

ASX Release

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Issued Capital: 473.5 million shares 21 million options

> ASX Symbol: CCZ

High-Grade Cobalt Surface Mineralisation Discovered at Broken Hill Project

- In an exciting development, CCZ has uncovered legacy data highlighting up to 2,060ppm Co from surface in the northeast part of the project area
- Significant contiguous Co surface mineralisation is apparent in several zones striking towards the project area, with recordings from two separate locations up to 3,000ppm and 4,000ppm respectively
- Just outside the western boundary but on strike that runs into CCZ's project area, legacy drill-holes highlighted intersections that were up to 7,000ppm Co
- There are now four areas within the Broken Hill Project that are highly prospective for Co and significantly enhance the exploration upside
- Generating these high-grade Co results, within and on anomalous zones running into CCZ's ground, is extremely encouraging, as neighbour Cobalt Blue's (ASX: COB) Total Resource is 54.9Mt @ 910ppm Co
- Complementing this, CCZ has identified several incremental high-grade Zn mineralised anomalous zones with legacy drilling results of 2-3% Zn within and contiguous to the tenure
- Further exploration upside exists within unexplored areas of the tenure as materially more buried Co-Zn mineralisation may occur under alluvial sand cover holds
- CCZ's initial drill program will focus on the Cangai Copper mine and will be followed by drilling at Broken Hill targeting Co-Zn systems

Castillo Copper's Executive Director Alan Armstrong commented: "The Board is delighted with desktop work confirming significant cobalt surface mineralisation of up to 7,000ppm being confirmed on strike and near our Broken Hill Project. Having now identified four cobalt as well as four zinc zones, CCZ is very well placed to maximise our opportunity at Broken Hill.

In terms of timing, the Board intends to initially complete our drilling program within and surrounding the Cangai Copper Mine and then move onto the Broken Hill Project to drill known zinc and cobalt targets."

Castillo Copper Limited's (**CCZ** or **Company**) Board is pleased to announce that recent work has identified excellent cobalt anomalism in four areas across the Broken Hill Project including a reading of up to 2,060ppm Co. Furthermore, CCZ reports finding four areas with highgrade zinc mineralisation, within and contiguous to neighbouring tenure, that are clear candidates for the initial drilling program. Management is continuing to review legacy data.

BROKEN HILL PROJECT UPDATE

Cobalt mineralisation discovered

CCZ has progressed desktop research into legacy data on the Broken Hill Project, which has uncovered four highly prospective anomalous zones on the eastern and southwestern boundaries that are contiguous with neighbouring tenure (Figure 1).

In the northeast quadrant of the tenure, surface mineralisation up to 2,060ppm Co was recorded on a strike trending southeast within CCZ's tenure. Further to the south, along the eastern boundary, significant surface mineralisation trending into the tenure is apparent with up to 990ppm Co in the mix.

Just outside the western boundary but striking into the project area, surface mineralisation up to 3,000ppm Co has been found. Within the same anomalous zone, legacy drill-holes had intersections that contained 7,000ppm Co. Southwest of the project area but on a contiguous system, surface mineralisation of up to 4,000ppm was recorded.

Generating these high-grade Co results – within and on anomalous zones that run into the project area – is extremely encouraging and highlights CCZ's material exploration upside. Notably, CCZ's results are of strong interest when compared with Cobalt Blue Holdings Limited's (ASX: COB, **Cobalt Blue**) global Mineral Resource inventory at Thackaringa is recorded at 54.9Mt @ 910ppm Co¹.



FIGURE 1: DEMONSTRABLE COBALT MINERALISATION

¹ 1 Refer to Cobalt Blue (ASX:COB) Announcement "Significant resource upgrade for the Thackaringa Cobalt Project" dated 5 June 2017. 12% of JORC Compliant Resource is in the Indicated Category with the balance Inferred.

Incremental high-grade zinc mineralisation found

On 30 August 2017, CCZ announced that ROM Resources had discovered significant Zn mineralisation (refer ASX Announcement – 30 August 2017) in the southern part of the tenure, leveraging legacy data. Since then further desktop work has found drill-holes with up to 1.1% Zn and 24g/t Ag within this area and three incremental zones with high-grade Zn mineralisation (Figure 2).

