Cerberus Resources Pty Ltd

EL31692
Leila Creek Project

Annual report for the period:
21 September 2021 to 20 September 2022

Target Commodities: Base Metals, Gold, Silver

Bauhinia Downs SE5303 (1:250,000)
Batten 6065 and Mallapunyah 6064 (1:100,000)

Prepared by Cerberus Resources Pty Ltd
20 November 2022

Abstract

- EL31692 (Project) is located approximately 75km SW of Borroloola.
- Cerberus is assessing the potential of the Project for Stratiform, sediment-hosted Pb-Zn-Ag (+/- Cu) deposits.
- Previous exploration and mineral development activities in the Project area have highlighted several geological and geophysical anomalies.
- The northeastern portion of the Project area offers the most realistic exploration opportunity to locate a large base-metal deposit beneath rocks of the Lynott Depositional Cycle, in structural contact with Tawalla Group basement.
- A total of 22 sub-blocks were relinquished from the Project during 2022, leaving 9 retained sub-blocks.

Contents

1. Introduction

EL31692 (Project) is located in two separate parts ~75km SW of Borroloola (Figure 1). The Project is located on the McArthur River Station (NT Portion 4317 - Perpetual Crown Lease). Access to the Project areas from the McArthur River Mine is via the Carpentaria Highway, and then minor roads and tracks heading to Bessie Springs and Leila Creek. All maps in this report are shown using the GDA94 Geographic datum or in MGA94 using the Zone 53 projection.

2. Tenure

EL31692 was granted for a 6-year period commencing on 21 September 2018, and originally covered 31 sub-blocks, in two separate parts because the central portion of the original application was lost to a competitor (Figure 2; Table 1).

A total of 22 sub-blocks were relinquished from the Project during 2022, leaving 9 retained sub-blocks.

3. Geology

The Project is situated near the world-class McArthur River (HYC) Pb-Zn-Ag Deposit, as well as several other significant base-metal deposits/ prospects such as at Teena, Myrtle, Amelia, Larra Keyah, Squib, Cooks and Cox (Coxco).

The Project area lies within the Palaeo- to Mesoproterozoic McArthur Basin, part of the NW-SE trending Carpentaria Zinc Belt, which extends from Mount Isa to Arnhem Land. The McArthur Basin contains a 5km to 10km thick package of mostly unmetamorphosed sedimentary and volcanic rocks deposited between ~1800Ma and 1575Ma, and unconformably overlies 1890Ma to 1820Ma metamorphosed and deformed igneous basement rocks of the Pine Creek and Arnhem Provinces. Palaeozoic and younger sedimentary sequences of the Georgina, Arafura and Carpentaria Basins unconformably overlie the McArthur Basin rocks.

A deep seismic reflection survey (Rawlings et al. 2004) showed the entire succession is essentially horizontal, with a thickness of ~8km that shows no significant variation either side of the Walker and Batten Fault Zones.

The presence of a world-class deposit of Pb-Zn-Ag mineralisation at HYC was first indicated by the discovery in 1955 of a small outcrop of jasper containing hemimorphite. The deposit was subsequently delineated with drilling, but due to the fine-grained nature of the sulphides that precluded adequate metallurgical recovery, was not immediately developed. After extensive metallurgical testing, mining started in 1995.

The HYC deposit is located immediately west of the Emu Shear Zone on the eastern margin of the Batten Fault Zone (Ahmad et al., 2013). Mineralisation is hosted by the HYC Pyritic Shale Member lithofacies of the ~1640Ma Barney Creek Formation. The immediate host sequence is interpreted to have been deposited within a tectonically induced sub-basin.

Many researchers (see summaries in Large et al., 2001 and Ireland et al., 2004) have concluded that the HYC mineralisation was emplaced at the sediment-water interface from a stratified brine pool that developed in the deepest part of a fault-controlled sub-basin adjacent to the Emu Fault Corridor. Hydrothermal fluids are inferred to have entered the brine pool as a series of pulses related to seismic activity along growth faults.

