



Round 15 Geophysics and Drilling Collaborations program FINAL REPORT

Program: SANDOVER GRAVITY
Tenements: EL 32374, EL 32421, EL 32694, EL 32695,
EL32696, EL 33060

1:250,000 SHEETS: Alcoota, Mount Peake and Barrow Creek
1:100,000 SHEETS: Anningie, Barrow, Home of Bullion, Woodgreen, Utopia

Title Holder: BAUDIN RESOURCES PTY LTD
(100% owned subsidiary of Encounter Resources Ltd)

Compiled by: Sarah James (sarah.james@enrl.com.au),
Anelia Simeonova

Date: January 2023
Datum/Zone GDA94/Zone 53

COPYRIGHT

This document and its content are the copyright of Encounter Resources Ltd. The document has been written for submission to the Northern Territory Department of Mines and Energy as part of the tenement reporting requirements as per the *Minerals Titles Act (NT)*. Any information included in the report that originates from historical reports or other sources is listed in the “References” section at the end of the document.

Encounter Resources authorizes the department to copy and distribute the report and associated data.

ABSTRACT

The Sandover Project is located approximately 170km North of Alice Springs and approximately, 250km South of Tennant Creek.

Currently Encounter Resources holds six (6) mineral exploration tenements within the Sandover project tenure, covering a total area of 4,672sq.km.

The Sandover project sits on the Neoproterozoic-Palaeozoic Southern Georgina Basin, which unconformably overlies Meso and Paleoproterozoic rocks. The project is on the Alcoota, Mount Peake and Barrow Creek 1:250,000 scale NTGS geological map sheets.

The Sandover project tenure is considered prospective for sediment-hosted copper mineralisation. The major elements of a sediment-hosted copper system are present within the Sandover Basin. Rift phase Neoproterozoic sediments of the Georgina Basin are juxtaposed against crystalline basement (Arunta block). There is recorded presence of evaporites, reduced stratigraphic units, and red-bed sequence within the Sandover Basin stratigraphy. Copper anomalies are known in the area both from outcrops (particularly the Mt Skinner area) and drillholes.

Encounter has compiled existing open file geophysics and exploration data and determined that the existing gravity spacing of 4km by 4km is too broad to map the basin architecture in sufficient detail.

Encounter was granted funding for the Sandover Gravity Collaborative Program of 1x1km ground gravity survey to increase the data resolution in the area to a scale required to effectively map the basin architecture, and potentially outline areas which are more prospective for copper deposition for further exploration work.

The Sandover Gravity Program was acquired in two phases – the first phase took place in June 2022 and the second phase in October 2022. A total of 2529 new gravity stations were acquired using a 1 x 1km regular grid configuration.

The newly acquired Sandover Gravity data showed significant improvement in data resolution compared to the existing regional gravity datasets at 4km by 4km for the Sandover Basin. The new data (merged with existing regional datasets) allowed more detailed structural interpretation of the basin's architecture.

The resulting improved basin architecture resolves multiple target locations for potential reduced units in the basin to intersect long-lived basin forming structures, and/or onlap basement rocks, a key exploration concept for sediment hosted copper deposits.

Encounter Resources plans to complete stratigraphic diamond drilling in 2023 to test basin architecture interpretation at compelling target locations.

<i>COPYRIGHT</i>	<i>1</i>
<i>1. INTRODUCTION</i>	<i>5</i>
<i>2. REGIONAL CONTEXT</i>	<i>6</i>
<i>3. PREVIOUS EXPLORATION</i>	<i>8</i>
<i>3.1. Base Metal Exploration</i>	<i>8</i>
<i>3.2. Uranium, Tin, Tantalum, Wolfram Exploration</i>	<i>9</i>
<i>3.3. Gold Exploration</i>	<i>9</i>
<i>4. EXPLORATION CONCEPT</i>	<i>9</i>
<i>5. SANDOVER GRAVITY COLLABORATIVE PROGRAM DETAILS</i>	<i>10</i>
<i>6. RESULTS AND INTERPRETATION</i>	<i>12</i>
<i>7. CONCLUSIONS</i>	<i>14</i>
<i>8. REFERENCES</i>	<i>15</i>

LIST OF FIGURES

Figure 1: Sandover Project Regional Location Plan 5

Figure 2: Sandover Project - Encounter Tenure Map with access roads with, surface geology (NTGS 1:250K map sheets) background 6

Figure 3: Southern Georgina Basin Lithostratigraphic Diagram (Kruse et al, 2013). 7

Figure 4: Southern Georgina Basin Schematic cross section with Sandover Project outline (modified from Dunster et al, 2007) 8

Figure 5: Sandover Gravity Collaborative Program – gravity stations location 11

Figure 6: Sandover Gravity Collaborative Program – gravity control station near Ti Tree station (photo Atlas Geophysical) 12

Figure 7: Sandover Tenure gravity image comparison: A – NT regional gravity dataset (from STRIKE) prior to acquisition of Sandover Gravity data; B – NT regional dataset merged with newly acquired Sandover gravity data (Geotiff San_2022_BA_res5km_045shd_hist) 13

Figure 8: Sandover Tenure gravity image (San_2022_BA_Opt5vd_045shd_hist) with interpreted NW-SE trending and NE-SW trending structures, and interpreted extent of the Encounter Cu prospective Sandover Sub Basin. 14

1. INTRODUCTION

The Sandover project is located approximately 170km North of Alice Springs and approximately, 250km South of Tennant Creek (Figure 1).

Currently the Sandover project consists of six (6) mineral exploration tenements covering a total area of 4,672sq.km. The six tenements are EL32374, EL32421, EL32694, EL32695, EL32696 and EL33060. The first two tenements were granted to Baudin Resources Pty Ltd (a wholly owned subsidiary of Encounter Resources Ltd – “Encounter”) in June 2021, EL32694, EL32695, EL32696 tenements were granted in October 2021, and EL33060 was granted in 2022.

