HAWKE GEOPHYSICS PTY LTD

6 Joy Close, Willetton, WA 6155 Mobile: 0419 500 383 Email: phil.hawke@optusnet.com.au

Memorandum To: Gary Price
From: Phil Hawke

Date: revised 28 January 2012

Re: Results of a ground magnetic survey over the Creswell Downs tenement.

Background

Ground magnetic data were collected over regional magnetic anomalies interpreted to represent metasediments of the South Nicholson Group, the upper (unconformity) boundary of which is considered a stratigraphic target for uranium mineralisation. This work follows up on earlier ground magnetic profiling (blue lines) by Hindmarsh Resources targeting specific features along the interpreted unconformity corridors (Figure 1).

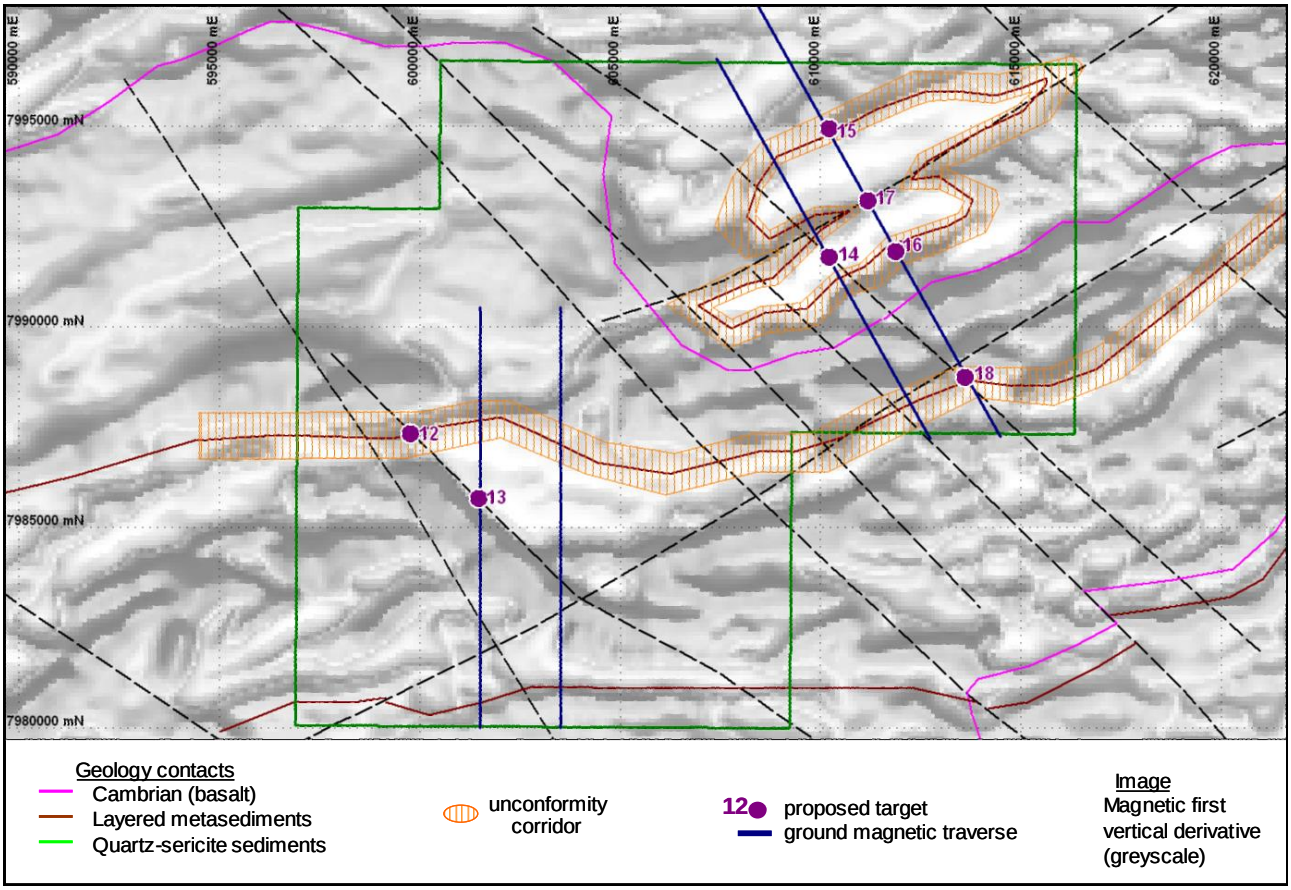

Figure 1: Regional (1VD) magnetic image showing the interpreted unconformity corridors (orange hatched regions) identified as a potential stratigraphic target for uranium mineralisation. Hindmarsh Resources ground magnetic traverses are shown as heavy blue lines (after Hawke, 2006).

