

# Multiple New Drill Targets Identified at Redbank Copper Project

## Highlights:

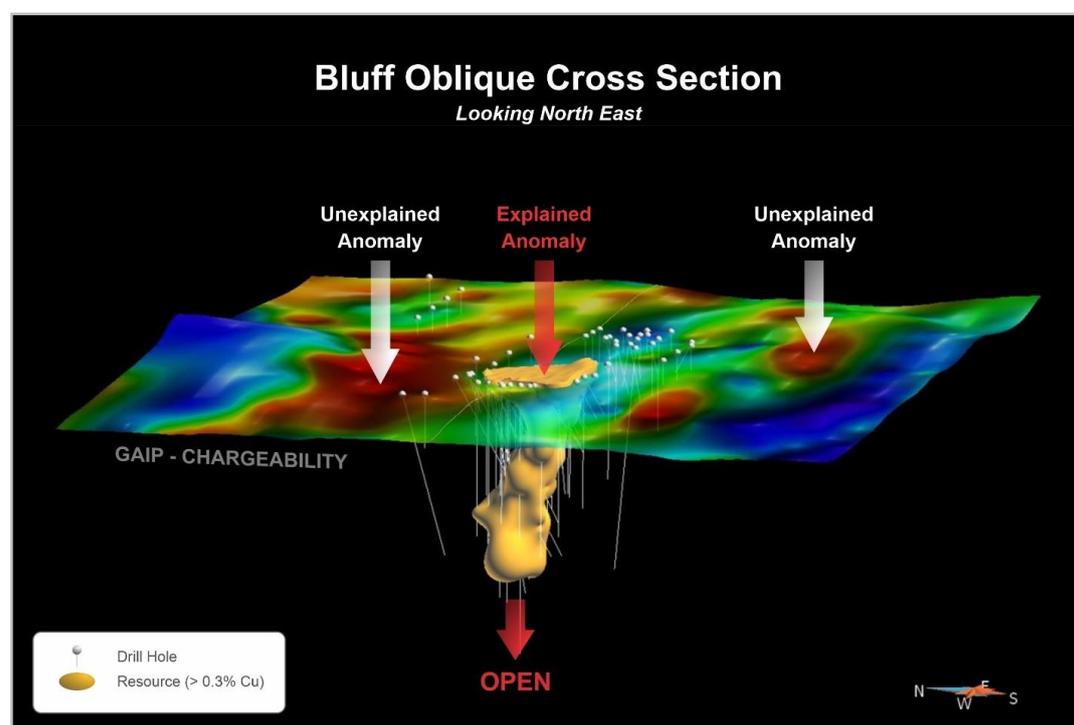
- Gradient Array IP surveys (GAIP) have identified multiple compelling drill targets in line with existing breccia pipe copper deposits at Redbank
- Several large linear chargeability anomalies identified east of known copper mineralisation at Bluff deposit
- Drill program planned for Q3 2021 to test these new targets
- Further target generation work using airborne EM and MT surveys commencing early July with additional results to be reported in due course
- Soil sampling program continues to expand eastwards from anomalous area identified at Bluff deposit

Redbank Copper Limited (ASX: RCP) ('Redbank' or 'the Company') is pleased to report that initial Gradient Array IP (GAIP) surveying has identified several compelling anomalies along trend of known copper mineralisation within the Redbank Copper Project in the McArthur Basin, Northern Territory.

Exploration commenced on 4 June 2021 with initial work including GAIP surveys and large-scale soil sampling. Both GAIP and soil sampling are proven methods for discovering disseminated copper mineralisation in the McArthur Basin.

**The first GAIP area surveyed was positioned over the Bluff deposit with immediate success. Two discrete and unexplained high-order chargeability anomalies have been identified (see Figure 1). These targets will be tested with a drilling program planned to commence in Q3 2021.**

Following the first 1km<sup>2</sup> GAIP survey, a second 1km<sup>2</sup> area was surveyed further east. Significantly, the two 1km<sup>2</sup> areas although separated, clearly show a linear chargeability anomaly aligned with the breccia pipe copper deposits (see Figure 3 and 4). Redbank intends to complete further GAIP surveys over large portion of the Redbank Project to generate further high quality targets for the upcoming drill program in Q3.



**Figure 1. GAIP survey showing anomalies close to the Bluff Deposit**

## ASX ANNOUNCEMENT

ASX Code: RCP

28 June 2021

## DIRECTORS & MANAGEMENT

**Tony Kiernan**  
Non-Executive Chairman

**Michael Hannington**  
Executive Director

**Bruce Hooper**  
Non-Executive Director

**Daryl Henthorn**  
Non-Executive Director

**Keith Middleton**  
Non-Executive Director

**Melanie Ross**  
Company Secretary

## ASSET PORTFOLIO

### Redbank Tenements

(Granted)

Northern Territory – 10,016km<sup>2</sup>

### Redbank Tenements

(Applications)

Northern Territory – 4,068km<sup>2</sup>

### Millers Creek Project

South Australia – 1,110km<sup>2</sup>

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## Management Commentary

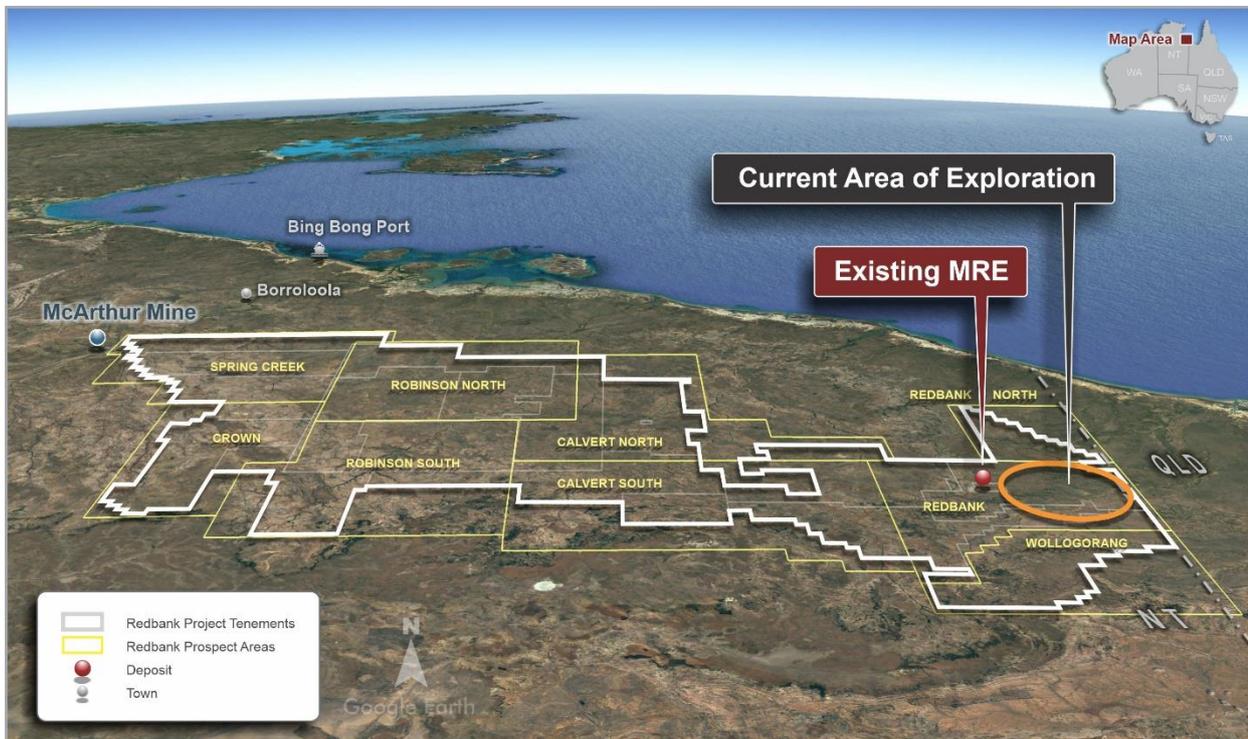
**Redbank Executive Director Michael Hannington commented:** "We are delighted to have encountered immediate success from our 2021 exploration program at Redbank, with several exciting and unexplained anomalies identified within close proximity to the existing Bluff copper deposit.

Importantly, these initial results demonstrate that we have a proven exploration technique to search for copper mineralisation within our district scale project area in the McArthur Basin and we are continuing to build a suite of high-quality targets to be tested with our maiden drill program.

