



**CASTILLO COPPER**

*Exploration with Purpose*

## Rare earth element potential next focus at Broken Hill



### Highlights

- Reconciling geochemical and geophysical data for the Iron Blow Prospect, within the BHA Project's East Zone (Appendix A), produced several viable targets for drill-testing with significant exploration potential:
  - ❖ Re-interpreting geophysical campaigns from 2000, 2001 and 2017 identified several significant bedrock conductors that could host mineralisation<sup>1</sup>
- The primary focus will be Rare Earth Elements (REEs) – assays from diamond core from drill-hole DD90\_1B3 (sourced from the core library) returned positive readings<sup>2</sup> – on a cumulative basis – over 35m, with the best intersections:
  - 8m @ 1,460ppm TREO from 150m
  - 12m @ 297ppm TREO from 199m
  - 6.4m @ 290ppm TREO from 189m
  - 4.8m @ 311ppm TREO from 232m
- As there is still untested diamond core from DD90\_1B3 at the core library<sup>2</sup>, the geology team are planning for this to be fully re-assayed for REEs
- Coincident with REEs are base metals and Co, which was confirmed by assays from an outcropping sulphide gossan zone averaging 2,550ppm Cu, 617ppm Zn, 208ppm Pb with peak values reaching 9,200ppm Cu, 2,500ppm Zn, 9,400ppm Pb and 350ppm Co<sup>3</sup>
- Contingent on the outcome of the current drilling campaign, the Board has earmarked the Iron Blow Prospect as the next priority target to drill-test with nine holes planned

**Castillo Copper's Managing Director Dr Dennis Jensen commented:** "Re-assaying the historical diamond drill core for REEs has been a game changer that significantly enhances the Iron Blow Prospect's exploration potential. More significantly, the geophysical interpretations deliver prime targets, which potentially host mineralisation, for drill testing."

# Significant REE potential at Iron Blow Prospect

Castillo Copper Limited’s (“CCZ”) Board is pleased to announce that reconciling geophysical and geochemical data for the Iron Blow Prospect (Appendix A) identified several prime targets for drill-testing which could host mineralisation<sup>1</sup>.

The primary focus is REEs as a detailed re-analysis of diamond core from drill-hole DD90\_1B3 (sourced from the core library – Figure 2) returned positive readings for TREO over 35m on a cumulative basis (Figure 1). The highest reading was 8m @ 1,460 ppm TREO<sup>2</sup>.

Since there is still untested diamond core from DD90\_1B3 in the core library, the geology team intends to fully re-analyse this for REEs to aid formulating a future drilling campaign<sup>2</sup>.

**FIGURE 1: DD90-IB3 SUMMARY TABLE OF SIGNIFICANT TREO INTERSECTIONS**

Hole	From (m)	To (m)	Width (m)	TREO (ppm)	TREO-Ce (ppm)	LREO (ppm)	HREO (ppm)	CREO (%)	MREO (%)
DD90-IB3	150.0	158.3	8.3	1,460	871	1289	172	32.8	36.9
DD90-IB3	171.0	173.25	2.25	283	167	261	22	29.4	35.8
DD90-IB3	188.9	195.30	6.40	290	169	271	19	28.6	36.0
DD90-IB3	199.0	211.0	12.0	297	169	269	28	29.7	34.6
DD90-IB3	231.8	236.57	4.77	311	187	274	37	30.8	33.5
DD90-IB3	250.9	252.8	1.90	320	200	271	49	33.1	33.8

Notes:

- 1) Four of the Ce assay from 150-158.3m returned >500ppm and were re-analysed by ALS method ME-MS85 (Lithium borate fusion) giving 737, 1030, 1035, and 743ppm, respectively.
- 2) Verification has been undertaken by ROM Resources personnel.
- 3) Sample results from ALS method ME-MS61R, where some REE are not totally soluble, future assays will use ME-MS81.
- 4) NQ core sample data has been recorded in a Datamine GDB database with QA/QC analysis of samples undertaken to validate data prior to it being inserted into the database.

Source: CCZ geology team

**FIGURE 2: PEGMATITIC ROCK FROM DD90-IBW3 GIVING ANOMALOUS TREO CONCENTRATION**



Source: CCZ geology team

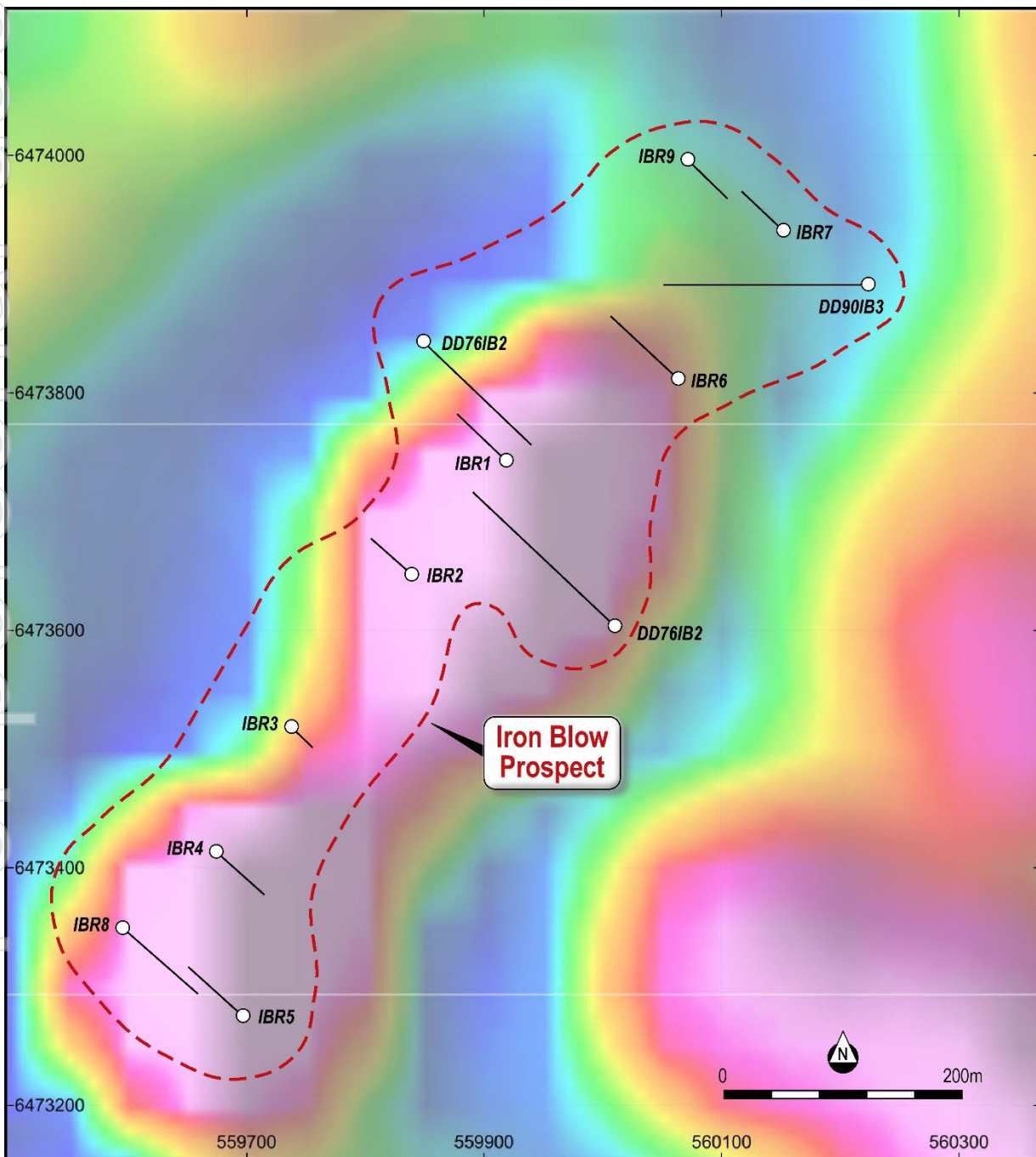
# Geophysical interpretation: untested conductors

In early 2017, Squadron Resources – the previous owner – engaged UTS Geophysical Surveys to complete a 784km<sup>2</sup> helicopter-borne time-domain electromagnetic (VTEM) and magnetic survey for the BHA Project's East Zone<sup>1</sup>. Across the East Zone survey area, many EM anomalies were identified during the interpretative phase including several at Iron Blow<sup>1</sup>.

