BAIGENT GEOSCIENCES

Austgold Ludi Mining Pty Ltd
&
Minerals Invesco Pty Ltd
EL 28413 & EL 28435
Airborne Geophysical Survey
Geology/Geophysics Interpretation and Survey Report

November 2012

Project: EL28413 & EL 28435

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1. Preface

A detailed airborne geophysical survey was conducted by UTS geophysics on behalf of Gold Land Mining Pty ltd and Mineral Invesco Pty Ltd over El 28413 & EL28435 in The Northern Territory during July 2012.

This survey consisted of flying 100 metres spaced lines in an East - West direction at a terrain clearance of 50 metres over the Exploration License.

2. Survey Method and Quality

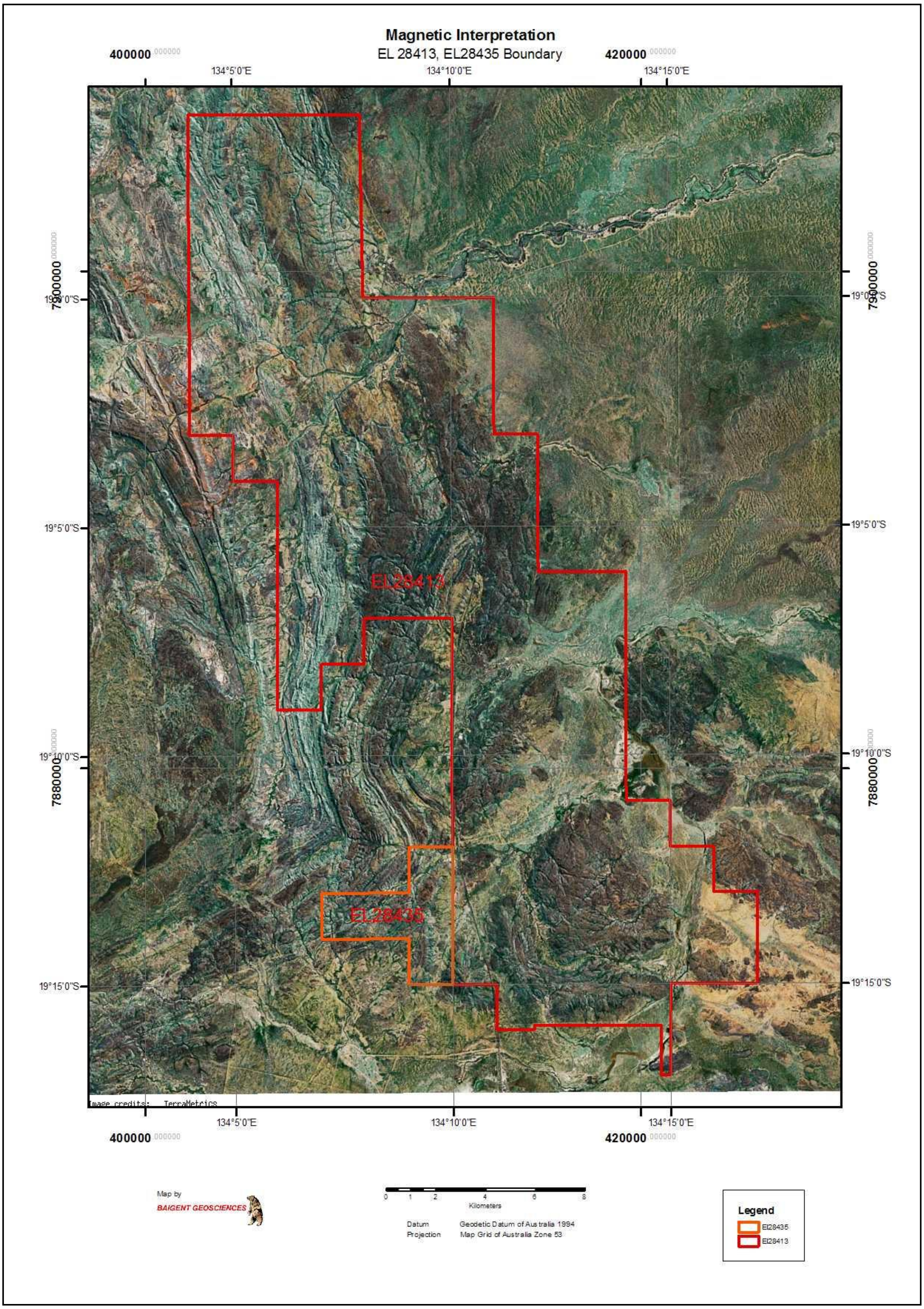
2.1 Survey Area

The survey area was approximately 60 km south of Tennant Creek in the Northern Territory of Australia. The survey was flown based on the Geocentric Datum of Australia 1994 (GDA94), zone 53.

The specifications of this datum are:

Projection name:	Map Grid of Australia
Datum:	Geocentric Datum of Australia (GDA94)
Reference Frame:	ITRF92 (International Terrestrial Reference 1992)
Epoch:	1994.0
Ellipsoid:	GRS80
Semi-major axis:	6.378.137.0 metres
Inverse flattening:	298,257222101
False Northing:	10,000,000 m N
False Easting:	500,000 m E
Scale Factor:	0.9996

The survey area is shown below


Magnetic Interpretation
EL 28413, EL28435 Boundary
400000
420000
134°5'0"E
134°10'0"E
134°15'0"E
7900000
7880000
19°0'0"S
19°5'0"S
19°10'0"S
19°15'0"S
EL28413
EL28435
Image credits: TerraMetrics
Map by
BAIGENT GEOSCIENCES
Kilometers
Datum Geodetic Datum of Australia 1994
Projection Map Grid of Australia Zone 53
Legend
El28435
El28413

Survey area

The terrain is generally flat to undulating with elevations ranging from 282 metres to 415 metres. Most of the high terrain was in the northern half of the area and towards the south west and central south part.

The survey consisted of some 4500 line kilometres of magnetic, radiometric and elevation data collected.

The data was controlled by using the GPS system with real time differential corrections using the OMNISTAR system.

Other survey equipment installed:

RMS AADC II

Digital Acquisition system

Exploranium GR820 radiometric system

Radar altimeter

Novatel GPS unit

Temp and pressure probes

2.2 Flying Tolerances

Overall the flying on this survey was very good.

