Margaret Magnetic Modelling

Burnside Project, Pine Creek

GDA94, MGA Z52

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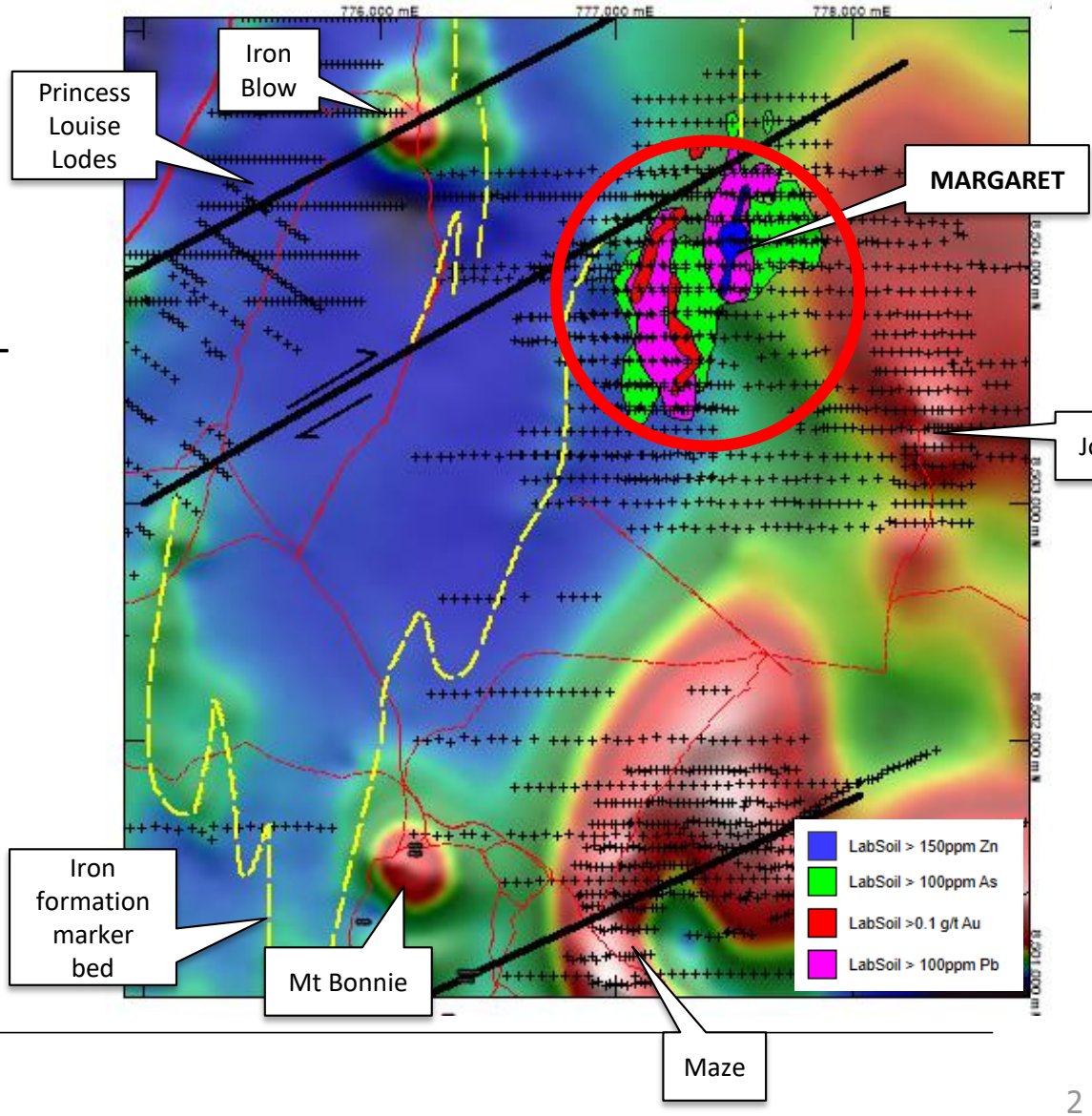
Margaret – EL25748 – Zn-Pb-Ag-Au

- Only 1.5km SE Iron Blow
- Good geochem from lab soils survey but no VTEM signature – possible deeper target
- Large anomaly >1km in two N-S zones. Never drilled
- Exactly right stratigraphy for VMS along from Mt Bonnie and buttressed against ENE fault
- Requires geophysical support to justify drilling (IP or EM?)