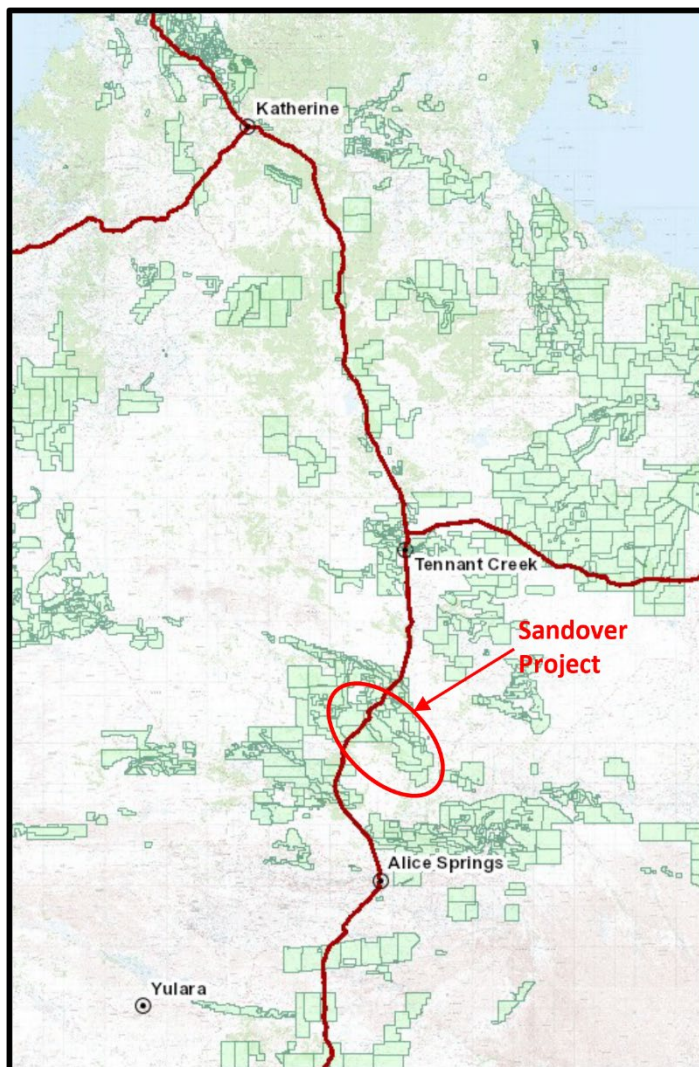


Figure 1: Sandover Project Regional Location Plan

Access to Sandover project area is excellent via the sealed Stuart Highway which goes through the northwestern part of the tenure. The southern tenements are accessed via the Stuart Highway, thence the Plenty highway, and then left on the Sandover Highway, thence Mt Skinner station and other local tracks. The southern areas can be accessed also via the Stuart Highway and thence by the Ti Tree Adelaide Bore Road. The Main Ghan Railway runs through the project area providing further access (Figure 2).

The Sandover tenure covers large parts of the Mount Skinner and Stirling Pastoral stations, with minor areas on Anningie and Woodgreen stations.

The climate in the area is arid, sub desert with flat sandy plains and low-level hills. Occasionally rounded rocky outcrops (pegmatitic dykes) could be seen, particularly in the southern part of the Sandover project areas.

The Sandover tenure is on the Alcoota, Mount Peake and Barrow Creek 1:250,000 scale NTGS geological map sheets (Figure 2).

