geophysical instruments that make a continuous record. Secondarily it is the result of the ability of the airborne instrument to fly as many lines as desired over territory that simply cannot be inaccessible to it.

Returning to Figure 2, the intrabasement unit, the primary source of magnetic anomalies, can serve as the fundamental basis of interpretation. For example, theoretical aero-magnetic anomalies can be computed for a large assortment of of intrabasement blocks.

Figure 3 illustrates a series of east-west profiles computed for an intrabasement block which has a surface eight units of length on a side, with a unit of length equal to the depth of burial. This series illustrates the change in amplitude as the thickness of the intrabasement block is changed. For example, the uppermost profile, with a maximum amplitude of 500 gamma, corresponds to the block which is infinitely thick. The essential shape of the profile is determined by the depth of burial of the block because the amplitude of the anomaly can be drastically changed by assigning different magnetization contrasts to the block. Such changes can be compensated by altering the vertical scale of the profiles so that the profile maintains its original shape. An example of a function of the curve which varies with the depth of burial of the block is, for example, the horizontal length of the constant gradient. Such a property of an anomaly is derived from its shape and not its amplitude and can, therefore, be used to compute the depth of burial of an intrabasement block.

The second profile from the top is similar to the upper one except that the thickness of the intrabasement block is reduced to three units. This limitation essentially only affects the amplitude of the anomaly. The horizontal length of the linear gradient has practically remained constant. The same conclusions are reached from a block only one unit thick as shown in the next profile. This profile, although considerably reduced in amplitude, has depth indices which are only reduced by approximatley 10 percent.

Therefore, it can be concluded that the assumption that intra-basement blocks are infinitely thick is a practicably useful assumption.

The assumption which is most suspect is that these intrabasement