

VALUE THROUGH DISCOVERY AND DEVELOPMENT



Independence Group

**Discovery of the Eureka volcanogenic
massive sulphide lens using down-hole
electromagnetics**

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Mines and Wines, Queanbeyan

4th September 2015

SUMMARY



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- Introduction
- Previous exploration
- Forward modelling
- FLTEM
- DHTEM
- Additional exploration layers
- Discovery
- Conclusion



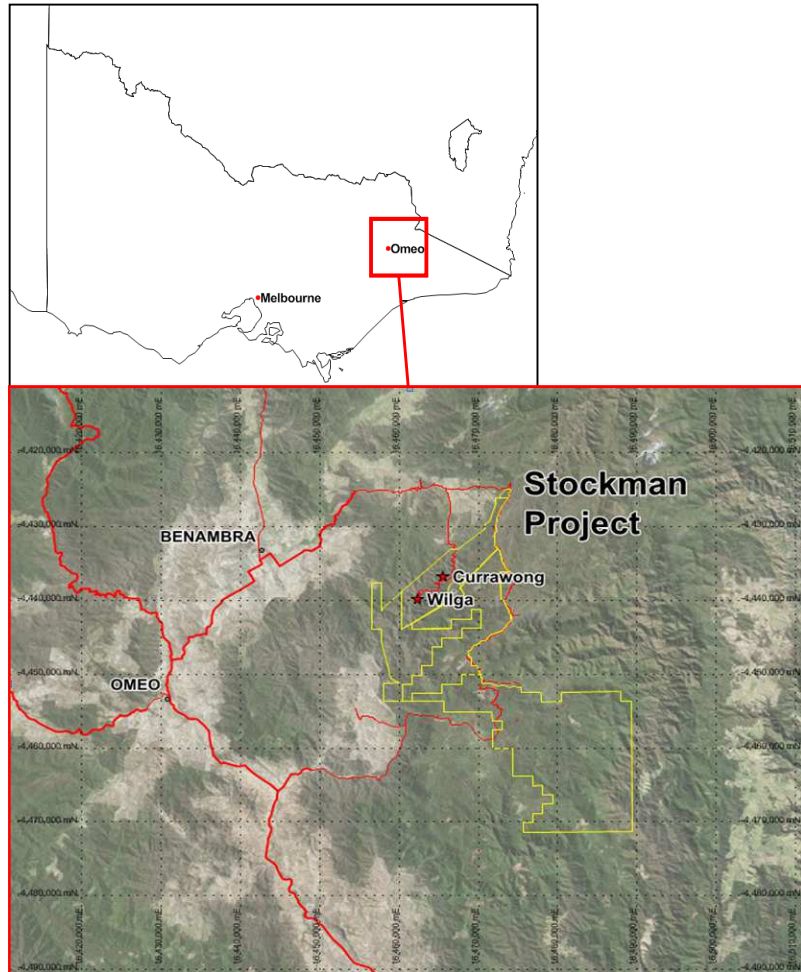
photos courtesy D. Barr

INTRODUCTION – LOCATION AND GEOLOGY

