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>• For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>• Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>• Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul> | <ul style="list-style-type: none"> <li>• No new samples were obtained. Historical cores from Cangai Mine lodged with the NSW Geological Survey are generally sawn with half or quarter core remaining.</li> <li>• Industry acceptable standards and blanks were used as certified reference material to ensure satisfactory performance of the pXRF.</li> <li>• QAQC results indicate that the sampling is accurate and precise, but hindered by locational accuracy of the hole locations. Georegistering plans suggest locational accuracy is <math>\pm 50\text{m}</math>.</li> </ul>  |
| <b>Quality of assay data and laboratory tests</b>     | <ul style="list-style-type: none"> <li>• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>• For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>• Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>  | <ul style="list-style-type: none"> <li>• All the analyses bar a few (&lt;75 out 2,600) samples were laboratory tested in various NATA-registered laboratories throughout Australia. Many of the earlier CRA Exploration stream sediment and soil samples were analysed by CRA internal laboratories.</li> <li>• XRF geochemical data taken from field portable XRF Olympus.</li> <li>• Duration of sampling 30 seconds per filter (3 filters).</li> <li>• Calibration of the unit was carried out on the unit at the start of the sampling at the core library.</li> <li>• The following elements were analysed; Ag, As, Se, Ca, K, S, Ba, Sb, Sn, Cd, Pd, Zr, Sr, Rb, Pb, Hg, Zn, W, Cu, Ni, Co, V, Ti, Au, Fe, Mn, Cr, Sc, Mo, Th, U, Ta.</li> </ul> |
| <b>Verification of sampling and assaying</b>          | <ul style="list-style-type: none"> <li>• The verification of significant intersections by either independent or alternative company personnel.</li> <li>• The use of twinned holes.</li> <li>• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>• Discuss any adjustment to assay data.</li> </ul>   | <ul style="list-style-type: none"> <li>• Over 220 surface samples have had their assays duplicated.</li> <li>• None of the historical data has been adjusted.</li> </ul>   |
| <b>Location of data points</b>                        | <ul style="list-style-type: none"> <li>• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>   | <ul style="list-style-type: none"> <li>• In general, locational accuracy does vary, depending upon whether the samples were digitised off plans or had their coordinated tabulated. Many surface samples were reported to AGD66 or AMG84 and have been converted to MGA94.</li> <li>• Locational accuracy therefore varies between 2-50m. The list of historical drillholes investigated is shown in Table 2.</li> </ul>   |

