Geophysical Research Abstracts
Vol. 17, EGU2015-15695-1, 2015
EGU General Assembly 2015

Environmental magnetic signature of the Deccan Phase 2 at the Gambsach section

Eric Font (1), Thierry Adatte (2), and Fabio Florindo (3)

(1) IDL-FCUL, Instituto Dom Luís, Faculdade de Ciências, Universidade de Lisboa, Portugal, (2) STE, Geopolis, CH-1015 Lausanne, Switzerland, (3) Istituto Nazionale di Geofisica e Vulcanologia, Via di Vigna Murata 605, 00143-Rome, Italy

The age and paleoenvironmental effects of the Deccan Traps volcanism are still poorly constrained. Recently, we discovered an interval of low magnetic susceptibility containing akaganeite in stratigraphic interval located just below the Cretaceous-Tertiary Boundary (KTB) at Bidart and Gubbio and correlated in age to the Deccan Phase 2. Here we aim to test our hypotheses in another complete and well-calibrated KT section, the Gambsach section in Austria. We applied magnetic susceptibility, isothermal remanent magnetization curves and FORC diagrams is order to check for changes in magnetic properties and their link with paleoenvironmental changes. Our results show that an interval of low magnetic susceptibility is located just below the KTB, similarly to Bidart and Gubbio. The low values of magnetic susceptibility correspond to lower content in magnetite and hematite. We interpreted the loss of iron oxides as the result of reductive dissolution due to ocean acidification. The newly found evidences are consistent with major paleoenvironmental changes linked to Deccan volcanism at the dawn of the KT mass extinction.

Keywords: Deccan, KT mass extinction, magnetism, environment, Gambsach.
Funded by FCT (PTDC/CTE-GIX/117298/2010)