

9 May 2024

## INFILL MAGNETOTELLURIC SURVEY REVEALS INTENSE CONDUCTIVE ANOMALIES AT DRILLABLE DEPTH

### HIGHLIGHTS

- Infill magnetotelluric (MT) survey reveals two intense shallow conductive anomalies
- Further geophysical surveys planned next quarter to refine conductor geometries for a future drill program

**Strategic Energy Resources Limited** (“SER” or “the Company”) is pleased to announce the completion of an infill Magnetotelluric (MT) survey at the 100% owned Mundi Project in New South Wales. The Mundi Project is a large-area, conceptual greenfield exploration project spanning over 1300 square kilometres of the Curnamona Province, located approximately 115km NNW of Broken Hill. The Curnamona Province is a known iron oxide copper-gold (IOCG) mineral province with the potential for other mineral systems, such as Broken Hill Type Pb-Zn-Ag. The Project area has no known basement outcrop and very limited previous exploration.

**Commenting on the results from the MT program, SER Managing Director, Dr David DeTata said:**

*‘The infill MT survey has vastly improved our understanding of the geometry of the highly conductive body and indicates that the shallowest part of the conductor extends to within 200m from surface as two separate conductive zones, which are easily reachable in a future drill program. With this new information, planning has already begun for a series of additional geophysical surveys which will define future drill targets. Progress to this point has taken under a year since securing landholder access and is indicative of SER’s broader strategy based on a science driven approach to project generation and rapid exploration with no fear of failure’.*

### INFILL MAGNETOTELLURIC SURVEY DESIGN AND EXECUTION

Last year an initial four-line, 95-station MT survey was completed that targeted the shallowest portion of the Curnamona Conductor (CC), a crustal-scale conductivity anomaly that has strong similarities to MT conductivity anomalies that have been interpreted to be associated with IOCG mineralisation in South Australia's Gawler Craton<sup>1</sup>. The survey crossed both the Stanley Fault and interpreted CC and resolved the relationship between the two features.

Modelling of the MT data revealed a large, high-intensity conductive anomaly, plunging to the south, with the shallowest portion of the conductor less than 700m below surface between the two central lines of the survey<sup>2</sup>. The modelled resistivities in the core of the anomaly reached values of less than 0.1 ohm.m which is mapping an unusually highly conductive feature.

The infill MT survey was designed and executed to better constrain the geometry of the conductor and its near surface expression using the same 400m station spacing as the initial MT survey, along two evenly spaced traverses between the central lines of the initial survey, reducing the line spacing for this portion of the surveyed area from 5700m to 1900m (Fig. 2).

<sup>1</sup> SER ASX Announcement 21 September 2023

<sup>2</sup> SER ASX Announcement 8 November 2023

## MODELLING RESOLVES CONDUCTIVE FEATURES AT DRILLABLE DEPTHS

The new MT data was integrated with the previously collected data and remodelled by Professor Graham Heinson from the Electrical Earth Imaging Group at the University of Adelaide. The higher data density across the shallowest portion of the previously identified conductive feature allowed the geometry of this part of the conductor to be resolved in more detail.

The revised modelling (Fig. 1 & 2) shows that the intense deep-rooted conductor that was modelled in initial survey separates into two discrete conductive anomalies at ~3km depth.

In plan view, the shallow anomalies are modelled as two ~5km x 1km, NNW to N oriented (approximately - parallel to basement strike) subvertical features, which appear to be partially controlled by GSNSW-interpreted NE-trending Proterozoic fault structures<sup>3</sup> (Figure 2). The conductors persist to depths of <500m and potentially as shallow as 200m below surface, although the electrical response of shallower basement in the models is partially obscured by the effect of approximately 100m of conductive overburden.

