

ELECTRICAL RESISTIVITY IMAGING

Is a geophysical technique for imaging sub-surfaces structures using electrical measurements.

By measuring the electrical properties of the sub surface a profile of the strata width, depths and thicknesses can be produced. This is done by placing regularly spaced electrodes into the ground along a straight line. By collecting parallel lines of data a 3D map of the sub surface strata can be produced.

The depth attainable depends on the number and spacing of electrodes, with an average line of 64 electrodes spaced at 2m apart, 126m in total; a depth of over 12m can be achieved.

As can be seen in the below example, a change in topography along the line has a large influence on the data, so each line is accurately surveyed.

As well as mapping out bedrock depths and other layers, resistivity imaging is often used as a monitoring tool along side our surface and building monitoring. Whilst monitoring any movement at the surface, the pseudo sections provide information about where the movement originates.

By overlapping continuous lines routes for new pipelines, roads etc can be surveyed quickly and economically with up to 750m covered in a day.

