



# SHREE MINERALS LTD

## Research Study Generates Exploration Targets at Arunta Project

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- **Research study completed by CSIRO**
- **3D model created to assist understanding of the controls on lead-zinc mineralisation**
- **Exploration to target extension to stratabound mineralisation and feeder zones**

Shree Minerals Ltd (“Shree” or the “Company”) is pleased to announce completion of the research study on the Box Hole prospect (Arunta Project). The Box Hole lead-zinc prospect is located at the northern flank of the Dulcie Trough in the southern margin of the Georgina Basin (Figure 1).

The project was made possible by Australia’s national science agency, CSIRO’s Kick-Start program, an initiative that provides funding and support for innovative Australian start-ups and small businesses to access CSIRO’s research expertise and capabilities to help grow and develop their business.

The study aims were to evaluate and re-process existing geophysical, lithological and geochemical data as the basis for building a 3D model of the prospect and improving understanding of the setting of the lead-zinc mineralisation

The main outcomes from the study are as follows:

- Lead-zinc mineralisation occurs in two stratabound horizons within a 40m thick interval within interbedded shale, sandstone and siltstone, or near the contact within the overlying dolostone.
- The mineralisation is widespread across the tenement but grade is variable both laterally and vertically.
- Pervasive barite and manganese alteration extends up to 10m from the stratabound mineralisation.
- Mineralisation in the southern area is more structurally complex but is also higher grade, possibly indicating proximity to feeder structures.
- The lead-zinc mineralisation is stratabound within favourable lithological units, however, on a prospect scale the mineralisation shows a striking linear trend. This could indicate an underlying structural control such as coincidence with a feeder fault zone.