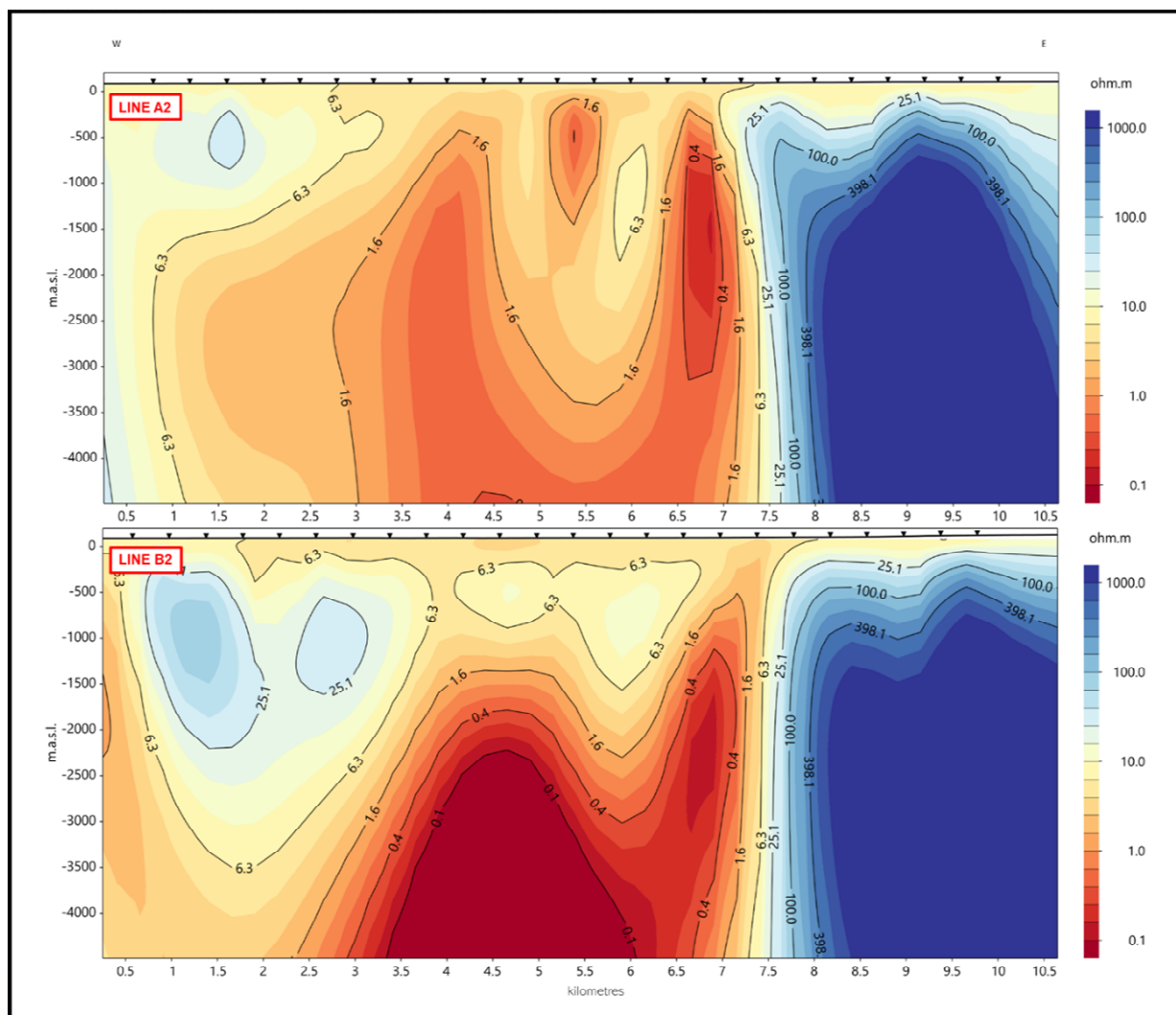