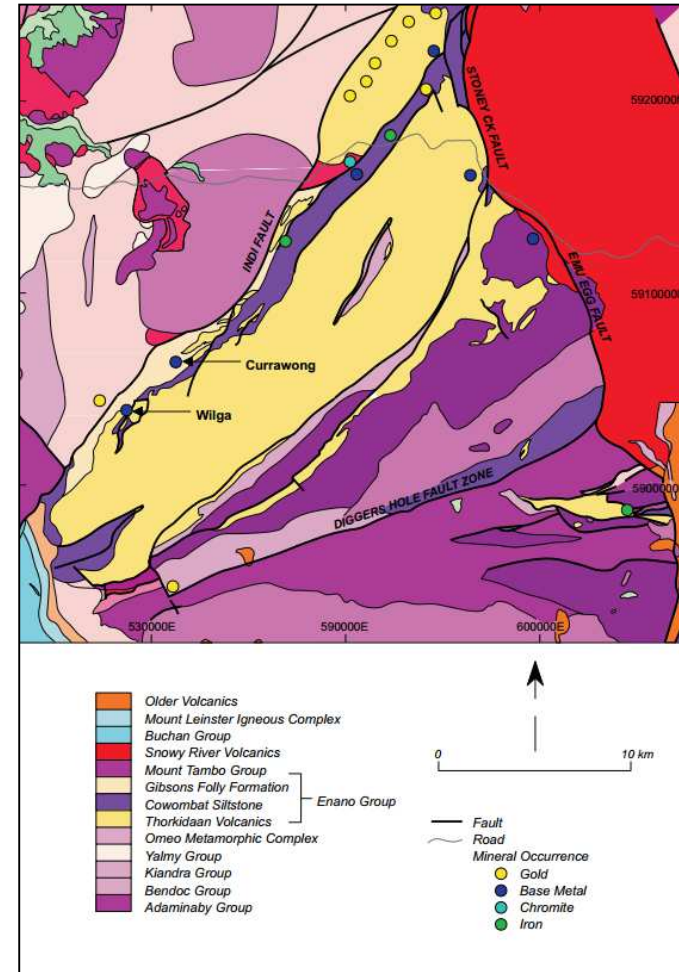


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Location Map



Geology

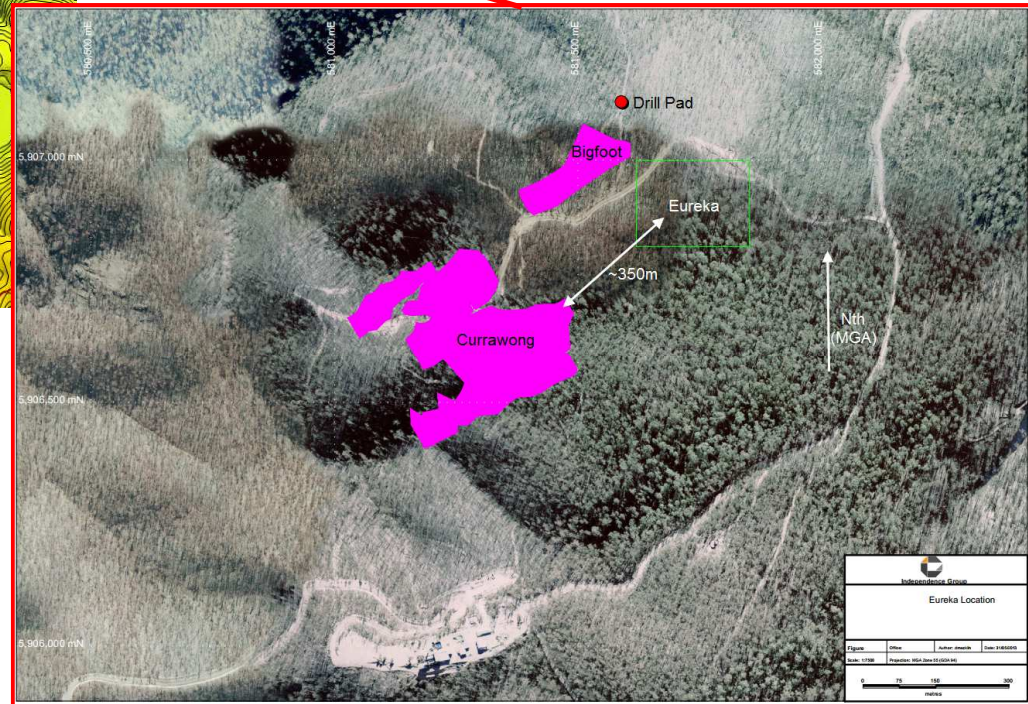
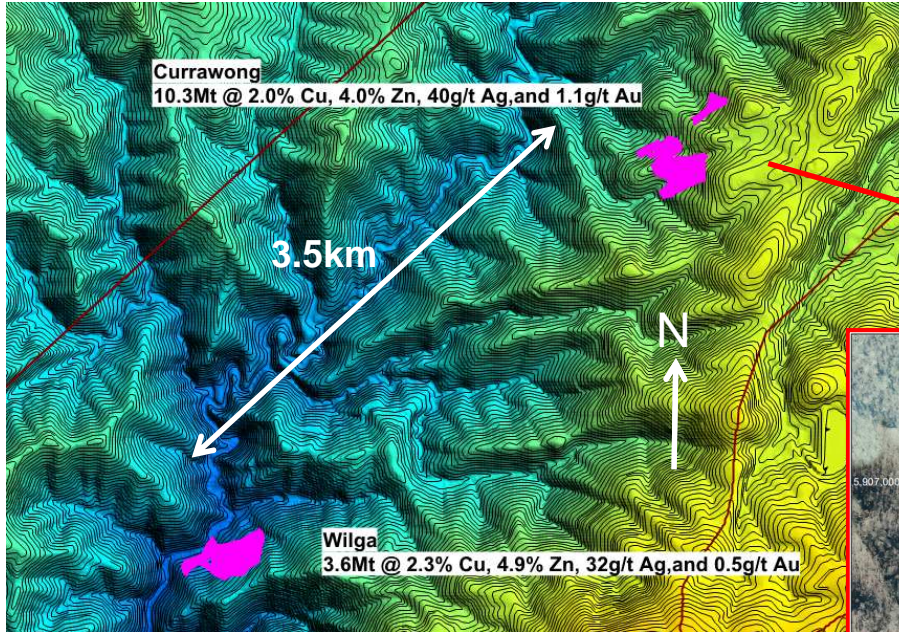


Allen, 1987

INTRODUCTION - DEPOSITS



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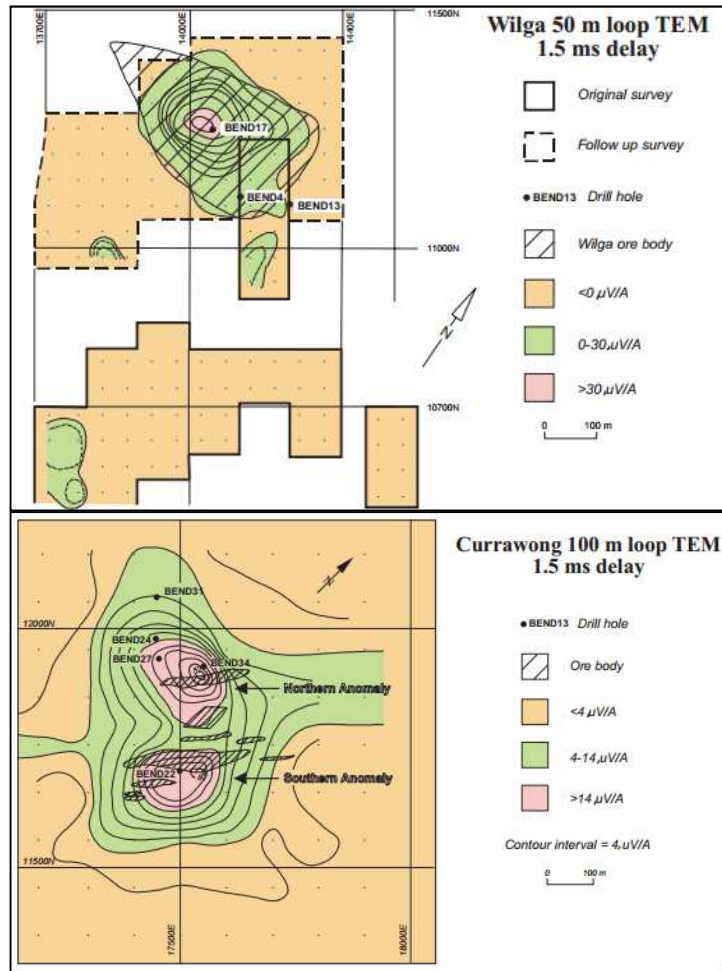
Total resource 13.9Mt @
2.1% Cu, 4.3% Zn, 0.7% Pb,
38g/t Ag, and 1g/t Au.

PREVIOUS EXPLORATION



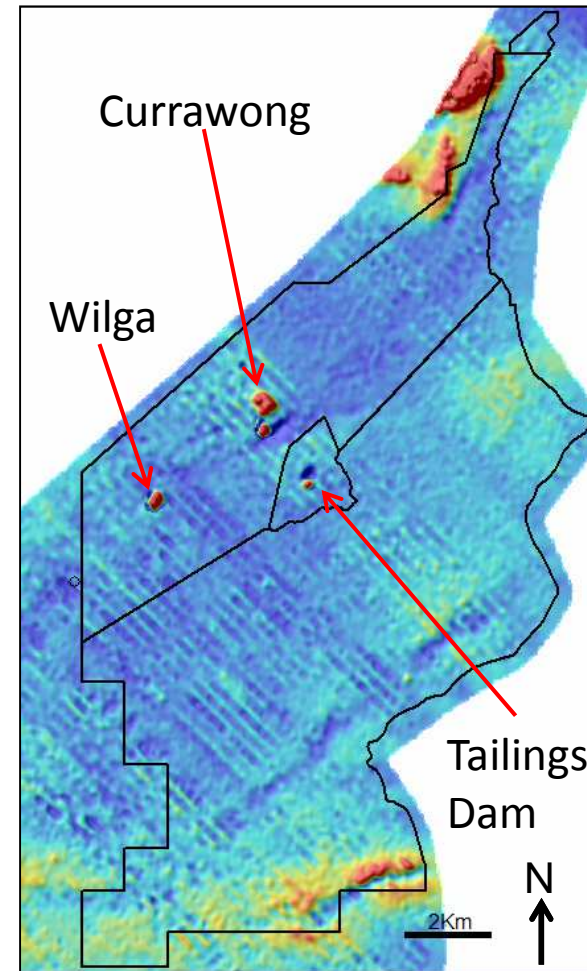
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WMC MLTEM



