

# Targets finalised for upcoming drilling campaign at Broken Hill



# Highlights

- CCZ has finalised targets for the upcoming drilling campaign at the BHA Project's East Zone which comprises one diamond core and 17 RC drill-holes for 2,100m, with depths ranging from 100m to 160m:
  - Two drill-holes have been earmarked for The Sisters, with the balance across Fence Gossan, Reefs & Tors Tanks Prospects (Appendix A & B)
- Notably, for the Fence Gossan, Reefs & Tors Tanks Prospects, the campaign has been designed to penetrate deep enough to intersect two lower cobalt-rich zones that are interpreted to host higher grade mineralisation than has been modelled to date<sup>1</sup>
- CCZ's geology team believe there is potential to extend known mineralisation plus enhance the confidence & grade of the current global mineral resource estimate (MRE) – 21,556t cobalt (64Mt @ 318 ppm Co) and 44,260t copper (63Mt @ 0.07% Cu)<sup>1</sup>
- Preparations are now well underway, with the Board targeting to appoint a drilling contractor shortly and announce a start date once regulatory approval is secured

**Castillo Copper's Managing Director Dr Dennis Jensen commented:** "The Board's strategic intent with the upcoming drilling campaign is to extend known cobalt mineralisation as well as enhance the confidence and grade of the current MRE. Further, with the geology team having undertaken extensive due diligence across the East Zone, the Board is confident the targets selected for test-drilling should significantly deepen our understanding of the underlying system.

## **Compelling metallurgical results**

Castillo Copper Limited's ("CCZ") Board is pleased to announce it has finalised targets for the upcoming drilling campaign at the BHA Project's East Zone across four prospects (Figure 1 & Appendix A/B). The campaign comprises one diamond core and 17 RC drill-holes for 2,100m with depths ranging from 100m to 160m.

Prospects	# Drillholes	Target Commodity	Depth range (m)	Туре	Objective
Reefs Tank, Tors Tank, Fence Gossan	16	Co, Au, Ag, Cu	100-160	RC, DDH	Target primary cobalt whilst assays to investigate PGE & REE potential
The Sisters	2	Co, Cu, REE	120-160	RC	Test known EM interpretation; drill extensions north & south

## FIGURE 1: PROPOSED DRILLING CAMPAIGN BHA PROJECT EAST ZONE

Source: CCZ geology team

In general terms, the objective of the campaign is to extend known mineralisation primarily for cobalt then copper, rare earth elements and gold. In turn, the geology team are targeting to use fresh assay data to refine the geological model which should facilitate updating the current global MRE - 21,556t cobalt (64Mt @ 318 ppm Co) and 44,260t copper (63Mt @ 0.07% Cu)<sup>1</sup>.

A key goal is to increase the confidence of the current MRE and enhance the cobalt grade. To potentially achieve this objective, the drilling at Fence Gossan, Reefs & Tors Tanks Prospects has been designed to penetrate deep enough to intersect two lower cobalt-rich zones ("CO3" & "CO4") - refer to Figure 2 & 3 for contextual example. Notably, "CO3" is interpreted to host higher cobalt grades than currently reflected in the global MRE.

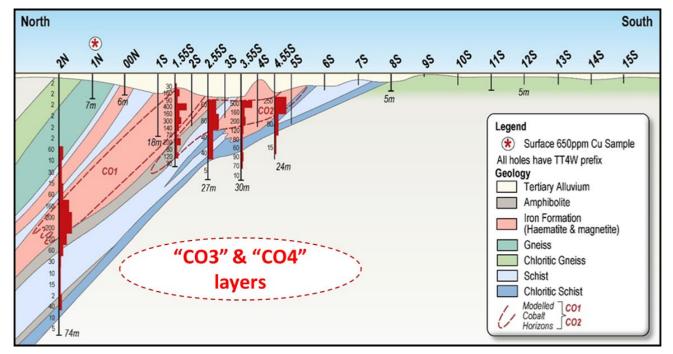
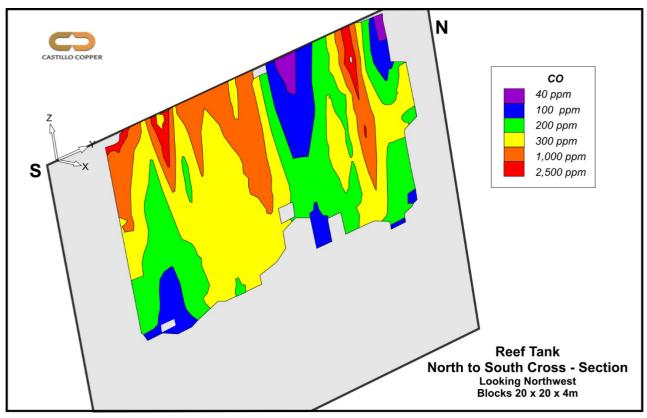


FIGURE 2: TYPICAL NORTH-SOUTH CROSS-SECTION AT REEFS TANK; LOOKING EAST

Notes:

Modified after Leyh (1977b) – Section looking east
 Zones "CO3" and "CO4" not intersected by shallow drilling

### FIGURE 3: REEFS TANK – GEOLOGICAL MODEL NS CROSS-SECTION, LOOKING NW



#### Source: CCZ geology team

With land-holder approval secured and access routes mapped out, the Board is now focused on: 1) appointing a drilling contractor; 2) advancing logistics; and 3) obtaining regulatory / environmental approvals from NSW Resources Regulator which will provide clarity on a start date for the campaign to commence.

### The Board of Castillo Copper Limited authorised the release of this announcement to the ASX.

### **Dr Dennis Jensen**

### **Managing Director**

### **Competent Person's Statement**

The information in this report that relates to Exploration Results and Mineral Resource Estimates for "BHA Project, East Zone" is based on information compiled or reviewed by Mr Mark Biggs. Mr Biggs is a director of ROM Resources, a company which is a shareholder of Castillo Copper Limited. ROM Resources provides ad hoc geological consultancy services to Castillo Copper Limited. Mr Biggs is a member of the Australian Institute of Mining and Metallurgy (member #107188) and has sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, and Mineral Resources. Mr Biggs holds an AusIMM Online Course Certificate in 2012 JORC Code Reporting. Mr Biggs also consents to the inclusion in this report of the matters based on 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.

#### References

1) CCZ ASX Release – 1 June 2022

# **About Castillo Copper**

Castillo Copper Limited is an Australian-based explorer primarily focused on copper across Australia and Zambia. The group is embarking on a strategic transformation to morph into a mid-tier copper group underpinned by its core projects:

- A large footprint in the in the Mt Isa copperbelt district, north-west Queensland, which delivers significant exploration upside through having several high-grade targets and a sizeable untested anomaly within its boundaries in a copper rich region.
- Four high-quality prospective assets across Zambia's copper-belt which is the second largest copper producer in Africa.
- A large tenure footprint proximal to Broken Hill's world-class deposit that is prospective for cobalt-zinc-silver-leadcopper-gold and platinoids.
- Cangai Copper Mine in northern New South Wales, which is one of Australia's highest grading historic copper mines.

The group is listed on the LSE and ASX under the ticker "CCZ."