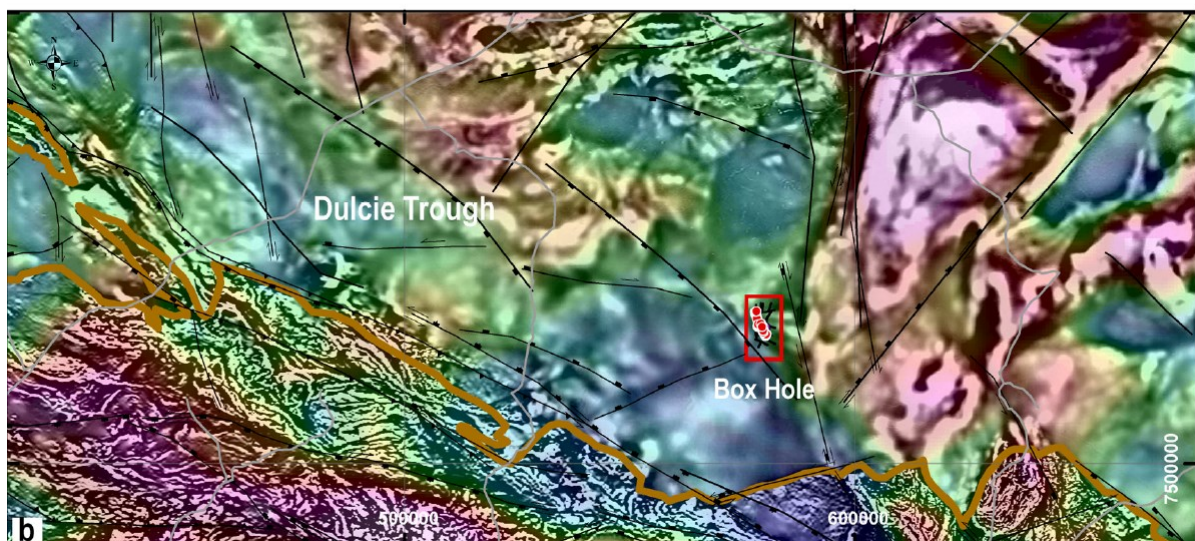
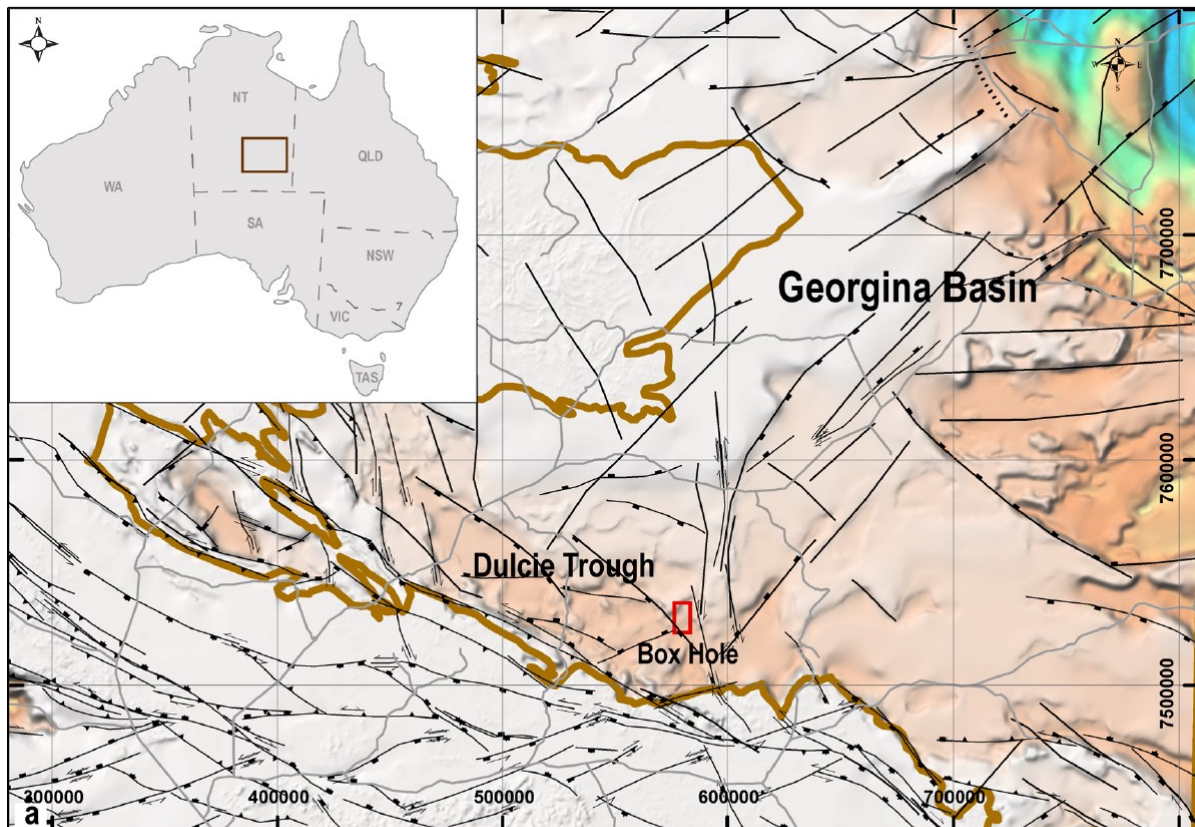


Figure 1. a) Seebase – depth to basement map showing the Box Hole deposit area in the Dulcie Trough of the Georgina Basin. b) Box Hole deposit with outcropping mineralisation (red dots) on the northern margin of the Dulcie Trough. Background image – magnetic 1VD and gravity map (Schmid et al., 2021; NTGS & Geognostics Australia, 2021).

Generation of the 3D model was a key component of the study. It was created using Leapfrog3DGeo and included inversions of the airborne electromagnetic data (VTM), inversions of the induced polarisation (IP) cross sections, reprocessed gravity data, drillhole data and an interpretation of the structure by CSIRO. An oblique view of the 3D geological model with drillhole data is shown in Figure 2. Figure 3 shows the structural interpretation with inverted electromagnetic data.