Within the Project area, the formations of prime interest for hosting mineralisation are the Barney Creek Formation, and also the Donnegan and Hot Springs Members. There are significant areas comprised of Roper Group and the Nathan Group sediments, which overlie the target McArthur Group rocks.

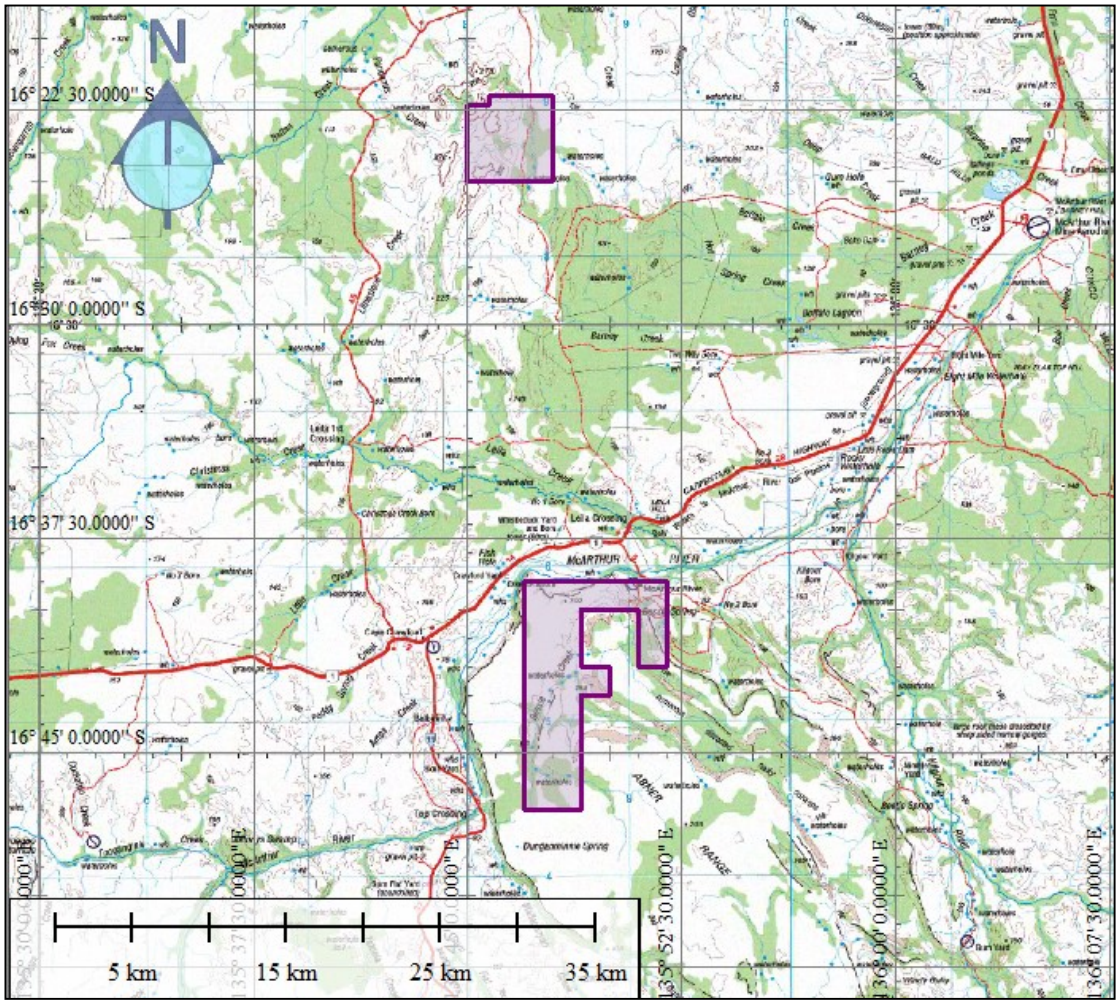

Figure 1: *Location map (GDA94 Geographic).*

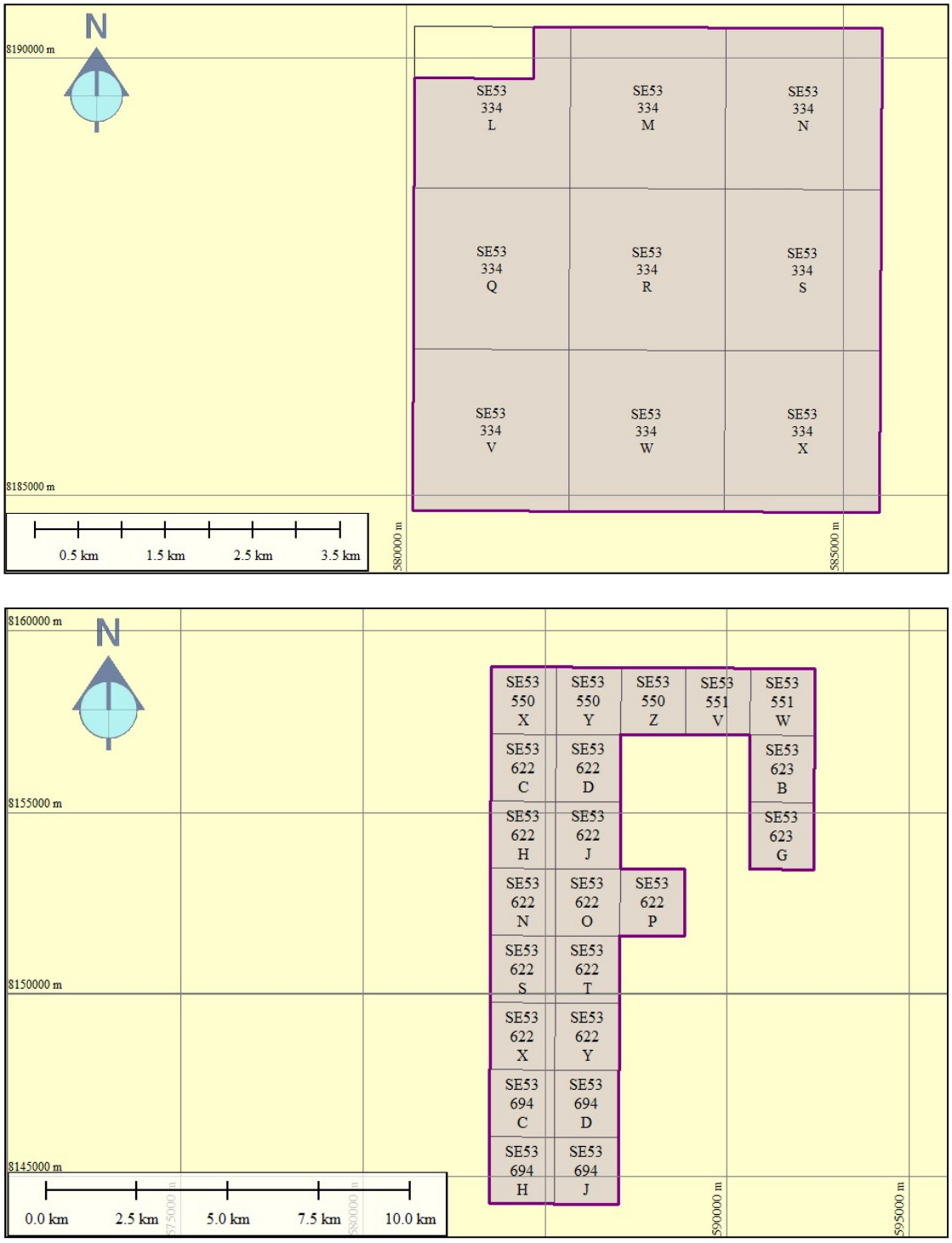

Figure 2: *Tenement map (MGA94 Zone 53).*

***Table 1**: Sub-Block List*

BLOCK	GRID_ID	BIM	SUB_BLOCK
334	SE53334V	SE53	V
334	SE53334W	SE53	W
334	SE53334X	SE53	X
334	SE53334Q	SE53	Q
334	SE53334R	SE53	R
334	SE53334S	SE53	S
334	SE53334L	SE53	L
334	SE53334M	SE53	M
334	SE53334N	SE53	N
550	SE53550X	SE53	X
550	SE53550Y	SE53	Y
550	SE53550Z	SE53	Z
551	SE53551V	SE53	V
551	SE53551W	SE53	W
622	SE53622C	SE53	C
622	SE53622D	SE53	D
623	SE53623B	SE53	B
694	SE53694C	SE53	C
694	SE53694D	SE53	D
622	SE53622X	SE53	X
622	SE53622Y	SE53	Y
622	SE53622S	SE53	S
622	SE53622T	SE53	T
694	SE53694H	SE53	H
694	SE53694J	SE53	J
622	SE53622H	SE53	H
622	SE53622J	SE53	J
623	SE53623G	SE53	G
622	SE53622N	SE53	N
622	SE53622O	SE53	O
622	SE53622P	SE53	P

4. Exploration history

