EL24539

Geophysical Report

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Summary and Recommendations

Data used for interpretation consisted of available closed file geophysical company data covering EL24539 and included 50 meter line spaced aeromagnetic and radiometric data. Other available company data consisted of 2 lines of AEM data and open file stream sediment data.

Data and image processing and modelling was carried out using the available data with various important structures verified and work was done with modelling.

Automatic magnetic depth calculations were computed over the tenement, however further forward modeling is required to better understand automatic results. Forward magnetic modeling was carried over a current area of interest which has been prioritized for drilling.

Radiometric analysis was carried out with statistical analysis applied to data to attempt to identify structures for ground reconnaissance planning over the tenement. Historical open file stream sediment data was viewed and enabled the highlighting of new areas of interest.

2 lines of company airborne electromagnetic data were reprocessed to attempt to incorporate into the planned drilling program. It is recommended that additional AEM data is considered. It is also strongly recommended that an IP exploration program is considered as an exploration tool for this area.

Data Source

Airborne magnetic and radiometric survey data used consisted of the 2008 survey by UTS Geophysics (job number A938). Flight lines for the survey had an NS orientation and a 50m interline spacing with 40m sensor height.

AEM data used consisted of the 2007 survey by GPX Airborne (job number 2323). Flight lines for the survey had an NS orientation and a 100m interline spacing with 35m sensor height. [only 2 lines of AEM data exist on the license]

Various open file stream sediment sampling data were sourced.

Magnetic Interpretation

Work was carried out to process and interpret aeromagnetic data covering EL24539. Figure 1 shows the tenement with published outcrop geology (reference: NTGS), which primarily shows the occurrence of the Koolpin Formation and Gerowie Tuff covering the tenement

Figures 2 to 5 show some of the numerous data which were generated for the project with figure 5 showing the current priority 1 area for drilling and some of the important structures identified. In addition, more areas of interest are identified from open file stream sediment data.

Automatic depth calculation results are shown in figure 6a.with further forward modeling required to better understand automatic results. It is noted only 3 data points were derived in the area prioritized for initial drilling. Nevertheless forward modelling has been carried out separately in this area.

Forward modelling of the prioritized drill area had been carried in previous periods however additional forward modelling was carried out in the current period and is not inconsistent with previous results. One profile plot is shown in Figure 6b where it is acknowledged additional time could be expended to improve the fit between modelled and observed data. Bodies in the section were modelled to steeply dip to the south-west and are quite magnetic.

Radiometrics Interpretation

Uranium, thorium, potassium and total count data are shown in figures 7 – 10 with the occurrence of the Allamber Springs Granite prominent in the north and West. Figures 11 and 12 show the PTU composite and the digital terrain model used in interpretation. Hills coinciding with and to the north-east of the primary target area are highlighted by thorium.

Radiometric analysis was carried out with statistical analysis applied to data to attempt to identify structures for ground reconnaissance planning over the tenement. Figures 13 and 14 show new images generated via statistical analysis with figure 13 highlighting both thorium and uranium and highlights the occurrence of these elements in hill out crops of the north-eastern boundary of the primary target area.

Figure 14 is able to highlight potential uranium areas of interest. Data needs to be further analysed to assist with reconnaissance planning.

Historical stream sediment data were incorporated into results (figure 5).

AEM Interpretation

Airborne electromagnetic data consisted of only 2 lines. Inversion data were reprocessed with 100m depth slice data shown in Figure 15., where a resistive region is observed in the northern part of the drill target area. A conductive zone is observed in the south-eastern part of this area. Profile sections are shown in figures 16, 17 and 18. Line 1470 in figure 18 is of primary interest as this intersects the priority drilling area. A resistive zone previously noted occurs at 8485300mN and is coincident with part of the priority drill area and is adjacent to a conductor to the south. The AEM technique but could be considered further with the acquisition of more data.

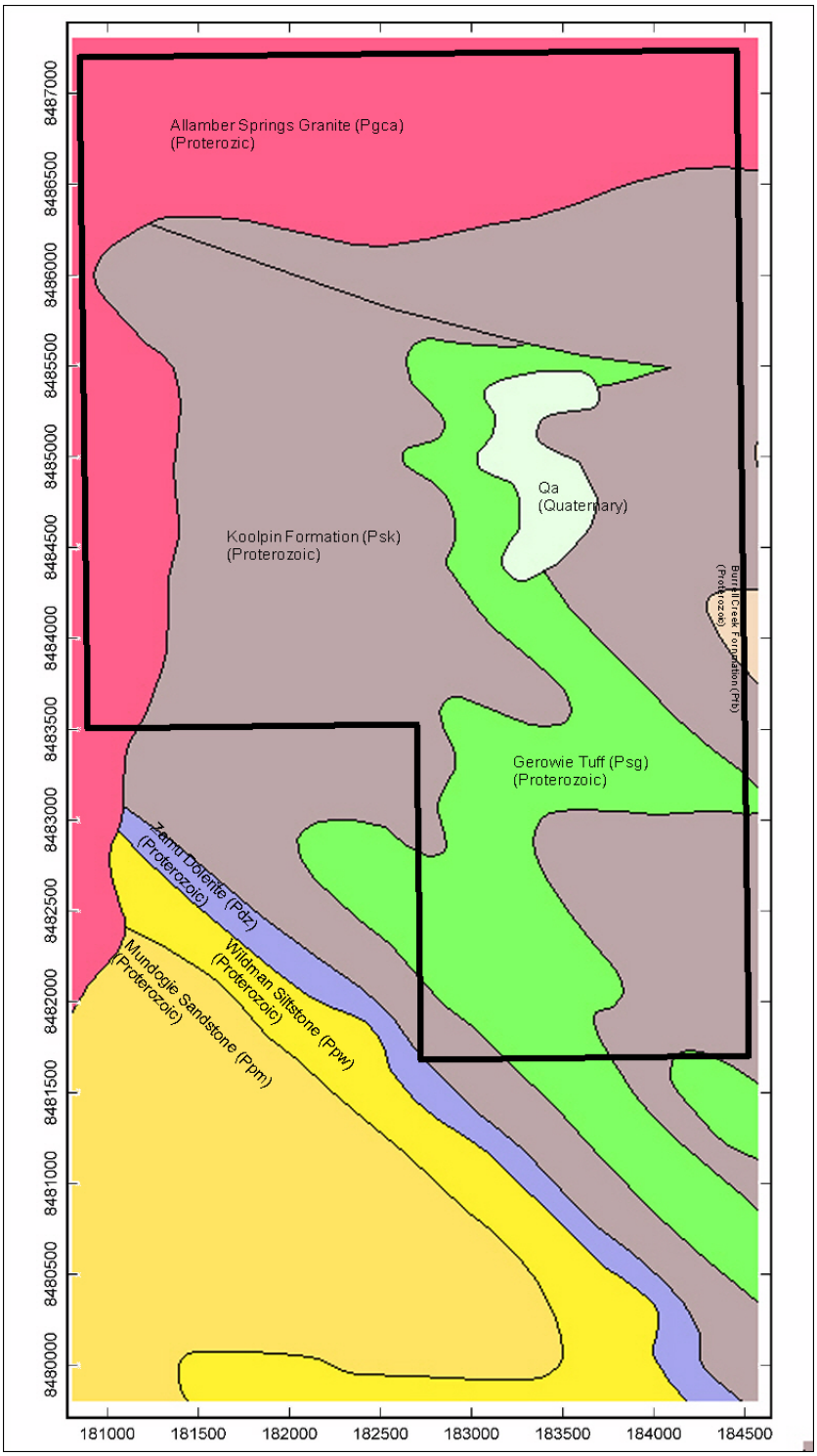

Figure 1. EL24539 outcrop Geology – MGA Zone 53 (reference: NTGS)

