

CHAPTER 4 'Research Methods'

Name <sup>1</sup>	Name in Dutch	Abbreviation	Higher rank name in Dutch	
Clay	zeer zware klei	ZK	zware klei	klei
Silty clay	matig zware klei	MK		
Silty clay loam/clay loam	lichte klei	LK		
Clay loam/sandy clay loam	zware zavel	ZZI	lichte zavel	zavel
Sandy loam	matig lichte zavel	MZI		
Loamy sand	zeer lichte zavel	LZI		
Sandy loam	zeer sterk lemig zand	(U)LZ	lemig zand	zand
Sandy loam	sterk lemig zand	(M)LZ		
Loamy sand	zwak lemig zand	(I)LZ		
Sand	leemarm zand	Z		
Silt loam	zware siltige leem	(Z)SL	siltige leem	leem
Silt	lichte siltige leem	(L)SL		
Silt loam	zware zandige leem	(Z)L	zandige leem	
Silt loam	lichte zandige leem	(L)L		

<sup>1</sup>approximate equivalent according to U.S.D.A. nomenclature

Figure 4.2 Texture classification of clastic sediments, consisting of a mixture of sand, silt and clay (after Verbraeck 1984).

Name	Name in Dutch	Abbreviation
Peat	veen *	V3
Sandy peat	zandig veen **	ZV
Clayey peat	kleilig veen **	V2
Peaty sand	venig zand **	VZ
Peaty clay	venige klei **	V1
Strongly humic	humusrijk	H2
Very humic	zeer humeus	H1
Humic	matig humeus	H1
Slightly humic	matig humusarm	H0
Slightly humic	zeer humusarm	H0
Slightly humic	uiterst humusarm	H0

\* no subdivision of texture according to Figure 4.2

\*\* no further subdivision of texture according to Figure 4.2

\*\*\* subdivision of texture according to Figure 4.2

Figure 4.3 Classification of samples by their weight percentage of organic material. After De Bakker & Schelling (1966).

Table 4.1 Classification of grain size of sand and gravel. After Verbraeck (1984).

M50 (µm)	Name	Name in Dutch	Abbreviation	
50 - 105 µm	Extremely fine sand	uiterst fijn zand		UFZ
105 - 150 µm	Very fine sand	zeer fijn zand	fijn zand	ZFZ
150 - 210 µm	Fine sand	matig fijn zand		FZ
210 - 420 µm	Medium sand	matig grof zand	grof zand	MZ
420 - 2000 µm	Coarse / very coarse sand	grof tot zeer grof zand		
M50 (mm)	Name	Name in Dutch	Abbreviation	
2 - 5 mm	Very fine gravel	zeer fijn grind		ZFG
5 - 16 mm	Fine gravel	fijn grind		FG
16 - 64 mm	Coarse gravel	grof grind		GG
Smallest diameter (cm)	Name	Name in Dutch	Abbreviation	
6,4 - 10 cm	Stone	steen		ST
10 - 50 cm	Rock	kei		KEI
> 50 cm	Block	blok		BLOK

Table 4.2 Classification by gravel content. After Verbraeck (1984).

percent	Name	Name (in Dutch)	Abbreviation	Higher rank name (Dutch)
0-10	Slightly gravelly sand	iets grindhoudend zand	IGHZ	grindhoudend zand
10-20	Gravelly sand	matig grindhoudend zand	MGHZ	
20-50	Strongly gravelly sand	sterk grindhoudend zand	SGHZ	
50-80	Strongly sandy gravel	sterk zandhoudend grind	SZHG	zandhoudend grind
80-90	Sandy gravel	matig zandhoudend grind	MZHG	
90-100	Slightly sandy gravel	iets zandhoudend grind	IZHG	

Table 4.3 Other sample characteristics

Organic remains		Color		Oxydation	
r = riet	reed	wi = wit	white	o = oxydatie	oxydized (brownish)
h = hout	wood	ro = rood	red	or = oxydatie/reductie	oxydized / reduced
z = zegge	sedge	or = oranje	orange	r = reductie	reduced (greyish)
v = veenmos	Sphagnum	zw = zwart	black		
plr= plantenresten	plant remains	gr = grijs	grey		
els	alder	br = bruin	brown		
beuk	beech	ge = geel	yellow		
eik	oak	gn = groen	green		
wilg	willow	bl = blauw	blue		
		d = donker	dark		
		l = licht	light		
Calcium carbonate content		Iron content		Sample (M)	
0 = geen	< 0.5 %	0 = weinig	little oxydized iron	M1...10	monsters 1..10
1 = weinig	0.5 - 2 %	1 = matig	some oxydized iron		Samples taken
2 = veel	> 2 %	2 = veel	much oxydized iron		
Ikl = Vegetation horizon		Groundwater (GW)		Remarks (unlimited)	
+ = goed ontwikkeld	clearly visible	GHG = gemiddeld hoogste GW	highest GW-level	P = fosfor	Phosfor
- = zwak ontwikkeld	faint	GW = actuele GW	actual GW level	ger = geroerd	reworked soil
		GLG = gemiddeld laagste GW	lowest GW level (averages)	oph = opgehoogd	raised
				? = onzeker	uncertain
				c = concreties	nodules
				+ = veel	much
				- = weinig	little
				Sch = schelpen	shells / shell remains
				wrsl = waarschijnlijk	probably
				# = begin/eind guts	begin/end of gauging
				gm = geen monster	no sample retrieved
				end = einde boring	deepest point reached

Table 4.4 Lithostratigraphic or lithogenetic units (STRAT) used in the core descriptions