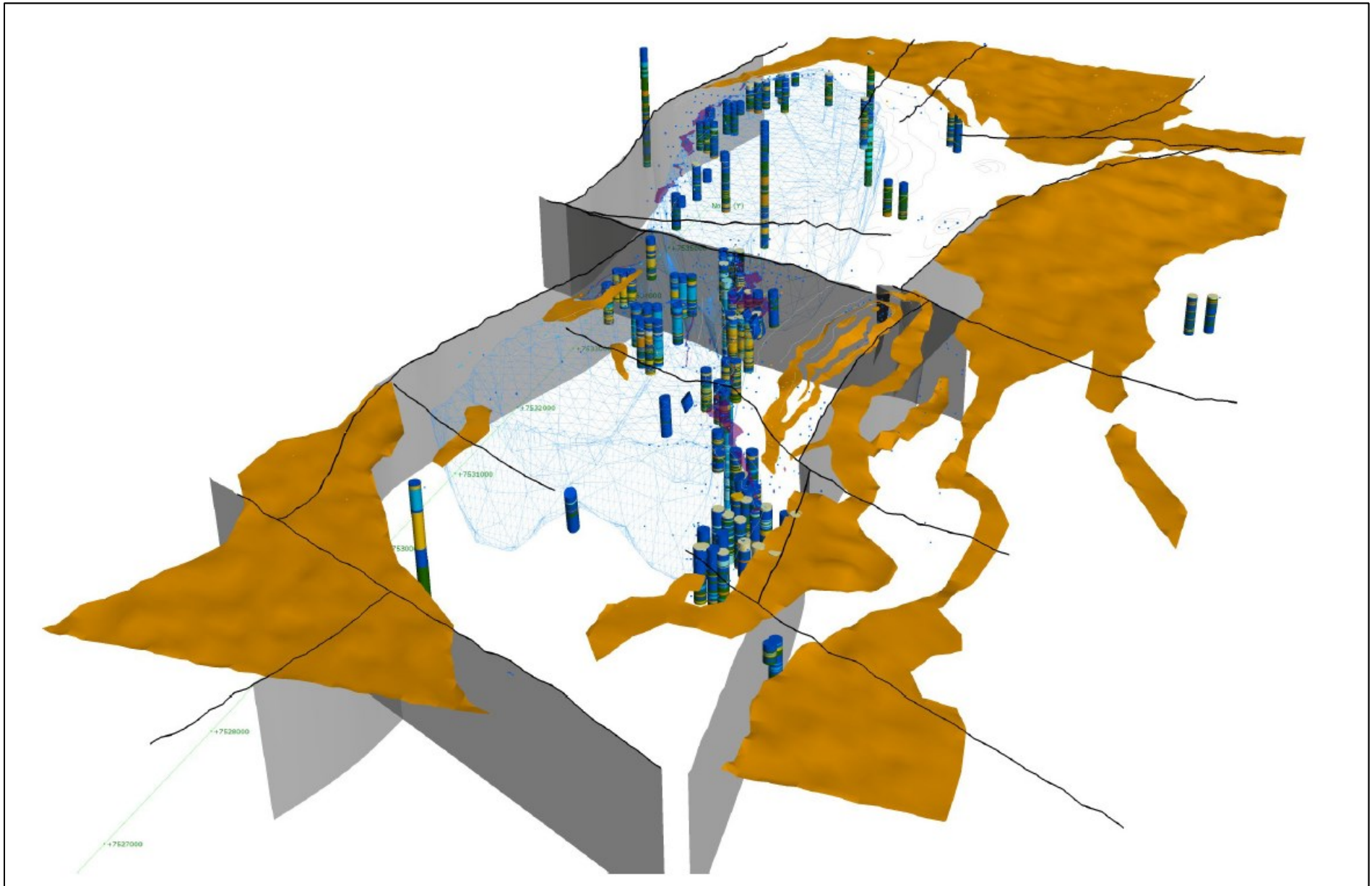


Figure 2: Oblique view looking northwest of the 3D geological model of Box Hole (Schmid et al., 2021).

