Stockpile tests produce high recoveries and grades up to 22% copper

CASTILLO COPPER LIMITED

ASX Release

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Issued Capital:
579.7 million shares
84.5 million options

ASX Symbol:
CCZ

- **Preliminary metallurgical test-work on samples from the two McDonough's stockpiles, along the line of lode, has demonstrated the ore can be beneficiated materially**
- **Results so far confirmed solid copper concentrate recoveries >80%, with the grade up to 22% Cu**
- **CCZ is optimistic further test-work on samples from the McDonough's stockpile may produce improved recoveries and higher grades**
- **In addition, these early findings from McDonoughs are encouraging as they provide a solid lead indicator on copper recoveries and grades from the other stockpiles**
- **Discussions continue with prospective off-take partners interested in processing ore as relevant information comes to hand**
- **Meanwhile, the geology team have approached the regulator for guidance on the optimal way forward to remove the stockpiles from site and capture the economic benefits**

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Castillo Copper's Chairman Peter Meagher commented: *"The Board notes the metallurgical test-work done to date on the legacy stockpiles has demonstrated proof of concept. Pleasingly, we have seen solid copper concentrate recoveries and grades, which we expect to continue improving as metallurgical test-work is progressed. Further, we are delighted to have strong interest in our stockpiles from several end user groups."*

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Castillo Copper Limited's ("CCZ" or **"the Company")** Board is pleased to provide an update on metallurgical test-work carried out on ore from two separate McDonoughs stockpiles along the line of lode.

METALLURGICAL TEST-WORK UPDATE

Two composites formed from bulk samples taken from McDonoughs Portal and Shaft stockpiles along the line of lode (see Figure 1, Appendix A and JORC Table 1 for location map/supporting data) have been the focal point of metallurgical test-work in recent months.

FIGURE 1: MCDONOUGHS PORTAL STOCKPILE

450200mE 6736650mN
Source: CCZ geology team

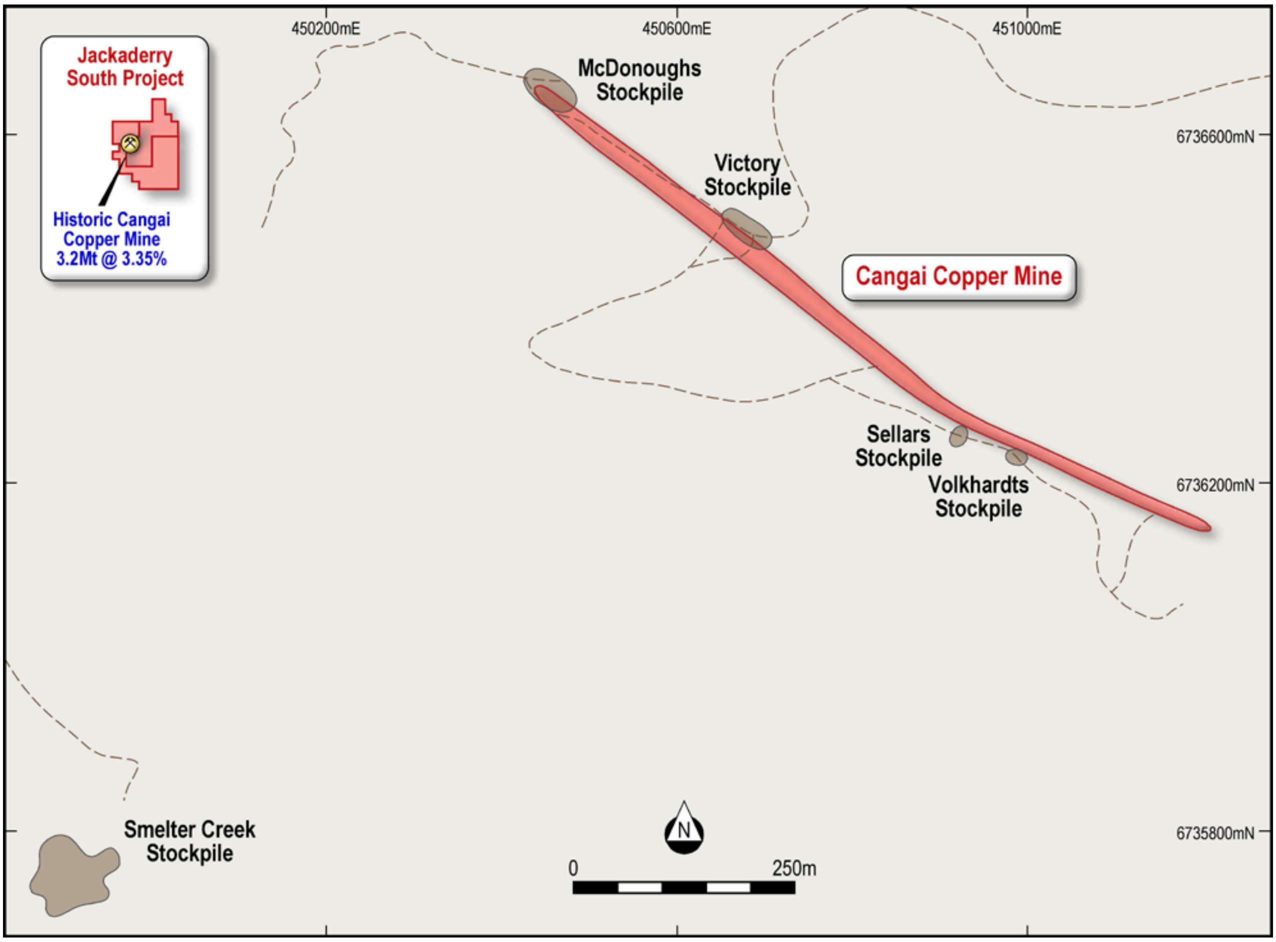
Pleasingly, the test-work in the laboratory has demonstrated the ore has beneficiated materially (Figure 2). Furthermore, results to date have confirmed solid copper concentrate recoveries that exceeded 80%, while the grade was up to 22% Cu and Co 300ppm.