Lithostratigraphic or lithogenetic units (STRAT)	
P	Middle and Lower Pleistocene formations
Df	Drente Formation, glaciofluvial deposits
Td	Twente Formation, coversand
Tp	Twente Formation, fluvioperiglacial deposits
To	Twente Formation, organic deposits
TD	Twente Formation, Delwijnen Member; eolian river dune deposits
Kb	Kreftenheye Formation; channel deposits
Kwk	Kreftenheye Formation; Wijchen Layer; floodbasin deposits or levee deposits
KWr	Kreftenheye Formation; Wijchen Layer; residual channel deposits and peat
Bb	Betuwe Formation; channel deposits
Bo	Betuwe Formation; natural levee deposits
Br	Betuwe Formation; residual channel deposits
Bk	Betuwe Formation; floodbasin deposits
Bc	Betuwe Formation; crevasse splay deposits
Bd	Betuwe Formation; dike breach deposits
Vg	Broek Formation; gyttja
Vr	Broek Formation; Phragmites peat
Vz	Broek Formation; Carex peat
Vb	Broek Formation; Wood peat
Vo	Broek Formation; undifferentiated
WDb	Westland Formation, Duinkerke (=Dunkirk) deposits, channel deposits
WDk	Westland Formation, Duinkerke (=Dunkirk) deposits, floodbasin and natural levee deposits
WCb	Westland Formation, Calais deposits, channel deposits
WCk	Westland Formation, Calais deposits, floodbasin and natural levee deposits

Boorpunt: 200702005

Namen: Cohen

Jaar: 2007

Groep: 02

Datum: 15-10-2007

Coördinaten		Hoogte		Diepte		KAARTEENHEID		Geomorfogenetische kaart:		Eo0
Xco	Yco	Z [m +/- NAP]		cm - mv			Geologische kaart:	Gondwatertrap:		
206181	447769	10.3		480			Begroeiingskaart:	Bodemkaart:		

Doesburg: korte koepoortstraat. In put archeologische opgraving ArcheoZutphMaaiveld =  
vloer van put. Straatniveau op 11.89-12.28. Donkfl.loopt op n N OKT-2007: pollenprep  
s M1-M6 Scan WZH: 95%zeker Allerod. Inspoeling Tertiair

Diepte	Texuur	Org	Plr	Kleur	RedOx	Grind	M50	Ca	Fe	GW	M	LKL	Strat	Bijzonder
10	ILZ	H0		dbr	o		210-300	0	0				TD	ME stad op IJzerTijd
20	MZ			lgrbr	o		210-300	0	0				TD	akker
30	MZ			gegr	o		210-300	0	0				TD	a3 ms
40	MZ			gegr	o		210-300	0	0				TD	a3 ms
50	MZ			gegr	or		210-300	0	0				TD	a3 ms
60	MZ			gegr	or		210-300	0	0				TD	a3 ps
70	ILZ			gegr	or		210-300	0	0				TD	
80	LZ			lblgr	or		150-210	0	0				TD	
90	LZ			lblgr	or		150-210	0	1				TD	basis donk zand
100	ZL			lblgr	or			0	1				KWk	
110	ZL			lblgr	or			0	1				KWk	overstroming/oeverw
120	ZL			lblgr	or			0	1				KWk	facies
130	ZL			lblgr	or			0	1				KWk	iets zwaarder
140	ZL			lblgr	or			0	1				KWk	
150	MZ			gr	r		210-300	0	0				KWk	a4 ms
160	FZ			gr	r		150-210	0	0				KWk	\$ bandje zavel
170	FZ			gr	r		150-210	0	0				TD	a4 ms
180	FZ			gr	r		150-210	0	0				TD	
190	FZ			gr	r		150-210	0	0				TD	ingeslumpt donk zand
200	FZ			gr	r		150-210	0	0				TD	(wel heel schoon)
210	FZ			gr	r		150-210	0	0				TD	
220	FZ			gr	r		150-210	0	0				TD	
230	FZ			gr	r		150-210	0	0				TD	a4 ws
240	FZ			gr	r		150-210	0	0				TD	a4 ws
250	FZ		plr	gr	r		150-210	0	0				KWr	geul opvulling
260	FZ		plr	gr	r		150-210	0	0		1		KWr	
270	LK	H0	plr	dgr	r			0	0		1		KWr	gelamineerd, siltig
280	LK	H0		dgr	r			0	0		1		KWr	M1-M6: pollen
290		V3	plr	br	r			0	0		2		Vr	\$ preps Hoek
300		V3	plr	br	r			0	0		3		Vr	\$ M4: bulk M2
310	SL			gr	r			0	2		5		KWr	Zandige SL
320	SL			gr	r			0	0				KWr	# moeizame guts
330	SL			gr	r			0	0				KWr	\$
340	SL			gegr	r			0	2				KWr	#
350	FZ	H0	plr	gegr	r		150-210	0	2		6		Kb	\$ lemige silt band
360	FZ			gegr	r		150-210	0	2				Kb	
370	FZ			gr	r		150-210	0	0				Kb	
380	MZ			gr	r		210-300	1	0				Kb	FU-sequenties:
390	FZ			gr	r		150-210	1	0				Kb	bedding facies
400	GZ			gr	r		600-850	2	0				Kb	
410	FZ			gr	r		150-210	2	0				Kb	
420	GZ			gr	r		420-600	2	0				Kb	
430	FZ			gr	r		150-210	2	0				Kb	
440	MZ			gr	r		210-420	2	0				Kb	
450	GZ			gr	r	2	420-600	2	0				Kb	ps
460	FZ			gr	r		150-210	2	0				Kb	
470	FZ			gr	r		150-210	2	0				Kb	archeologie@zutphen
480	FZ			gr	r		150-210	2	0				Kb	\$ END .nl

Einde boring 200702005

Boorpunt: 200702006

Namen: KMC en team

Jaar: 2007

Groep: 02

Datum: 1-11-2007

Coördinaten		Hoogte		Diepte		KAARTEENHEID		Geomorfogenetische kaart:		Ed1	
Xco	Yco	Z [m +/- NAP]		cm - mv			Geologische kaart:	Gondwatertrap:			
211183	461074	7.8		590			Begroeiingskaart:	Bodemkaart:			

