

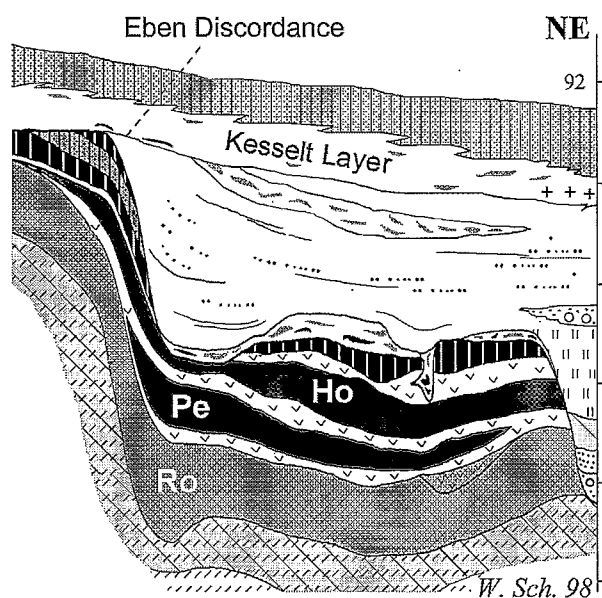
# TERRA NOSTRA

*Schriften der Alfred-Wegener-Stiftung 02/1*

## Loess units and solcomplexes in the Niederrhein and Maas area

ALEXANDER IKINGER & WOLFGANG SCHIRMER (eds.)

with contributions by LARS COFFLET, FRANS GULLENTOPS, ALEXANDER IKINGER,  
HOLGER KELS, ERIK P. M. MEIJS and WOLFGANG SCHIRMER



Joint Symposium of the DEUQUA, BELQUA and  
Deutsche Bodenkundliche Gesellschaft/Arbeitskreis für Paläopedologie

in Neuss

09. –12. Mai 2002

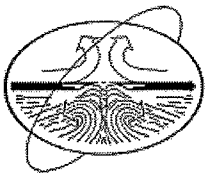
organized by the Department of Geology

Heinrich Heine University Düsseldorf

Impressum

## **TERRA NOSTRA**

Heft Nr. 2002/1 Loess units and solcomplexes in the Niederrhein and Maas area



Herausgeber: Alfred-Wegener-Stiftung, Arno-Holz-Straße 14, 12165 Berlin. Telefon 030-7901374-0, Telefax 030-7901374-1, E-mail: greiner@gfz-potsdam.de

Schriftleitung: Prof. Dr. H. RISTEDT, Am Heidchen 15, 53639 Koenigswinter, Telefon: 02244-80704, E-mail: heinrichstedt@hotmail.com

Herausgeber des Textes: Dr. Alexander IKINGER Heinrich-Heine Universität, Universitätsstr. 1, D-40225 Düsseldorf, Tel.: 0211-81-1-3739, E-Mail: [ikinger@uni-duesseldorf.de](mailto:ikinger@uni-duesseldorf.de);  
Prof. Dr. Wolfgang SCHIRMER, Heinrich-Heine Universität, Universitätsstr. 1, D-40225 Düsseldorf, Tel.: 0211-81-1-2042, E-Mail: [schirmer@uni-duesseldorf.de](mailto:schirmer@uni-duesseldorf.de)