FIGURE 2: METALLURGICAL TESTING

Source: ALS

Moving forward, CCZ is optimistic the copper concentrate recovery rates and grades may improve as further metallurgical test-work is conducted. More significantly, these results provide a key insight on copper recoveries and grades for the other historic stockpiles at Cangai Copper Mine (Figure 3) yet to be analysed.

FIGURE 3: LEGACY STOCKPILES AT CANGAI COPPER MINE



Source: CCZ geology team

Monetising legacy stockpiles

The geology team have approached the regulator for guidance on how to effectively and efficiently remove the stockpiles from site, so the economic benefits can be captured. The clear options are third party processing locally or a direct shipping ore product once regulatory clearance is secured.

CCZ continues to progress discussions with the several prospective off-take partners interested in processing the ore as relevant information comes to hand.

Next steps

Further metallurgical test-work to improve the copper concentrate recovery and grades.

For and on behalf of Castillo Copper

Alan Armstrong

Executive Director

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 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.

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 that's flagship project is the historic Cangai Copper Mine near Grafton in northeast NSW. The project comprises a volcanogenic massive sulphide ore deposit, with one of Australia's highest grade JORC compliant Inferred Resources for copper: 3.2Mt @ 3.35% (6 September 2017). In terms of contained metal, the Inferred Resource is 107,600t Cu, 11,900t Zn, 2.1Moz Ag and 82,900 Moz Au. A notable positive is the presence of supergene ore with up to 35% copper and 10% zinc which is ideal feedstock for direct shipping ore. Incrementally, the project holds five historic stock piles of high-grade ore located near Cangai Copper Mine.

In brief, CCZ's Australian assets are 100% owned and comprise four tenure groups detailed briefly as follows:

- **NSW assets:** Consists of two projects: 1) Jackaderry, which includes Cangai Copper Mine, is in an area highly prospective for copper-cobalt-zinc and made up of three tenements; and, 2) Broken Hill which consists of two contiguous tenements prospective for cobalt-zinc that are located within a 20km radius of Broken Hill and just north of Cobalt Blue's ground (ASX: COB).

- **Queensland assets:** Comprises two projects: 1) Mt Oxide made up of three prospects (two are contiguous) in the Mt Isa region, northwest Queensland, and are well known for copper-cobalt systems; and, 2) Marlborough which includes three prospects located north-west of Gladstone (adjacent to Queensland Nickel mining leases) in an area with proven high-grade cobalt-nickel systems.

Finally, CCZ' holds six exploration concessions in Chile.

Appendix A: Metallurgical testing

Bulk samples at two sites (refer to ASX release 27 March 2018) have been combined to form two roughly 50Kg composites for preliminary concentrate testing at ALS' Perth Laboratory. The locations of the samples are shown below in Figure A1 and in Table A1.

FIGURE A1: MCDONOUGHS LEGACY STOCKPILES AT CANGAI COPPER MINE

Source: CCZ geology team

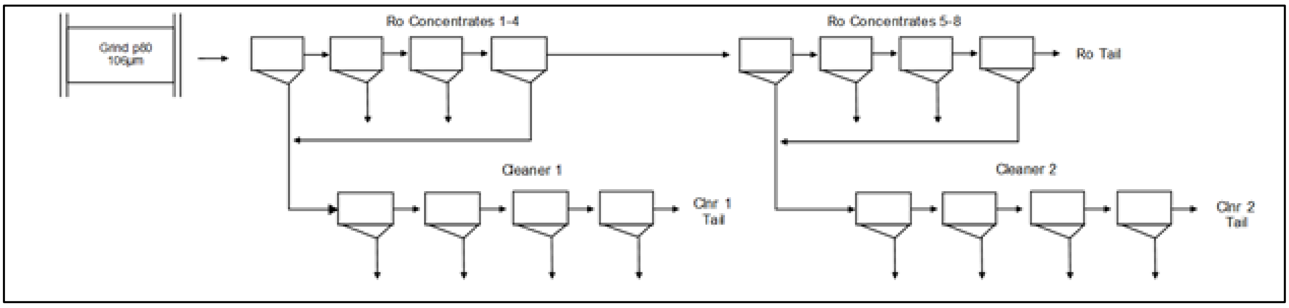
Table A1: MCDONOUGHS LEGACY STOCKPILES BULK SAMPLE LOCATIONS