Zutphen, vml jeugdgev sportterrein. Thorbeckesingel. ArcheoZutphen

Boring in GPR anomal

ie ' tussen piket paaltjes '

Diepte	Textuur	Org	Plr	Kleur	RedOx	Grind	M50	Ca	Fe	GW	M	LKL	Strat	Bijzonder
10	LZ			dbr				0	0					ger, baksteen
20	LZ			dbr				0	0					ger, baksteen
30	LZ			dbr				0	0					ger, baksteen
40	ILZ			dbr				0	0					ger, baksteen
50	ILZ			dbr				0	0					ger, baksteen
60	ILZ			dbr				0	0					ger, baksteen
70	LZ			br				0	0				Td	gebroken grond
80	LZ			br				0	0				Td	
90	ZL			br				0	0				Td	
100	ZL			br				0	0				Td	
110	ZFZ			br			105-150	0	0				Td	
120	ZFZ			gegr			105-150	0	0				Td	
130	FZ			gegr			150-210	0	0				Td	
140	FZ			gegr			150-210	0	0				Td	
150	LL			lgegr				1	1				Tp	lemig/siltig
160	LL			lgegr				1	1				Tp	lemig/siltig
170	FZ			lgegr			150-210	0	1				Td	
180	MZ			lgegr			210-300	0	1				Td	
190	FZ			lgegr			210	0	1				Tp	ps
200	FZ			lgegr			210	0	1				Tp	
210	MZ			gegr			210-300	0	1				Tp	a4 ps
220	FZ			gegr			210	0	1				Tp	a4
230	FZ			gegr			210	0	0				Tp	a4 ms
240	MZ			brgr			210-300	0	0				Tp	a4 ms
250	FZ			brgr			210	0	0				Tp	a4 ps
260	MZ			brgr		1	210-300	0	0				Tp	a4 ps
270	MZ			brgr		1	210-300	0	0				Tp	a2
280	MZ			brgr		1	210-300	0	0				Tp	a2
290	MZ			brgr		1	300-420	0	0				Tp	a2 ps
300	GZ			brgr		3	420-600	0	0	GW			Tp	a2 ps
310	GZ			brgr		2	420-600	0	0				Tp	a2
320	GZ			brgr		1	420-600	0	0				Tp	
330	GZ			brgr			600-850	0	0				Tp	\$ FU seq 15 cm
340	GZ			brgr			600-850	0	0				Tp	
350	GZ			brgr			420-600	0	0				Tp	
360	GZ			brgr		1	600-850	0	0				Tp	
370	GZ			brgr			420-600	0	0				Tp	
380	MZ			brgr			210-300	0	0				Tp	
390	MZ			brgr			300-420	0	0				Tp	
400	GZ			brgr			420-600	0	0				Tp	
410	MZ			brgr			300-420	0	0				Tp	
420	GZ			brgr		3	420-600	0	0				Tp	
430	MZ			brgr			300-420	0	0				Tp	
440	GZ			brgr			420-600	0	0				Tp	
450	GZ			brgr		3	420-600	0	0				Tp	FG, b-as .5 cm
460	GZ			wigr			850-1000	2	0				Kb	vps
470	GZ			wigr		4	1000-1400	2	0				Kb	vps
480	GZ			wigr			850-1000	2	0		1		Kb	leembandje 5mm dik
490	GZ			wigr			850-1000	2	0				Kb	
500	GZ			wigr			600-850	2	0				Kb	FU-seq 10 cm
510	GZ			wigr			600-850	2	0				Kb	ps
520	GZ			wigr			600-850	2	0				Kb	ps
530	GZ			wigr			850-1000	2	0				Kb	ps
540	GZ			wigr			850-1000	2	0				Kb	ps
550	GZ			wigr			850-1000	2	0				Kb	vps erosieve basis
560	FZ			dgr			150-210	2	0				Kb	/1 augietrijk ms
570	FZ			dgr			150-210	2	0				Kb	ms
580	FZ			dgr			150-210	2	0				Kb	ms
590	MZ			brgr			210-300	2	0				Kb	ms Fe coating

Einde boring 200702006

Boorpunt: 200702007

Namen: Rena KMC

Jaar: 2007

Groep: 02

Datum: 1-11-2007

Coördinaten		Hoogte	Diepte	KAARTEENHEID	Geomorfogenetische kaart:	Ed1
Xco	Yco	Z [m +/- NAP]	cm - mv	Geologische kaart:	Gondwatertrap:	
211198	461079	7.8	590	Begroeiingskaart:	Bodemkaart:	