Offline tolerances were small. These tolerances had a standard deviation of 2.14 metres. The range of the offline tolerance was +/- 50 metres, these extreme values occurred at he beginning of the lines or at the ends near the turn-ins. Most lines had a maximum of +/- 4 metres offline range.

Considering the elevation within the survey area the terrain clearance was very good. The mean clearance was 48.64 metres with a standard deviation of 4.64 metres.

2.3 Magnetic System

The aeromagnetic system consisted of a caesium sensor coupled to a RMS Automatic Aeromagnetic Digital Compensator (AADC) model II. The AADC automatically removes the induced magnetic field caused by aircraft manoeuvres.

Calibration of the aircraft heading effects were measured by flying a series of pitch, roll and yaw manoeuvres at high altitude while monitoring changes in a three axis fluxgate magnetometer and the effect on the total field magnetometer. A 26 term least squares polynomial model is computed and then applied to this data. This model calculates for the permanent, induced and eddy current fields. This technique to remove the manoeuvre induced noise in real time is far superior to post flight calibration methods.

Nose levels of the system were very low. The calculated 8^{th} difference noise had a standard deviation 0.0004 nT

A proton precession magnetometer was used as a magnetic base station. The resolution of 0.1 nT and sampling every 5 seconds is adequate for the survey

2.4 Navigation and Positioning

The survey was controlled by using the GPS network. The GPS was supplemented by using the OMNISTAR real time differential link.

A Novatel 12 channel GPS unit in the aircraft was used to provide real time steering information to the pilot and also provide the accurate positioning for the survey.

The horizontal accuracy is 2 -3 metres and the vertical accuracy was 3 – 5 metres

The radar altimeter was a Bendix-King model 405b. The accuracy if this radar altimeter is 5 feet and -/-3% from 0 to 500 feet and then +/-5% from 500 to 2500 feet.

2.5 Radiometric System and Data

A radiometric system was also employed on the survey. This consisted of an Exploranium GR820 coupled with 33 litres of NaI crystal with ancillary devices such as temperature, barometric pressure and humidity probes. The final data is fairly coherent but it is difficult to check the quality of the data. The reasons for this include:

1. No hand sample test information
2. No test line information; and
3. No 256 channel raw spectra delivered.

The hand sample and test line information provide system repeatability and how well it is performing. Without this information we can only guess on how ell the system performed. Again without the 256 channel raw spectra we cannot check on system performance, spectral drift and check radiometric peak positions.

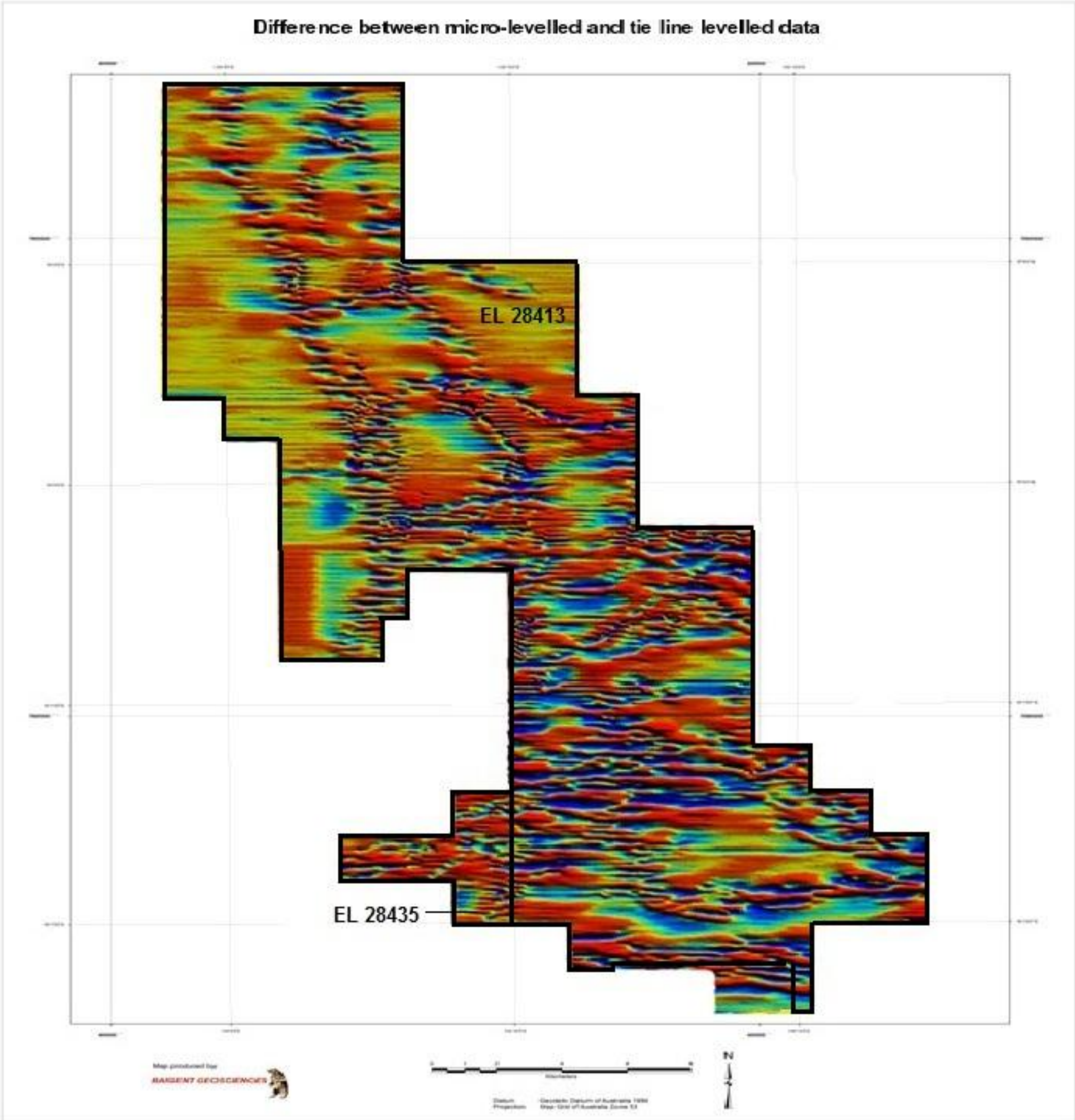
2.6 Recording of the Survey Data

The data was recorded on a UTS digital acquisition system. The acquisition unit records data from both digital and analogue devices as well as the GPS information. The digital data is time tagged to the GPS to allow for accurate post flight synchronisation. The digital data was recorded on compact flash cards

2.7 Data Processing

The first stages of processing are to check all variables for spikes steps etc. Diurnal data is inspected for spikes etc, filtered and then applied to the data.