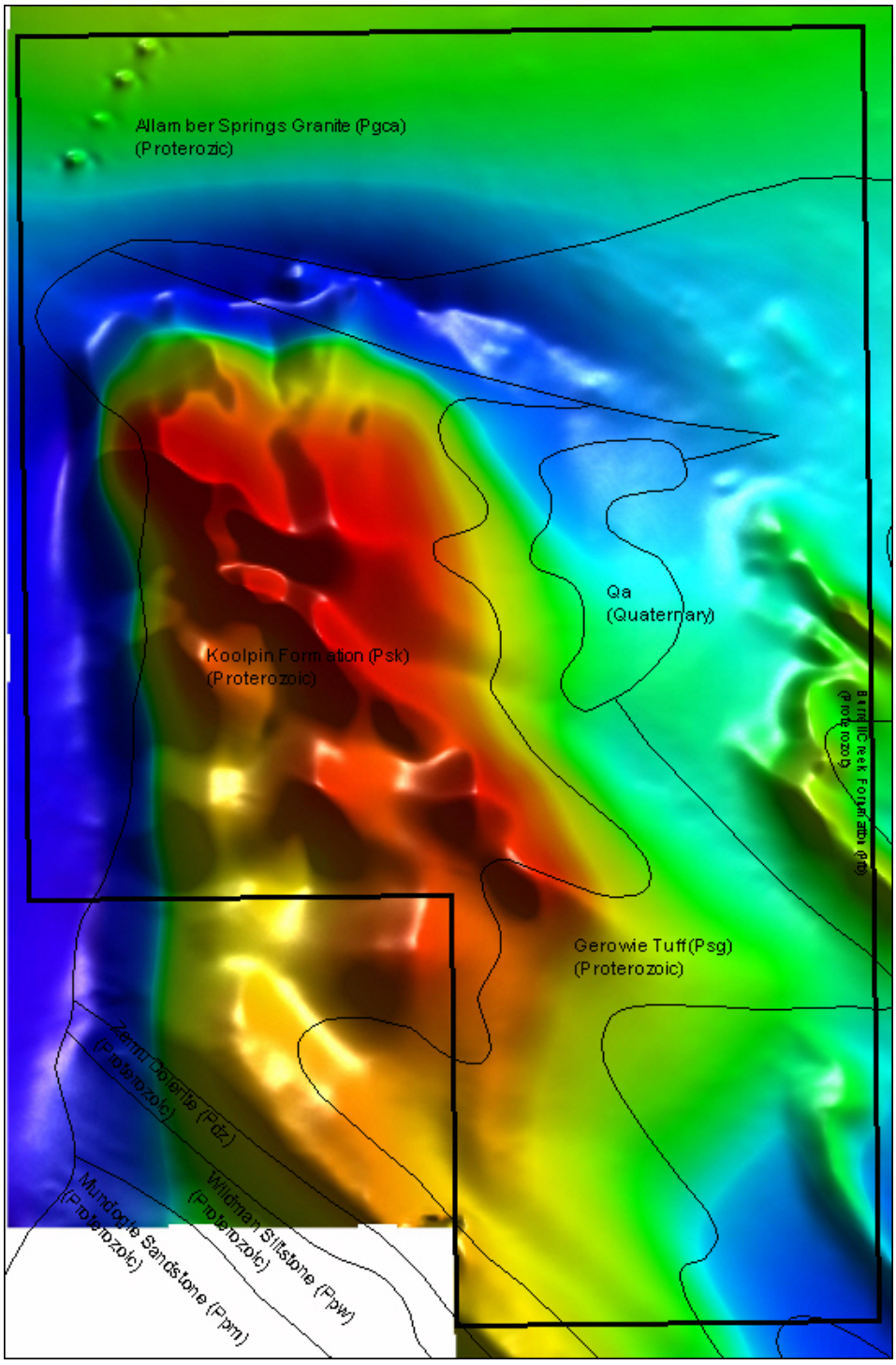

Figure 2. EL24539 Airborne Total Magnetic Intensity (RTP)

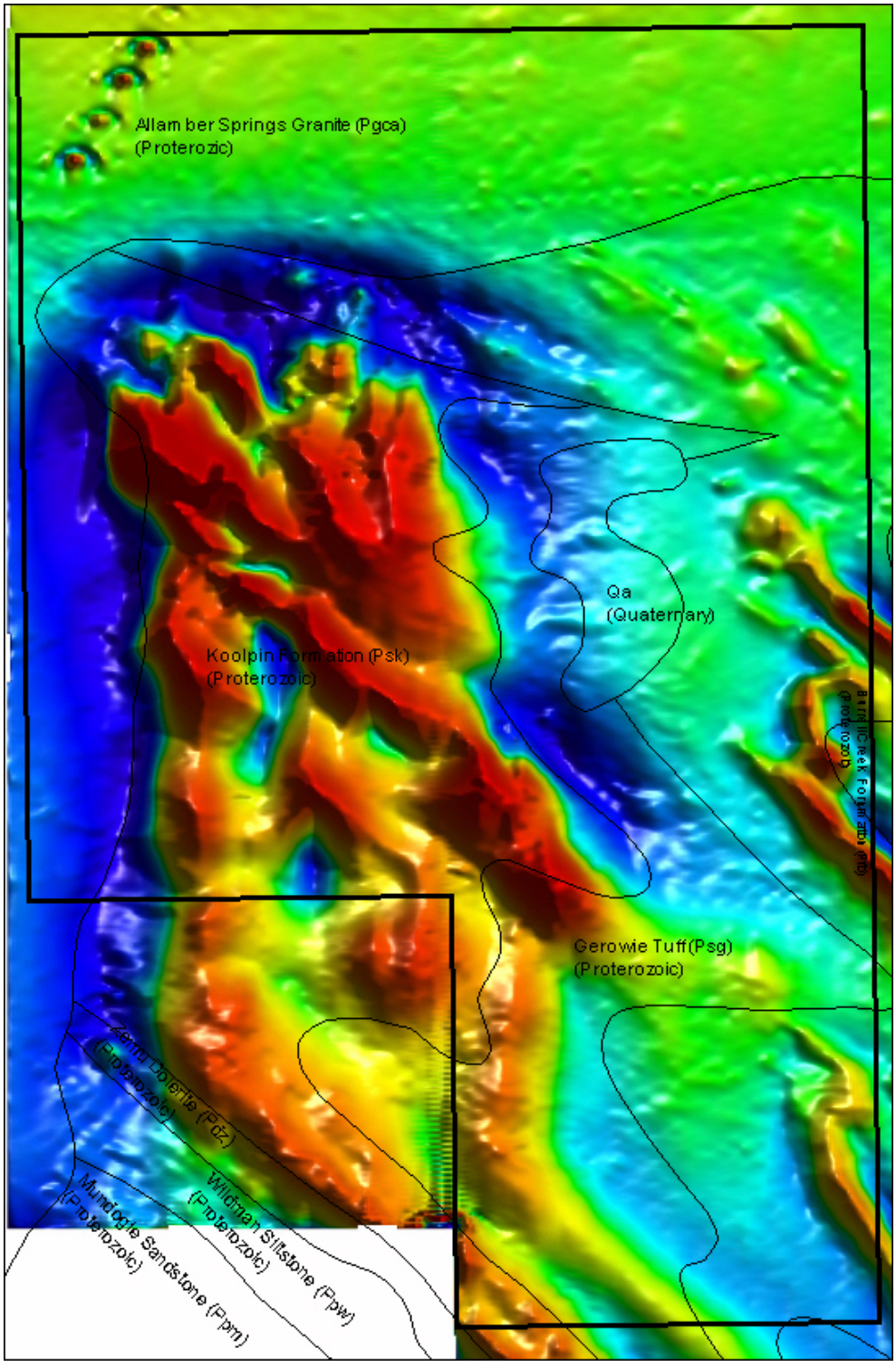

Figure 3. EL24539 Airborne Vertical Derivative of Magnetics (RTP)

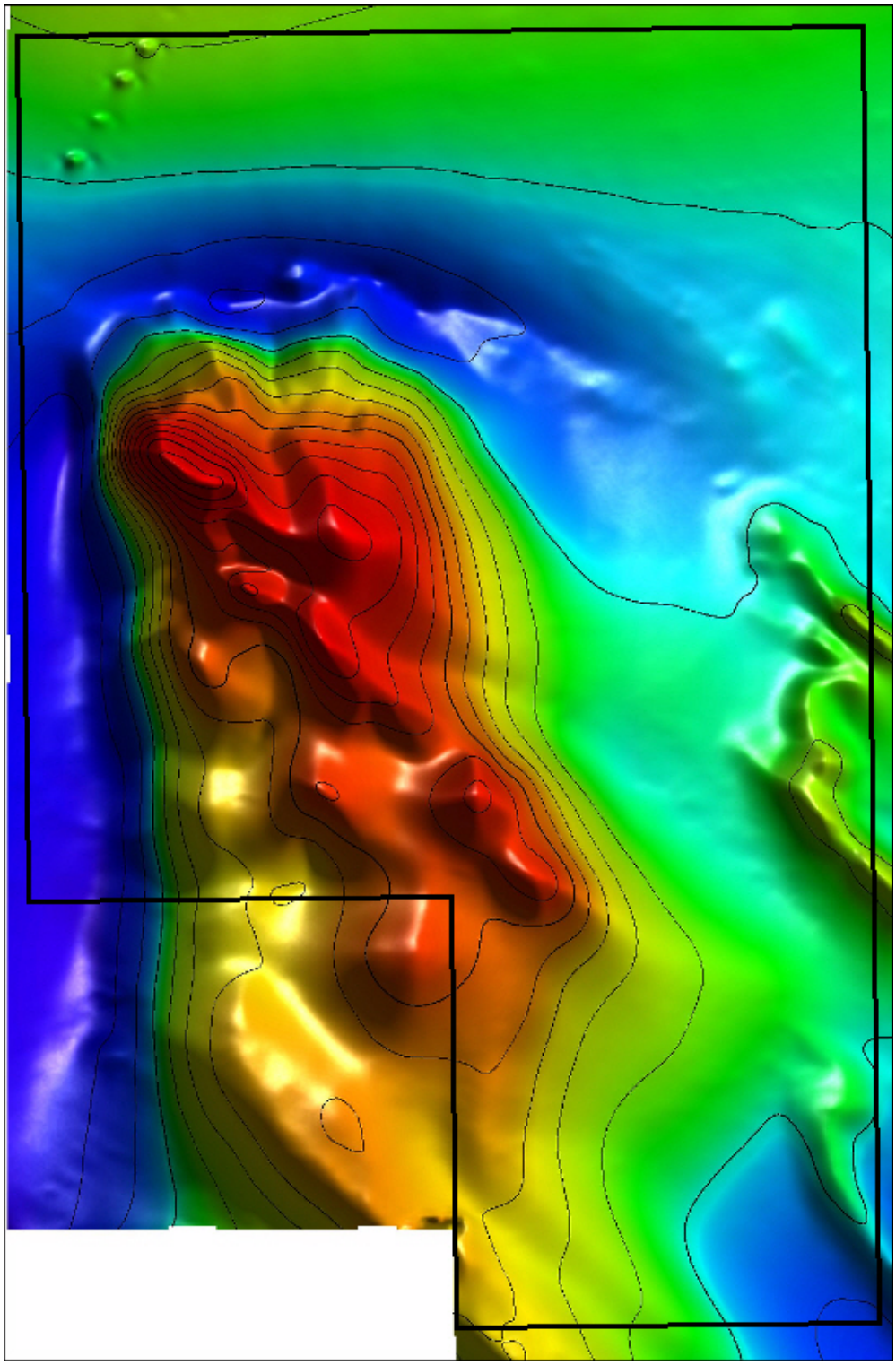

Figure 4. EL24539 Contours (200nT) of Airborne Total Magnetic Intensity (RTP)