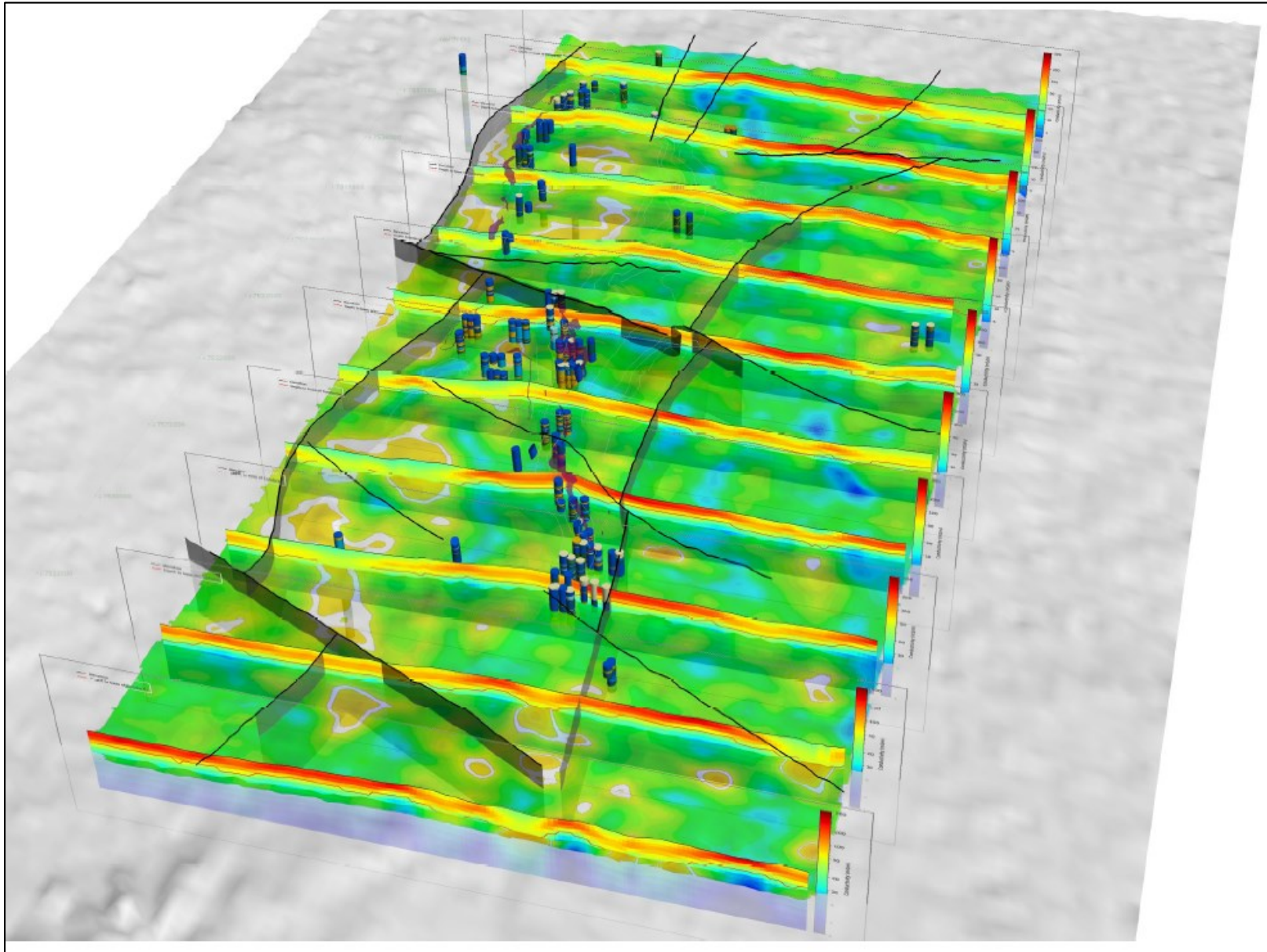


Figure 3: Oblique view looking northwest of the 3D model of Box Hole prospect with inverted airborne electromagnetic data and drill holes (Schmid et al., 2021).