## **Directors**

Gerrard Hall

Dr Dennis Jensen

**Geoff Reed** 

## **ASX/LSE Symbol**

CCZ

# Contact

## **Dr** Dennis Jensen **Managing Director**

TEL +61 8 9389 4407

EMAIL info@castillocopper.com

ADDRESS 45 Ventnor Avenue, West Perth, Western Australia 6005

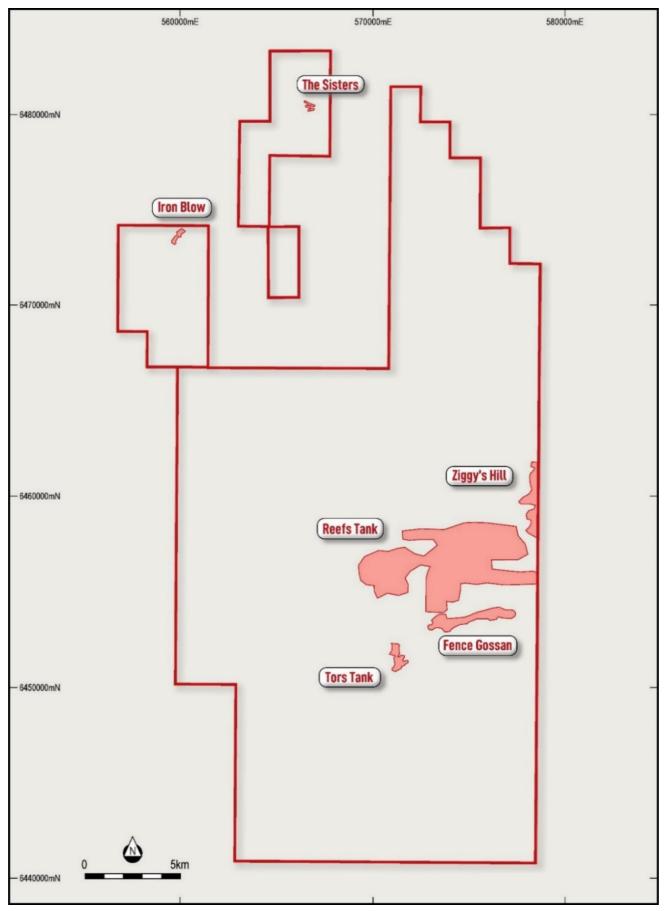
FOR THE LATEST NEWS www.castillocopper.com



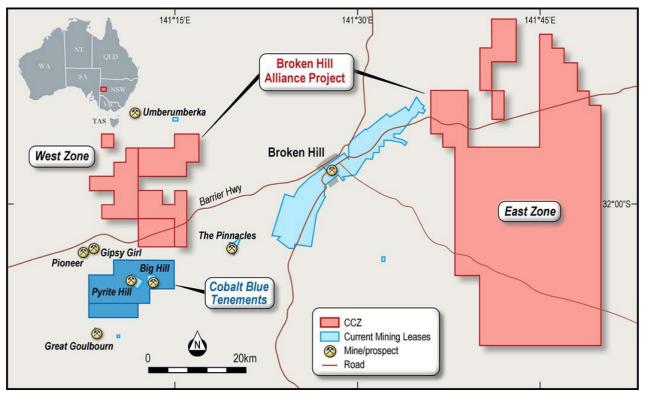


## **APPENDIX A: PROSPECTS IN BHA PROJECT'S EAST ZONE**

## FIGURE A1: PROSPECTS AT BHA PROJECT EAST ZONE



## FIGURE A2: BHA PROJECT





## **APPENDIX B: PLANNED DRILLING CAMPAIGN**

## FIGURE B1: PLANNED DRILLING AT FENCE GOSSAN, REFF & TORS TANK PROSPECTS

SiteID	Area	E	Ν	AHD	TD	AZI	DIPV	DIPH	Source	Туре
2022_FG_01	Fence Gossan	576550	6453790	169.52	120	180	30	-60	CCZ	RC
2022_FG_03	Fence Gossan	576550	6453755	169.008	120	180	30	-60	CCZ	RC
2022_FG_04	Fence Gossan	576350	6453790	172.774	120	180	30	-60	CCZ	RC
2022_FG_07	Fence Gossan	576700	6453835	170.65	160	180	30	-60	CCZ	RC
2022_FG_08	Fence Gossan	574120	6453255	180.774	130	180	30	-60	CCZ	RC
2022_FG_09	Fence Gossan	573325	6453175	189.137	130	170	30	-60	CCZ	RC
2022_RT_01	Reef Tank	574105	6456245	183.699	120	180	30	-60	CCZ	RC
2022_RT_02	Reef Tank	574120	6455475	188.494	120	180	30	-60	CCZ	RC
2022_RT_03	Reef Tank	573725	6454930	188.616	120	180	30	-60	CCZ	RC
2022_RT_07	Reef Tank	574575	6455405	188.634	120	180	30	-60	CCZ	RC
2022_TT_01	Tors Tank	571231	6451499	194.025	120	180	30	-60	CCZ	RC
2022_TT_02	Tors Tank	571359	6451402	192.373	100	180	30	-60	CCZ	RC
2022_TT_03	Tors Tank	571425	6451280	188.743	120	180	30	-60	CCZ	RC
2022_TT_04	Tors Tank	571475	6451250	188.064	100	180	30	-60	CCZ	RC
2022_TT_07	Tors Tank	571585	6451245	187.012	120	180	30	-60	CCZ	RC

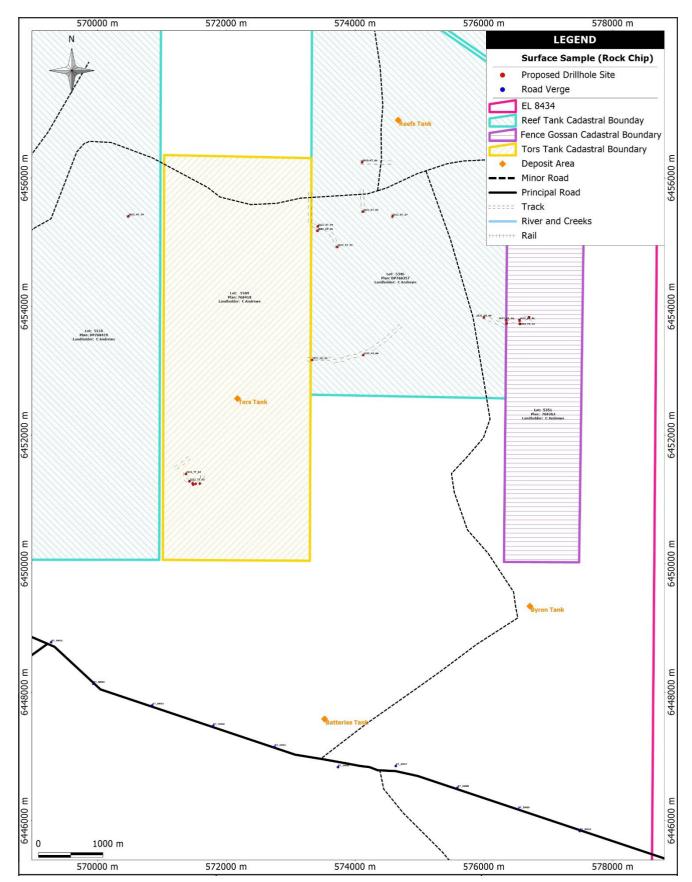
Note: One of the RC drillholes will be twinned with an HQ or BQ diamond cored hole to obtain core for a variety of testing.