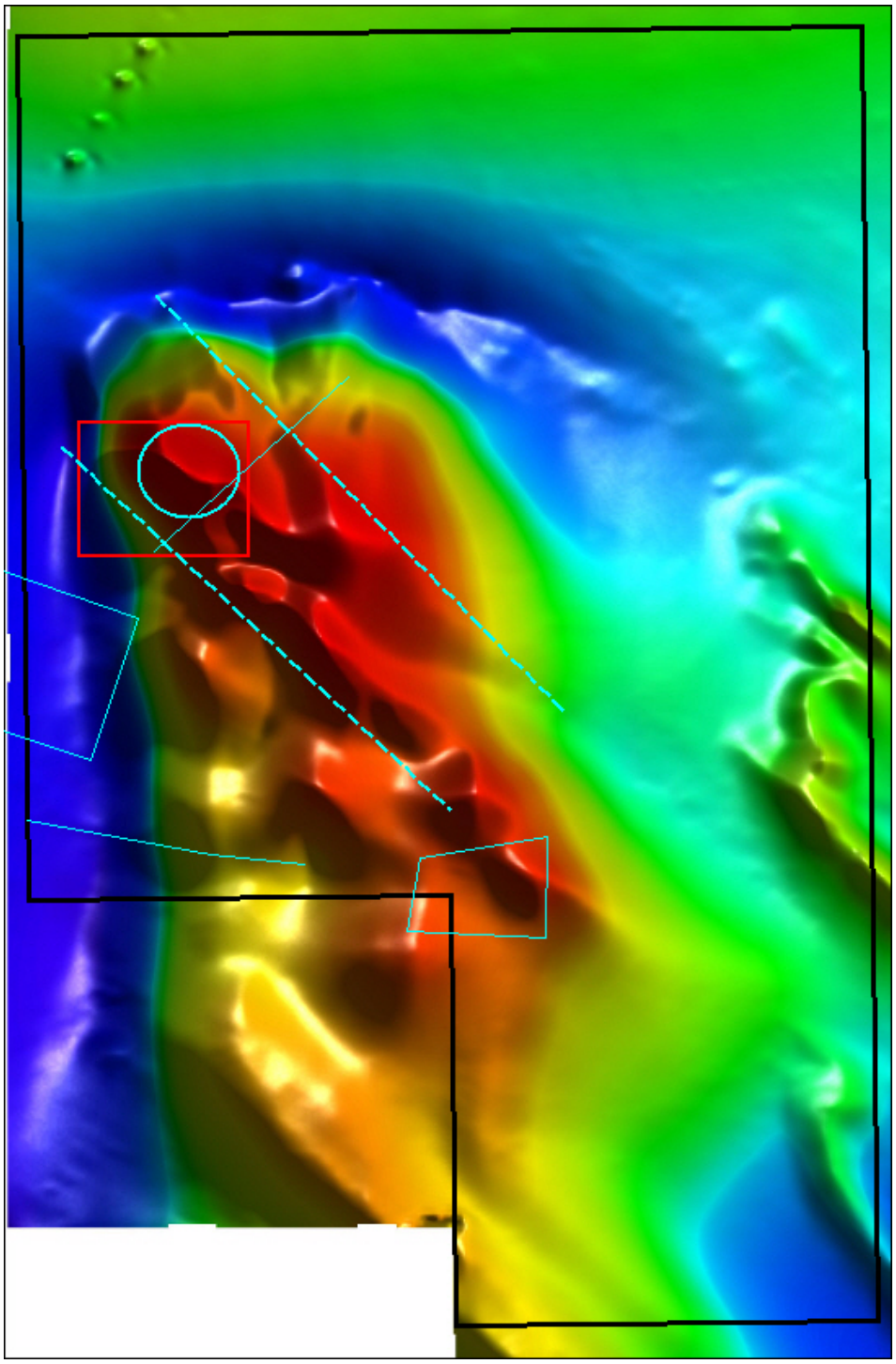

Figure 5. EL24539 Some of the identified features of interest. Shear zone and lineaments (blue lines). Anomalous stream sediment related areas based on historical open file data (blue boxes). Preliminary drill target area (red box).

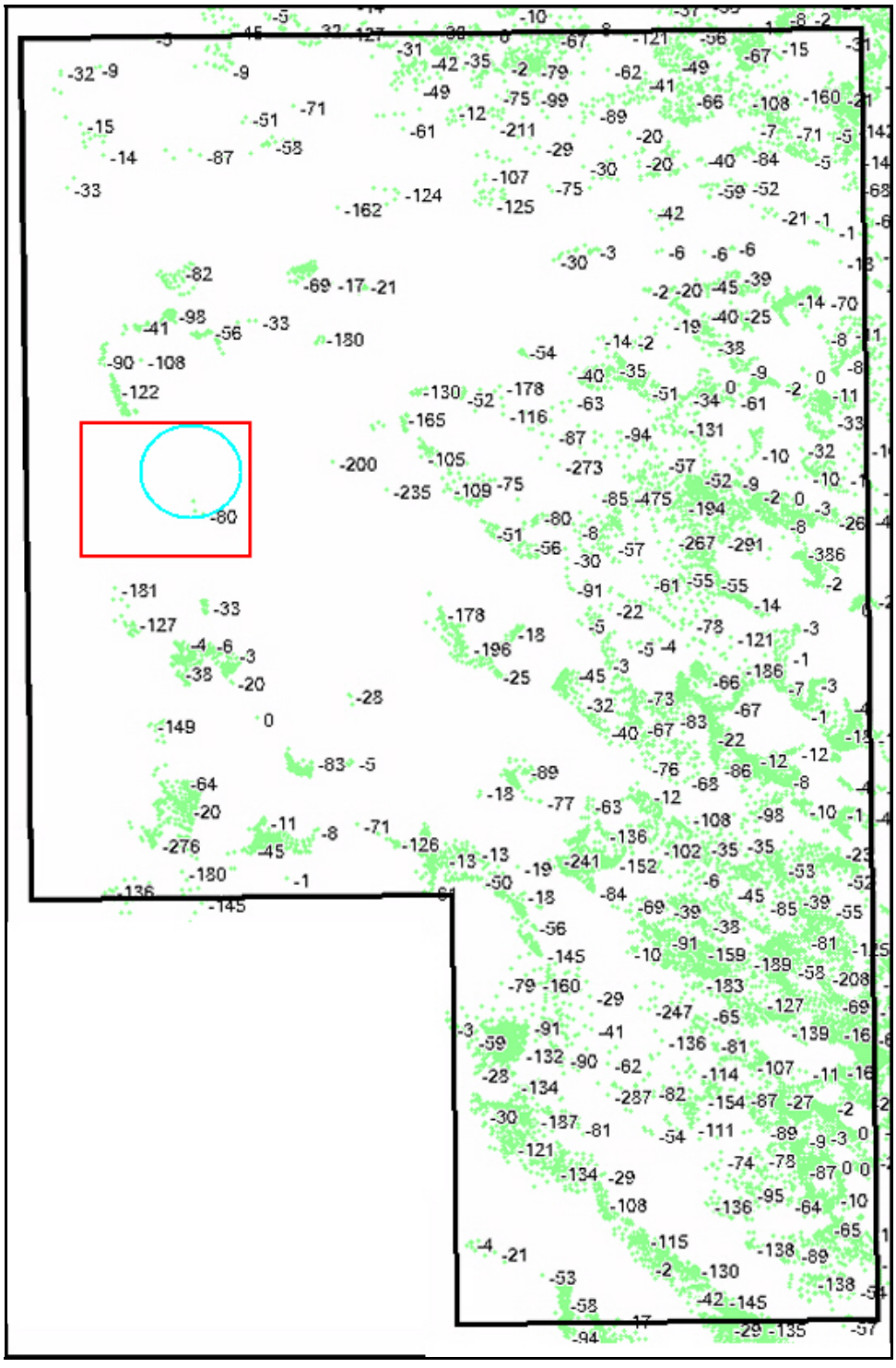

Figure 6a. EL24539 automatic depth computations. Forward modelling also carried out in area annotated within red box.