Rajagopalan and Haydon, 1999

VTEM

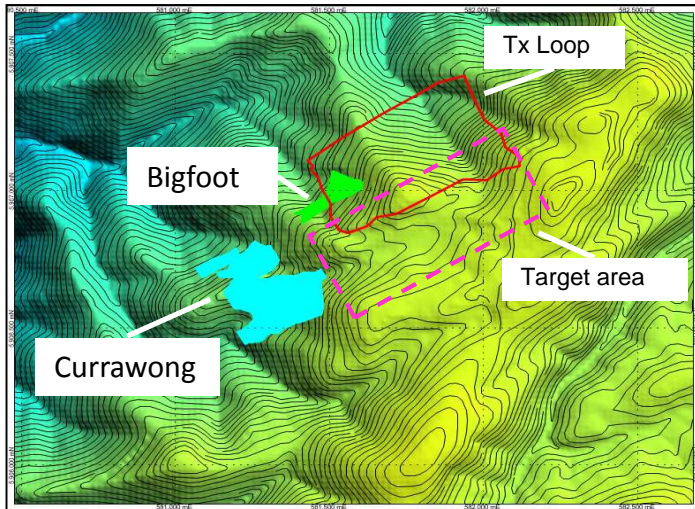


FORWARD MODELLING

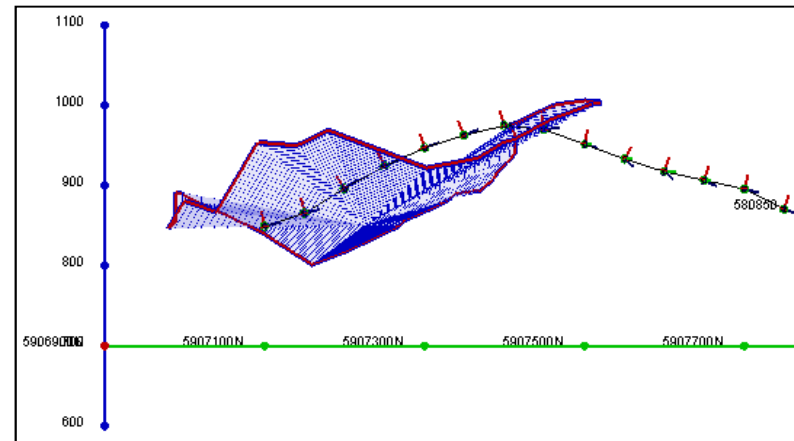
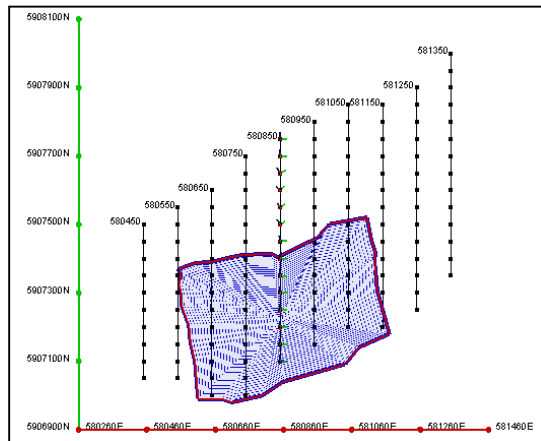
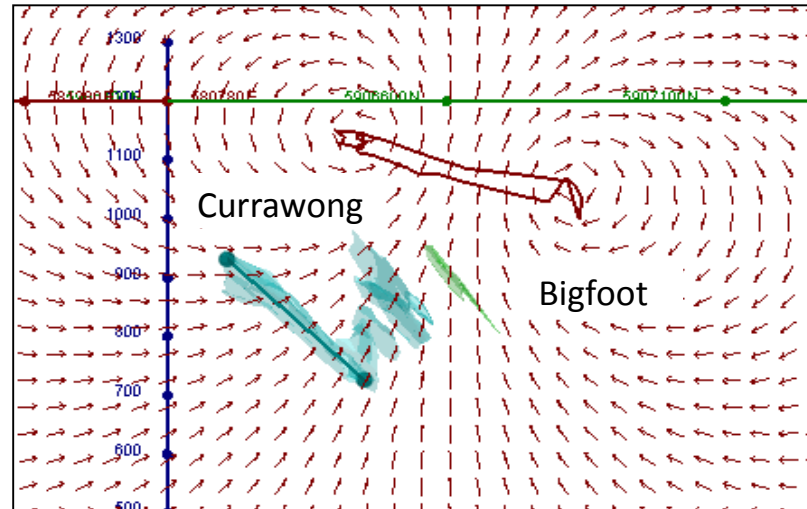


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Steep terrain



Primary field vectors



FLTEM



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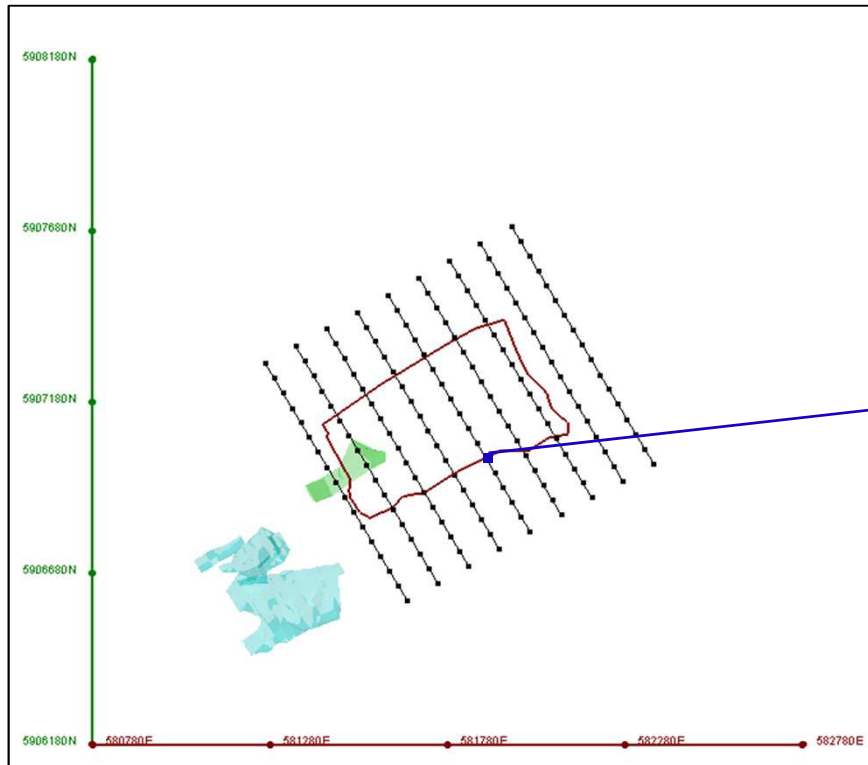


