



**CASTILLO COPPER  
LIMITED**

ASX Release

7 August 2017

**CASTILLO COPPER  
LIMITED**  
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**Directors / Officers:**

David Wheeler  
Alan Armstrong  
Neil Hutchison

**Issued Capital:**

402 million shares  
21 million options

**ASX Symbol:**  
CCZ

## High Grade Supergene Ore Confirmed At Cangai Copper Cobalt Mine

- Desktop review uncovered CRA Exploration results from 1990-92 whole rock samples from the Cangai Copper Cobalt Mine which were up to 35% copper in supergene ore sample, 10% zinc and elevated cobalt levels
- Mine records confirm supergene ore occurred with azurite and malachite ore grading at 20% to 35% copper; this occurred close to the surface and passed into chalcocite ore, of similar grade, below surface
- Importantly, supergene ore was present in both sediments and dykes
- Further, historic drill core from the mine – held by the NSW Resources and Energy department – has been inspected by ROM Resources and is now being prepared to be assayed
- New assays will target high grade cobalt-copper-zinc and assist materially with JORC resource modelling
- Contiguous mineralisation at Peak Hill/Total and Big Oxide North/Hill of Grace prospects enhances resource target
- Share sale agreement executed with Total Minerals vendors with conditions expected to be satisfied shortly
- Notably, due process finalised and confirms new project areas highly prospective for cobalt-copper-zinc
- Core objective remains to prove up three JORC compliant Inferred Resources as quickly as possible

Castillo Copper Limited (**CCZ** or **Company**) is delighted to confirm high-grade supergene ore, with copper up to 35%, was discovered at the Cangai Copper Cobalt Mine (within renamed Jackaderry South project area) during desktop due diligence on the proposed acquisition of Total Minerals Pty Ltd (**Total**) (refer to ASX release “Historic Copper Cobalt Mine & Complementary Asset Acquisition” on 21 July 2017).

More broadly, due process confirmed Total’s three complementary project areas are highly prospective for high-grade cobalt, copper and zinc (refer Appendix A for summary details of the newly acquired assets and details of two renamed project areas). As such, the Board is pleased to confirm the formal Share Sale Agreement has been executed, as conditions precedent are expected to be completed within the next five business days. The core strategy remains to expedite modelling three JORC compliant resources.

### THREE JORC COMPLIANT RESOURCES

This strategic acquisition is complementary and doubles CCZ’s mineralised footprint across NSW and QLD. More importantly, as detailed in the 21 July 2017 ASX release, consultant ROM Resources Pty Ltd (**ROM Resources**) has confirmed two JORC compliant Inferred Resources for cobalt-copper-zinc can be modelled from legacy data at the Jackaderry South project area (which includes the historic Cangai Copper Cobalt Mine) and contiguous Peak Hill/Total prospects.

➤ **Cangai Copper Cobalt Mine (Jackaderry South) & legacy CRA Exploration analyses**

Of particular significance is the historic Cangai Copper Cobalt Mine (Cangai) – within the renamed Jackaderry South prospect – which is in a region with known cobalt-copper systems. During the desktop review process, ROM Resources uncovered historical analyses undertaken by CRA Exploration between 1990-92 on samples of massive ore around Cangai, which indicates material exploration upside to the Jackaderry South project. The key results recorded include:

- Copper values ranging from 5% to 15% in primary ore, rising to nearly 35% in samples of supergene ore;
- Zinc values ranging from less than 1% to nearly 10%, while lead values were typically in the range of 0.05% to 1%;
- The presence of cobaltite in primary ore which explains materially elevated cobalt values in relation to other trace elements; and

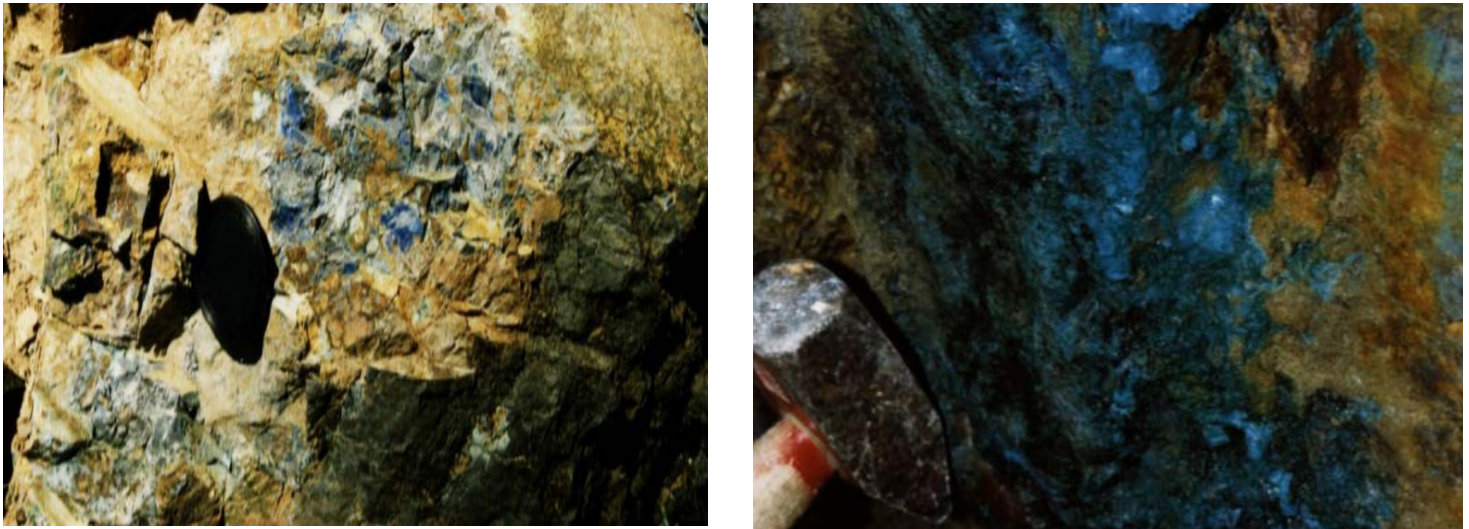
In addition, the presence of supergene ore at Cangai was noted in a 1991 doctoral thesis.<sup>1</sup> The study highlighted mine records confirming that supergene ore occurred with azurite and malachite ore grading at 20% to 35% copper. Specifically, this occurred close to the surface and passed into chalcocite ore with a similar grade below surface. Furthermore, the study demonstrates the substantial upside potential for Cangai from several photos which highlight surface outcrops (Figure 1A-C).

**Figure 1A-C: Cangai Copper Cobalt Mine**



Incrementally, the study illustrated other examples of surface mineralisation with copper carbonate staining apparent from an open cut section (Figure 2A) and limonite carbonate encrustations at the entrance to an underground mine shaft (Figure 2B).