Slightly to the north of the tenure, legacy drill-holes with up to 2% Zn were recorded on a strike that is open in all directions into CCZ's project area. However, further work needs to be undertaken to determine the extent of Zn mineralisation into CCZ's tenure.

On the western boundary, there are two areas where legacy drill-holes have Zn recorded up to 2.1% and 3% respectively. The legacy data may be sufficient to generate a modest mineral resource on the western most area.

With some 1,400 drill-holes now encoded, management believes it has now determined the extent of high-grade Zn mineralisation across the Broken Hill Project. The next phase is to generate models for the most promising sections and highlight key targets for the inaugural drilling program, which will commence post the Cangai Copper Mine campaign.



FIGURE 2: DEMONSTRABLE ZINC MINERALISATION

Undiscovered mineralisation

A site visit by Executive Directors Alan Armstrong and Neil Hutchison noted limited drilling was evident within the majority of the tenement area. Typically, historic exploration was focussed on Broken Hill style Ag-Zn mineralisation, not Thackaringa style Co mineralisation (Figures 1 & 2). Furthermore, most of the central area of the tenure is covered by a veneer of alluvial sand deposits (white unsampled areas in Figure 3) burying rock exposures, which makes historic surface and shallow auger sampling ineffective.

With surface sampling from alluvial sand being unreliable, the potential to find incremental highgrade Co mineralisation from utilising modern technology to identify potential drill targets is material. Black Hill and Quarry Tank drilling in the centre of this unsampled area was based on geophysical targets and intersected mineralisation under this sand cover. Management believe the anomalism identified outside the tenure, which is trending undercover into CCZ's project area, has not been adequately tested via historic sampling and could be hiding undiscovered mineralisation.

Applying modern exploration techniques and a new geological model, management is planning a drilling campaign and geophysical testing of the identified target areas. As such, CCZ is confident advancing the Broken Hill Project will develop a Co-Zn mineral resource that is within a well known mining district which is supported by excellent infrastructure.



FIGURE 3: UNEXPLORED AREA POTENTIALLY HOLDS MORE Co-Zn MINERALISATION

BASE METAL UPCYCLE CONTINUES GAINING MOMENTUM

The Board remains well informed of the current factors driving the base metal upcycle, particular for Co and Zn, which are the key elements prevalent within the Broken Hill Project. With both metals prices near five-year cyclical highs (Figure 4A and 4B), CCZ's timing for proving up a JORC compliant Inferred Resource is highly fortuitous.



For and on behalf of Castillo Copper

David Wheeler

Chairman

COMPETENT PERSON STATEMENT

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

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

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

² http://www.infomine.com/investment/metal-prices/cobalt/5-year/

³ http://www.infomine.com/investment/metal-prices/zinc/5-year/

ABOUT CASTILLO COPPER

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

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

- Jackaderry Project comprises three prospects (two in the south that are contiguous) in the New England Orogen in NSW, which are highly prospective for copper-cobalt-zinc. Of significance is the historic Cangai Copper Cobalt Mine (within Jackaderry South) as legacy data confirms the presence of supergene ore with up to 35% copper and 10% zinc which implies direct shipping ore is potentially feasible. On of September 2017, CCZ announced one of Australia's highest grade Inferred Resources with 3.2mt @ 3.35% CU
- Broken Hill Project consists of two contiguous tenements that are located within a 20km radius of Broken Hill, NSW, that are prospective for copper-cobalt-zinc. A key feature of the project is an area in the southern part of the tenure, which exhibits significant high-grade zinc mineralisation.
- Mt Oxide Project made up of three prospects (two are contiguous) in the Mt Isa region, northwest Queensland, and are well known for copper-cobalt systems.
- Marlborough Project includes three prospects that are located north-west of Gladstone (adjacent to Queensland Nickel mining leases) in an area, which is made up of proven high-grade cobalt-nickel systems.

