

## **MEMORANDUM**

**TO: David Evans**

**FROM: Angela Lorrigan**

**DATE: May 2015**

**SUBJECT: Review of the potential of the Beulah tenement Tas.**

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### **Summary**

A review of the available airborne geophysics has highlighted a new area of interest on this EL.

Geochemical sampling of the area would give an indication as to whether further work is warranted.

Review of the geophysics in the western segment of the tenement failed to produce a target of interest. It is recommended this be relinquished.

### **Introduction**

Initial plans for the 2015 tenement year were to complete an IP survey over selected areas of the EL. However, prior to making such a significant investment, it was decided to undertake further review of the regional geology, magnetics and radiometrics.

This was partly prompted by interpretation of the setting of mineralisation at Firetower and Firetower West prospects in the tenement to the south. It appears that mineralisation is associated with Quartz-Feldspar-Biotite (QFB) porphyries which present as combined magnetic and U anomalies in the airborne data sets.

These rocks are altered, with stringers and veinlets of silica, accompanied by pervasive and disseminated magnetite, and/or haematite alteration. The magnetite alteration is associated with disseminated pyrite, +/- pyrrhotite and elevated gold and copper. This constitutes the Firetower West mineralisation.

The Firetower mineralisation is of a more epithermal character and occurs slightly distal to the (probably) upper parts of these porphyry intrusions.

Therefore, in this region, exploration for gold and base metals should be focussed in and around the QFB intrusions.

### **Geological Interpretation**

Figure 1 (below) shows the location of the mineralisation in the EL on the magnetic image (TMI). Figure 2 shows the same mineralisation on the U image from the same survey. The location of the QFB is shown in figure 3.

Figures 4 and 5 show a similar magnetic and U signature on EL 2/2009.

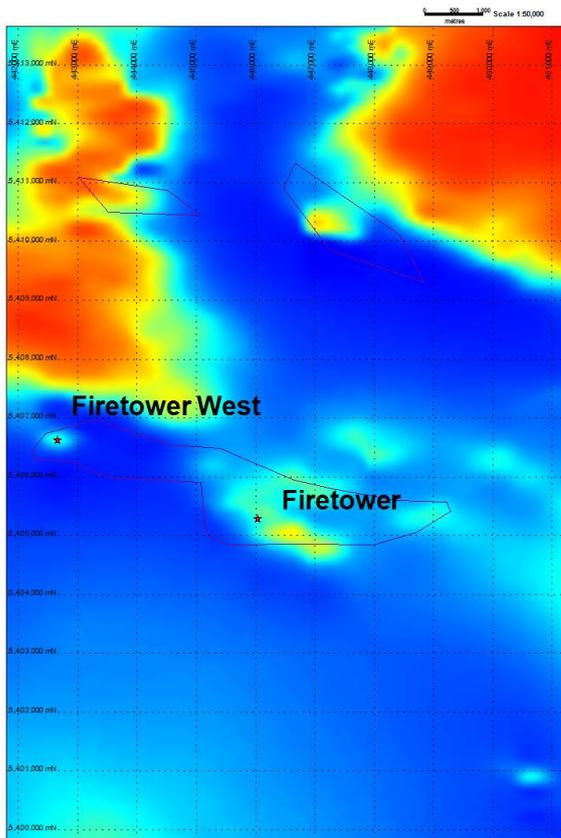


Figure 1. Magnetic anomalies and Firetower mineralisation.

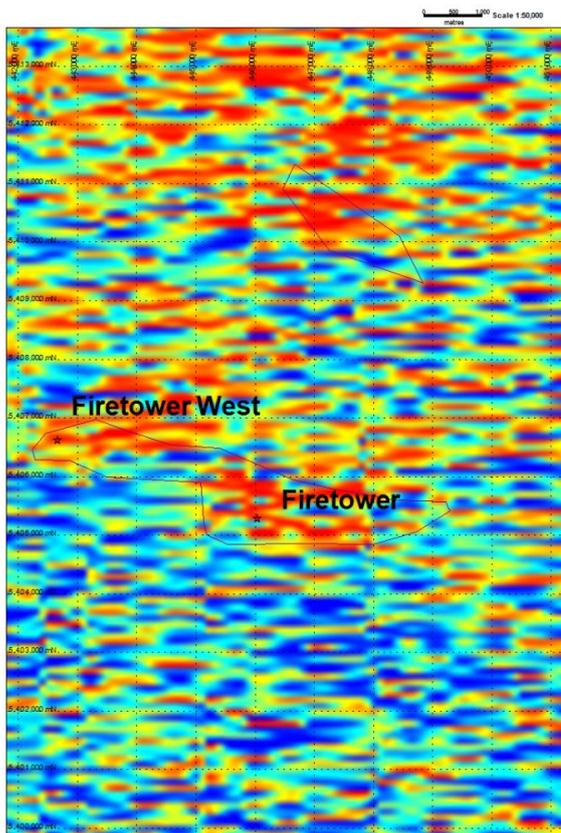


Figure 2. U signature and Firetower mineralisation.

