# **ASX ANNOUNCEMENT**

Strategic Energy Resources

7 November 2022

# **EXPLORATION UPDATE: CANOBIE PROJECT**

## **HIGHLIGHTS**

- Gravity infill survey completed
- Gravity inversion modelling defines prospective intrusion geometry
- Magnetic remanence study identifies potential massive sulphides within intrusion
- Nickel-Copper sulphide targets now ready for drill testing

**Strategic Energy Resources Limited** ("**SER**" or "**the Company**") is pleased to provide an update on exploration at the Canobie Project which forms part of SER's "Isa Undercover Initiative". The Canobie Project covers over 1,800km² within the Mt Isa Eastern Succession, bounded to the east by the Quamby fault zone / Gidyea Suture Zone. The fault system hosts several significant deposits to the south including the giant Ernest Henry Cu-Au mine and the Mount Margaret, Rocklands and Roseby Cu-Au deposits (Fig. 1).

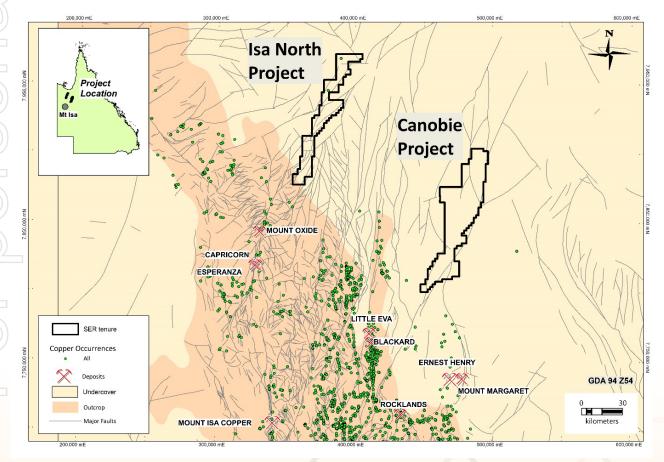


Figure 1: The location of the Canobie and the Isa North Projects which form the Isa Undercover Initiative

#### INFILL GRAVITY SURVEY COMPLETE

Last month an 823-station ground gravity survey was collected which infilled the northern end of the Canobie Project and an area south of the Lucky Squid gold prospect<sup>1</sup>. The gravity survey was designed to map the geometry of the dense mafic intrusions in an attempt to identify suitable trap sites for massive sulphide mineralisation. Mafic intrusions with sub-horizontal tube geometries could be zones where magma and sulphides are concentrated, these are termed 'chonoliths'.

Globally large nickel-copper deposits are known to be hosted within narrow zones (chonoliths) of mafic/ultramafic intrusions. World-class mineral deposits hosted in chonoliths include Noril'sk – Talnakh (Russia), and Nova-Bollinger (Western Australia).

## **GRAVITY MODELLING SUGGESTS FAVOURABLE INTRUSION GEOMETRY**

Unconstrained inversion modelling of the gravity data has identified a potential north-south striking intrusion, possibly coring a tight fold adjacent to the major Quamby fault. Within this intrusion there appears to be zones which have sharp steep contacts and appear to be flat lying with potentially an identifiable base. These geometries are indicative of chonoliths and are shown in plan and selected section view in Figures 2 & 3.

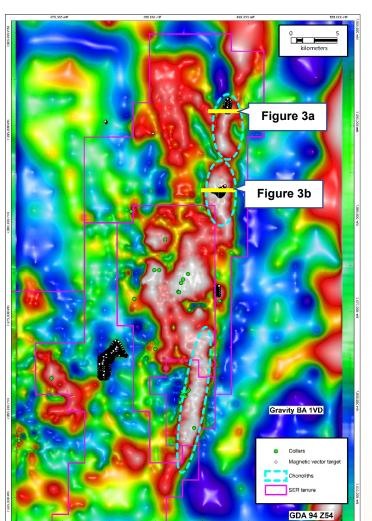


Figure 2: Gravity 1VD grid with section lines used in Figure 3.

<sup>&</sup>lt;sup>1</sup> See SER 1 September 2022 Announcement

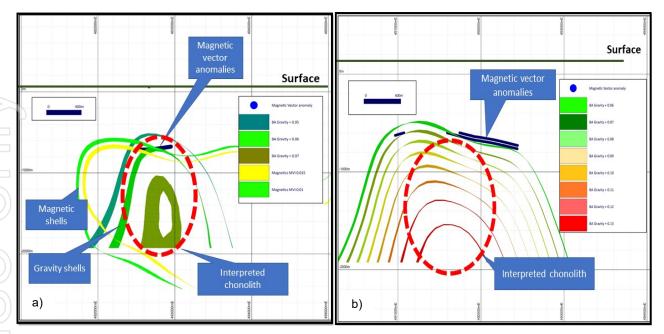


Figure 3(a) Section 7896500 looking north and (b) Section 7888100 looking north at gravity shells with cluster of magnetic vector anomalies

## MAGNETIC REMANENCE STUDY IDENTIFIES POTENTIAL MASSIVE SULPHIDES

SER applied magnetic attribute processing to the existing magnetic data to understand the potential sources of the remanent magnetic responses across the Canobie Project. The study involved reprocessing the high quality 100m flight line magnetic survey flown in 2009 at the northern end of the project area. Using this input, different grids of the magnetic data were produced to display the effects of remanent responses, and cluster maps of magnetic and gravity responses were produced to identify distinct remanent vector anomaly targets which could be sourced from a body of massive sulphides.