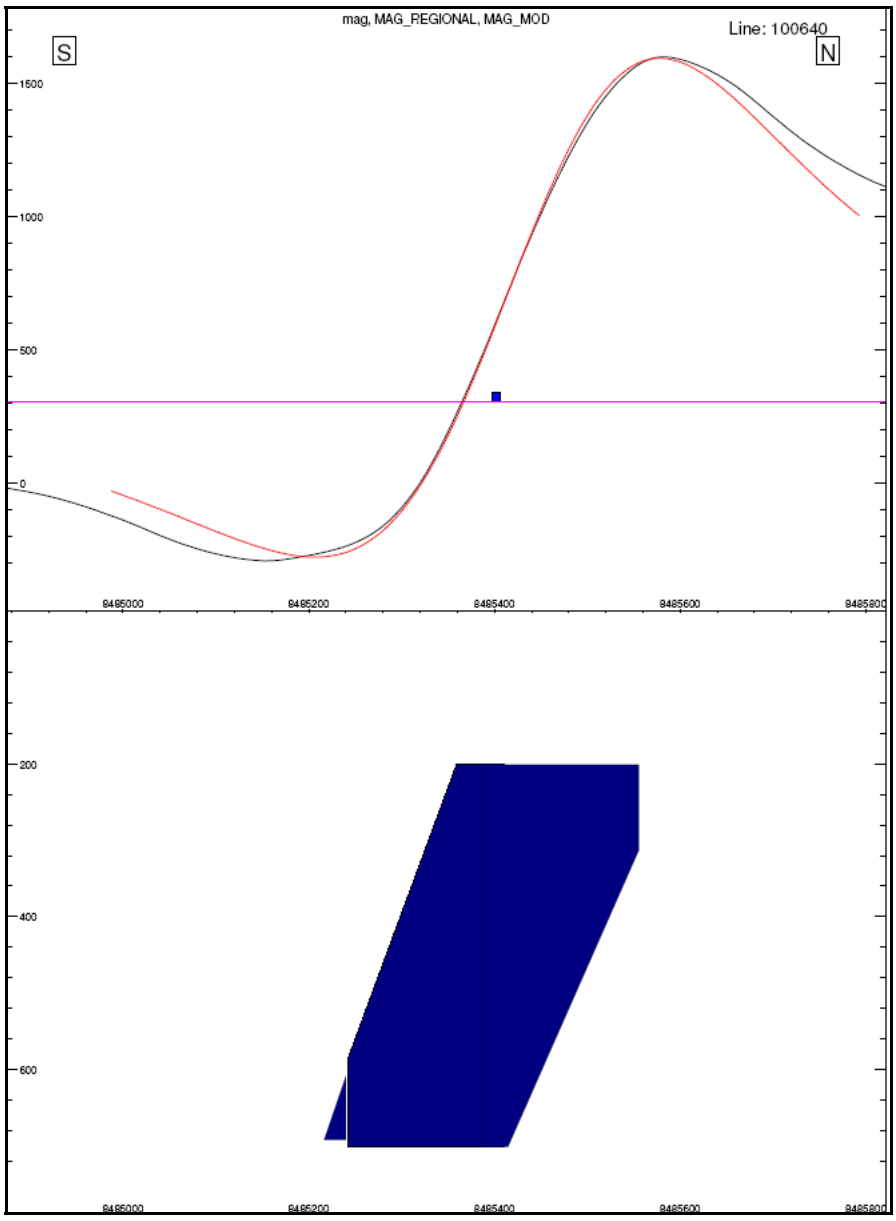

Figure 6b. EL24539, 181450E, Line 100640 cross section view of magnetic model (several bodies represented). Depth below surface 160m. Magnetic susceptibility 1.0 SI units. (model shown here has aircraft height included)

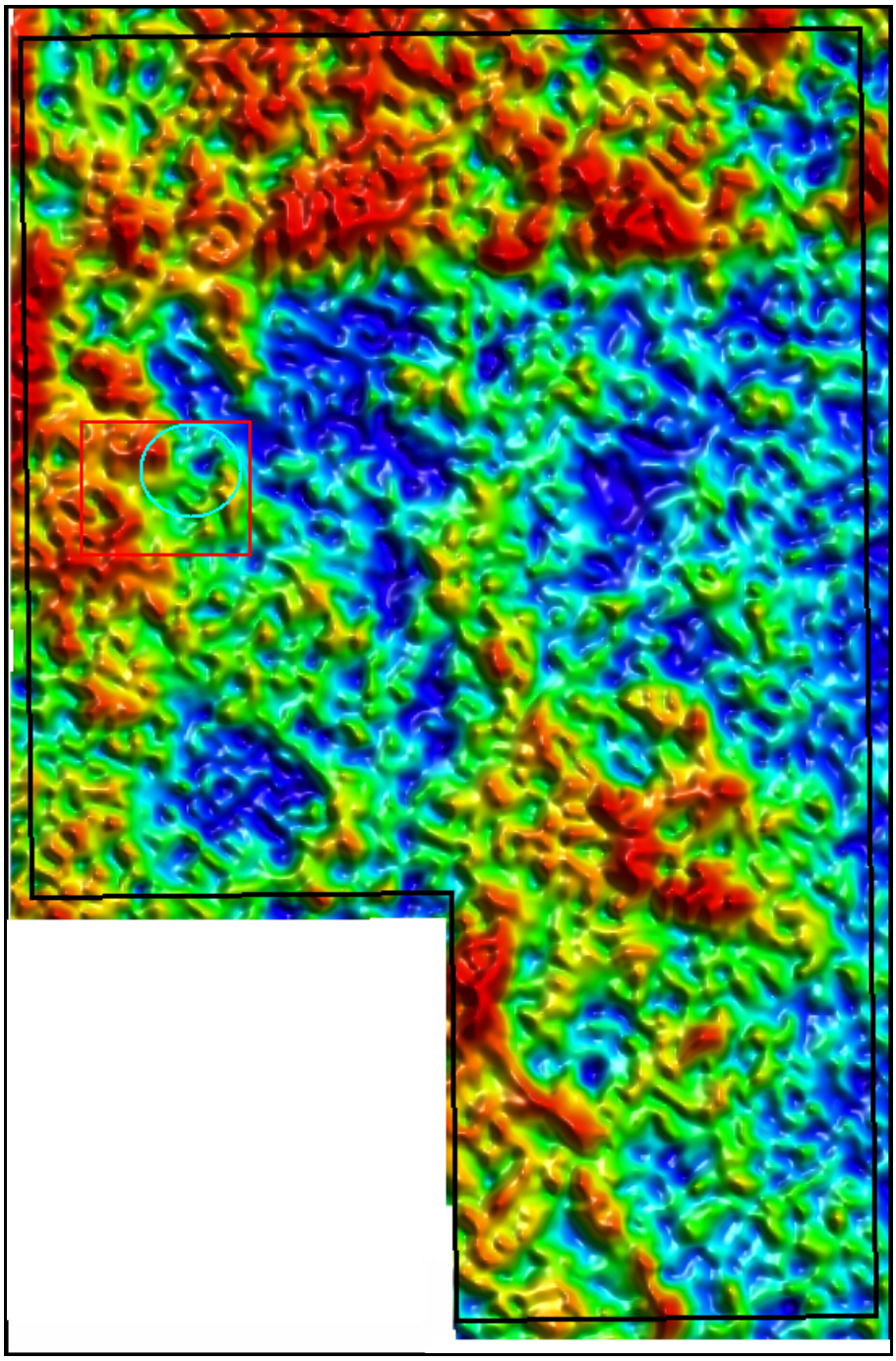

Figure 7. EL24539 uranium concentration.

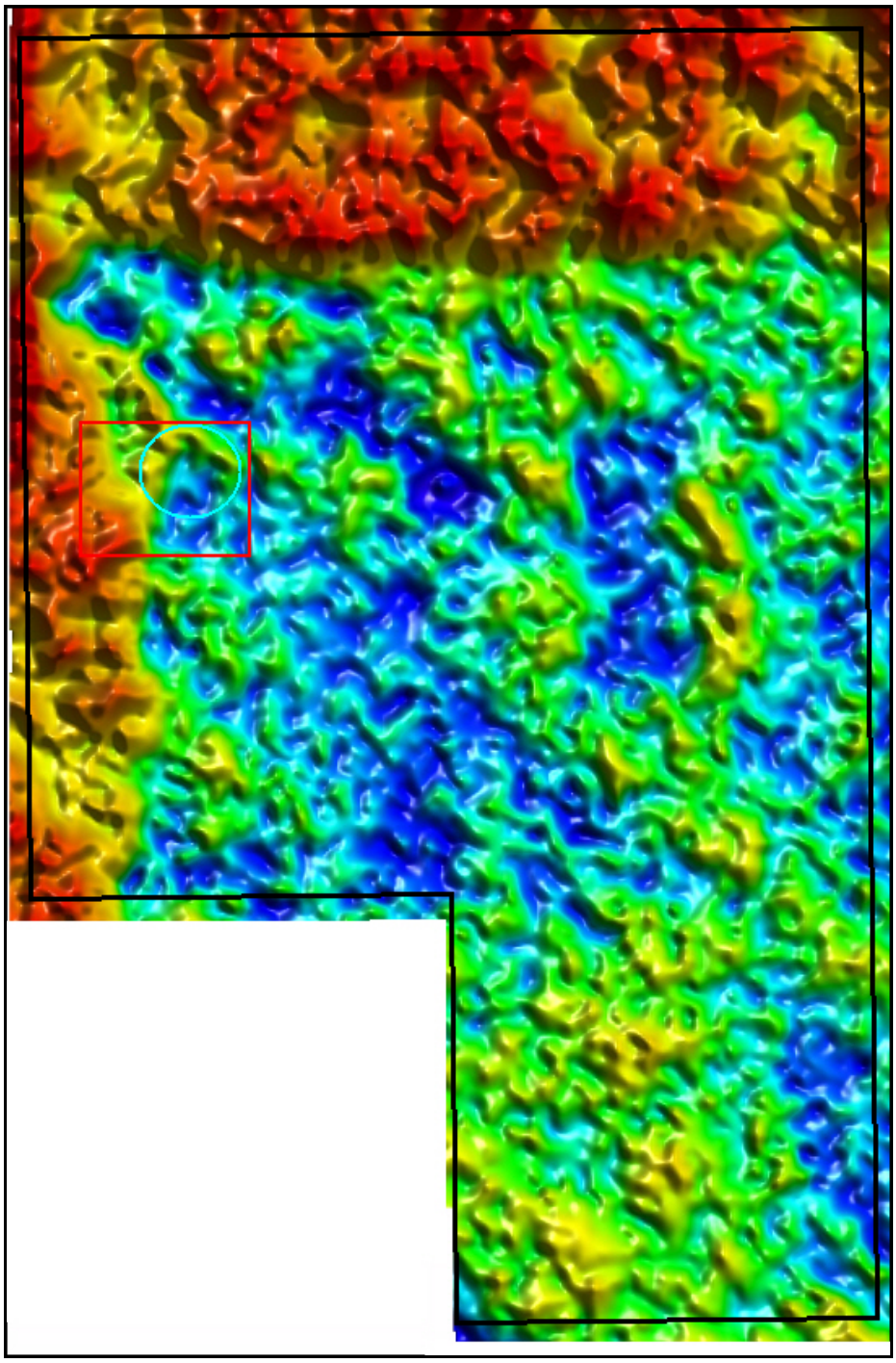

Figure 8. EL24539 thorium concentration.