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

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

For more information visit: www.castillocopper.com

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
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 30g 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. 	 Sampling used in this analysis was all historical from the period 1964-2017. The data was a combination of the NSW Geological Survey surface sampling database and historical annual and relinquishment reports revisited and additional data extracted. Sampling was databased if it occurred inside the EL and in a 500m buffer surrounding the EL, to establish anomalous trend directions, if any existed. Nearly 2,144 sample analyses from stream sediment, soil, and rock chip sources were collated and combined. Of these approximately 325 samples did not reside in the government database and had to be encoded from the source reports (15 in total). These were always invariable detailed soil sample grids over named deposits e.g. Quarry Tank Reference to these reports is given in the associated geology report. Many of the sampling programs, especially from the 1990's did include reference samples and duplicate analyses and other forms of QA/QC checking. Sampling prior to 1984 generally has higher "below detection limits" and less QA/QC checks.
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.).	 Historical drilling consists of auger, rotary air blast, and diamond coring. In and around the tenure are 1,397 drillholes, however it should be noted that the majority of these are <12m in depth, and the number of holes >12m number around 46, with 26 inside the tenure. No drilling analyses has been compiled, with a total of 4,968 lines of assay data captured
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 	 Not applicable in this study as no new drilling took place. Sample recovery in the historical deeper drilling was always >90%.

Criteria	JORC Code explanation	Commentary
	loss/gain of fine/coarse material.	
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. 	 Most historical drilling that did occur was completed to modern-day standards. No downhole geophysical logging took place, except for one trial of a downhole deviation tool in 1980 by CRA Exploration
Sub-sampling techniques and sample preparation	 If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled. 	No new sampling undertaken.
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 (i.e. lack of bias) and precision have been established. 	 All the analyses bar a few (<200 out 2.144) 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.
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. 	 Over 450 samples have had their assays duplicated. None of the historical data has been adjusted.

Criteria	JORC Code explanation	Commentary
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. 	 In general, locational accuracy does vary, depending upon whether the samples were digitised off plans or had their coordinated tabulated. Many samples were reported to AGD66 or AMG84 and have been converted to MGA94. It is estimated that locational accuracy therefore varies between 2- 50m
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 average sample spacing across the tenure varies per element, e.g. for cobalt the RMS spacing between sample points is 138m, ranging down to 98m for zinc. No sample compositing has been applied.
Orientation of data in relation to geological structure	 Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	 Some of the drilling programs were planned to intersect anomalous surface base metal anomalies at depths, but some were planned to chase chargeability anomalies determined from the surface IP surveys, mostly without success. Geological mapping by various companies has reinforced that the strata dips variously between 20-80 degrees.
Sample security	The measures taken to ensure sample security.	No new samples have been obtained.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	No audits or reviews have yet been undertaken.

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 EL 8599 of 20 units (60 km²). The tenure has been formally granted for the term of thirty-six months until 20th June 2020. The location of the tenure is shown in Figure 2.1, below: Figure 2.1: Location of EL 8599, Southwest of Broken Hill New South Wales Broken Hill Project New South Wales Broken Hill Proteini (16 4M @ 800ptin Coll) Broken Hill Prosecting The Broken Hill Prosecting Co-du-Coll
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Previous Exploration Thackaringa lead mineralisation was first discovered in 1875. The concentrated grade was estimated to be 55% Pb and 5500ppm Ag with Cu and Au credits. However, once the Broken Hill orebody was discovered in the 1880s, interest in the Thackaringa field was lost (Aitchison, 1995). North Broken Hill Limited North Broken Hill Limited held four (4) exploration licenses over the current tenure area from 1975 to 1983: EL 790; EL 1135; EL 1395; and

