Kontinentales Tiefbohrprogramm der Bundesrepublik Deutschland

EM-Mapping of KTB Site

Grinat, Vogelsang (Hannover)

The area was mapped by NLfB/Hanover to locate faults, fracture zones, and low resistive bodies of sulphide/graphite mineralizations. The real and imaginary components of an electromagnetic harmonic field of the frequencies 3555 and 888 Hz were recorded by two coplanar loops, with a distance of 100 m between transmitter and receiver. The distance between two EM measurements was 25 m.
A great number of EM minima, unusual of crystalline rocks, was recorded (see right side). Two types can be distinguished: Narrow minima delineate steeply dipping faults, wide minima depict zones of low resistivity, known to represent sulphide/graphite mineralizations. The seven "linears" of the first type show strike directions between NNW-SSE and NNE-SSW with two exceptions (L and D; see below). Most important is the linear A, into which the KTB pilot well is sunk. It was identified as a wide, steeply dipping fault with strong shearing and thrusting. The four zones of low resistivity strike about WSW-ENE. Two of them, namely B and K, are correlated with self potential anomalies (WINTER 1987) and will contain sulphide/graphite mineralizations.