**Figure 2A and 2B: Copper carbonate and limonite carbonate examples from Cangai**



As part of its drilled down due diligence to generate a JORC compliant resource from Jackaderry South, ROM Resources has inspected and will commence thoroughly testing legacy core samples – available at the NSW Resources and Energy department – from Cangai (Figure 3) for high-grade cobalt-copper-zinc. The new assays will materially aid the process to model a JORC compliant Inferred Resource for the Jackaderry South project area.

**Figure 3 Legacy core samples from Cangai currently being prepared for assay**



Source: ROM Resources

➤ **Larger JORC Inferred Resources likely due to contiguous mineralisation**

For the Peak Hill (ASX announcement dated 11 July 2017) and Total project areas, the desktop reviews by ROM Resources highlight contiguous mineralisation. This is significant as it is likely to translate into a higher JORC compliant resource for cobalt-copper-zinc than initially expected, as the initial assessment was only based on the Peak Hill project area. Factoring in the Total project area effectively doubles CCZ's mineralised footprint in the prime Broken Hill region.

In addition, from desktop reviews, ROM Resources has identified priority drilling targets for the Big Oxide North (ASX announcement dated 8 June 2017) and Hill of Grace project areas in Queensland which exhibit contiguous mineralisation. On completion of the inaugural drilling program, slated to commence in spring, ROM Resources believes a third JORC compliant resource for cobalt-copper-zinc can be generated.

Collectively, this means CCZ potentially will have three JORC compliant Inferred Resources across its project areas. Importantly, from a cost perspective, generating these will be relatively inexpensive given two are from legacy data and only one from a drilling campaign.

**Castillo Copper's new management team, Alan Armstrong and Neil Hutchison, jointly commented:** "We are delighted to have joined Castillo Copper at an exciting time, with cobalt demand remaining robust and copper/zinc on a cyclical uptick. Closing the Total acquisition is timely, as it provides Castillo Copper with a sizeable mineralised footprint across NSW/QLD and realistic prospects of generating three scalable JORC compliant Inferred Resources for cobalt, copper and zinc. Our immediate focus is to review all geological studies for the six project areas, prioritise the exploration plan, progress JORC modelling for the NSW prospects and expedite executing the business plan given the current favourable outlook globally for cobalt-copper-zinc."

## **ACQUISITION TERMS**

Under the Heads of Agreement (HoA) between CCZ and Total, the proposed acquisition was subject to the completion of key conditions precedent. The Board is pleased to confirm this has progressed within the agreed time frame detailed in the HoA. Notably, both parties conducted due diligence into all materially relevant issues and have agreed these are final.

As such, CCZ will, at completion:

- Issue the vendors 55,000,000 CCZ shares in consideration for all Total's issued equity; and
- Formalise an agreement for the vendors to receive a 3% net smelter return royalty in respect of the project areas.

For and on behalf of Castillo Copper

**David Wheeler**

**Chairman**

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<sup>1</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

## **Competent Persons Statement**

Regarding both the Castillo Copper Ltd and Total Minerals Pty Ltd exploration tenures, the information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mark Biggs, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mark Biggs is employed by ROM Resources Pty Ltd.

Mark Biggs 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'. Mark Biggs consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## **ABOUT CASTILLO COPPER**

Castillo Copper Limited (ASX: CCZ) is an ASX-listed explorer that has assets in eastern Australia and Chile.

The Australian assets, of which three were acquired outright in June 2017 and three are expected to be acquired outright in August 2017, comprise six highly prospective copper-cobalt-zinc project areas in New South Wales and Queensland, detailed briefly as follows:

- Jackaderry North (previously Kungabarín Hill) and Jackaderry South (renamed from Jackaderry) cobalt projects, which are in the New England Orogen in NSW, are prospective for copper-cobalt;
- Peak Hill and Total minerals projects, are located within a 20km radius of Broken Hill, NSW, are prospective for copper-cobalt-zinc; and
- Big Oxide North and Hill of Grace cobalt projects are in the Mt Isa region, northwest Queensland, and are prospective for copper-cobalt.

The Board is looking to prove up JORC compliant resources across the Australian project areas then utilise third party processors to fast track product to market via the London Metal Exchange.

The 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: NEWLY ACQUIRED ASSETS

A summary of Total's three assets follows:

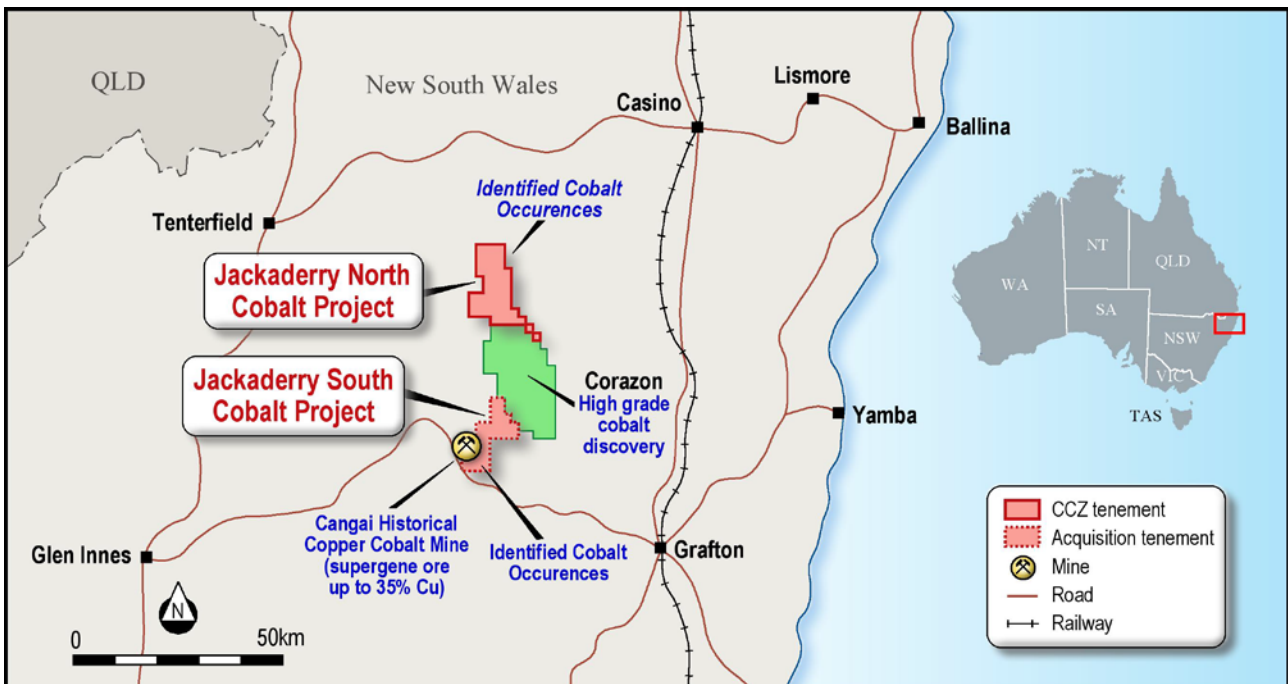
### JACKADERRY SOUTH COBALT PROJECT (renamed from Jackaderry), NSW: EL 8625