The appropriate IGRF model has been applied and the data has then be tie line levelled and final micro levelled. The tie line levelling has been done in two stages, firstly, using a technique that only removes a DC bias and, secondly, then applying a polynomial levelling was then applied. It is not stated what order of polynomial was used during the process. Data was documented as being micro-levelled on a selective area basis. The following image is the difference between the tie line levelled data and the micro levelled data. It is obvious that the levelling was applied to the whole dataset rather than on a selective basis, with the coherence of the adjustment differences (below), demonstrating this.



Difference between micro-levelled and tie line levelled data

TH differences between the final levelled channel and the tie line levelled channel ranged from -27 nT to 250 nt.

All standard data processing techniques were used to process the magnetic data and radiometric data. There was nothing special or any steps missed out according to the supplied logistics report.

There were several maps supplied and show basic information. The image quality is poor with a limited number of colours displayed, this is indicated by the banding within the image.

Maps of total magnetic intensity and the first vertical derivative, an elevation map, a radiometric total count map and a radiometric ternary or RGB map were provided by the contractor. The pdf maps that were supplied are only useful for display purposes and the imaging of to poor a quality to highlight any subtle features, especially in the magnetic data.

The magnetic understanding of the area has definitely been improved with the tighter line spaced survey. Anomaly shape are better defined and positioned. This should lead to a better structural interpretation

The increased density of lines over the government data has not added any additional information or knowledge to the radiometric data set. The area is covered by sand and very little outcrop and hence little or no extra knowledge.

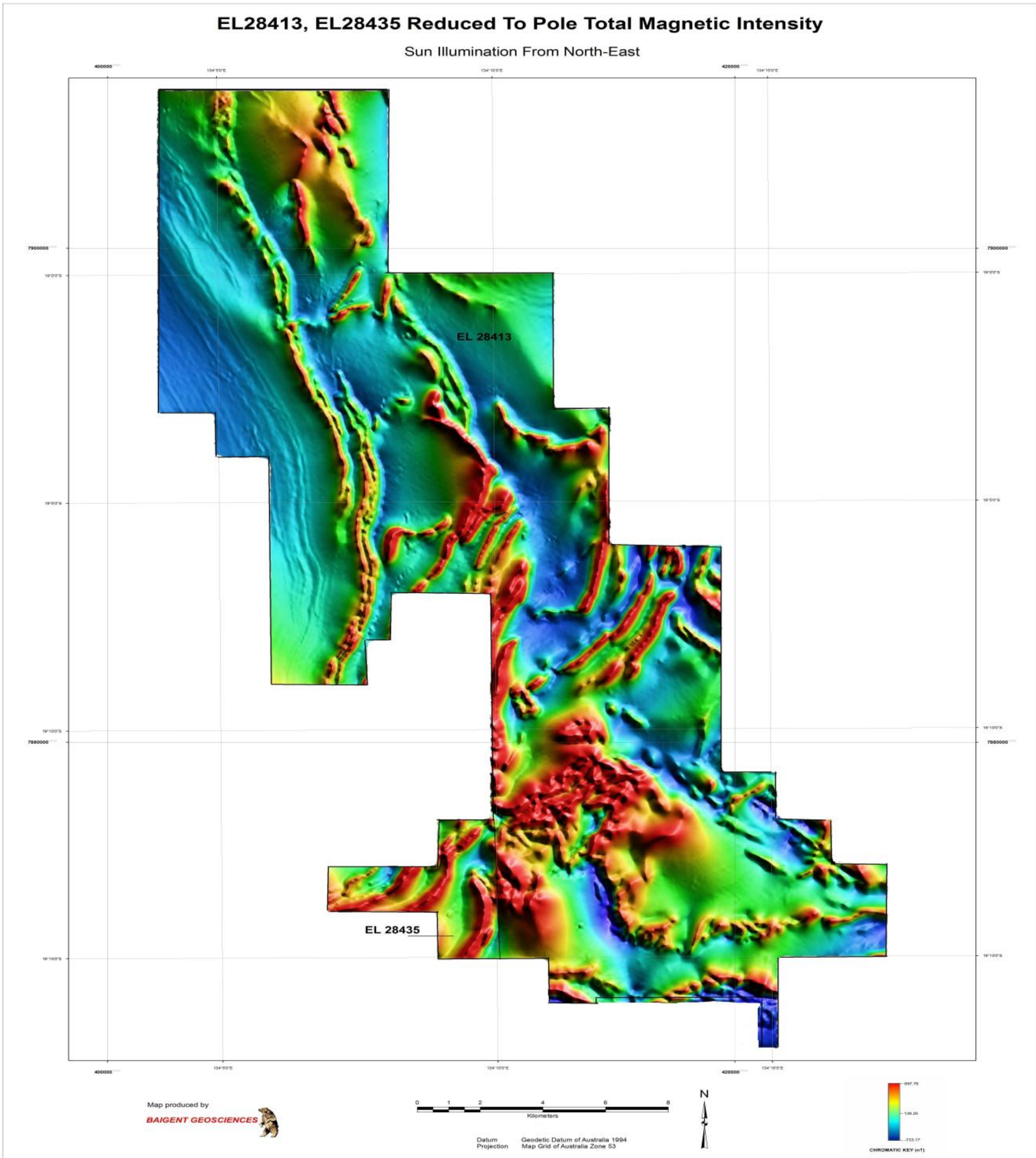
The final processed Uranium data has far too many data points with values of zero or less. In fact some 30% to 50% of all samples are in this category. It would appear that the processing of the Uranium channel is of poor quality and UTS has not performed any QA/QC. If UTS had checked the data then there would be a different outcome. As there is this huge number of data values less than zero, the calculation of ratio's using the uranium data has been compromised.

2.8 Aircraft Instrumentation and Survey Logistics

A more detailed description of the survey aircraft, logistics and processing steps can be found in the logistics report that was supplied with the digital data by UTS.

3. Background Geology and Mineralisation

This interpretation has been completed with the objective of identifying areas of enhanced prospectivity for gold and base metals similar to that found at Tennant Creek.



Reduced to Pole TMI with north-east sun illumination

The magnetic anomaly map of EL28413 has been interpreted to contain three magnetic domains with two magnetic marker horizons with very strong structural controls within the tenements. Fourteen areas of enhanced prospectivity have been identified.

