Geophysical Research Abstracts, Vol. 7, 07402, 2005 SRef-ID: 1607-7962/gra/EGU05-A-07402 © European Geosciences Union 2005



An introduction to the dynamics of aeolian dust sedimentation recorded in the long loess sequence of Remisowka, Northern Boundary of Tien-Shan Mountains, Kazakhstan

B. Machalett (1), M. Frechen (2), U. Hambach (3), E. A. Oches (4),

S. B. Marković (5), L. Zöller (3)

(1) Humboldt-University of Berlin, Institute of Geography, Unter den Linden 6,

10099 Berlin, Germany, (2) Leibniz Institute for Applied Geosciences (GGA), Section 3—Geochronology and Isotope Hydrology, Stilleweg 2, D-30655 Hannover, Germany, (3) Chair of Geomorphology, University of Bayreuth, 95440 Bayreuth, Germany, (4) Department of Geology, University of South Florida, 4202 Fowler Ave. SCA 528, Tampa FL 33620, Florida, USA, (5) Quaternary Research Centre, Department of Geography, University of Novi Sad, Trg Dositeja Obradovica 3, 21000 Novi Sad, Serbia and Montenegro

(b.machalett@nakula.de)

The thick loess-paleosol sequences along the Northern slopes of the Tien-Shan Mountains (SE Kazakhstan) are a detailed record of climate and environmental change. The loess deposits of this area have not been investigated in detail despite of its high thickness (approximately 80 m) and wide spread distribution. The Remisowka loess sequence is located in the southern suburb of Almaty at the lower central part of the slope of North-Tien-Shan Mountains. The geographical coordinates of the section under study are 43°13' Northing and 76°91' Easting. Twelve loess layers and eleven pedocomplexes are exposed in the approximate 65 m thick sequence.

Altogether 596 samples for paleomagnetic and rock magnetic measurements, 530 samples for grain-size and 12 samples for luminescence dating were taken. Furthermore gastropod shells were collected from 19 levels from different loess units for amino acid racemization.

The loess-paleosol sequence represents an important link, connecting the European, the Central Asian and Chinese loess record. Preliminary paleoclimatic and paleoenvironmental interpretation indicates a clear relation to progressive aridization of interior Eurasia since the lower Pleistocene.

The data presented in this study demonstrates the great potential of the SE Kazakhstanian loess archive for the reconstruction of the dust sedimentation dynamics on a local and global scale during the Pleistocene.