In the 2H2017, Southern Geoscience Consultants reprocessed ground loop time-domain EM (MLTEM) data collected by Western Mining<sup>1</sup> in 2000-01. As a result, the MLTEM modelling was refined using the in-loop data further and generated new models<sup>1</sup>.

Reconciling interpretations from the geophysics campaigns against historic drilling at the Iron Blow Prospect, highlights the position of several sizeable conductors (Figure 3 with TMI image shown). However, historical drilling did not conclusively test-drill these conductors. Although drill-holes IBR1 and IBR2 are close to the main central conductor, they were only circa 100m deep. Subsequent assay results showed scattered anomalous copper-zinc-lead but no tests were run for REEs or cobalt<sup>1</sup>.

**FIGURE 3: BEDROCK CONDUCTORS RELATIVE TO HISTORICAL DRILLHOLES**



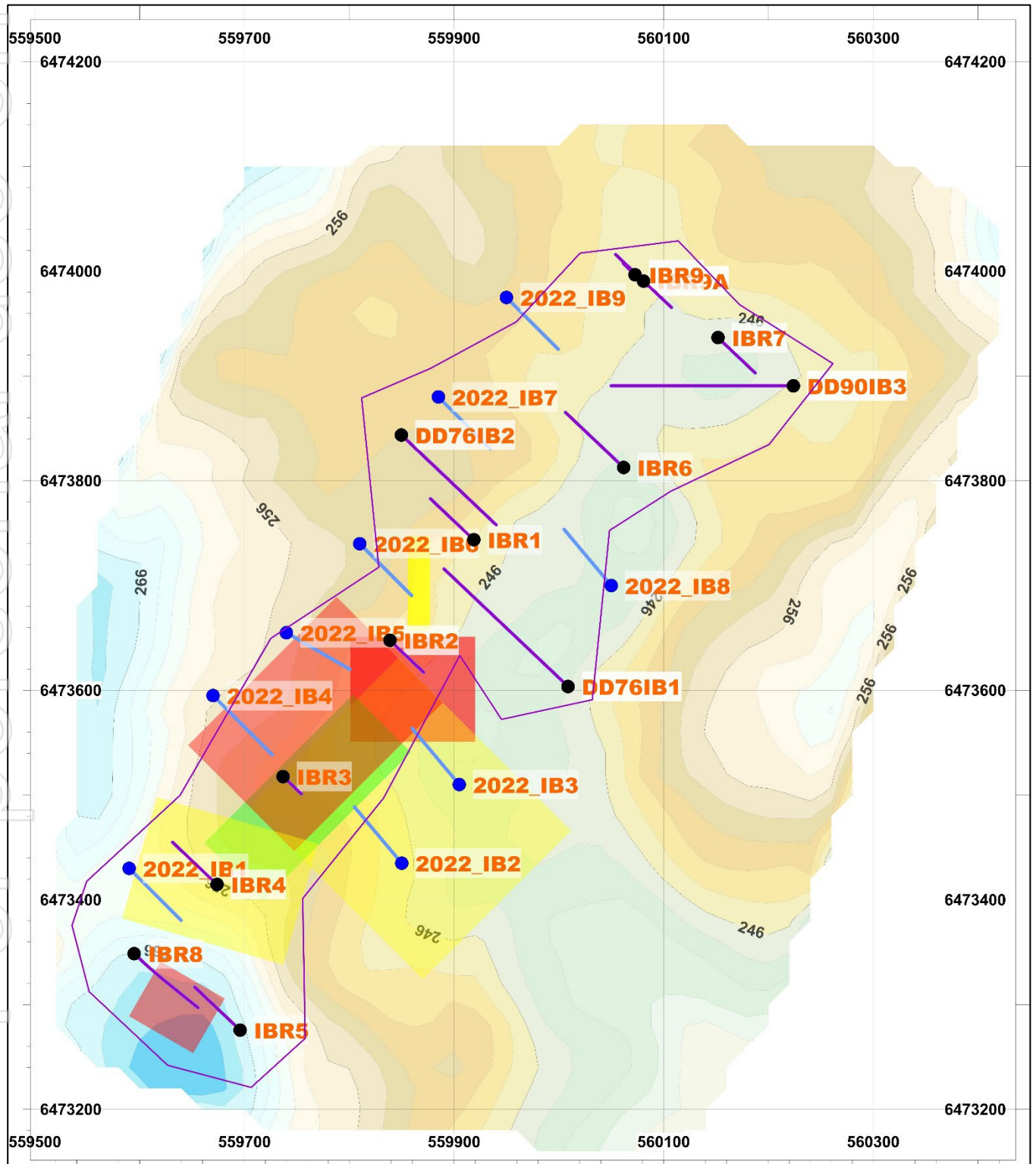
Notes: Historical holes underlain by TMI image shown. Grid in MGA94 -Zone 54  
Source: CCZ geology team

## Prime targets

Although the 2017 geophysical interpretation identified the primary targets (Figure 4), further work is required to delineate the bedrock conductors more accurately and define plunge/depth extensions. In turn, this should provide adequate data points to formulate a robust drilling campaign.

As it currently stands, contingent on the outcome of the current drilling campaign, the Board has earmarked the Iron Blow Prospect as the next priority target to drill-test. In readiness, nine new holes have been initially nominated as listed in Figure 5.

**FIGURE 4: BEDROCK CONDUCTORS RELATIVE TO PROPOSED DRILL-HOLES**



Notes: Topography shown overlying maxwell plate EM conductors. Proposed Drillholes shown in blue, existing in purple.

Source: CCZ geology team

**FIGURE 5: PRELIMINARY DRILL-HOLES FOR IRON BLOW**

DrillID_Site	Easting	Northing	AHD	End_Depth	Azimuth	Dip from horizontal
2022_IB1	559590	6473430	250	150	135	-60
2022_IB2	559850	6473435	250	160	320	-60
2022_IB3	559905	6473510	250	160	320	-60
2022_IB4	559670	6473595	250	150	135	-60
2022_IB5	559740	6473655	250	160	120	-60
2022_IB6	559810	6473740	250	140	135	-60
2022_IB7	559885	6473880	250	140	135	-60
2022_IB8	560050	6473700	250	140	320	-60
2022_IB9	559950	6473975	250	140	135	-60

Note: Coordinate system is MGA9-Zone 54

Source: CCZ geology team

## Coincident mineralisation

Coincident with REEs at the Iron Blow Prospect are base metals and cobalt. Notably, previous work from the 1980s showed the geology at the Iron Blow Prospect varied from weak gossanous, quartz-magnetite to quartz and magnetite banded quartzo-feldspathic rocks. Outcrops are invariably poddy with maximum widths being 2m whilst strike continuity of these horizons did not exceed 500m. Geochemical sampling of these zones identified sporadically high copper-lead-zinc-silver assay results which were pursued by subsequent explorers.

More specifically, geological grid mapping and mineralogical work by North Broken Hill defined an adjacent, poorly outcropping quartz-pyrrhotite-chalcopyrite-sphalerite pyrite gossan. Subsequent geochemical sampling of this rock averaged 2,550 ppm Cu, 617 ppm Zn, 208 ppm Pb with maximum values reaching 9,200 Cu, 2,500 Zn and 9,400 Pb<sup>3</sup>. In addition, cobalt values as high as 350ppm Co were returned<sup>3</sup>.

