841180

MEMORANDUM

January 10, 1984

TO: Godfrey Walton

FROM: J. P. Steele

RE: Magnetic Data - Barb Claims

I have gone over the data from the Barb magnetic survey. In all cases I would say that the source of the magnetic response is less than 10 meters subsurface. As to body dimensions, one normally can use dimensions such as the areas you have coloured pink to give you the body outline. However, for reasons which I will explain below this is not possible as well as it is not possible to interpret dip from the data.

To interpret magnetic data, one requires a profile which crosses the body perpendicular to strike. I have constructed profiles over the five major magnetic bodies (A-A' to E-E' attached). The profile locations are shown on the contour map also. The profile is constructed by digitizing along the profile and plotting where the profile crosses each contour line (profile of magnetics is red line). I then went back and plotted data points where they were on or near the profile (green). I have drawn in smoothed profiles (in pencil) for the anomalies I used for depth interpretation and in blue some possible responses which may be there.

If the blue responses are real then there may be some deeper bodies. However, the density of data points is far too sparce to be able to say if the blue responses are real or indeed to say if the pencil responses are the correct shape. Hence, my inability to calculate body dimensions and dip.

I have shown, in orange, the locations where data points should have been obtained to be able to interpret. I would recommend that one first conducts a survey on a grid such as you have done and plot up the results in the field. Then immediately go back and take readings along profiles which cross the anomalies perpendicularly and fill in the data points. A good rule of thumb to use in the field is that if readings change by more than 1000 gammas between stations immediately back up and fill in stations until there is less than 1000 gammas between any two. This comment also applies in three dimensions as one should immediately put in fillin lines when one sees large variations along a line.

I should also note that there are some problems with the contouring in that there are a lot of contours left out even in the areas of gentler relief.

.../2

So, to summarize, I feel that all these responses arise close to surface and that there are no large bodies (like the size of the pink areas) but rather are concentrations of the dimensions of only a few 10's of meters maximum in any direction.

I hope that this will help you.

Best Regards.

John P. Steele

JPS/ts
Attachs.