#### Background

The Jackaderry South Cobalt Project (Figure A1) is located in the New England Origen, which is a significant east Australian mineral province that hosts significant Cu-Au-Co deposits. ASX-listed Corazon's (CZN) 51%-owned Mt Gilmore tenement and CCZ's 100% owned Jackaderry North project area (previously Kungabarín Hill) are within a 50km radius.

Note, with immediate effect, to simplify the naming conventions the Board has renamed Kungabarín Hill to "Jackaderry North Cobalt Project" and Jackaderry to "Jackaderry South Cobalt Project."

**Figure A1: Jackaderry South Cobalt Project, NSW**



Total took out the license to explore for cobalt and copper, focusing specifically on the historic Cangai Mine and surrounding area.

#### Cangai Copper Cobalt Mine

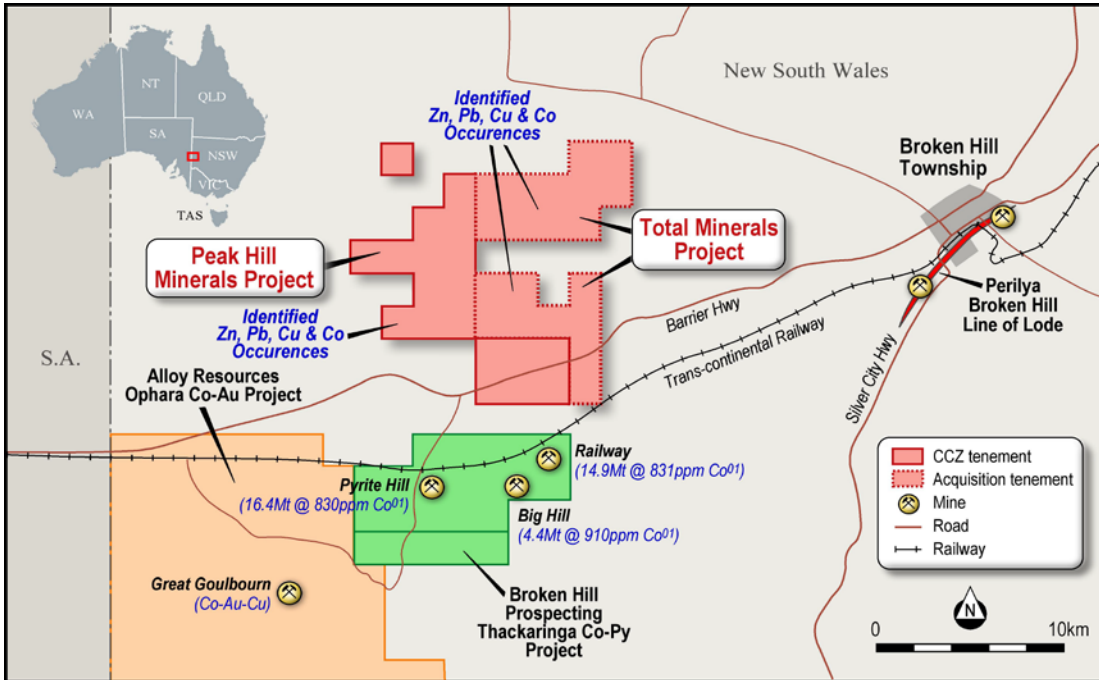
Total engaged consultant ROM Resources Pty Ltd (**ROM Resources**) to undertake resampling of historic Cangai drill holes. During May 2017, ROM Resources visited the NSW Geological Survey core storage facility at Londonderry, Western Sydney area, to view, log and resample Cangai cores. Of the ten drill holes completed by various exploration and mining companies (including Western Mining and CRA Exploration) during the period 1974-1995, eight had core stored with the department.

# TOTAL MINERALS PROJECT, NSW: EL 8599

## Background

The Total Minerals Project is adjacent to CCZ's Peak Hill Minerals Project (Figure A2) and within a 20km radius of Broken Hill. Moreover, it is 10km northeast of Alloy Resources Ophara Project while large Cu-Au-Co deposits have been identified 3km to the south by Broken Hill Prospecting.

Figure A2: Total Minerals Project, NSW



The Total Minerals Project occurs in an area which is known to have significant cobalt mineralisation in the southern Curnamona Craton, with large resources defined at the Pyrite Hill and Thackaringa deposits. This prospect has similarities to both these cobalt occurrences. However, it is unique in having low-copper and high-gold mineralisation associated with the cobalt surface gossans.