Proximal to the Iron Blow Prospect are thin serpentinite bands north-east, south-east and south-south-east which average 1,200ppm Ni and 250ppm Cu from 16 bulk surface samples and up to 12% Cu, 1,800ppm Ni, 54ppm Ag and 1.45 ppm Pt from a gossan on the footwall<sup>4</sup>. In the same shear zone, 500m to the south-west, a chloritic schist outcrops with a gossanous vein that is possibly a continuation of the footwall vein: two grab samples from pit dumps averaged 7.5% Cu<sup>4</sup>.

**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.

## Cautionary Statement on PXRF Results

Any handheld XRF (pXRF) results that are the subject of this report are preliminary only. The use of the pXRF is an indication only of the order of magnitude of final assay analysis. The samples that are the subject of this report will be submitted for laboratory assay and some variation from the results presented herein should be expected.

## Cautionary Statement on Visual Estimations

Visual estimates of the concentration of sulphides present in the core and RC chips are subjective and based on the geologist's interpretation. Caution should be exercised until the official assay laboratory results have been received.

## References

- 1) Mortimer:
  - a. Mortimer, R., 2017a, Interpretation of UTS Geophysical Surveys Heli-borne VTEM Survey, Broken Hill, unpublished report by Southern Geoscience Consultants for Squadron Resources Pty Ltd, Jun 17, 2017
  - b. Mortimer, R., 2017b, Re-interpretation of VTEM Profiles Broken Hill Area, unpublished report by Southern Geoscience Consultants for Squadron Resources Pty Ltd, Oct 17, 2017.
- 2) CCZ ASX Release – 31 August 2022
- 3) Leyh:
  - a. Leyh, W.R., 1976, Progress Report on Exploration Licence, No. 846 Iron Blow -Yellowstone Area, Broken Hill, New South Wales for the six months period ended 29th June 1976, North Broken Hill Limited, Report GS1976-198, Jul 76, 88pp
  - b. Leyh, W.R., 1977a, Progress Report on Exploration Licence, No. 846 Iron Blow -Yellowstone Area, Broken Hill, New South Wales for the six months period ended 29th December 1976, North Broken Hill Limited, Report GS1976-198, Feb 1977, 24pp
  - c. Leyh W.R., 1977b, Progress Report on Farmcote Exploration Licenses 780 and 782, Farmcote Area, Broken Hill, NSW for the three months to 5th March 1977, North Broken Hill Limited for the NSW Geological Survey, (GS1977-078)
  - d. Leyh W.R., 1977c, Progress Report on Farmcote Exploration Licenses 780 and 782, Farmcote Area, Broken Hill, NSW for the three months to 23rd May 1977, North Broken Hill Limited for the NSW Geological Survey, (GS1977-078)
  - e. Leyh W.R., 1978, Progress Report on Farmcote Exploration Licenses 780 and 782, Farmcote Area, Broken Hill, NSW for the three months to 27 October 1978, North Broken Hill Limited for the NSW Geological Survey, (GS1977-078)
  - f. Leyh W.R., 1978 Progress Report on Exploration Licenses 1099 and 1100 for the six months to 27 October 1978, North Broken Hill Limited for the NSW Geological Survey, (GS1978-407)
  - g. Leyh, W.R., 1990, Exploration Report for the Third Six Monthly Period ended 12th June 1990 for EL 3238 (K Tank), Broken Hill District, New South Wales for the six months period, Pasminco Limited, Report GS1989-226, Jun 90, 22pp
  - h. Leyh, W.R., and Lees T.C., 1977, Progress Report on Exploration Licence, No. 846 Iron Blow -Yellowstone Area, Broken Hill, New South Wales for the six months period ended 29th June 1977, North Broken Hill Limited, Report GS1976-198, Jul 77, 35pp
  - i. Leyh, W.R., and Larson P.D., 1981, Final Report for the Third Six Monthly Period ended 12th June 1990 for EL 3238 (K Tank), Broken Hill District, New South Wales for the six months period, Pasminco Limited, Report GS1989-226, Jun 90, 22pp
- 4) Biggs 2022 – Biggs, M.S., 2022c, EL 8435 Yanocowinna Broken Hill BHA Modelling Updates, Iron Blow Prospect, Castillo Copper, unpublished memo prepared by ROM Resources, May 22, 13pp

# 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 copper-belt 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-lead-copper-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

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## ASX/LSE Symbol

CCZ

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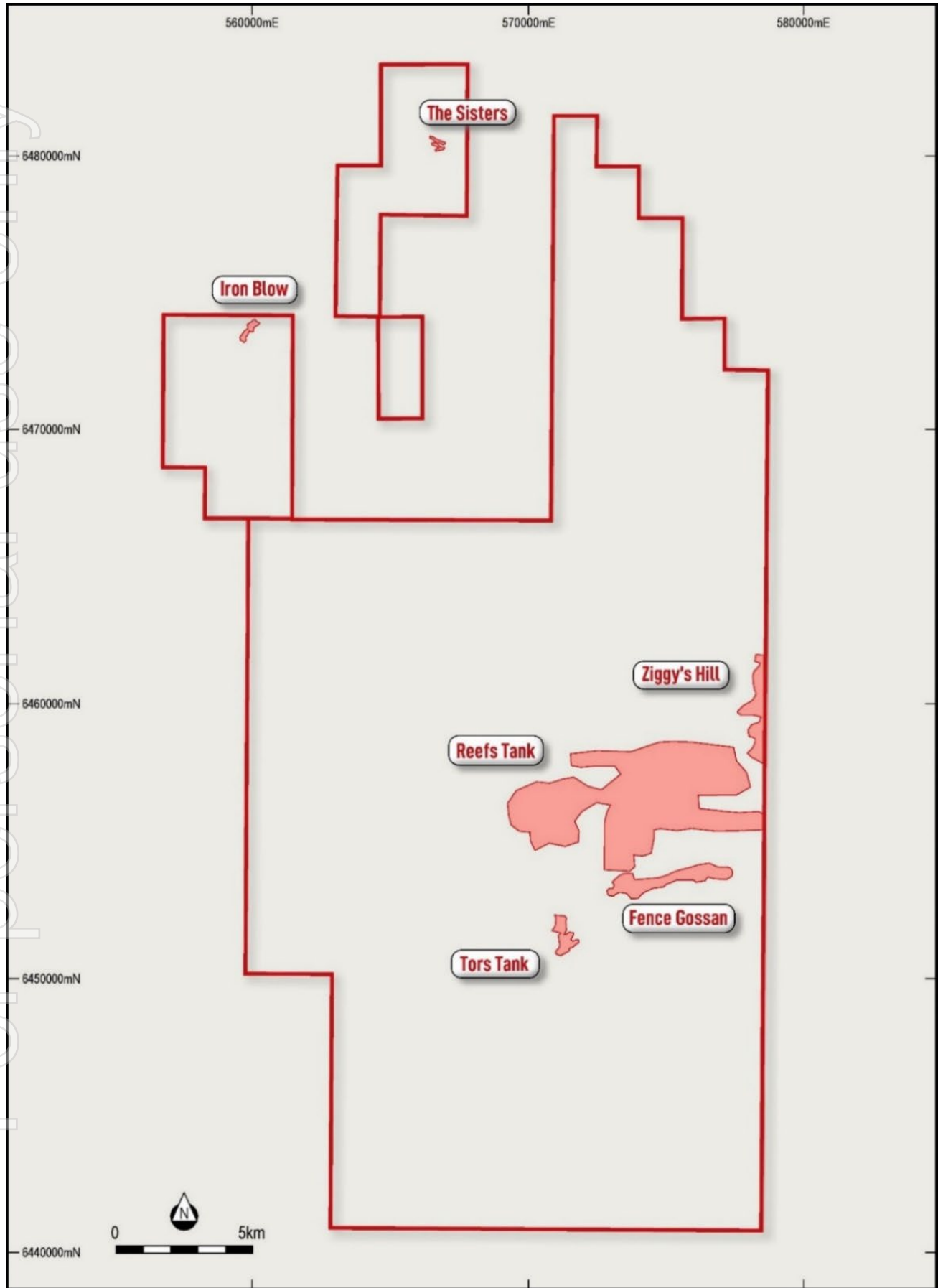
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**FOR THE LATEST NEWS** [www.castillocopper.com](http://www.castillocopper.com)