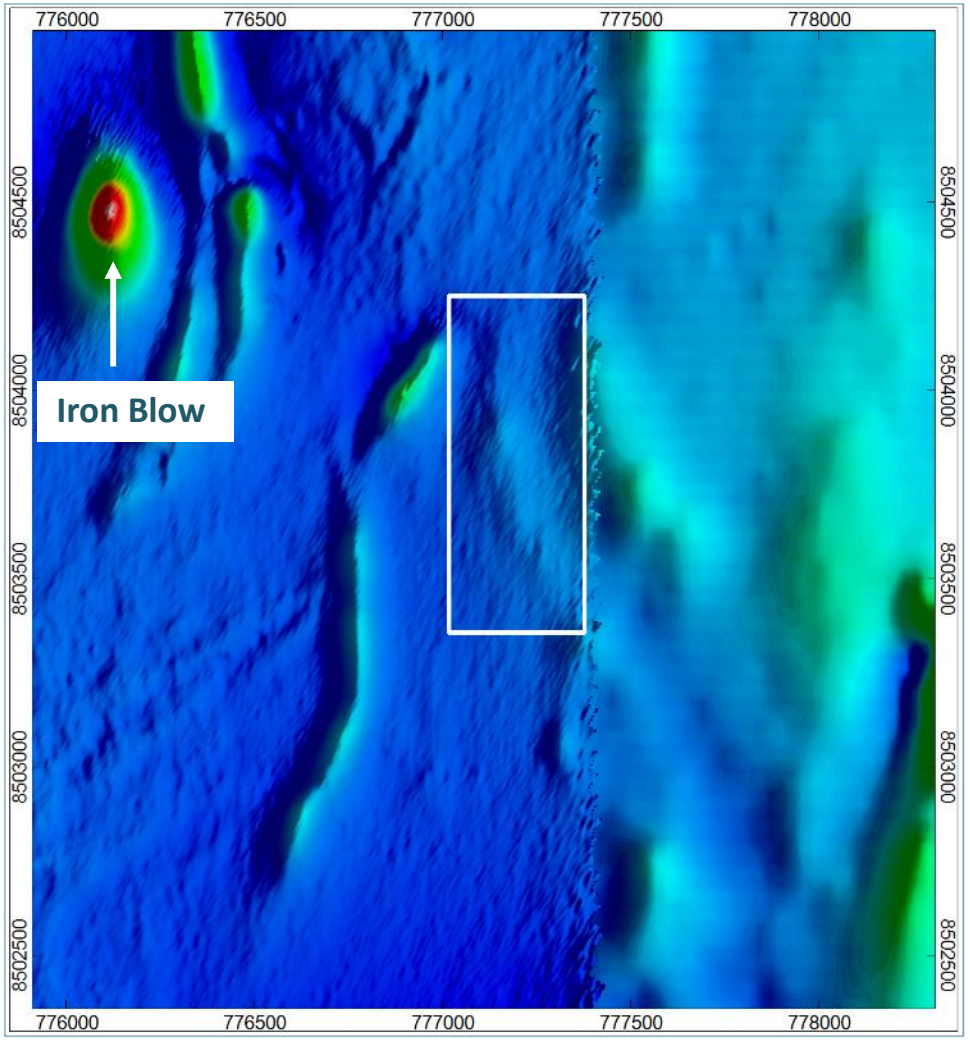


Margaret – Magnetics

Subtle and deep looking magnetic feature.

2009 Thunderball Magnetic Survey:

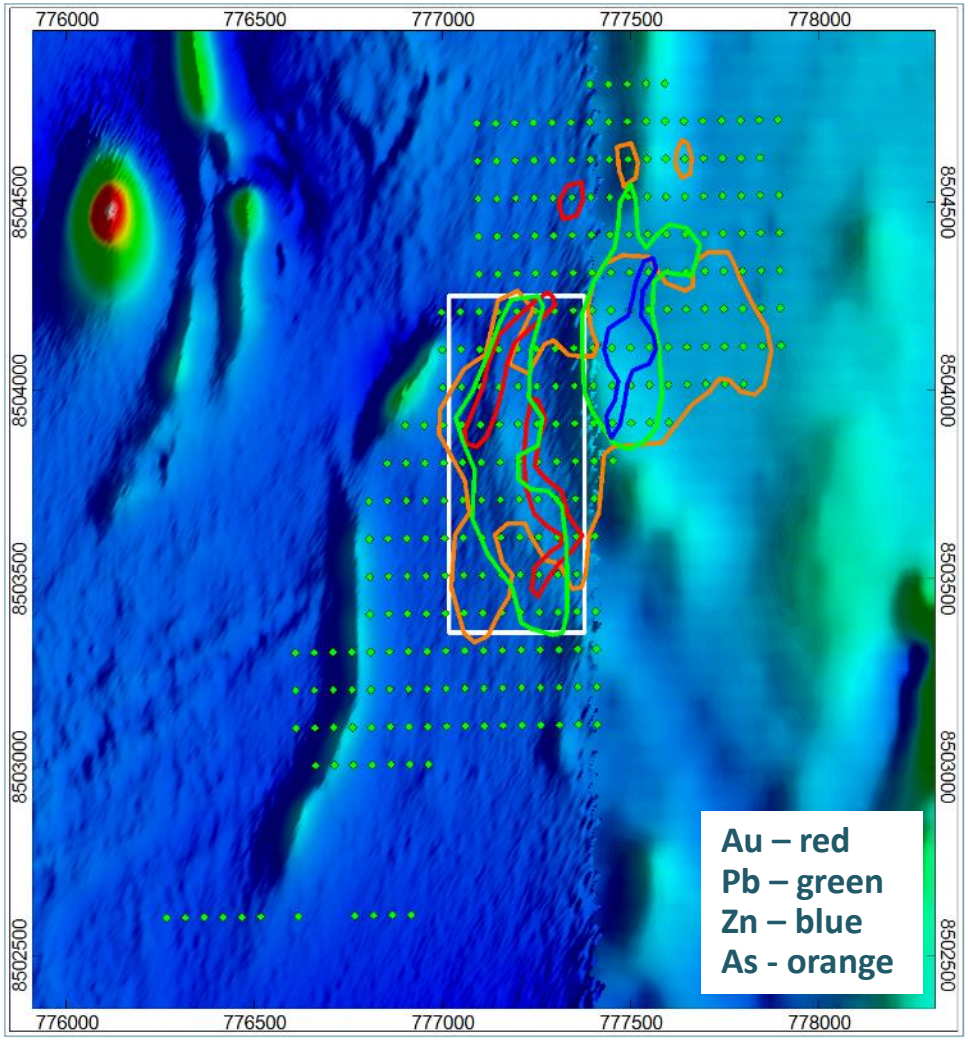
- Line spacing - 25m
- Line orientation - 120°
- Sensor height - 25m