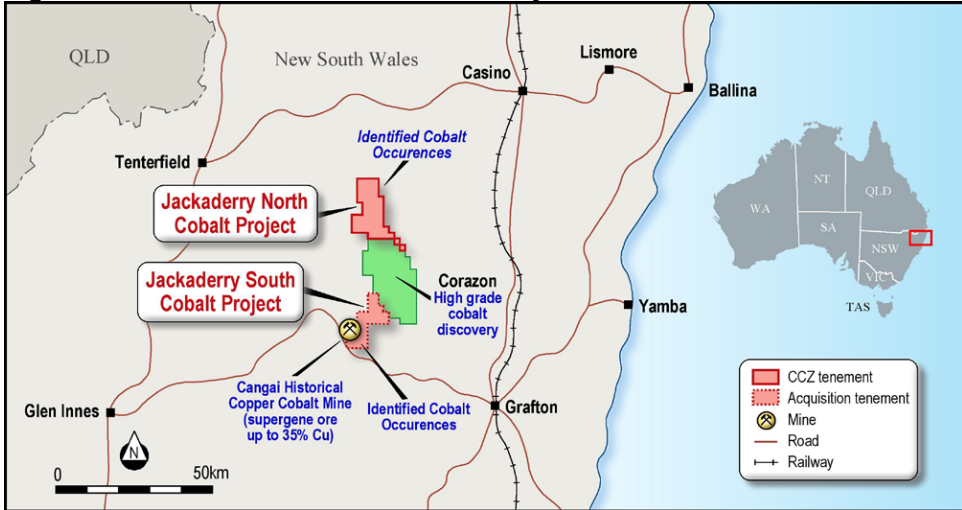
|                                      |  | <table><caption>Table 1.2: Cangai Diamond Drilling</caption><thead><tr><th>Year</th><th>Company</th><th>Hole No</th><th>Dip</th><th>Azimuth (M)</th><th>Length (m)</th><th>Interval (m)</th><th>True Width (m)</th><th>Grade Cu(%)</th></tr></thead><tbody><tr><td>1972</td><td>Union Corp</td><td>DDH2</td><td>70</td><td>037</td><td>228</td><td>204.93-207.32<br/>(204.93-206.4<br/>(204.93-205.46</td><td>2.13<br/>0.9<br/>0.35</td><td>1.94<br/>2.91)<br/>5.5)</td></tr><tr><td></td><td></td><td>DDH5</td><td>35</td><td>026</td><td>132.9</td><td colspan="3">(shear intersected near end of hole)</td></tr><tr><td>1984</td><td>WMC</td><td>BJAC1<br/>BJAC2</td><td>60</td><td>215<br/>010</td><td>226.7<br/>192.5</td><td colspan="3">(testing I.P., TEM, geochhemistry in mine area )</td></tr><tr><td>1991</td><td>CRAE</td><td>DD91GC<br/>1,2</td><td>70</td><td>035</td><td>421.1</td><td>294.85- 295.5</td><td></td><td>1.36</td></tr><tr><td></td><td></td><td>3</td><td>52</td><td>031</td><td>402.4</td><td>287 - 288.35</td><td></td><td>0.33</td></tr><tr><td></td><td></td><td>4</td><td>45</td><td>042</td><td>180</td><td colspan="3">( testing magnetic anomalies to S.E.)</td></tr><tr><td></td><td></td><td>5</td><td>45</td><td>002</td><td>275</td><td>226.64 - 227.47</td><td></td><td>0.38</td></tr></tbody></table> | Year | Company     | Hole No        | Dip  | Azimuth (M)         | Length (m)            | Interval (m) | True Width (m) | Grade Cu(%) | 1972 | Union Corp | DDH2 | 70 | 037 | 228 | 204.93-207.32<br>(204.93-206.4<br>(204.93-205.46 | 2.13<br>0.9<br>0.35 | 1.94<br>2.91)<br>5.5) |  |  | DDH5 | 35 | 026 | 132.9 | (shear intersected near end of hole) |  |  | 1984 | WMC | BJAC1<br>BJAC2 | 60 | 215<br>010 | 226.7<br>192.5 | (testing I.P., TEM, geochhemistry in mine area ) |  |  | 1991 | CRAE | DD91GC<br>1,2 | 70 | 035 | 421.1 | 294.85- 295.5 |  | 1.36 |  |  | 3 | 52 | 031 | 402.4 | 287 - 288.35 |  | 0.33 |  |  | 4 | 45 | 042 | 180 | ( testing magnetic anomalies to S.E.) |  |  |  |  | 5 | 45 | 002 | 275 | 226.64 - 227.47 |  | 0.38 |
|--------------------------------------|--|---|------|-------------|----------------|--|---------------------|-----------------------|--------------|----------------|-------------|------|------------|------|----|-----|-----|--|---------------------|-----------------------|--|--|------|----|-----|-------|--------------------------------------|--|--|------|-----|----------------|----|------------|----------------|--|--|--|------|------|---------------|----|-----|-------|---------------|--|------|--|--|---|----|-----|-------|--------------|--|------|--|--|---|----|-----|-----|---------------------------------------|--|--|--|--|---|----|-----|-----|-----------------|--|------|
| Year                                 | Company  | Hole No   | Dip  | Azimuth (M) | Length (m)     | Interval (m)                                     | True Width (m)      | Grade Cu(%)           |              |                |             |      |            |      |    |     |     |  |                     |                       |  |  |      |    |     |       |                                      |  |  |      |     |                |    |            |                |  |  |  |      |      |               |    |     |       |               |  |      |  |  |   |    |     |       |              |  |      |  |  |   |    |     |     |                                       |  |  |  |  |   |    |     |     |                 |  |      |
| 1972                                 | Union Corp   | DDH2  | 70   | 037         | 228            | 204.93-207.32<br>(204.93-206.4<br>(204.93-205.46 | 2.13<br>0.9<br>0.35 | 1.94<br>2.91)<br>5.5) |              |                |             |      |            |      |    |     |     |  |                     |                       |  |  |      |    |     |       |                                      |  |  |      |     |                |    |            |                |  |  |  |      |      |               |    |     |       |               |  |      |  |  |   |    |     |       |              |  |      |  |  |   |    |     |     |                                       |  |  |  |  |   |    |     |     |                 |  |      |
|                                      |  | DDH5  | 35   | 026         | 132.9          | (shear intersected near end of hole)             |                     |                       |              |                |             |      |            |      |    |     |     |  |                     |                       |  |  |      |    |     |       |                                      |  |  |      |     |                |    |            |                |  |  |  |      |      |               |    |     |       |               |  |      |  |  |   |    |     |       |              |  |      |  |  |   |    |     |     |                                       |  |  |  |  |   |    |     |     |                 |  |      |
| 1984                                 | WMC  | BJAC1<br>BJAC2  | 60   | 215<br>010  | 226.7<br>192.5 | (testing I.P., TEM, geochhemistry in mine area ) |                     |                       |              |                |             |      |            |      |    |     |     |  |                     |                       |  |  |      |    |     |       |                                      |  |  |      |     |                |    |            |                |  |  |  |      |      |               |    |     |       |               |  |      |  |  |   |    |     |       |              |  |      |  |  |   |    |     |     |                                       |  |  |  |  |   |    |     |     |                 |  |      |
| 1991                                 | CRAE   | DD91GC<br>1,2   | 70   | 035         | 421.1          | 294.85- 295.5                                    |                     | 1.36                  |              |                |             |      |            |      |    |     |     |  |                     |                       |  |  |      |    |     |       |                                      |  |  |      |     |                |    |            |                |  |  |  |      |      |               |    |     |       |               |  |      |  |  |   |    |     |       |              |  |      |  |  |   |    |     |     |                                       |  |  |  |  |   |    |     |     |                 |  |      |
|                                      |  | 3   | 52   | 031         | 402.4          | 287 - 288.35                                     |                     | 0.33                  |              |                |             |      |            |      |    |     |     |  |                     |                       |  |  |      |    |     |       |                                      |  |  |      |     |                |    |            |                |  |  |  |      |      |               |    |     |       |               |  |      |  |  |   |    |     |       |              |  |      |  |  |   |    |     |     |                                       |  |  |  |  |   |    |     |     |                 |  |      |
|                                      |  | 4   | 45   | 042         | 180            | ( testing magnetic anomalies to S.E.)            |                     |                       |              |                |             |      |            |      |    |     |     |  |                     |                       |  |  |      |    |     |       |                                      |  |  |      |     |                |    |            |                |  |  |  |      |      |               |    |     |       |               |  |      |  |  |   |    |     |       |              |  |      |  |  |   |    |     |     |                                       |  |  |  |  |   |    |     |     |                 |  |      |
|                                      |  | 5   | 45   | 002         | 275            | 226.64 - 227.47                                  |                     | 0.38                  |              |                |             |      |            |      |    |     |     |  |                     |                       |  |  |      |    |     |       |                                      |  |  |      |     |                |    |            |                |  |  |  |      |      |               |    |     |       |               |  |      |  |  |   |    |     |       |              |  |      |  |  |   |    |     |     |                                       |  |  |  |  |   |    |     |     |                 |  |      |
| <b>Data spacing and distribution</b> | <ul style="list-style-type: none"><li>• Data spacing for reporting of Exploration Results.</li><li>• Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li><li>• Whether sample compositing has been applied.</li></ul> | <ul style="list-style-type: none"><li>• The current database was augmented with sub-surface samples, (encoding completed 24th August 2017). The following elements were considered critical to model at Cangai:<ul style="list-style-type: none"><li>• <b>Cu</b> MAJOR</li><li>• <b>Au</b> MAJOR</li><li>• <b>Ag</b> MAJOR</li><li>• <b>As</b> MINOR</li><li>• <b>Zn</b> MINOR</li><li>• <b>Co</b> MINOR</li></ul></li></ul> <p>Additional elements modelled were Fe, S, Mn and Pb.</p> <ul style="list-style-type: none"><li>• The average surface sample spacing across the tenure varies per element, e.g. for cobalt the RMS spacing between sample points is 165m, ranging down to</li></ul>   |      |             |                |  |                     |                       |              |                |             |      |            |      |    |     |     |  |                     |                       |  |  |      |    |     |       |                                      |  |  |      |     |                |    |            |                |  |  |  |      |      |               |    |     |       |               |  |      |  |  |   |    |     |       |              |  |      |  |  |   |    |     |     |                                       |  |  |  |  |   |    |     |     |                 |  |      |

|   |  |   |
|---|--|---|
|   |  | <p>124m for nickel.</p> <ul style="list-style-type: none"> <li>• Average Drillhole spacing for the nine (9) boreholes used for the 514m.</li> <li>• For the ore samples, whose locations within the mine can only be considered approximate within 30-50m, the 24 samples included in the model were spaced upon average 90m apart and across depth ranging from 3-130m depth</li> <li>• No sample compositing has been applied.</li> </ul>   |
| <p><b>Orientation of data in relation to geological structure</b></p> | <ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul> | <ul style="list-style-type: none"> <li>• Additional surface bedding and foliation data, and that from some of the accessible underground mine adits was compiled from a UNSW Honours thesis (Brauhart 1991). Information is available from underground workings, open cut(s), shaft(s), adit(s), shallow pits and scrapings. The Lode sub-vertical to vertical, striking 126 degrees true north and pitching at 60 degrees to the west. The high-grade ore as mined, varies from 0.3m-3.9m wide</li> </ul> <p>The known copper-gold mineralisation around Cangai strikes from 290-330 degrees, with the major orebody shapes shown by Figure 3, below:</p> <p><b>Figure 3: Orientation of Copper-Gold Mineralisation at the Cangai Mine</b></p> |

|                          |  |   |
|--------------------------|--|---|
|                          |  | It should be noted that these orebody shapes were drawn at >13% Cu so that the modelled wireframes in this current resource have been enlarged to try to capture mineralisation down to 1% Cu   |
| <b>Sample security</b>   | <ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>                         | <ul style="list-style-type: none"> <li>Seventeen new samples were cut from DDH2, DDH5, DD91GC2, and DD91GC4. Chain of custody sample sheets were filled out for these samples for both the NSW Geological Survey and ALS Laboratories. Samples were bagged and have been freighted by Toll Holdings from the Prospectors Supplies warehouse in Dural Sydney to ALS Laboratories Brisbane. Results are not yet to hand so these samples were not used in this model</li> </ul> |
| <b>Audits or reviews</b> | <ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul> | <ul style="list-style-type: none"> <li>No audits or reviews have yet been undertaken.</li> </ul>  |