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

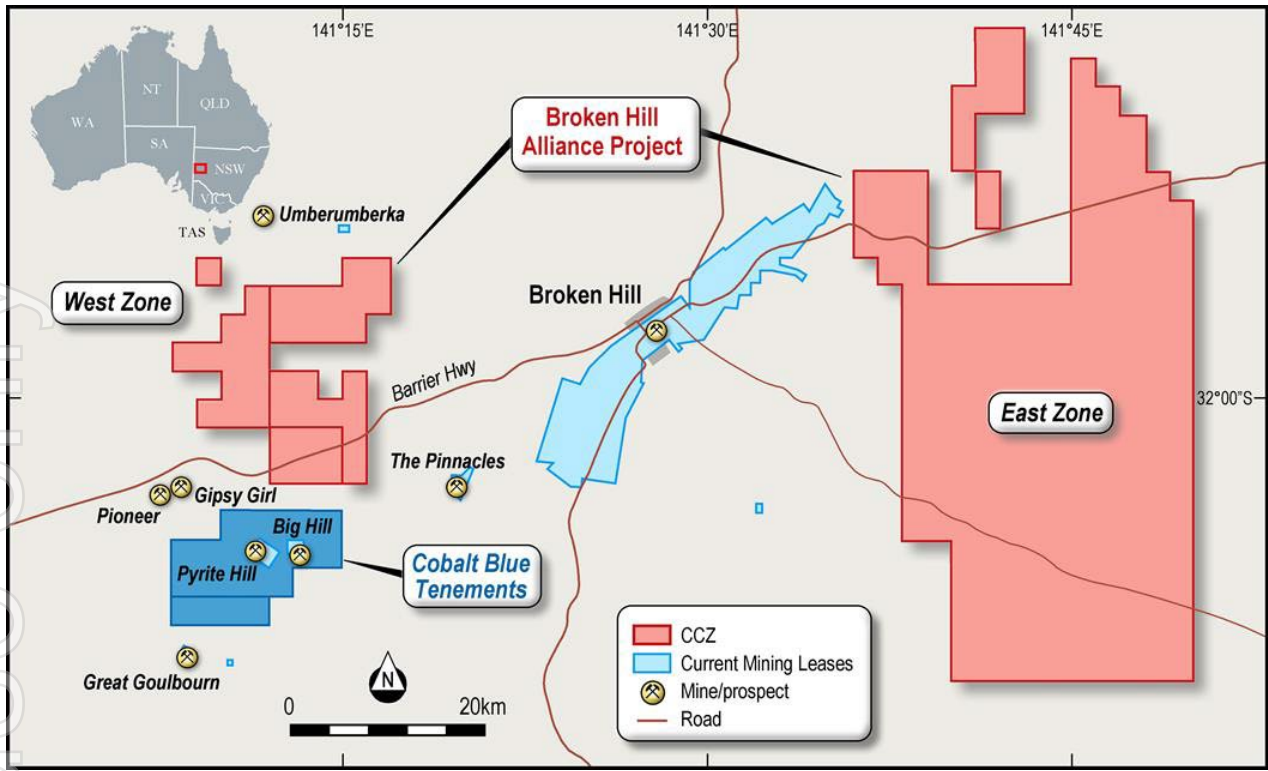
FIGURE A1: PROSPECTS AT BHA PROJECT EAST ZONE



Source: CCZ geology team



FIGURE A2: BHA PROJECT



Source: CCZ geology team

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# APPENDIX B: JORC CODE, 2012 EDITION – TABLE 1

## Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 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 style="list-style-type: none"> <li>Reference to prior surface and drilling sampling program reports at Iron Blow and The Sisters is given in the associated geology reports (Biggs (2022a, b, c; Castillo Copper Limited 2022a-d).</li> <li>Many of the surface and drilling sampling programs, especially from the 1990's did include reference samples and duplicate analyses and other forms of QA/QC checking.</li> <li>Sampling prior to 1988 generally has higher "below detection limits" and less or no QA/QC checks.</li> <li>Regarding historical cores from holes held by the NSW Geological Survey across EL 8434 and 8435, selected sections that were reanalyzed using pXRF 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 The Sisters BH1 and will be once the proposed Iron Blow cored holes are completed.</li> <li>The sample interval details and grades quoted for cored intervals described in Table B1-1, shown in the Appendix A maps, and given in Table B1-3 and B1-4 at the end of this section.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <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,</li> </ul>	<ul style="list-style-type: none"> <li>Historical drilling consists of auger, rotary air blast, reverse circulation, and diamond coring. In and around the Iron Blow geological model area are twelve (12) drillholes, however it should be noted that the majority of these are &lt;100m in depth, and the number of holes &gt;100m total around 3.</li> </ul>

face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).

Table B1-1: GSNSW Core Library - Collars of Drillholes Resampled

HOLE_NAME	E_GDA94	N_GDA94	END DEPTH	AZIMUTH	DIP	DRILL TYPE
BH1	566841.77	6480228.70	152.4	263.5	-45	BQ
BH2	566721.77	6480418.70	198.8	278.5	-50	BQ
DD80RW4	559571.82	6459448.72	198.0	118.5	-60	NQ
DD80RW4_1	559571.82	6459448.72	385.0	118.5	-60	NQ
DD90_IB3	560223.79	6473890.70	383.0	90	-63	NQ
RH3	562961.79	6474868.70	52.3	294	-55	NQ

**Drill sample recovery**

- Method of recording and assessing core and chip sample recoveries and results assessed.
- Measures taken to maximise sample recovery and ensure representative nature of the samples.
- Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.

- Not applicable in this study, as no new holes have been completed. Historical diamond cored drillholes were documented to have >90% core recovery.

**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 drilling that did occur 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 thin cover.
- No downhole geophysical logging took place; however, measurements of magnetic susceptibility were taken on the six-library core relogged over the same intervals as the PXRf readings were taken.

	<ul style="list-style-type: none"> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality, and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable, as no new drilling, whilst planned, has not been undertaken yet.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>The following rare earth elements were analysed using ME-MS61R</li> <li>Sample Decomposition is by HF-HNO<sub>3</sub>-HClO<sub>4</sub> acid digestion, HCl leach (GEO-4A01).</li> <li>The Analytical Method for Ag has the following specifications</li> </ul> <div data-bbox="1554 1102 1709 1485" style="background-color: #f4a460; padding: 5px; margin-top: 10px;"> <p>E S U L U l y n o p e r i w p r b t e e e o s r r n l L L t i i r m i i t t</p> </div>

S	A	p	0	1
i	g	p	.	0
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**Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP - AES) Inductively Coupled Plasma Mass Spectrometry (ICP-MS)**

- A prepared sample (0.25 g) is digested with perchloric, nitric, hydrofluoric, and hydrochloric acids. The residue is topped up with dilute hydrochloric acid and analyzed by inductively coupled plasma atomic emission spectrometry. Following this analysis, the results are reviewed for high concentrations of bismuth, mercury, molybdenum, silver, and tungsten and diluted accordingly.
- Samples meeting this criterion are then analyzed by inductively coupled plasma-mass spectrometry. Results are corrected for spectral interelement interferences.
- NOTE: Four acid digestions can dissolve most minerals; however, although the term “neartotal” is used, depending on the sample matrix, not all elements are quantitatively extracted.
- Results for the additional rare earth elements will represent the acid leachable portion of the rare earth elements and as such, cannot be used, for instance to do a chondrite plot.