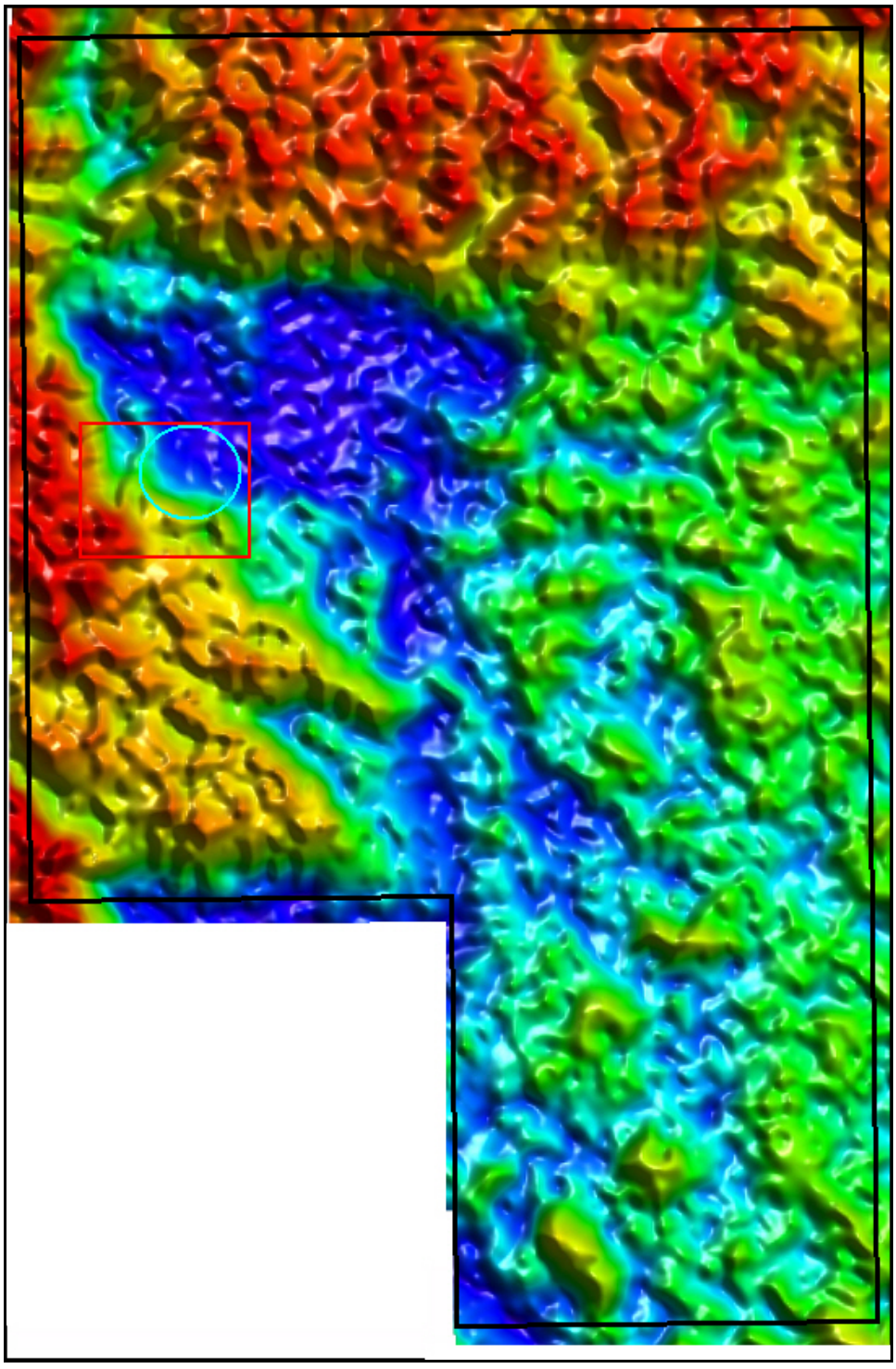

Figure 9. EL24539 potassium concentration.

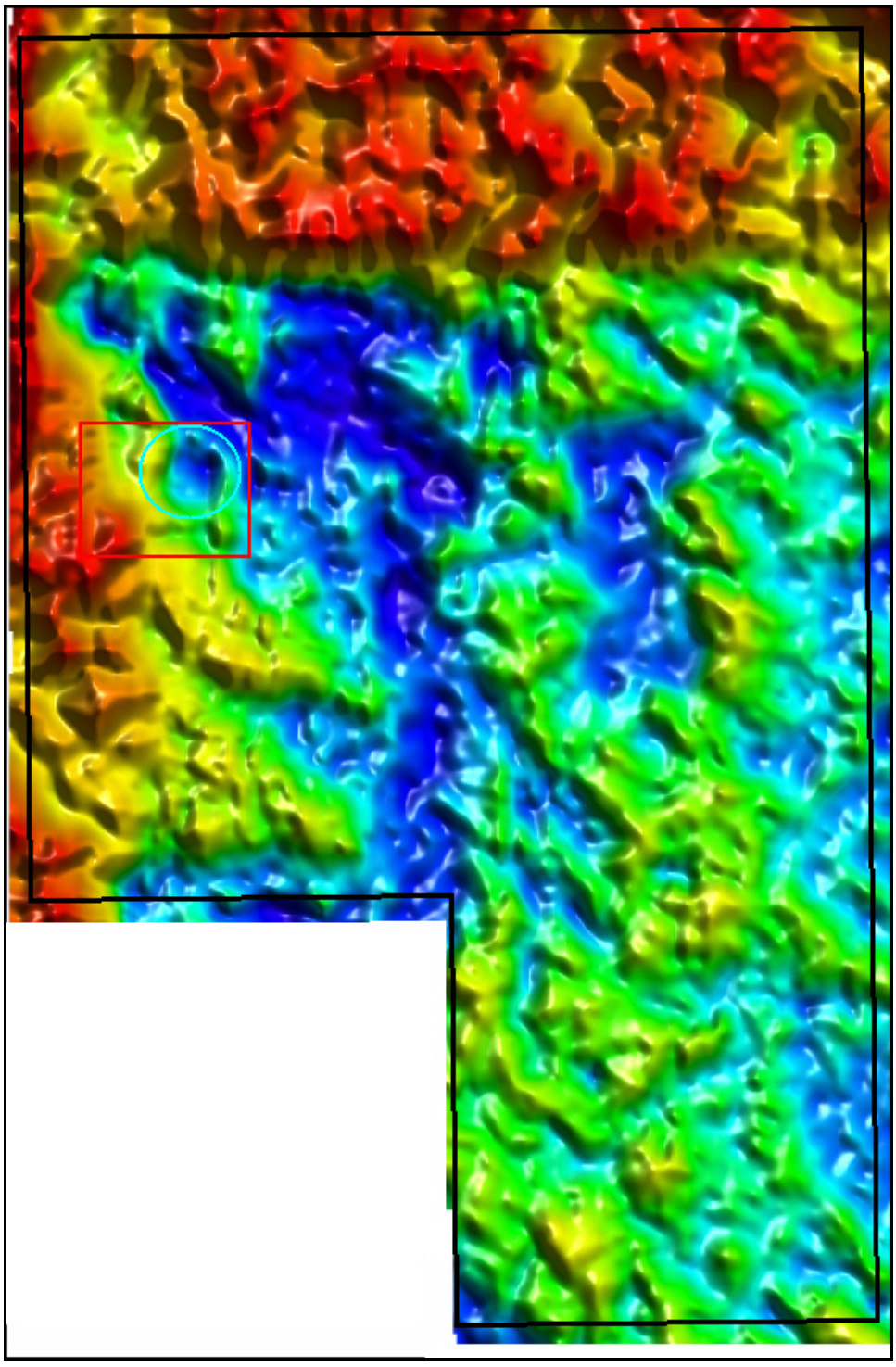

Figure 10. EL24539 total count.