The outcrop lithology comprises of dolostone, sandy dolostone, sandstone and regolith (Figure 4). The contact between sandstone and dolostone is gradual with increasing sandy dolostone to dolostone beds with younging. In outcrop, the mineralised zone occurs within the interbedded silicified sandy dolostone and stromatolitic dolostone. Cubes of galena and disseminated sphalerite in association with barite is the most common type of mineralisation, while galena veins were reported at the southern end.

Locations that intersected lead-zinc mineralisation are shown in Figure 4b. The mineralisation shows a distinct linear trend that could relate to a feeder fault zone.

### **Next Steps**

Shree is continuing to improve understanding of the litho-structural setting of the mineralisation. Further work may include:

- Prospect scale soil sampling using a handheld XRF to delineate mineralisation and alteration. Soil sampling will locate prospective lithological and structural trends that will improve the 3D model and targeting.
- Extension of lithological and structural mapping to refine the 3D model.
- Sub-audio magnetic (SAM) or IP surveys focussed on the mineralised trends targeting mineralised feeder faults or blind stratabound mineralisation.
- Shallow vertical drilling to in-fill and extend coverage of the target mineralised horizon and to improve understanding of the controls on grade variability.
- Angled RC traverses across the mineralised trends to target feeder zones.



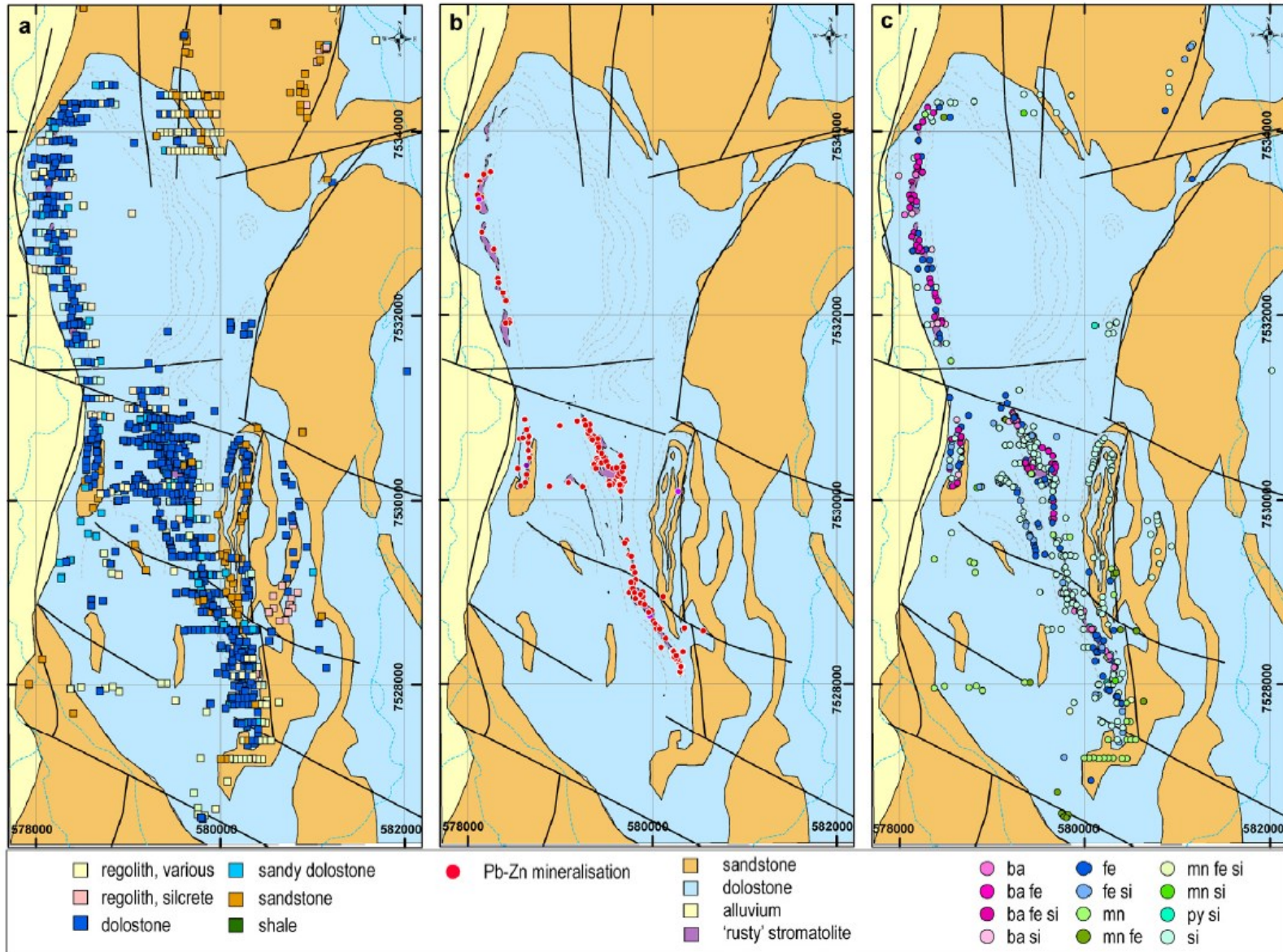


Figure 4: Lithological map (Uramet) with newly interpreted faults (black lines) and a) lithology, b) mineralisation, c) alteration styles (Schmid et al., 2021).

## Background

Box Hole prospect (EL32419) covers an area of 127km sq located approximately 250 kilometres northeast of Alice Springs in the Northern Territory.

The prospect is prospective for large tonnage carbonate-hosted lead-zinc deposits of the Mississippi Valley Type (MVT). MVT deposits are generally carbonate-hosted Pb-Zn-(Cu) diagenetic to epigenetic mineral systems that are mostly stratabound on the district-scale, but can be discordant on the deposit-scale. The sedimentary depositional environment, basin architecture, and deformation history make the Dulcie Trough a prospective region for MVT deposits. Examples of this type of deposit in Australia include the Cadjebut and Blendevale Mines near Fitzroy Crossing in Western Australia.

Genetic models of MVT mineralisation involve oxidised basinal metalliferous brines migrating up basin margin growth faults and precipitating sulphides into favourable permeable and chemical lithological traps, such as carbonates, graphitic shales and dolostones. The model is illustrated in Figure 2.