## Section 2: Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section)

| Criteria                                       | JORC Code explanation  | Commentary  |
|--|--|---|
| <b>Mineral tenement and land tenure status</b> | <ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul> | <ul style="list-style-type: none"> <li>Castillo Copper holds EL 8625 of 35 units (155 km<sup>2</sup>). The tenure has been granted for a period of thirty-six months until 17<sup>th</sup> July 2020, for Group 1 minerals. The location of the tenure is shown in Figure 2.1 below:</li> </ul> <p><b>Figure 2.1: Location of EL 8625 Jackaderry South</b></p>   |
| <b>Exploration done by other parties</b>       | <ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>  | <p>Some mining history and discovery information provided by North Broken Hill Ltd (1970) is as follows:</p> <div style="border: 1px solid black; padding: 5px;"> <p><b>Cangai</b></p> <p>The Cangai copper mine, located 10 km north west of Jackaderry, is one of the richest copper and gold mines in the region. This deposit was discovered in 1901 by J. Sellers and was subsequently mined by the Grafton Copper Mining Company Ltd from 1904 to 1917. A copper smelter was built and a substantial village with a sawmill developed. Recorded production is 5080 tonnes of copper, 52.7 kg of gold and 1035 kg of silver (Henley and Barnes 1992). The mine was unusual in that its discovery post-dated much of the initial mineral discoveries in New England. It had the distinction of paying its own way from ore produced from the mine and paid rich dividends to its shareholders as a result of the rich ore and the low production costs related to the self fluxing ore and that ore could be easily hauled downhill to the smelter. The mine prompted upgrades to roads and communications into the area.</p> </div> <p>Previous explorers (Brownlow, 1989; Abraham-Jones, 2012) have noted that a 'basement window' of exposed magmatic hydrothermal alteration and historical</p> |

|                |  |  |
|----------------|--|--|
|                |  | <p>copper workings may represent the western and upper extent of a much larger hydrothermal system concealed under Mesozoic cover to the east, prospective for:</p> <ul style="list-style-type: none"> <li>• Quartz-tourmaline-sulphide-cemented, magmatic-hydrothermal breccia hosted copper-gold-molybdenum-cobalt (Cu-Au-Mo-Co) deposit;</li> <li>• Concealed porphyry copper-gold-molybdenum-cobalt (Cu-Au-Mo-Co) ore body associated with quartz diorite to tonalitic porphyry apophyses proximal to the tourmaline-sulphide cemented breccia's;</li> <li>• Potential also exists for copper-gold (Cu-Au) skarn;</li> </ul> <p>Considerable exploration has taken place in and around the Cangai Copper Mine (closed) by several large explorers such as Western Mining and CRA Exploration, the results of which are covered in the Local Geology section.</p>   |
| <b>Geology</b> | <ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul> | <p>Regional Geology</p> <p>The underlying geology is contained within the Coffs Harbour Block, east of the Demon Fault. The major basement unit is the Silurian-Devonian Silverwood Group (locally the Willowie Creek Beds), a mixed sequence of tuffaceous mudstones, intermediate to basic igneous rocks, slates, and phyllites, a low stage of regional metamorphism.</p> <p>Overlying this rock formation is a younger tectonic melange of Early Carboniferous age – the Gundahl Complex of slates, phyllites and schist, with chert, greenstone and massive lithic greywackes.</p> <p>These rocks are intruded by the Early Permian Kaloe Granodiorite (tonalite), which also in turn is intruded by numerous later-stage mafic (lamprophyre) dykes.</p> <p>Local Geology</p> <p>The local geology is well understood as considerable exploration has taken place in and around the Cangai Copper Mine (closed) by several major explorers such as Western Mining and CRA Exploration, the results of which are covered in the section below. The mineralisation is controlled by the presence of shear zones within the country rock and persistent jointing. Chloritic alteration is pervasive, with the major minerals identified (Henley and Barnes 1990) as:</p> <ul style="list-style-type: none"> <li>• <b>Azurite</b> major ore</li> <li>• <b>Chalcocite</b> major ore</li> </ul> |

|  |  |  |
|--|--|--|
|  |  | <ul style="list-style-type: none"> <li>• <b>Chalcopyrite</b> major ore</li> <li>• <b>Copper</b> major ore</li> <li>• <b>Malachite</b> major ore</li> <li>• <b>Pyrite</b> major ore</li> <li>• <b>Pyrrhotite</b> major ore</li> <li>• <b>Arsenopyrite</b> minor ore</li> <li>• <b>Sphalerite</b> minor ore</li> <li>• <b>Cuprite</b> minor ore</li> <li>• <b>Gold</b> minor ore</li> <li>• <b>Limonite</b> minor ore</li> <li>• <b>Chlorite</b> major gangue</li> <li>• <b>Calcite</b> major gangue</li> <li>• <b>Quartz</b> major gangue</li> <li>• <b>Sericite</b> minor gangue</li> </ul> <p>Western Mining 1982-1984</p> <p>Western Mining found that the recognition of substantial amounts of pyrrhotite in high grade ore collected from mine dumps led to the reappraisal of previous explorer's ground magnetics (Brown, 1984). Two soil anomalies were identified @ +60ppm Cu (max 1100ppm) and several strong linear magnetic anomalies (=250nT above background). Soil sampling and detailed ground inspections conducted over the linear magnetic high failed to identify any anomalous geochemistry or a possible source lithology. A 180m diamond drill hole was drilled to test the anomaly. Given the poor results of both the drilling and the follow-up stream sediment sampling, no further work was recommended. The decision was made to relinquish the licence in 1984.</p> <p>CRA Exploration 1991-1992</p> <p>CRA Exploration examined the geological form, setting and genesis of the mineralisation at the Cangai Copper Mine over several years. The work carried out consisted of geological mapping, collection of rock chip samples, and underground investigations at the mine site. Drill core from a CRA exploration program and mine dumps were also inspected. They concluded that the Cangai Copper Mine is hosted by sedimentary rocks of the Siluro-Devonian Willowie Creek Beds of tuffaceous mudstones, tuffaceous sandstones and conglomerates. Mineralisation appears to be associated with steeply plunging ore shoots in and adjacent to the main shear zone (Figure 2.2). Massive primary ore consists of chalcopyrite, pyrite and pyrrhotite with lesser sphalerite and minor arsenopyrite and galena. A detailed, well documented report was produced, but no reasons were given for the relinquishment of the licence.</p> |
|--|--|--|

**Figure 2.2: Rock Chip Sampling at Cangai Copper Mine**

Appendix 5 Ore Sample Assays

Similar dump samples to those collected by the author were submitted for analysis by CRA Exploration. Selected assays are presented below. Values are ppm unless otherwise stated.