FLTEM RESULTS

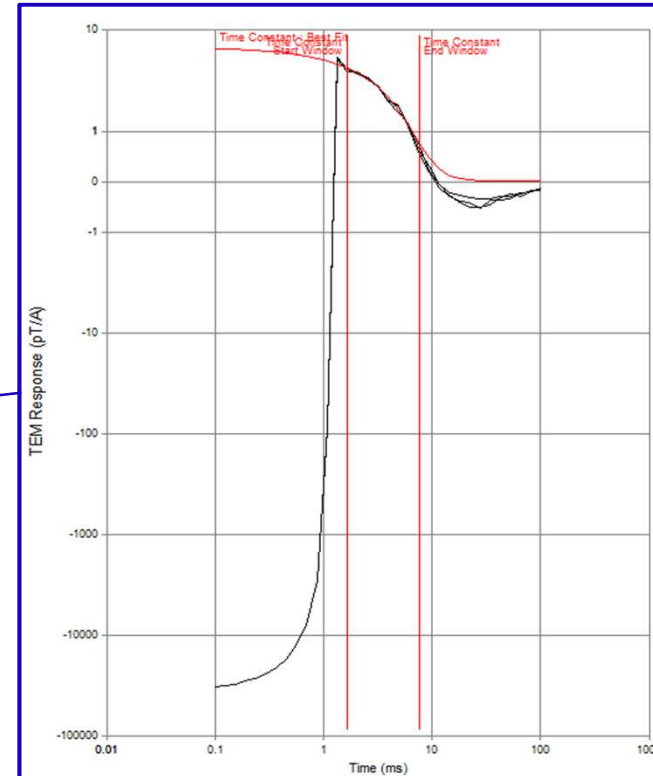


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Plan



Decay near loop edge

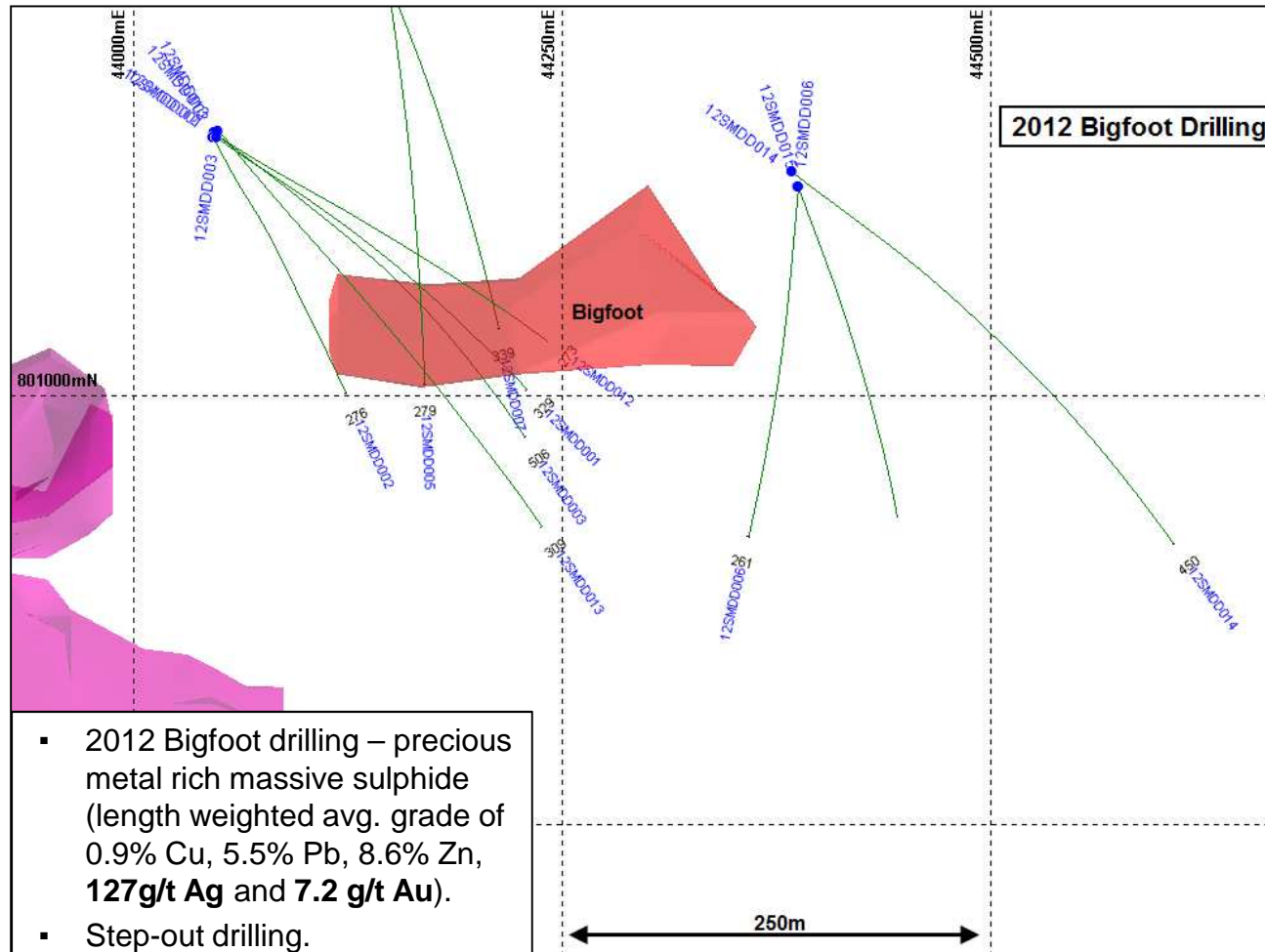


Channels 14 -21 (1.664ms – 7.564ms)
time constant 3.448ms

INITIAL DRILLING



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DHTEM



