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## ELECTRICAL RESISTIVITY

The Electrical Resistivity (ER) method is a very effective geophysical method that measures the response of the underlying materials to an applied current through a series of electrodes placed along a traverse of the area of interest. Geologic materials such as clay, sand, and bedrock exhibit a wide range of porosity, mineralogy, and pore water content. These variations are directly related to the electrical resistivity of that material and with post processing and inversion algorithms a stratigraphic model of the subsurface is realized. As a result, the method is ideal for profiling bedrock topography, mapping lenses of clays, sands, and silts and identifying landfill or other burials and voids. Contaminate plumes, if the result of a conductive or highly resistive source, are also detectable with the ER method.

Modern multi-channel systems such as the system used by GEL Solutions can yield data collection of several thousands of feet per day and simultaneously record data for traverse and sounding depending on the project scope. Traverse data is ideal for mapping geologic contacts or other lateral variations in the subsurface while soundings provide details of variations with depth.



**GEL** Solutions