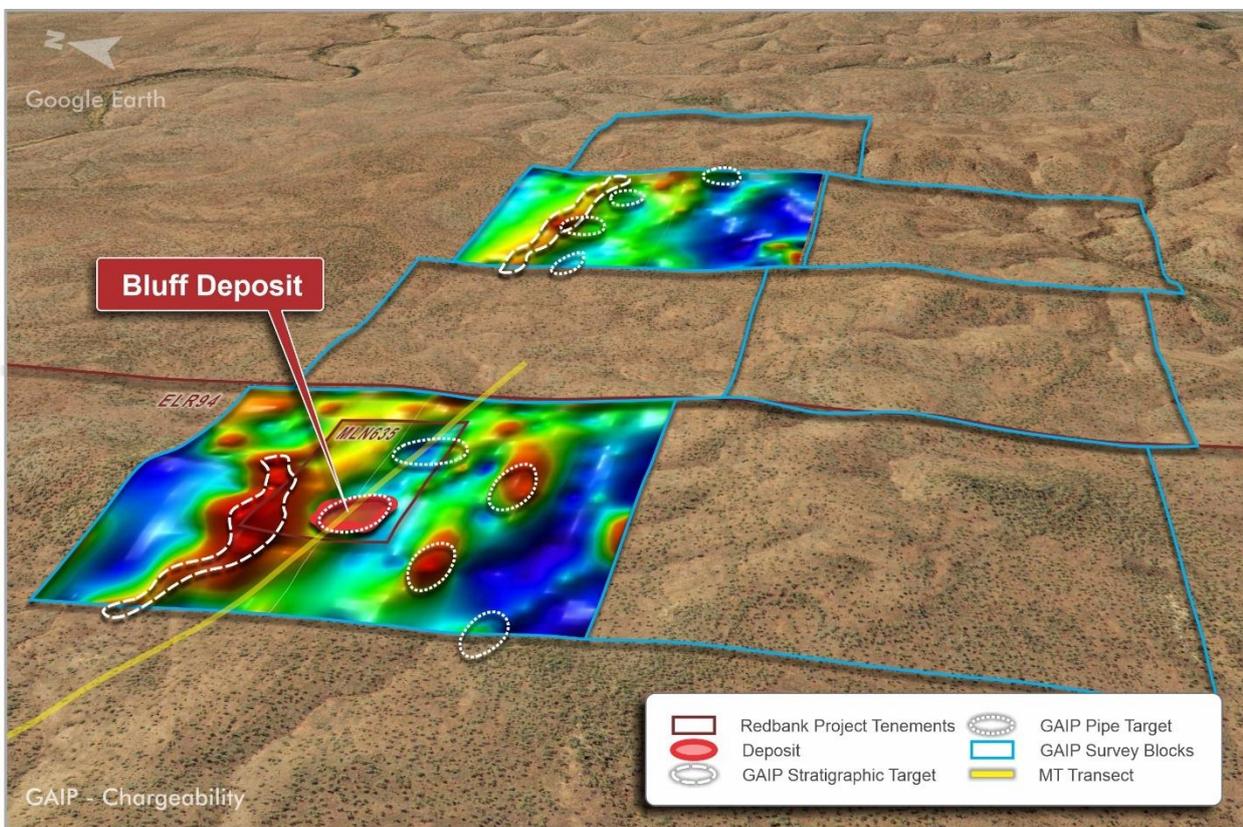
The Redbank Project continues to reveal its underlying potential and our technical team is beginning to get a glimpse into the true scale and prospectivity of our project area. Our targeted exploration program continues apace and we look forward to providing further updates on progress."

### **Exploration program highlighting significant copper potential at Redbank**

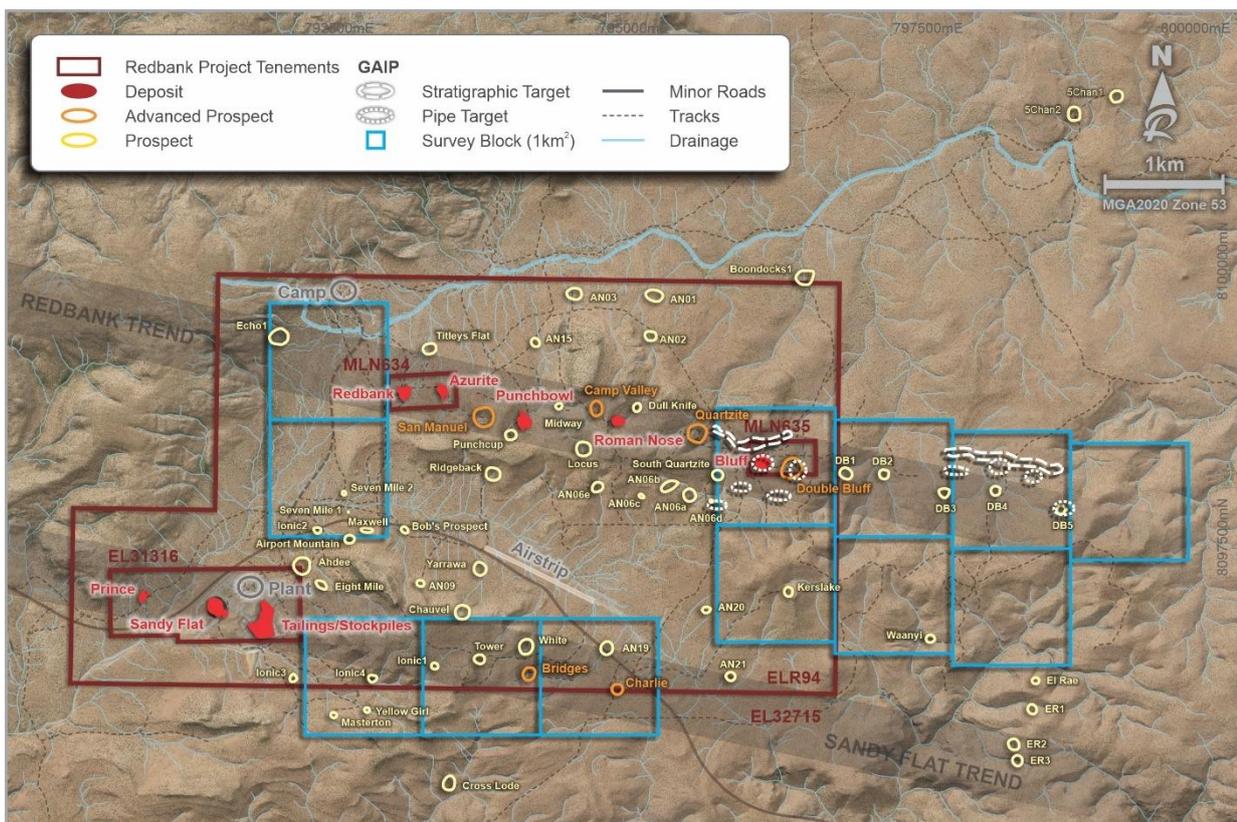
The Redbank Project is located in the east McArthur Basin approximately 30km west of the Northern Territory/Queensland border. In July 2020, Redbank expanded the size of the Project area and secured a district scale tenement holding by pegging open ground following work by Geoscience Australia that highlighted the prospectivity of the area for large base metal deposits between the world-class Tier 1 zinc deposits at the McArthur and Century Mines (see Figure 2). Redbank is searching for large copper deposits to add to the existing copper inventory. Redbank holds the tenements with a 100% interest.