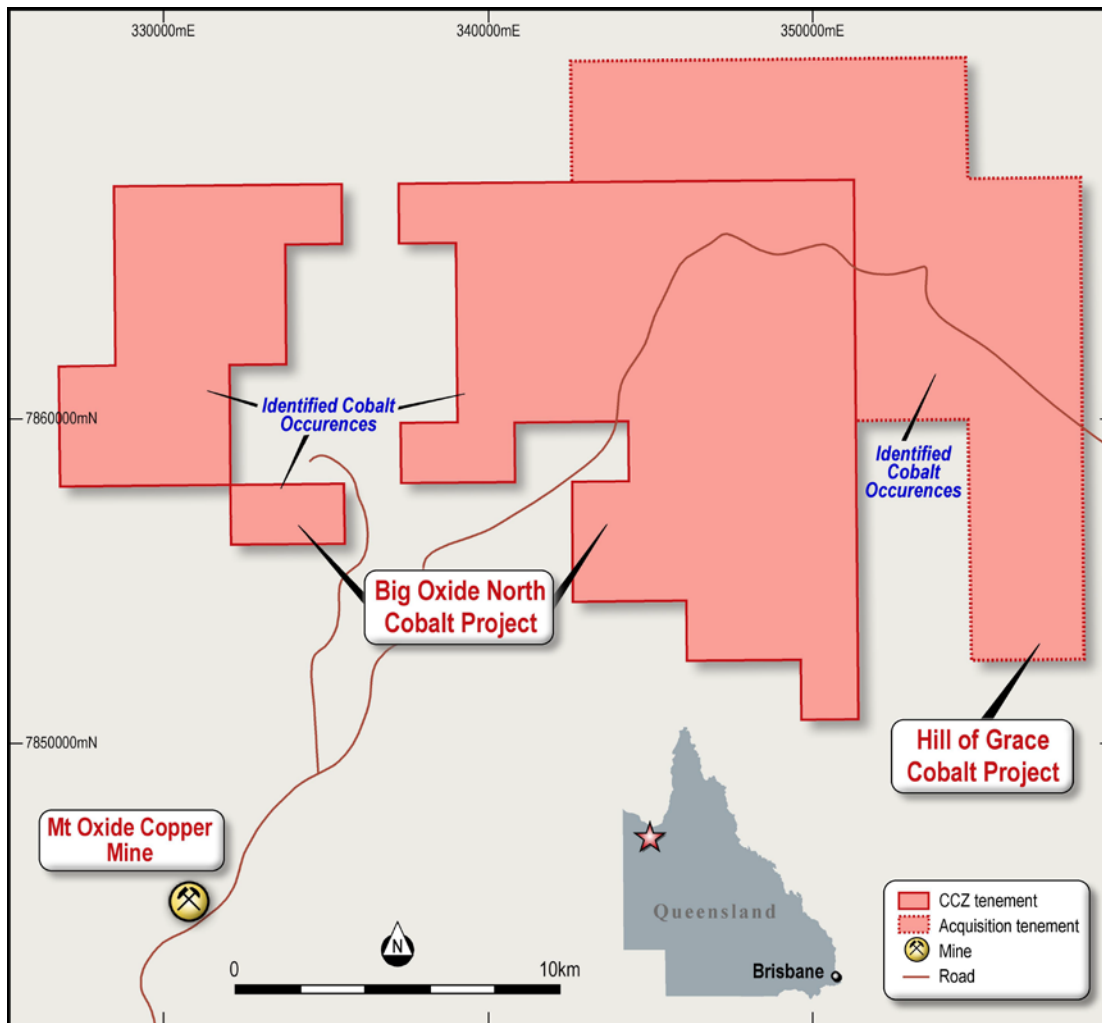
# HILL OF GRACE, QUEENSLAND: EPM 26525

## Background

The Hill of Grace Project (Figure A3) is an exciting prospect located in the Mt Isa region, northwest Queensland and is west of CCZ's Big Oxide North Project. The project area has not been granted as yet as native title issues are still in the process of being finalised.

However, the project area is close to active Cu-Au explorers, Mt Oxide Pty Ltd and Capricorn Copper Pty Ltd; the latter is in the process of restarting the Mt Gordon/Gunpowder copper mine. The Queensland Department of Natural Resources and Mines has reported that cobalt is associated with copper in brecciated sediment-hosted base metal deposits in northwest Queensland including Mount Isa, Mammoth and Mount Cobalt.