Zutphen														
Diepte	Textuur	Org	Plr	Kleur	RedOx	Grind	M50	Ca	Fe	GW	M	LKL	Strat	Bijzonder
10	ILZ			dbr	o			0	0					ger
20	ILZ			dbr	o			0	0					ger
30	ILZ			dbr	o			0	0					ger
40	ZFZ			br	o		105-150	0	0				Td	Mn ws a4
50	ZFZ			br	o		105-150	0	0				Td	Mn ws a4
60	ZFZ			br	o		105-150	0	0				Td	Mn ws a4
70	ZFZ			br	o		105-150	0	0				Td	Mn ws a4
80	ZFZ			lbr	o		105-150	0	0				Td	Mn ws a4
90	ZFZ			lbr	o		105-150	0	0				Td	ws a4
100	ZFZ			gebr	or		105-150	0	1				Td	ws a4
110	ZFZ			gebr	or		105-150	0	1				Td	ws a4
120	ZFZ			gebr	or		105-150	0	1				Td	ws a4
130	ZFZ			gebr	or		105-150	0	2				Td	ws a4
140	ZFZ			gebr	or		105-150	0	2				Td	ws a4
150	ZFZ			gebr	or		105-150	0	2				Td	ws a4
160	ZFZ			gebr	or		105-150	0	2				Td	ws a4
170	ZFZ			gebr	or		105-150	0	2				Td	ws a4
180	ZFZ			gebr	or		105-150	0	2				Td	ws a4
190	LZ			gebr	or		105-150	0	2				Tp	
200	LZ			gebr	or		105-150	0	2				Tp	
210	ZL			gr	or			0	2				Tp	
220	MZ			brgr	or		210-300	0	2				Tp	ws a3
230	MZ			brgr	or		210-300	0	2				Tp	ws a3
240	MZ			brgr	or		210-300	0	2				Tp	ws a3
250	MZ			brgr	or		210-300	0	1				Tp	ws a3
260	MZ			brgr	r		210-300	1	0				Tp	ws a3
270	MZ			brgr	r		210-300	2	0	GW			Tp	ws a3
280	FZ			brgr	r		150-210	2	0				Tp	ws a3
290	GZ			brgr	r		420-600	2	0				Tp	\$
300	MZ			brgr	r		300-420	2	0				Tp	FU-seq ca. 10 cm
310	GZ			brgr	r		420-600	2	0				Tp	
320	MZ			brgr	r		300-420	2	0				Tp	ps
330	GZ			brgr	r		600-850	2	0				Tp	ps
340	GZ			brgr	r	2	600-850	2	0				Tp	ps
350	GZ			brgr	r		420-600	2	0				Kb	ps
360	GZ			brgr	r		420-600	2	0				Kb	FU-seq ca. 10 cm
370	GZ			brgr	r		420-600	2	0				Kb	
380	MZ			brgr	r		300-420	2	0				Kb	ps
390	MZ			brgr	r		300-420	2	0				Kb	ps
400	GZ			brgr	r		420-600	2	0				Kb	ps
410	GZ			brgr	r		300-420	2	0				Kb	ps
420	GZ			brgr	r		420-600	2	0				Kb	ps
430	GZ			brgr	r		600-850	2	0				Kb	\$
440	GZ			brgr	r		420-600	2	0				Kb	\$ veel glimmers
450	GZ			brgr	r		600-850	2	0				Kb	
460	GZ			brgr	r		420-600	2	0				Kb	
470	GZ			brgr	r		420-600	2	0				Kb	
480	GZ			brgr	r		420-600	2	0				Kb	
490	MZ			brgr	r		300-420	2	0				Kb	
500	GZ			brgr	r		600-850	2	0				Kb	Fu seq ca. 10 cm
510	GZ			brgr	r		420-600	2	0				Kb	ps
520	GZ			brgr	r		420-600	2	0				Kb	
530	GZ			brgr	r		300-420	2	0				Kb	
540	GZ			brgr	r		420-600	2	0				Kb	
550	GZ			brgr	r	1	600-850	2	0				Kb	
560	MZ			dgr	r		210-300	2	0				Kb	ms veel augietjes
570	MZ			dgr	r		210-300	2	0				Kb	ms
580	MZ			dgr	r		210-300	2	0				Kb	ms
590	MZ			dgr	r		210-300	2	0				Kb	\$

Einde boring 200702007

Boorpunt: 200702008

Namen: Rena KMC

Jaar: 2007

Groep: 02

Datum: 1-11-2007

Coördinaten		Hoogte		Diepte		KAARTEENHEID		Geomorfogenetische kaart:		Ed1	
Xco	Yco	Z [m +/- NAP]		cm - mv			Geologische kaart:	Gondwatertrap:			
211200	461061	7.7		590			Begroeiingskaart:	Bodemkaart:			

thorbeckesingel zutphen

Diepte	Textuur	Org	Plr	Kleur	RedOx	Grind	M50	Ca	Fe	GW	M	LKL	Strat	Bijzonder
10	ILZ			dbr	o			0	0					ger
20	ILZ			dbr	o			0	0					ger
30	ILZ			dbr	o			0	0					ger
40	ILZ			dbr	o			0	0					
50	ILZ			dbr	o			0	0					Mn
60	ILZ			br	o			0	0				Td	Mn
70	ILZ			br	o			0	0				Td	Mn
80	ZFZ			br	o		105-150	0	0				Td	ws a4
90	ZFZ			gebr	o		105-150	0	0				Td	ws a4
100	ZFZ			gebr	or		105-150	0	1				Td	ws a4
110	ILZ			gebr	or			0	2				Td	
120	ILZ			gebr	or			0	2				Td	
130	LZ			gebr	or			0	2				Td	
140	LZ			grbr	or			0	2				Td	
150	LZ			grbr	or			0	2				Td	
160	LZ			grbr	or			0	2				Td	
170	ILZ			grbr	or			0	2				Td	
180	ILZ			brgr	or			0	2				Td	
190	ILZ			brgr	or			0	2				Td	
200	MZ			brgr	or		210-300	0	2				Tp	ws a3
210	MZ			brgr	or		210-300	0	2				Tp	ws a3
220	MZ			brgr	or		210-300	0	2				Tp	ws a3
230	ZFZ			brgr	or		105-150	0	2				Tp	ws a3
240	FZ			brgr	or		150-210	0	2				Tp	ws a3
250	FZ			brgr	or		210-300	1	2				Tp	ws a3
260	MZ			brgr	or		210-300	1	1				Tp	ws a3
270	MZ			brgr	or		210-300	1	0				Tp	ws a3
280	MZ			brgr	r		210-300	1	0	GW			Tp	ws a3
290	MZ			lbrgr	r		300-420	1	0				Tp	\$ ps
300	MZ			lbrgr	r		300-420	1	0				Tp	ps
310	GZ			lbrgr	r		420-600	1	0				Tp	ps Fe-coating
320	MZ			lbrgr	r		300-420	0	0				Tp	FU < 10 cm
330	GZ			lbrgr	r		420-600	0	0				Tp	
340	MZ			lbrgr	r		300-420	0	0				Tp	
350	GZ			lbrgr	r		420-600	0	0				Tp	
360	GZ			lbrgr	r		600-850	0	0				Tp	
370	GZ			lbrgr	r		420-600	0	0				Tp	
380	GZ			lbrgr	r	1	420-600	0	0				Tp	vps
390	MZ			lbrgr	r		300-420	0	0				Tp	ps
400	GZ			lbrgr	r	1	1000-1400	0	0				Tp	ms
410	GZ			lbrgr	r		420-600	0	0				Kb	
420	GZ			dgr	r		420-600	0	0				Kb	
430	GZ			dgr	r		420-600	0	0				Kb	
440	GZ			dgr	r		420-600	0	0				Kb	leem brokje
450	GZ			dgr	r		420-600	0	0				Kb	\$
460	MZ			dgr	r		300-420	2	0				Kb	\$
470	MZ			dgr	r		210-300	2	0				Kb	sch gr
480	MZ			dgr	r	1	210-300	2	0				Kb	ijzerkiesel grindje
490	MZ			dgr	r		210-300	2	0				Kb	
500	MZ			dgr	r		210-300	2	0				Kb	
510	MZ			dgr	r		210-300	2	0				Kb	
520	MZ			dgr	r		210-300	2	0				Kb	
530	MZ			dgr	r		300-420	2	0				Kb	sch gr
540	MZ			dgr	r		210-300	2	0				Kb	
550	MZ			dgr	r		210-300	2	0				Kb	
560	MZ			dgr	r		210-300	2	0				Kb	sch gr
570	MZ			dgr	r		210-300	2	0				Kb	
580	MZ			dgr	r		420-600	2	0				Kb	
590	GZ			dgr	r		420-600	2	0				Kb	sch gr