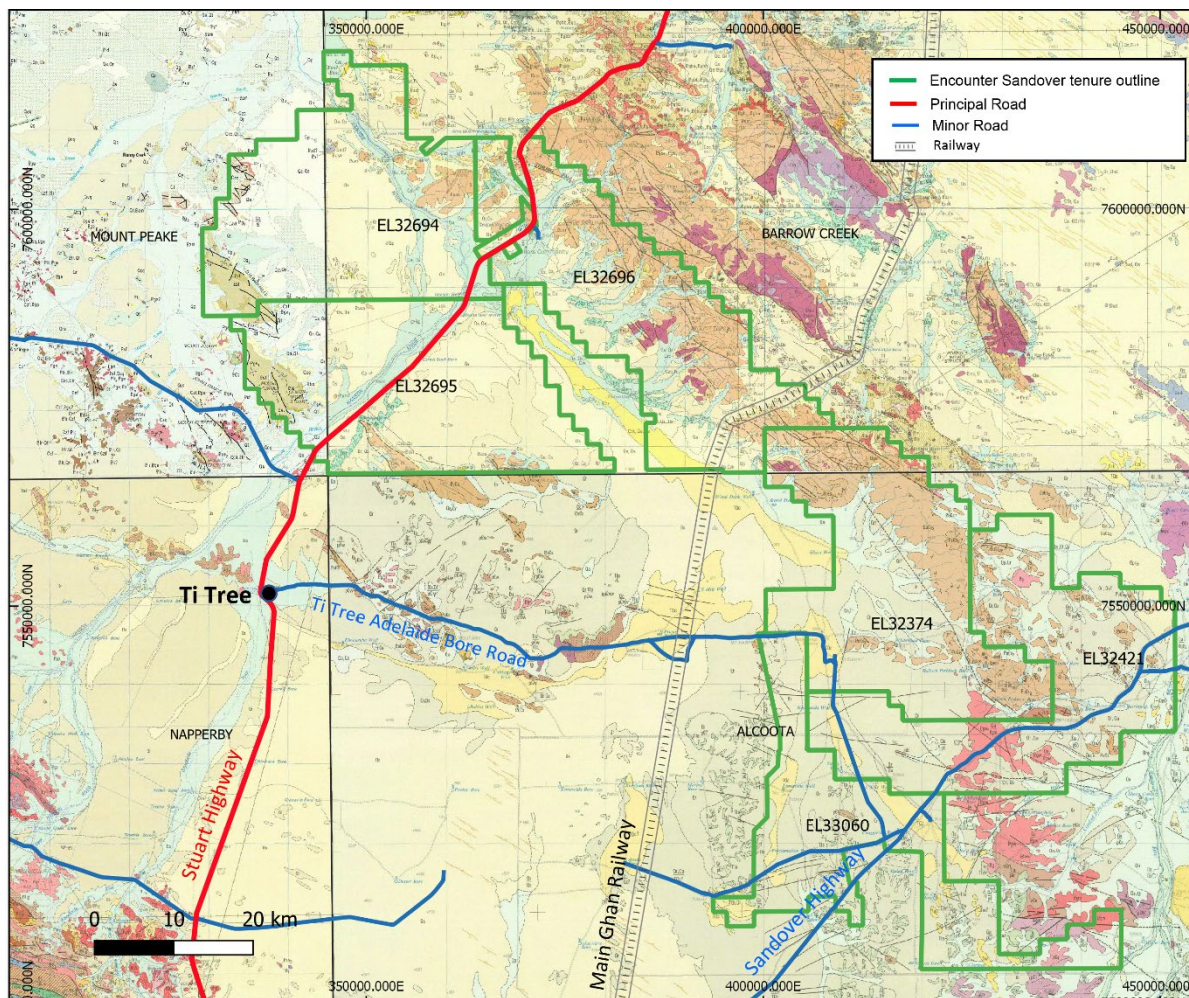


Figure 2: Sandover Project - Encounter Tenure Map with access roads with, surface geology (NTGS 1:250K map sheets) background

2. REGIONAL CONTEXT

The Sandover project tenure sits on a major structural corridor on the southern margin of the Georgina Basin. The Georgina Basin comprises rocks ranging in age from Neoproterozoic to Devonian and covers an area of approximately 325,000 sq. km in the central-eastern NT and extends into western Queensland.

Deposition in the Georgina Basin was initiated in the Neoproterozoic in grabens formed by regional northeast - southwest extension. Tholeiitic basalts and felsic volcanic rocks were emplaced in the center and north during the earliest Cambrian. Elsewhere, the basal units of the Georgina Basin comprise conglomerates, sandstones, shales and glacial and fluvial sediments.

The Georgina Basin comprises two distinct domains: a southern basinal depocenter, known as the Southern Georgina Basin), essentially south of latitude 21°S (Dunster et al 2007); and a central-

northern, quiescent platform (Central and Northern Georgina Basin) north of that latitude (Kruse P.D. et al, 2013).

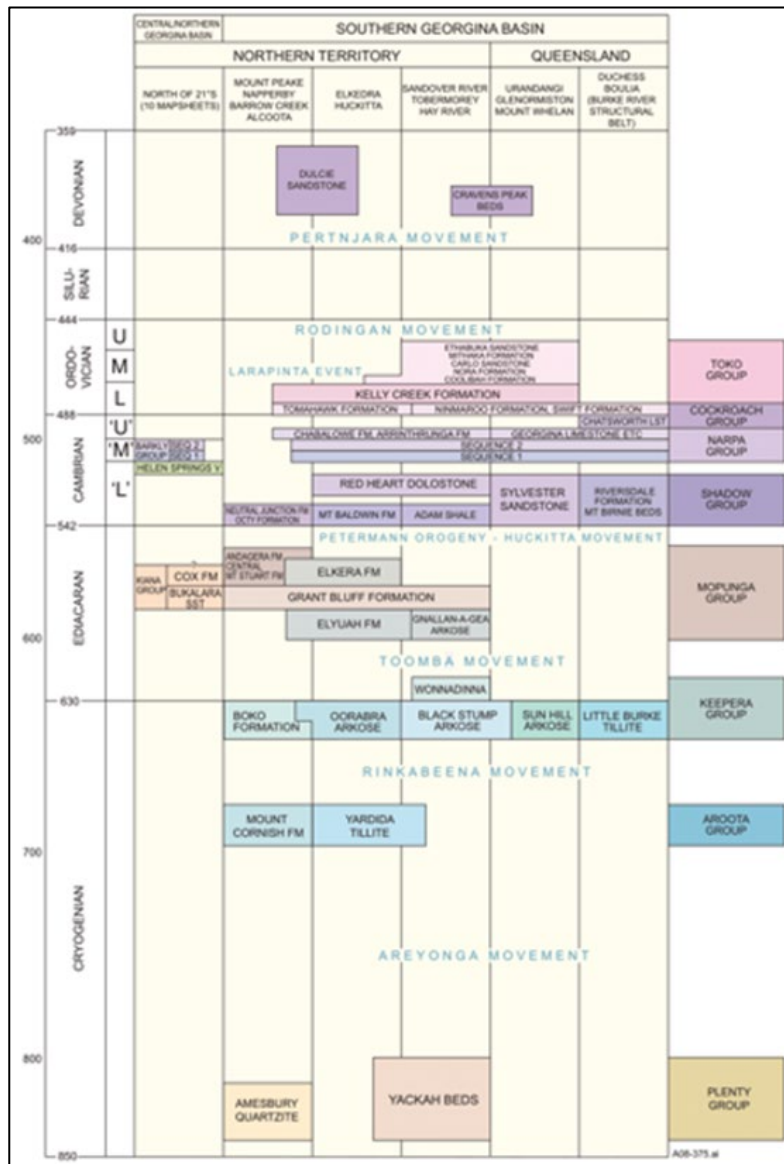


Figure 3: Southern Georgina Basin Lithostratigraphic Diagram (Kruse et al, 2013).