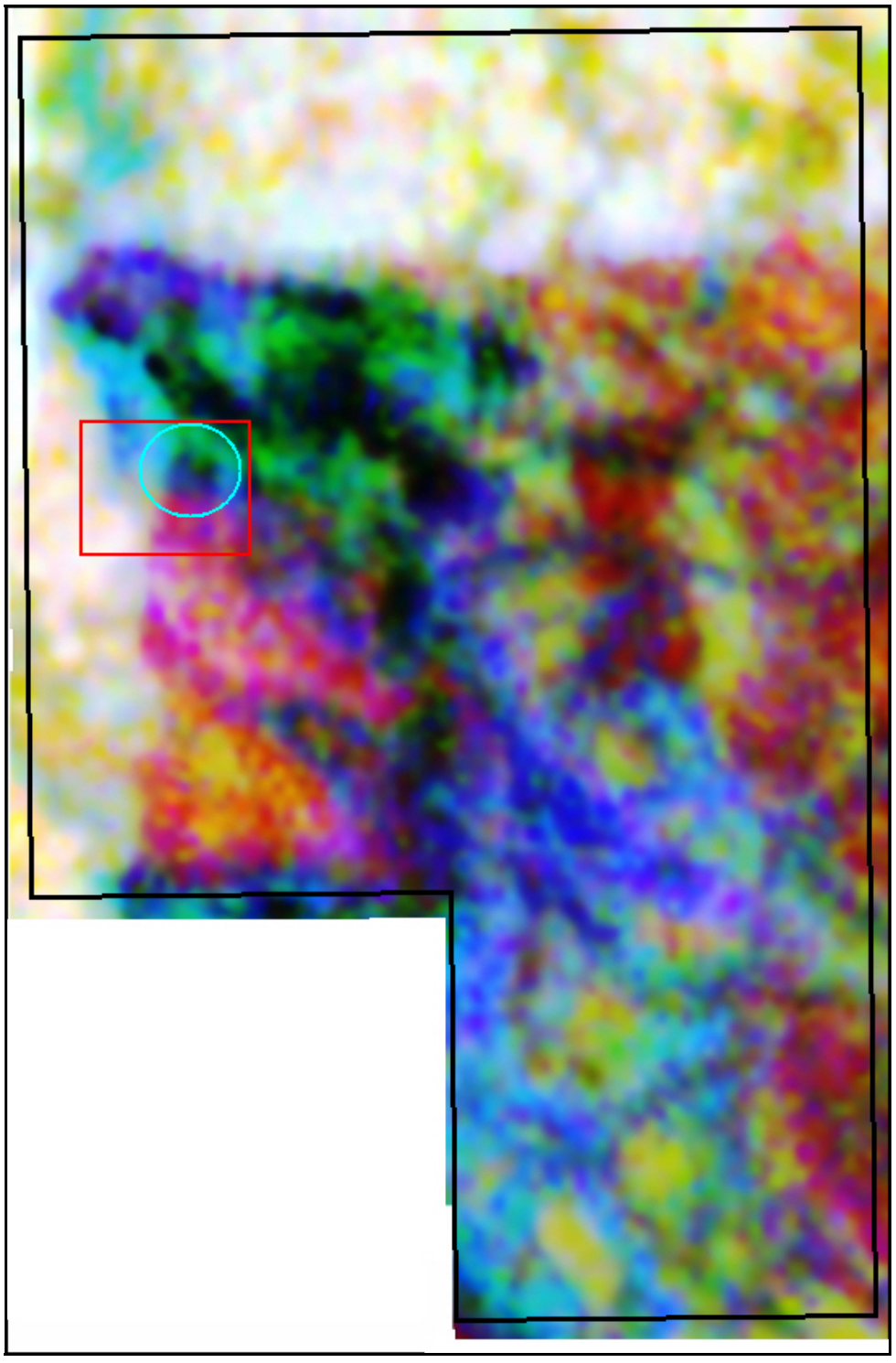

Figure 11. EL24539 PTU composite.

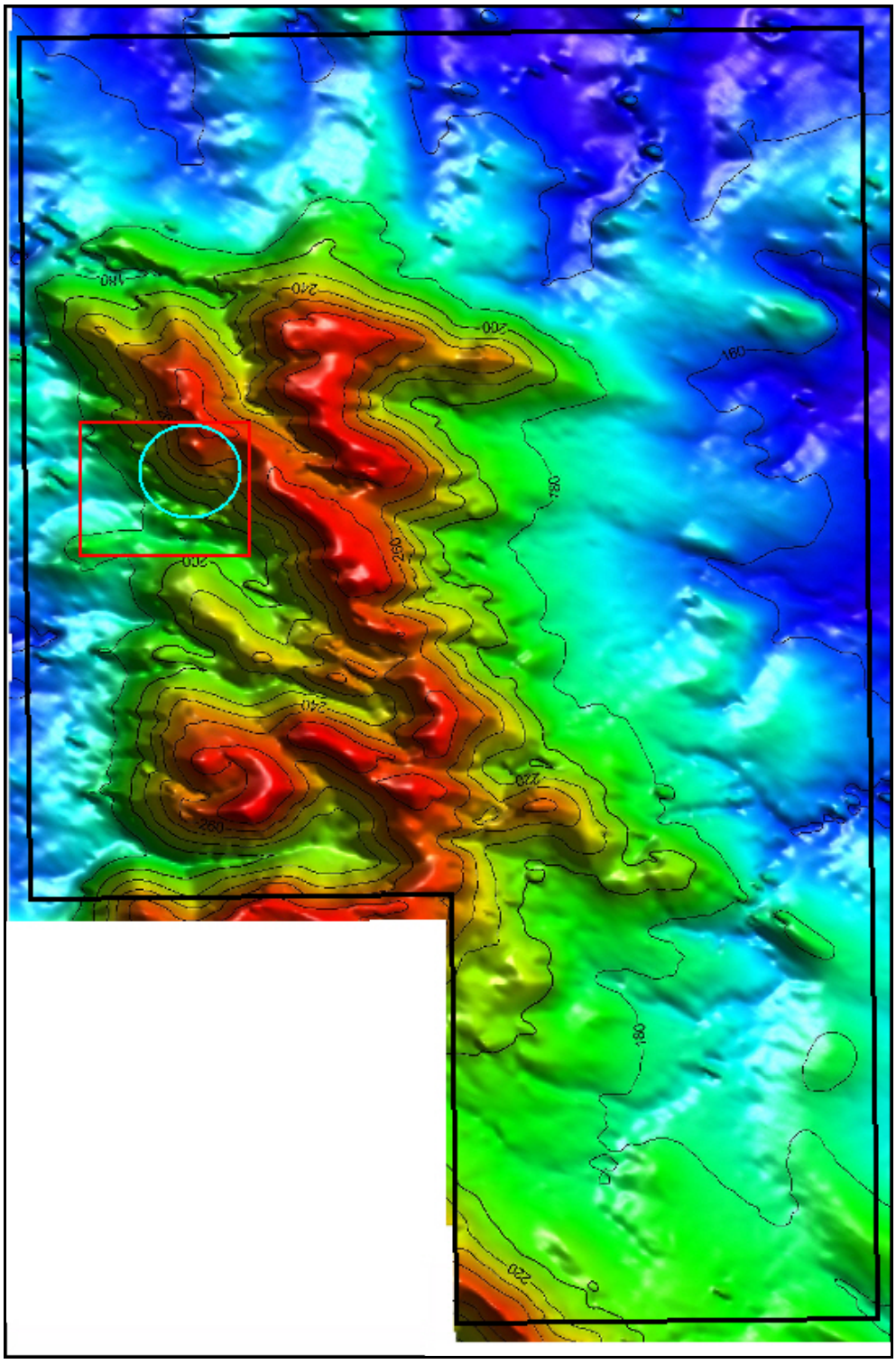

Figure 12. EL24539 Digital Terrain Model (20m contours)

