Consolidatie aspecten bij het ontwerp van bergingslocaties voor verontreinigde baggerspecie

Supplement bij Afstudeerverslag

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Augustus 1997

TU Delft
Technische Universiteit Delft

Faculteit der Civiele Techniek
Vakgroep Waterbouwkunde
Sectie Geotechniek

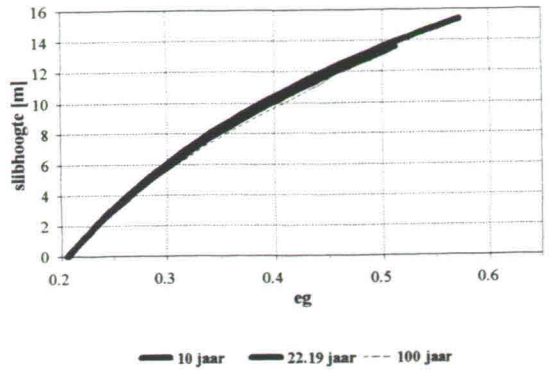
Inhoudsopgave

A Gevoeligheidsanalyse e_{set}

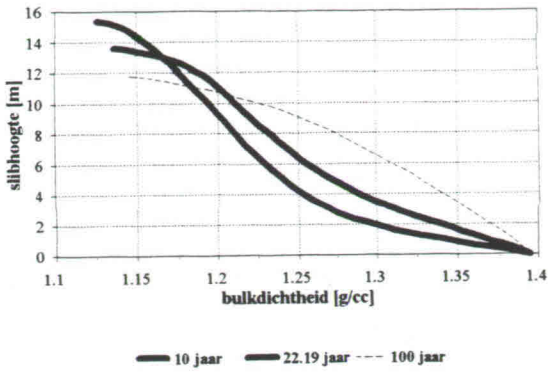
A.1 Profielen parameter sets direct methode

Slufter zuid

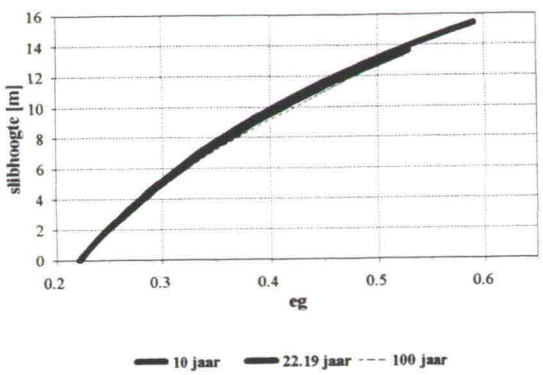
operatieve spanning = 0.1 kPa



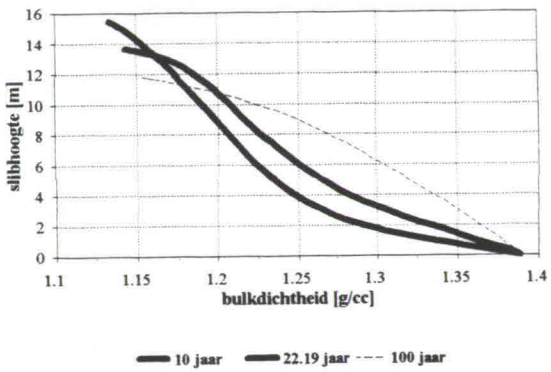
operatieve spanning = 0.1 kPa



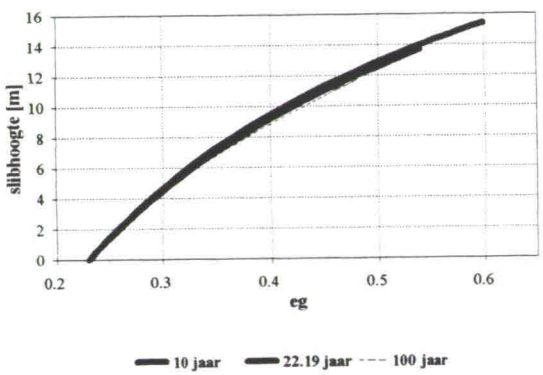
operatieve spanning = 0.3 kPa



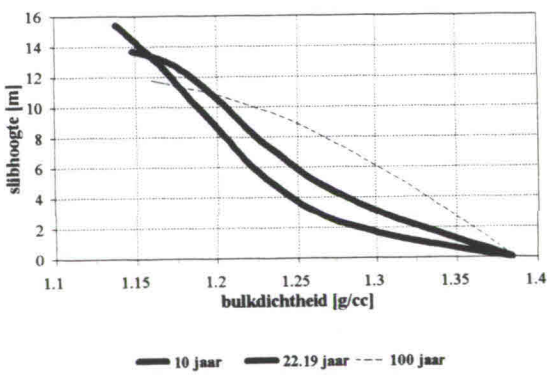
operatieve spanning = 0.3 kPa



operatieve spanning = 0.5 kPa



operatieve spanning = 0.5 kPa



INPUT:

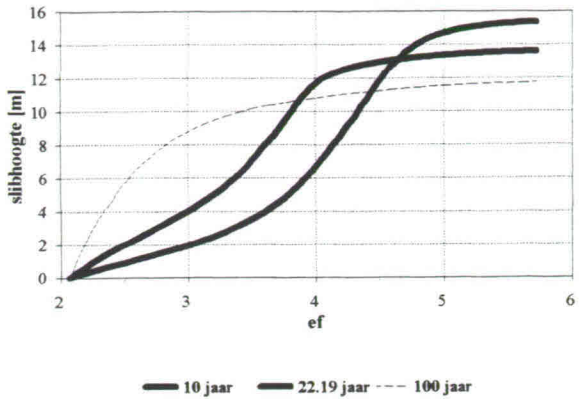
number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	5.73	2	5.73		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	12.93	-7.15	1.54	-0.132	
permeability parameters:	-25.1	1.64	0.021	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	1.5	0.0333	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

GEVOELIGHEIDSANALYSE:

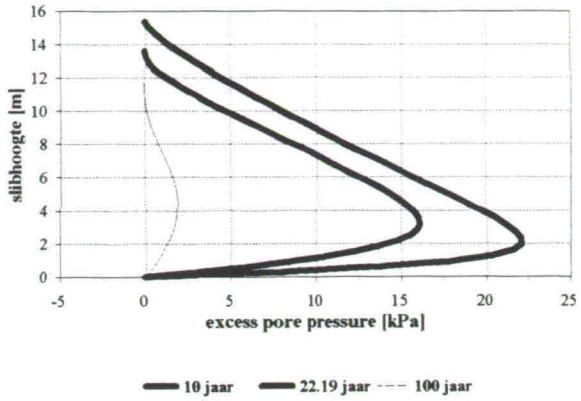
op.spann. = 0.1 kPa	->	e_set =	5.73
op.spann. = 0.3 kPa	->	e_set =	5.22
op.spann. = 0.5 kPa	->	e_set =	4.92