The Sandover Project area lies within the Southern Georgina Basin, which includes strata of Neoproterozoic (Cryogenian to Ediacaran), early Palaeozoic (Cambrian to Ordovician) and Devonian age. Detailed Stratigraphy of the Southern Georgina Basin is shown in Figure 3.

The Sandover Basin is interpreted to consist of a series of structurally compartmentalised Neoproterozoic sedimentary depocentres along the southern margin of the Georgina Basin. Outcropping Neoproterozoic rocks of the Central Mount Stuart Formation form a prominent topographic ridge running along the north-eastern margin of the project tenure, where strata dips gently toward the southwest. A thick pile of Neoproterozoic sediments (as evidenced by isolated historical diamond drilling) extend undercover to the south-west where they are variably covered by Cambrian limestones and Cenozoic sediments.

The location of the Sandover Basin juxtaposed against the Arunta basement rocks is interpreted to be in a structurally controlled, potential half graben basin setting (Figure 4). Structural reactivation of major NW-SE trending lineaments is interpreted to have occurred over the history of the basin.

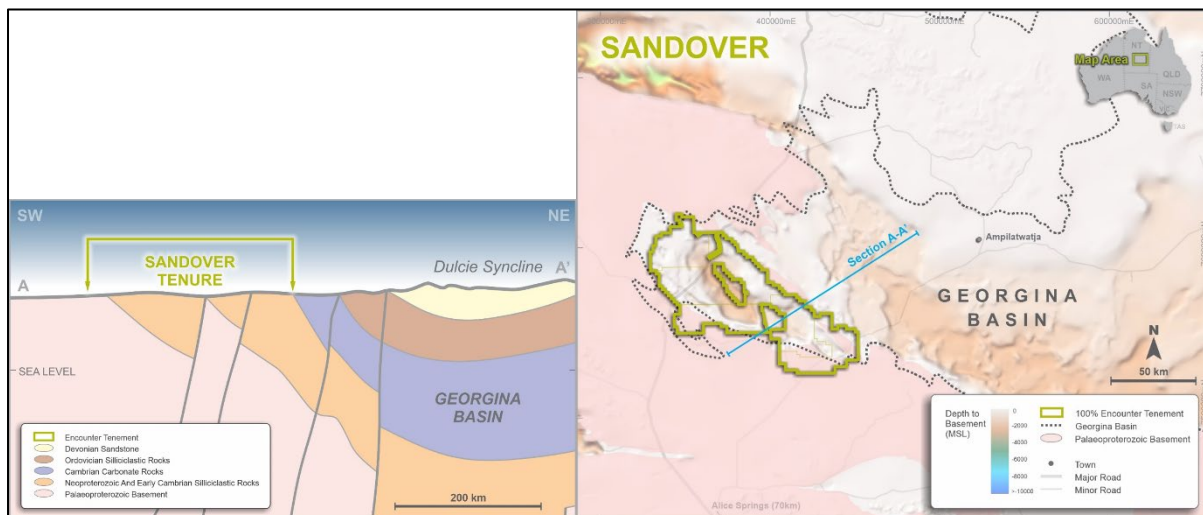


Figure 4: Southern Georgina Basin Schematic cross section with Sandover Project outline (modified from Dunster et al, 2007)

3. PREVIOUS EXPLORATION

The area of the Sandover Project tenure has been a subject of mineral exploration since the 1960s, for a number of commodities: base metals, uranium, tin, tantalum, wolfram, gold, diamonds, and in more recent years lithium. A summary of previous exploration is presented in the sections below.

3.1. Base Metal Exploration

Base metal exploration within the Sandover Project area was initiated by Kennecott Exploration in 1966. The exploration activities were concentrated around Mt Skinner area, where malachite bearing sediments of the Central Mount Stuart Formation were outcropping. The company completed surface sampling along the known outcrops and drilled three (3) rotary percussion drillholes (BH1 to BH3).

In 1968 NT Department of Mines and Water Resources drilled four (4) diamond drill holes totaling 662m in the same area.

In the early 70s (1970-1972) Centamin N.L. drilled four (4) diamond drillholes (CMS1-4) in the Mt Skinner area. Selected intervals of core were assayed for Cu, Pb and Zn, with a maximum Cu content of 680ppm recorded in CMS1 at 359.6m.

In the period 1969-1970 Utah Development Co completed extensive surface sampling and examined drill core and data obtained from the NT Department of Mines drill holes 1 and 2, drilled in 1968, confirming the presence of mineralised beds over a wide area. Chalcopyrite was noted to occur in thin horizons of grey sediments within the predominantly red sediments of the Central Mount Stuart Formation. However, the grades were considered low for economic extraction.

In the early 80s Alcoa Australia Ltd. flew an airborne magnetic survey at 500m line-spacing to obtain depth to magnetic basin measurements and delineate sub-basinal environments. The company also re-logged and re-sampled selected intervals from Centamin drill holes CMS1-4. The results downgraded the prospectivity of the area and the company did not progress with further exploration.

In the period 1993-1994 CRA Exploration Ltd completed a surface sampling program including rock-chip, soil and stream sediments sampling. The company also re-logged and re-sampled open file core

from Centamin drillholes CMS1-4, drilled in 1968. The results showed the “reduced facies” grey-green siltstone of the Central Mount Stuart Formation to contain 2-3 time more background Cu and locally elevated Co, Ni, Pb, Zn, Mo, As, and Ag (Menzies & Louwrens, 1995. CR1995-0562). CRA also drilled two stratigraphic holes DD94MG001 and DD94MG002 for a total of 591m to test the northern extent of the cupriferous “reduced horizons” occurring at the Mount Skinner area.

No drilling has been carried out in the Sandover project area since 1995.