## FIGURE B2: PLANNED DRILLING AT THE SISTERS PROSPECT

BorelD	Area	E	Ν	AHD	TD	AZI	DIPV	DIPH	Source	Туре
2022_TS_06	The Sisters	566526	6481011	280	160	100	25	-65	CCZ	RC
2022_TS_13	The Sisters	566701	6480017	280	120	100	25	-65	CCZ	RC

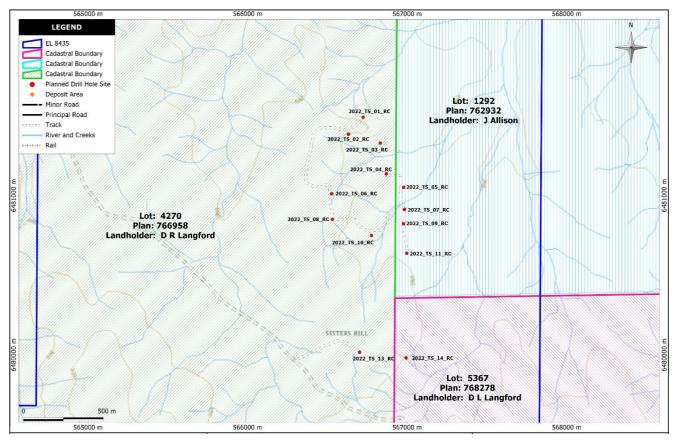


## FIGURE B3: LOCATION OF PROPOSED DRILL-HOLES



Source: CCZ geology team

## FIGURE B4: LOCATION OF PROPOSED HOLES



Source: CCZ geology team



## **APPENDIX C: JORC CODE, 2012 EDITION – TABLE**

## **1** Section **1** Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <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 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.</li> </ul>	<ul> <li>Diamond Drilling (DDH)</li> <li>Pre-1990: Diamond drilling was used to obtain core from which irregular intervals, reflecting visual mineralisation and geological logging were hand-split or sawn. Samples were submitted for analysis using a mixed acid digestion and AAS methodology.</li> <li>Post-1990: Diamond drilling was used to obtain core from which irregular intervals, reflecting visual mineralisation and geological logging were sawn (quarter core for HQ). Samples were submitted for analysis using a mixed acid digestion and ICP-OES methodology.</li> <li>2002 – 2022 (including the core library reanalysis holes): Diamond drilling will be used to obtain core from which irregular intervals were sawn with one half core to be dispatched for assay by mixed acid digestion and analysis via ICP-MS + ICP-AES reporting a suite of 48 elements (sulphur &gt;10% by LECO; gold by fire assay). The remaining sample (core) was retained for future metallurgical test work (in progress) and archival purposes.</li> <li>Pre-2017 RC drilling was used to obtain a representative sample by means of riffle splitting with samples submitted for analysis using the above-mentioned methodologies.</li> <li>Pre-2000 drill samples were assayed for a small and variable suite of elements (but NBH holes included cobalt). The post-2000 drill samples are all assayed by ICP-MS for a suite of 33 elements.</li> <li>2000-2022 RC drilling was used to obtain a representative sample by means of a cone or riffle splitter with samples submitted for assay by mixed acid digestion and analysis via ICP-MS + ICP-AES reporting a suite of a elements (sulphur &gt;10% by LECO; gold by fire assay).</li> </ul>

		Re-Analysis of GSNSW Core
		<ul> <li>Regarding the six (6) historical cored holes held by the NSW Geological Survey across EL 8434 and 8435, selected sections that were originally re-analysed using pXRF analyzer have been cut by diamond saw for laboratory analysis. This work recovered one hundred and eighty-four (184) samples, each about 1m in length (of HQ, BQ, and NQ drill core) which were retested by ALS Brisbane, using ME-MS61R and PGM-ICP27 methods.</li> <li>Quarter core was submitted to ALS for chemical analysis using industry standard sample preparation and analytical techniques.</li> <li>Half core was also collected for metallurgical testwork from BH1, the results from which are</li> <li>The sample interval details and grades quoted for cored intervals described in various maps in the main section are given in Appendix C at the end of this section.</li> </ul>
Drilling techniques	<ul> <li>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.).</li> </ul>	<ul> <li>Historical drilling consists of auger, rotary air blast, reverse circulation, and NQ, BQ, and HQ diamond coring.</li> <li>Diamond drilling was predominantly completed with standard diameter, conventional HQ and NQ with historical holes typically utilizing RC and percussion pre-collars to an average 30 metres (see Drill hole Information for further details)</li> <li>Early (1970 -1980): drill holes utilised HX – AX diameters dependent on drilling depth. Reverse circulation drilling utilised standard hole diameters (4.8"-5.5") with a face sampling hammer.</li> <li>Since 2000 all diamond drilling has been completed using a triple tube system with an NQ3 – HQ3 diameter. Drill holes were typically drilled at angles between 40 and 60 degrees from horizontal and</li> <li>The resulting core was oriented as part of the logging process. In and around The Sisters model area are twelve (12) drillholes, however it should be noted that the majority of these are &lt;50m in depth, and the number of holes &gt;100m number only numbers 4 holes.</li> </ul>
Drill sample	Method of recording and assessing core and chip sample recoveries	Reverse Circulation ('RC') Drilling - Reverse circulation sample

CASTILLO COPPER | 11

recovery	<ul> <li>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> <li>recoveries will be visually estimated during drilling programs. Where the estimated sample recovery is below 100% this will be recorded in field logs by means of qualitative observation.</li> <li>Reverse circulation drilling will employ sufficient air (using a compressor and booster) to maximise sample recovery.</li> <li>No relationship between sample recovery and grade has been observed during historical drilling campaigns.</li> </ul>
Logging	<ul> <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> <li>The drilling that did occur historically was generally completed to modern-day standards. The preferred exploration strategy in the eighties and early nineties was to drill shallow auger holes to negate the influence of any Quaternary and Tertiary sedimentary cover, and then return to sites where anomalous Cu or Zn were assayed.</li> <li>No downhole geophysical logging is planned; however, measurements of magnetic susceptibility will be taken over the same intervals as the PXRF readings are planned to be taken.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <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 insitu material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>It is considered water to be used for core cutting is unprocessed and unlikely to have introduce significant sample contamination.</li> <li>Procedures relating to the definition of the line of cutting or splitting are not available. It is expected that 'standard industry practice' for the period was applied to maximize sample representivity.</li> <li>Half core is planned to be submitted to ALS for chemical analysis using industry standard sample preparation and analytical techniques.</li> <li>Half core will also be collected and composited from the cored holes for further metallurgical testwork from BH1, where preliminary results reported to the ASX on 2<sup>nd</sup> August 2022.</li> <li>The sample interval details and grades quoted for cored intervals described in various maps in the main section are given in previous ASX releases (Castillo Copper 2022a, b, c, d, e, f).</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> </ul>	• The nature and quality of all assaying and laboratory procedures employed for samples obtained through drilling (diamond and reverse circulation) are considered 'industry standard' for the

	<ul> <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 (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>respective periods.</li> <li>The assay techniques employed for drilling (diamond and reverse circulation) include mixed acid digestion with ICP-OES, ICP-AES, ICP-MS and AAS finishes. These methods are considered appropriate for the targeted mineralisation and regarded as a 'near total' digestion technique with resistive phases not expected to affect cobalt analysis. using ME-MS61R and PGM-ICP27 methods.</li> <li>All samples have been contracted to be processed at independent commercial laboratory Australian Laboratory Services, (ALS).</li> <li>For the laboratory inserted standards, blanks and duplicates were analysed per industry standard practice. There was no evidence of bias from these results.</li> <li>None of the drillholes have been twinned, as they are historical holes.</li> <li>To monitor the accuracy of assay results from drilling, CRM standards were included in the assay sample stream at an average rate of 1:24. Internal lab standards were routinely included by ALS Brisbane for the proposed CCZ testing.</li> </ul>
Verification of sampling and assaying	<ul> <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> <li>Historical drilling intersections were internally verified by personnel employed by previous explorers including CRAE Pty Limited, Falconbridge Limited and Hunter Resources. North Broken Hill Pty Ltd and EagleHawk Consulting completed a systematic review of the related data.</li> <li>The CCZ drilling database exists in electronic form under the independent management of ROM Resources. The database procedures strictly apply integrity rules to all downhole and measurement recordings. If data fails the integrity rules, the data is not loaded into the database.</li> <li>Historical drilling data available in electronic form has been reformatted and imported into the drilling database. Quantitative historical drilling data, including assays, have been captured electronically during systematic data compilation and validation completed by ROM Resources. Assay results from the new proposed drilling will be added to this database.</li> </ul>