EL28413 is located on the Tennant Creek and Helen Springs 1:250K sheets. Geologically these tenements are within the Tennant Region and contain the Ashburton Province in the north and Warramunga Province in the south bounded by the Wiso Basin to the west and Georgina Basin in the east. Rock types and rock formations within these Provinces consist of the Warramunga Formation and early intrusive rocks that originated at the time of the Barramundi orogeny D1. These are uncomfortably overlain by the less deformed Flynn sub group, with additional intrusions and more recent cover of the neighbouring Basins. Economically, the most significant mineralisation (Au Cu Bismuth) is of the Tennant Creek style (TCS) hosted by magnetic massive iron stones that occurs within the Warramunga Formation (Donnallan N). There is also potential for other styles of mineralisation, possibly associated with intrusions and alteration zones along the deep seated structures that control the basins, or potentially down the fold hinges within the Formations, or possibly within dilatational zones created by tectonic activity of the Formations.

This interpretation identifies magnetic domains of two types. The domains contain either the magnetic marker horizons, or, have no magnetic signature and are areas of low amplitude with low relief shown on Figure 1.

The high amplitude high relief magnetic domain is in two parts:

The first are long, high amplitude short wavelength magnetic units of a curve linear nature, these are interpreted to be either the Brumbreu Formation (BB) or Hayward Creek Formation (HCF) being the magnetic components of the Flynn Group. These appear to be up to 400m wide but are generally less than that. They have been roughly characterised by their thickness and magnetic intensity, the Brumbreu being thinner than the HCF although this classification is known to be inaccurate.

The second is of short wavelength, high amplitude anomalies with short strike extent and appear highly deformed. These are interpreted to be part of the older Warramunga Formation being deformed by the Barramundi D1. These are considered to be more prospective than the less deformed magnetic rocks of the BB and HCFs because they host the TCS mineralisation. Only one of these areas has been interpreted in the south of the tenements within Area 5.

These high magnetic amplitude domains are contained within a matrix of much less magnetic rock that have either a linear bedded texture or have a pocky magnetic texture, some of higher and lower amplitude. The texture is believed to be caused by magnetic material accumulated in the soil profile, probably from weathering products derived from the magnetic units. The magnetic texture appears to reflect the original texture (bedding) of the rock.

The final magnetic anomaly is less obvious and appears as shadows, sometimes as circular features that could be caused by intrusive or buried intrusive rocks.

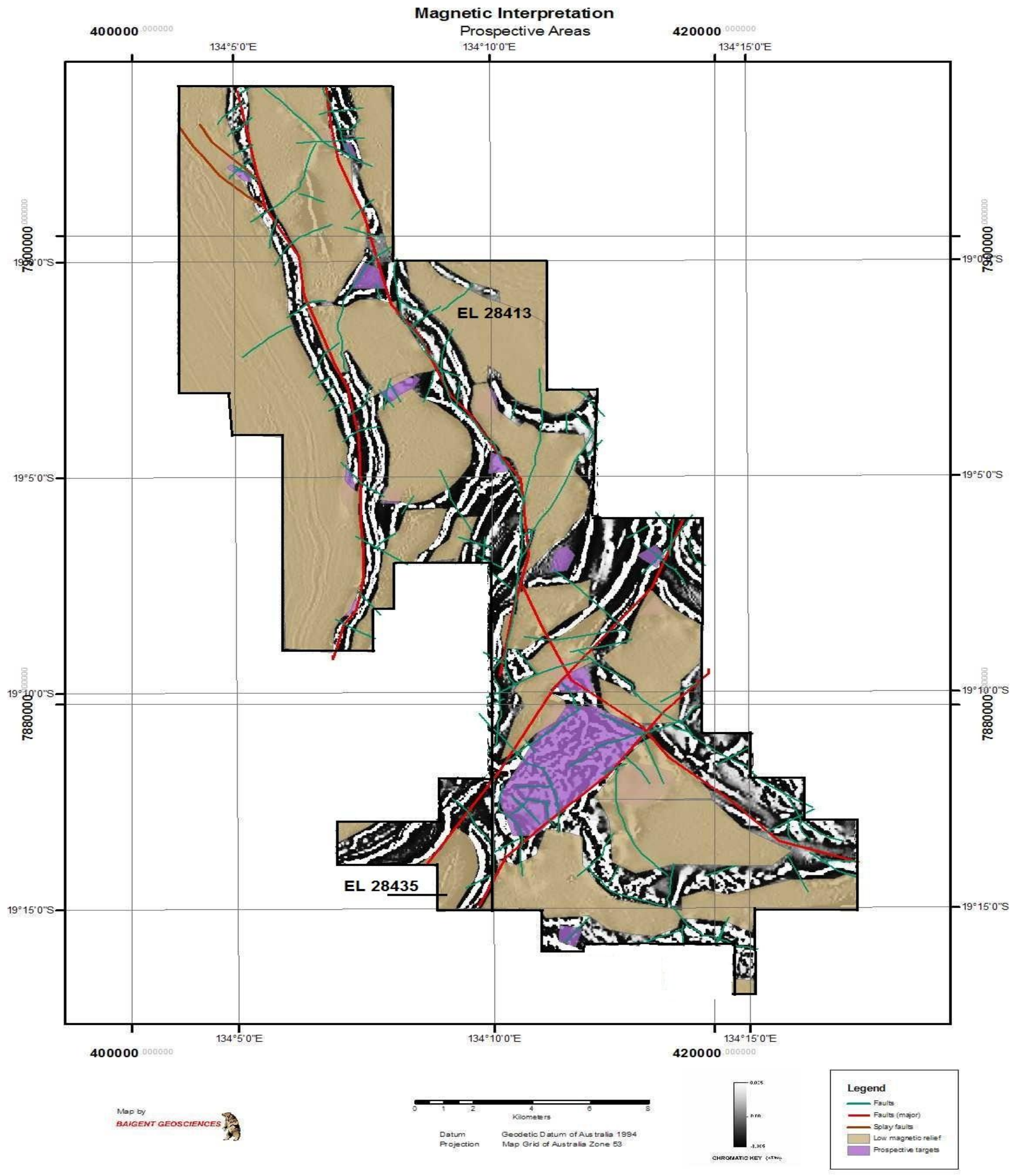


Figure 1: Magnetic Interpretation showing prospective positions in purple and low magnetic relief in brown