Data Acquisition and Processing

Ground magnetic data were collected by Bowgan Minerals using a Scintrex MP5 magnetometer. A total of 27 lines of data for 68.9 line km, as shown in Figure 2, were collected during October 2010. Data were collected with either a 10m or 20m sample interval. The breakdown of survey size by prospect area is as follows:

- 13 lines for 36.4 km in the **northern** prospect area
- 11 lines for 15.4 km in the **southern** (western) prospect area
- 13 lines for 17.1 km in the **eastern** prospect area.

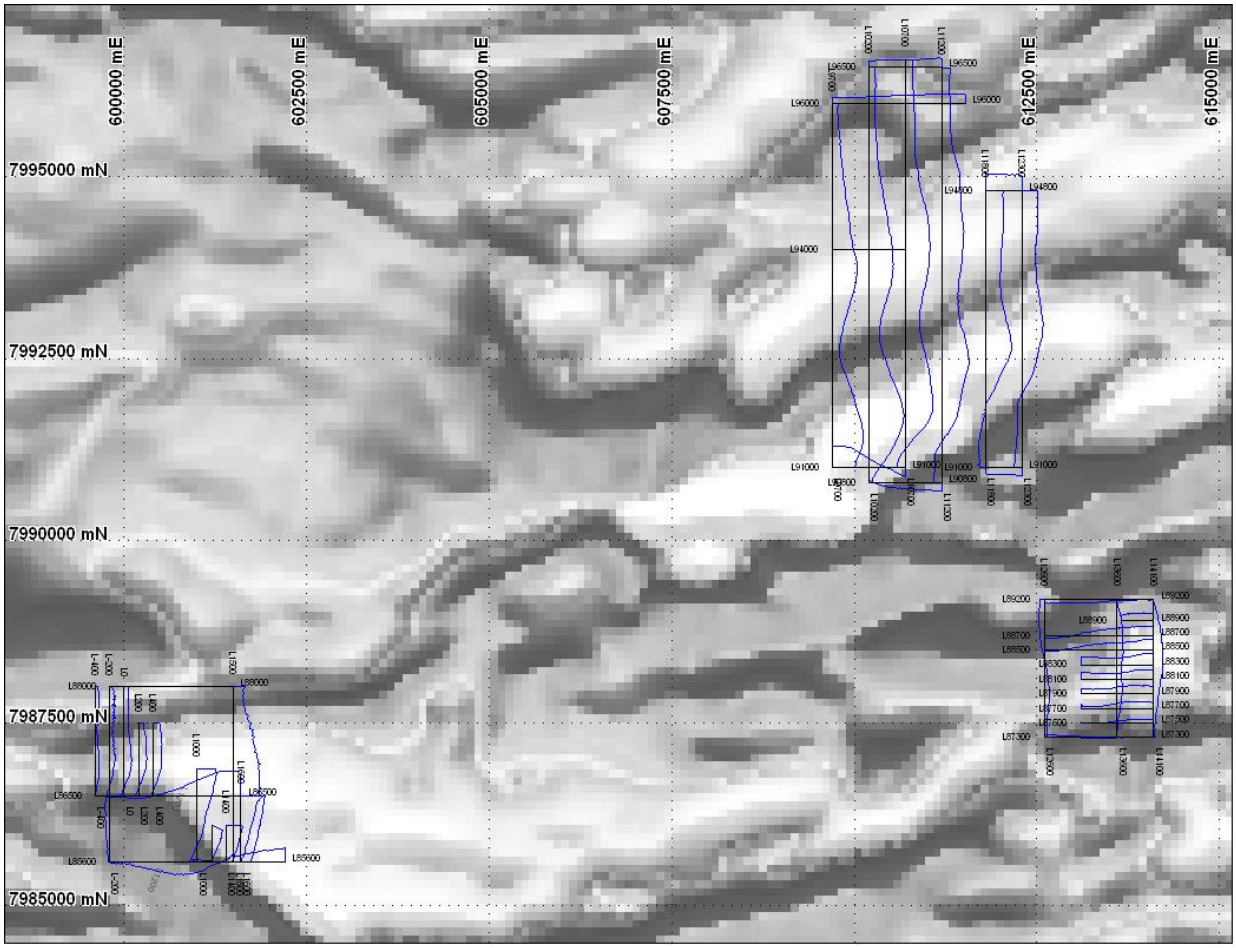

Figure 2: Profiles of 2010 ground magnetic data overlain on the regional magnetic image.