|    | 1     | 2     | 3     | 4     | 5     | 6     |
|----|-------|-------|-------|-------|-------|-------|
| Cu | 15.3% | 28.6% | 12.4% | 14.8% | 10.6% | 11.0% |
| Pb | 640   | 1200  | 1800  | 7550  | 800   | 2500  |
| Zn | 4.68% | 1.27% | 2.35% | 9.50% | 6400  | 5.10% |
| Ag | 76    | 86    | 30    | 49    | 160   | 150   |
| As | 4750  | 1650  | 4850  | 3800  | 4750  | 7150  |
| Mn | 185   | 240   | 370   | 430   | 155   | 150   |
| Au | 1.80  | 2.50  | 0.72  | 2.30  | 1.32  | 1.85  |
| Fe | 30.9% | 22.6% | 28.2% | 32.9% | 33.8% | 27.4% |
| S  | 27.5% | 3.73% | 16.6% | 29.6% |       |       |
| Co | 70    | 25    | 300   | 330   | 370   | 300   |
| V  |       |       |       |       | <10   | <10   |
| Ba |       |       |       |       | <10   | 20    |
| Ni |       |       |       |       | <5    | <5    |
| Bi |       |       |       |       | 30    | 80    |
| Cd |       |       |       |       | 14    | 90    |

Sample description

|   |   |
|---|---|
| 1 | Massive chalcopyrite-pyrite ore                     |
| 2 | Oxide material                                      |
| 3 | Massive pyrite chalcopyrite rock with gangue clasts |
| 4 | Well banded pyrite-sphalerite ore                   |
| 5 | Weakly banded massive sulfide                       |
| 6 | Weakly banded massive sulfide                       |

**Drill hole Information**

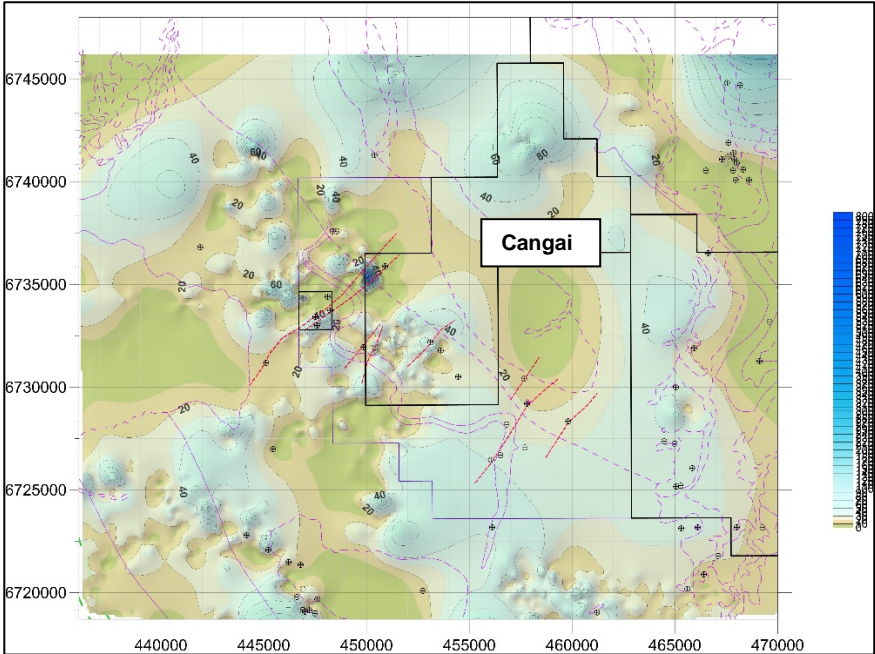
- A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:
    - easting and northing of the drill hole collar
    - elevation or RL (Reduced Level – elevation above sea level in metres) of 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.
- During late May 2017, ROM Resources personnel visited the NSW Geological Survey core storage facility at Londonderry in the Western Sydney area, to view, log and resample Cangai Mine cores. Of the ten (10) drillholes completed by various exploration and mining companies (including Western Mining and CRA Exploration) during the period 1972-1991, eight (8) had core stored with the Department.
  - As this was a preliminary visit, and many of the core only had quarter core samples remaining it was decided to scan targeted areas with a portable pXRF machine, and record the average grade for a suite of minerals over that interval which were generally 0.5-2m in length.
  - The drillholes were sited in and around the mined-out areas and generally the target intervals were of andesite or tuff that had been brecciated and displaying multi-sulphide mineralisation were tested. Some of the intervals tested had normal laboratory results available, but only for Cu, Au, Ag, Pb and Zn. Comparisons have yet to be made with the pXRF values, only to note that pXRF