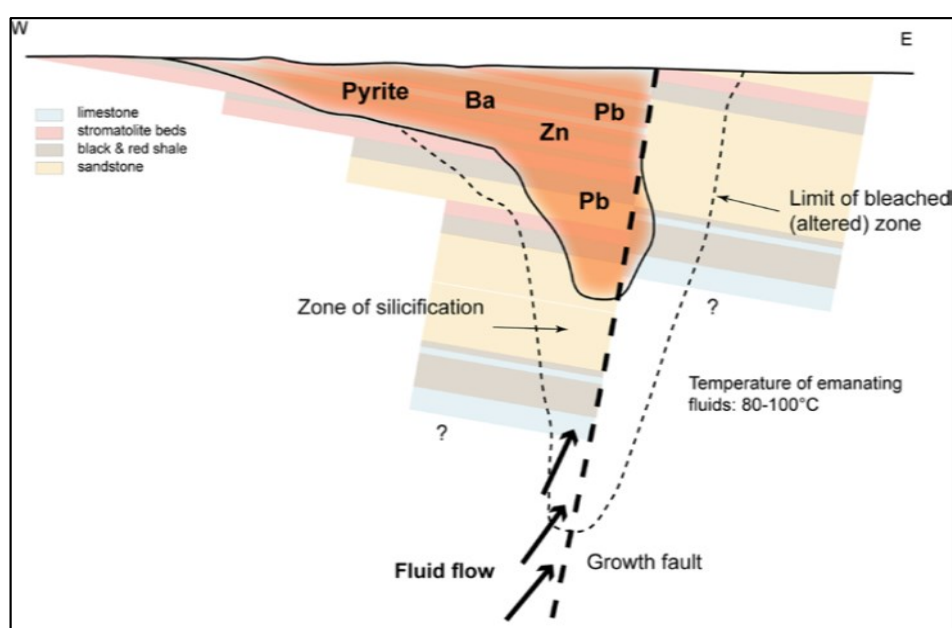


Figure 5 Genetic model for MVT deposits.

Box Hole is centred on the King's Workings that were mined by hand in the 1960's for galena. 15 tonnes of galena with an average grade of 66% Pb, 58.5g/t Ag and 0.43% Bi was hand-picked and sold to the Broken Hill Smelter.

The Pb-Zn mineralisation is hosted by a mixed carbonate and shale sedimentary sequence within the Georgina Basin. The mineralisation is generally associated with silicified dolostone containing gossans that extend for over 6km in a north-south orientation parallel to faulting and anticlinal hinges. The faults could represent the growth faults that have acted as conduits for hydrothermal fluids derived from the basin.

The project has been explored by a variety of companies since it's discovery. The most significant exploration program was completed by Uramet Minerals in 2007-9 comprising various IP and gravity surveys, geochemical surveys and shallow drilling. Uramet conducted RAB drilling of only selected gravity and IP targets, interpreted to be less than 75m deep. The best intersection was:

**12m at 2.8% Zn, 0.67% Pb from 17m in HDB045  
Includes 1m @ 14.7% Zn, 0.3% Pb from 24m.**

## Competent Person Statement

The review of historical exploration activities and results contained in this report is based on information compiled by Martin Bennett, a Member of the Australian Institute of Geoscientists. He is a fulltime employee of Shree Minerals Ltd. He has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which 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 (the JORC Code).

Martin Bennett has consented to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information in the original reports, and that the form and context in which the Competent Person's findings are presented have not been materially modified from the original reports.

Where the Company refers to the Mineral Resources in this report (referencing previous releases made to the ASX), it confirms that it is not aware of any new information or data that materially affects the information included in that announcement and all material assumptions and technical parameters underpinning the Mineral Resource estimate with that announcement continue to apply and have not materially changed.

## About Shree Minerals Limited

Shree Minerals Limited is an Australian diversified mineral exploration and mine development company whose vision is to create shareholder value through the successful exploration of prospective gold, base metal and iron ore projects and the development of these projects into production.

### References

*Shree Minerals Ltd announcement, 30th June 2020: Farm-in and Joint Venture with Territory Lithium Pty Limited to explore for gold and base metals.*  
*Shree Minerals Ltd announcement, 7th July 2021: Exploration Study at Box Hole Project to Commence.*  
*Schmid, S., Blaikie, T., McFarlane, H., Mulé, S., Schaub, P., 2021. Box Hole MVT deposit exploration targeting by integrated geophysical and geological modelling, NT, Australia. CSIRO EP2021-2923, 33pp.*  
*NTGS and Geognostics Australia Pty Ltd, 2021. Northern Territory SEEBASE and GIS, Northern Territory Geological Survey, Digital Information Package DIP030.*

The release of this document has been authorised by the Board.

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