Criteria	JORC Code explanation	Commentary
		EL 1564 (Archibald & Burket, 1975), (Holzberger, I.R., 1978), (Leyh, W.R., 1982), (Lees, T.C., 1981).
		The main exploration targets were lead, zinc, copper, silver, gold and tungsten. Exploration was conducted on a regional scale for Broken Hill-type Pb-Zn-Ag lode horizon. A broad stratigraphic relationship was recognized for the Thackaringa-type mineralisation. Work included geological mapping and rock chip geochemistry. The mine dumps assay results reported 14.6% Pb, 14% Zn, 13.4% Cu, 133ppm Ag (Aitchison, 1995).
		Between 1982 and 1983, 725 tonnes of dump material were converted into 91 tonnes of concentrate that demonstrated 29.6% Pb, 8.7% Zn and 495 ppm Ag (Aitchison, 1995).
		CRA Exploration Pty Limited
		CRA Exploration Limited (CRAE) conducted exploration over the current tenure area from 1974 to 1998. The work was conducted for eight (8) exploration licenses: EL 2103; EL 216; EL 0712; EL 4536; EL 4535; EL 1025; EL 1666; and EL 4871.
		In the 1970s CRAE did extensive dump, soil and stream sediments geochemistry testing for lead, zinc, copper and silver content. One hundred eighteen (118) samples from dump reported average 0.3% Cu. Soil geochemistry (348 samples) demonstrated 29 ppm Cu. Stream sediments showed 45 ppm Cu (Aitchison, 1995).
		Between 1980 and 1998, CRAE carried out geological mapping, geochemistry sampling, geophysical survey and drilling (206 drillholes within and surrounding the tenure area). Samples were analysed for lead, zinc, copper, cobalt, silver and other elements.
		Aberfoyle Resources Limited
		Aberfoyle Resources Limited held three (3) exploration licences over the current Peak Hill project area from 1987 to 1994: EL 2919; EL 3202; and EL 3105. Exploration work was focused on identifying lead, zinc and copper mineralisations and included EM and UTEM survey, geochemical analysis of soil and drilling.

Criteria	JORC Code explanation	Commentary		
			Other Work	
		Many other companies explored within and surrounding the Peak Hill tenement area, including BHP Minerals Limited; Perilya Broken Hill Limited; Platsearch NL; Rimfire Pacific Mining NL; Pasminco Australia Limited; MIM Exploration Pty Limited; Heritage Gold NZ Limited; Consolidated Feldspar Limited; Alliance Fuel Cells Pem Pty Ltd; Broken Hill Operations Pty Ltd; Broken Hill South Limited; and Newmont Holdings Pty Limited. Samples collected by them were analysed mostly for lead, zinc, copper, silver, gold and iron. Occasionally, cobalt assays were reported for some soil and sedimentary samples, mainly being used as an indicator mineral for the above-mentioned major mineralisation styles. Current Nearby Exploration The region is being actively explored, with nearby companies and the commodities they are exploring for, are listed in Table 2.1 below:		
		Table 2.1:	EL 8599 Current Exploration Neighbouring	g Companies
		Tenure	Company	Commodity
		EL 8572	Castillo Copper Limited	Metallic minerals
		EL 8569	Proton Geoscience Pty Ltd	metallic minerals
		EL 8484	Proton Geoscience Pty Ltd	metallic minerals
		EL 7162	Perilya Broken Hill Limited	metallic minerals
		EL 5958	Rimfire Pacific Mining NL	metallic minerals
		EL 8477	Dashell Pty Ltd	metallic minerals
		EL 8598	SA Exploration Pty Ltd	metallic minerals
		EL 8485	Proton Geoscience Pty Ltd	metallic minerals
		ML 6302	Kapitany, Tamas	garnet
Geology	Deposit type, geological setting and style of mineralisation.		Regional Geology	
		The Broker Province (N of lead, zin highly-defo quartzo-fel	n Hill polymetallic deposits are located wit Willyama Super group) that hosts several c, silver and copper. The Willyama Super prmed metasedimentary schists and gneiss dspathic gneisses, lesser basic gneisses a	hin Curnamona world-class deposits rgroup consists of ses with abundant and minor 'lode'

Criteria	JORC Code explanation	Commentary
		rocks. Prograde metamorphism ranges from andalusite through sillimanite to granulite grade (Stevens, Barnes, Brown, Willis, & L, 1988).
		Regionally, the tenure is situated in Broken Hill spatial domain which extends from far western New South Wales into eastern South Australia (Figure 2.2). The Broken Hill Domain hosts several major fault systems and shear zones, which were formed by various deformation events and widespread metamorphism which has affected the Willyama Supergroup. Major faults in the region include the Mundi Mundi Fault to the west of Broken Hill, the Mulculca Fault to the east, and the Redan Fault to the south. Broken Hill is also surrounded by extensive shear zones including the Stephens Creek, Globe-Vauxhall, Rupee, Pine Creek and Thackaringa-Pinnacles Shear Zones.