		<ul> <li>Samples returning assays below detection limits are assigned half detection limit values in the database.</li> <li>All significant intersections are verified by CCZ's Exploration Manager.</li> </ul>
Location of data points	<ul> <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> <li>The holes, once drilled, are planned to be surveyed by DGPS in projection MGA94 (Zone 54).</li> <li>It is estimated that locational accuracy therefore varies between 0.1-0.5m.</li> <li>The quality of topographic control (GSNSW 1 sec DEM) is deemed adequate for the purposes of the Mineral Resource estimate.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Detailed geological mapping is supported by drill-hole data of sufficient spacing and distribution to allow updating of the existing 3D geological modelling and Mineral Resource estimation.</li> <li>The current drilling program generally has holes placed at 250m spacing.</li> <li>The average sample spacing across the tenure varies per element, and sample type, as listed in Table C-1, below:</li> </ul>

Description	Number	Average Spacing	Comments
Stream Sediment	1,395	320	Includes BCL
Soil	1,049	240	
Surface Rock Chip	2,150	185	
Drilling	6,346	220	Includes shallow auger holes. Six (6) holes in the tenures are held in GSNSW library.
Mineral Occurrences	98	420	Includes quarries and industrial minerals occurrences

• The average sample spacing across the tenure varies per prospect, and sample type, as listed in Table C-2, below:

		Prospect The Sisters Iron Blow Tors Tank Fence Gossan Ziggy's Hill Reefs Tank	Drillholes in Model 12 8 342 549 245 1,375 amine software a	Baseline       Spacing (m)         242       315         27.4       25.5         37.0       22.1         allows creation of fixed a set of stringent rules	ed length samples from the
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>The plat 60° to the for RC a</li> <li>The drill bias on</li> <li>Geologi</li> </ul>	nned drill holes a ne horizontal and and DDH (Figure ing orientation is assessment of th cal mapping by v	t BHAE are designed drilled perpendicular 4 in the main body to not considered to ha ne current geological	d to be angled at -55° or - to the mineralised trend ext). ave introduced a sampling
Sample security	• The measures taken to ensure sample security.	procedu	ire, who will take	asures will be dictate samples to their Bro analysis to ALS Brist	ken Hill office and
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	No exte	rnal audits or rev	iews have yet been ເ	undertaken.

## **BHAE Drilling Program Notes**

The BHAE drill program includes 17 RC drill-holes with combined depth of 2,100m, and one diamond core to be completed with a HQ or NQ core barrel and will have a combined depth of 100m, of which approximately 90m will be cored. Drill-hole depths range from 70m to 160m. Azimuths vary to intersect cobalt-rich horizons perpendicular to strike, where the drill-hole inclination will range from 60° to 65°.

The drill-holes are particularly designed to penetrate deep enough to intersect the two lower cobalt-rich zones ("CO3" and "CO4"). Horizon "CO3" is interpreted to contain higher cobalt values than those modelled to date (Figure C1).

The drilling program will be conducted on privately held ground. Access arrangements will be in place. The drilling contractor will need to abide by any conditions set out in the access arrangements. These conditions will be communicated prior to exploration commencing.

Access to drill sites will be via pre-existing tracks and temporary access tracks. CCZ will provide detailed access maps to the drilling contractor. Preliminary maps have been provided in Figures C2-C4 and in Appendix A & B.

Two RC samples per metre are to be collected per metre drilled; one bulk sample to be placed in a large, pre-numbered plastic bag; and a second 5kg, riffle split sub-sample to be placed in a pre-numbered calico bag.

Drill core is to be orientated and placed in core trays. The drilling contractor will be required to conduct drillhole orientation survey in all 17 drill-holes and conduct multi-shot survey at the interval of 30m in drillholes whose depth exceeds 50m.

The cored hole location is yet to be decided but will be a twin of a drilled RC hole. The cored hole is important as it will provide:

- Core for possible hyperspectral scanning, and detailed geological logging. •
- Samples for thin section and petrological description. •
- Detailed assay information. •
- Core for specific gravity testing.
- Core for geotechnical testing. •
- Core for further detailed metallurgical testing. •

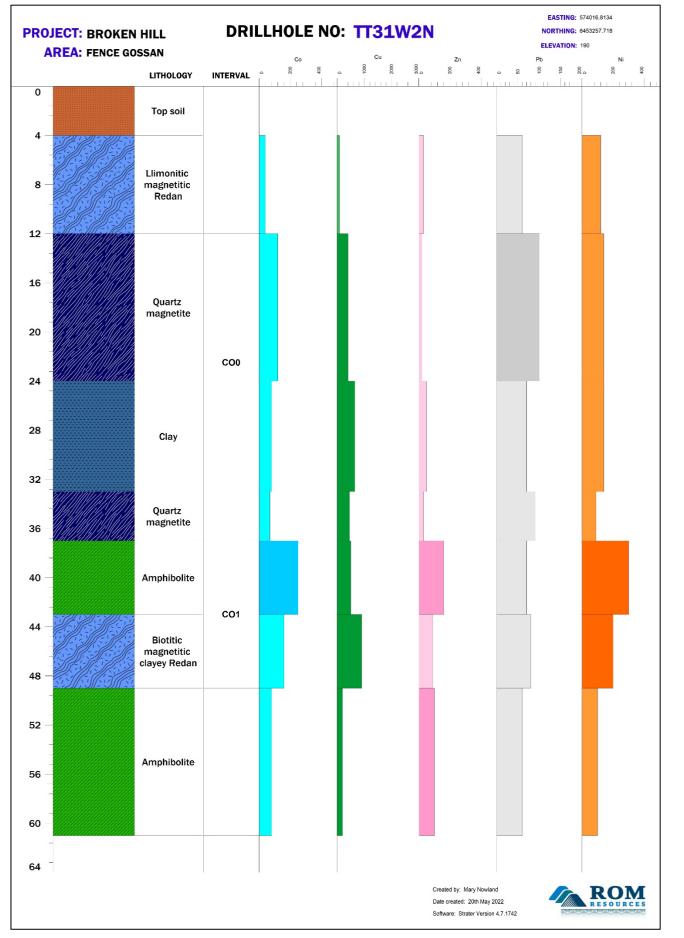
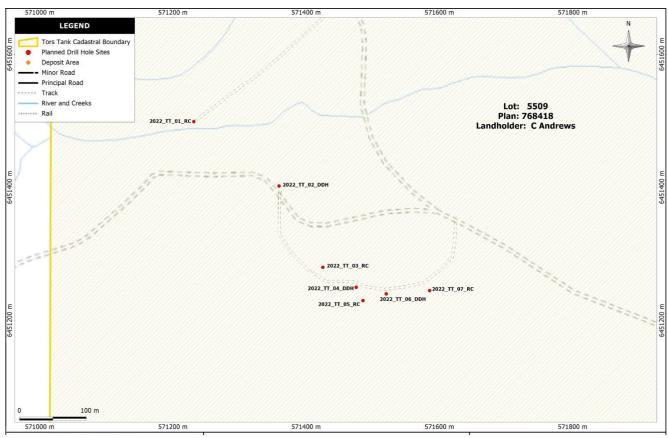