Margaret magnetics (Thunderball with VTEM magnetics underneath) and inversion area (white).

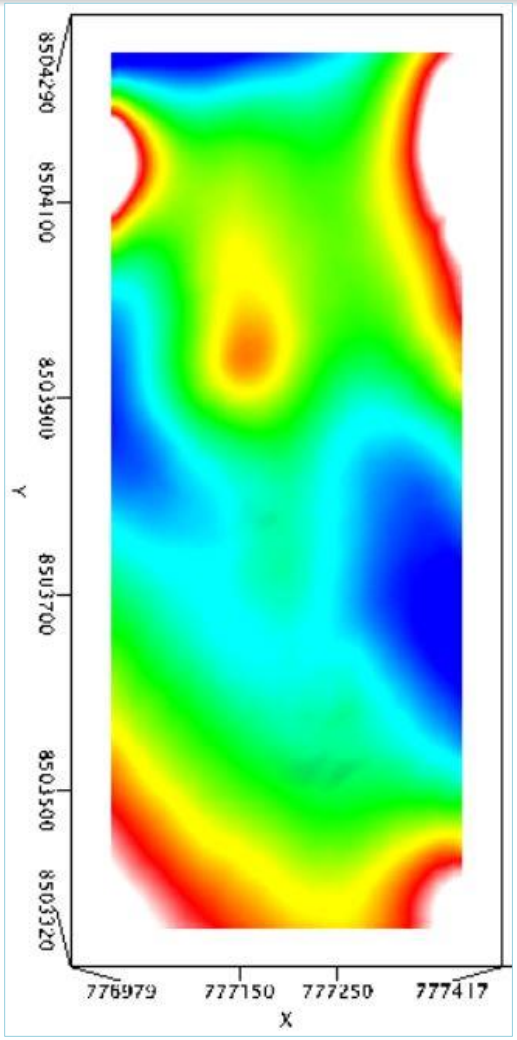
Margaret – Magnetics

Magnetic feature has a spatial association with Au, Pb and As LLFA geochemistry.

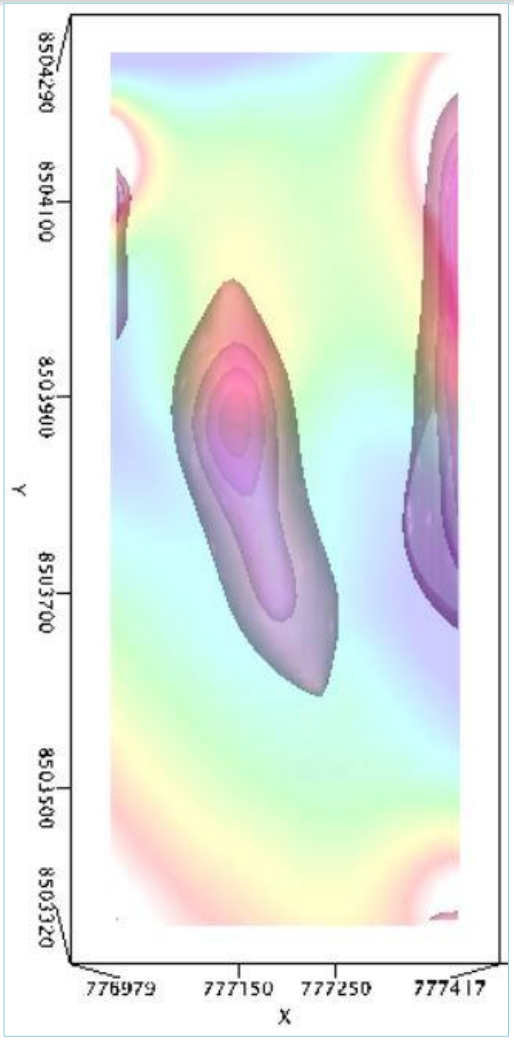


Margaret geochemistry shown over magnetics (Thunderball with VTEM magnetics underneath) and inversion area (white).