The ground magnetic data collected were smooth in profile with no obvious sensor drop-outs or errors in the results. No additional processing was completed on the ground magnetic data prior to imaging and display.

Results

Ground magnetic data were collected over three blocks; reflected the preserved tenure covering the southern (in the bottom left of Figure 2) northern (top right) and eastern (bottom right) anomaly targets.

An image of the TMI of the ground magnetic results (colour image) is shown overlain on the first vertical derivative of the regional aeromagnetic data (greyscale) and profiles of 2006 ground magnetic data collected by Hindmarsh Resources (halftone) in Figure 3.

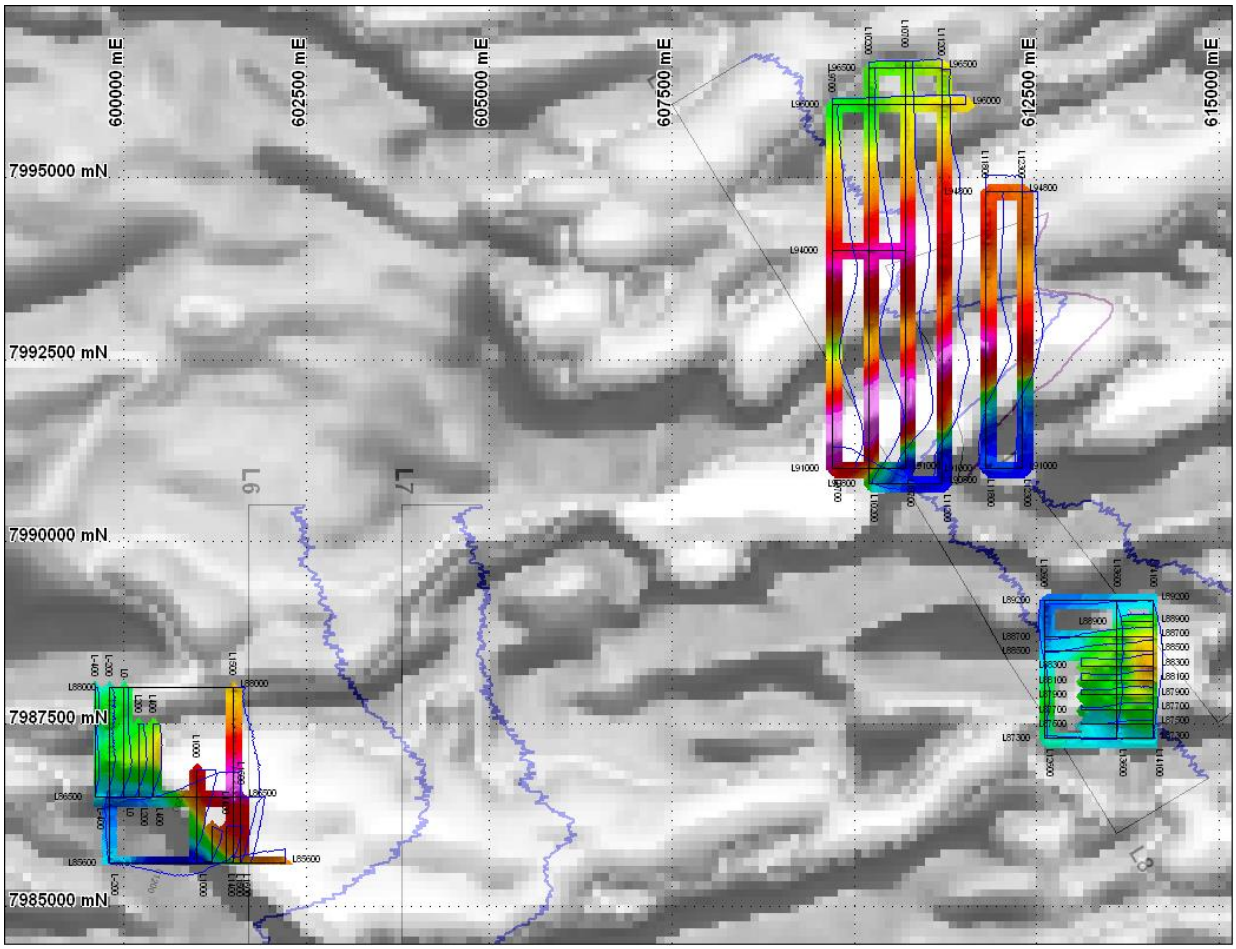

Figure 3: Pseudocolour image of ground magnetic TMI overlain on an image of the regional aeromagnetic data. Profiles of Hindmarsh ground magnetic data are displayed with a greater (~3x) vertical exaggeration than used for Bowgan data.

In general the ground magnetic data reflects the aeromagnetic anomalies closely.

- Two prominent magnetic trends are shown in the **northern** anomaly area, which are interpreted to reflect Nicholson Group metasediments.

- A strong northwest trending break in the **southern** magnetic anomaly is identically located to that interpreted from the aeromagnetics. This is interpreted to reflect a significant fault structure.
- A broad magnetic trend associated with the **eastern** anomaly area.

The results are largely consistent with earlier ground magnetic data collected by Hindmarsh Resources, shown as profiles in Figure 3 (at ~2.5 times vertical exaggeration of the Bowgan data shown in Figure 2).

Magnetic modeling