**FIGURE A3: HILL OF GRACE PROJECT, QUEENSLAND**





# JORC Code, 2012 Edition – Table 1 report template

## 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>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (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.</li> </ul>	<ul style="list-style-type: none"> <li>Sampling used in this analysis 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 collated 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 have been reanalyzed using pXRF. 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>Sample details from the pXRF machine are listed in Table 1, below. The actual results have been listed in Appendix 1 of the Geological Summary report.</li> </ul> <p><i>Table 1: Cangai Core pXRF Sample Details</i></p> <table border="1"> <thead> <tr> <th>Date</th> <th>Field Label 1</th> <th>Mode</th> <th>Elapsed Time 1</th> <th>Elapsed Time 2</th> <th>Elapsed Time Total</th> <th>Instrument SN</th> <th>Model</th> <th>Tube Anode</th> <th>User Factor Name</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>01-06-17</td> <td>SAMPLE ID#1</td> <td>Geochem</td> <td>29.29</td> <td>59.72</td> <td>89.01</td> <td>550172</td> <td>Delta Premium-50kV</td> <td>Au</td> <td>Factory-Default</td> <td>%</td> </tr> <tr> <td>01-06-17</td> <td>SAMPLE ID#2</td> <td>Geochem</td> <td>29.31</td> <td>59.64</td> <td>88.95</td> <td>550172</td> <td>Delta Premium-50kV</td> <td>Au</td> <td>Factory-Default</td> <td>%</td> </tr> <tr> <td>01-06-17</td> <td>SAMPLE ID#3</td> <td>Geochem</td> <td>29.3</td> <td>59.65</td> <td>88.95</td> <td>550172</td> <td>Delta Premium-50kV</td> <td>Au</td> <td>Factory-Default</td> <td>%</td> </tr> <tr> <td>01-06-17</td> <td>SAMPLE ID#4</td> <td>Geochem</td> <td>29.68</td> <td>59.31</td> <td>88.99</td> <td>550172</td> <td>Delta Premium-50kV</td> <td>Au</td> <td>Factory-Default</td> <td>%</td> </tr> <tr> <td>01-06-17</td> <td>SAMPLE ID#5</td> <td>Geochem</td> <td>29.69</td> <td>59.31</td> <td>89.01</td> <td>550172</td> <td>Delta Premium-50kV</td> <td>Au</td> <td>Factory-Default</td> <td>%</td> </tr> <tr> <td>01-06-17</td> <td>SAMPLE ID#6</td> <td>Geochem</td> <td>29.22</td> <td>59.8</td> <td>89.02</td> <td>550172</td> <td>Delta Premium-50kV</td> <td>Au</td> <td>Factory-Default</td> <td>%</td> </tr> </tbody> </table>	Date	Field Label 1	Mode	Elapsed Time 1	Elapsed Time 2	Elapsed Time Total	Instrument SN	Model	Tube Anode	User Factor Name	Unit	01-06-17	SAMPLE ID#1	Geochem	29.29	59.72	89.01	550172	Delta Premium-50kV	Au	Factory-Default	%	01-06-17	SAMPLE ID#2	Geochem	29.31	59.64	88.95	550172	Delta Premium-50kV	Au	Factory-Default	%	01-06-17	SAMPLE ID#3	Geochem	29.3	59.65	88.95	550172	Delta Premium-50kV	Au	Factory-Default	%	01-06-17	SAMPLE ID#4	Geochem	29.68	59.31	88.99	550172	Delta Premium-50kV	Au	Factory-Default	%	01-06-17	SAMPLE ID#5	Geochem	29.69	59.31	89.01	550172	Delta Premium-50kV	Au	Factory-Default	%	01-06-17	SAMPLE ID#6	Geochem	29.22	59.8	89.02	550172	Delta Premium-50kV	Au	Factory-Default	%
Date	Field Label 1	Mode	Elapsed Time 1	Elapsed Time 2	Elapsed Time Total	Instrument SN	Model	Tube Anode	User Factor Name	Unit																																																																					
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01-06-17	SAMPLE ID#7	Geochem	29.31	59.78	89.08	550172	Delta Premium-50kV	Au	Factory-Default	%
01-06-17	SAMPLE ID#8	Geochem	29.36	59.55	88.92	550172	Delta Premium-50kV	Au	Factory-Default	%
01-06-17	SAMPLE ID#9	Geochem	29.57	59.8	89.37	550172	Delta Premium-50kV	Au	Factory-Default	%
01-06-17	SAMPLE ID#10	Geochem	29.43	59.71	89.14	550172	Delta Premium-50kV	Au	Factory-Default	%
01-06-17	SAMPLE ID#11	Geochem	29.46	59.84	89.3	550172	Delta Premium-50kV	Au	Factory-Default	%
01-06-17	SAMPLE ID#12	Geochem	29.65	59.32	88.97	550172	Delta Premium-50kV	Au	Factory-Default	%
01-06-17	SAMPLE ID#13	Geochem	29.65	59.52	89.17	550172	Delta Premium-50kV	Au	Factory-Default	%
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01-06-17	SAMPLE ID#16	Geochem	29.38	59.75	89.13	550172	Delta Premium-50kV	Au	Factory-Default	%
01-06-17	SAMPLE ID#17	Geochem	29.24	59.87	89.11	550172	Delta Premium-50kV	Au	Factory-Default	%
01-06-17	SAMPLE ID#18	Geochem	29.59	59.72	89.31	550172	Delta Premium-50kV	Au	Factory-Default	%
01-06-17	SAMPLE ID#19	Geochem	29.42	59.69	89.11	550172	Delta Premium-50kV	Au	Factory-Default	%
01-06-17	SAMPLE ID#20	Geochem	29.36		29.36	550172	Delta Premium-50kV	Au	Factory-Default	%
02-06-17	SAMPLE ID#21	Geochem	29.42	59.85	89.27	550172	Delta Premium-50kV	Au	Factory-Default	%
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02-06-17	SAMPLE ID#23	Geochem	29.7	59.42	89.12	550172	Delta Premium-50kV	Au	Factory-Default	%
02-06-17	SAMPLE ID#24	Geochem	29.41	59.74	89.15	550172	Delta Premium-50kV	Au	Factory-Default	%
02-06-17	SAMPLE ID#25	Geochem	29.54	59.89	89.43	550172	Delta Premium-50kV	Au	Factory-Default	%
02-06-17	SAMPLE ID#26	Geochem	29.34	59.82	89.16	550172	Delta Premium-50kV	Au	Factory-Default	%
02-06-17	SAMPLE ID#27	Geochem	29.48	59.71	89.19	550172	Delta Premium-50kV	Au	Factory-Default	%
02-06-17	SAMPLE ID#28	Geochem	29.4	59.68	89.09	550172	Delta Premium-50kV	Au	Factory-Default	%
02-06-17	SAMPLE ID#29	Geochem	29.42	59.74	89.17	550172	Delta Premium-50kV	Au	Factory-Default	%
02-06-17	SAMPLE ID#30	Geochem	29.32	59.79	89.11	550172	Delta Premium-50kV	Au	Factory-Default	%
02-06-17	SAMPLE ID#31	Geochem	29.45	59.68	89.13	550172	Delta Premium-50kV	Au	Factory-Default	%
02-06-17	SAMPLE ID#32	Geochem	29.23	59.86	89.09	550172	Delta Premium-50kV	Au	Factory-Default	%
02-06-17	SAMPLE ID#33	Geochem	29.5	59.59	89.1	550172	Delta Premium-50kV	Au	Factory-Default	%
02-06-17	SAMPLE ID#34	Geochem	29.62	59.9	89.51	550172	Delta Premium-50kV	Au	Factory-Default	%

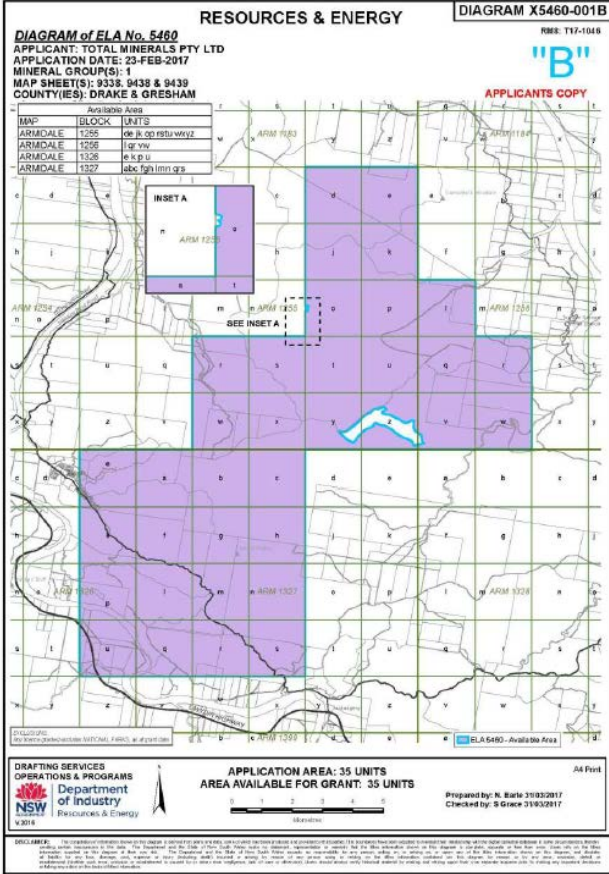
		02-06-17	SAMPLE ID#35	Geochem	29.58	59.79	89.36	550172	Delta Premium-50kV	Au	Factory -Default	%
		02-06-17	SAMPLE ID#36	Geochem	29.68	29.11	88.15	550172	Delta Premium-50kV	Au	Factory -Default	%
		02-06-17	SAMPLE ID#37	Geochem	29.21	28.85	87.91	550172	Delta Premium-50kV	Au	Factory -Default	%
<b>Drilling techniques</b>	<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>										
<b>Drill sample recovery</b>	<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 was undertaken.</li> </ul>										
<b>Logging</b>	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>The drilling that did occur was completed to modern-day standards.</li> <li>No downhole geophysical logging took place.</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> </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</li> </ul>										