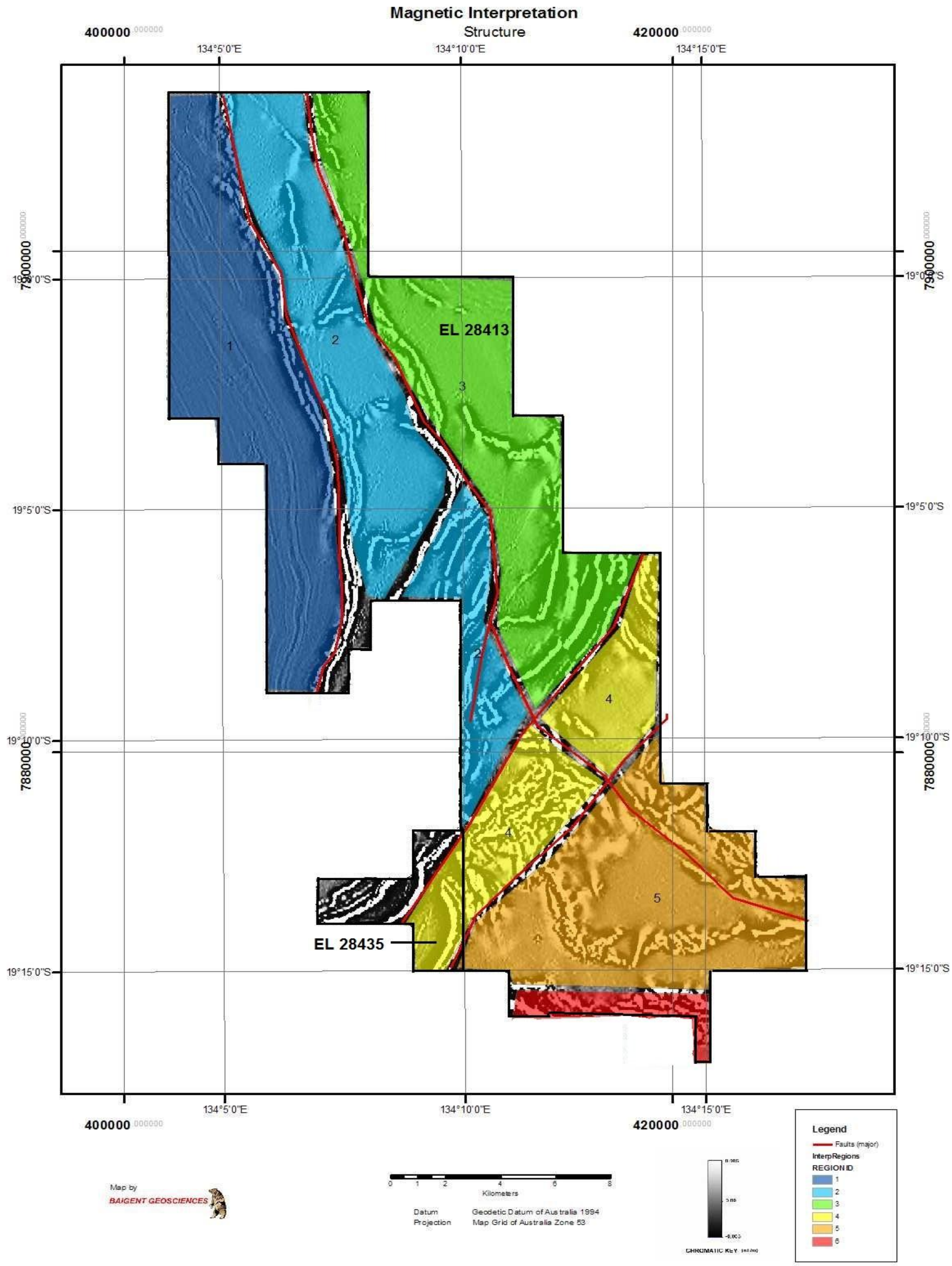


Figure 2: Second vertical derivative showing structure (red) and interpretation regions in brown

4. Magnetic Interpretation

For ease of description the interpretation has been broken into six areas numbered from the NW clockwise.

1. This area appears as low magnetic intensity with linear fabric corresponding to bedding or weathering and/or topography which is evident in the Google image. This area is interpreted to be the eastern edge of the Wiso Basin and has been classified as the Morphett Creek Formation (MCF) by the NTGS. A low radio element bed appears to mark the upper ? beds of the MCF. The MCF is generally radiometrically active; the MCF has elevated Uranium radiometric counts, the significance of this is unknown. Area 1 is considered to have very low prospectivity for gold but has some potential for base metals along the faulted eastern contact particularly at splay faults.
2. The second area is bounded by faults parallel with high amplitude anomalies. These are long curvilinear anomalies interpreted to be sourced by the BB of the Flynn formation. On the western contact with Area 1 the BB appear to be bedding parallel and have an intact contact. There is an obvious repeat of stratigraphy where BB double in number. This is interpreted to indicate a significant strike slip along this contact with north south movement in addition to the west down normal faulting. This is the "Western Fault". The eastern boundary of this area is a similar extensive fault. The "Eastern Fault" which has probable opposite movement and probably less vertical movement (than the western fault), creating a horst block. This area appears to be broken into "rafts" by east west faults which take up the distortion as the bounding faults move. These rafts appear to have rotated in an anticlockwise manner making numerous zones of dilation which are considered prospective, especially when close to the bounding faults. Some of which have a magnetic character interpreted to be intrusive.
3. The north eastern area is located on the interpreted down side of the eastern fault which is characterised by low magnetic relief with few long short wavelength anomalies. This area appears more massive than Area 2 and is considered less prospective. It is interpreted to be the beginning of the Georgina Basin.
4. To the south, and central to the tenements, is a NE SW set of faults bounding Area 4 which is highly deformed, by what is interpreted as, compressional forces forming a rectangular/diamond shaped sequences, possibly synformal, the noses of which are considered prospective. Within this compressional corridor there is a rectangular block of high amplitude short length and wavelength anomalies which are interpreted to be the Warramunga Formation that is considered to be prospective as a whole.
5. In the south of the tenement is a triangular block bounded by the western and eastern faults and the NE SW structure of Area 4. This area is part of the Warramunga Province and consists of Warramunga Formation. In the northern apex of the triangle there appears to be an intrusion or area of alteration considered to be prospective.
6. The final area is in the south and is characterised by east west magnetic Warramunga anomalies. One small area of dilation is evident in this area. This is also considered prospective.