Einde boring 200702008

Boorpunt: 200702009

Namen: Marten KMC

Jaar: 2007

Groep: 02

Datum: 1-11-2007

Coördinaten		Hoogte		Diepte		KAARTEENHEID		Geomorfogenetische kaart:		
Xco	Yco	Z [m +/- NAP]		cm - mv			Geologische kaart:	Gondwatertrap:		
211166	461060	7.7		590			Begroeiingskaart:	Bodemkaart:		

EPE 4 m														
Diepte	Textuur	Org	Plr	Kleur	RedOx	Grind	M50	Ca	Fe	GW	M	LKL	Strat	Bijzonder
10	ILZ			dbr	o			0	0					ger baksteen
20	ILZ			dbr	o			0	0					ger baksteen
30	ILZ			dbr	o			0	0					ger baksteen
40	ILZ			dbr	o			0	0					ger baksteen
50	LZ			br	o			0	0				Td	
60	LZ			br	or			0	0				Td	Mn
70	ILZ			br	or			0	2				Td	Mn
80	ILZ			br	or			0	2				Td	Mn
90	ZFZ			lbr	or		105-150	0	2				Td	Mn ws a4
100	ZFZ			lbr	or		105-150	0	2				Td	Mn ws a4
110	ZFZ			gebr	or		105-150	0	2				Td	Mn ws a4
120	ZFZ			gebr	or		105-150	0	2				Td	ws a4
130	FZ			gebr	or		150-210	0	2				Td	ws a4
140	FZ			gebr	or		150-210	0	2				Td	ws a4
150	FZ			gebr	or		150-210	0	2				Td	
160	UFZ			gebr	or		50-105	0	2				Td	(iets lemig)
170	UFZ			gebr	or		50-105	1	2				Td	(iets lemig)
180	ZFZ			gebr	or		105-150	2	2				Td	
190	ZFZ			grbr	or		105-150	2	2				Td	
200	ZFZ			grbr	or		105-150	0	2				Tp	
210	ZFZ			orgr	or		105-150	0	2				Tp	
220	ILZ			orgr	or			0	2				Tp	
230	LZ			orgr	or	1	300-420	0	2				Tp	
240	LZ			orgr	or	1	300-420	0	2				Tp	
250	MZ			brgr	or		300-420	0	2	GW			Tp	
260	ILZ			dbrgr	r		300-420	0	2				Tp	
270	GZ			dbrgr	r		420-600	0	2				Tp	ps Fe coating
280	GZ			dbrgr	r		420-600	0	2				Tp	ms
290	GZ			dbrgr	r		420-600	0	2				Tp	\$ ps
300	MZ			brgr	r		300-420	0	0				Tp	
310	MZ			brgr	r		300-420	0	0				Tp	
320	MZ			brgr	r		300-420	0	0				Tp	
330	MZ			brgr	r		300-420	0	0				Tp	
340	MZ			brgr	r		300-420	0	0				Tp	
350	GZ			brgr	r		420-600	0	0				Tp	
360	GZ			brgr	r		850-1000	0	0				Tp	
370	MZ			brgr	r		300-420	0	0				Kb	FU-seq 4-cm
380	MZ			brgr	r		300-420	0	0				Kb	
390	MZ			brgr	r		300-420	0	0				Kb	
400	MZ			brgr	r		300-420	2	0				Kb	X-bedded
410	MZ			brgr	r		300-420	2	0				Kb	vps
420	MZ			dbrgr	r		300-420	2	0				Kb	\$
430	GZ			brgr	r		300-420	2	0				Kb	\$
440	GZ			brgr	r		850-1000	2	0				Kb	
450	GZ			brgr	r	5	850-1000	2	0				Kb	
460	GZ			brgr	r		600-850	2	0				Kb	
470	GZ			brgr	r		420-600	2	0				Kb	vps
480	GZ			brgr	r		600-850	2	0				Kb	vps
490	MZ			dgr	r		300-420	2	0				Kb	vps
500	MZ			brgr	r		420-600	2	0				Kb	
510	MZ			brgr	r		420-600	2	0				Kb	
520	MZ			brgr	r		420-600	2	0				Kb	
530	MZ			dgr	r		210-300	2	0				Kb	
540	MZ			dgr	r		210-300	2	0				Kb	
550	MZ			dgr	r		210-300	2	0				Kb	
560	MZ			dgr	r		210-300	2	0				Kb	
570	MZ			dgr	r		210-300	2	0				Kb	
580	MZ			dgr	r		210-300	2	0				Kb	
590	MZ			dgrbr	r		210-300	2	0				Kb	\$