Margaret – Magnetic Inversion



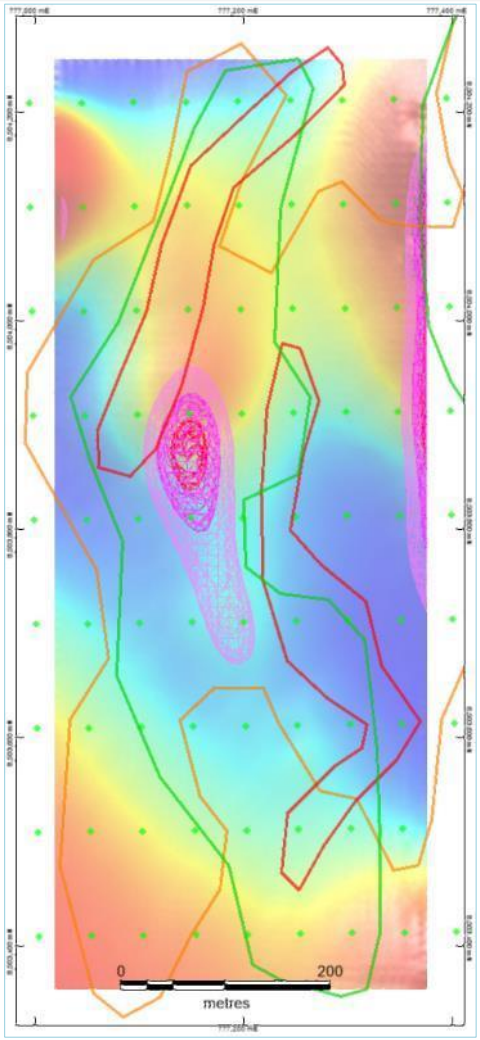
Residual TMI magnetics.



Residual TMI magnetics with isosurfaces of susceptibility underneath.

0.001 SI – light pink
0.003 SI
0.005 SI
0.007 SI – red

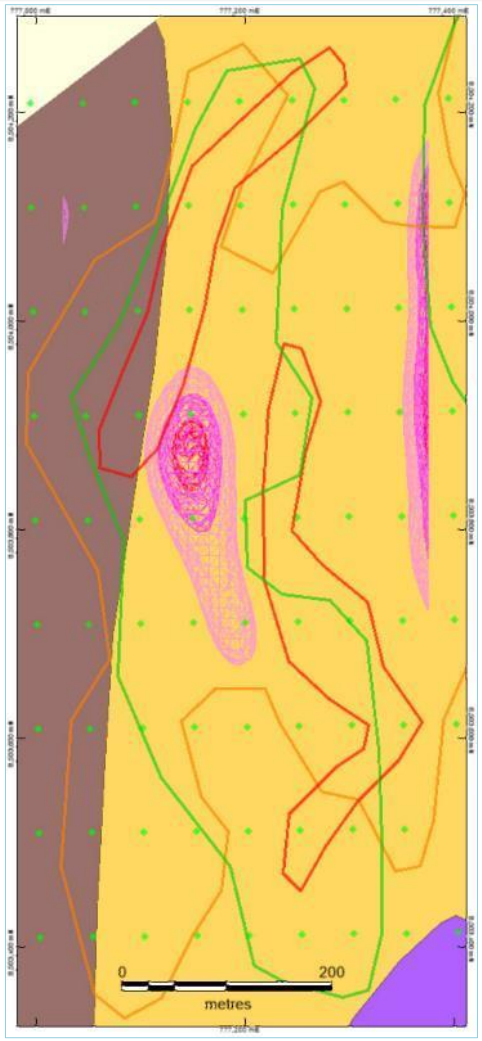
Margaret – Magnetic Inversion



Geochemistry and isosurfaces of susceptibility shown over residual TMI magnetics.