Slufter zuid

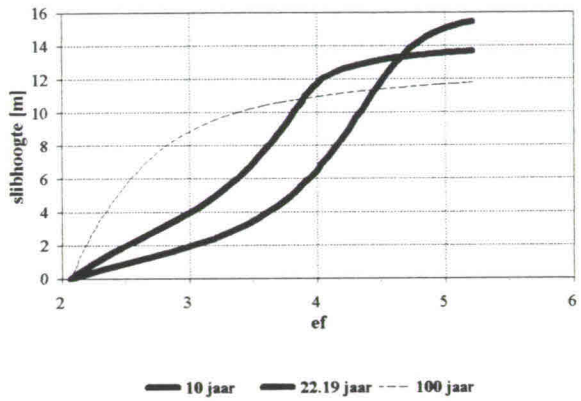
operatieve spanning = 0.1 kPa



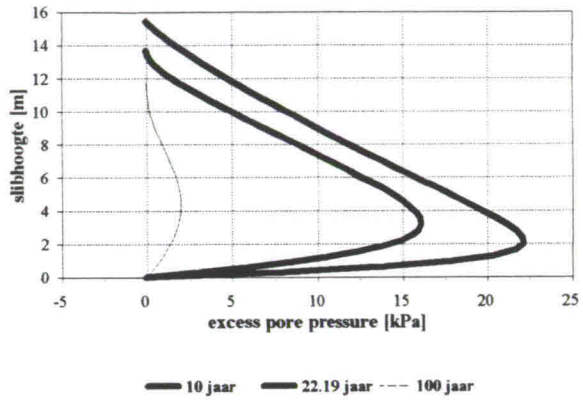
operatieve spanning = 0.1 kPa



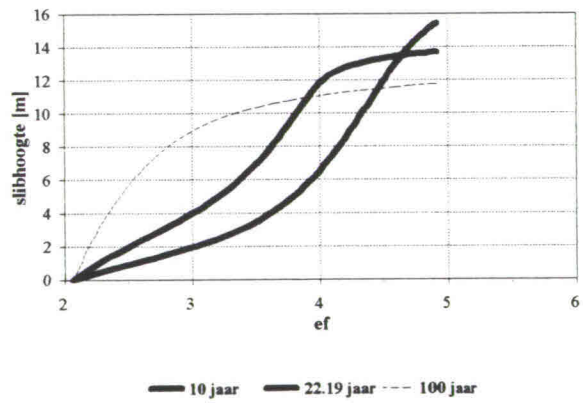
operatieve spanning = 0.3 kPa



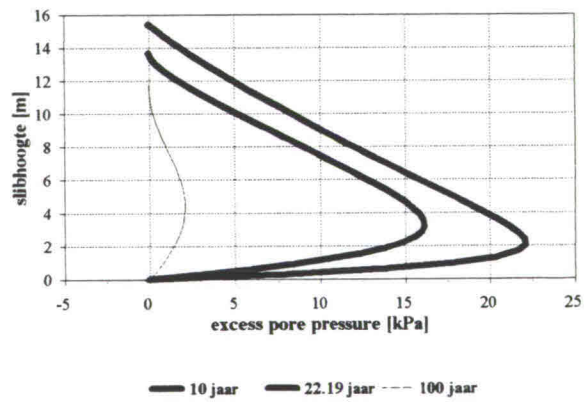
operatieve spanning = 0.3 kPa



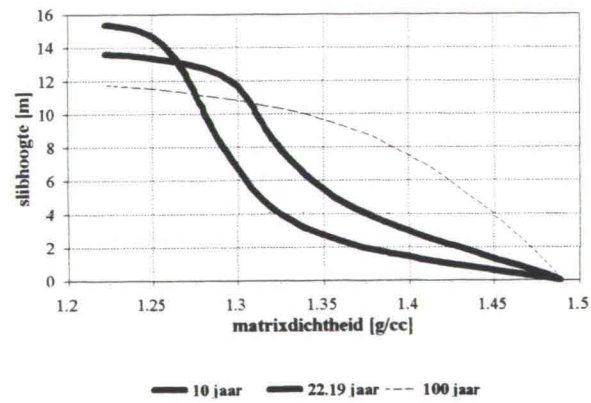
operatieve spanning = 0.5 kPa



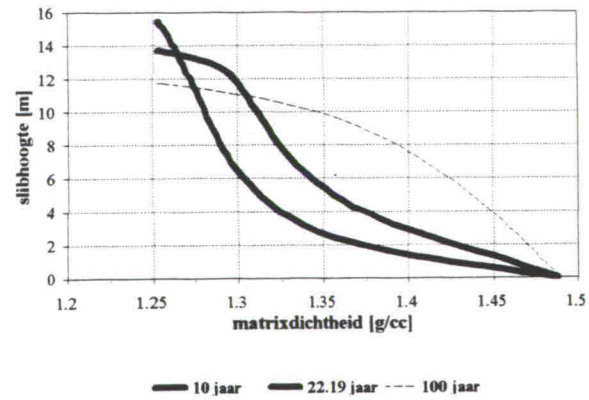
operatieve spanning = 0.5 kPa



operatieve spanning = 0.1 kPa



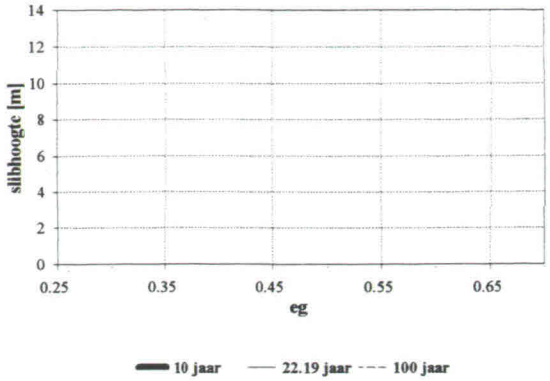
operatieve spanning = 0.5 kPa



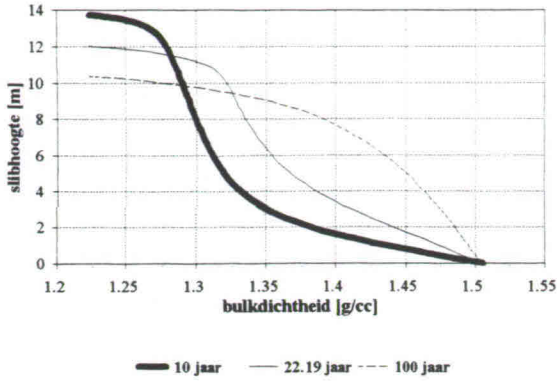
Slufter zuid

zonder gas

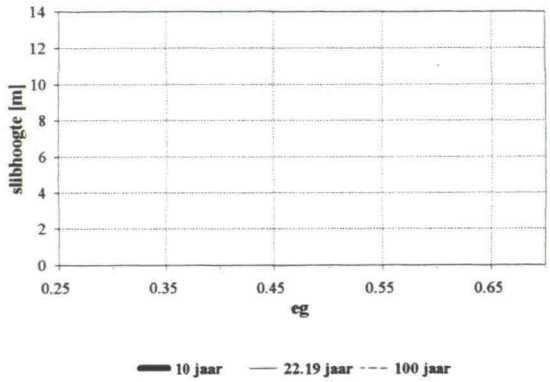
operatieve spanning = 0.1 kPa



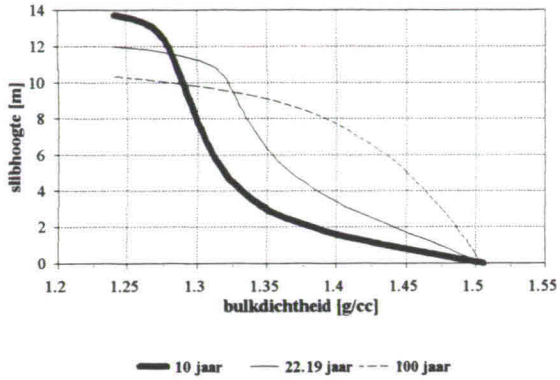
operatieve spanning = 0.1 kPa



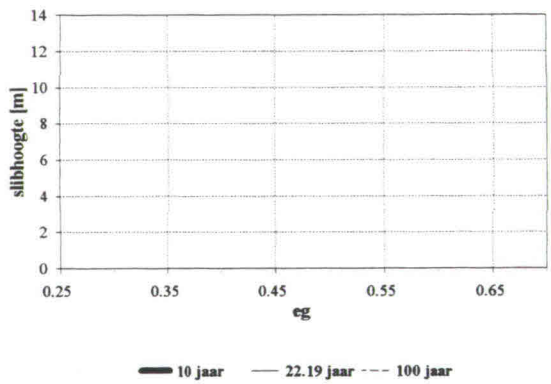
operatieve spanning = 0.3 kPa