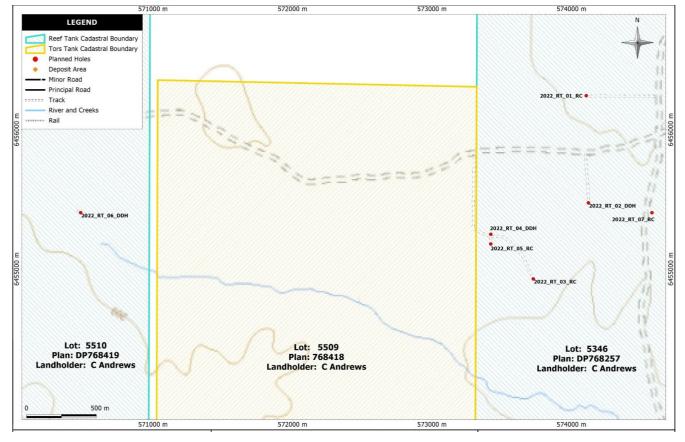
FIGURE C-1: FENCE GOSSAN, TYPICAL ROCK TYPES AND SAMPLING INTERVALS INTERSECTED DURING DRILLING

### FIGURE C-2: TORS TANK, PROPOSED DRILLING PROGRAM



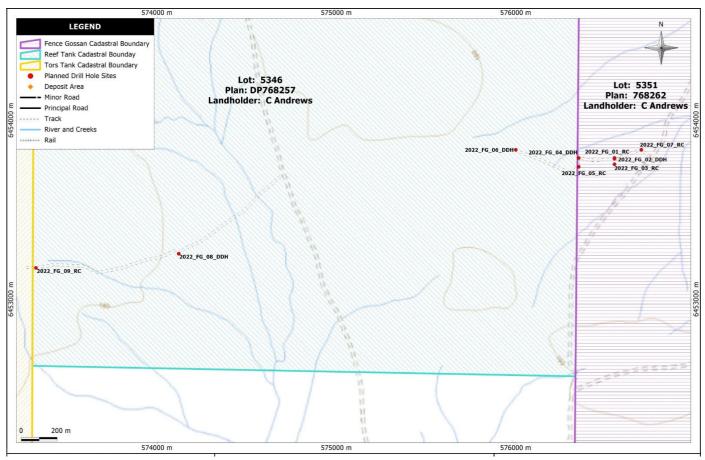
Source: CCZ geology team

### FIGURE C-3: REEFS TANK, PROPOSED DRILLING PROGRAM



Source: CCZ geology team

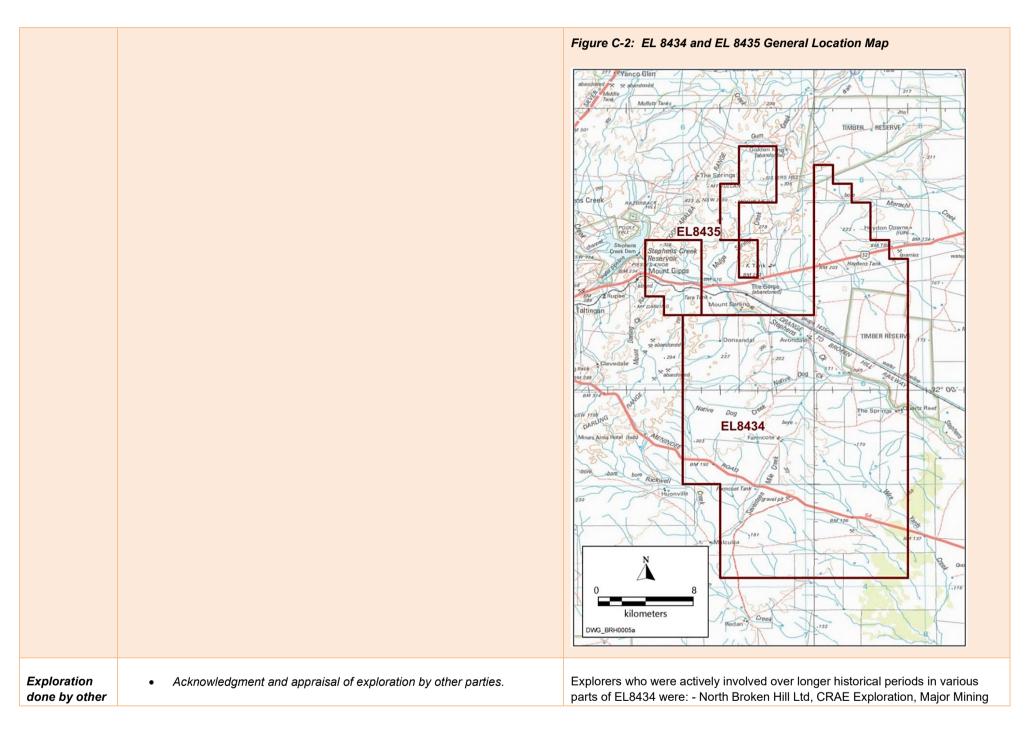
### FIGURE C-4: FENCE GOSSAN, PROPOSED DRILLING PROGRAM





## SECTION 2 REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <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> <li>EL 8434 is located about 28km east of Broken Hill whilst EL 8435 is 16km east of Broken Hill. Both tenures are approximately 900km northwest of Sydney in far western New South Wales (Figure A1-2-1).</li> <li>EL 8434 and EL 8435 were both granted on the 2<sup>nd of</sup> June 2016 to Squadron Resources for a term of five (5) years for Group One Minerals. On the 25<sup>th of</sup> May 2020, Squadron Resources changed its name to Wyloo Metals Pty Ltd (Wyloo). In December 2020 the tenure was transferred from Wyloo Metals to Broken Hill Alliance Pty Ltd a 100% subsidiary company of Castillo Copper Limited. Both tenures were renewed on the 12<sup>th of</sup> August 2021 for a further six (6) years and are due to expire on the 2<sup>nd of</sup> June 2027.</li> <li>EL 8434 lies across two (2) 1:100,000 geology map sheets Redan 7233 and Taltingan 7234, and two (2) 1:250,000 geology map sheets, SI54-3 Menindee, and SH54-15 Broken Hill in the county of Yancowinna. EL 8434 consists of one hundred and eighty-six (186) units) in the Adelaide and Broken Hill 1:1,000,000 Blocks covering an area of approximately 580km<sup>2</sup>.</li> <li>EL 8435 is located on the 1:100,000 geology map sheet Taltingan 7234, and the 1:250,000 geology map sheet SH/54-15 Broken Hill 1:1,000,000 Blocks covering an area of approximately 68km<sup>2</sup>.</li> <li>Access to the tenures from Broken Hill is via the sealed Barrier Highway. This road runs north-east to south-west through the northern portion of the EL 8434, passes the southern tip of EL 8435 eastern section and through the middle of the western section of EL 8435. Access is also available via the Menindee Road which runs north-west to south-east through the southern section of the EL 8434. The Orange to Broken Hill Rail line also dissects EL 8435 western section the middle and then travels north-west to south-east slicing through the eastern arm of EL 8434 (Figure C-2).</li> </ul>



Ltd and Broken Hill Metals NL, Pasminco Exploration Ltd, Normandy Exploration Ltd, PlatSearch NL/Inco Ltd/ EGC Pty Ltd JV and the Western Plains Gold Ltd/PlatSearch/EGC Pty Ltd JV.