Au – red
Pb – green
Zn – blue
As - orange

0.003 SI – pink
0.005 SI
0.007 SI – red

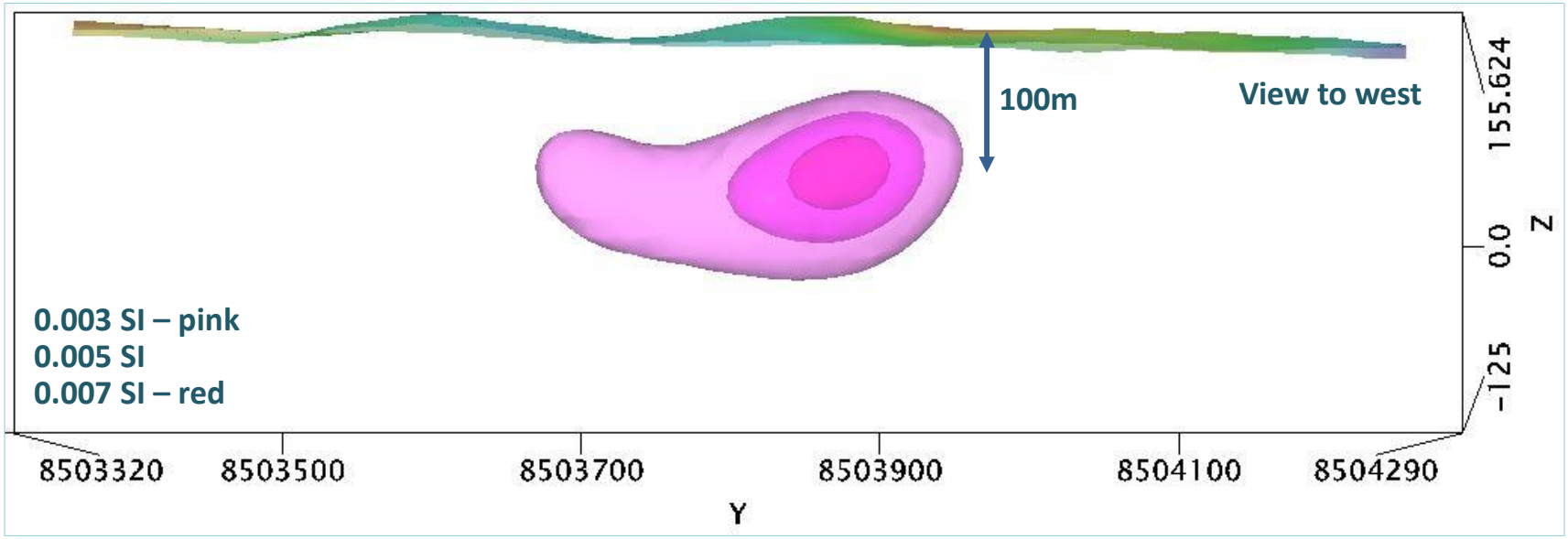


Geochemistry and isosurfaces of susceptibility shown over 100k/250k geology.

Margaret – Magnetic Inversion

100m depth to centre of magnetic body.

If there was a conductor at this depth you would expect to see some indication in airborne EM surveys.

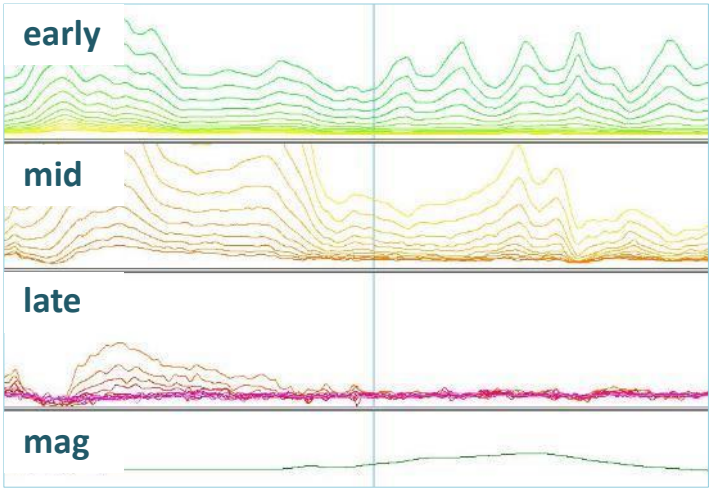


Isosurfaces of susceptibility.