|   |  | <p>copper values were higher than the comparable assayed interval.</p> <ul style="list-style-type: none"><li>• A summary of selected results for all holes combined is given below in Table 2.3. In all 22 elements were tested.</li><li>• Total Minerals considers that if laboratory retesting of the core for cobalt is achieved then, combined with the mine working data and other geological information, sufficient data exists to calculate a small copper-cobalt-zinc resource based on the unmined portions of the now closed Cangai Copper Mine.</li></ul> <p><b>Table 2.3: Summary of Cangai pXRF Testing</b></p> <table><tr><th>Element</th><th>Total Tests</th><th>Anomalous Threshold (ppm)</th><th>Number of Anomalous Values</th><th>Highest Value ppm</th></tr><tr><td>Cu</td><td>37</td><td>500</td><td>17</td><td>190,000 (19%)</td></tr><tr><td>Pb</td><td>37</td><td>600</td><td>3</td><td>2,500</td></tr><tr><td>Zn</td><td>37</td><td>600</td><td>5</td><td>1,860</td></tr><tr><td>Co</td><td>37</td><td>50</td><td>4</td><td>730</td></tr><tr><td>Au</td><td>37</td><td>5 ppb</td><td>1</td><td>25ppb</td></tr><tr><td>Ag</td><td>37</td><td>2</td><td>2</td><td>15</td></tr><tr><td>U</td><td>37</td><td>50</td><td>1</td><td>170</td></tr></table> <p>Note: pXRF testing is indicative only, and further laboratory testing is required. It should be noted that the main purpose of the pXRF testing was to confirm the presence of cobalt which was previously not analysed.</p> | Element                    | Total Tests       | Anomalous Threshold (ppm) | Number of Anomalous Values | Highest Value ppm | Cu | 37 | 500 | 17 | 190,000 (19%) | Pb | 37 | 600 | 3 | 2,500 | Zn | 37 | 600 | 5 | 1,860 | Co | 37 | 50 | 4 | 730 | Au | 37 | 5 ppb | 1 | 25ppb | Ag | 37 | 2 | 2 | 15 | U | 37 | 50 | 1 | 170 |
|---|--|---|----------------------------|-------------------|---------------------------|----------------------------|-------------------|----|----|-----|----|---------------|----|----|-----|---|-------|----|----|-----|---|-------|----|----|----|---|-----|----|----|-------|---|-------|----|----|---|---|----|---|----|----|---|-----|
| Element   | Total Tests  | Anomalous Threshold (ppm)   | Number of Anomalous Values | Highest Value ppm |                           |                            |                   |    |    |     |    |               |    |    |     |   |       |    |    |     |   |       |    |    |    |   |     |    |    |       |   |       |    |    |   |   |    |   |    |    |   |     |
| Cu  | 37   | 500   | 17                         | 190,000 (19%)     |                           |                            |                   |    |    |     |    |               |    |    |     |   |       |    |    |     |   |       |    |    |    |   |     |    |    |       |   |       |    |    |   |   |    |   |    |    |   |     |
| Pb  | 37   | 600   | 3                          | 2,500             |                           |                            |                   |    |    |     |    |               |    |    |     |   |       |    |    |     |   |       |    |    |    |   |     |    |    |       |   |       |    |    |   |   |    |   |    |    |   |     |
| Zn  | 37   | 600   | 5                          | 1,860             |                           |                            |                   |    |    |     |    |               |    |    |     |   |       |    |    |     |   |       |    |    |    |   |     |    |    |       |   |       |    |    |   |   |    |   |    |    |   |     |
| Co  | 37   | 50  | 4                          | 730               |                           |                            |                   |    |    |     |    |               |    |    |     |   |       |    |    |     |   |       |    |    |    |   |     |    |    |       |   |       |    |    |   |   |    |   |    |    |   |     |
| Au  | 37   | 5 ppb   | 1                          | 25ppb             |                           |                            |                   |    |    |     |    |               |    |    |     |   |       |    |    |     |   |       |    |    |    |   |     |    |    |       |   |       |    |    |   |   |    |   |    |    |   |     |
| Ag  | 37   | 2   | 2                          | 15                |                           |                            |                   |    |    |     |    |               |    |    |     |   |       |    |    |     |   |       |    |    |    |   |     |    |    |       |   |       |    |    |   |   |    |   |    |    |   |     |
| U   | 37   | 50  | 1                          | 170               |                           |                            |                   |    |    |     |    |               |    |    |     |   |       |    |    |     |   |       |    |    |    |   |     |    |    |       |   |       |    |    |   |   |    |   |    |    |   |     |
| <b>Data aggregation methods</b>                       | <ul style="list-style-type: none"><li>• <i>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.</i></li><li>• <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li><li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li></ul> | <ul style="list-style-type: none"><li>• In the final reporting copper tonnage was stated between 1 and 10%, with any values that exceeded 10% (only in the Sellers Lens) cut to 10%.</li></ul>  |                            |                   |                           |                            |                   |    |    |     |    |               |    |    |     |   |       |    |    |     |   |       |    |    |    |   |     |    |    |       |   |       |    |    |   |   |    |   |    |    |   |     |
| <b>Relationship between mineralisation widths and</b> | <ul style="list-style-type: none"><li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li><li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li><li>• <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect</i></li></ul>  | <p>A plot of surface copper and zinc surface anomalies (Figures 2.4 and 2.5) shows an anomalous copper value of 700ppm just to the south of the Cangai Mine</p>   |                            |                   |                           |                            |                   |    |    |     |    |               |    |    |     |   |       |    |    |     |   |       |    |    |    |   |     |    |    |       |   |       |    |    |   |   |    |   |    |    |   |     |

*intercept  
lengths*

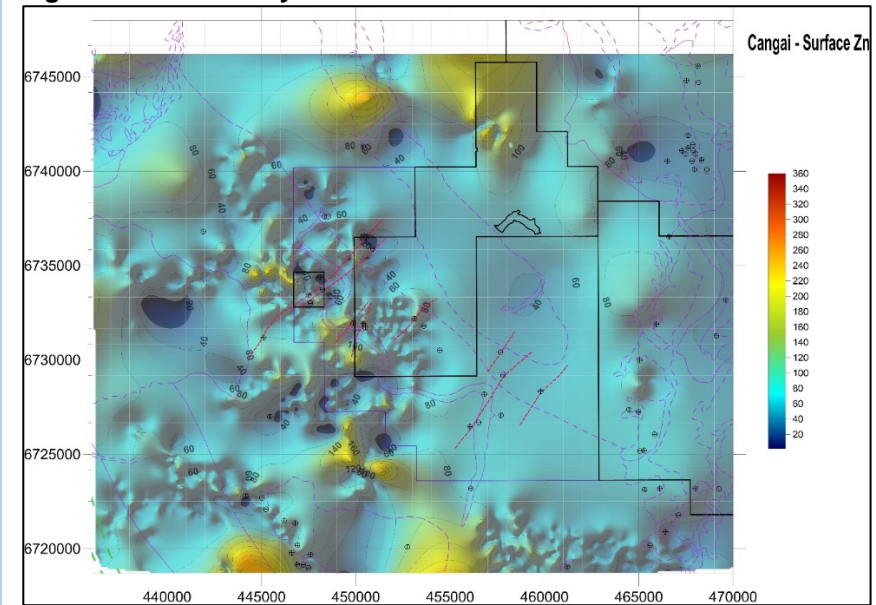
(e.g. 'down hole length, true width not known').