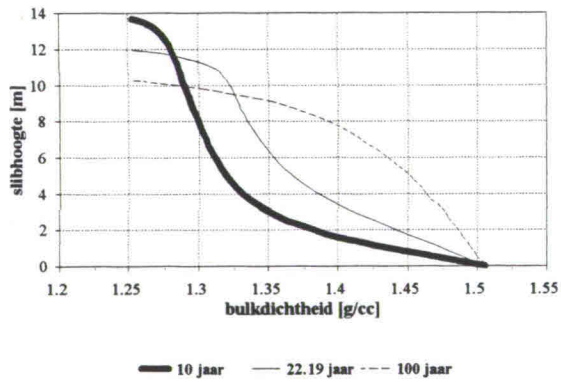
operatieve spanning = 0.3 kPa



operatieve spanning = 0.5 kPa



operatieve spanning = 0.5 kPa



INPUT:

number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	5.73	2	5.73		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	12.93	-7.15	1.54	-0.132	
permeability parameters:	-25.1	1.64	0.021	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	0	0	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

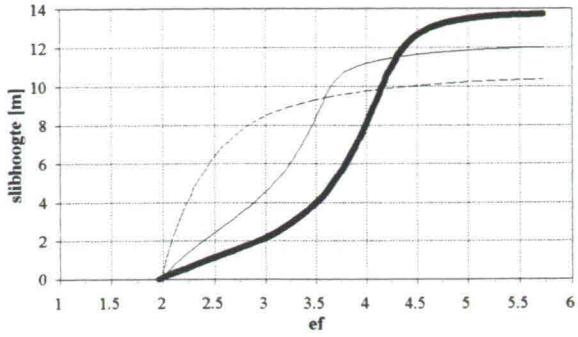
GEVOELIGHEIDSANALYSE:

op.spann. = 0.1 kPa	->	e_set =	5.73
op.spann. = 0.3 kPa	->	e_set =	5.22
op.spann. = 0.5 kPa	->	e_set =	4.92

Slufter zuid

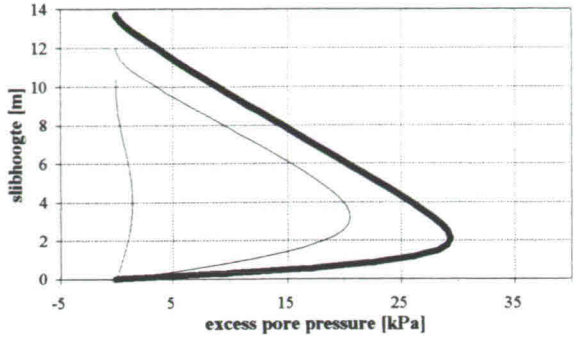
zonder gas

operatieve spanning = 0.1 kPa



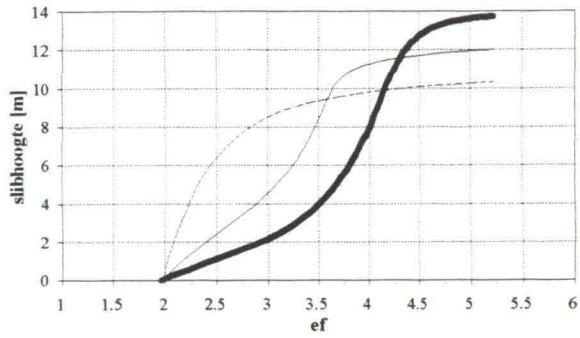
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.1 kPa