In 2011-2013 Ao-Zhong International Mineral Resources (Ao-Zhong) undertook soil sampling in the area with some samples showing up to 125000ppm Cu content.

3.2. Uranium, Tin, Tantalum, Wolfram Exploration

In 1972-1974 CRA completed rotary and percussion drilling immediately ESE of the Sandover tenure. Drilling did not intersect uranium mineralisation.

In 1977-1979 Otter exploration completed wide-spaced Airborne Radiometric Survey, on-ground checking of anomalies and surface samples collection. Samples were taken from 17 locations and analyzed for U, Th, and W. Three samples were taken from the Mt Skinner area analyzed for Cu, Pb, Zn, Mo.

During 1978-1982 CRA explored the area for W, U, Sn and Base metals. The company completed 77 RAB drill-holes and 2 diamond drill-holes (DD82M02 and DD82MC1); as well as surface sampling and rock-chip sampling over Sn-bearing stratified pegmatoid, along the eastern limit of the Sandover tenure. No significant anomalous geochemistry was reported.

Exploration was carried out by Uramet Minerals Limited between January 2007 and January 2011. This exploration activity consisted of regional reconnaissance work, water bore sampling, vegetation sampling, aircore drilling, mineral chemistry and geochemical analysis, VTEM and gravity surveys. As part of an extensive aircore drilling program 243 holes were drilled between September and October 2007. The drilling revealed a uranium anomaly with the best intersection of 200 ppm uranium measured with a handheld XRF.

3.3. Gold Exploration

In 1990s Western Mining were exploring the Sandover area and surroundings. In October-November 1995 they completed an RC drilling program, consisting of 110 drillholes. Five of these holes (TTRC61-65) are within the northern part of Sandover Project area. No Au anomalism was detected in the five drillholes and no further exploration in this area was pursued.

During 1994-1996 Aberfoyle Resources flew Airborne magnetic and radiometric survey at 500m line-spacing in the area, parts of which are covering the northern portion of the Sandover tenure. The company also completed a RAB drilling program of 198 drillholes, 28 of which are within Sandover tenement EL32694. Drilling samples were assayed for Au, Cu, Pb, Zn, As, Bi, Ni, Mn.

During 1996-2000 Normandy Gold Pty Ltd explored the area immediately to the east of Sandover Project. The company completed VC and RAB drilling programmes with one RAB drillhole and five VC holes within the Sandover tenure eastmost area.

4. EXPLORATION CONCEPT

The Sandover project tenure is considered prospective for sedimentary hosted copper mineralisation. Copper anomalies are known in the area both from outcrops (particularly the Mt Skinner area) and drillholes.

The Sedimentary hosted stratiform copper deposits are described to form by movement of moderate-temperature, moderate- to high-salinity, oxidized, copper-bearing fluids across a reduction front that

results in the precipitation of copper sulphides (Hitzman, et al., 2010). The largest known deposits occur within sedimentary basins, generally occur at the contact between subaerial red-bed sequences and overlying marine or lacustrine shales, siltstones, sandstones, or carbonate rocks (Hitzman, et al., 2010).

Exploration emphasis is placed on basin architecture and where reduced units intersect long-lived basin forming structures, and/or onlap basement as areas with the potential to host major mineral deposits. These areas provide interaction between fluid pathways and reducing conditions at which copper sulfides may precipitate via a redox reaction.

The Sandover Project represents a compelling sedimentary hosted copper exploration opportunity. The Sandover Basin represents a locally preserved Neoproterozoic depocentre within a major structural corridor on the southern margin of the Georgina Basin. The major elements of a sediment-hosted copper system are present within the Sandover Basin. Neoproterozoic sediments are juxtaposed against crystalline basement (Arunta block) in an interpreted structurally controlled, half graben basin setting. There is recorded presence of evaporites and reduced stratigraphic units, and red-bed sequence within the Sandover Basin stratigraphy. Evidence of a copper mineralisation event within the basin occurs where historical exploration has mapped copper (malachite) in a reduced unit at surface in a stratiform position extending over 20km of strike in the Mount Skinner area.

Prior to the acquisition of the Sandover Gravity Survey which is subject to this report, Encounter completed two rounds of field reconnaissance and surface sampling which confirmed the presence of outcropping copper mineralisation associated with a local grey shale reduced unit within a broader “red bed” sandstone sequence. Sampling of copper mineralisation at surface returned assays up to 20.9%. However, the arial and vertical extend of these mineralisations remain uncertain.

The program of 1x1km ground gravity survey intended to increase the gravity resolution to a scale required to effectively map the basin architecture and outline areas which are more prospective for copper deposition for further exploration work.

5. SANDOVER GRAVITY COLLABORATIVE PROGRAM DETAILS

Encounter Resources contracted Atlas Geophysics to complete the Sandover Gravity Program. The survey was acquired in two phases – Phase 1 was completed in June 2022 and Phase 2 in October 2022. Atlas Geophysics completed the acquisition of the ground gravity dataset utilising helicopter transport between stations. Details about data acquisition and methodology are provided by Atlas Geophysics in *M2022081_ENCOUNTER_Sandover_Gravity_Acquisition_Report.pdf*. This report was prepared after the completion of Phase 1 in June 2022. As such, the details about the number of stations acquired are relevant for Phase 1, however acquisition parameters, methodology, processing, and QC are related to the entire Sandover Gravity Survey. A second report was provided by Atlas Geophysics after Phase 2 but did not include such extensive acquisition detail.

A total of 2,529 gravity stations were acquired at 1km x 1km spacing. In June 2022, 583 gravity stations were acquired in Phase 1 in the southern part of the Sandover tenure on EL32421, EL32374 and part of EL33060. In Phase 2 1946 stations were acquired in October 2022, covering Encounter’s Sandover northern tenements (EL32694, EL32695, EL32696). The location of acquired gravity stations is shown in Figure 5.