**Figure 2.4 Jackaderry South Surface Copper Anomalies**

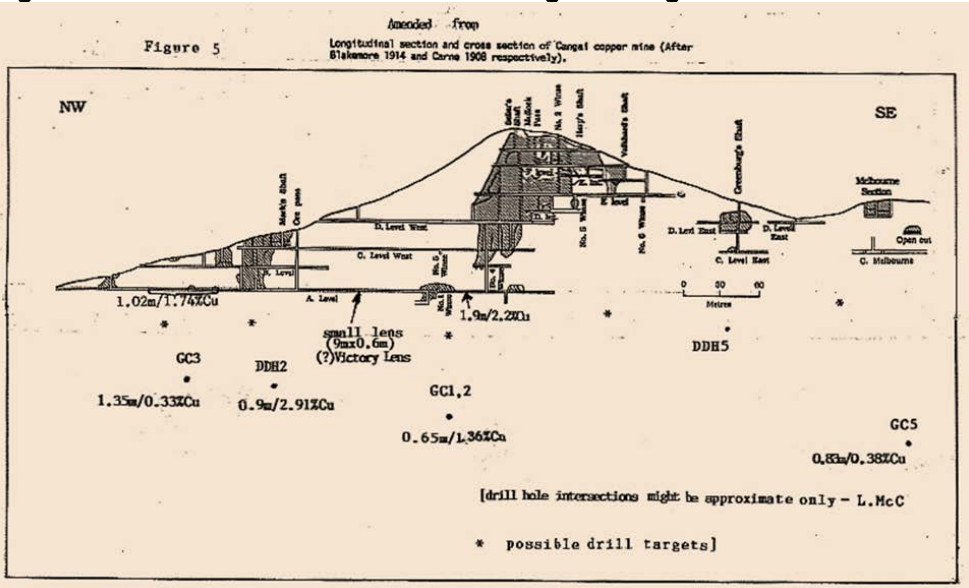




**Figure 2.5 Jackaderry South Surface Zinc Anomalies**



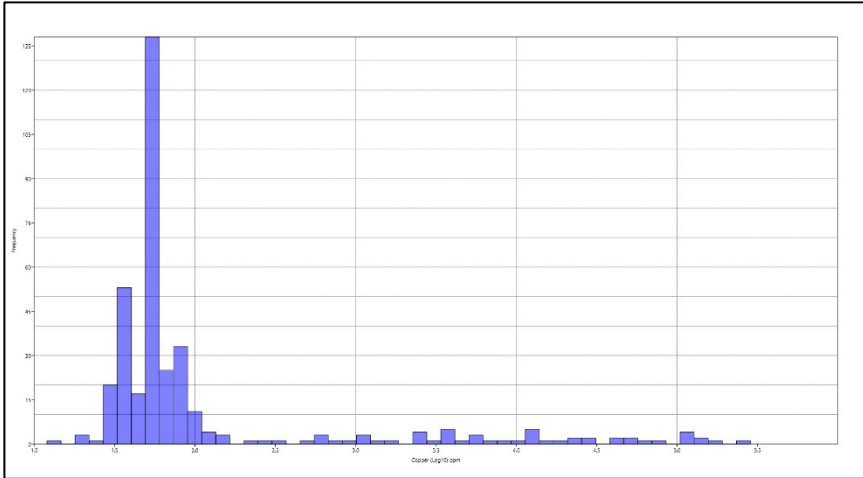
- Lode sub-vertical to vertical, striking 126 degrees and pitching at 60 degrees west. Varies from 0.3m-3.9m wide. The main mining was from Melbourne, Marks, Sellers & Greenbergs lens. Secondary zone grades averaged 20-35% Cu. Sulphides zone decreased to 8-10% Cu at depth. The Lode largest at intersections. Breccia recorded at D level. Host rock is massive and bedding is difficult to define. Structurally controlled with lodes following or adjacent to the shear zone. Temperature of formation is suggested to be about 380 deg centigrade (Brauwart 1991). Metahydrothermal structurally controlled deposit.
- Figure 3, below is a cross-section showing the four (4) main near vertical mineralised zones at the Cangai Mine.

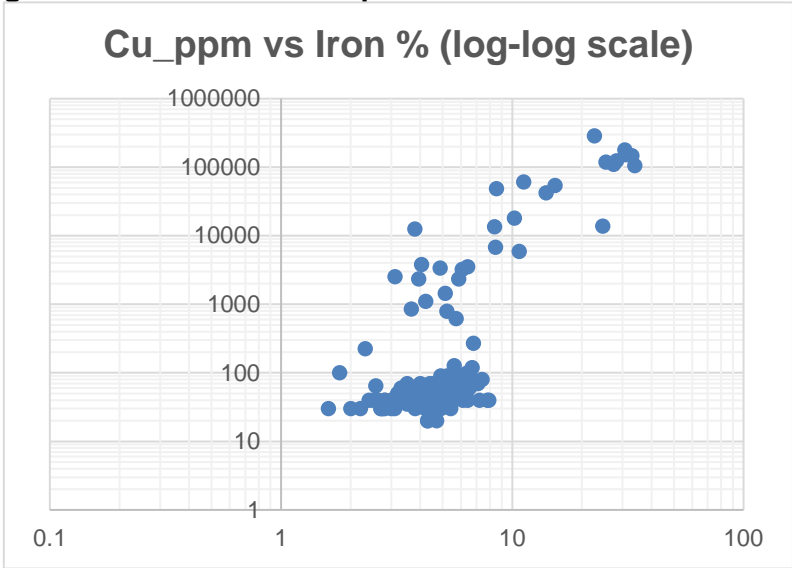
|                                  |  |  |
|----------------------------------|--|--|
|                                  |  | <p><b>Figure 3: NW to SE Cross-section of workings at Cangai Mine</b></p>  <ul style="list-style-type: none"> <li>Follow-up work is recommended (Phase 2), particularly the anomalous zones (which are in the process of being digitised off the 1908 and 1912 mine plans (Brauhart 1991), should become priority targets for geological mapping, ground magnetic and EM surveys.</li> <li>Data is also being extracted from a thorough UNSW Honours Thesis as referenced below:</li> </ul> <p>Brauhart, C. (1991). The Geology &amp; Mineralisation of the Cangai Copper Mine, Coffs Harbour Block Northeastern New South Wales. CRAE Report No: 17739. University of NSW.</p> |
| <p><b>Diagrams</b></p>           | <ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul> | <ul style="list-style-type: none"> <li>Current surface anomalies are shown on maps in the report. All historical surface sampling has had their coordinates converted to MGA94, Zone 54.</li> </ul>  |
| <p><b>Balanced reporting</b></p> | <ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.</li> </ul>  | <ul style="list-style-type: none"> <li>No new exploration results have been reported, but regarding the surface sampling, no results other than duplicates or reference standard assays have been omitted.</li> </ul>  |




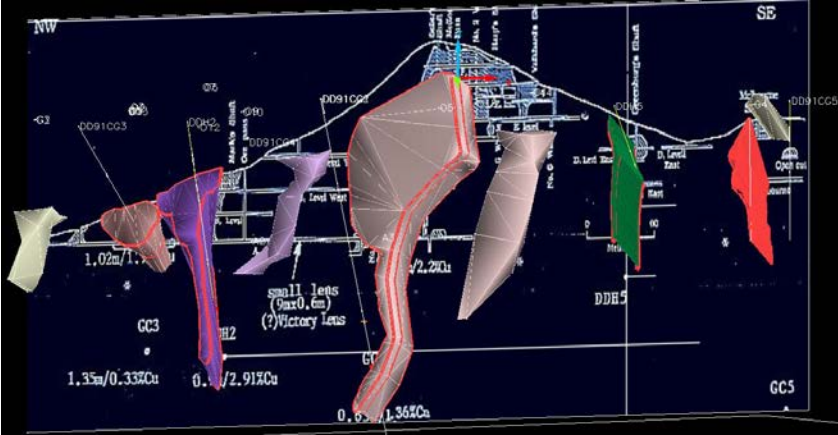
|   |   |  |
|---|---|--|
| <b>Other substantive exploration data</b> | <ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul> | <ul style="list-style-type: none"> <li>Historical explorers have also conducted airborne and ground gravity, magnetic, EM, and resistivity surveys over parts of the tenure area but this is yet to be collated.</li> </ul>  |
| <b>Further work</b>                       | <ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>                                     | <p>While further desktop work is still required, as cobalt was not the focus of previous exploration activities, Total Minerals intends to commence suitable fieldwork within the next few months to assist in gathering data that could upgrade this JORC resource to 2012 JORC standards. Drillhole and assay data will have to be encoded and validated. New laboratory assaying will be required of the historic core to confirm pXRF readings.</p> <p>Conclusions by CRA Exploration in 1991 noted “that because of uncertainty over shoot pitch and correlation between longitudinal sections generated by the various mining companies it is not clear whether the historic drilling was well suited to test for copper ore extensions”.</p> <p>No JORC Resources have been outlined to date at Cangai, but there is potential for further economic mineralisation of (probably) moderate size:</p> <ul style="list-style-type: none"> <li>As lower grade aureoles (3+%) around and below stopes (CRAE's drilling was 90-150m below the deepest level worked);</li> <li>Blind deposits between the shoots in areas not tested to date (e.g. below the 1m @ 1.74% over 60m in “A” Level northwest of Marks Shoot;</li> <li>Along the lateral extension of the line of lode as suggested by ground magnetics (part of which may fall outside EL 8625).</li> </ul> |