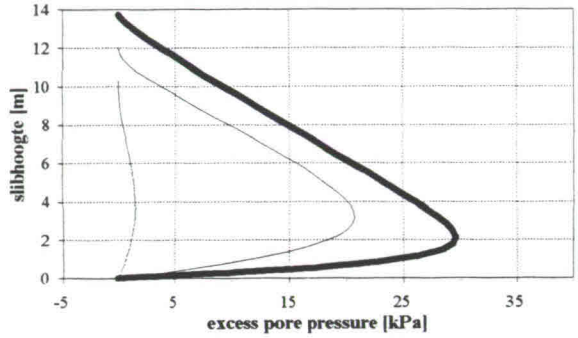
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.3 kPa



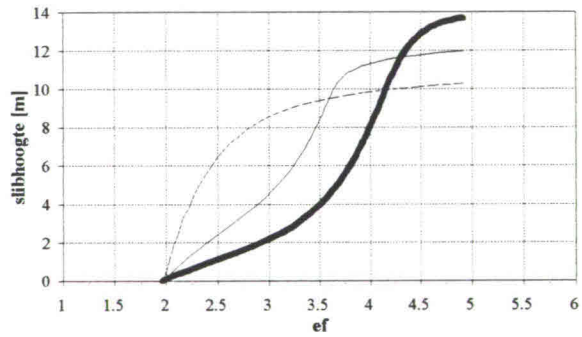
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.3 kPa



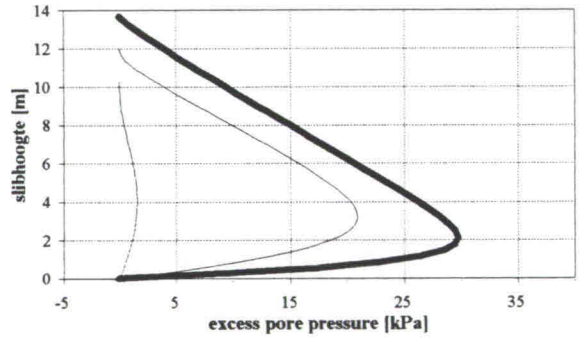
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.5 kPa



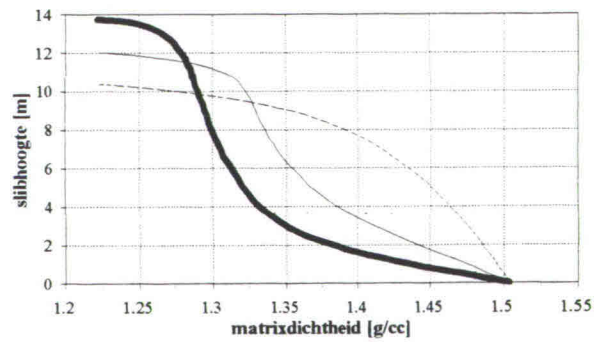
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.5 kPa



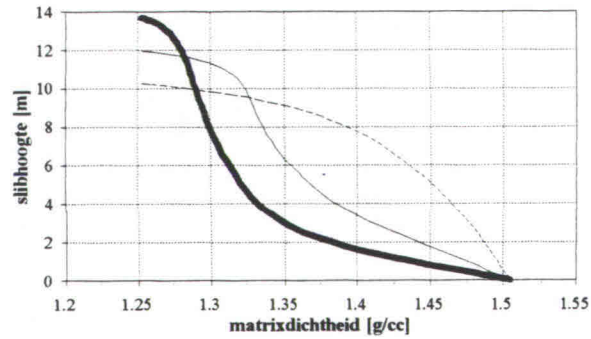
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.1 kPa