A forward model to demonstrate the geometry of the magnetic trend within the **northern** target (line 10700E) created using Encom's Modelvision software is shown as Figure 4. An alternative model that fits the observed data equally well is shown as Figure 5.

The results of the first model (Figure 4) are largely consistent with the forward modeling work completed by Hindmarsh Resources, suggesting a depth to the source of the magnetic anomaly at the peak of the southern magnetic response (7991900mN) of approximately 220m. The depth to the source of the lesser amplitude response in the middle of the section is estimated to be greater at approximately 550m.

However the alternative model presented in Figure 5 suggest a much deeper depth to the magnetic target is also plausible; up to 550m depth for both magnetic anomalies along this profile.

Traverses covering the **southern** magnetic anomaly do not completely cover the main magnetic target are unlikely to yield a more reliable result that previously obtained by Hindmarsh where forward modeling of Line 7 yield a source depth of 220m.

Similarly the magnetic anomaly forming the **eastern** target is not fully defined (negative lobe absent) by the recent ground magnetic survey. Modelling of ground magnetic Line 8 by Hindmarsh Resources yielded a source depth of approximately 230m.

Conclusions

A total of 68.9 km of ground magnetic data were collected over retained portions of the Creswell tenement. The data were very clean and show a good correlation with the regional aeromagnetic results and previous ground magnetic traversing by Hindmarsh Resources.

The largest of the target magnetic anomalies in the ***northern*** target area (at 610700mE, 7991900mN) was able to be forward modeled with source depths ranging from 220 – 550m with equally good results. Additional (drilling?) information is required to categorically constrain this result.