In the Sandover Gravity Round 15 Geophysics and Drilling Collaborations program application, acquisition was planned to cover all of Encounter’s Sandover tenure (EL32374, EL32421, EL32694, EL32695 and EL32696) at 1km x 1km spacing. Planned gravity data acquisition stations were added to cover a portion of EL33060 after it was subsequently added to the Sandover project.

Planned 1km x 1km stations were omitted if they fell within areas identified as sensitive or restricted in AAPA abstracts or if they fell within infrastructure corridors (railway and highway) and could not be

effectively relocated. Due to an helicopter incident and subsequent pastoral access discussions, a number of planned stations were unable to be acquired on Mt Skinner station within the timeframe required for the survey acquisition.

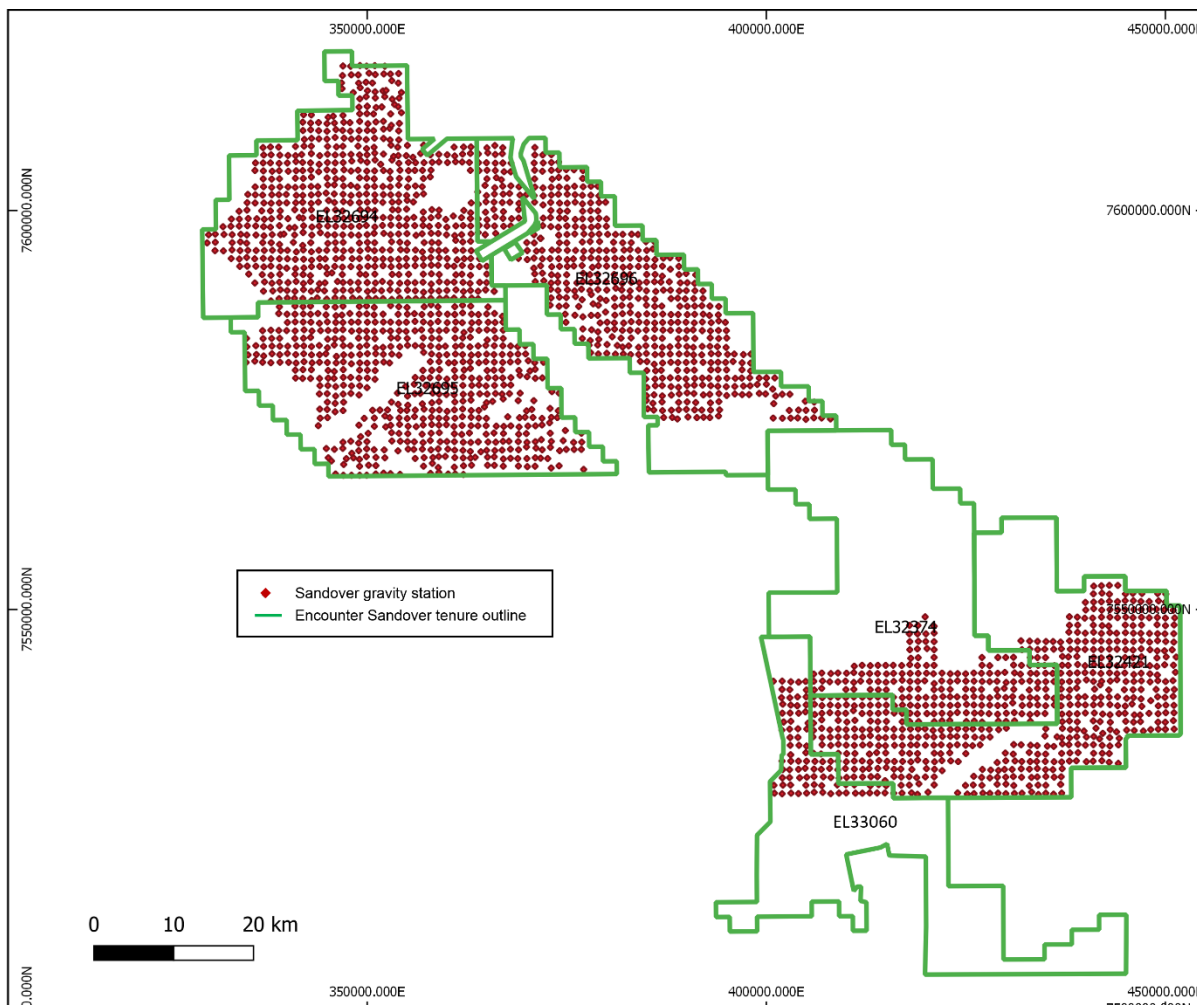


Figure 5: Sandover Gravity Collaborative Program – gravity stations location

The acquired gravity data was initially processed by Atlas Geophysics using their in-house gravity pre-processing and reduction software, AGRIS. This software allows for full data pre-processing, reduction to Bouguer Anomaly, repeatability, and statistical analysis, as well as full quality control of the output dataset.

Subsequently, Terra Resources was contracted to merge the newly acquired Sandover gravity data with the existing regional datasets to produce a suite of images used for interpretation.