Criteria	JORC Code explanation	Commentary
		Local Geology
		The tenement is underlain by Quaternary clay, silt, sand; and Proterozoic sillimanite, feldspathic and granitic gneiss, schist, pegmatite of Willyama Super group of the Adelaide Fold belt. At the south, the area is bounded by the Thackaringa-Pinnacles Shear Zone, and an unnamed orthogonal shear zone trending northeast.
		At the Broken Hill zinc-lead deposits (NSW Department of Mineral Resources, 1981) the orebodies are represented as a series of boomerang-shaped, highly sheared and disrupted, ribbon-like and poddy (elongated, lens-shaped) massive sulphide lenses which outcrop in the central section and then plunge steeply north and moderately south. The ore consists of massive, recrystallised sphalerite-rich (zinc-rich), galena-sphalerite (lead/zinc-rich) and galena-rich (lead-rich) sulphide lenses often consisting of up to 100% lead-zinc sulphides. The ore itself is hosted within a unit of gneiss known as the Potosi Gneiss.
		At the Thackaringa Cobalt Project (Broken Hill Prospecting Ltd, 2017) three (3) mineral deposits (Pyrite Hill, Big Hill and Railway) are characterised by large tonnage cobaltiferous-pyrite mineralisation hosted within siliceous albitic gneisses and schists of the Himalaya Formation. Cobalt mineralisation exists within stratabound pyritic horizons where cobalt is present within the pyrite lattice (Figure 3). Mineralogical studies have indicated the majority of cobalt (~85%) is found in solid solution with primary pyrite. A strong correlation between pyrite content and cobalt grade is observed.
		The regional geological setting indicates additional mineralisation targets including:
		 Stratiform Broken Hill Type (BHT) Copper-Lead-Zinc-Silver deposits; Copper-rich BHT deposits; Stratiform to stratabound Copper-Cobalt-Gold deposits.

Figure 3: Mineralisation Intersected at Pyrite Hill.



Source: (Broken Hill Prospecting Ltd, 2016)

Seventy two (61) mineral occurrences are located in and around EL 8599. Twenty-five (21) are within the tenure (Barnes, 1980) which includes twenty-one (17) unnamed occurrences that were mined by shallow pits and shafts. Most of them documented uranium and metallic sulphides. Further work is progressing in examining the significance of each mineral occurrence.

Historical drillholes samples were tested for base metals by explorers such as North Broken Hill and CRA Exploration. Figure 2.4 below shows the results from drillhole PD81BLH3 drilled in the Quarry Tank Project area of EL 1025, illustrating lithological units and pyrite percentage. This hole intersected 1.7m of 2.1%Pb, 1.1%Zn and 24 g/t Ag



Criteria	JORC Code explanation	Commentary
Drill hole Information	 A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	No new drillholes have been completed yet.
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 new assays are reported in this announcement
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'). 	 As a database of the historical borehole sampling has not yet been compiled and validated, it is uncertain if there is a relationship between the surface sample anomalies to any subsurface anomalous intersections. No existing geological 3D models exist but preliminary investigation has shown that sufficient data may be available to generate a small resource of lead, zinc or silver Figure 2.5 shows the solid geology map at Quarry Tank, where mineralisation is in a sheared and brecciated quartz-magnetite rock.