Composite	Site ID	Easting	Northing	Elevation	From (m)	To (m)	Sample ID	Sample wt (kg)	Sample type	Lab Despatch_No	Comments	Date Assay Finalised
1	1012501	450466.4	6736647	205.2	0	2	1012501	18.7	Bulk	OR18011817	McDonoughs Portal A Level Dump	09.02.2018
1	1012502	450466	6736646	203.2	2	4	1012502	12.9	Bulk	OR18011817	McDonoughs Portal A Level Dump	09.02.2018
1	1012503	450465	6736645	201.2	4	6	1012503	15.9	Bulk	OR18011817	McDonoughs Portal A Level Dump	09.02.2018
1	1012504	450472.6	6736640	204.8	0	1.5	1012504	12.7	Bulk	OR18011817	McDonoughs Portal A Level Dump	09.02.2018
1	1012505	450471	6736640	203.3	1.5	3	1012505	14.7	Bulk	OR18011817	McDonoughs Portal A Level Dump	09.02.2018
1	1012506	450470	6736640	201.8	3	4.5	1012506	15.4	Bulk	OR18011817	McDonoughs Portal A Level Dump	09.02.2018
1	1012507	450474.9	6736630	204.4	0	1.2	1012507	19.7	Bulk	OR18011817	McDonoughs Portal A Level Dump	09.02.2018
1	1012508	450474.9	6736631	203.2	1.2	2.4	1012508	16.3	Bulk	OR18011817	McDonoughs Portal A Level Dump	09.02.2018
1	1012509	450474.9	6736632	202	2.4	3.6	1012509	15.8	Bulk	OR18011817	McDonoughs Portal A Level Dump	09.02.2018
2	1012516	450490.5	6736608	239.1	0	2	1012516	12.5	Bulk	OR18042111	McDonoughs Shaft Dump	22.03.2018
2	1012517	450509.3	6736587	213.3	0	2	1012517	16.3	Bulk	OR18042111	McDonoughs Shaft Dump	22.03.2018
2	1012518	450519.9	6736576	215	0	2	1012518	13.4	Bulk	OR18042111	McDonoughs Shaft Dump	22.03.2018
2	1012519	450525.5	6736592	237.1	0	2	1012519	11.4	Bulk	OR18042111	McDonoughs Shaft Dump	22.03.2018
2	1012520	450512.5	6736605	231.8	0	2	1012520	13.7	Bulk	OR18042111	McDonoughs Shaft Dump	22.03.2018

Source: CCZ geology team

The general work flow schematic for the rougher concentrate is given in Figure A2 below:

FIGURE A2: ROUGHER CONCENTRATE WORKFLOW



The following section provides brief notes on the various trials conducted.

Composite 1 McDonough's shaft tailings dump

Head Grade was 1.2% Copper and 0.16% Zinc. Approximately 11% of copper in feed reported to be oxide, 25% Secondary and 64% Primary Sulphide. Three flotation sighter tests performed as follows:

1. RDA2385: 20-minute rougher targeting sulphide and oxide copper flotation.
   Sighter to obtain maximum copper recovery using non-selective collector.
   Highest sulphide copper grade was 19% at 52% recovery.
   Overall copper recovery was 80% at 10% Cu grade.
   Iron Recovery of 18%.

2. RDA2410: 17-minute rougher/scavenger flotation with cleaning of rougher concentrate.
   No Oxide copper recovery
   Effect of Selective Collector
   Sulphide rougher (11 minutes) copper recovery was lower using selective sulphide collector (66.7% vs 75.5% test RDA2385) however grade increased.
   Cleaning of the rougher concentrates 1-4 achieved a recovery of 64% at 22% Cu grade from a feed of 66.7% copper at 15.8% Cu.
   Overall iron recovery to rougher reduced by approximately 2% (16% vs 18% Test RDA2385) but copper recovery also reduced.
   A copper enrichment of 1.5 in the cleaner can be partly attributed to a 78% cleaner stage recovery of iron.
   Copper grades improved but recoveries reduced.

3. RDA2412: 22-minute split sulphide/oxide copper rougher with separate cleaning
   Effect of higher pH flotation to depress iron and separate rougher/cleaning of Sulphide and Oxide Copper using non-selective collector to maintain copper recovery
   Sulphide rougher (11mins) Cu recovery was like test RDA2385 (75% at 12.4% Cu).
   Low upgrading of sulphide rougher 1-4 concentrate and oxide rougher concentrates 5-8
   Combined cleaner concentrate recovery of 76.6% at 14.4% Cu.
   Copper recoveries improved but selectivity reduced

Composite 1 options

Possible Options include:

- Investigate effect of grind size to improve selectivity against iron sulphides & gangue;
- Iron sulphide depressants;
- Collector alternatives.