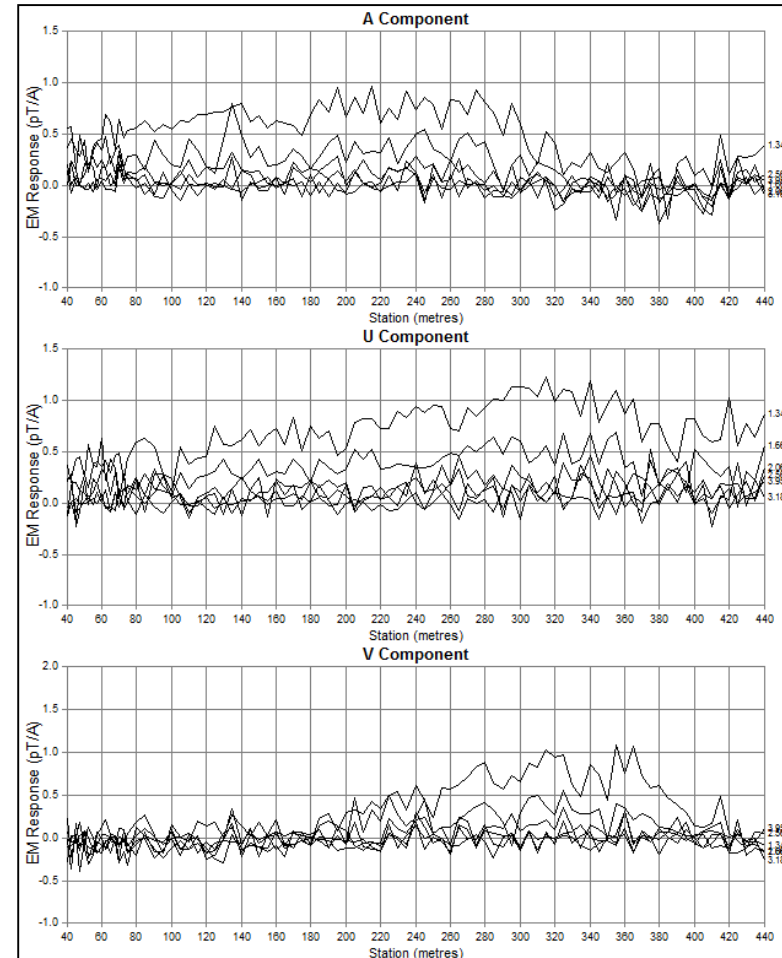
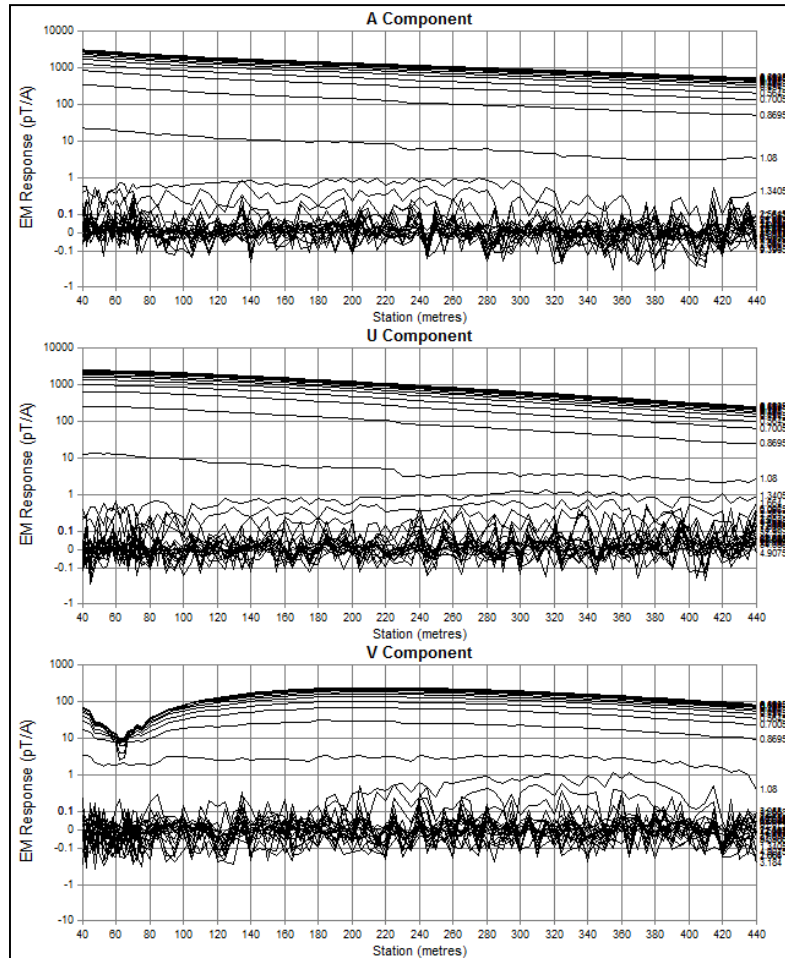
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DHTEM RESULTS – 12SMDD014



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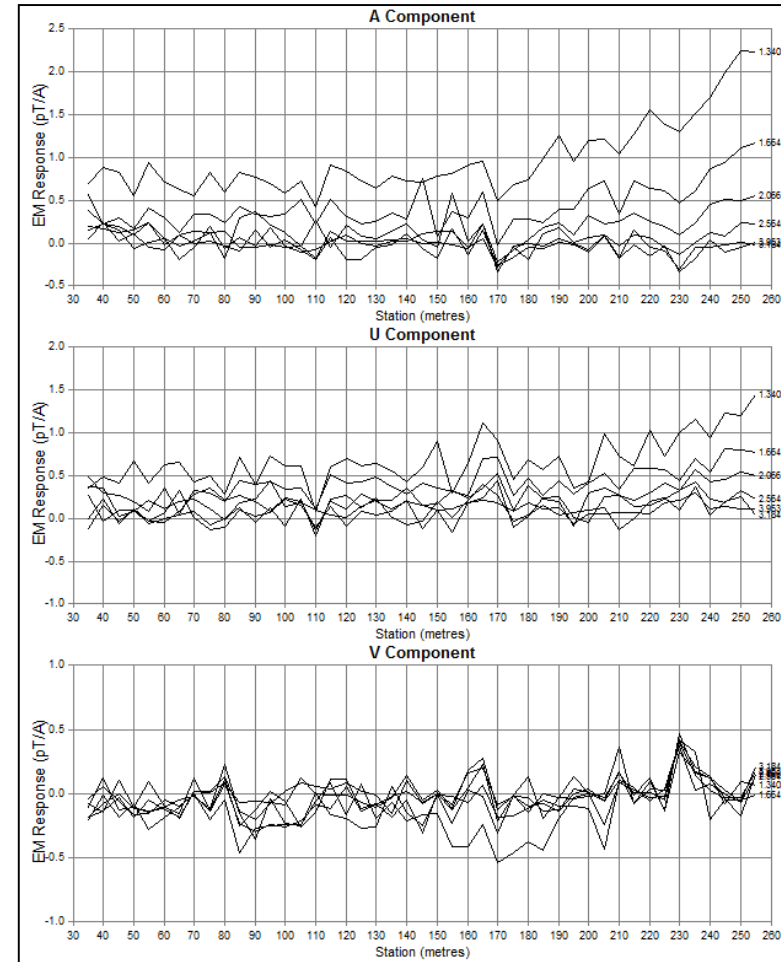
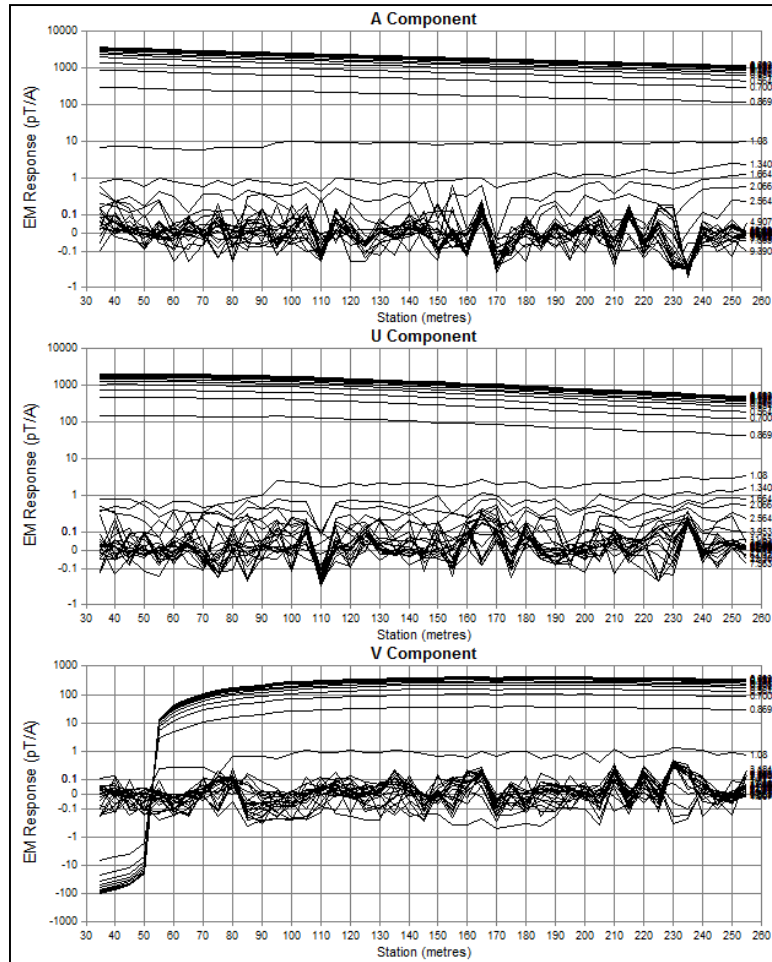