Redaktion: Dr. Alexander IKINGER

Layout: Dr. Alexander IKINGER

ISSN 0946-8978

Selbstverlag der Alfred-Wegener-Stiftung, Berlin, 2002

Printed in Germany

Satz: Dr. Alexander IKINGER, Dr. Eva-Maria IKINGER

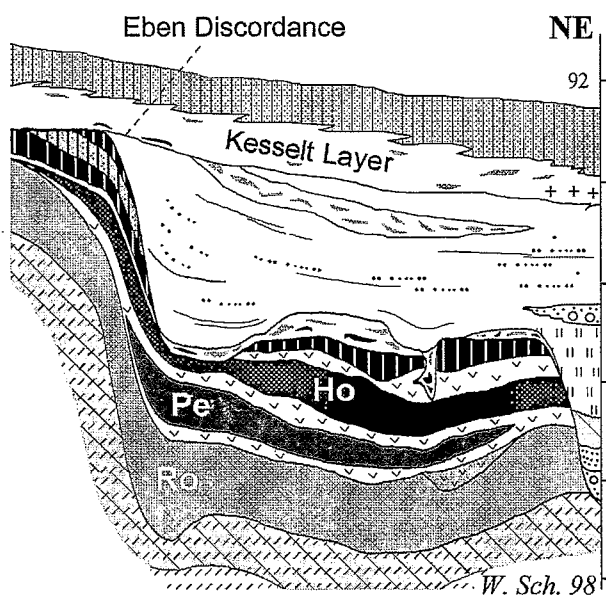
Druck: Limberg Druck GmbH, Industriestraße 17, D-41564 Kaarst

Alle Rechte vorbehalten

# Loess units and solcomplexes in the Niederrhein and Maas area

ALEXANDER IKINGER & WOLFGANG SCHIRMER (eds.)

with contributions by LARS COFFLET, FRANS GULLENTOPS, ALEXANDER IKINGER,  
HOLGER KELS, ERIK P. M. MEIJS and WOLFGANG SCHIRMER



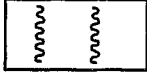
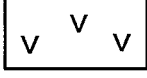
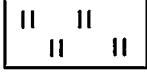

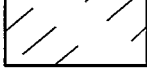

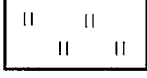
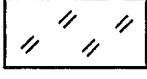
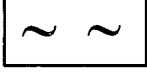

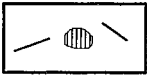

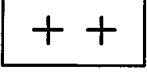
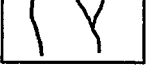


Joint Symposium of the DEUQUA, BELQUA and  
Deutsche Bodenkundliche Gesellschaft/Arbeitskreis für Paläopedologie  
in Neuss

09. –12. Mai 2002

organized by the Department of Geology  
Heinrich Heine University Düsseldorf

## Legend

	Ah horizon
or:	
	Ah horizon, strong/medium/weak
	x horizon: bioturbation traces
	S(e)w horizon: bleached, stagnant
	Sd horizon: vertically bleached
	Bt and Bht horizon
	Bbv horizon: bands of Bv
	Bv horizon, also carbonaceous (Bcv) stronger/weaker
<i>Gelic gleysols / Nassböden (N horizon):</i>	
	Ng horizon: Speckled gelic gleysol: grey patches rusty seamed
	No horizon: rusty speckles
	No horizon: rusty streaks or bands
	Nr horizon: Grey gelic gleysol: homogeneously grey
	M horizon: soil sediment
	sand
	tephra
	humus fill in desiccation cracks

## Abbreviations

Grain size diagrams: GS = coarse sand 2-0,63 mm  $\varnothing$ , MS = medium sand (0,63-0,2 mm  $\varnothing$ ), FS = fine sand (0,2-0,063 mm  $\varnothing$ ), GSi = coarse silt (0,063-0,02 mm  $\varnothing$ ), MSi = medium silt (0,02-0,0063 mm  $\varnothing$ ), FSi = fine silt (0,0063-0,002 mm  $\varnothing$ ), T = clay (< 0,002 mm  $\varnothing$ ).

Soil symbols after AG Boden (1994).