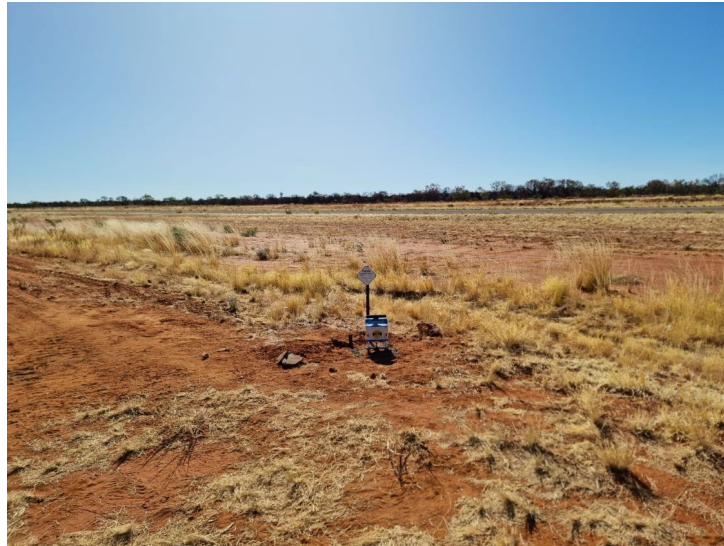


Figure 6: Sandover Gravity Collaborative Program – gravity control station near Ti Tree station (photo Atlas Geophysical)

6. RESULTS AND INTERPRETATION

Sandover gravity stations were acquired at 1km by 1km spacing, which is a significant increase in data resolution, compared to the existing regional gravity dataset at 4km by 4km for the Sandover Basin. Comparison between the NT regional gravity data set image before and after the acquisition of the Sandover gravity survey is shown on Figure 7.

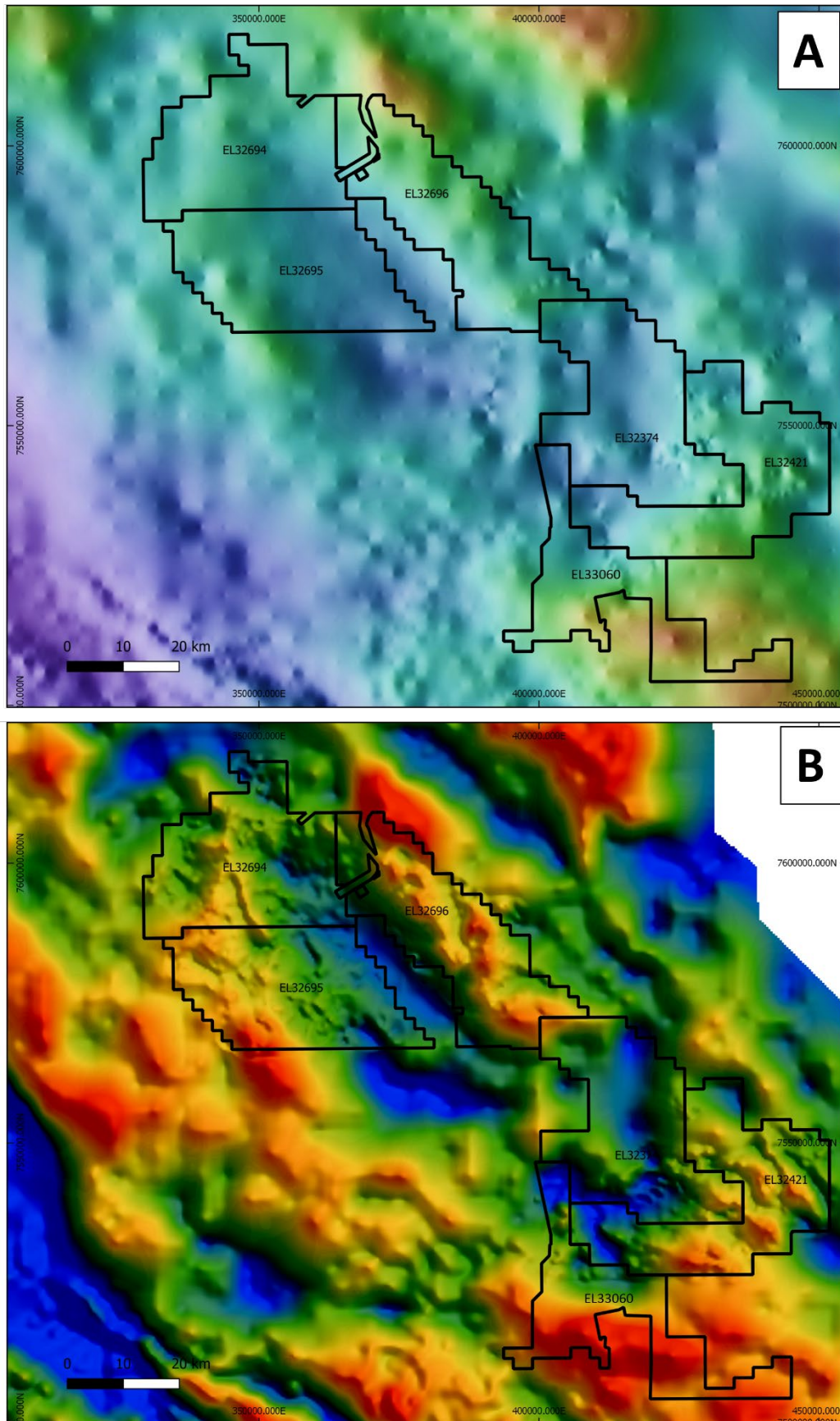


Figure 7: Sandover Tenure gravity image comparison: A – NT regional gravity dataset (from STRIKE) prior to acquisition of Sandover Gravity data; B – NT regional dataset merged with newly acquired Sandover gravity data (Geotiff San_2022_BA_res5km_045shd_hist)

The newly acquired gravity data significantly improves the imaging of the Basin’s architecture. New data aids in detailed interpretation of both NW-SE trending and NE-SW trending structures (Figure 8). New gravity data and subsequent interpretation infers the presence of deeper, structurally controlled and compartmentalised basin depocentres. In addition, new gravity data resolve more shallow and gradational shelves of paleoproterozoic basement with interpreted onlap of Neoproterozoic basin sediments.