Pseudo-log scale of all channels (left) and linear scale of channels 13-18 (1.34-3.95ms)

DHTEM RESULTS – 12SMDD015



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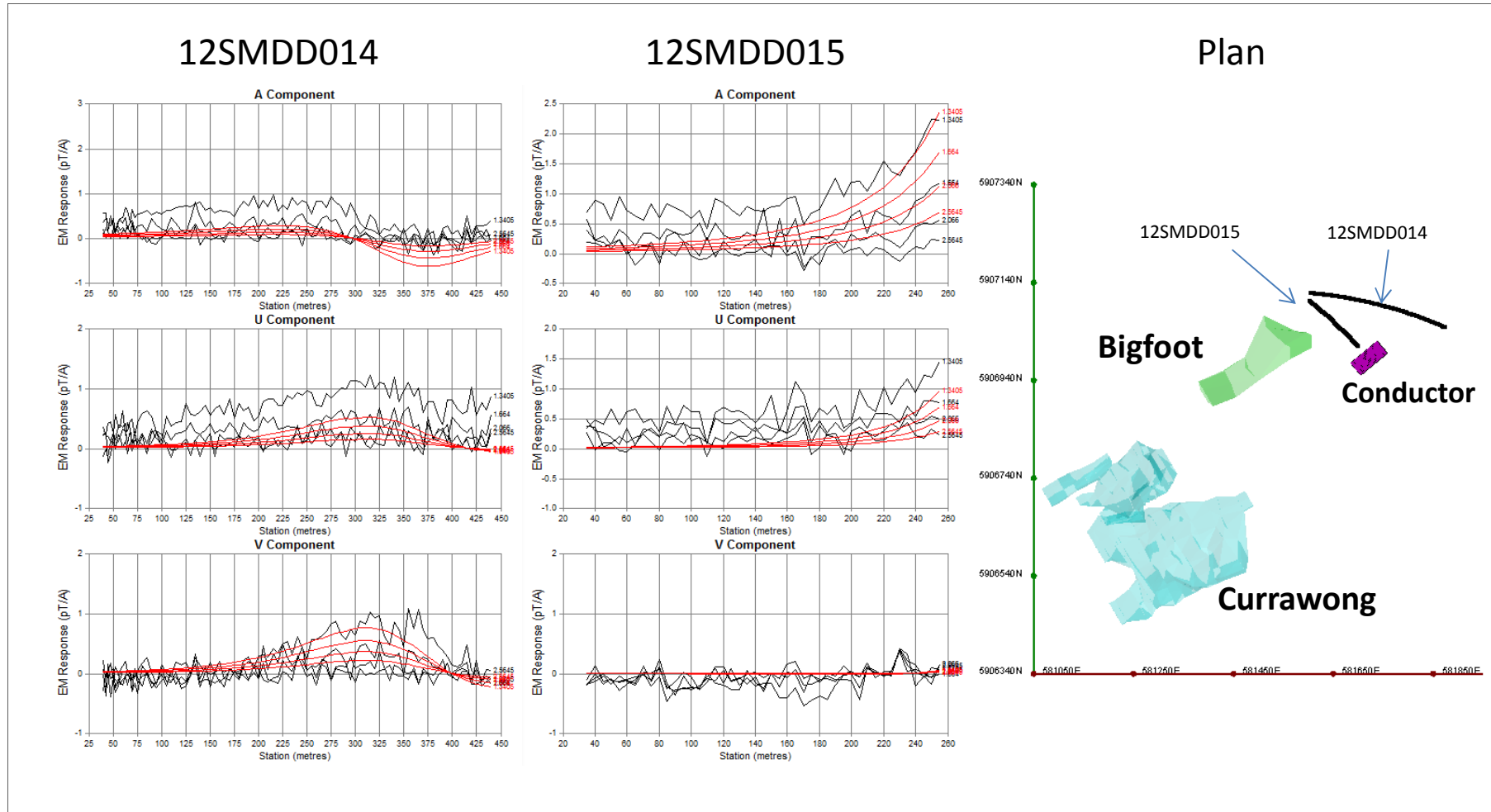


Pseudo-log scale of all channels (left) and linear scale of channels 13-18 (1.34-3.95ms)