**Geochemical Procedure**

Geochemical Procedures used reported the following individual element specifications

Element	Symbol	Units	Lower Limit	Upper Limit
Molybdenum	Mo	ppm	0.05	10 000
Sodium	Na	%	0.01	10
Niobium	Nb	ppm	0.1	500
Nickel	Ni	ppm	0.2	10 000
Phosphorous	P	ppm	10	10 000
Lead	Pb	ppm	0.5	10 000
Rubidium	Rb	ppm	0.1	10 000
Rhenium	Re	ppm	0.002	50
Sulphur	S	%	0.01	10
Antimony	Sb	ppm	0.05	10 000
Scandium	Sc	ppm	0.1	10 000
Selenium	Se	ppm	1	1 000
Tin	Sn	ppm	0.2	500
Strontium	Sr	ppm	0.2	10 000
Tantalum	Ta	ppm	0.05	100
Tellurium	Te	ppm	0.05	500
Thorium	Th	ppm	0.2	10 000
Titanium	Ti	%	0.005	10
Thallium	Tl	ppm	0.02	10 000
Uranium	U	ppm	0.1	10 000

<b>Vanadium</b>	V	ppm	1	10 000
<b>Tungsten</b>	W	ppm	0.1	10 000
<b>Yttrium</b>	Y	ppm	0.1	500
<b>Zinc</b>	Zn	ppm	2	10 000
<b>Zirconium</b>	Zr	ppm	0.5	500
<b>Dysprosium</b>	Dy	ppm	0.05	1 000
<b>Erbium</b>	Er	ppm	0.03	1 000
<b>Europium</b>	Eu	ppm	0.03	1 000
<b>Gadolinium</b>	Gd	ppm	0.05	1 000
<b>Holmium</b>	Ho	ppm	0.01	1 000
<b>Lutetium</b>	Lu	ppm	0.01	1 000
<b>Neodymium</b>	Nd	ppm	0.1	1 000
<b>Praseodymium</b>	Pr	ppm	0.03	1 000
<b>Samarium</b>	Sm	ppm	0.03	1 000
<b>Terbium</b>	Tb	ppm	0.01	1 000
<b>Thulium</b>	Tm	ppm	0.01	1 000
<b>Ytterbium</b>	Yb	ppm	0.03	1 000

- Laboratory inserted standards, blanks and duplicates were analysed per industry standard practice. There was no evidence of bias from these results.

Element	Symb ol	Units	Lower Limit	Upper Limit
Aluminum	Al	%	0.01	50
Arsenic	As	ppm	0.2	10 000
Barium	Ba	ppm	10	10 000
Beryllium	Be	ppm	0.05	1 000
Bismuth	Bi	ppm	0.01	10 000
Calcium	Ca	%	0.01	50
Cadmium	Cd	ppm	0.02	1 000
Cerium	Ce	ppm	0.01	500
Cobalt	Co	ppm	0.1	10 000
Chromium	Cr	ppm	1	10 000
Cesium	Cs	ppm	0.05	500
Copper	Cu	ppm	0.2	10 000
Iron	Fe	%	0.01	50
Gallium	Ga	ppm	0.05	10 000
Germanium	Ge	ppm	0.05	500
Hafnium	Hf	ppm	0.1	500
Indium	In	ppm	0.005	500
Potassium	K	%	0.01	10
Lanthanum	La	ppm	0.5	10 000



			<b>Lithium</b>	Li	ppm	0.2	10 000
			<b>Magnesium</b>	Mg	%	0.01	50
			<b>Manganese</b>	Mn	ppm	5	100 000

**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.

- None of the drillholes have been twinned, as they are historical holes.
- Conversion of elemental analysis (REE parts per million) to stoichiometric oxide (REO parts per million) was undertaken by ROM geological staff using the below (Table AB-1) element to stoichiometric oxide conversion factors (<https://www.jcu.edu.au/news/releases/2020/march/rare-earth-metals-an-untapped-resource>)

• **Table B1-2: Element -Conversion Factor -Oxide Form**

• Ce	• 1.2284	• CeO2
• Dy	• 1.1477	• Dy2O3
• Er	• 1.1435	• Er2O3
• Eu	• 1.1579	• Eu2O3
• Gd	• 1.1526	• Gd2O3
• Ho	• 1.1455	• Ho2O3
• La	• 1.1728	• La2O3
• Lu	• 1.1371	• Lu2O3
• Nd	• 1.1664	• Nd2O3
• Pr	• 1.2083	• Pr6O11
• Sm	• 1.1596	• Sm2O3
• Tb	• 1.1762	• Tb4O7
• Tm	• 1.1421	• Tm2O3

• Y	• 1.2699	• Y2O3
• Yb	• 1.1387	• Yb2O3

- Rare earth oxide is the industry accepted form for reporting rare earths. The following calculations are used for compiling REO into their reporting and evaluation groups:
- TREO (Total Rare Earth Oxide) = La2O3 + CeO2 + Pr6O11 + Nd2O3 + Sm2O3 + Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Y2O3 + Lu2O3.
- TREO-Ce = TREO – CeO2
- LREO (Light Rare Earth Oxide) = La2O3 + CeO2 + Pr6O11 + Nd2O3 + Sm2O3
- HREO (Heavy Rare Earth Oxide) = Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Y2O3 + Lu2O3
- CREO (Critical Rare Earth Oxide) = Nd2O3 + Eu2O3 + Tb4O7 + Dy2O3 + Y2O3
- MREO (Magnetic Rare Earth Oxide) = Pr6O11 + Nd2O3 + Sm2O3 + Gd2O3 + Tb4O7 + Dy2O3.
- **Total Rare Earth Oxides (TREO):**
- To calculate TREO an oxide conversion “factor” is applied to each rare-earth element assay.
- The “factor” equates an elemental assay to an oxide concentration for each element. Below is an example of the factor calculation for Lanthanum (La).
- Relative Atomic Mass (La) = 138.9055
- Relative Atomic Mass (O) = 15.9994
- Oxide Formula = La2O3
- Oxide Conversion Factor =  $1 / ((2 \times 138.9055) / (2 \times 138.9055 + 3 \times 15.9994))$  Oxide Conversion Factor = 1.173 (3dp)
- None of the historical data has been adjusted.

**Location of data points**

- Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys),

- 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.Zone 54

	<p>trenches, mine workings and other locations used in Mineral Resource estimation.</p> <ul style="list-style-type: none"> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>• It is estimated that locational accuracy therefore varies between 2-50m</li> </ul>																											
<p><b>Data spacing and distribution</b></p>	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>• The average sample spacing across the tenure varies per prospect, and sample type, as listed in Table B1-3, below:</li> </ul> <p><i>Table B1-3: EL 8434 and EL 8435 Drillhole Spacing</i></p> <table border="1" data-bbox="1205 459 1765 1114"> <thead> <tr> <th>Prospect</th> <th>Drillholes in Model</th> <th>RMS Drillhole Spacing (m)</th> </tr> </thead> <tbody> <tr> <td>The Sisters</td> <td>12</td> <td>242</td> </tr> <tr> <td>Rothwell</td> <td>1</td> <td>N/A</td> </tr> <tr> <td>Round Hill</td> <td>1</td> <td>N/A</td> </tr> <tr> <td>Iron Blow</td> <td>13</td> <td>197</td> </tr> <tr> <td>Tors Tank</td> <td>342</td> <td>27.4</td> </tr> <tr> <td>Fence Gossan</td> <td>549</td> <td>25.5</td> </tr> <tr> <td>Ziggy's Hill</td> <td>245</td> <td>37.0</td> </tr> <tr> <td>Reefs Tank</td> <td>1,375</td> <td>22.1</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• No sample compositing has been applied to historical drilling at Iron Blow.</li> </ul>	Prospect	Drillholes in Model	RMS Drillhole Spacing (m)	The Sisters	12	242	Rothwell	1	N/A	Round Hill	1	N/A	Iron Blow	13	197	Tors Tank	342	27.4	Fence Gossan	549	25.5	Ziggy's Hill	245	37.0	Reefs Tank	1,375	22.1
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<p><b>Orientation of data in relation to geological structure</b></p>	<ul style="list-style-type: none"> <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</li> </ul>	<ul style="list-style-type: none"> <li>• The current database does not contain any sub-surface geological logging for Iron Blow, which is being compiled (75% complete)</li> <li>• Geological mapping by various companies has reinforced that the strata dips variously between 45 and 80 degrees.</li> </ul>																											

	<i>introduced a sampling bias, this should be assessed and reported if material.</i>	
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>The sample security measures, except for the Squadron Resources work programs is not known. Squadron took samples to their Broken Hill office and transported samples for analysis to ALS Broken Hill. Fieldcrew took the resampled core from DD90_IB3 to Broken Hill then personally transported them to ALS Brisbane.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>No external audits or reviews have yet been undertaken.</li> </ul>

Table B1-5: Proposed 2022-2023 Drillholes.