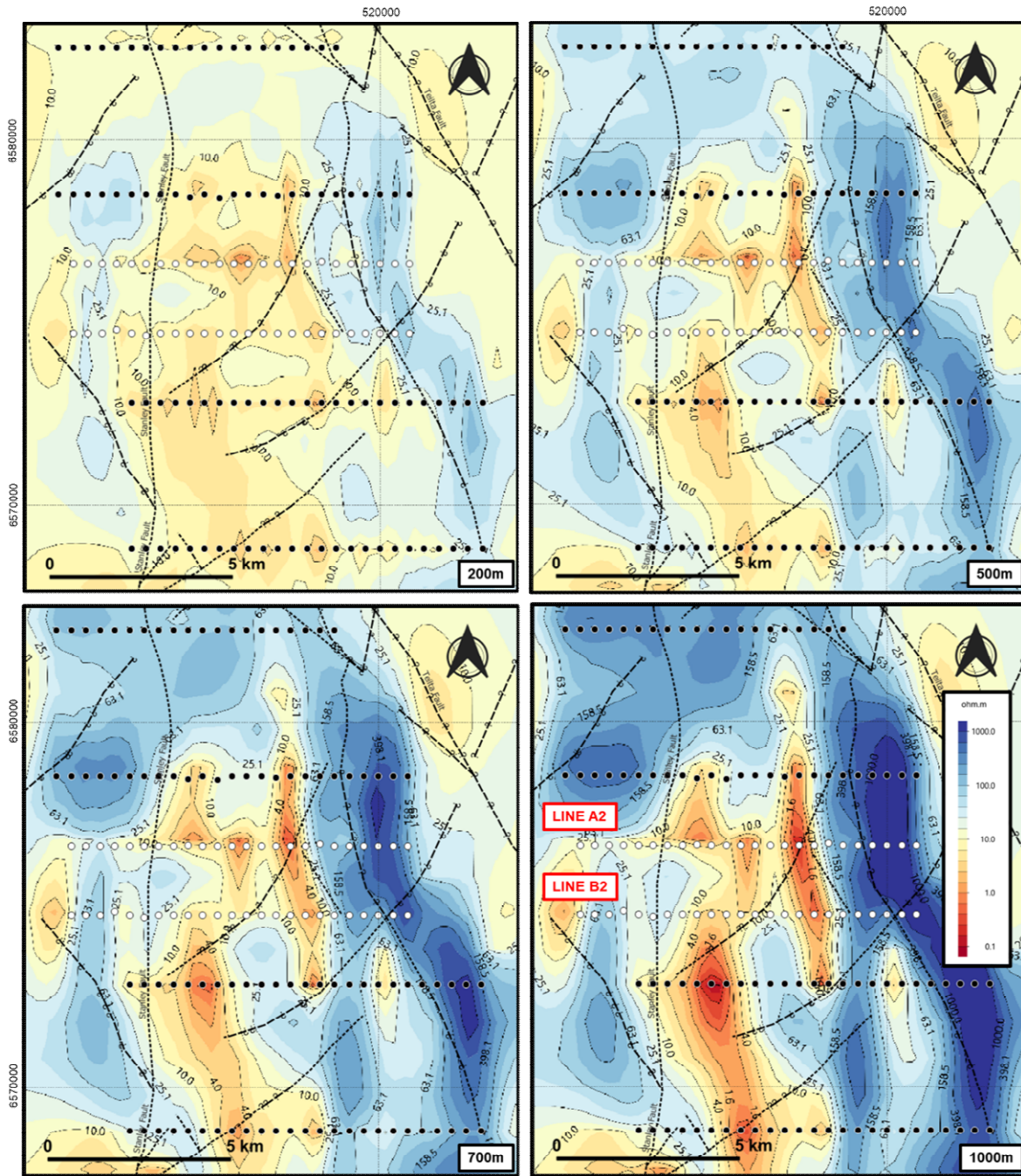