Composite 2 McDonough's main portal dump

Head Assay was 1.0% Copper and 0.2% Zinc. Approximately 27% of copper in feed reported to be oxide, 30% Secondary and 43% Primary Sulphide. Two flotation sighter tests were performed:

1. RDA2386: 20-minute rougher targeting sulphide and oxide copper flotation
   Sighter to obtain maximum copper recovery using non-selective collector
   Highest sulphide copper grade was 18% at 50% recovery, like Composite 1.
   Overall copper recovery was 81% at 7.5% Cu grade
   Iron Recovery of 26%, though iron in the feed was lower than Composite 1.

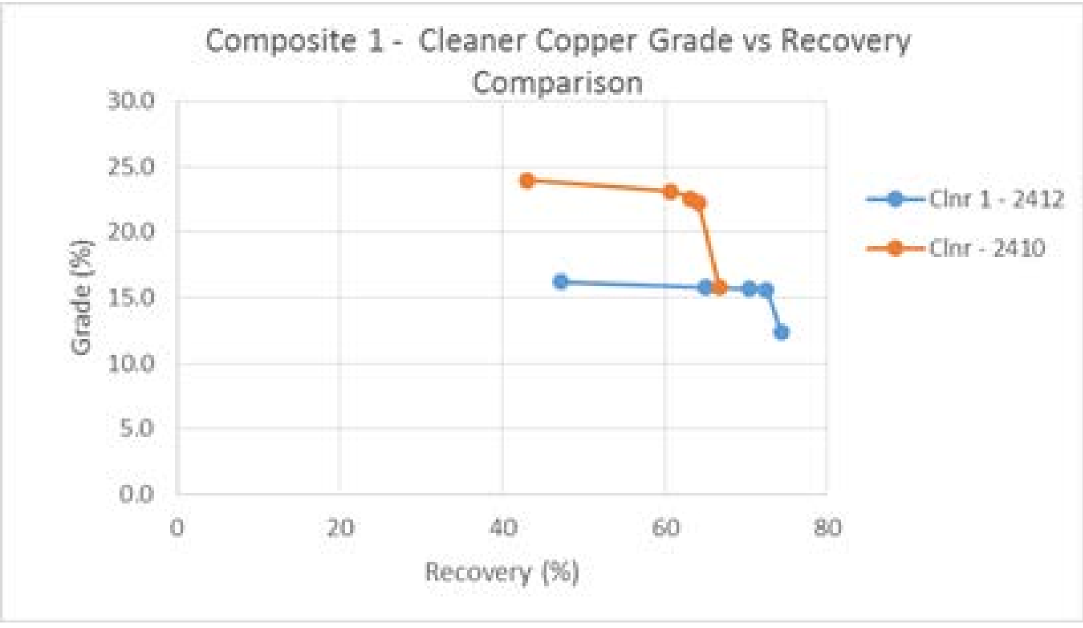
2. RDA2411: 22-minute split sulphide/oxide copper rougher with separate cleaning
   Effect of higher pH flotation to depress iron and separate rougher/cleaning of Sulphide and Oxide Copper using non-selective collector to maintain copper recovery.
   Sulphide rougher (11 minutes) copper recovery was like test RDA2386 (65% at 8.7%Cu).
   Low upgrading of sulphide rougher 1-4 concentrate and oxide rougher concentrates 5-8.
   Combined cleaner concentrate recovery of 73.8% at 9.98% Cu (see Figure A3).

Composite 2 options

Possible Options for composite 2 include:

- Investigate effect of grind size to improve selectivity against iron sulphides & gangue
- Iron sulphide depressants
- Collector alternatives

FIGURE A3: COMPOSITE 1 - CLEANER CU GRADE VERSUS RECOVERY



A Summary table (Table A2) of the froth flotation results is included below:

TABLE A2: COMPOSITE 1 AND 2 FROTH RESULTS

Composite	Head Grade Cu%	Yield %	Output Cu %	Head Grade Co ppm	Yield %	Output Co ppm	Head Grade Zn%	Yield %	Output Zn %
1 Rougher (1—8)	1.2	80.6	10.1	30	54.2	200	0.16	67.6	1.17
1 Cleaner (1-4)		64.1	22.6		16.9	200		49.0	2.09
2 Rougher 1-8	1.0	81.3	7.5	60	55.6	300	0.21	61.1	1.16
2 Cleaner (1-4)		62.3	10.4		39.2	290		49.5	1.74

Source: ALS

APPENDIX B: JORC CODE, 2012 EDITION – TABLE 1; METALLURGICAL 2018

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30-g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	Samples from the Cangai bulk program were collected by hand. Initially 20-25kg of rocks and dust was collected and riffled down to a 10-15kg sample for further lab analysis. The pXRF Analysis on these bulk samples was carried out by using a handheld NITON XLt3 950 Portable XRF analyser. Measurements were taken on the surface of the sample rock specimens in several positions to estimate average grades for the sample. All samples are delivered to ALS Laboratory in Orange NSW where that lab undertakes the splitting and compositing of the 15kg samples and undertook to create a single 50-100kg composite, one for each site, for further testing. The bulk samples were also sent to ALS Brisbane for a suite of major oxide and trace element determinations as described in later sections. The final 50-100kg composites were freight to ALS Perth laboratory for a suite of metallurgical tests. The bulk sampling program completed to date is shown in tables throughout the body text and the Appendices within the report.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	No drilling was conducted.

Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.* *Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	No holes were drilled as part of this sampling program.
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* *•The total length and percentage of the relevant intersections logged*	No holes were drilled as part of this sampling program.
Subsampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.* *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled.*	Bulk samples were collected, and riffle split in to calico bags at the rig. The samples are weighed details recorded. A pXRF unit was utilized to test the samples for mineralisation to determine the general grade of the dumps. Composite samples are being homogenized and riffle split at the labs prior to assaying. Industry acceptable standards and blanks were used as certified reference material to ensure satisfactory performance of the laboratory. Results are awaiting completion and assay results will be compared will be compared with expected results

Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	Multi-suite analysis methodology (MS-ME61) which involves a four-acid digestion, is being completed by ALS in Brisbane QLD, for the following elements ; Ag, As, Se, Ca, K, S, Ba, Sb, Sn, Cd, Pd, Zr, Sr, Rb, Pb, Hg, Zn, W, Cu, Ni, Co, V, Ti, Au, Ga, Ge, LI, La, Fe, Mn, Cr, Sc, Mo, Th, U, Ta. Samples containing >1000ppm Cu are being tested for Au by fire assay method CU-OG62.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.* *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	Field reading of multi-elements were also estimated using a NITON XLt3 950 Portable XRF analyser as conducted as in internal check prior to sending samples for laboratory analysis. Reading times using 2 beam Geochem Mode was employed via 30sec/beam for a total of 60 sec. All logging and sampling data is collected, and data entered into excel spread sheets. Data is send to consulting geologist in Brisbane and Perth for compilation, correlation and data base inclusion prior to being interpreted.
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* *Specification of the grid system used.* *Quality and adequacy of topographic control.*	Figure A1-1 and A1-2 show the field conditions for bulk sample sites at McDonough's portal and shaft dumps, respectively. Sample locations were taken by a Garmin hand-held GPS unit with positional accuracy in x and y previously shown to be in the order of ± 4m.

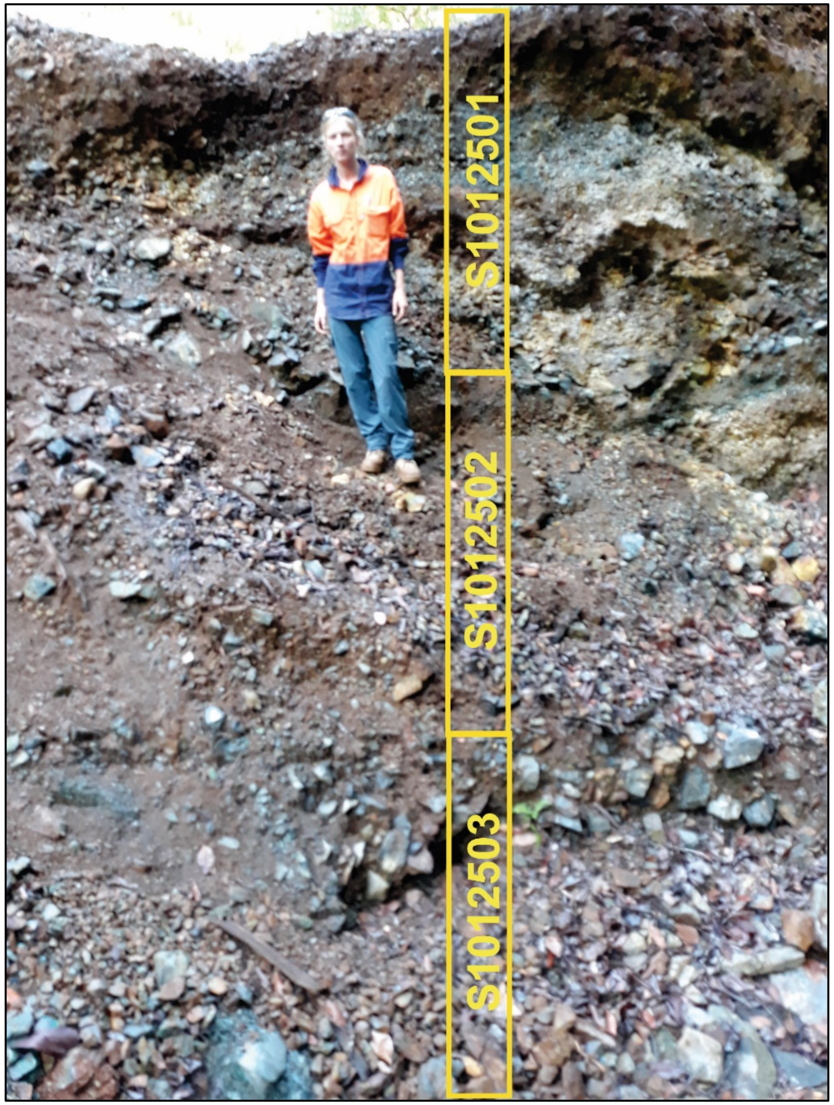
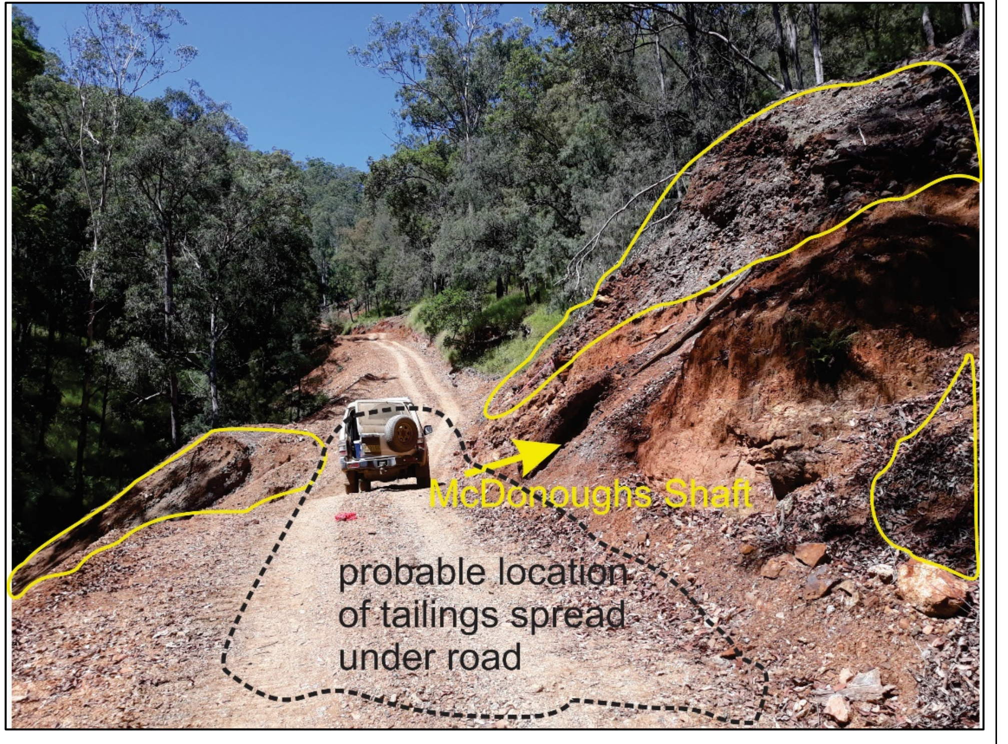
		Figure A1-1 McDonoughs Portal Dump Site 