Criteria J	JORC Code explanation	Commentary
		Figure 2.5: Mineralised Surface Geology at Quarry Tark

Criteria	JORC Code explanation	Commentary
Criteria 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.	Commentary • Current surface anomalies are shown on maps in the report. All historical surface sampling has had their coordinates converted to MGA94, Zone 54. Figure 2.6 (below) shows the anomalous surface cobalt values collated from the NSW Geological Survey database • • • • • • • • • • • • • • • • • • •
		Figure 2.7 shows anomalous surface silver in ppm

Criteria	JORC Code explanation	Commentary
		6454000 512000 514000 516000 518000 520000 522000 524000° 526000
		The current study found that:
		• Assays results from historical annual and relinquishment reports were encoded for 1436 holes (RAB, Dimond drilling, auger, Open hole percussion) for Zn, Cu, Ag. All relevant holes are now encoded. Black Hill East EL 8599-surface sampling encoded;
		• Lithology is encoded for DD and PD holes. 20 were encoded so far. 8 holes were encoded for structure and alterations.
		Deviation was encoded for 57 holes.
		• The group of PHR—PHR11 holes, drilled by North Broken Hill Ltd have Zinc mineralisation intersections up to 3% Zn.
		Group of holes BRH1—BRH5 drilled by North Broken Hill Ltd have

Criteria	JORC Code explanation	Commentary
		 Cobalt intersects up to 0.7%. The DD79BLH1 drilled by CRA Exploration Pty Ltd has intersected Ag mineralisation up to 82 ppm. The decision was made to complete the encoding for assays, and then based on assay data decide what holes to encode for lithology, structure, alteration and deviation.
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. 	 No new exploration results have been reported, but regarding the surface sampling, no results other than duplicates or reference standard assays have been omitted.
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. 	Historical explorers have also conducted airborne and ground miss-a- le-mass, magnetic, and IP resistivity surveys over parts of the tenure area, especially at Quarry Tank and Edgar Gold Prospect
Further work	 The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	 Work has commenced on Phase 1, which is to identify cobalt and zinc priority zones within the EL 8599, it is recommended that: The non-sampled zone in the centre of the tenure be defined and sampled; A more detailed study of historical drillholes is currently in progress to determine if enough data exists to estimate a JORC resource; and A program of 3 lines of fence RC drillholes near the anomalous surface cobalt zones to identify the source of the anomalous readings (>200ppm).

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section	I, and where relevant in sectio	n 2, also apply to this section.)
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Criteria	JORC Code explanation	Commentary
Database integrity	 Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used. 	The database consists of Excel spreadsheets. As evaluations continue, the data will be migrated to a more appropriate relational database
Site visits	 Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	<text></text>
Geological interpretation	 Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology. 	 This is a preliminary investigation of surface sampling and with drillhole assays just concluded, no mineral resource estimates have yet been calculated. Mineralisation, where present will exist in metamorphic rock-hosted breccia's in or near fault intersections and other structural disturbances. The mineralisation appears to be coincident with magnetite and quartz-rich veins.

Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	 Currently defined surface anomalies are 100-1,200m long elongated zones contained within a much more extensive mineralised zone. the most anomalous areas for all four (4) elements (Co, Cu, Pb, Zn) is related to sampling along two (2) intersecting structural zones, the east-west trending Thackaringa-Pinnacles Shear Zone and an unnamed north-east trending zone that traverses EL 8599.
Estimation and modelling techniques	 The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (eg Sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available. 	No mineral resource estimates yet determined.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Only limited moisture analyses were contained in the dataset.
Cut-off parameters	 The basis of the adopted cut-off grade(s) or quality parameters applied. 	No cut-off grades yet determined for zinc, lead or silver
Mining factors or assumptions	 Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources 	Mining factors not yet determined

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			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.		
	Metallurgical factors or assumptions	•	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	•	No assumptions made.
	Environmenta I factors or assumptions	•	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	•	No mineral resources yet to be estimated.
	Bulk density	•	 Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials. 	•	No bulk density measurements obtained so far.
	Classification	•	The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). Whether the result appropriately reflects the Competent Person's view of the deposit.	•	Not relevant to discuss as no mineral estimate yet to be calculated

Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	No audit has taken place.
Discussion of relative accuracy/ confidence	 Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available. 	No mineral estimate calculated to date.