	<ul style="list-style-type: none"> <li>• Whether sample sizes are appropriate to the grain size of the material being sampled.</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 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> <p><i>Table 2: Cangai Diamond Drilling</i></p> <table border="1"> <thead> <tr> <th>Company</th> <th>Prospect Name</th> <th>Hole Name</th> <th>Title Code</th> <th>Title Number</th> <th>Total Depth</th> <th>Completion Date</th> </tr> </thead> <tbody> <tr> <td>CRA Exploration Pty Ltd,</td> <td>Cangai Copper Mine - Grafton</td> <td>DD91CG2</td> <td>EL</td> <td>3665</td> <td>421.1</td> <td>1991</td> </tr> <tr> <td>Western Mining Corporation Ltd,</td> <td>Jackadgery - Cangai</td> <td>BJAC2</td> <td>EL</td> <td>1809</td> <td>193.5</td> <td>1982</td> </tr> <tr> <td>CRA Exploration Pty Ltd,</td> <td>Cangai Copper Mine - Grafton</td> <td>DD91CG4</td> <td>EL</td> <td>3665</td> <td>180</td> <td>1991</td> </tr> <tr> <td>CRA Exploration Pty Ltd,</td> <td>Cangai Copper Mine - Grafton</td> <td>DD91CG1</td> <td>EL</td> <td>3665</td> <td>15</td> <td>1991</td> </tr> <tr> <td>Western Mining Corporation Ltd,</td> <td>Jackadgery - Cangai</td> <td>BJAC1</td> <td>EL</td> <td>1809</td> <td>226.7</td> <td>1982</td> </tr> </tbody> </table>	Company	Prospect Name	Hole Name	Title Code	Title Number	Total Depth	Completion Date	CRA Exploration Pty Ltd,	Cangai Copper Mine - Grafton	DD91CG2	EL	3665	421.1	1991	Western Mining Corporation Ltd,	Jackadgery - Cangai	BJAC2	EL	1809	193.5	1982	CRA Exploration Pty Ltd,	Cangai Copper Mine - Grafton	DD91CG4	EL	3665	180	1991	CRA Exploration Pty Ltd,	Cangai Copper Mine - Grafton	DD91CG1	EL	3665	15	1991	Western Mining Corporation Ltd,	Jackadgery - Cangai	BJAC1	EL	1809	226.7	1982
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		CRA Exploration Pty Ltd,	Cangai Copper Mine - Grafton	DD91CG5	EL	3665	275	1991
		CRA Exploration Pty Ltd,	Cangai Copper Mine - Grafton	DD91CG3	EL	3665	402.4	1991
		Union Corporation (Australia) Pty Ltd, Mineral wealth NL	Cangai Copper Mine - Grafton	DDH2	ML	6244	228.6	1972
		Union Corporation (Australia) Pty Ltd, Mineral wealth NL	Cangai Copper Mine - Grafton	DDH5	ML	6244	132.7	1972
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• 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 124m for nickel.</li> <li>• No sample compositing has been applied.</li> </ul>						
<b>Orientation of data in relation to geological structure</b>	<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>• The current database does not contain any sub-surface samples, but these are currently being added (3<sup>rd</sup> August 2017).</li> <li>• Additional surface bedding and foliation data, and that from some of the accessible underground mine adits is being compiled from a UNSW Honours thesis (Brauwart 1991)</li> </ul>						
<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>• No additional samples have been obtained at this stage.</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															
<p><b>Mineral tenement and land tenure status</b></p>	<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 1 below:</li> </ul> <p>Figure 1: Location of EL 8625 Jackadgery North</p>  <p>The diagram is titled 'RESOURCES &amp; ENERGY' and 'DIAGRAM X5460-001B'. It includes the following information:</p> <ul style="list-style-type: none"> <li>DIAGRAM of ELA No. 5480</li> <li>APPLICANT: TOTAL MINERALS PTY LTD</li> <li>APPLICATION DATE: 23-FEB-2017</li> <li>MINERAL GROUP(S): 1</li> <li>MAP SHEET(S): 9438, 9439 &amp; 9439</li> <li>COUNTY(IES): DRAKE &amp; GRESHAM</li> </ul> <p>A table titled 'Available Areas' is included:</p> <table border="1"> <thead> <tr> <th>MAP</th> <th>BLOCK</th> <th>UNIT(S)</th> </tr> </thead> <tbody> <tr> <td>ARMDALE</td> <td>1325</td> <td>op, j, q, r, s, u, w, x, y, z</td> </tr> <tr> <td>ARMDALE</td> <td>1326</td> <td>q, r, s, v, w, x, y, z</td> </tr> <tr> <td>ARMDALE</td> <td>1328</td> <td>e, k, p, u</td> </tr> <tr> <td>ARMDALE</td> <td>1327</td> <td>abc, fgh, l, m, n, o, q, r, s</td> </tr> </tbody> </table> <p>The map shows a grid of units with EL 8625 highlighted in purple. An inset map shows the location of the area within a larger region. The diagram also includes a scale bar and a north arrow.</p>	MAP	BLOCK	UNIT(S)	ARMDALE	1325	op, j, q, r, s, u, w, x, y, z	ARMDALE	1326	q, r, s, v, w, x, y, z	ARMDALE	1328	e, k, p, u	ARMDALE	1327	abc, fgh, l, m, n, o, q, r, s
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<p><b>Exploration done by other parties</b></p>	<ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<p>Previous explorers (Brownlow, 1989; Abraham-Jones, 2012) have noted that a ‘basement window’ of exposed magmatic hydrothermal alteration and historical 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>
<p><b>Geology</b></p>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<p><b>Regional Geology</b></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. 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. These rocks are intruded by the Early Permian Kaloe Granodiorite, which also in turn is intruded by numerous later-stage mafic dykes.</p>

## Local Geology

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.

### Western Mining 1982-1984

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.

### CRA Exploration 1991-1992

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). 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.



Figure 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

- 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 1974-1995, eight (8) had core stored with the Department.
- As this was a preliminary visit, and many of the core only had quarter

- 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.

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 copper values were higher than the comparable assayed interval.
- A summary of selected results for all holes combined is given below in Table 3. In all 22 elements were tested.
- 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.

*Table 3: Summary of Cangai pXRF Testing*

Element	Total Tests	Anomalous Threshold (ppm)	Number of Anomalous Values	Highest Value ppm
<b>Cu</b>	37	500	17	190,000 (19%)
<b>Pb</b>	37	600	3	2,500
<b>Zn</b>	37	600	5	1,860
<b>Co</b>	37	50	4	730
<b>Au</b>	37	5 ppb	1	25ppb
<b>Ag</b>	37	2	2	15
<b>U</b>	37	50	1	170

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.

**Data aggregation methods**

- In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be

- No compositing has taken place.

stated.

