Geophysical Research Abstracts, Vol. 7, 04813, 2005
SRef-ID: 1607-7962/gra/EGU05-A-04813

Magnetic susceptibility record of submarine basaltic rock units (HSDP-2 drilling, Hawaii)

C. Dietl (1), A. Beck (1), H. de Wall (1), J. Kück (2),

(1)Institut für Geologie, Julius-Maximilians-Universität Würzburg, Germany, (2) GeoForschungsZentrum Potsdam, Germany (dewall@geologie.uni-wuerzburg.de)

Borehole geophysical measurements have become an integral part of oceanic and continental drilling projects. Especially, in non-cored sections, reconstructions of rock lithologies are mainly based on downhole logging data sets. This contribution reviews the use of low-field magnetic susceptibility measurements for characterization of submarine basaltic units, based on a key study in the Hawaiian Scientific Drilling project (HSDP). The magnetic susceptibility record is compared with other log responses, e.g. natural, gamma ray, resistivity and sonic logs. Comparison of core data and logging data allow to assess the influence of borehole breakouts on the magnetic susceptibility registration and therefore to evaluate the quality of information for lithological reconstruction. Furthermore, the advantage of field dependent magnetic susceptibility measurements for registration of compositional variations of titanomagnetite will be demonstrated.