10 jaar — 22.19 jaar --- 100 jaar

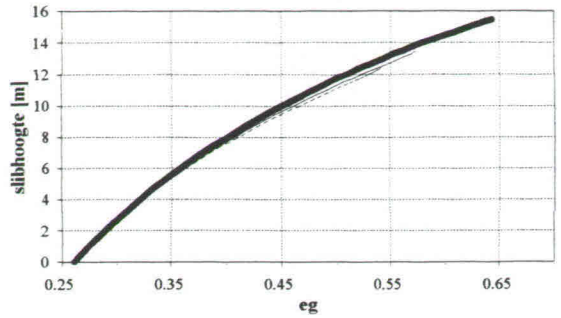
operatieve spanning = 0.5 kPa



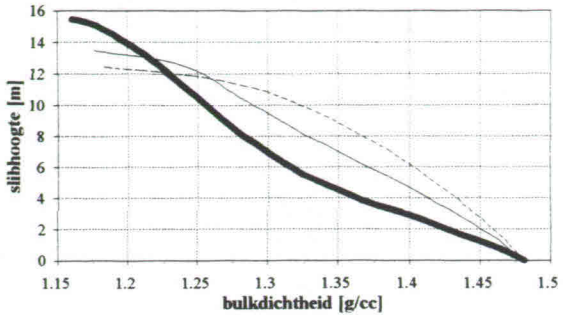
10 jaar — 22.19 jaar --- 100 jaar

mengmonster 20 Ketelmeer

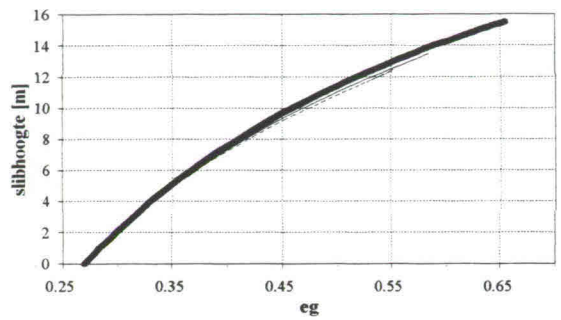
operatieve spanning = 0.1 kPa



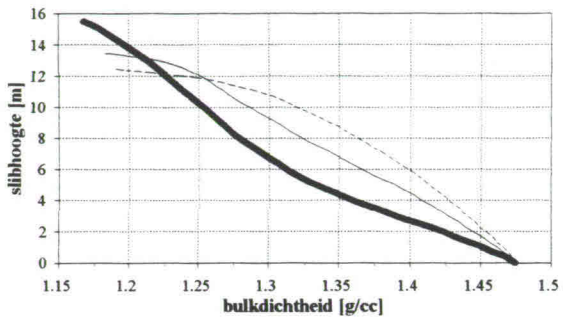
operatieve spanning = 0.1 kPa



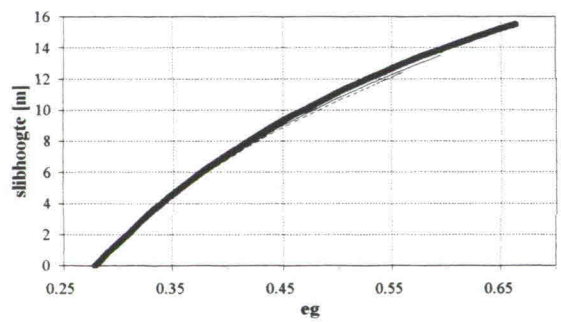
operatieve spanning = 0.3 kPa



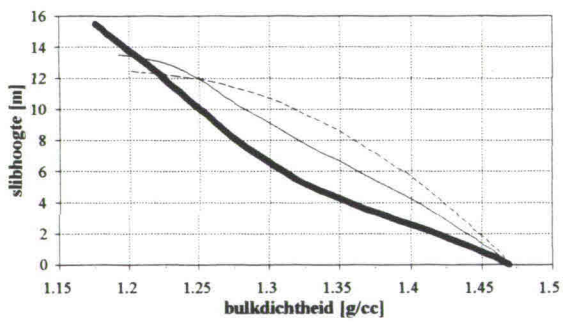
operatieve spanning = 0.3 kPa



operatieve spanning = 0.5 kPa



operatieve spanning = 0.5 kPa



INPUT:

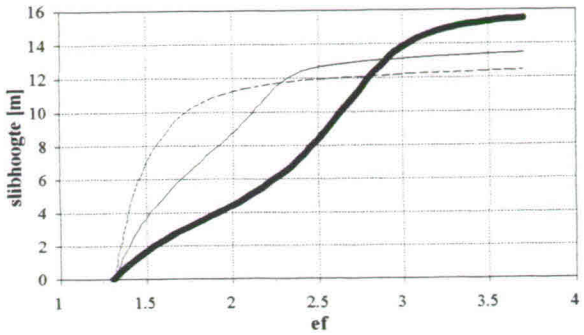
number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	3.7	2	3.7		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	19	-18.5	6.33	-0.777	
permeability parameters:	-24.6	2.95	-0.135	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	1.5	0.0333	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

GEVOELIGHEIDSANALYSE:

op.spann. = 0.1 kPa	->	e_set = 3.7
op.spann. = 0.3 kPa	->	e_set = 3.4
op.spann. = 0.5 kPa	->	e_set = 3.1