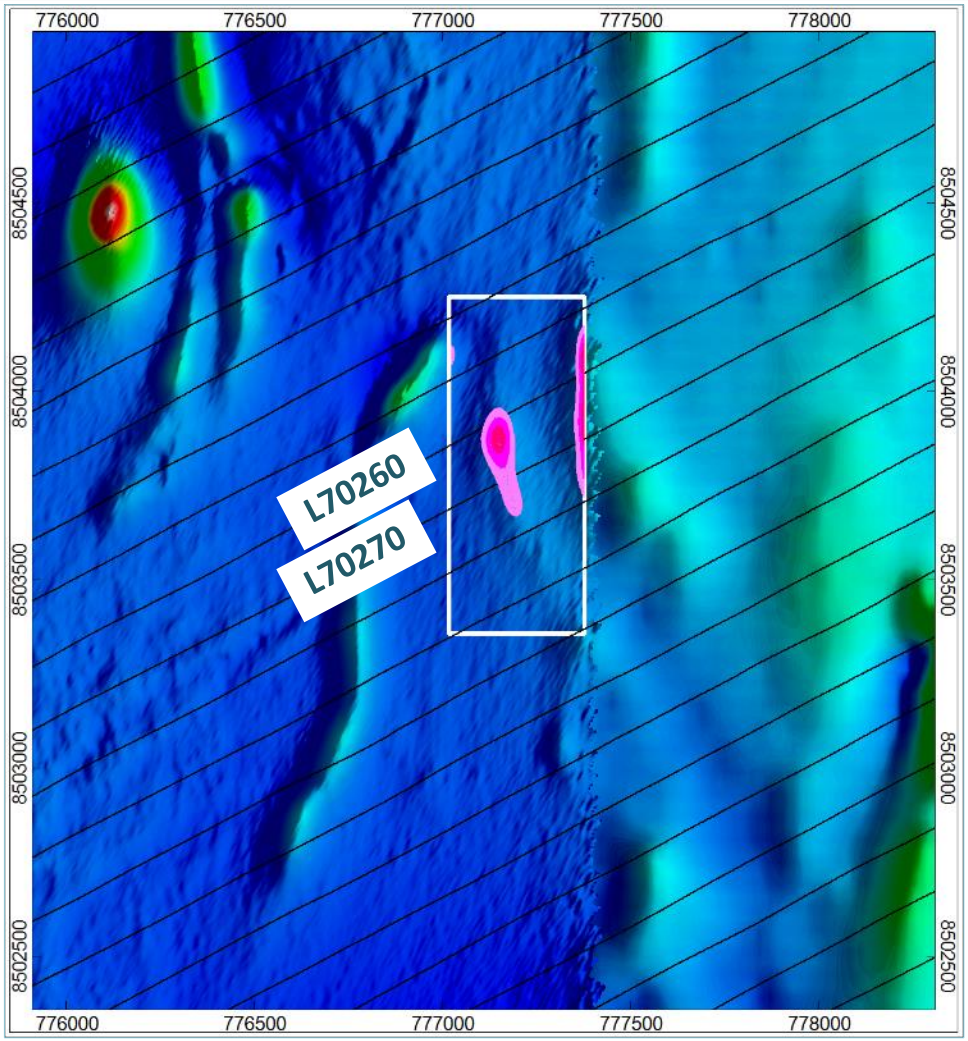
Margaret – VTEM

Two VTEM flight lines pass over the ends of magnetic body.

There is a very weak mid time feature on L70270, nothing on L70260. The feature is not considered to be indicative of a sulphide rich conductor.



VTEM line 70260 with location of magnetic body shown by blue line.

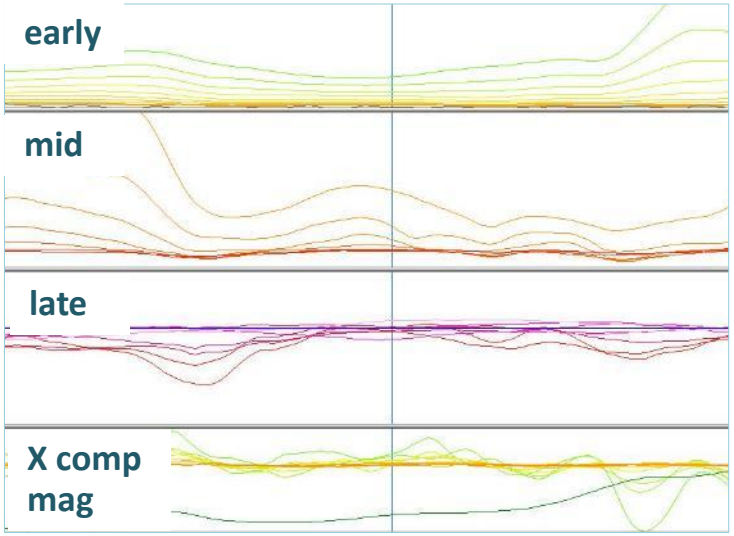


Margaret susceptibility isosurfaces and VTEM flight lines shown over magnetics (Thunderball with VTEM magnetics underneath) and inversion area (white).