5. Targets

Fourteen targets (see figure 3 below) have been selected using this interpretation; they are numbered in the GIS accompanying files ('targets.shp'). These targets are structural and focus on areas of dilation caused by the major NW structures and are generally aligned with this structure. These notes accompany each area:

Target IDs:

1. Small circular feature which could be small intrusive next to a dilational feature on the strike slip fault.
2. Rotation of magnetic block caught in main contact and strike slip fault.
3. Junction of where the strike slip faults meet and doubling of stratigraphy ends. Looks like demagnetisation has occurred, possibly due to alteration.
4. Doubling of stratigraphy on western fault.
5. Possible intrusive in nose of fold or junction of major structure.
6. Dilational between BB on eastern fault.
7. Area between two rotated central blocks with mag feature could be intrusive.
8. Confluence of faults in SE where dilation may have occurred.
9. Dilation.
10. Dilation.
11. Nose or confluence of faults possible intrusion.
12. Dilation on eastern fault.
13. Junction of major NE SW faults with intrusive.
14. Short strike length short wavelength, possibly earlier Warramunga Formation.
15. Dilation between NE trends and main NS fault
16. Area edge possible intrusion
17. High frequency possible influence from Tennent Creek Inlier
18. Dilation between possible intrusion

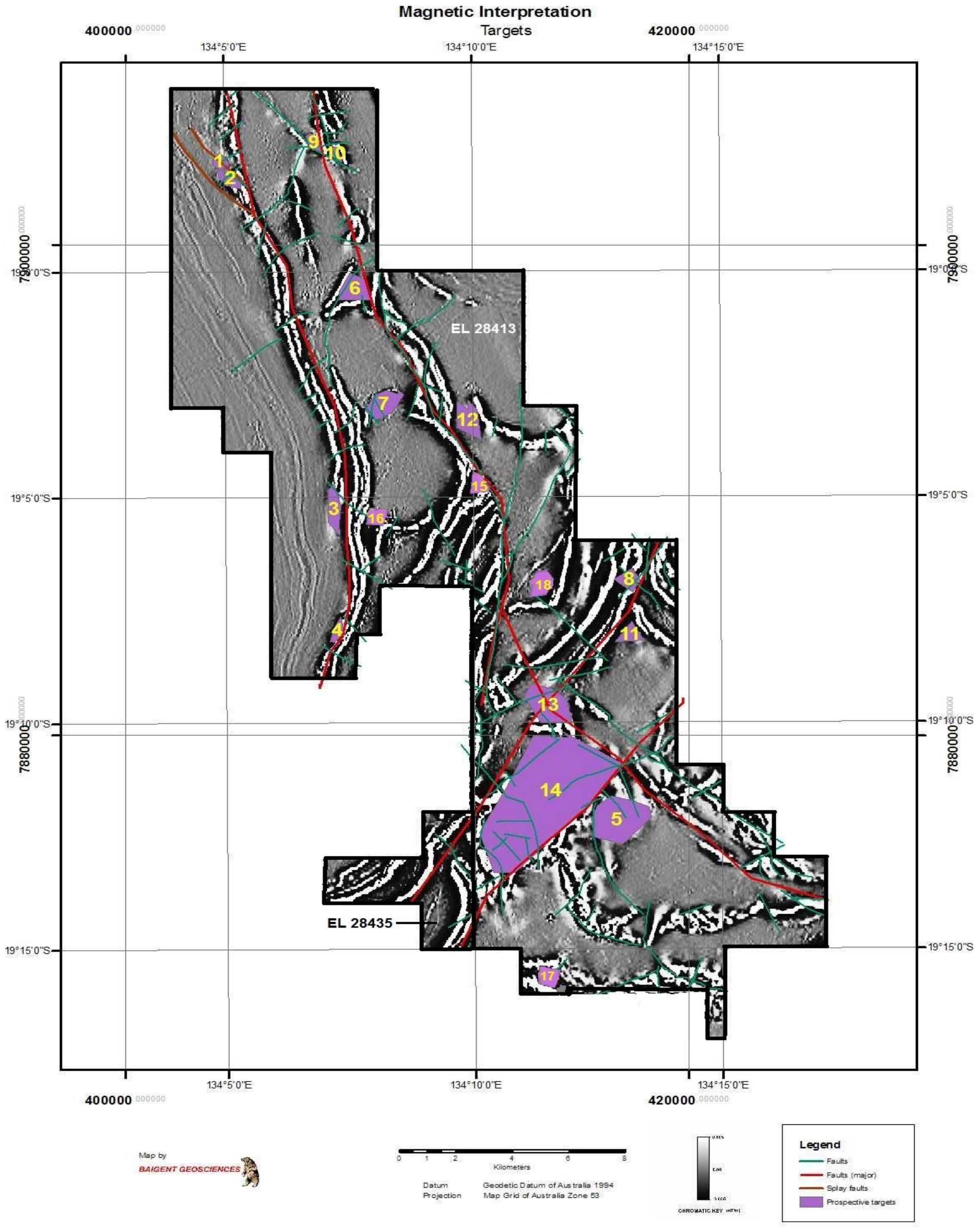


Figure 1: 2VD showing targets in purple.

6. Radiometrics

The most dominant formation that covers the survey area is the Hayward Creek Formation in the north and trending to the south. The Morphett Creek formation is part covered in the north west of the survey area with some evidence of the Brumbrea formation in the south. Cenozoic materials are dispersed throughout the survey area.