**Figure 2. The existing MRE at the Redbank Project and 2021 exploration program target area**



**Figure 3. Two 1km<sup>2</sup> GAIP survey areas showing linear chargeability anomalies**



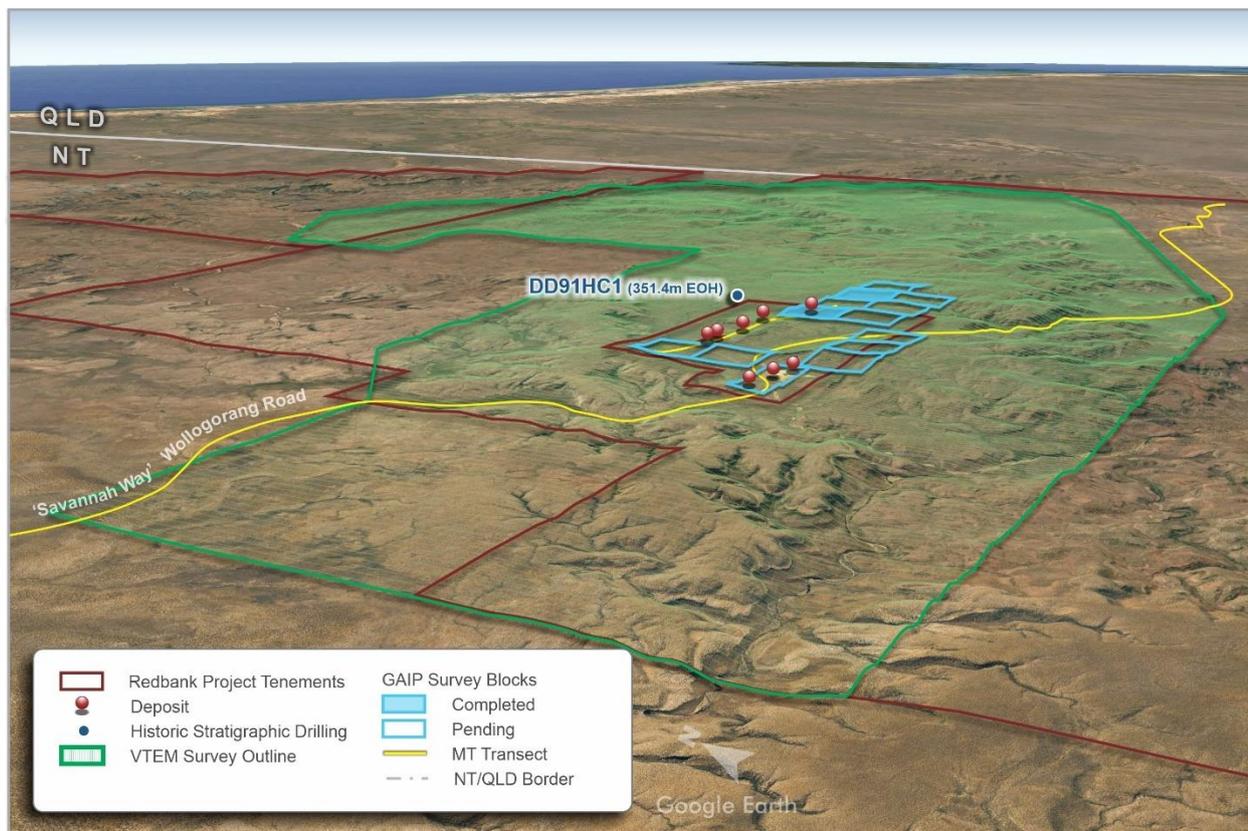
**Figure 4. Planned 1km<sup>2</sup> GAIP survey areas showing linear chargeability anomalies heading east**

### **Redbank Project – Copper Prospectivity**

Prior to the commencement of ground geophysical IP surveys Redbank contracted an Airborne EM (VTEM) survey over an area partially covered by regional scale soil sampling in 2020 (see Figure 5). The VTEM survey is scheduled to commence in early July and will provide a technique to image the stratigraphic layers which host the breccia pipe copper deposits.

Further desktop reviews of previous exploration including ground geophysical IP surveys, historic soil sampling and field mapping in 2019 and 2020, has highlighted the prospectivity of a large region to the east of MRE.

This area broadly identified in Figure 2 has been targeted for early exploration and drill testing of anomalies.



**Figure 5. Extent of planned Airborne Electromagnetic (EM) survey**

### **COMPETENT PERSON'S STATEMENT**

The information that relates to Exploration Results is based on, and fairly represents, information compiled by Mr Michael Hannington, a Competent Person, who is a Member of the Australian Institute of Geoscientists. Mr Hannington is the Executive Director at Redbank Copper Ltd and is employed as consulting geoscientist by the Company. Mr Hannington has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Hannington consents to the inclusion of the matters based on his information in the form and context in which it appears.

### **DISCLAIMER**

This announcement contains certain forward-looking statements. Forward looking statements include but are not limited to statements concerning Redbank Copper Limited's ('Redbank's') planned exploration program and other statements that are not historical facts including forecasts, production levels and rates, costs, prices, future performance or potential growth of Redbank, industry growth or other trend projections. When used in this announcement, the words such as "could", "plan", "estimate", "expect", "intend", "may", "potential", "should", and similar expressions are forward-looking statements. Such statements are not a guarantee of future performance and involve unknown risks and uncertainties, as well as other factors which are beyond the control of Redbank. Actual results and developments may differ materially from those expressed or implied by these forward-looking statements depending on a variety of factors. Nothing in this announcement should be construed as either an offer to sell or a solicitation of an offer to buy or sell securities.

**-ENDS-**

### **For further information please contact:**

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Executive Director  
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This announcement was approved and authorised for issue by the Board of RCP.

## **Appendix 1 – Exploration Rationale: historic surveys provide the key to early exploration success**

Considerable ground electrical surveys over the Redbank area were completed from the late 1960s until the mid-1970's. This data has only been available on hardcopy plans and in local grid coordinates. Selected plans of resistivity and chargeability have been rectified and digitised to enable a better assessment of the historical surveys and reconciliation to known breccia pipes. Below is a summary of the desktop activity undertaken by Redbank to confirm that the IP survey technique is most appropriate for discovery of disseminated copper mineralisation over the Redbank Project area.

### **Chronological Summary of how Redbank developed its Exploration Rationale**

1. 17-19 October 2019 – Site visit to the Redbank Project by M.Hannington & A.Ronk located extensive hard copy records and map plans at the Redbank Exploration Camp geologist office. Records were reviewed and priority items were brought back to Perth to be scanned. Given the storage location and environment the records were noted as being in surprisingly good condition
2. Historical IP survey data collected by previous explorers was georeferenced and digitised to allow further analysis of the results
3. A complete dataset of resistivity was able to be generated for both the GAIP and DDIP surveys, however not all the dipole dipole chargeability data was able to be reliably located
4. November 2019 – Core Geophysics were commissioned to review Redbank's geophysical database and provide a summary of surveys completed over the project. Gridding and imaging of the results confirmed previous success of the IP technique at defining anomalies over the majority of the mineralised breccia pipes
5. Comparison to previous drilling defined additional anomalies that are unexplained and represent targets for further breccia pipe style mineralisation
6. December 2019 – Core Geophysics engaged to complete more in-depth summary of previous geophysical surveys undertaken over Redbank. Noted good coverage of ERL94 with Gradient Array IP from hardcopy scans.
7. GAIP mostly 120m lines and 60m stations and some Dipole-Dipole IP transects using small offset (15m-60m)
8. 15 September 2020 – Redbank undertakes a capital raising prior to coming out of voluntary suspension and returns to trading on the ASX
9. December 2020 – Redbank Exploration Workshop conducted with presentations on geology, mineralisation and geophysics highlights known sulphide mineralisation restricted to the pipes, with host rocks generally barren of sulphide. As sulphides can be detected with IP, determined that further investigation into IP should be conducted, including petrophysics of available core and the rectification and digitising of further historic survey data
10. January 2021 – Core Geophysics completes a petrophysical study of select samples from Redbank. The study highlights that mineralisation is highly chargeable, up to 80mV/V in a background of around 4mV/V. The samples are also poor conductors reflecting that the mineralisation is primarily disseminated and blebby and contained within the breccia matrix. The low conductivity also highlights the lack of shale or graphitic material with the samples
11. Modelling of AEM systems was completed to determine the possible depth of detection within a resistive background. This model would represent a copper target or sulphur rich or hydrocarbon rich horizon that may act as a redox boundary for the precipitation of copper sulphides, following the standary sediment hosted copper deposit model. The modelling indicated that a weakly conductive layer could be detected to at least 300m depth. If a stratigraphic conductor could be detected with AEM, then the likely site for mineralisation would be where this horizon becomes more resistive, due to preferred flow of copper bearing fluids

12. February 2021 – Rectification and digitising of additional historical IP survey data from plan maps completed. Resulting data was gridded to produce coloured images. Potentially the first time that the historical IP data had been rectified, digitised and imaged. Results highlighted significant chargeability responses over known mineralised pipes and other under explored features and trends.
13. March 2021 – IP was determined as the most applicable geophysical technique to delineate mineralised breccia pipes. Approaches to several ground IP contractors was made to determine availability and cost for potential ground programs at Redbank. Contractor availability was poor with some indicating up to 12 month waiting times due to large jobs being undertaken, with crew costs increasing due to demand and add-on effects of CV-19. It was deemed viable for Redbank to purchase its own geophysical equipment and run surveys in-house under the supervision of Core Geophysics. This would provide certainty of availability and be cost neutral or better in comparison to using a ground contractor.
14. April 2021 – Quotes for the main components of IP survey equipment were obtained by Core for the Transmitter, Receiver, Genset, Wire and Non-Polarising Electrodes. The transmitter selected is a GDD Tx4, as it can provide high current (20A) at relatively low voltage (2400V). The GDD Tx4 is manufactured by Instrumentation GDD Canada. GDD IP transmitters have a good history of reliability and support. The receiver selected was a SmartEM24 developed and manufactured in Perth by Electromagnetic Imaging Technology (EMIT). The transmitter needs to be powered by a 240V 30A generator to achieve the maximum output. A Honda EU70is was obtained as it provides a clean true sinewave output, has the power rating necessary (continual 5000W). It was modified to have Marechal 32A outlet and RCD installed for connecting to the Tx4 and safety. The wire sourced is high voltage and temperature rated flexible multi-strand cable that is commonly used by ground EM and IP crews. Non-Polarising electrodes consisted of Tinker and Rasor 3A models used to as receiver electrodes, these provide a large surface area and are commonly used by most IP contractors.
15. 14 May 2021 – All equipment needed to run an IP system purchased and freighted to site.