The aim of the magnetic attribute study is to extract the magnetic remanence information from magnetic survey data to map the changes in magnetic properties of rock formations which can naturally occur due to time of emplacement (palaeomagnetism), or alteration. Up to six magnetic attributes can be combined in different ways to produce a pseudo-lithology map that differentiates areas of remanent magnetisation as well as areas of similar magnetisation properties, areas of common magnetic characteristic (pseudo-palaeomagnetic) and areas of similar vector rotations of the Total Magnetic Intensity (TMI) vector. The addition of gravity (density) data to the magnetic attributes can further improve the classification of a pseudo lithology map.

Certain minerals have unique magnetic properties which can be potentially identified in the magnetic attribute study such as monoclinic pyrrhotite (Clark et al 2004<sup>2</sup>). Monoclinic pyrrhotite can be common in sulphide mineral deposits. This study has identified clusters of point targets representing potential magnetic remanence which could be sourced from monoclinic pyrrhotite. These clusters are the magnetic vector targets displayed on Figures 2 and 3.

Magnetic vectors extracted from the TMI of magnetic surveys are capable of discriminating mineralised systems (containing monoclinic pyrrhotite) from barren magnetic features (i.e. magnetite) (Schwarz 1975<sup>3</sup>).

<sup>&</sup>lt;sup>2</sup> Clark D.A., Geuna S.E., Schmidt P.W., 2004, Predictive magnetic exploration models for porphyry, epithermal and iron oxide Cu-Au deposits: P700 Final Report, 398 pp. +CD Atlas of Geophysical Signatures + Relational Database of Porphyry, Epithermal and Iron Oxide Cu-Au Deposits: AMIRA International

<sup>&</sup>lt;sup>3</sup> Schwarz E.J. 1975, Magnetic Properties of Pyrrhotite and their use in applied geology and geophysics, Geological Survey of Canada, 74-59.

This technique has been successfully applied to open file data over existing deposits globally including the Platreef PGE-Ni-Cu resource in the Bushveld Complex of South Africa<sup>4</sup>. Like all targeting processes, not all anomalies are expected to be directly related to mineralised bodies, only when the anomaly is consistent with other data sets are they deemed high priority targets.

## COMPELLING NICKEL-COPPER TARGETS IDENTIFIED

The magnetic study identified numerous clusters of vector magnetic anomalies across the northern end of the Canobie Project. Importantly a number of these clusters are coincident with interpreted chonoliths modelled in the gravity data (Fig 2).

The magnetic products and gravity response have been clustered into equivalent responses producing a pseudo petrophysical map of the area. The results confirm the complexity of the mafic intrusions at Tea Tree, which SER is continuing to interpret in both 2D and 3D to refine the intrusion geometry mapping.

SER has identified targets that have a distinctive magnetic response which could be formed from monoclinic pyrrhotite <u>and</u> occupy interpreted chonoliths associated with an ultramafic/mafic intrusion. Previous drilling within the broader intrusion has demonstrated numerous criteria required for the formation of a massive sulphide system including assimilation of graphitic metasediments (metal and sulphur source), reaching sulphur saturation (mobile sulphides) and formation of semi massive sulphide basal layers (sulphur settling).

## **SUMMARY**

The results from the new gravity data inversions have further defined prospective intrusion geometries to host sulphide mineralisation. The detailed studies on the magnetics independently identified zones within interpreted chonoliths with remanent magnetic responses consistent with massive monoclinic pyrrhotite. These new multi dataset targets are deemed high priority for initial drill testing. SER looks forward to updating shareholders on plans for drill testing in the near future.

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 leverages collaborations with government and private partners in our search for the next major mineral deposit.

<sup>&</sup>lt;sup>4</sup> Williams, N., de Wet, B., Kekana, S., Nielson, S., Broughton, D. 2016, Applying advanced gravity and magnetic inversion methods to expand the Platreef PGE-Ni-Cu resource in the Bushveld Complex ASEG-PESA-AIG, Adelaide, Australia.

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.