Einde boring 200702009

Boorpunt: 200702010

Namen: Volleberg

Jaar: 2007

Groep: 02

Datum: 1-11-2007

Coördinaten		Hoogte		Diepte		KAARTEENHEID		Geomorfogenetische kaart:		Ed1	
Xco	Yco	Z [m +/- NAP]		cm - mv			Geologische kaart:	Gondwatertrap:			
211177	461080	7.8		590			Begroeiingskaart:	Bodemkaart:			

Diepte	Textuur	Org	Plr	Kleur	RedOx	Grind	M50	Ca	Fe	GW	M	LKL	Strat	Bijzonder
10	LZ			dbr	o			0	0					ger baksteen
20	LZ			dbr	o			0	0					ger baksteen
30	LZ			dbr	o			0	0				Td	Mn
40	LZ			dbr	o			0	0				Td	baksteen
50	LZ			br	o			0	2				Td	mn
60	ILZ			br	o			0	2				Td	mn
70	ILZ			br	o			0	2				Td	mn
80	ILZ			br	o			0	2				Td	mn
90	ILZ			br	or			0	2				Td	mn
100	ILZ			br	or			0	2				Td	mn
110	ZFZ			gebr	or		105-150	0	1				Td	ws a4
120	ZFZ			gebr	or		105-150	0	1				Td	a4
130	ZFZ			orbr	or		105-150	0	2				Td	a4
140	ILZ			orbr	or		105-150	0	2				Td	a4
150	ILZ			orbr	or		105-150	0	2				Td	Mn a4
160	ILZ			orbr	r		105-150	0	2				Td	Mn a4
170	ILZ			orbr	r		105-150	0	2				Td	Mn a4
180	ILZ			brgr	r		105-150	0	2				Td	Mn a4
190	FZ			brgr	r		150-210	0	2				Td	
200	FZ			brgr	r		150-210	0	2				Td	
210	FZ			brgr	r		150-210	0	2				Td	
220	FZ		plr	brgr	r		150-210	0	1				Tp	verspld org.mat.
230	FZ			brgr	r		150-210	0	0				Tp	ws a3
240	ZFZ			grbr	r		105-150	0	0				Tp	
250	ZFZ		plr	grbr	r		105-150	0	0				Tp	verspld org.mat.
260	FZ			grbr	r		150-210	0	0				Tp	
270	FZ			grbr	r		150-210	0	0	GW			Tp	
280	MZ			grbr	r	1	210-420	0	0				Tp	ms a3
290	MZ			grbr	r	2	210-420	0	0				Tp	ms a3
300	MZ			grbr	r	2	210-420	0	0				Tp	ms a3
310	GZ			grbr	r		420-600	0	0				Tp	\$ Fe-coating
320	MZ			grbr	r	1	300-420	0	0				Tp	
330	MZ			grbr	r		300-420	0	0				Tp	Fe-coating
340	MZ			grbr	r		300-420	0	0				Tp	
350	MZ			grbr	r		210-300	0	0				Tp	ps
360	MZ			grbr	r		300-420	0	0				Tp	ps
370	GZ			grbr	r		420-600	0	0				Tp	ps
380	MZ			grbr	r		300-420	0	0				Tp	
390	GZ			grbr	r		600-850	0	0				Kb	ps
400	MZ			grbr	r		300-420	0	0				Kb	
410	MZ			grbr	r		300-420	0	0				Kb	
420	MZ			grbr	r		210-300	0	0				Kb	
430	MZ			brgr	r		300-420	0	0				Kb	
440	MZ			brgr	r		300-420	0	0				Kb	\$
450	MZ			brgr	r		210-300	1	0				Kb	\$
460	MZ			brgr	r		300-420	2	0				Kb	
470	MZ			brgr	r		210-300	2	0				Kb	
480	MZ			brgr	r		300-420	2	0				Kb	ms
490	MZ			brgr	r		300-420	2	0				Kb	
500	GZ			brgr	r		420-600	2	0				Kb	ms
510	MZ			dgr	r		150-300	2	0				Kb	/2
520	MZ			dgr	r		150-300	2	0				Kb	
530	MZ			dgr	r		150-300	2	0				Kb	
540	MZ			dgr	r		150-300	2	0				Kb	ms
550	MZ			dgr	r		150-300	2	0				Kb	ms
560	MZ			dgr	r		210-300	2	0				Kb	a3
570	MZ			dgr	r		210-300	2	0				Kb	/3 ws a3
580	MZ			grbr	r		210-300	2	0				Kb	ms a3
590	MZ			grbr	r		210-300	2	0				Kb	\$ ms a3 END

Einde boring 200702010



Boorpunt: 200702011

Namen: KMC

Jaar: 2007

Groep: 02

Datum: 1-11-2007

Coördinaten		Hoogte		Diepte		KAARTEENHEID		Geomorfogenetische kaart:		Ed1
Xco	Yco	Z [m +/- NAP]		cm - mv			Geologische kaart:	Gondwatertrap:		
211145	461109	7.65		590			Begroeiingskaart:	Bodemkaart:		