DHTEM RESULTS



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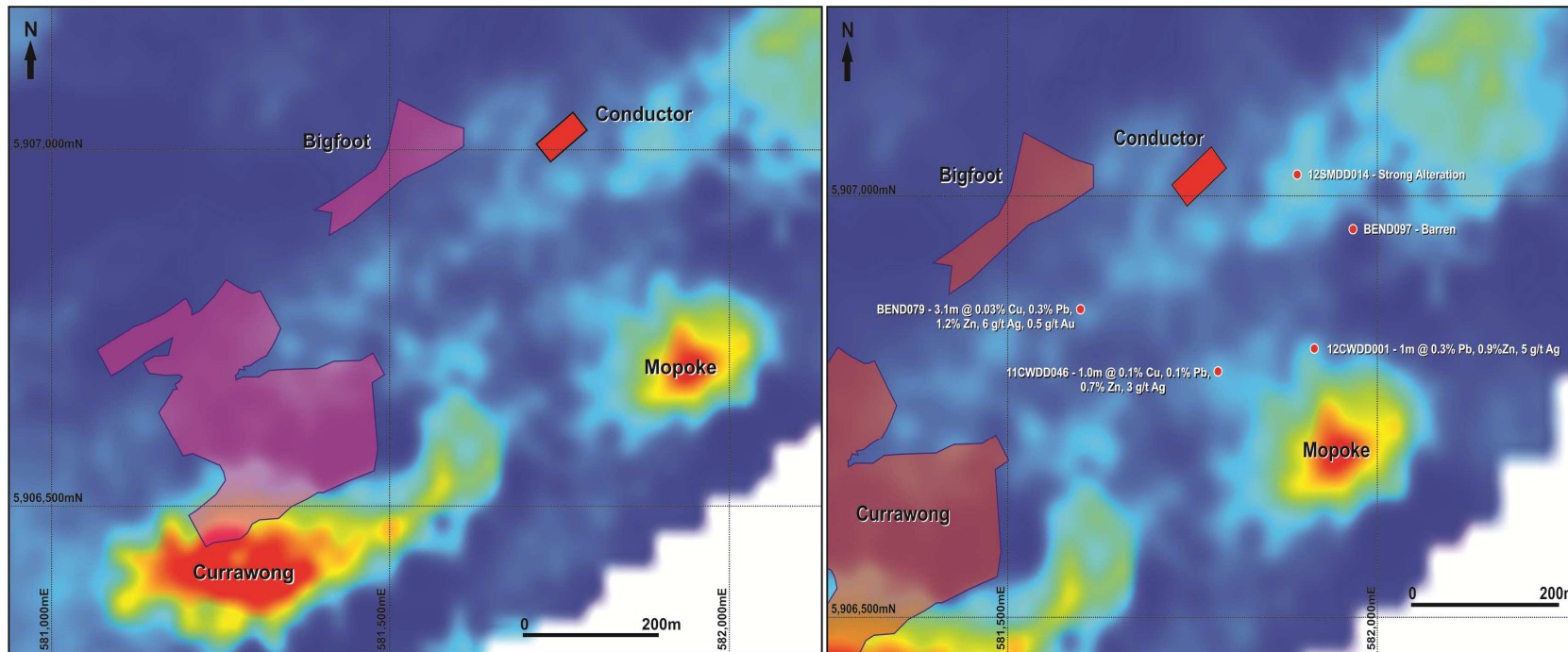
Modelled plate for 12SMDD014 and -015. Plate with conservative dimensions of 70m×50m, conductance 200S

ADDITIONAL LAYERS - GEOCHEMISTRY



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Soil anomaly in up-dip projected position



Historic WMC Mopoke soil anomaly

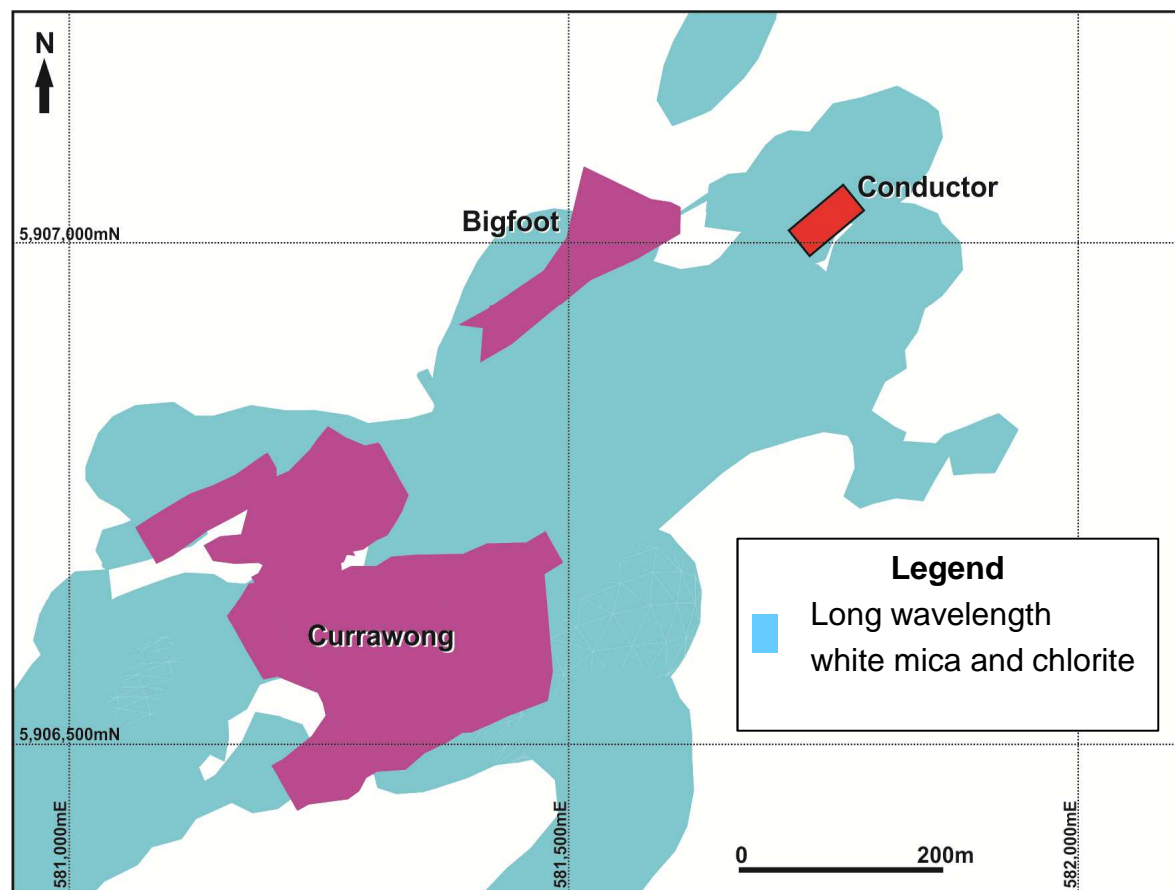
Significant 'smoke' on plate horizon
~300m open strike where plate is
located