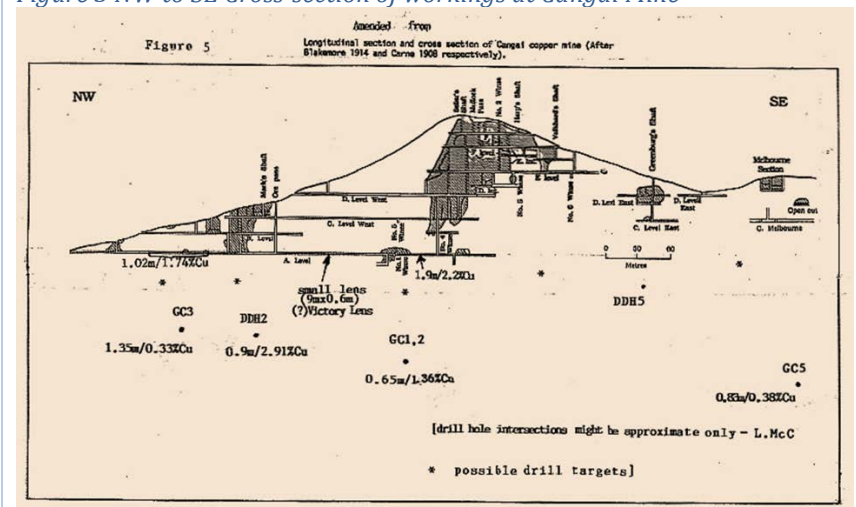
- Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.
- The assumptions used for any reporting of metal equivalent values should be clearly stated.

**Relationship between mineralisation widths and intercept lengths**

- These relationships are particularly important in the reporting of Exploration Results.
- If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.
- If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').

- Figure 3, below is a cross-section showing the four (4) main near vertical mineralised zones at the Cangai Mine.

Figure 3 NW to SE Cross-section of workings at Cangai Mine



- 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.
- Data is also being extracted from a thorough UNSW Honours Thesis as referenced below:

Brauhart, C. (1991). The Geology & Mineralisation of the Cangai Copper Mine, Coffs Harbour Block Northeastern New South Wales. CRAE Report No: 17739. University of NSW.

<b>Diagrams</b>	<ul style="list-style-type: none"> <li>• <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>• 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>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>• <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.</i></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>• <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>• 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>• <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<p>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 identify a 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>• <i>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.</i></li> <li>• <i>Data validation procedures used.</i></li> </ul>	The database only consists of Excel spreadsheets at this stage, split per element. As evaluations continue, the data will be migrated to a more appropriate relational database
<i>Site visits</i>	<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>• No site visits have yet been undertaken</li> </ul>
<i>Geological interpretation</i>	<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>• This is a preliminary investigation of surface sampling and no mineral resource estimates have yet been, or could be, calculated until the drillhole database has been loaded to a 3D modelling package.</li> <li>• Mineralisation, where present will exist 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.</li> </ul>
<i>Dimensions</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Currently defined surface anomalies are 200-350m long elongated zones contained within a much more extensive mineralised zone.</li> </ul>
<i>Estimation and modelling techniques</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li>• <i>The assumptions made regarding recovery of by-products.</i></li> <li>• <i>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. Sulphur for acid mine drainage characterisation).</i></li> <li>• <i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li>• <i>Any assumptions behind modelling of selective mining units.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No mineral resource estimates yet determined.</li> </ul>

	<ul style="list-style-type: none"> <li>• Any assumptions about correlation between variables.</li> <li>• Description of how the geological interpretation was used to control the resource estimates.</li> <li>• Discussion of basis for using or not using grade cutting or capping.</li> <li>• The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	
Moisture	<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>• Only limited moisture analyses were contained in the dataset.</li> </ul>
Cut-off parameters	<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, zinc or cobalt</li> </ul>
Mining factors or assumptions	<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 factors not yet determined</li> </ul>
Metallurgical factors or assumptions	<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 assumptions made.</li> </ul>
Environmental factors or assumptions	<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>• Not required as no mineral resource estimated.</li> </ul>
Bulk density	<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</li> </ul>	<ul style="list-style-type: none"> <li>• No bulk density measurements obtained so far.</li> </ul>

	<p><i>frequency of the measurements, the nature, size and representativeness of the samples.</i></p> <ul style="list-style-type: none"> <li>• <i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i></li> <li>• <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	
Classification	<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>• No resource estimated calculated</li> </ul>
Audits or reviews	<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>• No audit has taken place.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></li> <li>• <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li>• <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No mineral estimate calculated.</li> </ul>