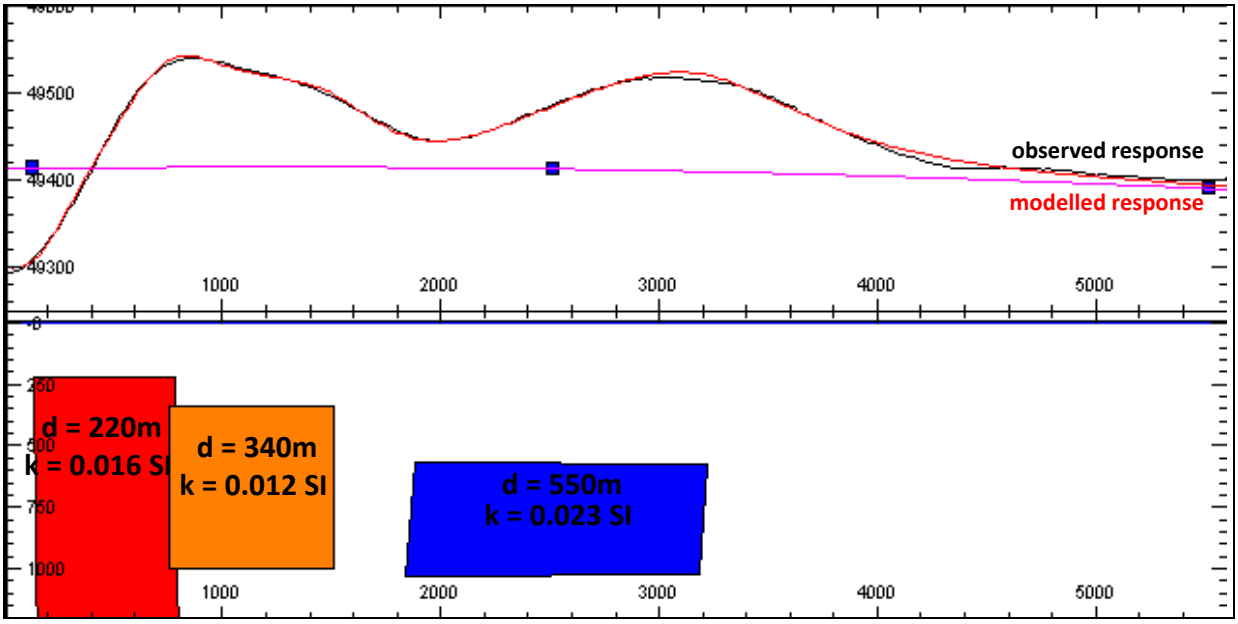

Figure 4: Forward model results for line 10700 (610700mE); d=depth to top, k=magnetic susceptibility of modeled source. Approximately 2x vertical exaggeration.

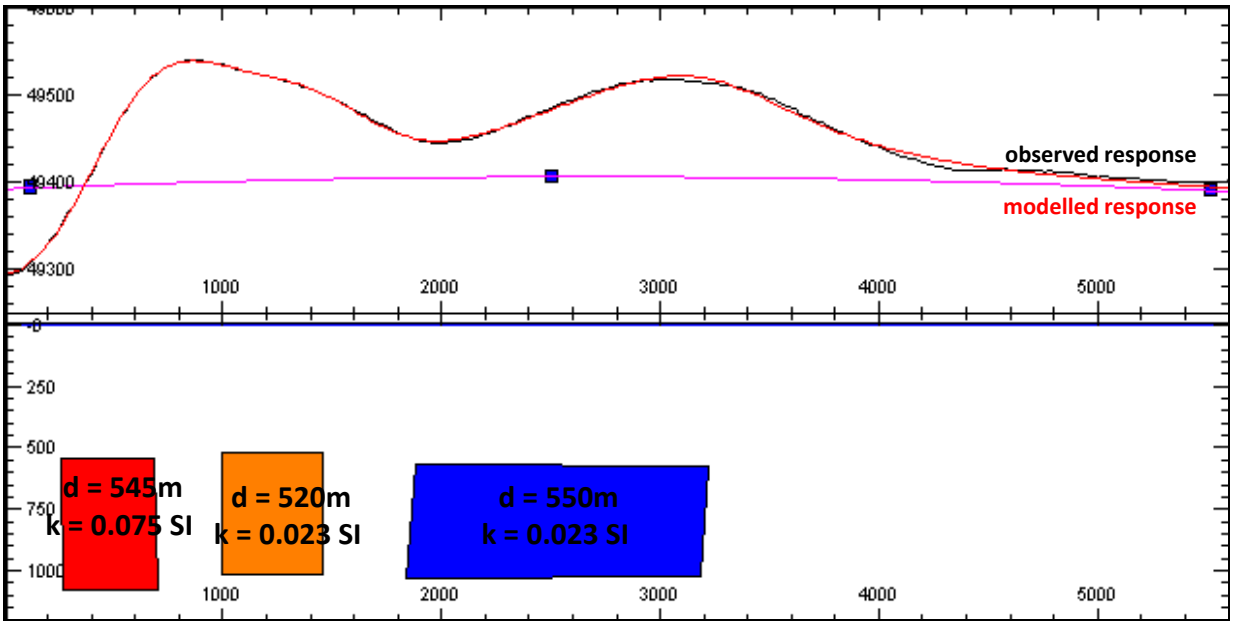

Figure 5: Alternative, deeper forward model results for line 10700 (610700mE).

Modeling suggests a much deeper source for the middle magnetic anomaly (610700mN, 7993900mN), estimated at approximately 550m depth.

While the new ground magnetic data confirms the geometry of the anomalies at the ***southern*** and ***eastern*** target areas, no further modeling was completed. The estimated depth to the source for these two targets areas remains as predicted by Hindmarsh Resources at approximately 220 to 230m.