**Section 3 Estimation and Reporting of Mineral Resources (Criteria listed in section 1, and where relevant in section 2, also apply to this section)**

| Criteria                  | JORC Code explanation   | Commentary   |
|---------------------------|---|--|
| <i>Database integrity</i> | <ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul> | <ul style="list-style-type: none"> <li>The original data was encoded initially to Excel spreadsheets, split per element. As evaluation has continued, data that was used in the Mineral Resource estimate is sourced from an export out of the CCZ Corporate Access Database. Relevant tables from the data base are exported to MS Excel format and converted to csv format for import into Minescape Stratmodel and Block Model software for use in the Mineral Resource estimate.</li> <li>Validation of the data import includes, amongst others, checks for drillhole collar discrepancy against topography, overlapping intervals, missing survey data, missing assay data, missing lithological data, and missing collars.</li> </ul> <p>A histogram of the 391 copper values is shown in Figure 3.1 below (plotted on a log10 scale on the x-axis) showing the two populations within the modelled data (borehole data vs mine sampling)</p> <p><b>Figure 3.1: Histogram of Copper (log10) ppm</b></p>  <ul style="list-style-type: none"> <li>These populations are further displayed by a cross correlation plot of copper in ppm versus Iron Oxide in % (Figure 3.2)</li> </ul> |

|             |   |  |
|-------------|---|--|
|             |   | <p><b>Figure 3.2: Cu vs Fe in Samples</b></p>   |
| Site visits | <ul style="list-style-type: none"> <li>• <i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></li> <li>• <i>If no site visits have been undertaken indicate why this is the case.</i></li> </ul> | <ul style="list-style-type: none"> <li>• A site visit was arranged for Tuesday 8<sup>th</sup> August 2017 and was undertaken by Neil Hutchison and Alan Armstrong, Directors of Castillo Copper (see Figure 3.3).</li> </ul> |

|   |   |   |
|---|---|---|
|   |   | <p><b>Figure 3.3: Outcropping Tuff and Mudstone near the Historical Cangai Mine</b></p>    |
| <p><i>Geological interpretation</i></p> | <ul style="list-style-type: none"> <li>• <i>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</i></li> <li>• <i>Nature of the data used and of any assumptions made.</i></li> <li>• <i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i></li> <li>• <i>The use of geology in guiding and controlling Mineral Resource estimation.</i></li> <li>• <i>The factors affecting continuity both of grade and geology.</i></li> </ul> | <ul style="list-style-type: none"> <li>• Modelling was completed using a 3D modelling package, (ABB's Minescape Block Model Module).</li> <li>• Mineralisation, where present, exists in volcanic rock-hosted breccia's in or near fault intersections and other structural disturbances.</li> <li>• The mineralisation appears to be coincident with the outcrop of ferruginised laterite and gossan containing secondary copper carbonate mineralisation.</li> <li>• Based on the as mined high grade shape of Carne (1908) a series of wireframes were constructed to represent the remaining ore, as shown in Figure 3.4, below:</li> </ul> |

|   |  |  |
|---|--|--|
|   |  | <p><b>Figure 3.4: Cangai Modelled Ore Bodies</b></p>    |
| <p><i>Dimensions</i></p>                          | <ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>   | <ul style="list-style-type: none"> <li>Currently defined surface anomalies are 35-120m long elongated zones contained within a much more extensive mineralised zone (Sellers Lens) extending at least 205m below the ground surface. The mineralisation extends at least 1700m along strike Cangai</li> </ul>  |
| <p><i>Estimation and modelling techniques</i></p> | <ul style="list-style-type: none"> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. Sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> </ul> | <ul style="list-style-type: none"> <li>For grade estimation and interpolation into the block model inverse distance to a power of 2 with the polygonal method was used as a check estimate was completed.</li> <li>At this stage of the evaluation of the resource, not enough data has been collected to undertake a 3D geostatistical study, and for the maiden reporting the ID2 method deemed acceptable.</li> <li>To inhibit bleed of the higher-grade ore below the oxidation boundary a transition surface was created and the blocks coded differently above and below this surface as "OXID" or "FRESH", with different search ellipses being employed for each domain.</li> <li>As stated above, it was noted that unsampled intervals were present within the mineralisation domains. These intervals represent internal waste zones which were too narrow and not able to be wireframed separately. It should be noted, that given the current drill spacing, these may smear the overall interpolation to blocks. This may be attributed, in part, to data spacing, and may not be a true reflection of grade continuity.</li> <li>No assumptions have been made regarding by-products, although the copper mineralised zones contain considerable secondary</li> </ul> |

- 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.

mineralisation, being Au, Ag, Co, and Zn

- A single block model for Cangai was constructed using a 20 mE by 20 mN by 10 mRL parent block size with sub-celling to 10 mE by 10 mN by 5 mRL for domain volume resolution. All estimation was completed at the parent cell scale.
- The size of the search ellipse for inverse distance was set to X= 300 Y=100m Z =10m rotated 0 degrees in X, -70 degrees in Y and 308 degrees in Z. Octants were established with a minimum of 1 octant to be filled for a valid estimate.
- The final statistical summary of the 4579 interpolated blocks is given in Table 3.1, below:

Table 3.1: Block model univariate statistics

| Data Value | Minimum     | Maximum     | Count | Average  | Standard Dev. | Skewness | Kurtosis |
|------------|-------------|-------------|-------|----------|---------------|----------|----------|
| FE         | 0.78        | 32.90       | 4377  | 10.41    | 9.10          | 1.41     | 0.91     |
| SU         | 0.010       | 59.600      | 3466  | 5.705    | 9.067         | 1.987    | 2.374    |
| CU         | 30.00       | 153000.00   | 3781  | 39547.77 | 49319.74      | 1.25     | 0.35     |
| ZN         | 46.00       | 126000.00   | 4568  | 10562.20 | 23866.74      | 2.64     | 5.95     |
| PB         | 2.00        | 7550.00     | 3714  | 825.05   | 1864.50       | 3.04     | 8.04     |
| AP         | 0.00        | 2.30        | 3346  | 0.44     | 0.75          | 0.85     | -0.76    |
| AG         | 0.30        | 150.00      | 3720  | 20.50    | 34.05         | 2.64     | 6.91     |
| ARS        | 5.00        | 9550.00     | 4145  | 1941.00  | 3079.13       | 1.52     | 0.95     |
| MSI        | 85.00       | 5557.00     | 3696  | 777.23   | 484.10        | 3.61     | 22.11    |
| CO         | 2.00        | 712.00      | 2758  | 110.89   | 136.31        | 2.02     | 5.23     |
| Easting    | 449978.209  | 451196.556  |       |          |               |          |          |
| Northing   | 6735891.873 | 6737021.811 |       |          |               |          |          |
| Elevations | 51.044      | 400.757     |       |          |               |          |          |

- Approximately 35% of blocks were not filled with copper grades during the estimation process. These blocks were left as 'un-estimated'. Not all blocks that were filled with copper grades were filled with the other 5 elements being estimated.
- No selective mining units were assumed in this estimate.
- The comparison of lithology and mineralisation wireframes showed generally good correlation, but some zones were coded with tuffaceous material based on the dominant lithology observed in the interval. Geological modelling outcomes were transferred to Voxler 4 software for visualization and checking purposes
- Validation of the block model carried out a volumetric comparison of the resource wireframes to the block model volumes. Validating the estimate compared block model grades to the input data using tables of values, and swath plots showing northing, easting and elevation comparisons showed that the estimate honoured the raw data. Visual validation of grade trends and distributions was carried out.
- Total mining production to 1942 was 60,000t at 8% copper, which has been removed from the model.