EPE=4

Diepte	Textuur	Org	Plr	Kleur	RedOx	Grind	M50	Ca	Fe	GW	M	LKL	Strat	Bijzonder
10	ILZ			dbr	o			0	0				Td	ger
20	ILZ			dbr	o			0	0				Td	ger
30	ILZ			dbr	o			0	0				Td	ger
40	ILZ			br	o			0	0				Td	
50	ILZ			br	o			0	1				Td	
60	ILZ			br	o			0	2				Td	
70	ILZ			br	o			0	2				Td	
80	ZFZ			lbr	o		105-150	0	2				Td	
90	ZFZ			lbrgr	or		105-150	0	2				Td	
100	ZFZ			lbrgr	or		105-150	0	2				Td	
110	ZFZ			lorgr	or		105-150	0	2				Td	
120	ZFZ			lorgr	or		105-150	0	2				Td	
130	ZFZ			lorgr	or		105-150	0	2				Td	
140	ZFZ			lorgr	or		105-150	0	2				Td	
150	ILZ			lorgr	or		105-150	0	2				Td	
160	ILZ			lorgr	or		105-150	0	2				Tp	
170	ILZ			lorgr	or		150-210	0	2				Tp	
180	ILZ			lorgr	or		150-210	0	2				Tp	
190	ILZ			lorgr	or		150-210	0	2				Tp	
200	ILZ			lorgr	or		150-210	0	2				Tp	
210	ILZ			lorgr	or		150-210	0	2				Tp	
220	ILZ			brgr	or		150-210	1	2				Tp	
230	LZ			brgr	or		105-150	0	1				Tp	
240	ILZ			brgr	or		150-210	0	0				Tp	
250	MZ			brgr	or		210-300	0	0				Tp	ws
260	MZ			brgr	or		210-300	0	0				Tp	ws
270	MZ			brgr	or		210-300	0	0	GW			Tp	ws
280	MZ			brgr	r		300-420	0	0				Tp	ms
290	MZ			brgr	r		300-420	0	0				Tp	ms
300	MZ			brgr	r		300-420	0	0				Tp	\$ ps
310	MZ			lbrgr	r		300-420	0	0				Tp	
320	MZ			lbrgr	r	2	300-420	0	0				Tp	grindlag
330	MZ			lbrgr	r		210-300	2	0				Kb	ms
340	GZ			lbrgr	r		420-600	2	0				Kb	ms
350	MZ			lbrgr	r		300-420	2	0				Kb	ms
360	MZ			lbrgr	r		300-420	2	0				Kb	ms
370	MZ			lbrgr	r		300-420	2	0				Kb	ms
380	MZ			gr	r		210-300	2	0				Kb	ms
390	MZ			gr	r		210-300	2	0				Kb	ms
400	MZ			gr	r		210-300	2	0				Kb	ms
410	ILZ			gr	r		150-210	2	0				Kb	ms
420	ILZ			gr	r		150-210	2	0				Kb	ms
430	FZ			gr	r		150-210	2	0				Kb	ms
440	MZ			gr	r		300-420	2	0				Kb	
450	GZ			gr	r		420-600	2	0		1		Kb	vps Org. inspoeling
460	MZ			lgrbr	r		300-420	2	0				Kb	ps
470	GZ			lgrbr	r	2	420-600	2	0				Kb	vps
480	MZ			lgrbr	r		300-420	2	0				Kb	oplossende
490	MZ			gr	r		210-300	2	2				Kb	Fe-frontje, Fe-concr
500	MZ			gr	r		210-300	2	0				Kb	veel glimmer
510	MZ			gr	r		210-300	2	0				Kb	veel glimmer
520	GZ			lbrgr	r		420-600	2	0				Kb	ps
530	GZ			lbrgr	r		420-600	2	0				Kb	ps
540	GZ			lbrgr	r		420-600	2	0				Kb	ps
550	MZ			dgr	r		210-300	2	0				Kb	
560	MZ			dgr	r		300-420	2	0				Kb	
570	MZ			dgr	r		300-420	2	0				Kb	
580	MZ			dgr	r		300-420	2	0				Kb	
590	MZ			dgr	r		300-420	2	0				Kb	\$ END

Einde boring 200702011

Boorpunt: 200702012

Namen: Rena KMC

Jaar: 2007

Groep: 02

Datum: 1-11-2007

Coördinaten		Hoogte	Diepte	KAARTEENHEID	Geomorfogenetische kaart:	Ed1
Xco	Yco	Z [m +/- NAP]	cm - mv	Geologische kaart:	Gondwatertrap:	
211257	461128	7.5	590	Begroeiingskaart:	Bodemkaart:	

Zutphen														
Diepte	Textuur	Org	Plr	Kleur	RedOx	Grind	M50	Ca	Fe	GW	M	LKL	Strat	Bijzonder
10	ILZ			dbr				0	0					ger bst.
20	ILZ			dbr				0	0					ger bst.
30	ILZ			dbr				0	0					ger bst.
40	ILZ			dbr				0	0					ger bst.
50	ILZ			dbr				0	0					ger bst.
60	ILZ			dbr				0	0					ger bst.
70	ILZ			dbr				0	0					ger bst.
80	ILZ			br				0	0				Td	
90	ILZ			br				0	0				Td	
100	ZFZ			br			105-150	0	1				Td	
110	ZFZ			brgr			105-150	0	1				Td	
120	ZFZ			brgr			105-150	0	1				Td	
130	ZFZ			brgr			105-150	0	1				Td	
140	LL			brgr				0	1				Td	
150	ULZ			brgr				0	1				Td	
160	ILZ			brgr				0	1				Td	
170	ILZ			brgr				0	1				Td	ms
180	FZ			brgr			150-210	1	1				Tp	
190	FZ			lgr			150-210	0	1				Tp	
200	FZ			lgr			150-210	0	0				Tp	
210	FZ			lgr			150-210	0	0				Tp	
220	FZ			lgr			150-210	0	0				Tp	
230	FZ			lgr			150-210	0	0				Tp	
240	FZ			gr			150-210	0	0				Tp	toename augiet
250	FZ			gr			150-210	0	0				Tp	
260	FZ			lbrgr			150-210	0	0				Tp	
270	FZ			lbrgr			150-210	0	0	GW			Tp	
280	GZ			lbrgr			420-600	0	0				Tp	ps
290	MZ			lbrgr			300-420	0	0				Tp	\$ms
300	GZ			lbrgr			420-600	0	0				Tp	
310	MZ			lbrgr			300-420	0	0				Tp	
320	GZ			lbrgr			420-600	0	0				Tp	
330	GZ			lbrgr			600-850	0	0				Tp	
340	GZ			lbrgr			420-600	0	0				Kb	ps
350	GZ			lbrgr			420-600	0	0				Kb	ps
360	GZ			lbrgr		1	420-600	0	0				Kb	ps
370	GZ			lbrgr			420-600	0	0				Kb	ps
380	MZ			lbrgr			300-420	0	0				Kb	ps
390	GZ			lbrgr			420-600	0	0				Kb	ps
400	GZ			gr			600-850	0	0				Kb	
410	MZ			gr			300-420	0	0				Kb	
420	MZ			gr			300-420	0	0				Kb	
430	MZ			gr			300-420	0	0				Kb	
440	GZ			gr		2	420-600	0	0				Kb	FU <10 cm
450	GZ			gr		2	420-600	0	0				Kb	\$
460	MZ			gr			210-300	0	0				Kb	\$
470	MZ			gr			300-420	0	0				Kb	
480	MZ			gr			300-420	0	0				Kb	
490	GZ			gr		1	420-600	0	0				Kb	vps
500	MZ			gr			300-420	0	0				Kb	
510	MZ			brgr			210-300	0	0				Kb	
520	MZ			brgr			300-420	0	0				Kb	
530	GZ			brgr			600-850	0	0				Kb	ps
540	GZ			gr			1000-1400	0	0				Kb	vps FG 1.5cm
550	GZ			gr			420-600	0	0				Kb	Fe-coating vps FOTOS
560	GZ		plr	gr		5	850-1000	0	0		1		Kb	plr bandje /1
570	FZ			dgr			150-210	2	0				Kb	.5 cm klei
580	MZ			dgr			300-420	2	0				Kb	
590	GZ			gr			420-600	2	0				Kb	\$

