Report on 2010 Field Work at Mt Bertha (EL42/2004)

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Exploration on the Mt Bertha grid (Figure 1) was undertaken to target a significant magnetic high portion of a magnetic linear zone (Delineated by the WTRMP data), that coincides with the projection of a faulted contact within the Arthur Metamorphic Complex (AMC) to the immediate grid south. The primary target was magnetite, analogous to the Savage River Iron Ore deposit which lies ~30km SW along strike within the AMC.

The Savage River Pipeline Track was utilised for access to the area, where 8200m of gridding was undertaken as seven 200m spaced grid lines, each of 1000m length, linked by a central 1200m base line. The grid was AGD66 (Zone 55) based, with data reported in both this and GDA94 datums. Two days of field work involving a ground magnetic survey and cursory geological mapping was undertaken on the Mt Bertha grid during February 2010.

Figure 1: Location Map for the Mt Bertha Grid, EL42/2004

Ground Magnetics

A G856 magnetometer was utilised with no base station for diurnal corrections. The raw field value was considered to be adequate to define the magnetic character of the area; Readings taken at the start and finish of each day's survey at an informal base station (5500E, 5400N Grid) returned a 22nT range. Whilst the entire data set ranged from 58000 to 67500nT.

High contrast magnetic anomalies are evident in the WTRMP aeromagnetic data for the grid area. The WTRMP data was flown at 200m, a spacing similar to that of the ground magnetic survey, but lacking the finer detail of the later.

All grid lines, including the base line were read, with wider spaced readings taken opportunistically in bush area's traversed between ends of grid lines. The grid was read at approximately 5m intervals, resulting in ~1650 points being recorded; each magnetic field station being GPS located on what proved to be surprisingly accurately placed field points. The GPS data required minor massaging to ensure even distribution on points. An exception was the southernmost line (5000N) for which GPS readings were taken for grid pegs only, with magnetic data points being manually stretched between these pegs.

Drop outs were removed from field survey data, as were extreme spikes of 5000nT over 1 reading. Note that numerous large spikes were recorded but these genuine anomalies typically span a number of readings and were unaffected by the spike filter. The entire data range was also manually examined in detail with a number of additional small drop outs being manually removed. No metal sources likely to affect magnetometer readings were evident in the field.

Gridded located data is presented in Figure 2, with digital data appended. This includes a description column detailing site locations and geological descriptions where appropriate.

Geology

No outcrop was located on the grid lines surveyed. However, scattered (Tertiary) basalt subcrop and float comprising sub angular clasts to boulder (~40cm max) size was evident. The basalt groundmass is typically dark grey and aphanitic. Proximal to magnetic high anomalies what appears to be dark grey to greenish pyroxene(/Olivine?, 2 -3mm) porphyritic / phenocryst crowded and weak to moderately magnetic basalt was evident. The main occurrence being in the vicinity of 354940mE, 5425200mN (AGD66).

Rock types in alluvium were investigated in creeks in the central west and south east of the grid (354570mE, 5425600mN and 355360mE, 5425200mN [AGD66], respectively). Again the dominant rock was basalt, often as sub-angular cobbles to boulders. A finer sub centimetre fraction comprised dominantly silicified sediment and milky quartz veining. Approximately 80m east of the latter south eastern creek site, sparse (3) 10cm quartz vein float is possibly indicative of a fault nearby.

Topographically the area is relatively flat, likely reflecting the basalt beneath. Incised drainage exists to the south of the grid. Such incised areas are likely worth targeted during further regional work on Mt Bertha (EL42/2004), potentially revealing windows through the Tertiary Basalt.

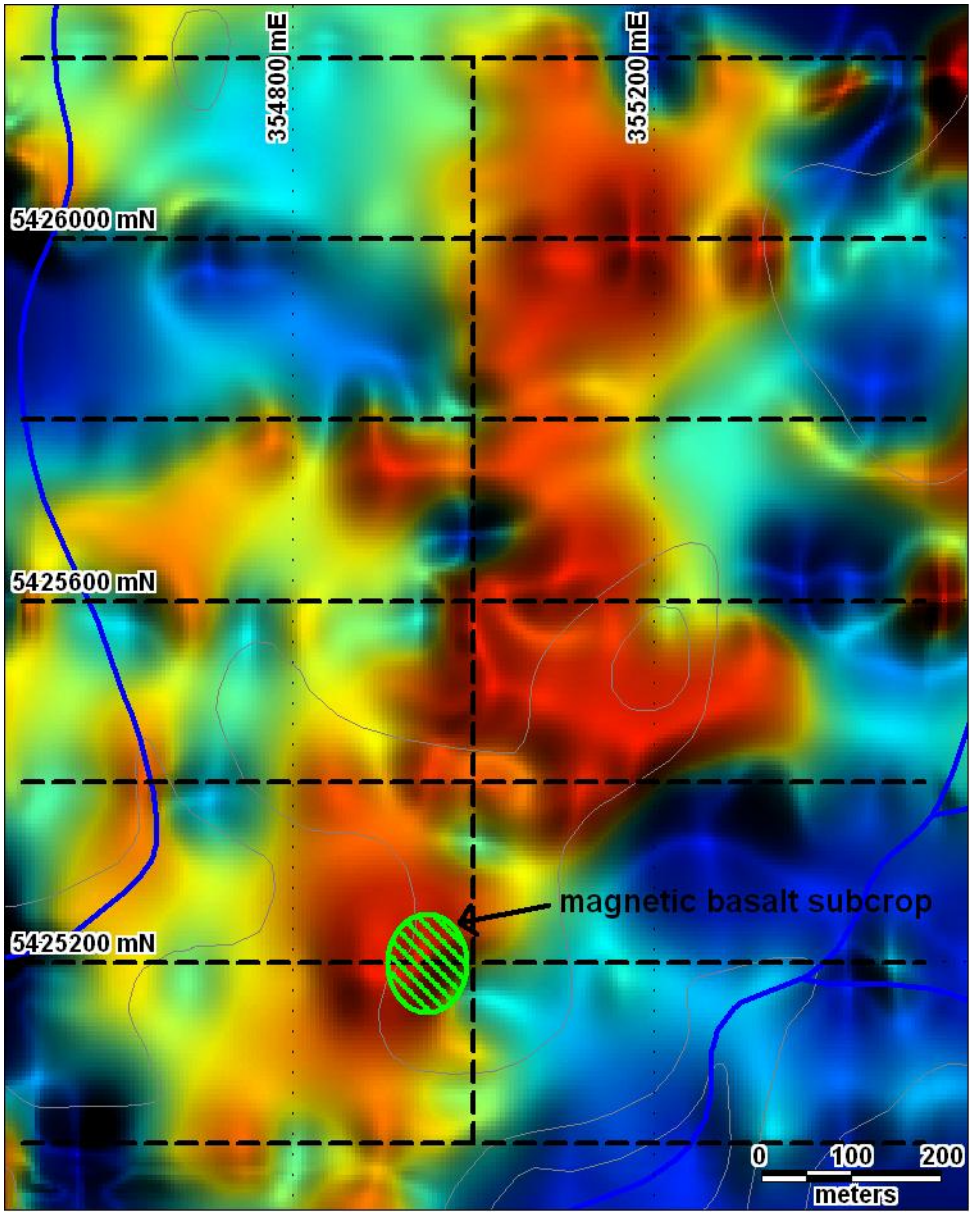

Figure 2: Ground Magnetic Image showing grid lines and a key area of magnetic basalt subcrop (AGD66).