		Figure A1-2 McDonoughs Shaft Dump Site 
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	The spacing of the bulk samples was approximately 20m apart and included channel sample obtained down scree slopes. Enough samples were obtained at each site to create a 50-100kg composite sample.

<table>
<tr>
<td>Orientation of data in relation to geological structure</td>
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* *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*
* *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*

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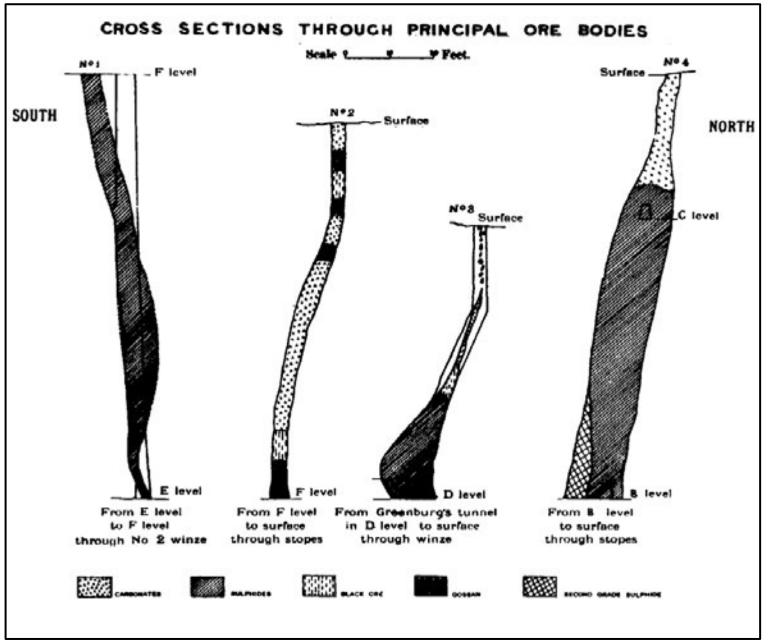
Additional surface bedding and foliation data, and that from some of the accessible underground mine adits was compiled from a UNSW Honours thesis (Brauhart 1991). Information is available from underground workings, open cut(s), shaft(s), adit(s), shallow pits and scrapings. The Lode sub-vertical to 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

The known copper-gold mineralisation around Cangai strikes from 290-330 degrees, It should be noted that these orebody shapes were drawn at >13% Cu so that the width of the major orebody shapes shown by Figure A1-5, below:

Figure A1-5: Orientation of Copper-Gold Mineralisation at the Cangai Mine



Modelled wireframes in the Maiden Resource estimate were cut at 1% Cu, but resource envelopes in future models will be enlarged to try to capture mineralisation down to 0.5% Cu.