## **Introduction**

Induced polarization (IP) is a measure of a delayed voltage response or capacitance in earth materials. The IP effect is caused by a current-induced electron transfer reaction between electrolyte ions and metallic-lustre minerals at a micro scale. As such sizeable volumes of rock with only a few percent of disseminated sulphide are likely to show significant IP effects. Historical surveys and recent petrophysical tests indicate that IP can work well for detecting breccia pipes at Redbank.

Considerable ground electrical surveys were completed over the Redbank area from the late 1960s until the mid-1970s by various explorers. The techniques were used extensively over the project area to guide exploration and target drilling with initial surveys successful in detecting anomalous responses over Redbank and Sandy Flat.

The data to date has only been available on hardcopy plans in local grid coordinates.

Selected plans of resistivity and chargeability were rectified and digitised to enable an assessment of the historical surveys and reconciliation to known breccia pipes.

## **Surveys**

Historical ground electrical surveys over the Redbank project were completed from 1967 to 1975 by Placer, Westmoreland, Newmont and AMDEX which are documented within the Redbank database and statutory openfile reports.

Surveys include gradient array induced polarisation (GAIP), dipole-dipole induced polarisation (DDIP), Mise a la Masse (MALM), self-potential (SP), magnetic induced polarisation (MIP) and electromagnetic (EM) surveys, with a list of the surveys completed provided in the table below.

The available survey results exist as various hardcopy plans and maps as pseudo sections (DDIP), contour plans and profiles. Due to the vintage of the surveys all were collected in local grids and in feet.

Summary hardcopy maps of the geophysical survey locations for both GAIP and DDIP believed to have been generated in the late 1970's were scanned in 2009.

These are presented in the Newmont local grid and include the Placer survey locations, with examples displayed as Figure 6.

Only the induced polarisation survey data have been collated for digitising as they were reported as providing the best results for detecting mineralisation in breccia pipes, provided the most survey coverage and were in the most appropriate format for digitising.

Table: list of ground electrical surveys completed over the Redbank Project area

Year	Method	commissioned by	Survey Location	Line Spacing	Contractor	Reference
1967	TEM/IP/SP	Placer	Redbank/Azurite/Charlie/ 7 Mile	Various	I.Furlong	CR1967-0027
1969	IP	Harbourside Oil NL		Various	McPhar	CR1967-0027
1970	DDIP	Westmoreland		Various	McPhar	CR1990-0627
1971	TEM/SP/GMAG	Harbourside/Westmoreland/Newmont	Sandy Flat/Bluff	Various	McPhar	CR1971-0124
1973	GMAG	AMDEX	Sandy Flat/Bluff	120m	Geoquest	CR1975-0005
1973	GAIP	AMDEX	Sandy Flat/Bluff	120m	Geoquest	CR1974-0017
1973	DDIP	AMDEX	Various	Various	Geoquest	CR1974-0017
1975	MIP	AMDEX	Redbank/Azurite/Charlie/ 7 Mile	Various	Scintrex	CR1976-0005
1975	SP	AMDEX	Airport Mtn/Punchbowl	60m	Geoterrex	CR1976-0027 Report 213
1975	GAIP	AMDEX	Airport Mtn/Punchbowl	60m	Geoterrex	CR1976-0027 Report 213
1975	DDIP	AMDEX	Airport Valley, Airport Mtn, Punchbowl, Masterton, Yellow Gort, Masterton Depression, Maddi Hill, Sandy Flat, West Black Charlie, Camp Mountain, Input	60m	Geoterrex	CR1976-0027 Report 213

### Transformation and Georeferencing

The available IP survey results exist as various hardcopy plans and maps as pseudo sections (DDIP), contour plans and profiles. Due to the vintage of the surveys all were originally collected in local grids and in feet. Two main local grid systems were employed being the Placer and Newmont local grids.

The scanned hardcopy maps were initially transformed to AGD66 Zone 53 using the transformation generated by Brockman in 2009, before being converted to GDA2020 coordinate system MGA2020 Zone 53. The Brockman conversion was verified by comparing the contour lines within the georeferenced AMDEX 1:100K geological map generated by Fleming et al 1975, against the recent 2016 Geometrex high resolution 50cm Digital Surface Model (DSM).

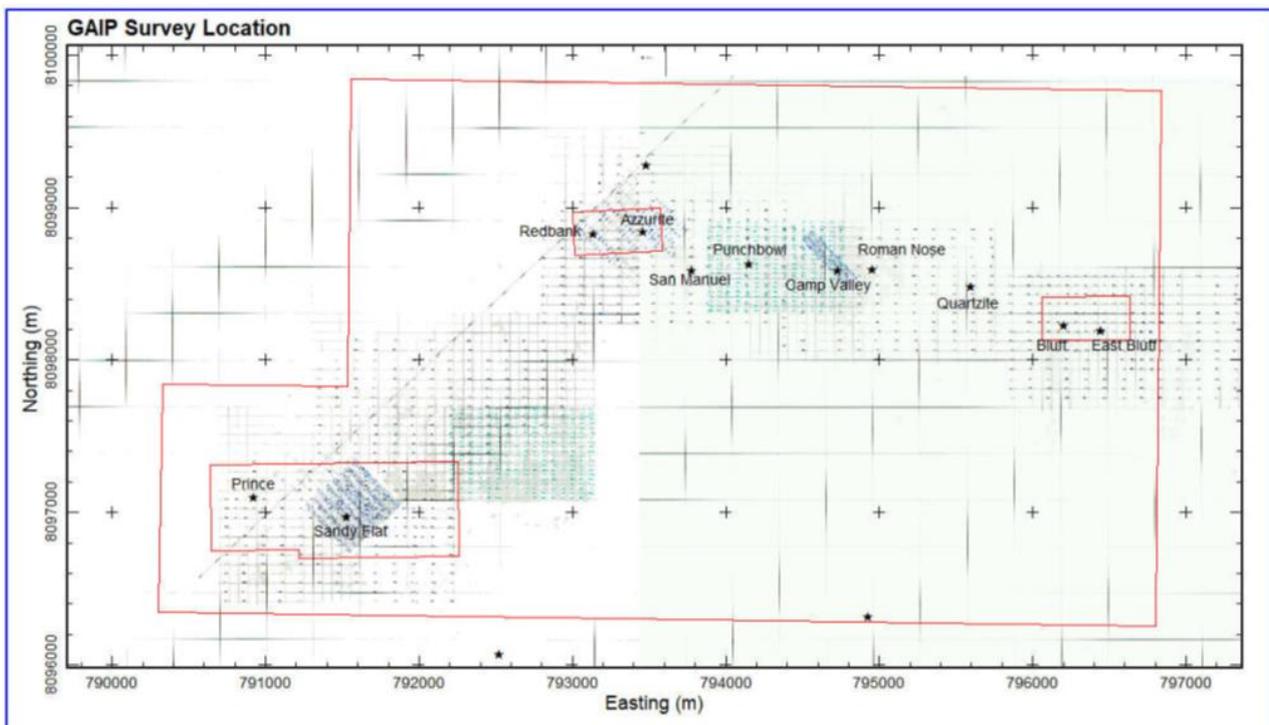
The final accuracy of the station locations are considered variable due to the vintage of the geophysical datasets, the accuracy of the surveying methods employed at the time and the construction and scaling of the hardcopy plans.