Einde boring 200702012

Boorpunt: 200702013

Namen: KMC

Jaar: 2007

Groep: 02

Datum: 1-11-2007

Coördinaten		Hoogte		Diepte		KAARTEENHEID		Geomorfogenetische kaart:		Ed1
Xco	Yco	Z [m +/- NAP]		cm - mv			Geologische kaart:	Gondwatertrap:		
211285	460979	7.6		590			Begroeiingskaart:	Bodemkaart:		

EPE=4m														
Diepte	Textuur	Org	Plr	Kleur	RedOx	Grind	M50	Ca	Fe	GW	M	LKL	Strat	Bijzonder
10				dbr	o			0	0					
20				dbr	o			0	0					opgebracht
30				dbr	o			0	0					
40				dbr	o			0	0					
50	ILZ			dbr	o			0	0				Td	
60	ILZ			br	o			0	0				Td	
70	LZ			br	o			0	0				Td	
80	LZ			br	o			0	0				Td	
90	FZ			gegr	o		150-210	0	1				Td	
100	FZ			gegr	o		150-210	0	1				Td	
110	FZ			lgegr	o		150-210	0	1				Td	
120	FZ			lgegr	o		150-210	0	1				Td	
130	ZFZ			lgegr	o		105-150	0	1				Td	ws a4
140	ZFZ			lgegr	o		105-150	0	1				Td	
150	ZFZ			lgegr	or		105-150	0	1				Td	
160	ZFZ			lgegr	or		105-150	0	1				Td	ws a4
170	ZFZ			lgegr	or		105-150	0	1				Td	
180	FZ			lgegr	or		150-210	0	1				Td	
190	MZ			lgegr	or		210-300	0	1				Tp	
200	MZ			lgegr	or		300-420	0	2				Tp	ms a3
210	ILZ			lgegr	or		210-300	0	2				Tp	
220	ILZ			lgegr	or		210-300	0	0				Tp	a3
230	MZ			lgegr	or		210-300	0	0				Tp	
240	MZ			lgegr	or	5	210-300	0	0				Tp	ps GG
250	MZ			lgegr	or	5	210-300	0	0				Tp	ps GG
260	MZ			brgr	or	2	210-300	0	0				Tp	ms a3
270	MZ			brgr	or		210-300	0	0				Tp	ms
280	MZ			brgr	or	2	210-300	0	0				Tp	
290	MZ			brgr	or		210-300	0	0				Tp	
300	MZ			brgr	r	2	210-300	0	0				Tp	\$
310	MZ			brgr	r	1	300-420	0	0				Tp	
320	MZ			brgr	r		300-420	0	0				Tp	enkel FG
330	MZ			brgr	r		210-300	0	0				Tp	
340	GZ			brgr	r		420-600	0	0				Tp	
350	GZ			brgr	r		420-600	0	0				Tp	
360	GZ			brgr	r	8	600-850	0	0				Tp	
370	MZ			gr	r		300-420	0	0				Kb	
380	MZ			gr	r		300-420	0	0				Kb	
390	MZ			gr	r		300-420	0	0				Kb	
400	GZ			gr	r		420-600	0	0				Kb	\$
410	MZ			gr	r		300-420	2	0				Kb	
420	GZ			gr	r		420-600	2	0				Kb	
430	GZ			gr	r		420-600	2	0				Kb	
440	GZ			gr	r		420-600	2	0				Kb	
450	GZ			gr	r		420-600	2	0				Kb	
460	GZ			gr	r		420-600	2	0				Kb	
470	GZ			gr	r	4	600-850	2	0				Kb	verst plr
480	MZ			gr	r		210-300	2	0				Kb	
490	MZ			gr	r		300-420	2	0				Kb	
500	GZ			gr	r		420-600	2	0				Kb	
510	GZ			gr	r	1	420-600	2	0				Kb	vps
520	GZ			gr	r		420-600	2	0				Kb	
530	GZ			gr	r		420-600	2	0				Kb	
540	GZ			gr	r		420-600	2	0				Kb	vps
550	GZ			gr	r	1	420-600	2	0				Kb	ms
560	GZ			dgr	r		420-600	2	0				Kb	ms
570	GZ			dgr	r		420-600	2	0				Kb	
580	MZ			dgr	r		300-420	2	0				Kb	
590	MZ			dgr	r		210-300	2	0				Kb	\$ END

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