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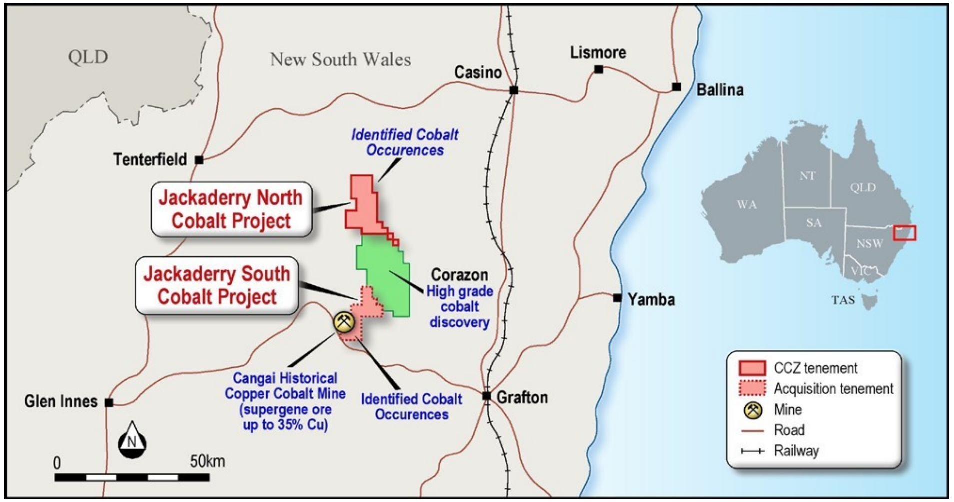
Sample security	• *The measures taken to ensure sample security.*	Samples were bagged were delivered by Gnomic Exploration Staff to ALS Orange who on-freighted them to ALS Laboratories Brisbane and thence to ALS Perth. 1m sample results have been returned for CRC001-09 and the majority of the 5m composite samples are awaiting completion. Gold assays for samples returning >1000ppm Cu are also in progress (method Cu-OG62).
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	No audits or reviews have yet been undertaken. This will commence once all assay results have been received.

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• Castillo Copper holds 100% of EL 8625 & EL 8635. The tenure has been granted for a period of thirty-six months until 17th July 2020, for Group 1 minerals. The location of the tenures are shown in Figure A2-1 below: Figure A2-1: Location of EL 8625 and EL8635 Jackaderry South  The current drilling has all been completed on EL 8625 and EL 8635 Jackaderry South only.

Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Some mining history and discovery information provided by North Broken Hill Ltd (1970) is as follows: **Cangai** The Cangai copper mine, located 10 km north west of Jackadgery, 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. 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: • Quartz-tourmaline-sulphide-cemented, magmatic-hydrothermal breccia hosted copper-gold-molybdenum-cobalt (Cu-Au-Mo-Co) deposit; • 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; • Potential also exists for copper-gold (Cu-Au) skarn; 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

Geology	*Deposit type, geological setting and style of mineralisation.*	Regional Geology 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 19élange 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 (tonalite), which also in turn is intruded by numerous later-stage mafic (lamprophyre) dykes. 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. 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: • **Azurite** major ore • **Chalcocite** major ore • **Chalcopyrite** major ore • **Copper** major ore • **Malachite** major ore • **Pyrite** major ore • **Pyrrhotite** major ore • **Arsenopyrite** minor ore • **Sphalerite** minor ore • **Cuprite** minor ore • **Gold** minor ore • **Limonite** minor ore • **Chlorite** major gangue • **Calcite** major gangue • **Quartz** major gangue • **Sericite** minor gangue

		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 A2-2). 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 A2-2: 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

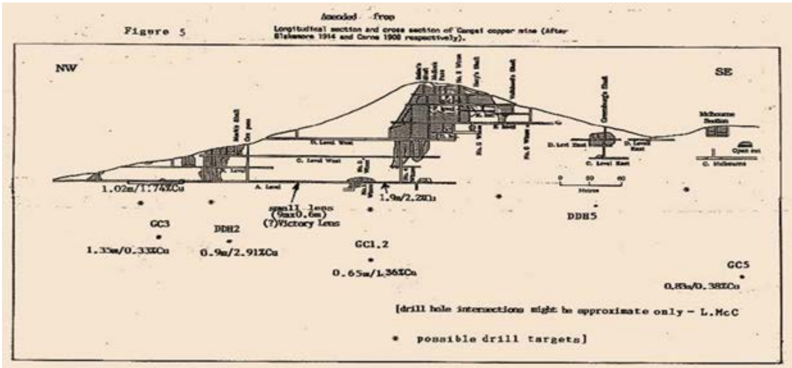
1 Massive chalcopyrite-pyrite ore
2 Oxide material
3 Massive pyrite chalcopyrite rock with gangue clasts
4 Well banded pyrite-sphalerite ore
5 Weakly banded massive sulfide
6 Weakly banded massive sulfide

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* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* • *dip and azimuth of the hole* • *down hole length and interception depth* • *hole length.* *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case*	No drilling was undertaken as part of this sampling program.

Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No top cuts have been applied to reporting of the Significant Intersections and lower cut of 0.5% (5,000ppm) Cu has generally been used. Portions of each individual bulk sample (each approximately 15kg) were used in creating the composites. Full detailed assay intervals for the key elements are included in the Appendices of this report

<table>
<tr>
<td>Relationship between mineralisation widths and intercept lengths</td>
<td>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’).</td>
<td>All sampling was taken on or near the surface at stockpiles.