A comprehensive summary of work by previous explorers was presented in Leyh (2009). However, more recently, follow-up field reconnaissance of areas of geological interest, including most of the prospective zones was carried out by EGC Pty Ltd over the various licenses. This work, in conjunction with a detailed interpretation of aeromagnetic, gravity plus RAB / RC drill hole logging originally led to the identification of at least sixteen higher priority prospect areas. All these prospects were summarized in considerable detail in Leyh (2008). Future work programs were then also proposed for each area. Since then, further compilation work plus detailed geological reconnaissance mapping and sampling of gossans and lode rocks has been carried out.

A total of 22 prospects were then recognised on the exploration licence with at least 12 occurring in and around the tenure.

With less than 45% outcropping Proterozoic terrain within the licence, this makes it very difficult to explore and is in the main very effectively screened from the easy application of more conventional exploration methodologies due to a predominance of extensive Cainozoic cover sequences. These include recent to young Quaternary soils, sands, clays and older more resistant, only partially dissected, Tertiary duricrust regolith covered areas. Depth of cover ranges from a few metres in the north to over 60 metres in some areas on the southern and central license.

Exploration by EGC Pty Ltd carried out in the field in the first instance has therefore been heavily reliant upon time consuming systematic geological reconnaissance mapping and relatable geochemical sampling. These involve a slow systematic search over low outcropping areas, poorly exposed subcrops and float areas as well as the progressive development of effective regolith mapping and sampling tools. This work has been combined with a vast amount of intermittently acquired past exploration data. The recent data compilation includes an insufficiently detailed NSWGS regional mapping scale given the problems involved, plus some regionally extensive, highly variable, low-level stream and soil BLEG geochemical data sets over much of the area.

There are also a few useful local detailed mapping grids at the higher priority prospects, and many more numerous widespread regional augers, RAB, and percussion grid drilling data sets. Geophysical data sets including ground magnetics, IP and EM over some prospect areas have also been integrated into the exploration models. These are located mainly in former areas of moderate

#### parties

interest and most of the electrical survey methods to date in this type of terrain continue to be of limited application due to the high degree of weathering and the often prevailing and complex regolith cover constraints.

Between 2007 and 2014 Eaglehawk Geological Consulting has carried out detailed research, plus compilation and interpretation of a very large volume of historic exploration data sourced from numerous previous explorers and dating back to the early 1970's. Most of this data is in non-digital scanned form. Many hard copy exploration reports (see references) plus several hundred plans have been acquired from various sources, hard copy printed as well as downloaded as scans from the Geological Survey of NSW DIGS system. They also conducted field mapping, costean mapping and sampling, and rock chip sampling and analysis.

#### Work Carried out by Squadron Resources and Whyloo Metals 2016-2020

Research during Year 1 by Squadron Resources revealed that the PGE-rich, sulphide-bearing ultramafic rocks in the Broken Hill region have a demonstrably alkaline affinity. This indicates a poor prospectivity for economic accumulations of sulphide on an empirical basis (e.g., in comparison to all known economic magmatic nickel sulphide deposits, which have a dominantly tholeiitic affinity). Squadron instead directed efforts toward detecting new Broken Hill-Type (BHT) deposits that are synchronous with basin formation. Supporting this modified exploration rationale are the EL's stratigraphic position, proximity to the Broken Hill line of lode, abundant mapped alteration (e.g., gahnite and/or garnet bearing exhalative units) and known occurrences such as the "Sisters" and "Iron Blow" prospects.

The area overlies a potential magmatic Ni-Cu-PGE source region of metasomatised sub-continental lithospheric mantle (SCLM) identified from a regional targeting geophysical data base. The exploration model at the time proposed involved remobilization of Ni-Cu-PGE in SCLM and incorporation into low degree mafic-ultramafic partial melts during a post-Paleoproterozoic plume event and emplacement higher in the crust as chonoliths/small intrusives - Voisey's Bay type model. Programs were devised to use geophysics and geological mapping to locate secondary structures likely to control and localise emplacement of Ni-Cu-PGE bearing chonoliths. Since EL8434 was granted, the following has been completed:

- Airborne EM survey.
- Soil and chip sampling.

- Data compilation.
- Geological and logistical reconnaissance.
- Community consultations; and
- Execution of land access agreements.

### Airborne EM Survey

Geotech Airborne Limited was engaged to conduct an airborne EM survey using their proprietary VTEM system in 2017. A total of 648.92-line kilometres were flown on a nominal 200m line spacing over a portion of the project area. Several areas were infilled to 100m line spacing.

The VTEM data was interpreted by Southern Geoscience Consultants Pty Ltd, who identified a series of anomalies, which were classified as high or low priority based on anomaly strength (i.e., does the anomaly persist into the latest channels). Additionally, a cluster of VTEM anomalies at the "Sisters" prospect have been classified separate due to strong IP effects observed in the data. Geotech Airborne have provided an IP corrected data and interpretation of the data has since been undertaken.

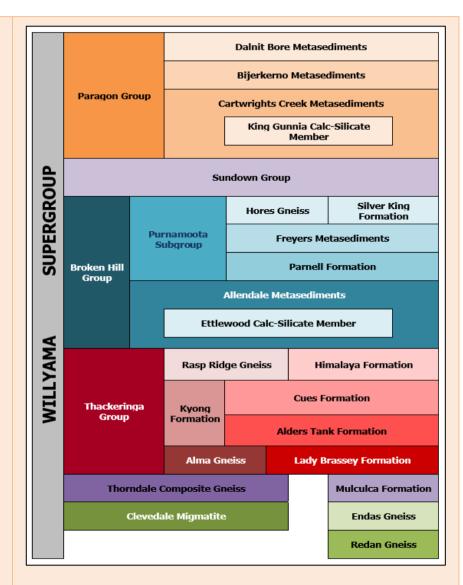
### Soil and Chip sampling

The VTEM anomalies were followed up by a reconnaissance soil sampling programme. Spatially clustered VTEM anomalies were grouped, and follow-up soil lines were designed. Two (2) VTEM anomalies were found to be related to culture and consequently no soils were collected. Two (2) other anomalies were sampled which were located above thick alluvium of Stephens Creek and were therefore not sampled. A line of soil samples was collected over a relatively undisturbed section at Iron Blow workings and the Sisters Prospect.

One hundred and sixty-six (166) soil samples were collected at a nominal 20cm depth using a 2mm aluminum sieve. Two (2) rock chips were also collected during this program. The samples were collected at either 20m or 40m spacing over selected VTEM anomalies. The samples were pulverised and analysed by portal XRF at ALS laboratories in Perth.

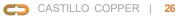
Each site was annotated with a "Regolith Regime" such that samples from a depositional environment could be distinguished from those on exposed Proterozoic bedrock, which were classified as an erosional environment. The