Figure 1: Modelled resistivity sections for infill lines A2 and B2 looking north, showing the relationship between the intense deeper conductor and the two shallower conductors. Location of the lines is shown on Fig. 2.

<sup>3</sup> NSW Seamless Geology Data Package Version 2.3, 2023 (<https://search.geoscience.nsw.gov.au/product/9232/8324749>).



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Figure 2: 200m, 500m, 700m and 1000m resistivity depth slices of the revised 3D MT conductivity model relative to the location of GSNSW interpreted Proterozoic and the location of the MT stations (Black dots are previous survey and white dots marked A2 & B2 are infill survey locations ).

## NEXT STEPS

These MT surveys have successfully demonstrated that the crustal scale CC persists and extends to explorable and economically extractable depths within the Mundi project area. Two shallow conductive zones have been modelled from the MT data with peak modelled resistivities of  $<0.1$  ohm.m, which are similar to values recorded for massive sulfide orebodies<sup>4</sup>.

<sup>4</sup> Best, M.E., 2015. Electromagnetic (EM) Methods; in Shear Wave Velocity Measurement Guidelines for Canadian Seismic Site Characterization in Soil and Rock, (ed.) J.A. Hunter and H.L. Crow; Geological Survey of Canada, Earth Science Sector, General Information Product 110 e, p. 170-180.

Exploration will now focus on further geophysical exploration on the two identified anomalies to define potential drillable targets by the end of 2024.

This may include a ground electromagnetic (GEM) survey scheduled for the second half of 2024 to further resolve the depths, thicknesses, orientations and geometries of individual conductive targets that may be present within the broader anomalies defined by MT. The GEM data will be interpreted within an improved understanding of both cover thickness and the basement structural architecture, which will be constrained through the collection of passive seismic and additional gravity data across the MT survey area in a MinEx CRC supported collaborative project with researchers at the University of Adelaide.

*The information in this report that relates to Exploration Results is based on information compiled by Mr Stuart Rechner BSc (Geology) MAIG MAusIMM, a Member of the Australian Institute of Geoscientists and the Australasian Institute of Mining and Metallurgy. Mr Rechner is a Director and shareholder of Strategic Energy Resources Ltd. Mr Rechner has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Rechner consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.*

*This announcement is authorised by the Strategic Energy Resources Limited Board.*

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**About Strategic Energy Resources**

Strategic Energy Resources is a specialised undercover mineral explorer and project generator focused on discovery in the Greenfield frontiers of Australia. Our science driven, expert technical team leverage collaborations with government and private partners in our search for the next major mineral deposit.



# JORC Code, 2012 Edition – Table 1

## Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	Not applicable – this announcement concerns geophysical surveys.
Drilling techniques	Not applicable – no drilling undertaken.
Drill sample recovery	Not applicable – no drilling undertaken.
Logging	Not applicable – no drilling undertaken.
Sub-sampling techniques and sample preparation	Not applicable – no drilling undertaken.
Quality of assay data and laboratory tests (Equipment used)	<p>The survey was undertaken by Zonge Engineering and Research Organization (Zonge).</p> <p>Thirteen Phoenix MTU-5C receivers for broadband magnetotelluric (BBMT) data acquisition were used for the infill MT survey. Twelve instruments were deployed within the survey area, with the thirteenth receiver deployed as a remote base station for the duration of the survey to allow calibration of data collected across multiple days.</p> <p>MTU-5C are 5-channel receivers for collecting MT data over wide frequency band designed and manufactured by Phoenix Geophysics, Canada. These receivers are stand-alone, GPS synchronized modules designed to simultaneously record up to 5 channels in 2E3H configuration, meaning 2 electric orthogonal components and 3 magnetic orthogonal components of MT field can be read simultaneously with 24-bit resolution. Manufacturer specification sheets for the MTU-5C receivers can be read on the manufacturer's website (<a href="https://az659834.vo.msecnd.net/eventsairwesteuprod/production-eage-public/1eb322f070b44cf2be7ecb11350ecd3a">https://az659834.vo.msecnd.net/eventsairwesteuprod/production-eage-public/1eb322f070b44cf2be7ecb11350ecd3a</a>).</p> <p>The survey utilised only 2 magnetic sensors and did not record the vertical magnetic component. Data was acquired using four channel receivers recording two orthogonal electric field and two orthogonal magnetic field measurements per site. Sensors were oriented to magnetic north and east. BBMT data were recorded overnight, resulting in 12-24 hours long records and providing a frequency range of 10000Hz to 1000 seconds.</p> <p>Each receiver sensed BBMT magnetic field data using two Phoenix MTC-150L coils and electric field data using single conductor wires and non-polarisable electrodes. Equipment was powered using 12V batteries that were recharged using solar panels during the day.</p>
Verification of sampling and assaying	Not applicable – no drilling undertaken.
Location of data points	Coordinates were recorded using instrumental GPS in GDA 1994, MGA Zone 54.
Data spacing and distribution	Two E/W traverses of 400m spaced MT sites, traverses 1.9km apart. 48 sites completed in total see Fig 1. Traverses up to 9.2km long E/W.
Orientation of data in relation to geological structure	Two E/W traverses designed to cross the N/S striking geological structures across the shallowest portion of the previously identified conductive anomaly.
Sample security	Not applicable – no sampling undertaken.
Audits or reviews	BBMT data quality was monitored throughout the course of the survey by Zonge's field crew and Adelaide office. This allowed identification of stations that required repeat readings. Data were generally of high quality over the whole frequency range, with the exception of expected "dead bands" around 2kHz and 1-10Hz. Due to the location of the survey, only a few minor cultural noise sources exist within the survey area (such as fences, tracks, water pipes) and these did not impact data quality.