### Digitising

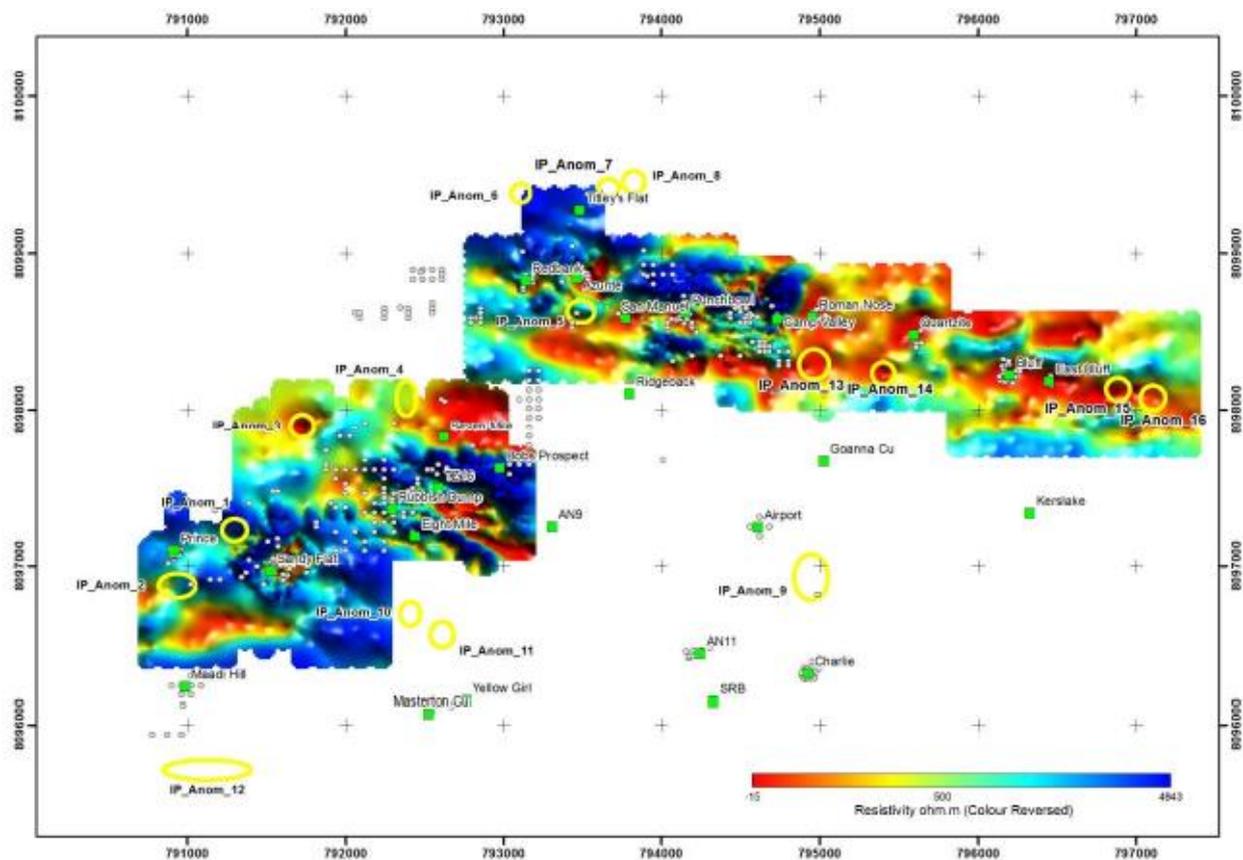
The scanned summary maps included resistivity values for all surveys, with metal factor (MF) and percentage frequency effect (PFE) being provided for the 1973 AMDEX GAIP survey which extended from Prince to Bluff. The station locations and values were digitised from the rectified maps according to year and method.

Comparison of the DDIP resistivity on the summary plans to the contractor plots indicates they are derived from combinations of N values according to the dipole spacing. In most instances the N=2 values were used for 200ft or 400ft and N=4 for 100ft dipoles. Where two dipole spacings were recorded for the same line the larger dipole spacing was used in preference to the smaller spaced dipole. It was also found that the resistivity value plotted on the summary plans was 1.9 times larger than the original survey value. The reason for this is not known. No summary maps of chargeability were generated except for the 1973 GAIP.

However, the data for the other GAIP surveys (refer to the table on adjacent page) were found in previous reports and also captured. The chargeability results (as Metal Factor) were also captured for the DDIP traverses that could reliably be located. This was completed by referencing the resistivity data values and previous location plans against the original survey data. The original data from the 1971 DDIP could not be located and some lines were missing from the 1970 and 1973 DDIP surveys.



**Figure 6. 1975 vintage hand annotated values for GAIP survey**



**Figure 7. Resistivity Image produced from 1975 vintage hand annotated GAIP survey Results**

The apparent resistivity and chargeability values were gridded for each survey type. The colouring for the resistivity has been reversed so that the hot colours (reds) indicate conductive areas and cooler colours (blues) represent more resistive areas.

The GAIP provides the most consistent coverage over the project with the 1973 AMDEX survey being collected on an approximate 60m x 120m grid extending from Prince to Bluff. Higher resolution GAIP grids (1971-1975) were collected over smaller areas and have been mosaiced on top of this.

The GAIP apparent resistivity highlights anomalous responses over the known pipes Sandy Flat, Azurite, Roman Nose, San Manuel, Quartzite and Bluff (see Figure 7).

The chargeability (Metal Factor and mV/V), displays comparable results to the resistivity with anomalous responses over the main pipes. The chargeability however, appears to provides better discrimination for such

areas as Bluff where more discrete responses are defined. There are a number of other discrete and strike extensive anomalies evident in the apparent resistivity and chargeability that require further investigation. These include the coincident resistivity/chargeability responses 1km north of Sandy Flat and the trend to the east of Bluff.

### Conclusion

Historical Induced Polarisation data collected by previous explorers was georeferenced and digitised from late 2019 and into 2020 to allow further analysis of the results. A complete dataset of resistivity was able to be generated for both the GAIP and DDIP surveys, however, not all the dipole dipole chargeability data was able to be located.

Gridding and imaging of the results has confirmed previous success of the IP technique at defining anomalies over the majority of the mineralised breccia pipes.

Comparison to previous drilling has defined additional anomalies that are unexplained and represent targets for further breccia pipe style mineralisation.

The final accuracy of the digitised station locations are considered variable due to the vintage of the geophysical datasets, the accuracy of the surveying methods employed at the time and the construction and scaling of the hardcopy plans.

Use of the calculated Metal Factor which is the chargeability (Mx) divided by Resistivity (Res), provides a useful ratio that when imaged, enhances areas of high chargeability and low resistivity (see Figure 10).

Recently completed polished thin section petrographic descriptions highlight the dominance of copper sulphides (chalcopyrite-CuFeS<sub>2</sub>, Covellite-CuS & Bornite-Cu<sub>5</sub>FeS<sub>4</sub> over iron sulphides (pyrite-FeS<sub>2</sub>) (see Figure 8). The lack of pyrite and sulphur in the mineralised system promotes copper transported as chloride complexes to lattice with ever reducing amounts of sulphur. This creates the copper sulphide assemblage seen in figure 8, where chalcopyrite is rimmed by covellite and bornite.

