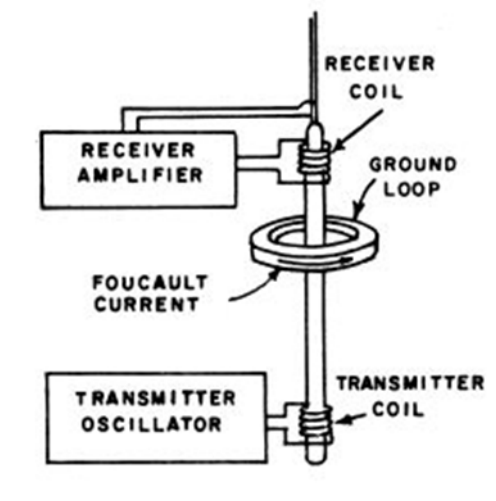
Geophysics and Geology

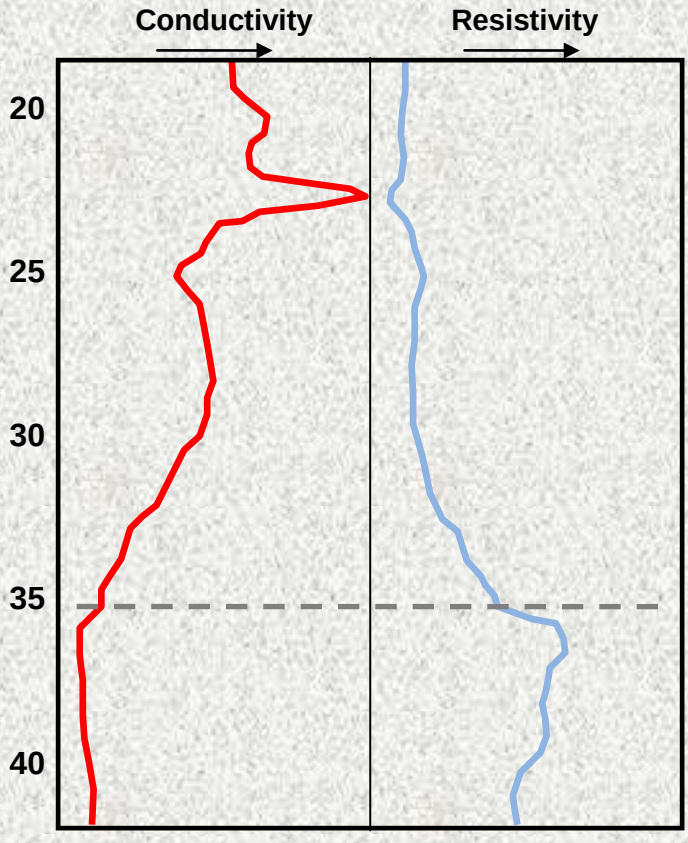
Borehole Conductivity



Conductivity logs utilize the electro-magnetic response of soil and rock to an external oscillating electromagnetic (EM) field. This primary EM field induces a secondary magnetic field that is proportional to the electrical conductivity of the formation.

Conductivity is the inverse of resistivity and is typically expressed in units of millimhos per meter. Unlike resistivity tools, direct electrical contact with the formation is not required and measurements can be acquired through thermoplastic and fiberglass well casing.

Conductivity logs are particularly useful for investigating soil and rock through PVC-cased boreholes, wells and piezometers. Additionally, since conductivity is sensitive to pore fluid composition, the log may be used for gross evaluation of saline invasion or other zones of poor groundwater quality.



More information on conductivity logs is available from the Federal Highway Administration at the following link:

http://www.cflhd.gov/resources/agm/geoApplications/BoreholeMethods/1041ElectricalMethods.cfm#10418