# JORC Code, 2012 Edition – Table 1

## Section 2 Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	<p>Work undertaken on two active exploration licences EL9388 and EL9362 which form part of the Mundi Project. Both tenements are held 100% by Strategic Energy Resources Limited.</p> <p>Location: Mundi (115km NNW of Broken Hill).</p> <p>Tenements in good standing with no known impediments.</p>
Exploration done by other parties	<p>The Mundi Project has limited previous exploration activity.</p> <p>SER has identified eleven Group 11 (uranium) and fifteen Group 1 exploration licences and have been held over all or part of EL9388 and EL9362 since 1970. The Group 1 explorers have targeted a variety of commodities including iron ore, intrusion-related gold, Broken Hill Style and Mississippi Valley Style lead-zinc, and copper-gold mineralisation.</p> <p>There are only three drillholes that intersect basement within the 712 km<sup>2</sup> area covered by EL9388 and EL9362, and only three surface geochemical samples (rock chips) are held in the GSNSW geochemical database.</p> <p>SER's initial MT survey, executed in September-October 2023 was following up on crustal-scale conductivity anomaly, initially identified by the Geoscience Australia led Australian Lithospheric Architecture Magnetotelluric Project (AusLAMP - <a href="https://www.ga.gov.au/about/projects/resources/auslamp">https://www.ga.gov.au/about/projects/resources/auslamp</a>). This conductive anomaly, known as the Curnamona Conductor (CC), was further resolved by the Curnamona Crustal Magnetotelluric Transect (CCMT), an ~2km spaced, 56 station, ~east-west oriented broadband MT survey targeted at the anomaly defined by AusLAMP (Kay et al., 2022).</p>
Geology (Target deposit type)	<p>The project covers part of the northern portion of the Palaeo- to Neoproterozoic Curnamona Province, which straddles the border between NSW and SA.</p> <p>Basement geology within the proposed EL is entirely obscured by Mesozoic and Cenozoic cover, but is interpreted by GSNSW (Colquhoun et al., 2021) to comprise metasedimentary rocks of the Palaeoproterozoic Willyama Supergroup, unconformably overlain by and faulted against Neoproterozoic sedimentary and volcanic rocks, which correlate with Adelaidean sequences in South Australia. The area is cut by prominent N- to NNW-trending structures, as exemplified by the Stanley and Teilita Faults.</p> <p>As a result of the lack of basement exposure within EL9362 and EL9388, there are no recorded metallic mineral occurrences within the title area.</p> <p>The Curnamona Province has recognised potential for both Iron Oxide Copper Gold (IOCG) and Broken Hill Type Pb-Zn-Ag mineralisation, SER considers that EL9362 and EL9388 are potentially prospective for both these styles of mineralisation.</p>
Drill hole Information	Not applicable – no drilling undertaken.
Data aggregation methods	Not applicable – no drilling undertaken.
Relationship between mineralisation widths and intercept lengths	Not applicable – no drilling undertaken.
Diagrams	The reported images display results from the MT survey data modelling.
Balanced reporting	Not applicable – no drilling undertaken.
Other substantive exploration data	All relevant finalised exploration data has been included. Further details of geophysical data interpretation will be provided in due course.
Further work	Further work is outlined under "Next Steps"