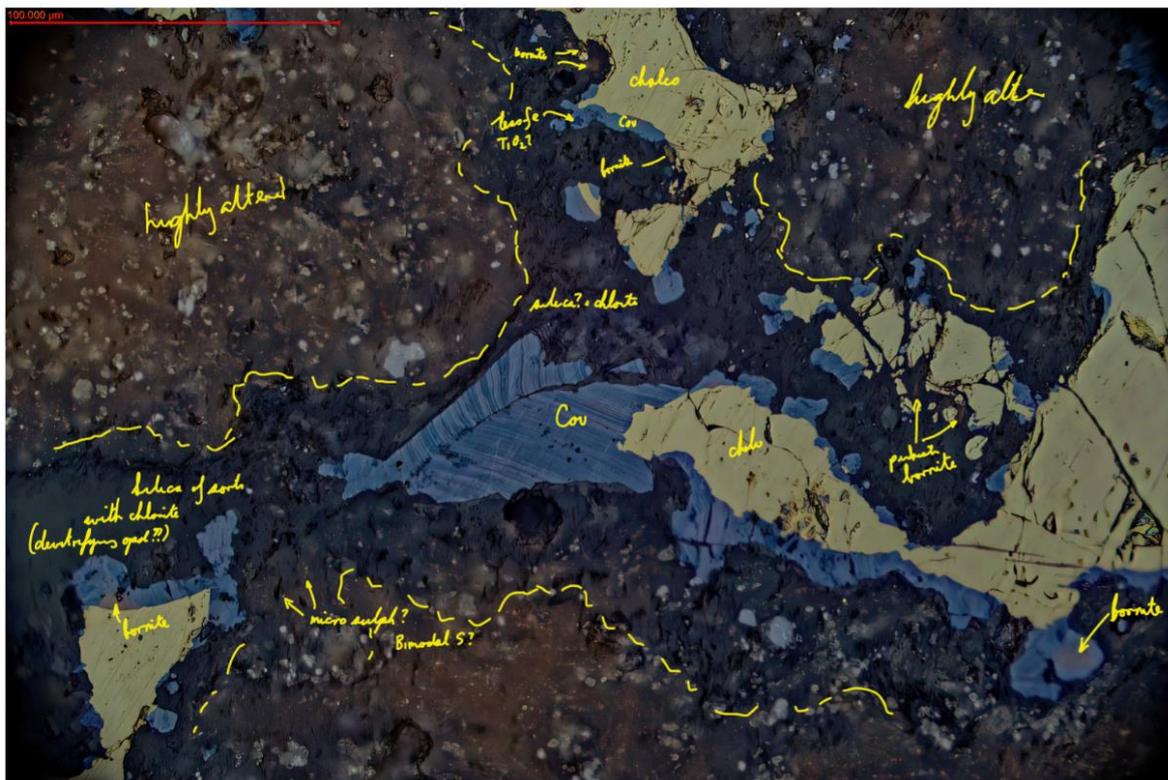
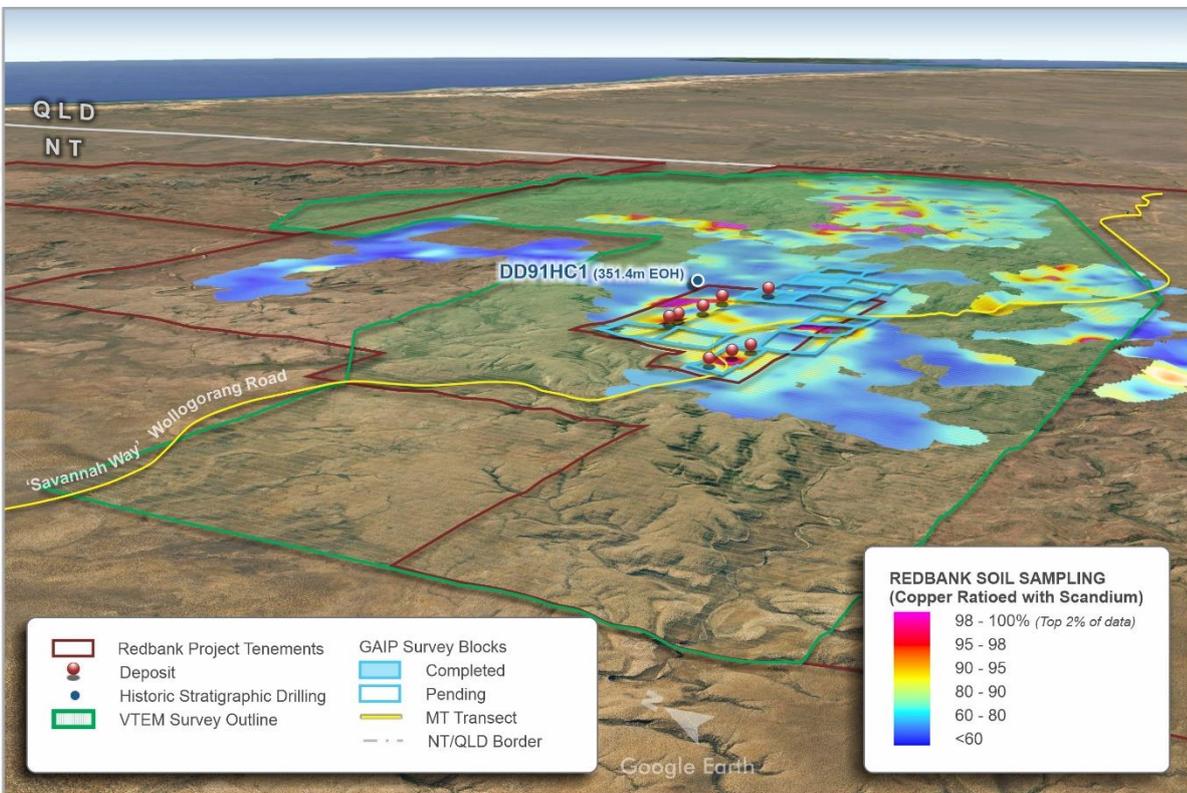
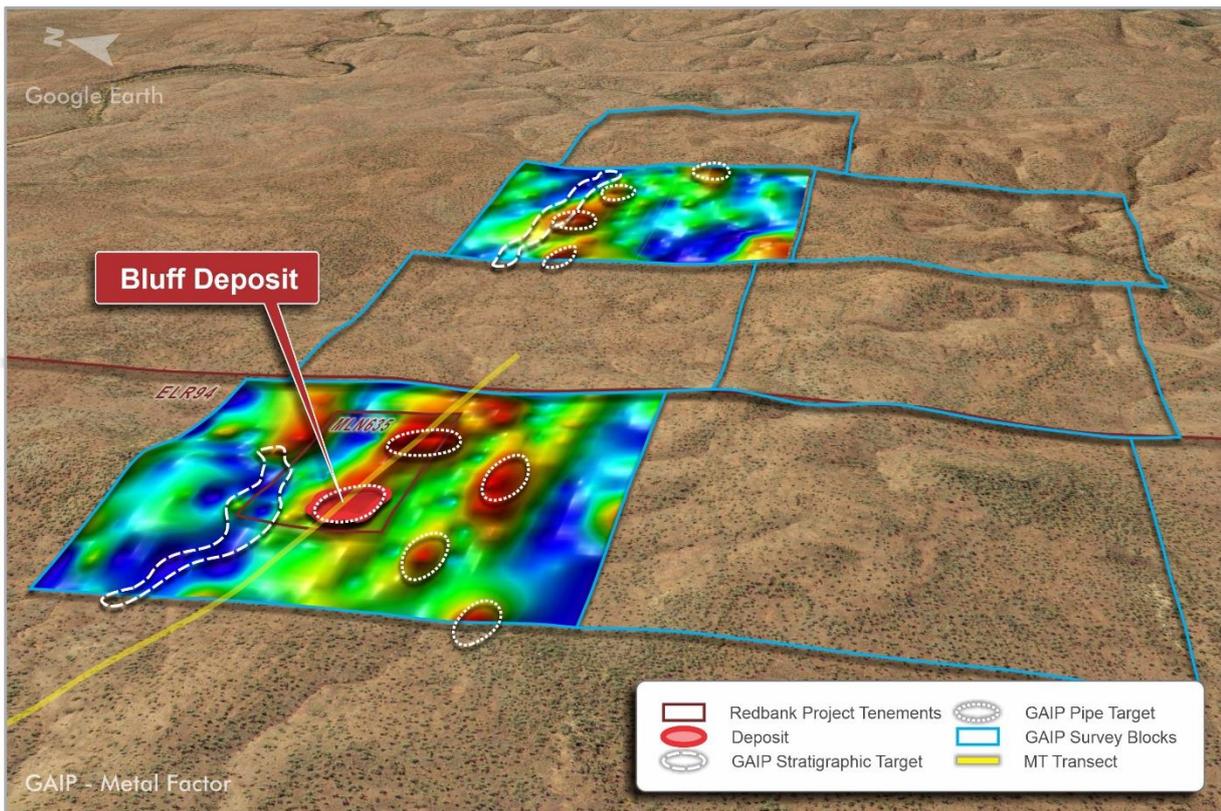


Figure 8. Polished Thin Section from sample of mineralised breccia pipe matrix



**Figure 9. Redbank Project showing copper anomalism east of deposits (MRE)**



**Figure 10. Two 1km<sup>2</sup> GAIP survey areas showing metal factor anomalies (MF = 2000xMx/Res)**



## Appendix 2. JORC Code Table 1

## SECTION 1 GROUND GEOPHYSICS AND SOIL SAMPLING

Michael Hannington, Executive Director at Redbank Copper and a Consulting Geoscientist compiled the information in Section 1 and Section 2 of the following JORC Table 1 and is the Competent Person for those sections. The following Table and Sections are provided to ensure compliance with the JORC Code (2012 edition) requirements for the reporting of Exploration Results. For further detail, please refer to the announcements made to the ASX by Redbank Copper Ltd relating to the Redbank Project.