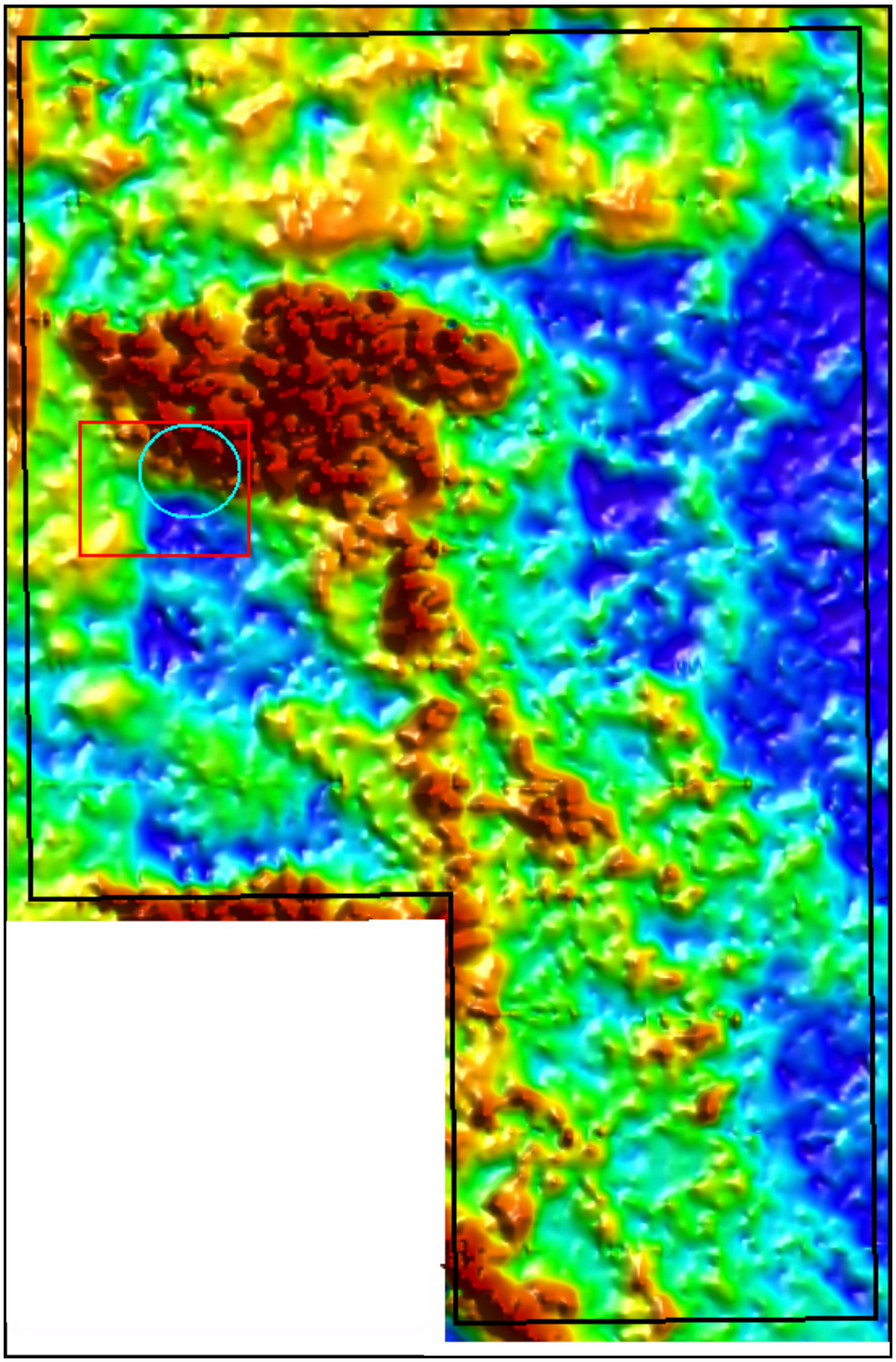

Figure 13. EL24539 Statistical analysis – a uranium thorium derivative.