Previous exploration in the general area of the Project has included stream sediment sampling, minor soil and rock chip sampling, mapping, structural analysis, geophysical surveys (including AEM), and only minor drilling.

The ground was most recently held by Ripple Resources Pty Ltd under EL30080 and EL30074. Ripple did not undertake much ground work, due to the depth of the prospective target horizons, as deduced from 3D basin analysis modelling by FrogTech (see CR2015-376; CR2016-327; CR2016-484; CR2017-279).

5. Summary of work undertaken

During the reporting period, Cerberus undertook desk top studies to assess the geological and mineralisation potential of the Project area. This included reviews of open-file company reports and other public domain documents (ASX announcements, company annual reports and presentations), as well as geological papers outlining historical exploration activities. Relevant surface geochemical sampling results were recovered and assessed. Other publicly available regional-scale infrastructure, physiography, geophysical, Landsat, SPOT and ASTER datasets provided by the NT Geological Survey, CSIRO and Geoscience Australia were also interpreted.

The area is sparsely drilled, so interpretations of the target bedrock geology rely heavily on the interpretation of geophysical datasets, and understanding of basement features from better drilled areas near the Project.

The assessment work covered the entire Project area so no exploration index map is provided in this report.

6. Conclusion and recommendations

The potential for the northern Project area to contain Pb-Zn-Cu mineralisation appears to be reasonable. Here, the eastern portion of EL31692 is inferred to be underlain by units of the Barney Creek Depositional Cycle (Figures 3 and 4), including the main lithostratigraphic target horizon, from the Teena Dolostone to the Reward Dolostone. This portion of the Project offers the most realistic opportunity to locate a large base-metal deposit beneath rocks of the Lynott Depositional Cycle in structural contact with Tawalla Group basement.

The near surface geology of the topographically elevated southern portion of the Project is dominated by folded units of the Roper and Nathan Groups. Base metal exploration within this area is challenging, because the main target Barney Creek Depositional Cycle lies at significant depth (Figure 3). Nonetheless, this area contains a number of AEM anomalies, most of appear to be sourced in units of the Rope Group, or near-surface alluvial sediments (Figure 5).