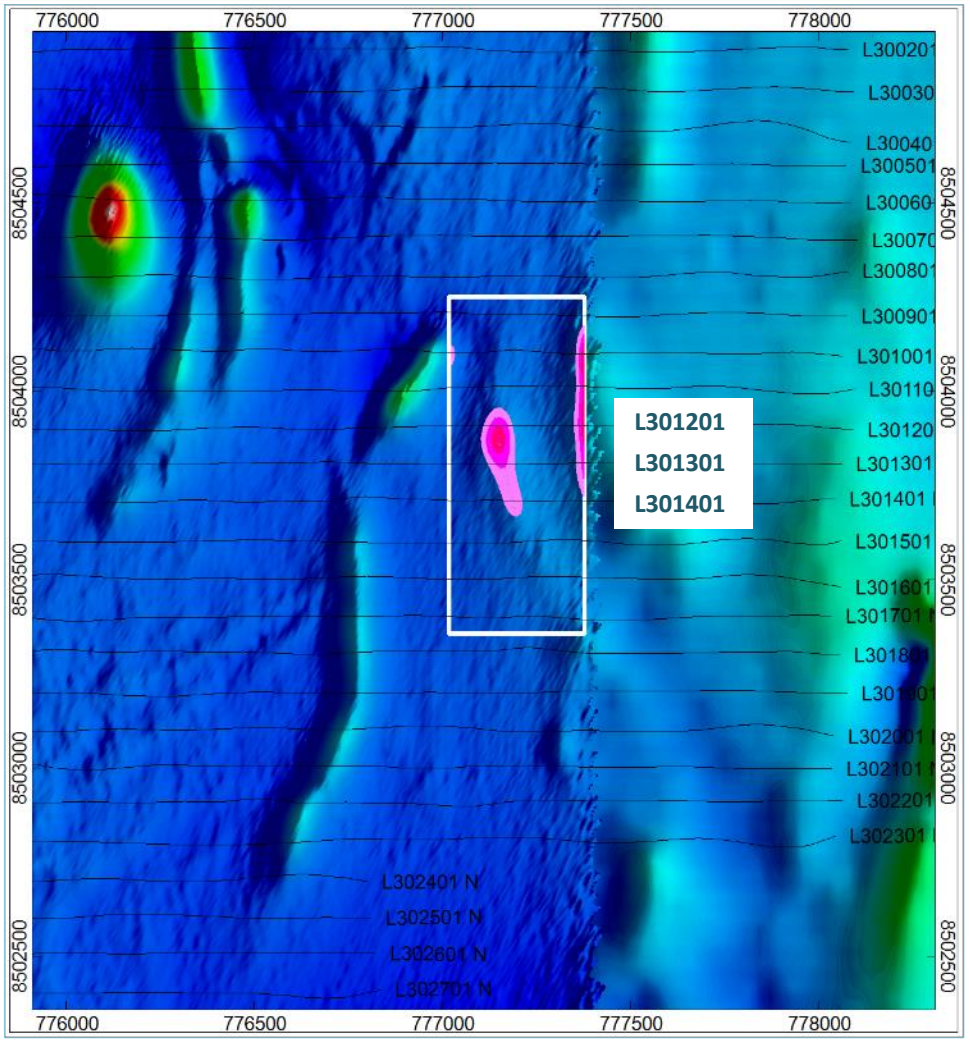
Margaret – SkyTEM

Three SkyTEM flight lines pass over the magnetic body.

There is a very weak mid time feature on all three lines, with strength increasing to the south. The features are not considered to be indicative of a sulphide rich conductor.

