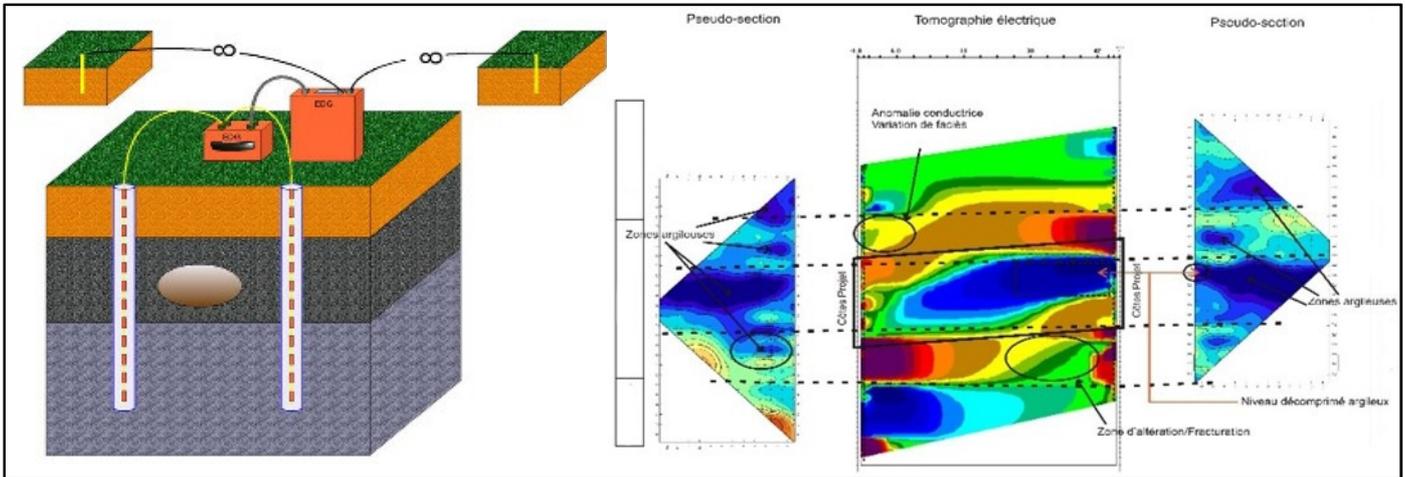




**SOLDATA**  
GEOPHYSIC

# ELECTRICAL TOMOGRAPHY Between Boreholes



2



3

Electrical tomography between boreholes is a method of geophysical prospecting for investigation of the ground situated between two boreholes.

**Applications**

- Location of structures
- Delineation of geology
- Highlighting local anomalies with electrical resistivity anomaly characteristics (cavities, karst, alteration zone, anomalous water content area ..)

This method can be applied in vertical or horizontal boreholes (for investigating the progress of the working face of a tunnel, for example).

The transmitter is introduced in one of the two boreholes. This consists of a series of electrodes for injecting a current into the ground. In the second borehole the electrodes are introduced that allow the measurement of the potential that is thus established in the ground.

This method uses a large number of sensors and allows, through the use of boreholes, to place them near the zones to be investigated. The resolution obtained in depth is therefore generally highly superior to that obtained with using surface measurements of the same type.

SOLDATA Geophysic generally uses the Electric Cylinder® method in addition to the borehole tomography in order to obtain the best results and allow optimum interpretation.

This method enables a 2D section of electrical resistivity in the ground between the two boreholes to be obtained, and thus the site geology to be interpreted.

The combination of measurements from several pairs of boreholes also allows a 3D resistivity model to be built up between the boreholes.



**Legend**

1. Principle of method and example of results
2. Measurement equipment
3. Material used for the method

**Key figures**

- 5 operational units
- Resolution according to the use:
  - 30 cm => structures
  - 2 m => geology
- Borehole spacing according to the application:
  - 2 m => structures
  - >10 m => geology

**SDG Equipment**

- Resistivity meter
- Voltage generator
- Multisensor cable (to be installed on the ground or in a slotted PVC tube 52mm ID)
- Clips, fittings, electrodes