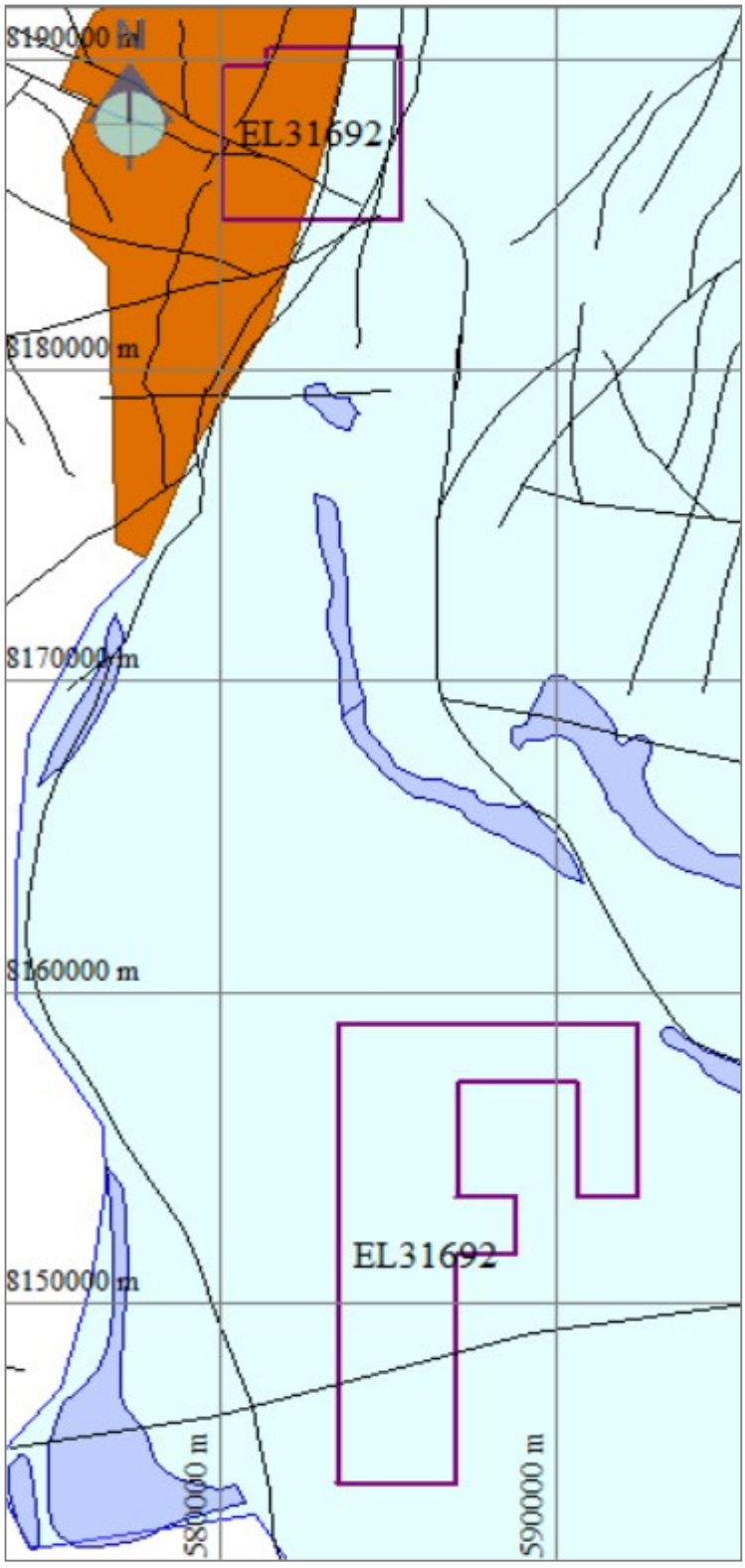

Figure 3: *Simplified geological map showing the inferred surface (purple) and subsurface (blue) distribution of the Barney Creek Depositional Cycle (Teena Dolomite to the Reward Dolostone) in the region surrounding EL31692. Brown polygon shows Tawallah Group basement. Interpreted faults shown by the black line. MGA94 Zone 53.*