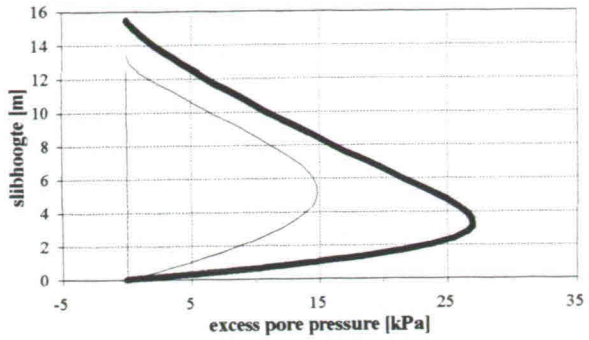
mengmonster 20 Ketelmeer

operatieve spanning = 0.1 kPa



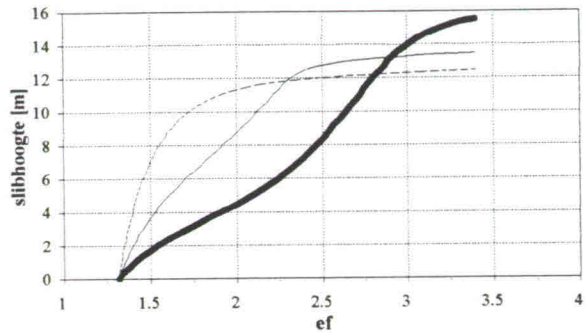
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.1 kPa



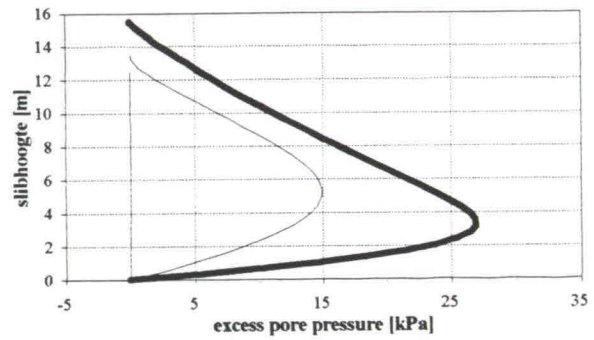
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.3 kPa



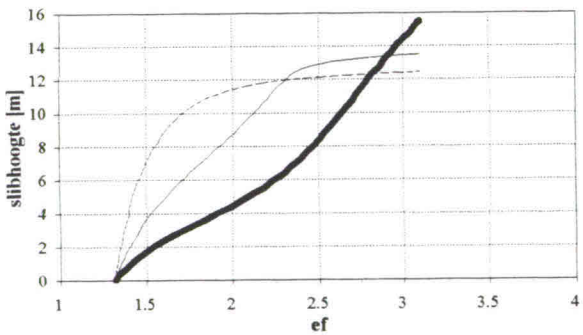
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.3 kPa



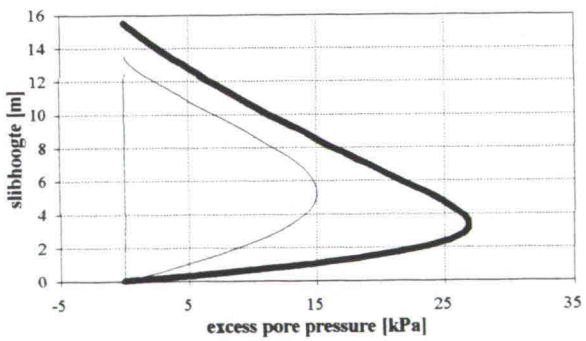
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.5 kPa



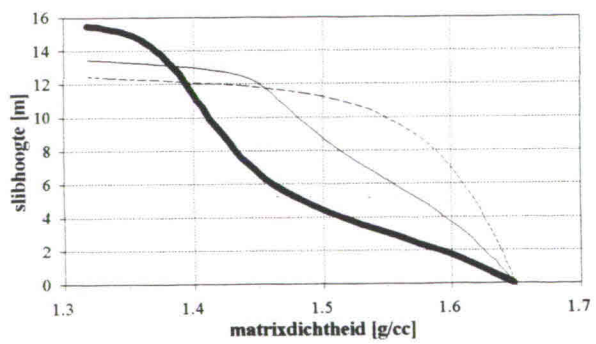
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.5 kPa