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<i>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.</i>	<p><b><u>Gradient Array Induced Polarisation Survey (GAIP)</u></b></p> <p>1kmx1km square grid surveyed along 100m internal spaced lines with potential electrode pots at 50m spacing. A reading of (i) chargeability and (ii) resistivity is taken between two pots spaced 50m apart along the 100m spaced lines. The sample point for chargeability and resistivity is the mid-point between the potential electrode pots. Therefore, each 1km<sup>2</sup> of GAIP area surveyed has 200 readings taken at 50m intervals along 100m spaced lines. Readings are recorded using an EMIT SmarTEM24 receiver. Data stored in the SmarTEM24 are downloaded and transferred via secure FTP to Redbank’s server at the end of every day.</p> <p>The current electrodes are placed 500m outside and either side of the 1km<sup>2</sup> measured array. The current electrodes are therefore spaced 2km apart.</p> <p>A 2 second square wave current is transmitted to the current electrodes using a Honda EU70i 32A/7kVA GenSet and a GDD Inc model Tx4 transmitter.</p> <p><b><u>Soil Sampling</u></b></p> <p>Soil sampling is progressing with samples collected at 500m x 500m centres. The sampling program is an extension of the 2020 soil</p>

Criteria	JORC Code explanation	Commentary
	<p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></p> <p><i>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</i></p>	<p>sampling program reported in an ASX announcement on 29 April 2021.</p> <p>The current soil sampling program commenced on 7 June 2021. Samples obtained from this soil sampling campaign will be delivered for assay to Intertek assay laboratory in Townville in early July for multi-element assaying. The sampling program will continue throughout the 2021 dry season.</p> <p><b><u>GAIP survey</u></b></p> <p>The chargeability is a dimensionless ratio of mV/V. The resistivity is measured in Ohm.m (<math>\text{kg.m}^3.\text{s}^{-3}.\text{A}^{-2}</math>). Due to the varying position of current electrodes from one 1km<sup>2</sup> array to the next some normalisation or levelling of the data is required to ensure that imaging of the values between arrays provides interpretable imagery.</p> <p><b><u>Soil Sampling</u></b></p> <p>Soil samples are collected and logged via a ToughBook using GPS location, a photograph of the soil sample location and using OCRIS software to record meta-data.</p> <p>The Induced Polarisation (IP) technique is considered appropriate for detection of disseminated sulphides. Previous IP surveys at the Redbank Project in the mid-1970s has located disseminated chalcopyrite (<math>\text{CuFeS}_2</math>). Thin section petrography descriptions highlight the lack of pyrite (<math>\text{FeS}_2</math>) associated with mineralisation. Both chalcopyrite and pyrite are polarisable and give chargeability responses. With the lack of pyrite, the reasons for a chargeability anomaly from sulphides is reduced to copper sulphides. In undeformed/unmetamorphosed rock, fine grained magnetite (<math>\text{Fe}_3\text{O}_4</math>) can also be chargeable.</p> <p>The IP survey is operated by a qualified geophysicist employed by Core</p>

Criteria	JORC Code explanation	Commentary
		Geophysics Pty Ltd. Current electrodes are formed from metal sheets and star pickets placed in 60cm deep electrode pits; receiving potential electrode pots are Tinker&Raser model 3A half-cell electrodes. Electrical wire is Elcon Cable SDI1.5-3.3kV & SDI2.5-3.3kV.
	<i>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</i>	N/A.
<b>Drilling techniques</b>	<i>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).</i>	N/A.
<b>Drill sample recovery</b>	<i>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.</i>	N/A.
<b>Logging</b>	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.The total length and percentage of the relevant intersections logged.</i>	N/A.
<b>Sub-sampling techniques and sample</b>	<i>If core, whether cut or sawn and whether quarter, half or all core taken.If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.For all sample types, the nature, quality and appropriateness of the sample</i>	N/A.

Criteria	JORC Code explanation	Commentary
<b>preparation</b>	<i>preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	
<b>Quality of assay data and laboratory tests</b>	<p><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></p> <p><i>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.</i></p> <p><i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></p>	<p>Current Electrodes are formed from metal sheets and star pickets placed in 60cm deep electrode pits. As described, the array configuration necessitates current electrodes 2km apart. Electrical wire connecting these current electrodes to the genset/transmitter is Elcon Cable SDI1.5-3.3kV &amp; SDI2.5-3.3kV.</p> <p>A 2 second square wave current is transmitted to the current electrodes using a Honda EU70i 32A/7kVA GenSet and a GDD Inc. model Tx4 transmitter.</p> <p>Potential electrode pots are Tinker&amp;Raser model 3A half-cell electrodes. Readings from the pots are recorded using an EMIT SmarTEM24 receiver. Data stored in the SmarTEM24 are downloaded and transferred via secure FTP to Redbank's server at the end of every day.</p> <p>The IP survey is operated by a qualified geophysicist employed by Core Geophysics Pty Ltd.</p>
<b>Verification of sampling and assaying</b>	<p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p> <p><i>The use of twinned holes.</i></p> <p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p>	<p><b>GAIP Survey</b></p> <p>Tests to determine the most appropriate potential electrode pot spacing were undertaken. Chargeability and resistivity readings were taken with pot spacings of 50m, 100m and 200m. The readings over the same area were independent of the pot spacing and for the first two GAIP arrays reported in this announcement, a high spatial density of potential electrode pot readings was considered appropriate to validate IP survey</p>

Criteria	JORC Code explanation	Commentary
	<i>Discuss any adjustment to assay data.</i>	<p>results from mid-1970s surveys and also provide an appropriate signature of chargeability and resistivity over the know disseminated copper sulphide (chalcopyrite) mineralisation forming the Bluff deposit.</p> <p><b>Soil Sampling</b></p> <p>The 500m x 500m sample spacing is considered appropriate for reconnaissance soil sampling. Any anomalous soil samples with elevated base metal values or lanthanides (REEs) will have infill soil samples collected at a closer sample spacing to enable any discrete soil anomaly to be resolved across a number of soil samples.</p>
<b>Location of data points</b>	<p><i>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.</i></p> <p><i>Specification of the grid system used.</i></p> <p><i>Quality and adequacy of topographic control.</i></p>	<p>All data is recorded using the MGA2020 co-ordinate system.</p> <p>All data points are located in GDA2020 Zone 53.</p> <p>Hand held GPS was used to locate the current electrodes and outside area of the 1km<sup>2</sup> array. Pot spacing along 100m lines were located using a 50m length measuring tape and wire (exactly 50m in length).</p> <p>All electrode and potential pot locations are located using the MGA2020 coordinate system and are in GDA2020 Zone 53 coordinates.</p> <p>For soil sampling, the GPS within the mobile ToughBooks is used. Cross-checks against 50cm resolution satellite imagery and 15cm resolution airborne photogrammetry provides a good match. Samples are considered accurate to within 1 metre.</p>
<b>Data spacing and distribution</b>	<p><i>Data spacing for reporting of Exploration Results.</i></p> <p><i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></p>	<p>GAIP potential electrode pots spacing 50m x 100m.</p>

Criteria	JORC Code explanation	Commentary
	<i>Whether sample compositing has been applied.</i>	
<b>Orientation of data in relation to geological structure</b>	<p><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></p> <p><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></p>	GAIP survey: Where practical current electrodes are oriented perpendicular to the general strike of the geology to inhibit current channelling and ensure the current flux pathway from 2km spaced current electrodes completes the circuit over as large a volume of rock as possible between the current electrodes. Testing of potential electrode pots spacing where chargeability and resistivity are generally independent of this spacing provides some confidence that a good distribution of current flux pathways has been achieved.
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	Data is transferred from the SmarTEM24 receiver at the Redbank Project to the Company's server via secure FTP (file transfer protocol).
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	All data is reviewed by the Principal Geophysicist of Core Geophysics Pty Ltd prior to further processing, imaging and interpretation.