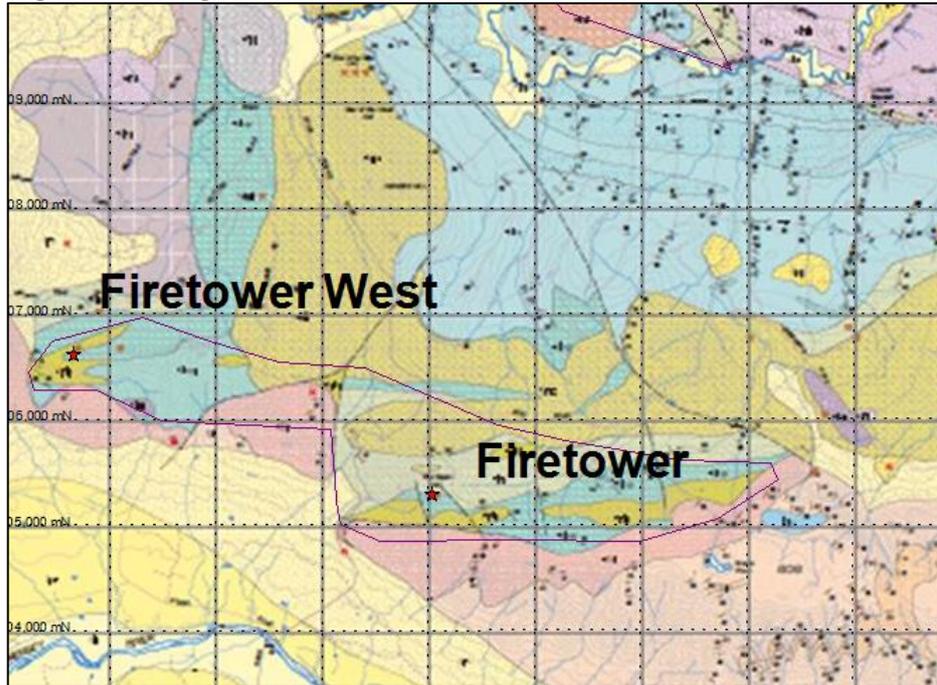


Figure 3. Geology and Firetower mineralisation.