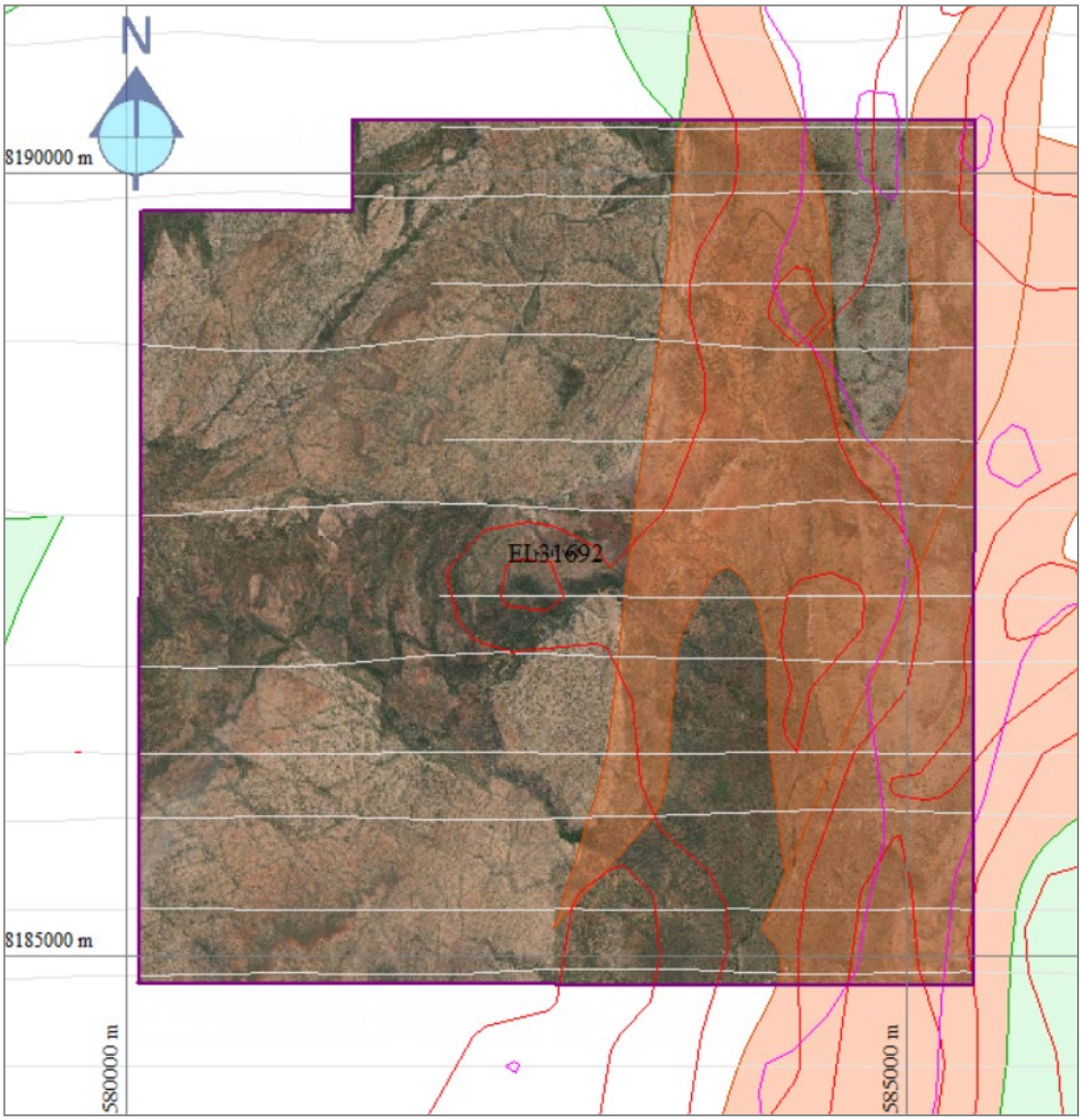

Figure 4: *Summary interpreted geology map of the northern area. Mapped position of target stratigraphic package from the Teena Dolomite to the Reward Dolostone (Barney Creek Depositional Cycle) is inferred to lie between Emmerugga Depositional Cycle footwall units shaded green, and Lynott Deposition Cycle hanging-wall units shaded in orange. Red and pink contours show the location of significant AEM (GEOTEM and QUESTEM) anomalies at depths of 50-70m, and 130-150m below surface, respectively. (MGA94 Zone 53 Grid).*

