



Review of Hellyer Corridor Geophysical Data

Report written for Kim Denwer of Bass Metals Ltd

By Dan Core of Fathom Geophysics

Introduction

Fathom Geophysics has completed a review of the geophysical data covering the Hellyer Corridor. There are separate reports to detail the processing of each dataset. This report summarizes the findings and contains recommendations for follow-up work.

Available data

The datasets used for this project are ground electromagnetic (GEM), airborne electromagnetic (AEM), ground gravity and airborne magnetic data. A significant amount of ground magnetic data exists but does not show any greater detail than the airborne magnetic data and contains significantly more noise. There is also a significant amount of IP data covering the corridor but this has not been captured yet so it is not covered in this review. For detailed information about the data used, see the reports for each individual dataset.

Combining the Datasets

Anomalies were extracted from each dataset separately. The data were then overlain to locate areas with coincident anomalies. Targets were selected as areas of overlapping anomalies and these were rated as having a quality of high, medium or low. These rankings are just relative to each other. None of the targets are exceptionally high quality as geophysical targets go in general.

There are some stand-alone AEM and GEM targets that do not have any other coincident anomalies but are interesting by themselves.

All targets are attributed with a description of the target and which datasets were used to generate the target. Figure 1 shows the targets colored by the quality.

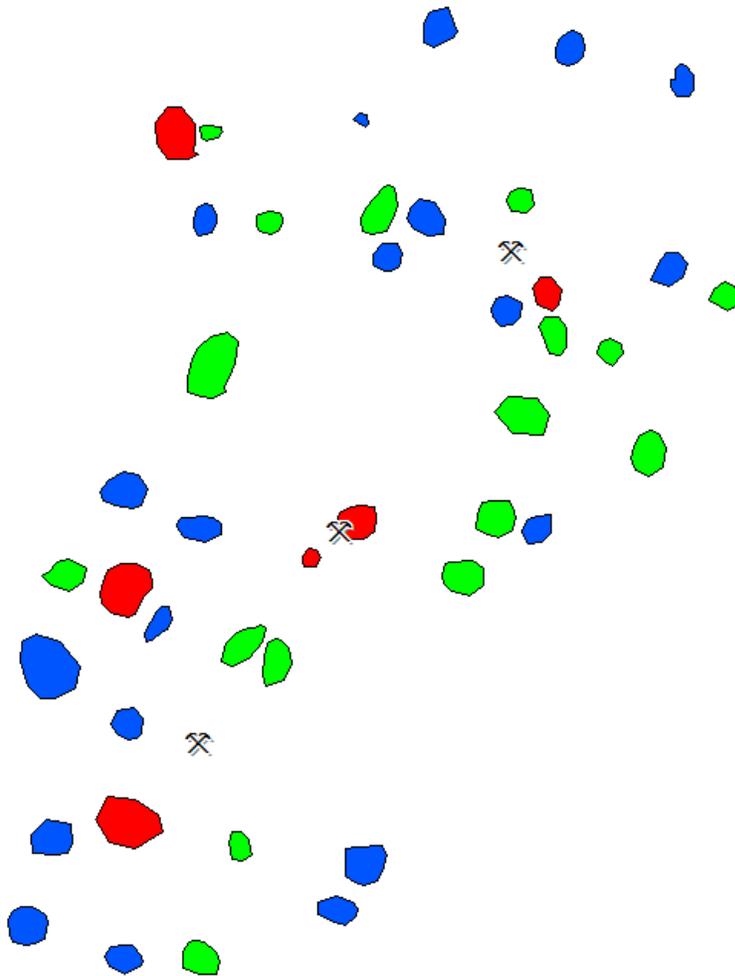


Figure 1. Geophysical targets generated by looking at coincident anomalies in datasets and stand-alone EM anomalies. Red indicates highest quality, green is moderate quality and blue is low quality. These are based on the geophysical signatures along and have not been evaluated for geological prospectivity or possibly cultural influence.

Recommendations

The targets presented here need to be reviewed in the context of the geology datasets and the drilling database to see if they are likely to have the correct stratigraphy and if they have been tested. None of the targets are obvious walk-up drill targets and would require at least additional modeling of the EM data prior to drilling. The targets also need to be reviewed in the context of any cultural artifacts that might affect the data.

The major problem with determining how thoroughly the area has been tested for massive sulfide mineralization is that the focus has always been on a Hellyer-sized body. Almost all the ground EM surveys have 200 m line spacing and relatively coarse station spacing along the lines. This means that a Fossey or Que River-sized body could have been missed. It is highly unlikely that a Hellyer-sized body would have been missed in the areas covered by ground EM so those areas can be considered tested down to about 400m for large bodies.

Conducting follow-up ground EM is likely to be too expensive given the terrain and forest density. Probably the best way to improve the geophysical coverage of the area is to fly a detailed airborne EM survey using a system with a powerful transmitter. The Hummingbird EM survey flown by the MRT has very little penetration depth. It can barely see Hellyer at 100m depth.

The best systems for obtaining both detailed information as well as reasonable depth penetration are AeroTEM (Aeroquest) and VTEM (Geotech). These are both helicopter systems that have dipole moments of approximately 500,000 Am². The penetration depth is up to 500m under ideal conditions. If you just want to look for a large deposit that is potentially deep, the MegaTEM system (Fugro) is an airplane system that has a dipole moment of 2,500,000 Am² and penetration depth of up to 1000m under ideal conditions. To compare, the Hummingbird system has a dipole moment of 250 Am² so these systems are far more powerful.



There are several other systems that would likely be suitable. Most available systems would be a significant improvement over the Hummingbird system for this application.

It should also be noted that only gravity will work in the immediate vicinity of the power lines that cut through the project area. The power lines have a strong magnetic and EM signature that would likely mask any anomalies underlying them.

In summary, none of the targets here merit significant follow-up work without corroborating evidence from another dataset (geology, geochemistry). However, this does not indicate that the area lacks potential for significant mineralization because the geophysical data coverage is not good enough to locate smaller bodies.