**SECTION 2 7 BRECCIA PIPE DEPOSITS GLOBAL ESTIMATION AND REPORTING OF MINERAL RESOURCES—  
COMPILED BY REDBANK COPPER LTD**

(Criteria listed in Section 1, and where relevant in Section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary																																																												
<b>Mineral tenement and land tenure status</b>	<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>	<p>Redbank Copper owns 100% of the Redbank Project in the Northern Territory via its wholly owned subsidiary Redbank Operations Pty Ltd. The Redbank Project comprises the tenements in the Table below.</p> <p>Table: Redbank Tenement Summary</p> <table border="1"> <thead> <tr> <th colspan="5">Redbank Operations Pty Ltd Tenements</th> </tr> <tr> <th>No.</th> <th>EL_ML</th> <th>Area km<sup>2</sup></th> <th>Grant date</th> <th>Expiry date</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>MLN634</td> <td>0.1618</td> <td>12-Mar-73</td> <td>31-Dec-28</td> </tr> <tr> <td>2</td> <td>MLN635</td> <td>0.1618</td> <td>12-Mar-73</td> <td>31-Dec-28</td> </tr> <tr> <td>3</td> <td>ELR94</td> <td>38.8</td> <td>10-Aug-89</td> <td>9-Aug-24</td> </tr> <tr> <td>4</td> <td>EL31316</td> <td>6.3</td> <td>6-Feb-17</td> <td>5-Feb-23</td> </tr> <tr> <td>5</td> <td>EL32715</td> <td>715.79</td> <td>15-Aug-02</td> <td>26-Apr-27</td> </tr> <tr> <td>6</td> <td>EL24654</td> <td>1576.63</td> <td>5-Dec-05</td> <td>4-Dec-22</td> </tr> <tr> <td>7</td> <td>EL32323</td> <td>788.31</td> <td>10-Sep-20</td> <td>9-Sep-26</td> </tr> <tr> <td>8</td> <td>EL32324</td> <td>690.56</td> <td>10-Sep-20</td> <td>9-Sep-26</td> </tr> <tr> <td>9</td> <td>EL32325</td> <td>778.85</td> <td>10-Sep-20</td> <td>9-Sep-26</td> </tr> <tr> <td>10</td> <td>EL31236</td> <td>788.31</td> <td>In Application</td> <td></td> </tr> </tbody> </table>	Redbank Operations Pty Ltd Tenements					No.	EL_ML	Area km <sup>2</sup>	Grant date	Expiry date	1	MLN634	0.1618	12-Mar-73	31-Dec-28	2	MLN635	0.1618	12-Mar-73	31-Dec-28	3	ELR94	38.8	10-Aug-89	9-Aug-24	4	EL31316	6.3	6-Feb-17	5-Feb-23	5	EL32715	715.79	15-Aug-02	26-Apr-27	6	EL24654	1576.63	5-Dec-05	4-Dec-22	7	EL32323	788.31	10-Sep-20	9-Sep-26	8	EL32324	690.56	10-Sep-20	9-Sep-26	9	EL32325	778.85	10-Sep-20	9-Sep-26	10	EL31236	788.31	In Application	
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Criteria	JORC Code explanation	Commentary				
		11	EL31237	595.97	In Application	
		12	EL32460	788.31	In Application	
		13	EL32461	788.31	In Application	
		14	EL32462	788.31	In Application	
		15	EL32463	318.48	In Application	
		16	EL32464	690.56	30-Mar-21	29-Mar-27
		17	EL32465	778.85	30-Mar-21	29-Mar-27
		18	EL32466	788.31	30-Mar-21	29-Mar-27
		19	EL32467	788.31	30-Mar-21	29-Mar-27
		20	EL32468	788.31	24-May-21	23-May-27
		21	EL32469	788.31	30-Mar-21	29-Mar-27
		22	EL32470	577.05	30-Mar-21	29-Mar-27
		23	EL32471	220.73	30-Mar-21	29-Mar-27
			Total granted	10016		
			Total in application	4068		
			Total	<b>14084</b>		

The Redbank Project was purchased from Redbank Copper Pty Ltd, by Redbank Mines Pty Ltd in 2005 (see ASX announcement 31st Aug 2005). Redbank Mines Pty Ltd then changed its name to Redbank Copper Limited in 2009.

Criteria	JORC Code explanation	Commentary
		<p>The 2005 Sale Agreement dated 5 August 2005 verifies the transaction. All tenements are in good standing.</p> <p>Native title has not been granted on the existing granted tenements.</p> <p>The Sandy Flat Mine Site/ processing facility is believed to be the source of pollution which affects the surrounding environment. The Northern Territory of Australia acknowledges that no action by Redbank has contributed to the pollution. To facilitate the Northern Territory of Australia access to the Site to carry out works to enable improved environmental outcomes for the mining site and its surrounds, Redbank entered into an agreement with the Northern Territory of Australia on the 29 June 2016, to surrender the mining leases. The mining leases were replaced by EL31316 granted on the 6 February 2017.</p>
<p><b>Exploration done by other parties</b></p>	<p><i>Acknowledgment and appraisal of exploration by other parties.</i></p>	<p>Copper mineralisation was first discovered at Redbank in 1916. The Redbank area has been subject to an almost continuous history of discovery and mining.</p> <p>The Redbank area has been systematically explored by numerous companies since 1969. Prominent amongst these were Newmont NEWAIM JV (1971-1972), Triako Mines NL (1972-1983) with various JV partners (Amax Iron, Aquitane Australia Minerals) and Alameda with CRA Exploration.</p> <p>Previous work included, geologic mapping, soil geochemistry, airborne and ground geophysics, extensive drilling campaigns and early non-JORC resource calculations (1970s to 1980s) and rudimentary 2004 JORC calculations (1989-2004). SRK Consulting completed MREs (JORC 2004) between 2005-2011. A JORC2012 MRE was reported on 24 June 2021</p>
<p><b>Geology</b></p>	<p><i>Deposit type, geological setting, and style of mineralisation.</i></p>	<p>The known Redbank mineralisation is consistent with breccia pipe</p>

Criteria	JORC Code explanation	Commentary
		<p>deposits.</p> <p>The Redbank mineralisation consists of at least 7 discrete mineralised pipe-shaped deposits, although more than 50 pipe-like intrusions have been identified in the district.</p> <p>Copper bearing breccia pipes of the Redbank district intrude an interbedded sequence of Paleo-Proterozoic aged igneous and dolomitic sedimentary rocks which have undergone regional scale potassic alteration or metasomatism.</p> <p>Breccia pipes are steeply inclined and near cylindrical.</p> <p>The core of these pipes contains both autochthonous and allochthonous breccias, with copper mineralisation confined to the breccia matrix.</p>
<b>Drill hole Information</b>	<p><i>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:</i></p> <ul style="list-style-type: none"> <li><i>easting and northing of the drill hole collar</i></li> <li><i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li><i>dip and azimuth of the hole</i></li> <li><i>down hole length and interception depth</i></li> <li><i>hole length.</i></li> </ul> <p><i>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.</i></p>	N/A. Only GAIP geophysical results reported.
<b>Data aggregation methods</b>	<p><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></p> <p><i>Where aggregate intercepts incorporate short lengths of high grade results and</i></p>	N/A.

Criteria	JORC Code explanation	Commentary
	<p><i>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></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	
<b>Relationship between mineralisation widths and intercept lengths</b>	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p> <p><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></p>	N/A.
<b>Diagrams</b>	<p><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></p>	Numerous diagrams are presented to provide as much context as possible to the location of the GAIP surveys to known deposits.
<b>Balanced reporting</b>	<p><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></p>	N/A.
<b>Other substantive exploration data</b>	<p><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></p>	<p>Since the discovery of copper at Redbank, considerable geological information concerning the mineralisation and its host has been compiled. Similarly, numerous geochemical soil surveys and geophysical surveys have been conducted across the tenement package. This information is well documented in company annual reports.</p> <p>Metallurgical test work on drill core samples from the Redbank Project was carried out principally in the 1970s and 1980s prior to AMALG constructing the plant from 1993 to 1995. More recently metallurgical testing was conducted by AMMTEC from 2006-10, with samples from</p>

Criteria	JORC Code explanation	Commentary
		<p>the various deposits tested for various leach and comminution tests.</p> <p>Additional geotechnical data was added post 2005. SRK was contracted in late 2008 to provide geotechnical studies on the available core and outcrop, to refine slope angles in optimisation work being undertaken on block models generated from the resource. Geotechnical samples were submitted to SGS Rock Mechanics Laboratory in Welshpool in 2009.</p> <p>In 2020 a number of samples of mineralised breccia pipe were selected for physical property measurements, and in particular, chargeability determinations. The average of these chargeability determinations was 16.2 mV/V with the highest value of 80 mV/V. The copper mineralised breccia deposit provide a good chargeability response compared to background chargeability of non-mineralised samples of ~4mV/V</p>
<b>Further work</b>	<p><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></p> <p><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></p>	<p>GAIP surveying is ongoing. Diagrams showing further surveying of GAIP 1km<sup>2</sup> arrays is provided in this announcement.</p>

END