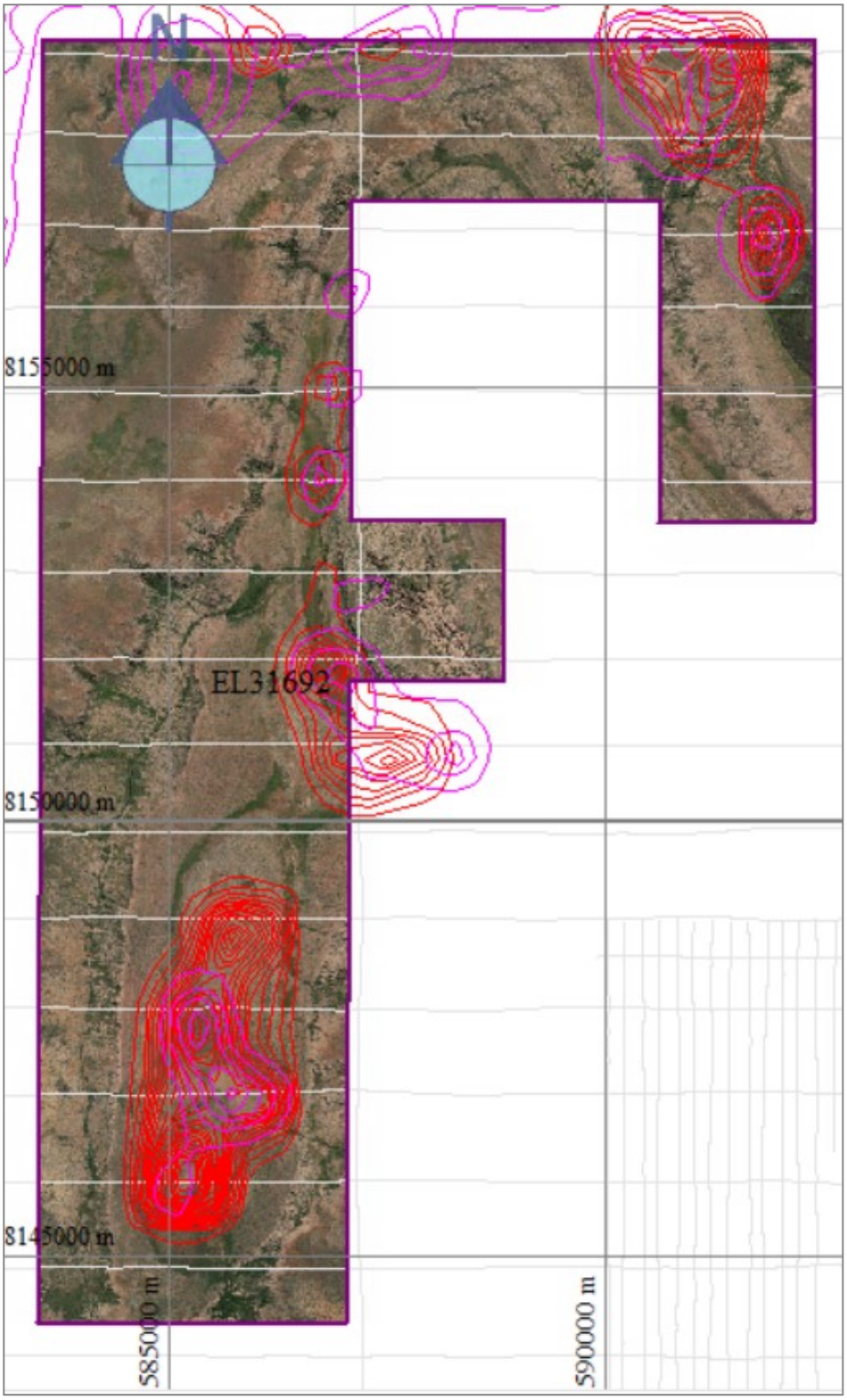

Figure 5: *Summary map of the southern area showing the location of significant AEM (GEOTEM and QUESTEM) anomalies at depths of 50-70m (red) and 130-150m below surface (pink). (MGA94 Zone 53 Grid).*

7. Confidentiality Statement

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8. References

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