|   |  |  |
|---|--|--|
| <i>Moisture</i>                             | <ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>   | <ul style="list-style-type: none"> <li>The tonnages are estimated on an air-dried basis.</li> </ul>  |
| <i>Cut-off parameters</i>                   | <ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>   | <ul style="list-style-type: none"> <li>No cut-off grades yet determined for copper was 1%</li> </ul>   |
| <i>Mining factors or assumptions</i>        | <ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>   | <ul style="list-style-type: none"> <li>Mining of the Cangai deposit will be by surface mining methods involving standard truck and haul mining techniques. The geometry of the deposit will make it amenable to mining methods currently employed in many surface operations in similar deposits around the world. No assumptions on mining methodology have been made.</li> </ul> |
| <i>Metallurgical factors or assumptions</i> | <ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</li> </ul>   | <ul style="list-style-type: none"> <li>No metallurgical testing has been undertaken to date although considerable information on the mining and fluxing of the oxidised and sulphide ore is provided in Carne (1908).</li> </ul>   |
| <i>Environmental factors or assumptions</i> | <ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul> | <ul style="list-style-type: none"> <li>No assumptions have been made and these will form part of a scoping study.</li> </ul>   |
| <i>Bulk density</i>                         | <ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the</li> </ul>  | <ul style="list-style-type: none"> <li>No bulk density measurements obtained so far. Reasonable, conservative estimates of the insitu relative density are listed in Table 3.2 below:</li> </ul>   |

|  | <i>evaluation process of the different materials.</i>   | <p><b>Table 3.2: Densities for ore/rock used in the resource estimate</b></p> <table><tr><th>Zone/Interval</th><th>Relative Density (kg/m3)</th></tr><tr><td>Oxidised Ore</td><td>2.0</td></tr><tr><td>Fresh Ore</td><td>2.65</td></tr></table> <p>These were the default values used in the conversion of volume to tonnage.</p>  | Zone/Interval | Relative Density (kg/m3) | Oxidised Ore | 2.0 | Fresh Ore | 2.65 |
|--|---|--|---------------|--------------------------|--------------|-----|-----------|------|
| Zone/Interval                                      | Relative Density (kg/m3)  |  |               |                          |              |     |           |      |
| Oxidised Ore                                       | 2.0   |  |               |                          |              |     |           |      |
| Fresh Ore  | 2.65  |  |               |                          |              |     |           |      |
| <i>Classification</i>                              | <ul style="list-style-type: none"><li><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li><li><i>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></li><li><i>Whether the result appropriately reflects the Competent Person’s view of the deposit.</i></li></ul>   | <ul style="list-style-type: none"><li>The Inferred Mineral Resource classification at Cangai is based on confidence in the good geological and grade continuity, along with 500m spaced drillhole density in the core of the deposit</li><li>Estimation parameters including relative standard error and search passes have been utilised during the classification process.</li><li>Inferred Mineral Resources were defined using a combination of sampled and geologically constrained wireframes, search radius of 300m and reasonable continuity of geology. Approximately 25% of the Inferred Mineral Resource is considered to be extrapolated.</li><li>ROM Resources notes that the visual estimates of sulphide mineralisation had excellent correlation to the returned assays as the program progressed with minor adjustment of the mineralisation domains required</li><li>ROM has depleted the model to account for the existing historical mining based on the mine plan records. Due to the uncertainty of drill hole surveys, actual sample locations and the accuracy of the mine plans we can only report this at an Inferred level until CCZ completes its own drilling program. See Table 3.3 below.</li><li>The Mineral Resource estimate appropriately reflects the view of the Competent Persons.</li></ul> |               |                          |              |     |           |      |
| <i>Audits or reviews</i>                           | <ul style="list-style-type: none"><li><i>The results of any audits or reviews of Mineral Resource estimates.</i></li></ul>  | <ul style="list-style-type: none"><li>As this is the Maiden Resource, no audit has taken place.</li></ul>  |               |                          |              |     |           |      |
| <i>Discussion of relative accuracy/ confidence</i> | <ul style="list-style-type: none"><li><i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></li></ul> | <ul style="list-style-type: none"><li>The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the JORC Code (2012 Edition).</li><li>The statement relates to global estimates of tonnes and grade.</li><li>The confidence intervals have been based on estimates at the parent block size. Relative errors of ±35% for Inferred Resources are expected for this deposit.</li></ul>   |               |                          |              |     |           |      |



|  |   |  |
|--|---|--|
|  | <ul style="list-style-type: none"> <li>• The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul> | Production data from 60,000t mined is as follows (NSW Geological Survey 2017) <ul style="list-style-type: none"> <li>• <b>Ag:</b> 1.035t Produced, Avg Grade: 30g/t</li> <li>• <b>Au:</b> 0.0527t Produced, Avg Grade: 1.5g/t</li> <li>• <b>Cu:</b> 5080t Produced, Avg Grade: 8%</li> </ul> |
|--|---|--|

**Table 3.3: Cangai Copper Project- Maiden Inferred Resource**

|              | <b>Mass</b>                           | <b>Cu</b>    | <b>Co</b>     | <b>Zn</b>    | <b>Au</b>     | <b>Ag</b>      | <b>Cu</b>      | <b>Co</b>     | <b>Zn</b>     | <b>Au</b>    | <b>Ag</b>        |
|--------------|---------------------------------------|--------------|---------------|--------------|---------------|----------------|----------------|---------------|---------------|--------------|------------------|
|              | <b>Tonnes</b>                         | <b>%</b>     | <b>%</b>      | <b>%</b>     | <b>g/t</b>    | <b>g/t</b>     | <b>Tonnes</b>  | <b>Tonnes</b> | <b>Tonnes</b> | <b>Oz</b>    | <b>Oz</b>        |
| <b>Oxide</b> | 814,267                               | 4.10%        | 0.010%        | 0.63%        | 0.06          | 27.34          | 33,391         | 78            | 5,165         | 14550        | 715,667          |
| <b>Fresh</b> | 2,397,342                             | 3.10%        | 0.003%        | 0.28%        | 0.89          | 17.74          | 74,198         | 75            | 6,762         | 68349        | 1,367,456        |
| <b>Total</b> | <b>3,211,608</b>                      | <b>3.35%</b> | <b>0.005%</b> | <b>0.37%</b> | <b>0.80</b>   | <b>20.17</b>   | <b>107,590</b> | <b>152</b>    | <b>11,928</b> | <b>82899</b> | <b>2,083,124</b> |
|              |                                       |              |               |              |               |                |                |               |               |              |                  |
|              | <b>Spot Price USD</b>                 | \$3.10       | \$27.50       | \$1.40       | \$1,300.00    | \$17.80        |                |               |               |              |                  |
|              | <b>Price Unit USD</b>                 | lb           | lb            | lb           | oz            | oz             |                |               |               |              |                  |
|              | <b>Metal Equivalent 100% Recovery</b> | CuEq 4.22%   | CoEq 0.48 %   | ZnEq 9.34 %  | AuEq 6.90 g/t | AgEq 503.91g/t |                |               |               |              |                  |