The Lode is currently modelled to be 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 Volkardts, Melbourne, Marks, Sellers & Greenburg’s lenses. The secondary supergene zone grades averaged 20-35% Cu. The sulphide zone decreased to 8-10% Cu at depth. The Lode was largest at structural intersections. Breccia was recorded at D level.
The host rock is massive fine-grained intermediate volcanic, and bedding is difficult to define. The deposit is structurally controlled with lodes following or adjacent to the shear zone. A temperature of formation is suggested to be about 380 degrees centigrade (Brauhart 1991). The NSW Geological Survey has characterized Cangai as a metahydrothermal structurally-controlled deposit. Figure A2-4, below is a cross-section showing the four (4) main near vertical mineralised zones at the Cangai Mine.

Figure A2-4: NW to SE Cross-section of workings at Cangai Mine


Geo-registering was undertaken in August and September 2017, particularly the anomalous zones (which are in the process of being digitised off the 1908 and 1912 mine plans (Brauhart 1991), which become priority targets for geological mapping, ground magnetic and EM surveys.
Data has also been 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.</td>
</tr>
</table>

Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	Appropriate diagrams have been included in the body text of the announcement.
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.*	All bulk samples completed to date have been reported.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	. Other exploration activities at Cangai have been reported in recent ASX releases.
Future Work	*The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Table A2-2 (below) lists the lab results already returned of some completed channel sampling (20kg bulk sample) at the McDonough's portal and shaft stockpiles. Further metallurgical test work is being completed for the smelter slag dump, and will be reported when comp

Table A2-2: McDonough's Portal and Shaft Dumps - Assay results of Bulk Samples prior to compositing

											Au-AA26	ME-MS61	ME-MS61	ME-MS61/ Cu-OG62	ME-MS61
Composite	ID	Sample Tag	Easting	Northing	AHD	From	to	Report/Job #	Method(s)	Recvd Wt.	Au	Ag	Co	Cu	Zn
					m	m	m			kg	ppb	ppm	ppm	ppm	ppm
1	Site_1A	1012501	450466.4	6736647.2	205.2	0	2	OR18011817	WEI-21, Au-AA26, ME-MS61, Cu-OG62	18.68	40	1.02	28.6	2420	594
1	Site_1B	1012502	450466.4	6736647.2	203.2	2	4	OR18011817	WEI-21, Au-AA26, ME-MS61, Cu-OG62	12.90	80	1.65	34.2	5660	1100
1	Site_1C	1012503	450466.4	6736647.2	201.2	4	6	OR18011817	WEI-21, Au-AA26, ME-MS61, Cu-OG62	15.90	160	4.08	61.1	13250	1660
1	Site_2A	1012504	450472.6	6736639.9	204.8	0	1.5	OR18011817	WEI-21, Au-AA26, ME-MS61, Cu-OG62	12.72	150	7.09	55.7	11600	1500
1	Site_2B	1012505	450472.6	6736639.9	203.3	1.5	3	OR18011817	WEI-21, Au-AA26, ME-MS61, Cu-OG62	14.74	300	6.95	150.0	20000	2910
1	Site_2C	1012506	450472.6	6736639.9	201.8	3	4.5	OR18011817	WEI-21, Au-AA26, ME-MS61, Cu-OG62	15.36	270	7.12	79.7	21300	3370
1	Site_3A	1012507	450474.9	6736630.2	204.4	0	1.2	OR18011817	WEI-21, Au-AA26, ME-MS61, Cu-OG62	19.74	60	2.61	26.6	5580	2230
1	Site_3B	1012508	450474.9	6736630.2	203.2	1.2	2.4	OR18011817	WEI-21, Au-AA26, ME-MS61, Cu-OG62	16.30	50	1.96	27.1	6290	1860
1	Site_3C	1012509	450474.9	6736630.2	202	2.4	3.6	OR18011817	WEI-21, Au-AA26, ME-MS61, Cu-OG62	15.78	80	2.38	22.1	4650	1460
2		1012516	450490.5	6736608	239.1	0	2	OR18042111	WEI-21, Au-AA26, ME-MS61, Cu-OG62	12.5	290	8.68	12.6	6690	700
2		1012517	450509.3	6736587	213.3	0	2	OR18042111	WEI-21, Au-AA26, ME-MS61, Cu-OG62	16.3	70	2.17	20.4	3860	860
2		1012518	450519.9	6736576	215	0	2	OR18042111	WEI-21, Au-AA26, ME-MS61, Cu-OG62	13.4	660	13.05	56.8	24800	3600
2		1012519	450525.5	6736592	237.1	0	2	OR18042111	WEI-21, Au-AA26, ME-MS61, Cu-OG62	11.4	80	2.32	42.7	9310	1460
2		1012520	450512.5	6736605	231.8	0	2	OR18042111	WEI-21, Au-AA26, ME-MS61, Cu-OG62	13.7	150	3.17	24.5	10015	449

Source: ALS