## Appendix 2: Cangai Mine pXRF results (%)

Date	Time	Reading	Co_%	Ni%	Cu_%	Al_%	Si_%	P	S_%	K_%	Ca_%	Ti_%	V	Cr	Mn	Fe_%	Zn	As	Se	Rb	Sr	Y_%	Y_ppm	Zr	Nb	Mo	Ag	Cd	Sn	Sb	Ba	Ta	W	Pb	Th	LE		
01-06-17	12:06:24	#3										0.42				4.73	0.0221			0.002	0.0345	0.0056	56	0.0131				0.0032								94.77		
01-06-17	12:18:22	#4			6.25	29.56		0.81	1.04	3.08	0.66				0.0336	4.78	0.0361			0.0032	0.0234	0.0042	42	0.0102	0.0059				0.0015		0.0495	0.0376			0.0006		53.61	
01-06-17	12:22:26	#5			6.34	30.51			0.69	3.34	0.59				0.0817	6.23	0.0213	0.001		0.0014	0.0263	0.0045	45	0.0116	0.0048		0.0005		0.0018		0.0478				0.002	0.0007	52.10	
01-06-17	12:25:54	#6			0.0128	6.57	25.50	0.0125	0.39	0.27	3.21	0.69			0.0575	5.60	0.2795			0.0009	0.0178	0.0043	43	0.0108	0.0069				0.0023								57.37	
01-06-17	13:12:54	#9			19.46	1.87	8.39	0.0185	30.93	0.16			0.0842	0.1945	0.1925	22.03	0.0712					0.0009	9	1.860		0.061	0.002		0.0038	0.002					0.0713		16.45	
01-06-17	13:14:52	#10			19.14	2.37	8.27	0.0273	30.53	0.16			0.0876	0.1945	0.1899	21.83	0.0755						0	1.7203		0.0602	0.0019		0.0038	0.0016					0.0691		16.99	
01-06-17	13:46:52	#13			6.91	29.38			1.58	4.02	0.43					2.65	0.0219	0.0011		0.0035	0.0322	0.0016	16	0.0083	0.0033				0.0017		0.0824	0.0265					54.85	
01-06-17	13:49:46	#14			0.2355	1.74	33.44		1.91	1.13	8.51	0.63				3.93	0.1203	0.7504		0.0092	0.0185	0.0019	19	0.0042		0.0006	0.0005	0.0004	0.0041	0.0072					0.0273		47.53	
01-06-17	13:52:41	#15			0.0099	5.22	12.75		0.47	0.75	14.33	1.45			0.0557	6.36	0.0573	0.0028		0.005	0.0124	0.0076	76	0.0173	0.0061				0.0021	0.0004	0.032	0.0353			0.0016		58.42	
02-06-17	10:01:04	#3			6.02	13.69			0.26	3.24	0.29				0.0619	5.47	0.0232			0.0015	0.0319	0.0009	9	0.0058				0.0005	0.0014								70.90	
02-06-17	10:03:26	#4	0.0324	0.0229	6.11	20.25			1.04	6.53	0.41				0.0513	5.44	0.0316			0.003	0.0373	0.0013	13	0.0046					0.0014		0.0561		0.008				60.01	
02-06-17	10:05:45	#5			2.79	31.91		0.09	1.34	0.75	0.23			0.0873	0.0302	3.38	0.0207			0.0063	0.0076	0.0018	18	0.0057	0.0082	0.0004	0.0005		0.0013		0.0517						59.29	
02-06-17	10:13:25	#6														1.60	0.0275			0.01	0.0102	0.0028	28	0.0054														98.35
02-06-17	10:15:27	#7				17.65			1.22	4.55						1.72	0.0259			0.0096	0.0086	0.002	20	0.0054														74.81
02-06-17	10:17:34	#8			1.34	39.27			0.47	3.05	0.27					1.58	0.0107			0.0028	0.006	0.0027	27	0.0062	0.0025	0.0004			0.0012		0.027				0.0009		53.96	
02-06-17	10:52:21	#9	0.0742		4.93	14.08		0.06	2.03	18.99						0.78	0.0126			0.0145	0.0229	0.0025	25	0.0081	0.0052				0.0017	0.0011	0.1025					0.0007	58.93	
02-06-17	10:55:10	#10			1.21	21.14			0.22	18.69	0.41				0.0454	1.57	0.0108			0.0015	0.0716	0.0026	26	0.0063	0.0065		0.0005		0.0015						0.0012		56.61	
02-06-17	10:57:27	#11			5.37	31.16			1.69	1.48						1.21	0.0172			0.0042	0.0298	0.0005	5	0.008	0.0045				0.001		0.1098						58.91	
02-06-17	11:00:08	#12			0.2522	3.16	9.39		0.98	0.87	24.12	0.35			0.2487	3.11	0.0644	0.0225		0.0046	0.0572	0.0051	51	0.0034		0.0025		0.0029									57.36	
02-06-17	11:43:22	#13			3.21	12.71		0.83	0.96	21.76	0.43				0.0447	2.57	0.0046	0.0016		0.0042	0.0214	0.0022	22	0.005					0.0016		0.0695						57.37	
02-06-17	11:45:13	#14			6.06	17.50		0.57	2.09	3.13	0.55					2.12	0.0099	0.0022		0.0057	0.0232	0.0008	8	0.0093	0.0053						0.0841				0.0013		67.83	
02-06-17	11:47:07	#15			5.68	15.05		0.70	1.85	3.32	0.67					2.29	0.0089	0.0029		0.0054	0.0224	0.0008	8	0.0091	0.0044				0.0012		0.08				0.0012		70.29	
02-06-17	12:50:06	#16			2.21	3.80		0.68	0.59	15.72					0.1434	6.47	0.0153			0.0046	0.0159	0.002	20	0.0035													70.35	
02-06-17	12:52:43	#17			1.3844	3.63	2.20	0.0214	17.13	0.24	1.14		0.0813	0.1792	0.2477	24.58	12.6	0.1468	0.0007				0.0031	31			0.0017	0.0021	0.0296	0.0862	0.0275				0.224	0.0013	36.05	
02-06-17	12:55:02	#18				11.44		0.07	0.05	21.44	0.23				0.0672	1.11	0.0169	0.0009		0.0007	0.0171	0.0012	12	0.0014					0.0014								65.54	
02-06-17	13:36:41	#19			2.94	20.96		0.47	0.16	1.44	0.21					2.75	0.0868			0.0004	0.008	0.0054	54	0.0134	0.0038				0.0012								70.95	
02-06-17	13:39:43	#20			0.0226	2.16	16.59		0.28	0.63	0.88				0.0379	2.31	2.0516			0.004	0.0118	0.0015	15	0.0056	0.007	0.0003		0.0016		0.0268				0.0016	0.0008	74.98		
02-06-17	13:42:19	#21			0.6805	3.26	19.48		5.22	0.57	3.21	0.22			0.0438	8.45	0.3428	0.5904	0.0001	0.0023	0.0051	0.0008	8	0.001		0.0025	0.001	0.0006	0.0039	0.0064					0.0252		57.88	
02-06-17	14:49:04	#22			8.57	15.82			3.09	7.31	0.16				0.0581	5.93	0.135			0.0137	0.0091	0.0017	17	0.0066	0.0039	0.0004		0.0018		0.0283	0.0364						58.83	
02-06-17	14:51:12	#23			5.78	26.40		0.07	1.35	2.25	0.35				0.0464	5.58	0.1764			0.0047	0.022	0.0039	39	0.0104	0.0064			0.0017		0.0703				0.0022		57.87		
02-06-17	15:16:37	#24			4.11	31.41		0.39	1.94	1.04	0.24				0.0334	3.43	0.1028			0.0097	0.0085	0.0027	27	0.0106	0.0119			0.0015		0.0753				0.0017	0.0009	57.19		
02-06-17	15:18:48	#25			5.16	15.03		0.17	0.52	4.35	0.15				0.1321	6.75	0.0153			0.001	0.0166	0.0036	36	0.0072		0.0006		0.002								67.69		
02-06-17	15:20:51	#26			3.26	35.20		0.06	0.16	4.15	0.26					1.56	0.0126			0.0007	0.0124	0.0025	25	0.0087	0.0039			0.0012							0.0006		55.31	
02-06-17	15:44:36	#29	0.0247			2.07		0.39	0.28	33.23					0.5557	1.95	0.0062			0.0044	0.0197	0.0018	18	0.0034				0.0019	0.0011	0.1006							61.37	
02-06-17	15:46:52	#31			3.10	21.51		0.05	0.41	0.63						2.73	0.0187			0.0025	0.0107	0.0053	53	0.0134	0.0093									0.0018			71.51	
02-06-17	15:49:00	#32			4.71	19.06	0.0196	0.20	0.38	1.12	0.67				0.0788	6.55	0.0212			0.0022	0.0242	0.0086	86	0.0266	0.0078			0.0025	0.0046		0.0384						67.08	