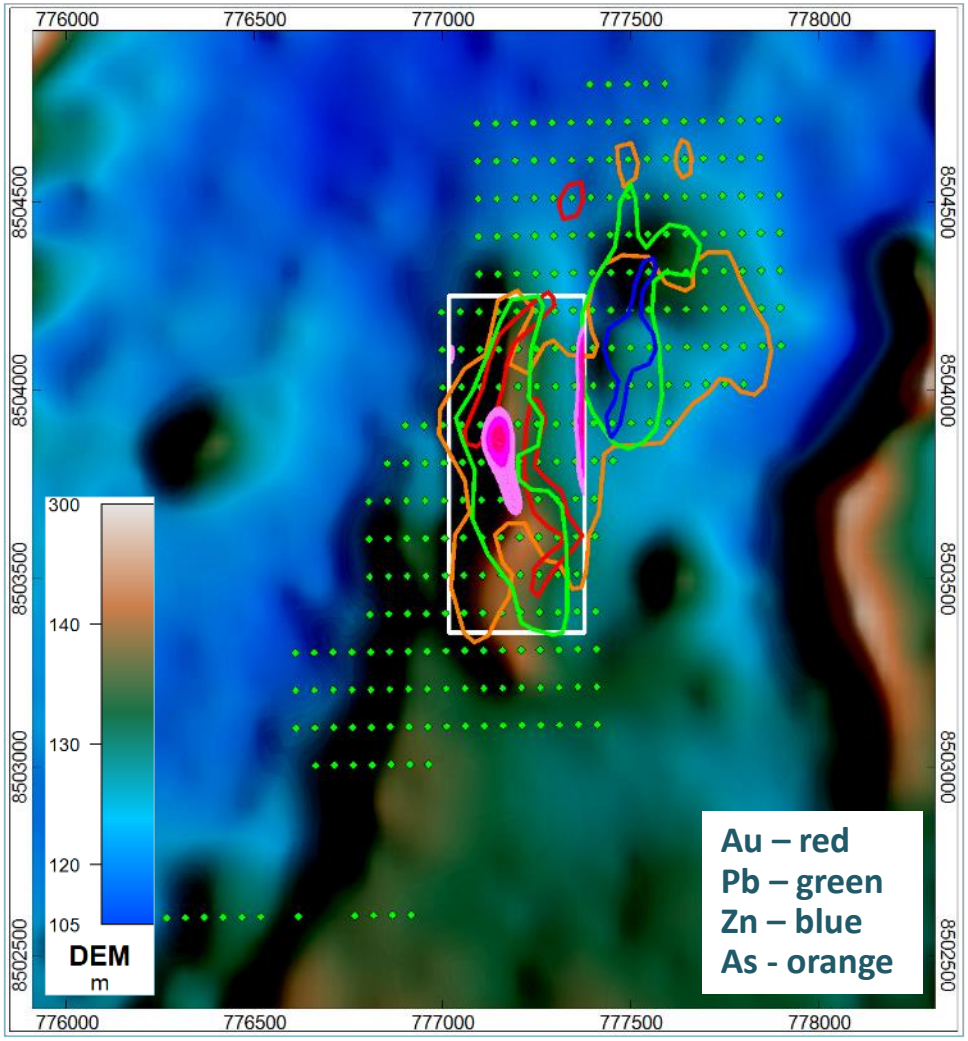


SkyTEM line 301401 with location of magnetic body shown by blue line.



Margaret susceptibility isosurfaces and VTEM flight lines shown over magnetics (Thunderball with VTEM magnetics underneath) and inversion area (white).

Margaret – DTM



Margaret DTM with susceptibility isosurfaces and inversion area (white).

Margaret – Conclusions

There is a discrete, weakly magnetic body at the Margaret prospect.

The magnetic body is relatively shallow, with a depth to centre of 100m.

Airborne EM shows no indication of a strong conductor indicative of sulphide mineralisation at this depth. There is a very weak response seen, with increasing strength to the south.

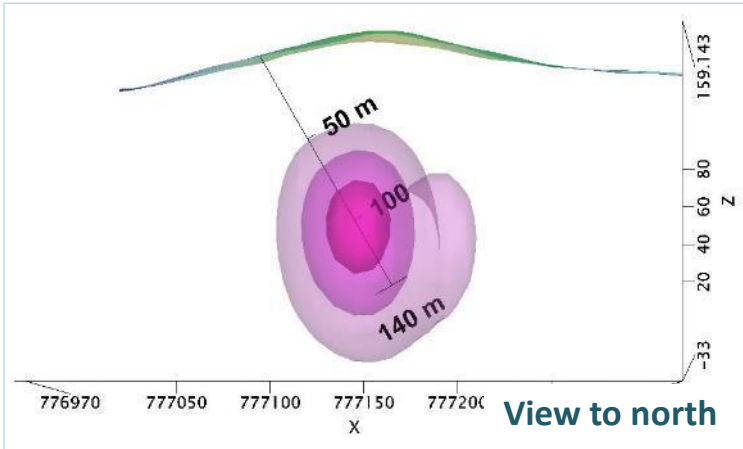
Mineralisation could be disseminated or more Zn rich (not supported by geochemistry), thus causing low conductivity.

Pyrrhotite rich lithologies in the region are normally very magnetic and highly conductive, with strike extensive highs.

Margaret – Recommendations

It is recommended that the magnetic feature be tested with a single drill hole.

Alternatively, an IP survey to target possible disseminated mineralisation could be undertaken.

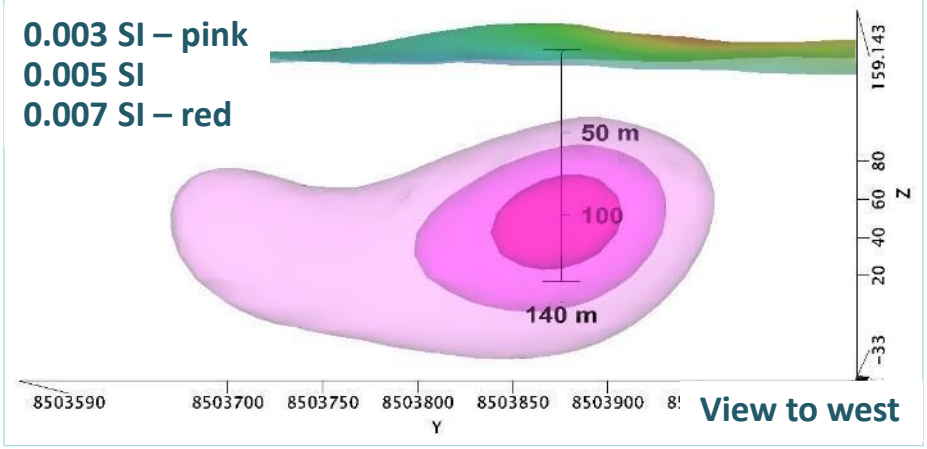


View to north

East	777095
North	8503875
RL	140
Dip	60°
Azi	90°
EOH	140m

Proposed drillhole.

0.003 SI – pink
0.005 SI
0.007 SI – red



View to west

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