DrillID_Site	Easting	Northing	AHD	End_Depth	Azimuth	Dip from horizontal
2022_IB1	559590	6473430	250	150	135	-60
2022_IB2	559850	6473435	250	160	320	-60
2022_IB3	559905	6473510	250	160	320	-60
2022_IB4	559670	6473595	250	150	135	-60
2022_IB5	559740	6473655	250	160	120	-60
2022_IB6	559810	6473740	250	140	135	-60
2022_IB7	559885	6473880	250	140	135	-60
2022_IB8	560050	6473700	250	140	320	-60
2022_IB9	559950	6473975	250	140	135	-60

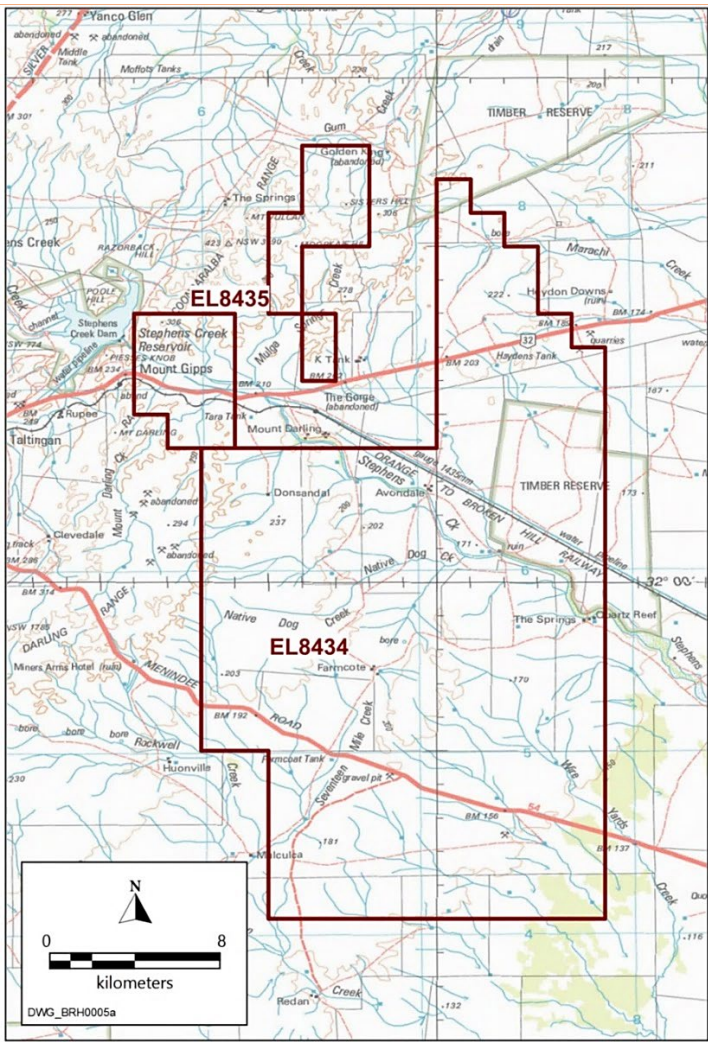




## SECTION 2 REPORTING OF EXPLORATION RESULTS

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<p><b>Mineral tenement and land tenure status</b></p>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> </ul>	<p>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 B2-1-1).</p> <p>EL 8434 and EL 8435 were both granted on the 2<sup>nd</sup> of June 2016 to Squadron Resources for a term of five (5) years for Group One Minerals. On the 25<sup>th</sup> of 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</sup> of August 2021 for a further six (6) years and are due to expire on the 2<sup>nd</sup> of June 2027.</p> <p>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, S154-3 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>.</p> <p>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 in the county of Yancowinna. EL 8435 consists of twenty-two (22) units (Table 1) in the Broken Hill 1:1,000,000 Blocks covering an area of approximately 68km<sup>2</sup>.</p> <p>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 AC-2-1).</p> <p><b>Figure B2-1: EL 8434 and EL 8434 General Location Map</b></p>



**Exploration done by other parties**

- Acknowledgment and appraisal of exploration by other parties.

Explorers who were actively involved over longer historical periods in various parts of EL8434 were: - North Broken Hill Ltd, CRAE Exploration, Major Mining 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 15% 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 reliable 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 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.

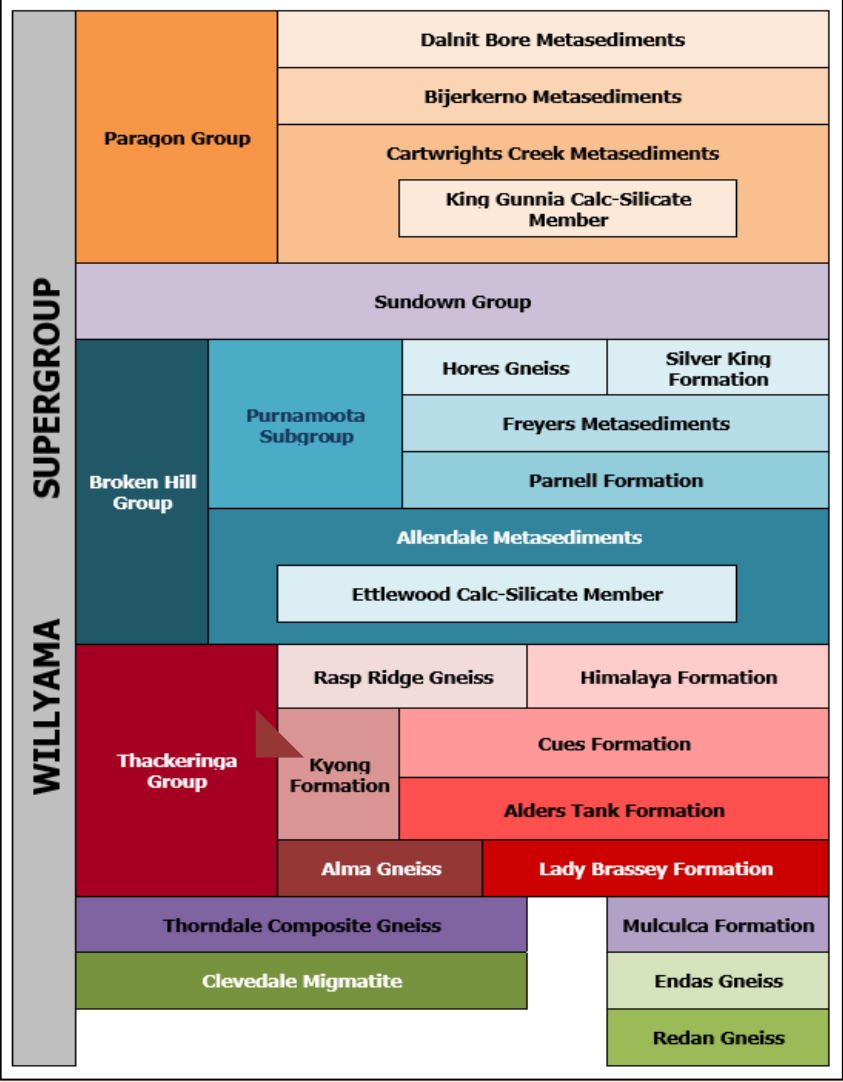
**Airborne EM Survey**

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.

