

# SCINTREX

In order to appreciate the volume from which the observed data originates, some brief comments are made on the method. The characteristic of the gradient array is that the current poles are distant from the potential dipole. Figure 1 displays the salient features of the primary current flow and primary equipotential field generated during energisation, and, in exaggerated form, shows the influence of terrain on the current paths. From this diagram it can be seen that the *apparent resistivity* is a summation of the volume of material normal to local slope beneath the surface and at right angles to it.

The apparent resistivity will be *biased by* the influence of each current electrode, but the *relative* values of *adjacent* readings can be considered *reliable*. As each electrode is approached, the readings become *increasingly biased by* that electrode.

Each in-line (i.e. along strike) gradient block will show a similar anomaly form, however, end-on gradient blocks (i.e. adjacent) *may* show material differences as the overlapping potential dipole will not necessarily be sampling the same volume of material. This is increasingly true as the current pole is approached. Figure 2a illustrates this situation diagrammatically.

Distortion can also occur at the extremities of the array as shown in Figure 2b. This is due to the angle of the primary energising current to the reading potential. If there is a *conductive* unit at, near, or at right angles, to the line, the current will run at