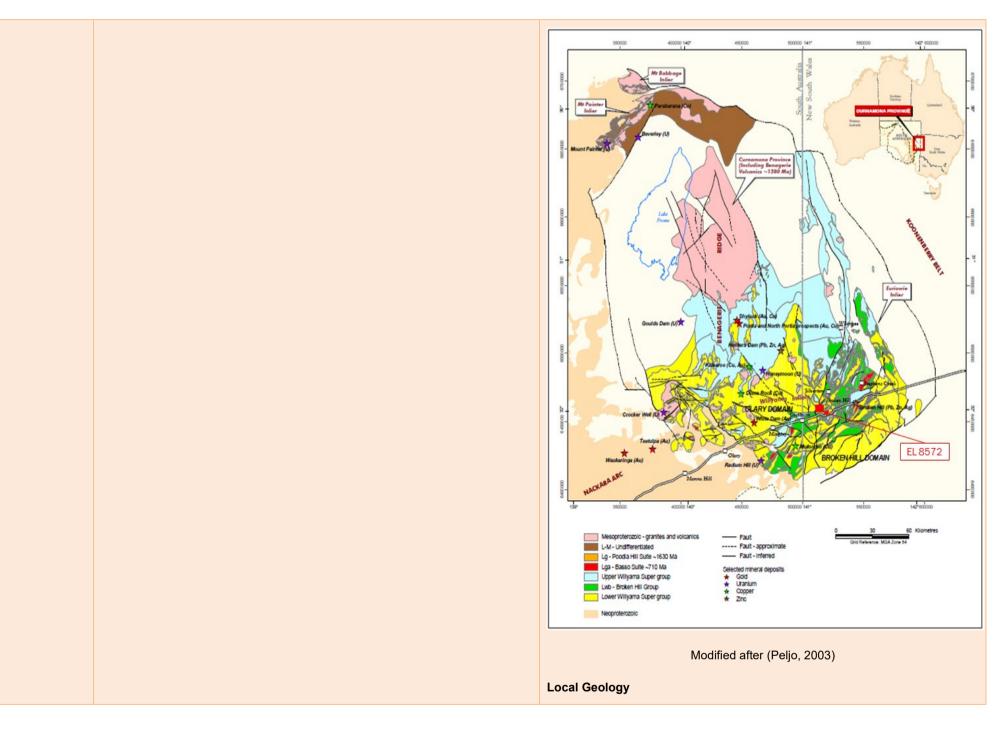
		Regolith Regime groups were used for statistical analysis and levelling of the results. The levelled data reveals strong relative anomalies in zinc at VTEM anomaly clusters 10, 12 and 14 plus strong anomalous copper at VTEM 17.
Geology	Deposit type, geological setting, and style of mineralisation.	Regional Geology         The Broken Hill polymetallic deposits are located within Curnamona Province (Willyama Super group) (Figure C-3) that hosts several world-class deposits of lead, zinc, silver, and copper. The Willyama Supergroup consists of highly deformed metasedimentary schists and gneisses with abundant quartz-feldspathic gneisses, lesser basic gneisses, and minor 'lode' rocks which are quartz-albite and calc-silicate rocks (Geoscience Australia, 2019). Prograde metamorphism ranges from andalusite through sillimanite to granulite grade (Stevens, Barnes, Brown, Stroud, & Willis, 1988).         Regionally, the tenures are situated in Broken Hill spatial domain which extends from far western New South Wales into eastern South Australia. 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 (Figure C-4).         Major faults in the region include the Mundi Mundi Fault to the west of Broken Hill is also surrounded by extensive shear zones including the Stephens Creek, Globe-Vauxhall, Rupee, Pine Creek, Albert, and Thackaringa-Pinnacles Shear zones.
		Figure C-3: Regional Stratigraphy



Modified after: (Stevens, Barnes, Brown, Stroud, & Willis, 1988)

Figure C-4: Regional Geological Map





There are over twenty (20) rock formations mapped within the project area. Parts of the project area are covered by Quaternary alluvium, sands, and by Tertiary laterite obscuring the basement geology. Within the Lower to Middle Proterozoic Willyama Supergroup (previously Complex) there are two (2) groups, the Thackaringa Group, and the younger Broken Hill Group (Colquhoun, et al., 2019). A summary of the units that host or appear to host the various mineralisation styles within EL 8434 and EL 8435 is given below.

### **Broken Hill Group**

The Hores Gneiss is mostly comprised of quartz-feldspar-biotite-garnet gneiss, interpreted as metadacite with some minor metasediments noted. An age range from Zircon dating has been reported as 1682-1695Ma (Geoscience Australia, 2019). The Allendale Metasediments unit contains mostly metasedimentary rocks, dominated by albitic, pelitic to psammitic composite gneiss, including garnet-bearing feldspathic composite gneiss, sporadic basic gneiss, and quartz-gahnite rock. Calc-silicate bodies can be found at the base of the unit and the formation's average age is 1691 Ma (Geoscience Australia, 2019).

#### **Thackaringa Group**

The **Thorndale Composite Gneiss** is distinguished by mostly gneiss, but also migmatite, amphibolite, and minor magnetite. The age of this unit is >1700Ma (Geoscience Australia, 2019) and is one of the oldest formations in the Group. The **Cues Formation** is interpreted as a deformed sill-like granite, including Potosi-type gneiss. Other rock-types include pelitic paragneiss, containing cordierite. The average age: ca 1700-1730 Ma. (Stevens, Barnes, Brown, Stroud, & Willis, 1988). Other rock types include mainly psammo-pelitic to psammitic composite gneisses or metasedimentary rocks, and intercalated bodies of basic gneiss. This unit is characterised by stratiform horizons of granular garnet-quartz +/-magnetite rocks, quartz-iron oxide/sulphide rocks and quartz-magnetite rocks (Geoscience Australia, 2019). This is a significant formation as it hosts the Pinnacles Ag-Pb-Zn massive sulphide deposit along with widespread Fe-rich stratiform horizons.

The protolith was probably sandy marine shelf sedimentary rocks. An intrusion under shallow cover was syn-depositional. The contained leuco-gneisses and Potosi-type gneisses are believed to represent a felsic volcanic or volcaniclastic protolith. Basic gneisses occur in a substantial continuous interval in the middle sections of the Formation, underlain by thinner, less continuous bodies. They are moderately Fe-rich (abundant orthopyroxene or garnet) and finely layered, in places with pale feldspar-rich layers, and are associated with medium-grained

quartz-feldspar-biotite-garnet gneiss or rock which occurs in thin bodies or pods ('Potosi-type' gneiss).

A distinctive leucocratic quartz-microcline-albite(-garnet) gneiss (interpreted as meta-rhyolite) occurs as thin, continuous, and extensive horizons, in several areas. The sulphide-bearing rocks may be lateral equivalents of, or associates of Broken Hill type stratiform mineralisation. Minor layered garnet-epidote-quartz calc-silicate rocks occur locally within the middle to basal section. The unit is overlain by the **Himalaya Formation**.

The **Cues Formation** is intruded by Alma Granite (Geoscience Australia, 2019). The **Himalaya Formation** (Figure C-6) consists of medium-grained saccharoidal leucocratic psammitic and albitic meta-sedimentary rocks (average age 1700Ma). The unit comprises variably interbedded albite-quartz rich rocks, composite gneiss, basic gneiss, horizons of thinly bedded quartz-magnetite rock.

Pyrite-rich rocks occur at the base of the formation (Geoscience Australia, 2019). It is overlain by the **Allendale Metasediments** (Broken Hill Group). The Himalaya Formation hosts cobalt-rich pyritic horizons at Pyrite Hill and Big Hill. The protolith is probably sandy marine shelf sedimentary rocks with variable evaporitic or hypersaline component. Plagioclase-quartz rocks are well-bedded (beds 20 - 30mm thick), with rare scour-and-fill and cross-bedded structures.

Thin to thick (0.5 - 10m) horizons of thinly bedded quartz-magnetite rock also occur with the plagioclase-quartz rocks. In some areas the formation consists of thin interbeds of plagioclase-quartz rocks within meta-sedimentary rocks or metasedimentary composite gneiss (Geoscience Australia, 2019). Lady Brassey Formation which is well-to-poorly-bedded leucocratic sodic plagioclase-quartz rock, as massive units or as thick to thin interbeds within psammitic to pelitic metasedimentary composite gneisses. A substantial conformable basic gneiss. It overlies both Mulculca Formation and Thorndale Composite Gneiss. Part of the formation was formerly referred to as Farmcote Gneiss in the Redan geophysical zone of Broken Hill Domain - a zone in which the stratigraphy has been revised to create the new Rantyga Group (Redan and Ednas Gneisses, Mulculca Formation, and the now formalised Farmcote Gneiss).