The resulting improved basin architecture resolves multiple target locations for potential reduced units in the basin to intersect long-lived basin forming structures, and/or onlap basement rocks, a key exploration concept for sediment hosted copper deposits.

Encounter Resources plans to complete stratigraphic diamond drilling in 2023 to test basin architecture interpretation at compelling target locations.

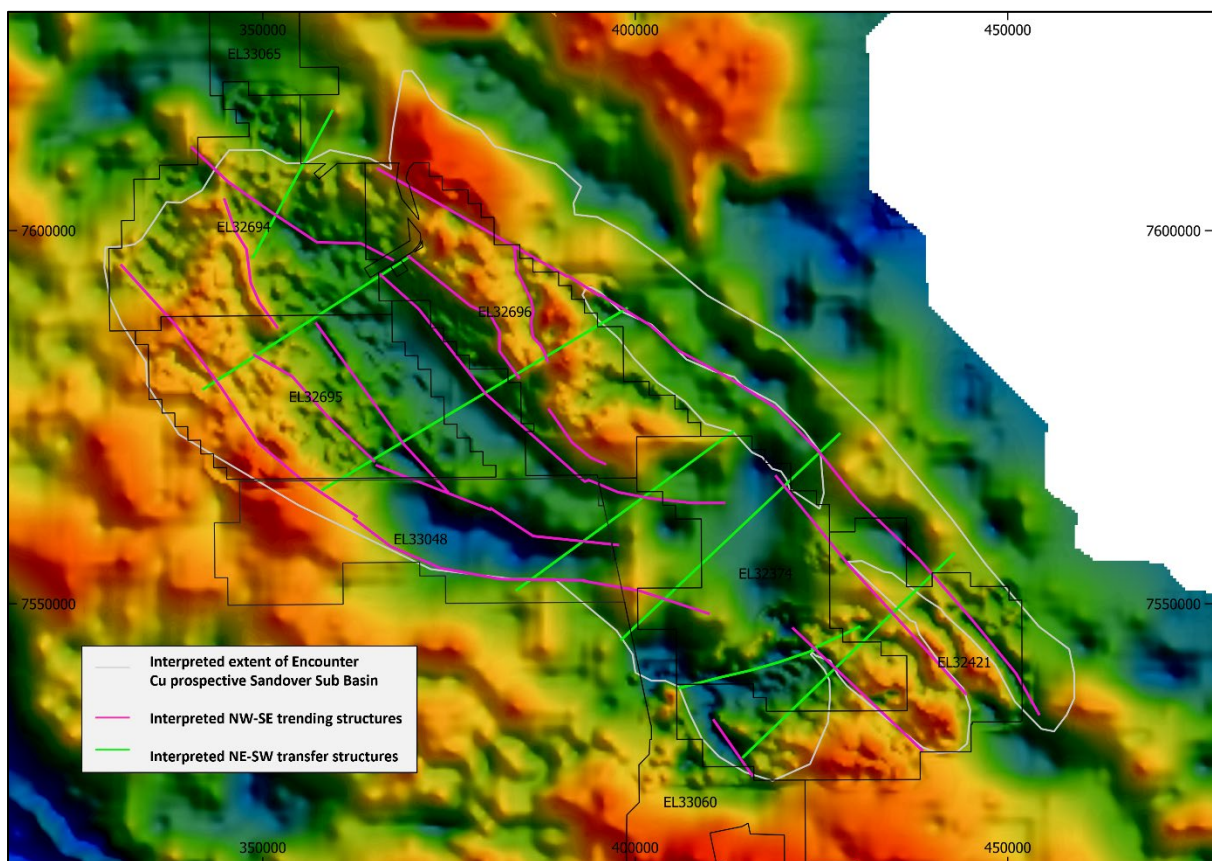


Figure 8: Sandover Tenure gravity image (San_2022_BA_Opt5vd_045shd_hist) with interpreted NW-SE trending and NE-SW trending structures, and interpreted extent of the Encounter Cu prospective Sandover Sub Basin.

7. CONCLUSIONS

The newly acquired Sandover Gravity data shows significantly improved data resolution compared to the existing regional gravity datasets. The new data (merged with existing regional datasets) has allowed for detailed structural interpretation of the basin architecture.

The improved basin architecture resolution has defined multiple target locations where potential reduced units in the basin intersect long-lived basin forming structures, and/or onlap basement rocks, a key exploration concept for sediment hosted copper deposits.

Encounter Resources plans to complete stratigraphic diamond drilling in 2023 to test basin architecture interpretation and compelling target locations.

8. REFERENCES

Dunster JN, Kruse PD, Duffett ML and Ambrose GJ, 2007 Geology and resource potential of the southern Georgina Basin. Northern Territory Geological Survey, Digital Information Package DIP007 (October 2007).

Hitzman M., Selley D., Bull S., 2010. Formation of Sedimentary Rock-Hosted Stratiform Copper Deposits, through Earth History. *Economic Geology* 105(3), 627-639.

Kruse PD, Dunster JN and Munson TJ, 2013. Chapter 28: Georgina Basin: in Ahmad M and Munson TJ (compilers). 'Geology and mineral resources of the Northern Territory'. Northern Territory Geological Survey, Special Publication 5.

Menzies D.C & Louwrens D.J., 1995. EL8016 Mount Gwyanne and EL8017 Mollie Bluff (NT) Final report and Annual report for Period ending 27 April 1995. Industry report ID - CR1995-0562.

**SANDOVER GRAVITY COLLABORATIVE PROGRAM
EL 32374, EL 32421, EL 32694, EL 32695, EL 32696,
EL 33060**

APPENDIX 1

**SANDOVER GRAVITY COLLABORATIVE PROGRAM
DIGITAL DATA
(File: Sandover Gravity Program Data_2023_C.zip)**