		<p>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.</p> <p><b>Soil and Chip sampling</b></p> <p>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.</p> <p>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.</p> <p>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.</p>
<p><b>Geology</b></p>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting, and style of mineralisation.</i></li> </ul>	<p><b>Regional Geology</b></p> <p>The Broken Hill polymetallic deposits are located within Curnamona Province (Willyama Super group) (Figure B2-2) 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, &amp; Willis, 1988).</p> <p>Regionally, the tenures are situated in Broken Hill spatial domain which extends from far western New South Wales into eastern South Australia.</p>

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 B2-3). 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, Albert, and Thackaringa-Pinnacles Shear Zones.

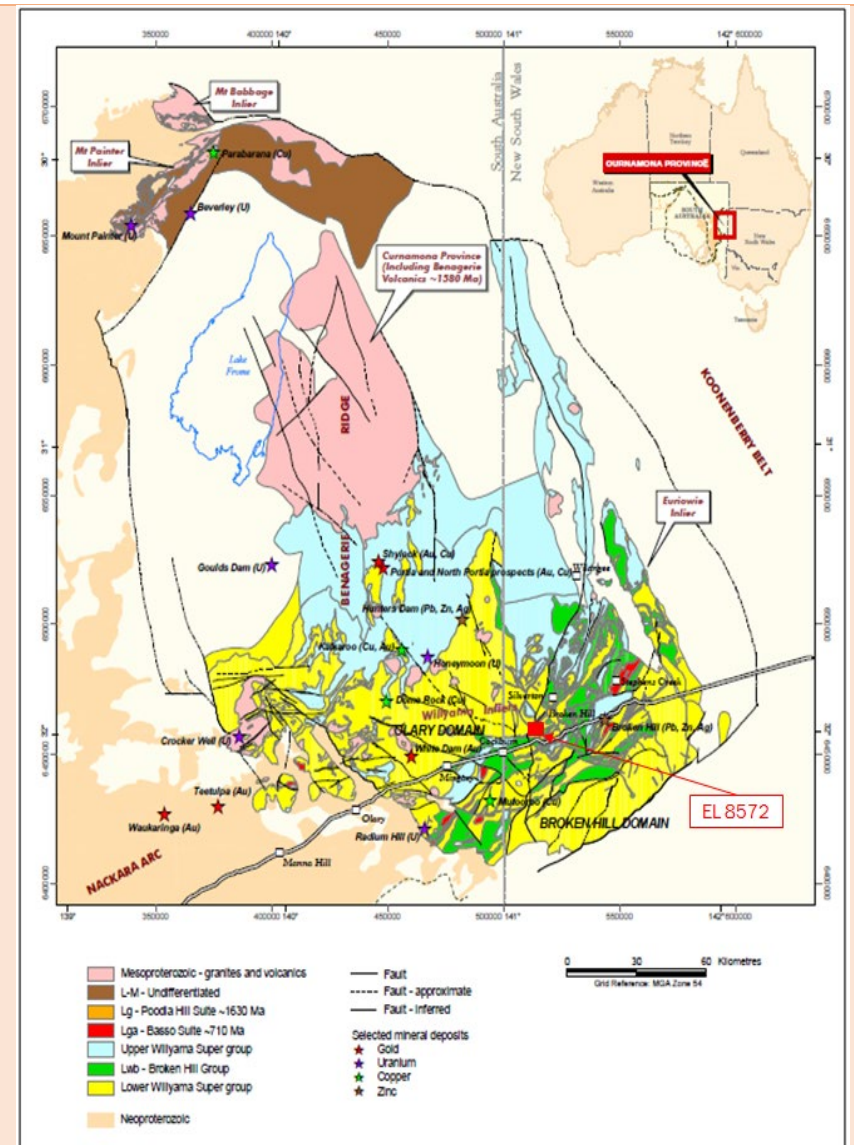
Figure B2-2: Regional Stratigraphy



personal use only

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

*Figure B2-3: Regional Geological Map*



Modified after (Peljo, 2003)

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 Wilyama Supergroup (previously Complex) there are two (2) groups, the Thackaringa Group, and the younger Broken Hill Group (Colquhoun, et al., 2019).

**Local Geology**

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 meta-dacite 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 volcanoclastic 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 A3-2-4) 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 Rantya 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 Rantya 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, quartz-albite-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-quartz-magnetite 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 quartz-feldspar-biotite gneiss with variable garnet, sillimanite, and muscovite, even-grained 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*

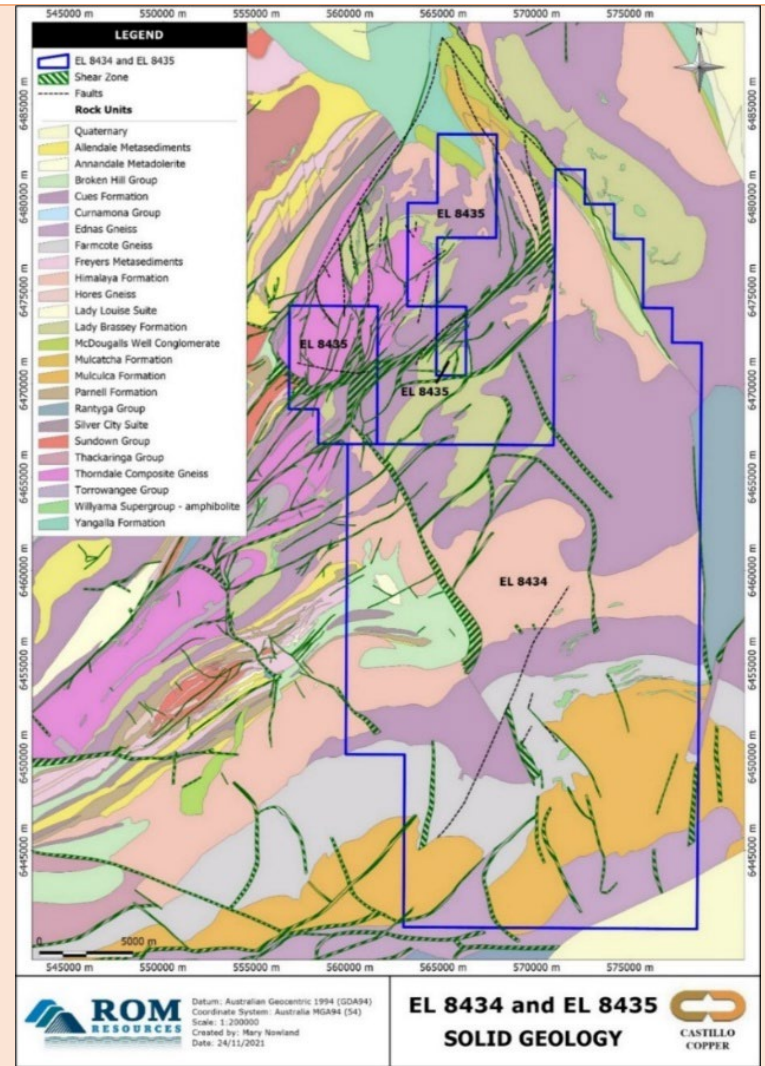
Mulcatcha Formation comprises flaggy, quartzose sandstone with lenticular boulder and arkosic sandstone beds. Yangalla Formation contains boulder beds, lenticular interbedded siltstone, and sandstone. It overlies the Mulcatcha Formation (Geoscience Australia, 2020).

*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 B2-4).

