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MAGNETICS

A magnetic survey of the Black Hill and Carbine Hill grids was carried out by the Freeman Eros in March, 1984 using Scintrex MP-3 'memory' magnetometers. Readings were taken at a 12.5m station interval and the diurnal corrections were effected by linking the 'field' magnetometer to the base instrument. The data has been stored on cassette tape.

Komyshan has produced a 1:5000 contour plan (Figure 23) using stacked profiles at the same scale for correlation of responses. The Black Hill grid data is dominated by the response from the Razorback ultramafics which lie immediately to the south of the E.L. boundary: replottting of a residual data map with the Razorback 'regional' data removed is suggested.

Figure 23 shows that the mineralised Grand Prize Fault zone cannot be detected by magnetics: the depth of weathering (up to 250m) is too deep for this thin (~15m) body to give a response. Similarly with the adjacent Grand Reward Fault zone which gave such a strong VLF response.

Magnetic anomalies on the Black Hill grid which are of interest include the incompletely defined high in the north west corner of the grid (ie, the ground expression of the Grand Prize -NW Extn aeromagnetic anomaly): this anomaly requires further coverage before it can be interpreted. Also of interest are the elongate, approximately east-west anomalies near the baseline between lines 1600W and 2600W. In places, these anomalies have a very shallow source and their cause could perhaps be found from surface sampling; however, a fairly deep source is indicated at 1800W/1875S, which is coincident with VLF anomaly 5a. Preliminary modelling of this anomaly (Figure A7), suggests a large magnetic body at 80 to 100m, with an associated narrow body extending nearly to the surface (which may also be causing the VLF response). There are no chemical responses associated with this latter area (the former, has not been sufficiently covered).

The magnetic anomalies in the north-east corner of the Black Hill grid have been ascribed by Komyshan to mafic tuffs. And the discrete anomalies within the Melba Spilites are also considered unprospective for economic mineralisation.

On the Carbine Hill grid, interesting magnetic anomalies have been identified in the south western corner (800N/500E to 400N/700E); the ground expression of the Great Northern aeromagnetic anomaly (600N/1450E to 1200N/1650E); at 2000N/900E; and at the northern end of the grid (3400N/1200E to 3600N/1500E), as well as several smaller anomalies. Other responses have been ascribed to mafic tuffs, etc. (eg, the apparently prospective area -magnetics, VLF, geochemistry -north west of the Kapi workings has been drilled (DDH S453): about 150m of mafic rocks was intersected at the target zone).

The 'South Western' anomaly has an associated VLF response (D1), but the magnetic profiles are noisy and not readily