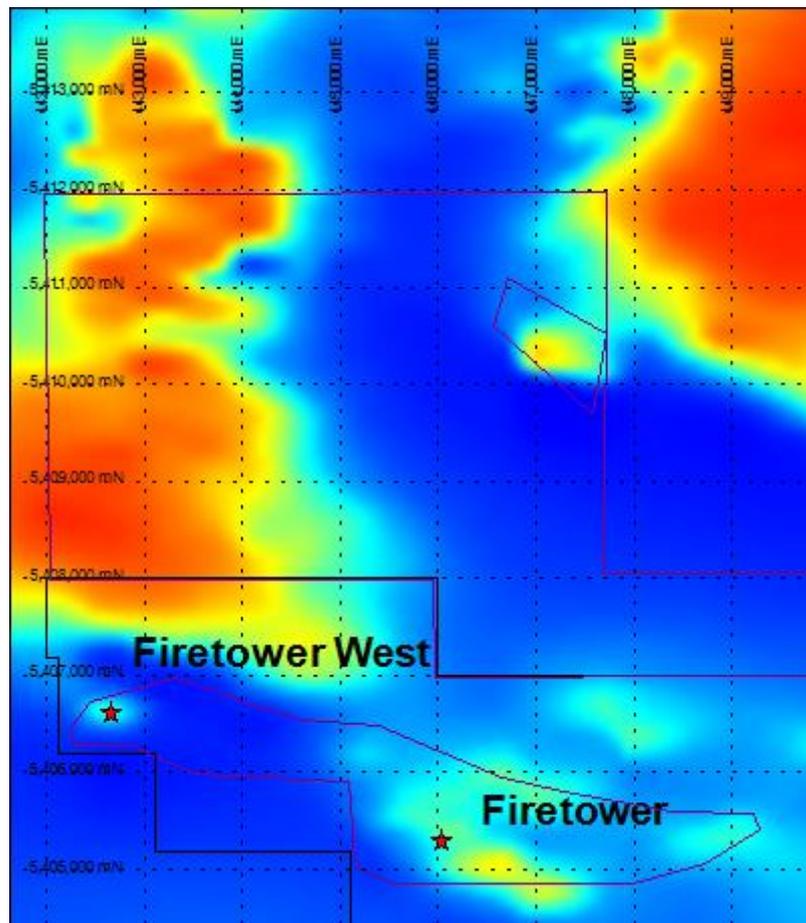
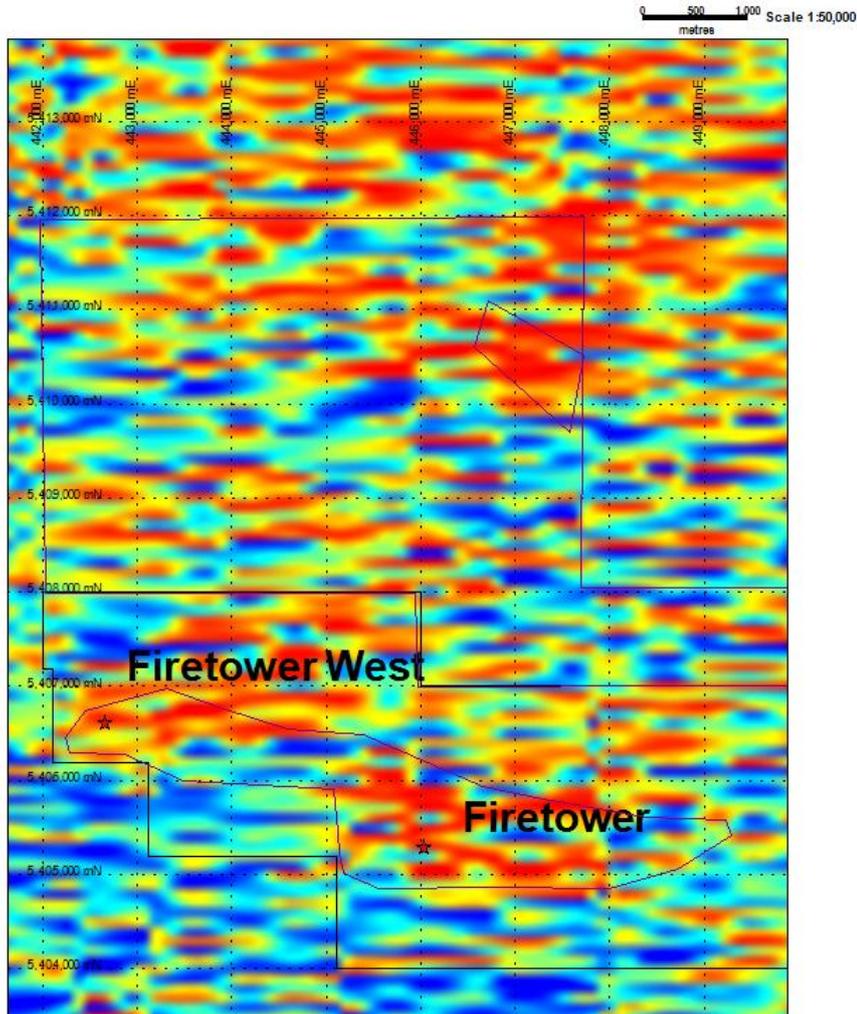


Figure 4. Firetower-like magnetic anomaly on EL 2/2009



**Figure 5. U image showing Firetower look-alike signature.**

One position on EL 2/2009 was identified as having a similar U/Mag signature as the Firetower mineralisation. The mapped lithology in this area does not include any QFB porphyry, rather and Andesitic intrusive +/- quartz, feldspar and biotite (Calver 2008). Ground inspection of the area showed reddish clay, which is very similar to much of the exposed lithology at Firetower West, so it is possible that the QFB porphyry is present in the area, which makes it worthy of further exploration.

Existing soil and rockchip geochemistry does not cover this area.

There were no other parts of the tenement that exhibit the Firetower signature.

## **Conclusions and Recommendations**

The prospectivity of this EL has been reviewed prior to commitment to an IP survey. This work has shown a new area of interest, which has a similar geophysical signature to the Firetower and Firetower West mineralisation.

It is recommended that, as this area has not been covered by soil or rock chip sampling, that this be undertaken.

It is further recommended that the western section of the EL be relinquished.

## **References**

Calver, C.R., Everard, J.L., McClenaghan, M.P., and Vicary, M.J., (compilers) 2008. Digital Geological Atlas 1:25000 series. Sheet 4441 Sheffield. Mineral Resources Tasmania.

1985 Devonport Magnetic and Radiometrics survey. Geometrics, contracted to Tasmanian Geological survey.

All projections are MGA 94 Zone 55.