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 B2-4: EL 8434 and EL 8435 Solid Geology**



**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

- No new drillholes have been completed yet, but a focused drilling program across the Iron Blow Prospect is planned

	<i>detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i>	
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li><i>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>No metal equivalents have been reported. Rare earth element results have been converted to rare earth oxides as per standard industry practice.</li> <li>No compositing of assay results has yet taken place.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>As a database of all the historical borehole sampling has not yet been compiled and validated (in progress) it is uncertain if there is a relationship between the surface sample anomalies to any subsurface anomalous intersections. Mineralisation is commonly associated with shears, faults, amphibolites, and pegmatitic intrusions within the shears, or on or adjacent to the boundaries of the Himalaya Formation.</li> <li>Geological 3D models: sufficient data may be available to generate a small resource of cobalt or copper at Iron Blow.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>Current surface anomalies are shown on maps in the report. All historical surface sampling has had their coordinates converted to MGA94, Zone 54.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li><i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	<ul style="list-style-type: none"> <li>All recent laboratory analytical readings have been included (see Table B1-6. Regarding the surface sampling, no results other than duplicates, blanks or reference standard assays have been omitted.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li><i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>Historical explorers have also conducted airborne and ground gravity, magnetic, EM, and IP resistivity surveys over parts of the tenure area but this is yet to be fully georeferenced (ground IP surveys).</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<p>It is recommended that:</p> <ul style="list-style-type: none"> <li>The non-sampled zones within the Core Library drillhole, in particular DD90-IB3, be defined and sampled.</li> </ul>

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- A more detailed study of historical drillholes should be conducted to determine if enough data exists at Iron Blow to estimate a JORC resource; and
- A program of field mapping and ground magnetic, gravity or resistivity surveys be planned and executed.
- Design and planning logistics for a small program of exploration drilling be progressed. The program is currently designed to contain one diamond-cored hole to collect sufficient material for metallurgical testing..

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## References

- Biggs, M. S., 2021a, Broken Hill Alliance, NSW Tenure Package Background Geological Information, unpublished report to BH Alliance Pty Ltd, Sep 21, 30pp.
- Biggs, M. S., 2021b, EL 8434 and EL 8435, Brief Review of Surface Sample Anomalies Lithium, Rare Earth Elements and Cobalt, unpublished report to BH Alliance Pty Ltd, Nov 21, 18pp.
- Biggs, M.S., 2022a, BHA Cobalt Modelling and Mineral Resource Estimate Update, unpublished memo for Castillo Copper by ROM Resources.
- Biggs, M.S., 2022b, Broken Hill BHA Tenures Update, Castillo Copper, unpublished memo prepared by ROM Resources, Mar 22, 5pp
- Biggs, M.S., 2022c, EL 8435 Yanocowinna Broken Hill BHA Modelling Updates, Iron Blow Prospect, Castillo Copper, unpublished memo prepared by ROM Resources, May 22, 13pp
- Burkett R.D., 1975, Progress Report on Exploration Licenses 780, 781, 782 and 783, Broken Hill Area, NSW for the six months to 23<sup>rd</sup> November 1975, North Broken Hill Limited for the NSW Geological Survey, (GS1975-328)
- Castillo Copper Limited, 2022a, ASX Release Battery metal drill-hole assays unlock BHA East Zone potential / lithium update, 5<sup>th</sup> January 2022.
- Castillo Copper Limited, 2022b, Strategic focus to develop significant cobalt mineralisation potential at BHA Project, 9<sup>th</sup> February 2022.
- Castillo Copper Limited, 2022c, High grade platinum confirmed at BHA Project, 9<sup>th</sup> March 2022.
- Castillo Copper Limited, 2022d Diamond core tests demonstrate high-grade cobalt-zinc potential at Broken Hill, 21 March 2022
- Lees, T.C., 1978, Progress Report on Farmcote Exploration Licenses 780 and 782, Farmcote Area, Broken Hill, NSW for the six months to 23<sup>RD</sup> November 1978, North Broken Hill Limited for the NSW Geological Survey, (GS1978-043)
- Leyh, W.R., 1976, Progress Report on Exploration Licence, No. 846 Iron Blow -Yellowstone Area, Broken Hill, New South Wales for the six months period ended 29<sup>th</sup> June 1976, North Broken Hill Limited, Report GS1976-198, Jul 76, 88pp
- Leyh, W.R., 1977a, Progress Report on Exploration Licence, No. 846 Iron Blow -Yellowstone Area, Broken Hill, New South Wales for the six months period ended 29<sup>th</sup> December 1976, North Broken Hill Limited, Report GS1976-198, Feb 1977, 24pp
- Leyh W.R., 1977b, Progress Report on Farmcote Exploration Licenses 780 and 782, Farmcote Area, Broken Hill, NSW for the three months to 5th March 1977, North Broken Hill Limited for the NSW Geological Survey, (GS1977-078)
- Leyh W.R., 1977c, Progress Report on Farmcote Exploration Licenses 780 and 782, Farmcote Area, Broken Hill, NSW for the three months to 23rd May 1977, North Broken Hill Limited for the NSW Geological Survey, (GS1977-078)
- Leyh W.R., 1978, Progress Report on Farmcote Exploration Licenses 780 and 782, Farmcote Area, Broken Hill, NSW for the three months to 27 October 1978, North Broken Hill Limited for the NSW Geological Survey, (GS1977-078)
- Leyh W.R., 1978 Progress Report on Exploration Licenses 1099 and 1100 for the six months to 27 October 1978, North Broken Hill Limited for the NSW Geological Survey, (GS1978-407)
- Leyh, W.R., 1990, Exploration Report for the Third Six Monthly Period ended 12th June 1990 for EL 3238 (K Tank), Broken Hill District, New South Wales for the six months period, Pasminco Limited, Report GS1989-226, Jun 90, 22pp
- Leyh, W.R., and Lees T.C., 1977, Progress Report on Exploration Licence, No. 846 Iron Blow - Yellowstone Area, Broken Hill, New South Wales for the six months period ended 29<sup>th</sup> June 1977, North Broken Hill Limited, Report GS1976-198, Jul 77, 35pp
- Leyh, W.R., and Larson P.D., 1981, Final Report for the Third Six Monthly Period ended 12th June 1990 for EL 3238 (K Tank), Broken Hill District, New South Wales for the six months period, Pasminco Limited, Report GS1989-226, Jun 90, 22pp
- McConachy, G.W., 1997, EL 4792 Redan, Annual Report for the period ending 19/2/1997, Normandy Exploration Limited, unpublished report to the GSNSW, RIN 00002672

Main, J.V., and Tucker D.F., 1981, Exploration Report for Six Month Period 8<sup>th</sup> November 1980 to 7<sup>th</sup> May 1981, EL 1106 Rockwell, Broken Hill, NSW, CRA Exploration Pty Ltd, GS1980-080, Jul 1981, 40pp

Mohoney, M., 2018, BHA Broken Hill Project Position Paper, Squadron Resources Pty Ltd., Unpublished report, Mar2018, 8pp

Mortimer, R., 2017a, Interpretation of UTS Geophysical Surveys Heli-borne VTEM Survey, Broken Hill, unpublished report by Southern Geoscience Consultants for Squadron Resources Pty Ltd, Jun 17

Mortimer, R., 2017b, Re-interpretation of VTEM Profiles Broken Hill Area, unpublished report by Southern Geoscience Consultants for Squadron Resources Pty Ltd, Oct 17.

Squadron Resources Pty Ltd, 2018, Broken Hill Project Status, August 2018, unpublished confidential presentation by Squadron Resources,

Timms, P.D., and Groves A.J., 2003, Exploration Licence 4846, The Sisters, Annual Report to 29th May 2003, Endeavour Minerals Pty Ltd., RIN

Willis, I.L., Brown, R.E., Stroud, W.J., Stevens, B.P.J., 1983, The Early Proterozoic Willyama Supergroup: stratigraphic subdivision and interpretation of high to low-grade metamorphic rocks in the Broken Hill Block, New South Wales., Geological Society of Australia Journal, 30(2), p195-224

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