ADDITIONAL LAYERS – SHORTWAVE INFRARED



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SWIR

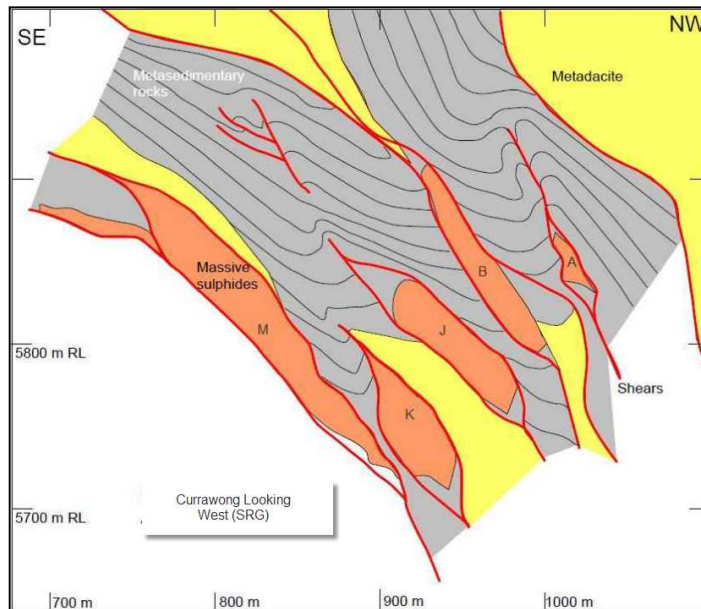


ADDITIONAL LAYERS – STRUCTURAL STACKING

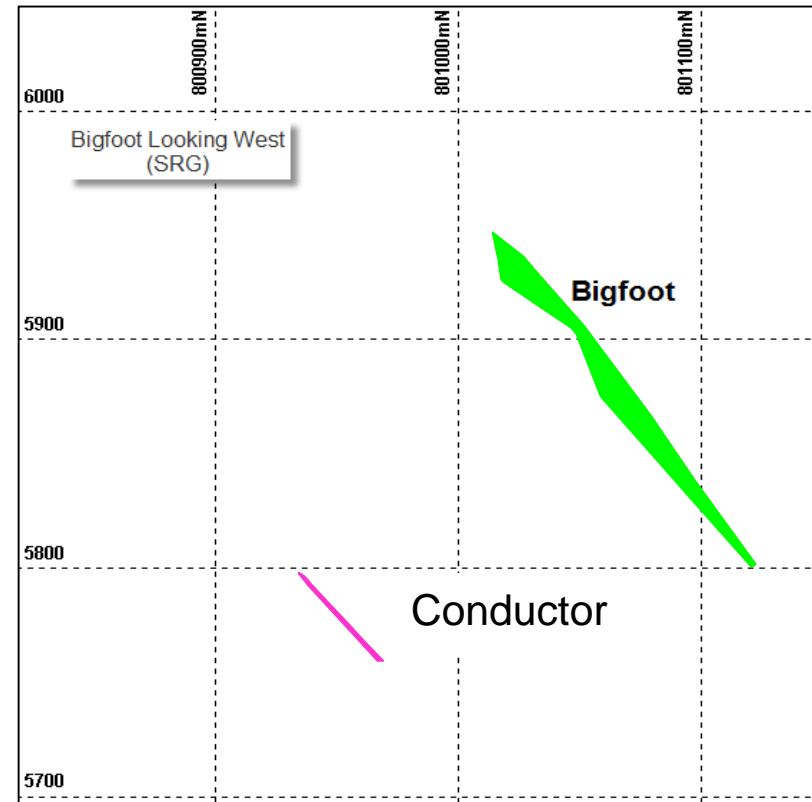


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Structural geology analogy to Currawong



Stacked lenses at Currawong



DISCOVERY



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EUREKA!

Approval to drill – 12SMDD015 re-entered and extended – Discovery!

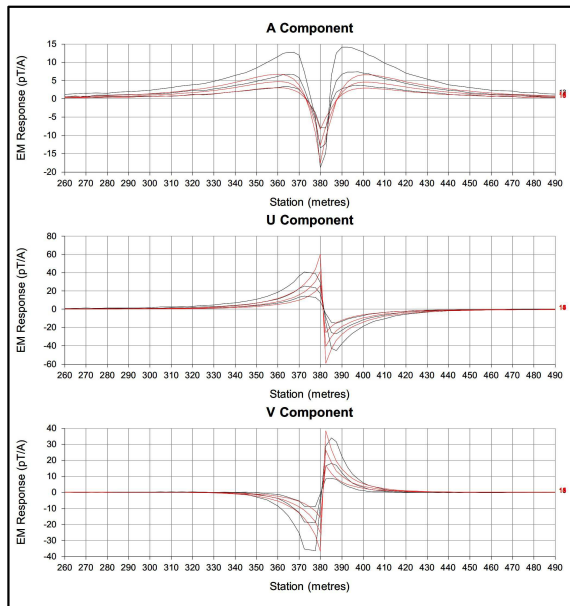
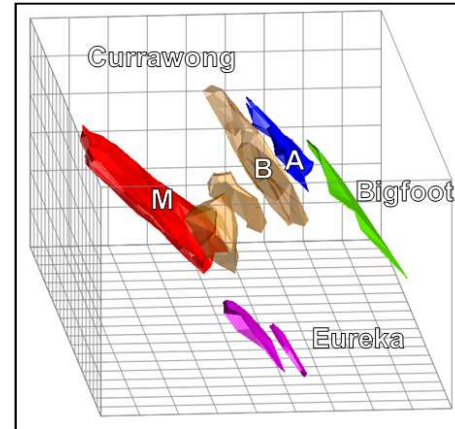
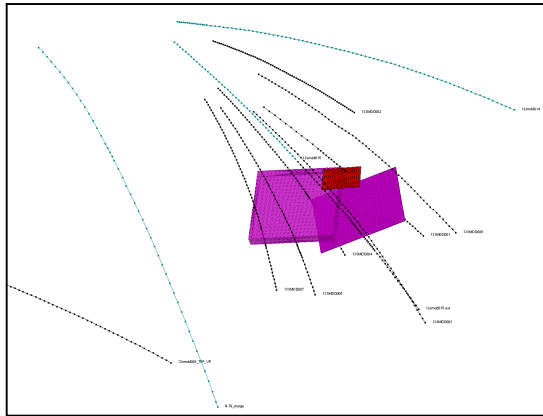


- **12SMDD015** – from 373.65m, 22.65m at 1.2% Cu, 0.7% Pb, 3.9% Zn, 43g/t Ag and 1.3g/t Au
including 10m at 1.8% Cu, 0.9% Pb 4.6% Zn, 57g/t Ag and 1.6g/t Au

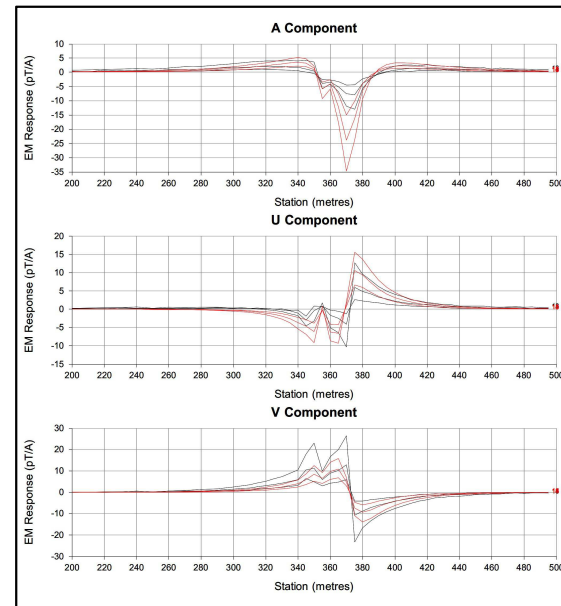
FOLLOW-UP DHTM



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Response from 12SMDD015



Response from 13SMDD001

CONCLUSIONS



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- **Difficult access and limited drilling results in high prospectivity**
- **AEM has not screened the area**
- **Forward modelling loop positions allows maximum coupling with target horizon**
- **Even the most subtle anomalism can be of interest**
- **Combining the soil geochemistry, SWIR and interpreted structural geology provided a great story to convince management to drill the discovery hole**

ACKNOWLEDGEMENTS



Independence Group

Independence Group Stockman Project crew





GROWING A
GREAT AUSTRALIAN
MINING COMPANY



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THANKYOU

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