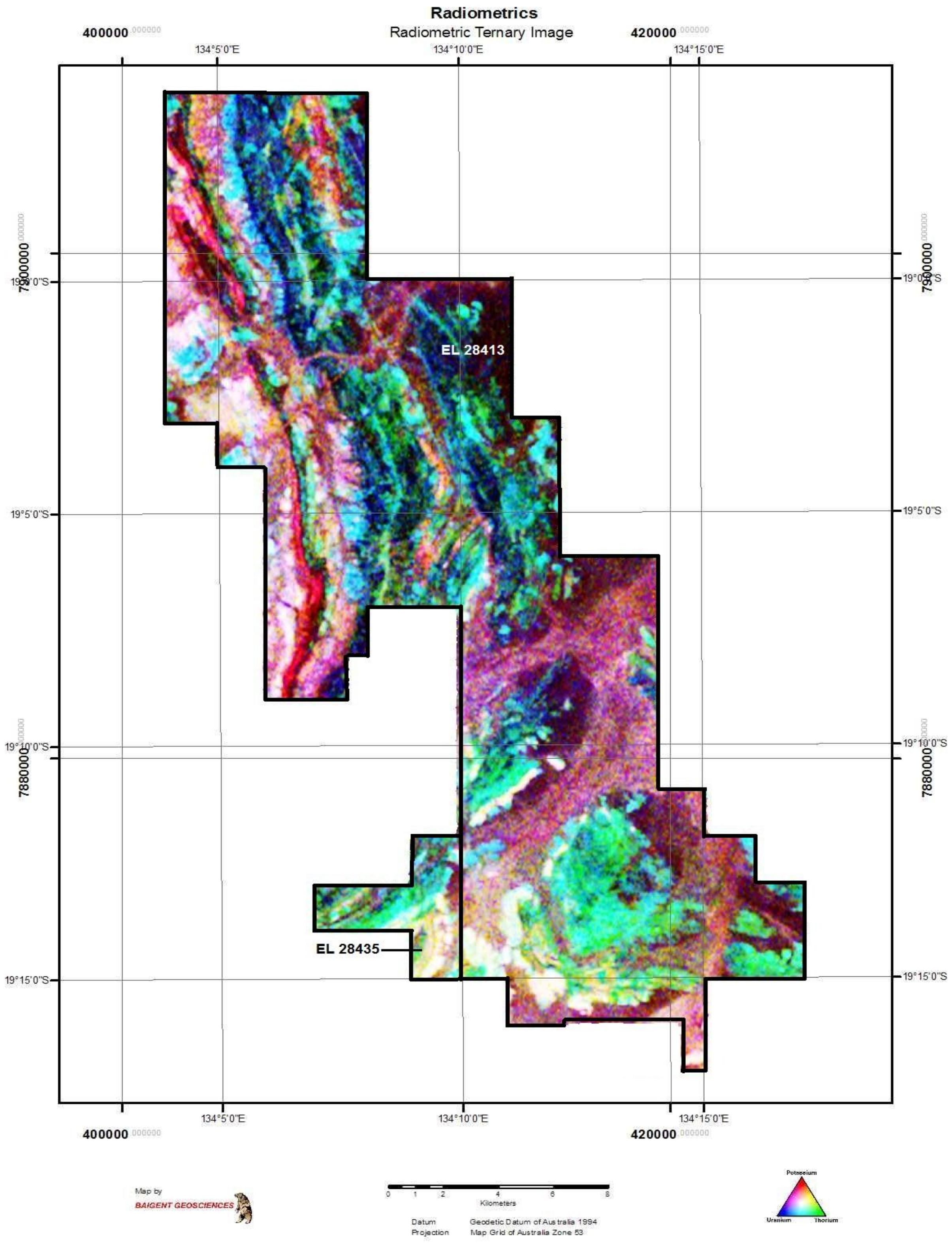
The ternary or RGB image displayed below shows much more banding that is evident on the published 1:250,000 Helen Springs or Tennant Creek geological maps.

In the northern section of the survey we have very detailed mapping of the Hayward Creek formation. This is shown by a depletion of both Potassium and Thorium and is illustrated on the below map by the dark blue areas. This does not suggest that the area had a higher Uranium content but depleted Potassium and Thorium.

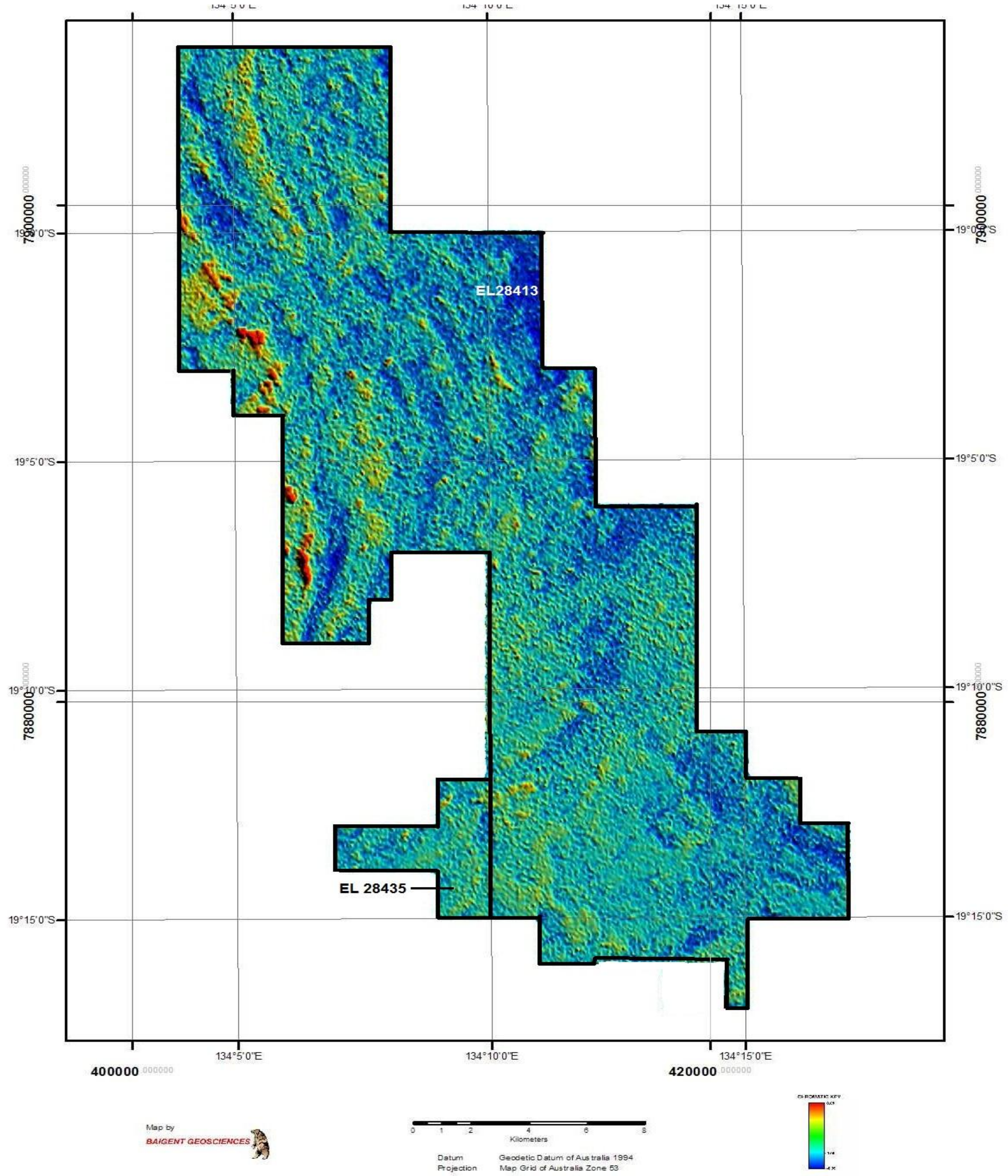
On the flanks of the survey are the Cenozoic material to the west and east. The western edges have a fairly homogeneous mix of all elements resulting in the traditional light colours. The central south and east areas are dominated by the Potassium rich alluvial sediments punctured with the outcrop of the Thorium dominated Hayward creek formation. It appears that the mineral composition of the Hayward Creek formation is different in the north compared to the south or that the Cenozoic material in the north is far more extensive than the published geological information and that the Hayward Creek formation has little outcrop in this area