# JORC Code, 2012 Edition – Table 1

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

Criteria	Commentary
Sampling techniques	<ul> <li>Ground gravity survey using precision Global Navigation Satellite System (GNSS) techniques and geodetic principles to allow first order accuracy in position and height.</li> <li>Gravity and GNSS base stations established with values derived through ties to Australian Fundamental Gravity Network (AFGN) or Daishsat network base stations.</li> </ul>
Drilling techniques	Not applicable
Drill sample recovery	Not applicable
Logging	Not applicable
Sub-sampling techniques and sample preparation	Not applicable
Quality of assay data and laboratory tests (Equipment used)	<ul> <li>Scintrex CG-5 Autograv meters: accuracy standard deviation of ~0.025mGal. Gravity meters calibrated regularly on Government and Daishsat Calibration Ranges.</li> <li>Leica GX1230 GNSS receivers: accuracy ~5mm horizontal and ~10mm vertical</li> <li>Stations read to ~0.01mGals and reduced to Bouguer Anomalies at 2.67g/cc density</li> <li>Gravity loops kept under 10 hours to control drift and tares</li> </ul>
Verification of sampling and assaying	<ul> <li>Two or more observations per station to detect interference or meter malfunction</li> <li>Repeat of at least 5% of all observations to determine repeatability for the survey</li> </ul>
Location of data points	<ul> <li>Gravity stations located with Leica 1230 GNSS receivers</li> <li>Coordinates in GDA94 MGA94 Z54, height in AHD</li> <li>Observed gravity Isogal 84 (IGSN-71)</li> </ul>
Data spacing and distribution	<ul> <li>823 gravity stations collected on 250m, 500m and 1km stations (includes 5% repeat stations)</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Survey data was collected in regular spaced grids which is proven suitable to identify and model the dense mafic intrusives and any potential IOCG targets</li> </ul>
Sample security	Not applicable
Audits or reviews	Data corrections and validation was undertaken daily by the geophysical contractor

# JORC Code, 2012 Edition - Table 1

# **Section 2 Reporting of Exploration Results**

Criteria	Commentary
Mineral tenement and land tenure status	<ul> <li>Canobie Project comprises 8 tenements 100% owned by SER EPM15398, EPM27378, EPM27586, EPM27587, EPM27588, EPM27638, EPM27676 and EPM28180</li> <li>The project is located 165km NNE of Cloncurry</li> <li>Conduct and Compensation Agreement executed with landholders</li> <li>Exploration Agreement executed with Traditional Owners</li> <li>Tenements in good standing with no known impediments</li> </ul>
Exploration done by other parties	<ul> <li>In 1994 MIM Exploration was targeting IOCG mineralisation by drilling magnetic / gravity anomalies when TT001D intersected 10m @ 0.28% Cu and 0.25% Ni</li> <li>In 2004, Falcon Minerals drilled two further holes (SMD01 &amp; SMD02) targeting Ni sulphides at Tea Tree</li> <li>In 2008, Anglo American was targeting magmatic Ni-Cu-PGE mineralisation by drill testing bedrock electromagnetic conductors (7 holes SXDD001-SXDD007) hole SXDD005 hit high grade gold including 17m @ 6.75g/t Au from 631m at Lucky Squid/Saxby Prospect</li> <li>In 2010, AngloGold Ashanti drilled five holes (SXDD011-015) to test for gold mineralised structures with best results in SXDD014 including 15m @ 9.09 g/t Au (Lucky Squid)</li> <li>In 2012, Falcon Minerals drilled four further holes (SXDD0016-0019) with disappointing results. The best result was from hole SXDD016 which included 1m @ 26.1 g/t gold (Lucky Squid)</li> <li>In 2019-2020 SER drilled a further four diamond drillholes at SXDD020-SXDD023 targeting Cu-Au mineralisation at Lucky Squid/Saxby. Best result was SXDD020 6m @ 12.08g/t Au from 519m.</li> <li>In 2021 SER drilled two holes at Kalarka CNDD001A &amp; CNDD002 which intersected thick ultramafic and mafic intrusives with disseminated and semi massive sulphides at the bottom of pulses.</li> </ul>
Geology (Target deposit type)	<ul> <li>SER is targeting IOCG and Ni-Cu-PGE sulphide mineralisation hosted in basement rocks of the Eastern Succession of the Mt Isa Province buried beneath younger sedimentary cover of the Carpentaria Basin</li> <li>There is very limited basement testing drillholes undercover to the northeast Mt Isa Province, the small amount of drilling in this virgin terrain has a high strike ratio of mineralisation</li> </ul>
Drill hole Information	Not applicable
Data aggregation methods	Not applicable
Relationship between mineralisation widths and intercept lengths	Not applicable
Diagrams	See figures in release
Balanced reporting	This report describes all relevant historical exploration and SER's planned work
Other substantive exploration data	All relevant finalised exploration data has been included.
Further work	Targets in this announcement will be prioritised for drill testing