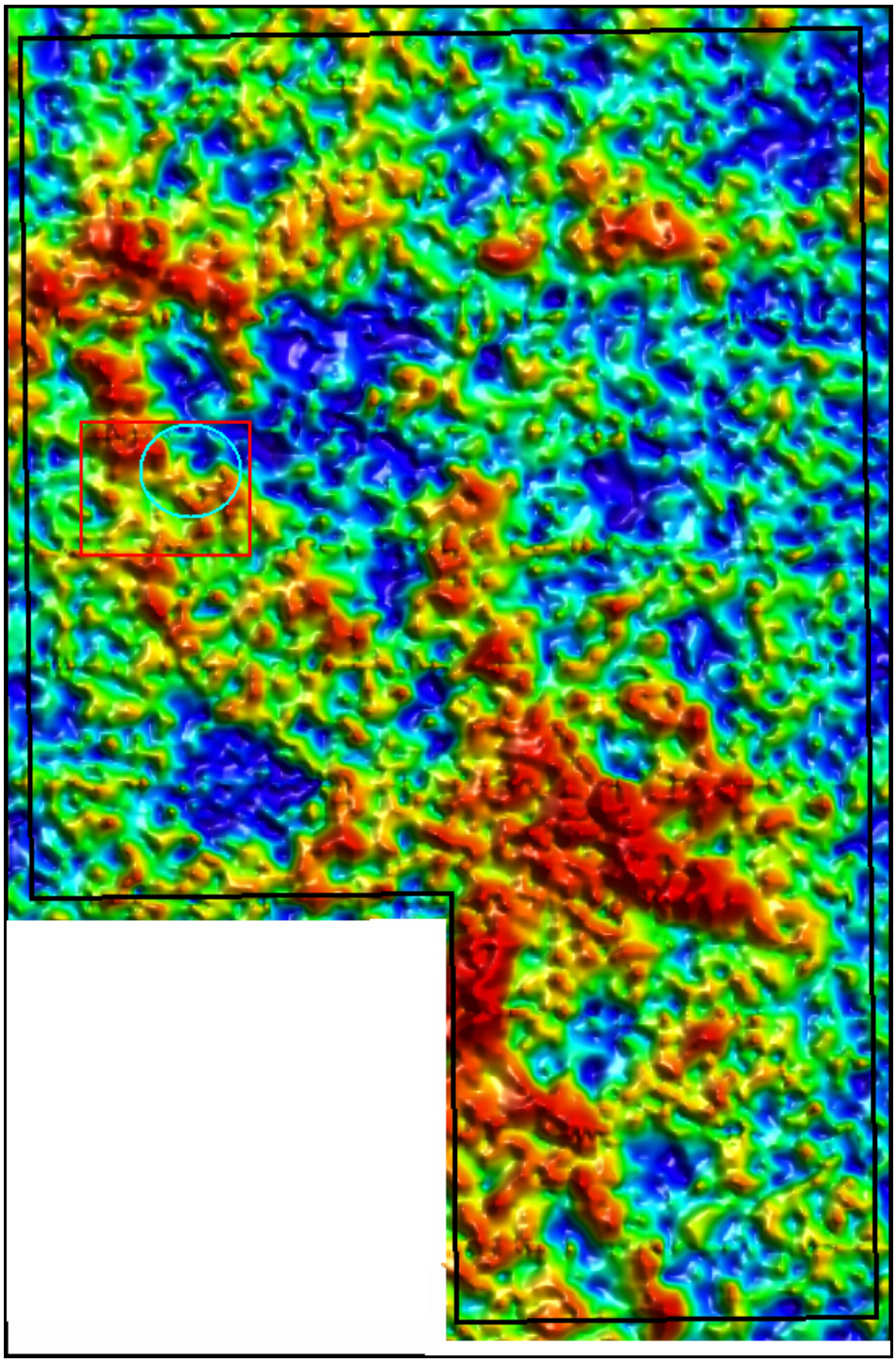

Figure 14. EL24539 Statistical analysis - a uranium derivative

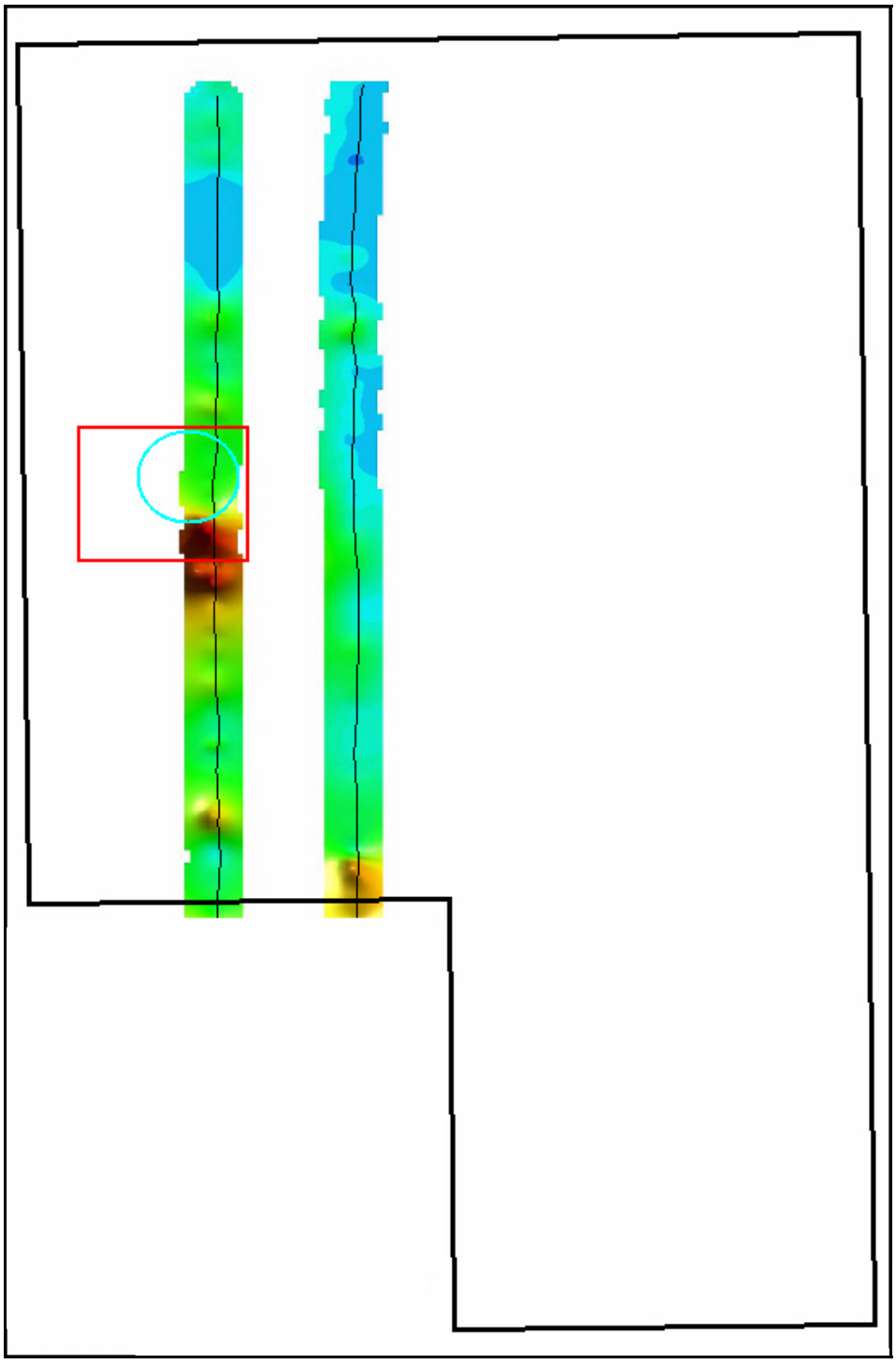

Figure 15. EL24539 AEM 100m depth slice. Line 1470 (west) and Line 1415

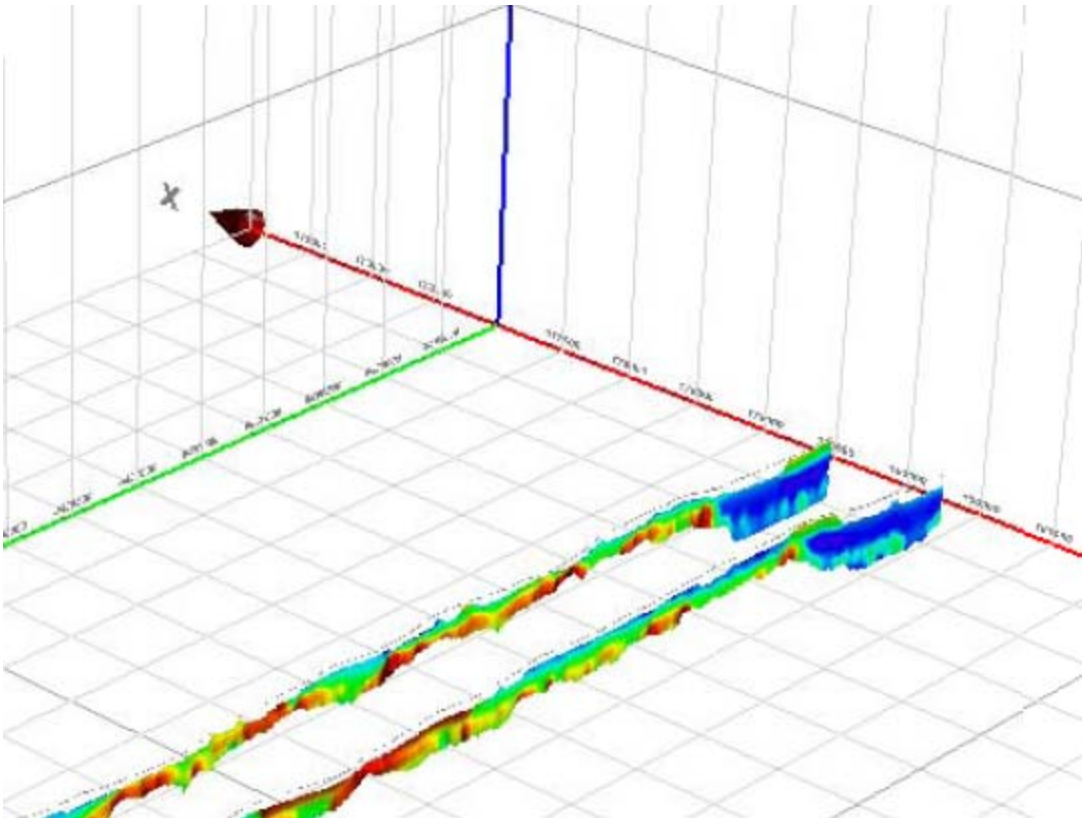

Figure 16. EL24539 AEM Line 1470 (west) and Line 1415

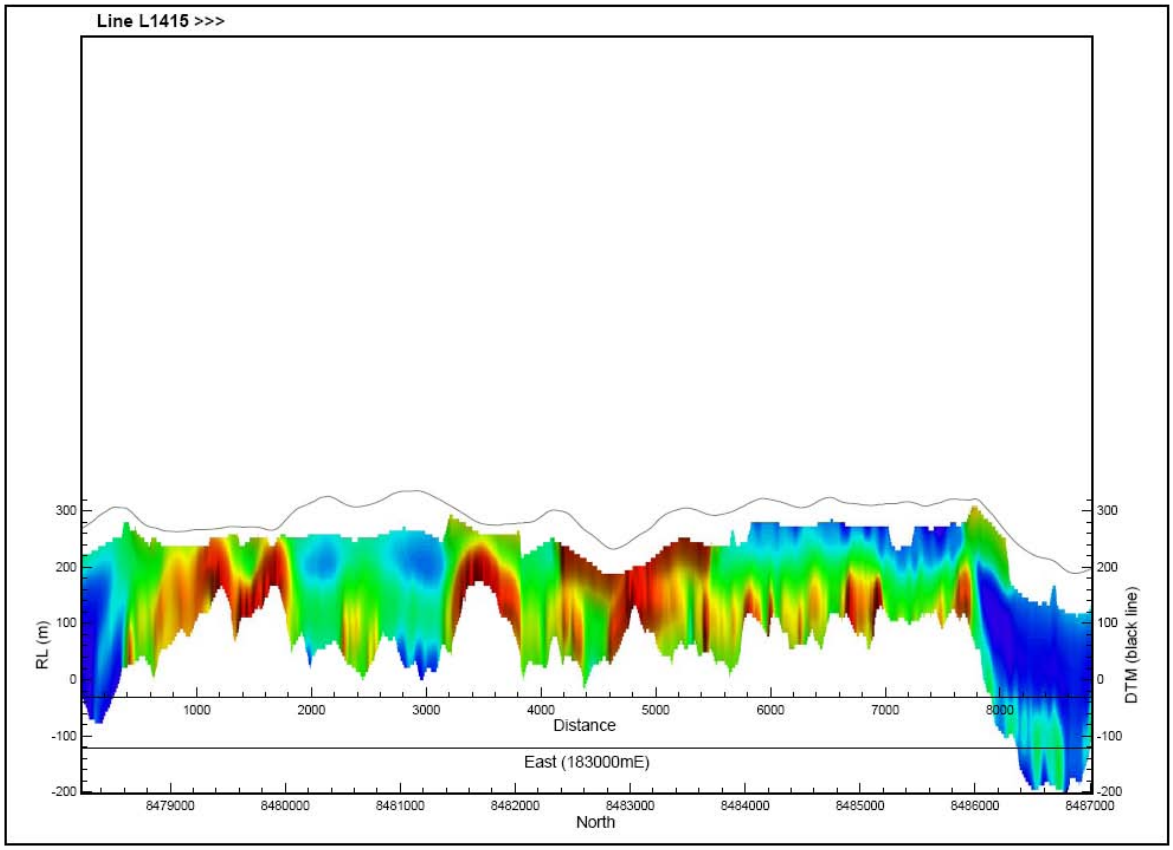

Figure 17. EL24539 AEM sectional view Line 1415

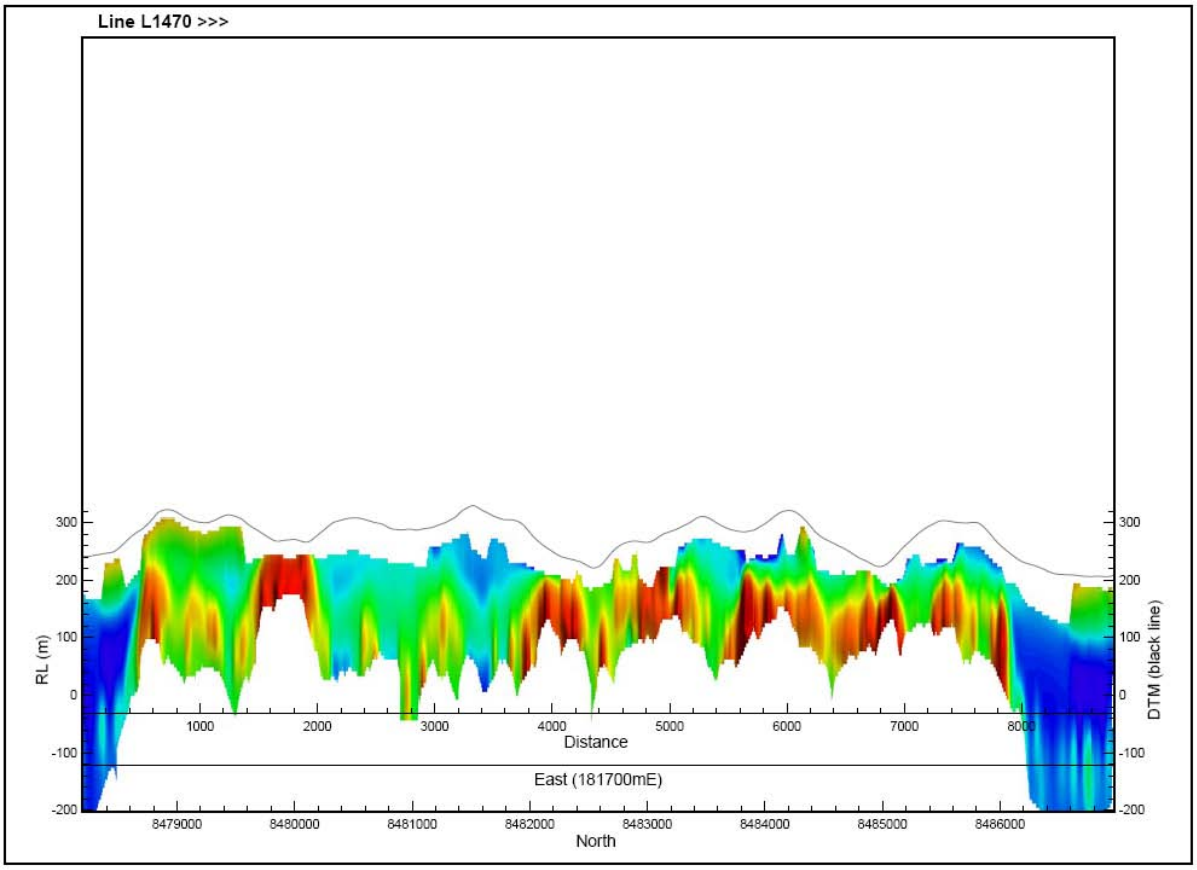

Figure 18. EL24539 AEM sectional view Line 1470