There is a strong but narrow band of Potassium rich material in the western part of the survey that starts in the north west of the survey area and trends in a south easterly direction. It would appear to be the western edge of the Hayward Creek formation.

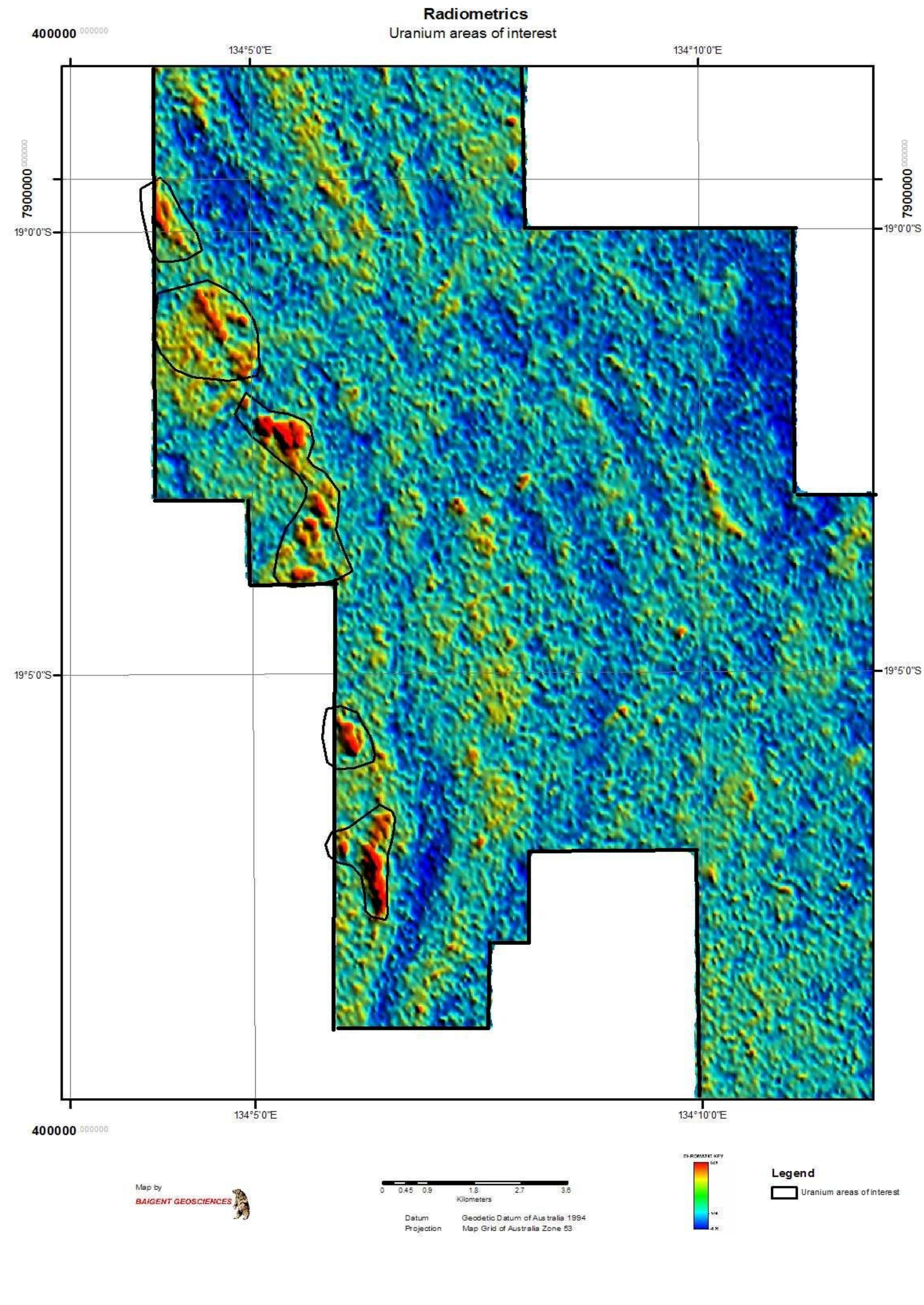
The Uranium/Thorium ratio map shows an elevated region of Uranium along the western edge of the survey boundary. This elevated area of Uranium appears to be in the sediments and shows no known outcrop. These areas could be a subtle Uranium anomaly or a marine based Phosphate area. Ground follow up is recommended. Apart from than this area to the west, there are no other areas of economic interest. A Uranium follow up area has been described in the provided shape file.



Radiometric Ternary Image



Uranium/Thorium Ratio



Uranium areas of interest

7. Recommendations

1. Geological investigation of all dilation zones along major fault corridor of the eastern and western faults looking for alteration such as silicification. Soil rock chip sampling on selected dilation zones or possibly stream sediment sampling below interpreted areas.

2. Geologically map Warramunga Formation in Area 5 then, if positive, determine sampling method of solid or rock chip sampling or stream sediment sampling.

3. Soil sampling on splay faults in Area 1.

4. After field checking and any positive indications, re-interpret magnetics.

5. Ground follow up of the Uranium anomalies

6. Complete an airborne gravity gradiometer survey of the area to gain a better understanding of the geology. Survey parameters likely to achieve the best results would be a line spacing of 250 m, 60 metres flying height and East-West line direction. A similar survey could be conducted over EL28470 to gain a better understanding of the geology.