#### Lady Louise Suite

This unit is approximately 1.69Ma in age comprising amphibolite, quartz-bearing, locally differentiated to hornblende granite, intrusive sills, and dykes, metamorphosed, and deformed; metabasalt with pillows (Geoscience Australia, 2019). Annadale Metadolerite is basic gneisses, which includes intervening

metasedimentary rocks possibly dolerite (Geoscience Australia, 2021).

#### Rantya Group

Farmcote Gneiss contains metasedimentary rocks and gneiss and is a new unit at the top of Rantyga Group. It is overlain by the Cues Formation and Thackaringa Group, and it overlies the Mulculca Formation. The age of the unit is between 1602 to 1710Ma. Mulculca Formation is abundant metasedimentary composite gneiss, variable sodic plagioclase-quartz-magnetite rock, quartzalbite-magnetite gneiss, minor quartz-magnetite rock common, minor basic gneiss, albite-hornblende-quartz rock (Geoscience Australia, 2019). Ednas Gneiss contains quartz-albite-magnetite gneiss, sodic plagioclase-quartzmagnetite rock, minor albite-hornblende-quartz rock, minor quartzo-feldspathic composite gneiss. It is overlain by Mulculca Formation.

#### Silver City Suite

Formerly mapped in the Thackaringa Group this new grouping accommodates the metamorphosed and deformed granites. A metagranite containing quartzfeldspar-biotite gneiss with variable garnet, sillimanite, and muscovite, evengrained to megacrystic, elongate parallel to enclosing stratigraphy. It occurs as sills and intrudes both the Thackeringa Group and the Broken Hill Group. This unit is aged between 1680 to 1707Ma.

### **Torrowangee Group**

Mulcatcha Formation comprises flaggy, quartzose sandstone with lenticular boulder and arkosic sandstone beds. Yangalla Formation contains boulder beds, lenticular interbedded siltstone, and sandstone. It overlies the Mulcatcha Formation (Geoscience Australia, 2020).

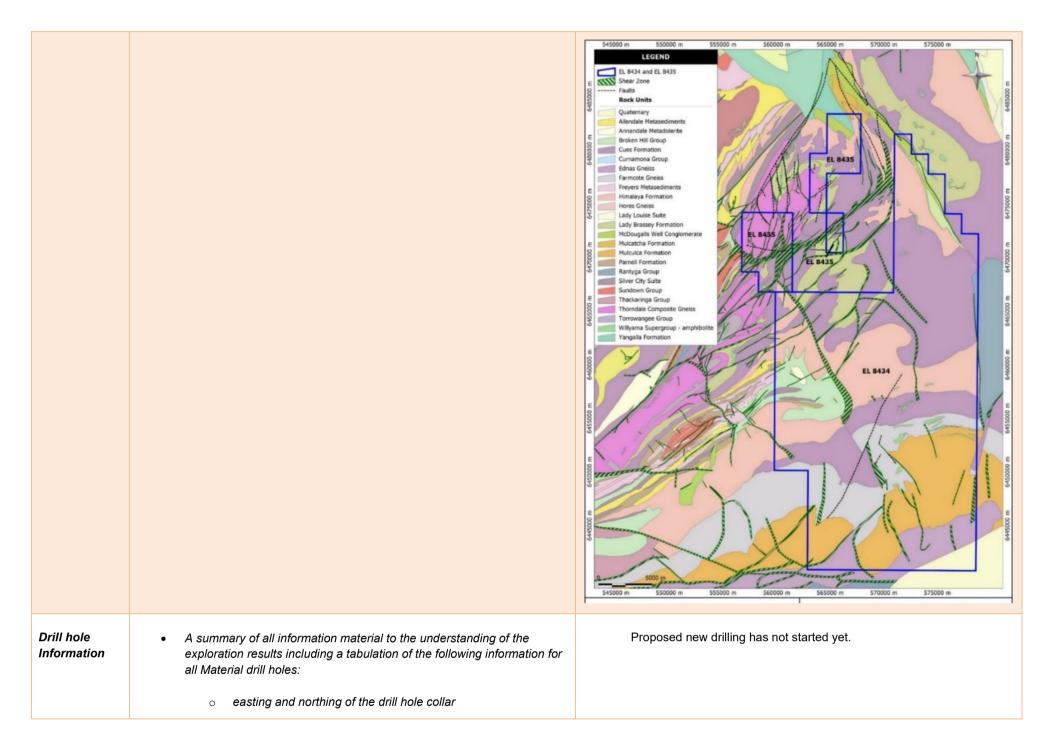
#### Sundown Group

The Sundown Group contains Interbedded pelite, psammopelitic and psammitic metasedimentary rocks and it overlies the Broken Hill Group. The unit age is from 1665 to 1692Ma (Figure C-5).

There is also an unnamed amphibolite in Willyama Supergroup, which present typically medium grained plagioclase and amphibole or pyroxene rich stratiform or discordant dykes.

Figure C-5: EL 8434 and EL 8435 Solid Geology





CASTILLO COPPER | 31

	<ul> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> <li>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.</li> </ul>	
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>No metal equivalents have been reported. Rare earth element results have been converted to rare earth oxides as per standard industry practice (Castillo Copper 2022f).</li> <li>No compositing of assay results has taken place, but rather menu options within the Datamine GDB module have been used to create fixed length 1m assay intervals from the original sampling lengths.</li> <li>The rules follow very similarly to those used by the Leapfrog software in creating fixed length samples.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	<ul> <li>A database of all the historical borehole sampling has been compiled and validated. It is uncertain if there is a strong relationship between the surface sample anomalies to any subsurface anomalous intersections due to the possible masking by variable Quaternary and Tertiary overburden that varies in depth from 0-40m.</li> <li>As the strata is tightly folded, the intersected cobalt-rich layers are overstated in terms of apparent thickness, however the software calculates a true, vertical thickness.</li> <li>Mineralisation is commonly associated with shears, faults, amphibolites, and a quartz-magnetite rock within the shears, or on or adjacent to the boundaries of the Himalaya Formation.</li> <li>In general, most of the cobalt-rich layers have a north-northwest to north</li> </ul>

		strike.
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul> <li>Current surface anomalies are shown on maps released on the ASX (Castillo Copper 2022a and 2022b). All historical surface sampling has had their coordinates converted to MGA94, Zone 54.</li> </ul>
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul> <li>All recent laboratory analytical results have been recently reported (see Castillo Copper 2022a, b, c, d, e, and f) for assay results.</li> <li>Regarding the surface and sampling, no results other than duplicates, blanks or reference standard assays have been omitted.</li> </ul>
Other substantive exploration data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul> <li>Historical explorers have also conducted airborne and ground gravity, magnetic, EM, and IP resistivity surveys over parts of the tenure area but this is yet to be fully georeferenced (especially the ground IP surveys). Squadron Resources conducted an airborne EM survey in 2017 that covers Iron Blow and The Sisters, but not the southern prospects.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>It is recommended that:</li> <li>The non-sampled zones within the Core Library drillholes, BH1, BH2, and DD90-IB3 in the north of the tenure group be relogged and sampled.</li> <li>A program of field mapping and ground magnetic or EM surveys be planned and executed.</li> <li>CCZ's geology team are in the process of finalising a comprehensive drilling campaign that will specifically target coring the known cobalt mineralisation downdip to at least 160m depth. The proposed drilling program aims to increase the resource confidence is in planning stages. ESF4 applications are close to acceptance (1-2 weeks).</li> </ul>