B	Brabant-Löss	Brabant Loess	L	Lehm	loam
Ba	Baal-Boden	Baal Soil	Le	Leonard-Boden	Leonard Soil
Be	Belmen-Boden	Belmen Soil	Lö	Lövenich-Boden	Lövenich Soil
Br	Bruchköbel-Böden	Bruchköbel Soils	M	Mülgau-Löss	Mülgau Loess
ED	Eben-Diskordanz	Eben Discordance	MD	Mülgau-Diskordanz	Mülgau Discordance
Eku	Entkalkungs-Untergrenze	lower contact of decalcification	Mki	Mülgau-Kiesband	Mülgau gravel band
El	Elfgen-Boden	Elfgen Soil	mL	mittlerer Limburg-Löss	middle Limburg Loess
ElA	Elfgen-Boden A	Elfgen Soil A	Nki	Niers-Kiesband	Niers gravel band
ElB	Elfgen-Boden B	Elfgen Soil B	oL	oberer Limburg-Löss	upper Limburg Loess
Em	Erkelenz-Marker	Erkelenz Marker	Pe	Pesch-Boden	Pesch Soil
Er	Erkelenz-Boden	Erkelenz Soil	Rd	Reisdorf-Boden	Reisdorf Soil
ET	Eltville-Tephra	Eltville Tephra	Rh	Rheindahlen-Boden	Rheindahlen Soil
fki	feinkiesig	fine-gravelly	RH	Rheindahlen-Humuszone	Rheindahlen Humus Zone
fs	feinsandig	fine-sandy	Ro	Rocourt-Boden	Rocourt Soil
G	Gillgau-Löss	Gillgau Loess	Te	Tenholt-Boden	Tenholt Soil
Gki	Geldern-Kiesband	Geldern gravel band	TH	Titz-Humuszone	Titz Humus Zone
h	humos	humic	Ti	Titz-Boden	Titz Soil
H	Hesbaye-Löss	Hesbaye Loess	u	siltig	silty
HH	Holz-Humuszone	Holz Humus Zone	uL	unterer Limburg-Löss	lower Limburg Loess
Ho	Holz-Boden	Holz Soil	Ve	Venrath-Boden	Ventrath Soil
k	karbonatisch	carbonaceous	W	Wetterau-Löss	Wetterau Loess
Ka	Katzem-Boden	Katzem Soil	WD	Wetterau-Diskordanz	Wetterau Discordance
Kd	Keldach-Löss	Keldach Loess	Wi	Wickrath-Boden	Wickrath Soil
Ke	Kesselt-Lage	Kesselt Layer	Wo	Wockerath-Böden	Wockerath Soils
ki	kiesig	gravelly	⊖	karbonatfrei	non-carbonaceous
Ku	Kuckum-Boden	Kuckum Soil	'	schwach	weak
L	Limburg-Löss	Limburg Loess	''	sehr schwach	very weak

## Contents

Legend	4
Abbreviations	5
Foreword	7
1. Compendium of the Rhein loess sequence (W. SCHIRMER)	8
Interglacial solcomplexes embracing breviglacials	8
Euglacials	8
Gelic gleysols (Nassböden)	10
Definition and description of the loess units and solcomplexes	12
2. Loess localities of the Niederrhein area (W. SCHIRMER)	24
2.1 Brickyard pit GILLRATH in Erkelenz	24
2.2 Brickyard pit DREESEN in Rheindahlen	43
2.3 Paleomagnetic investigations in Erkelenz and Rheindahlen (LARS COFFLET & WOLFGANG SCHIRMER)	51
2.4 The former browncoal opencast mine Frimmersdorf-West	56
2.5 Browncoal opencast mine Garzweiler (WOLFGANG SCHIRMER & HOLGER KELS)	57
3. Mikropedologische Korrelation von niederrheinischen Solkomplexen (ALEXANDER IKINGER)	66
4. Localities of the Maas area Loess sequences in Northern Haspengouw, Belgian Limburg (FRANS GULLENTOPS & ERIK P. M. MEIJS)	80
4.1 The NELISSEN quarry, Kesselt	81
4.2 The VANDERSANDEN quarry, Veldwezelt-Hezerwater	85
4.3 The VANDERSANDEN quarry "Op de Schans"	87
4.4 The Eben Zone in the limestone quarry Eben (WOLFGANG SCHIRMER)	92
5. Literature	102
6. Authors' addresses	104