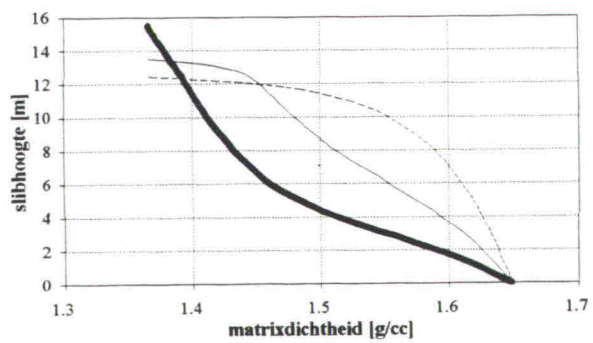


10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.1 kPa



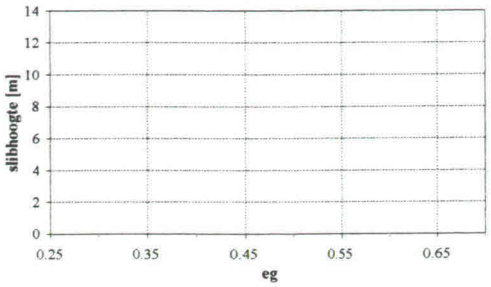
operatieve spanning = 0.5 kPa



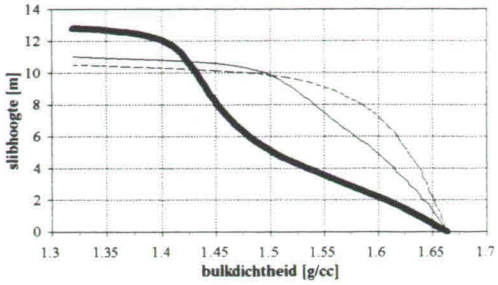
mengmonster 20 Ketelmeer

zonder gas

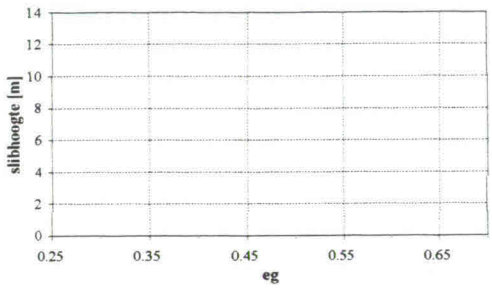
operatieve spanning = 0.1 kPa



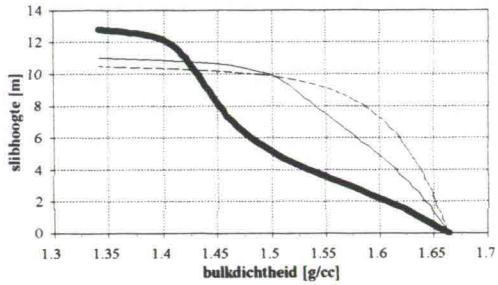
operatieve spanning = 0.1 kPa



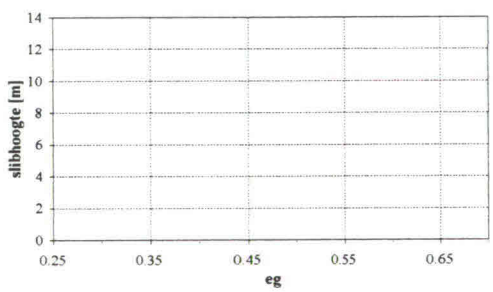
operatieve spanning = 0.3 kPa



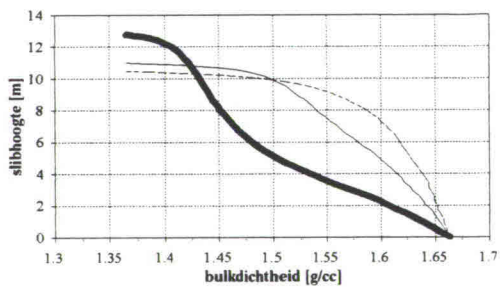
operatieve spanning = 0.3 kPa



operatieve spanning = 0.5 kPa



operatieve spanning = 0.5 kPa



INPUT:

number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	3.7	2	3.7		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	19	-18.5	6.33	-0.777	
permeability parameters:	-24.6	2.95	-0.135	0	
gamma_s; gamma_f; e_g*atm; H:	25	10	0	0	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

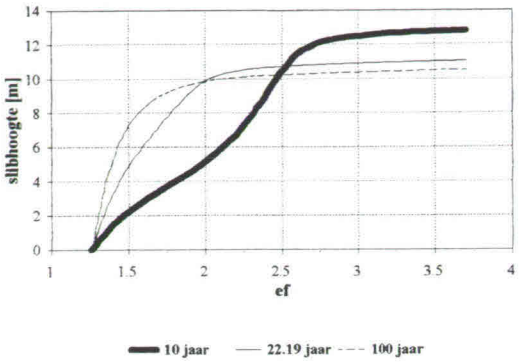
GEVOELIGHEIDSANALYSE:

op.spann. = 0.1 kPa	->	e_set =	3.7
op.spann. = 0.3 kPa	->	e_set =	3.4
op.spann. = 0.5 kPa	->	e_set =	3.1

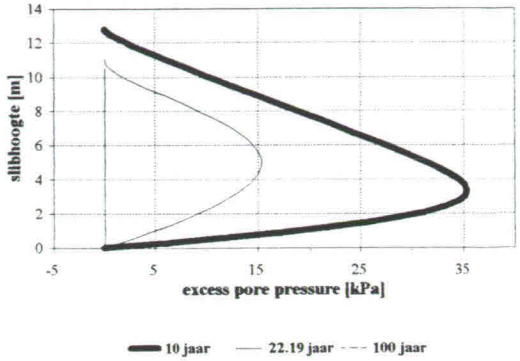
mengmonster 20 Ketelmeer

zonder gas

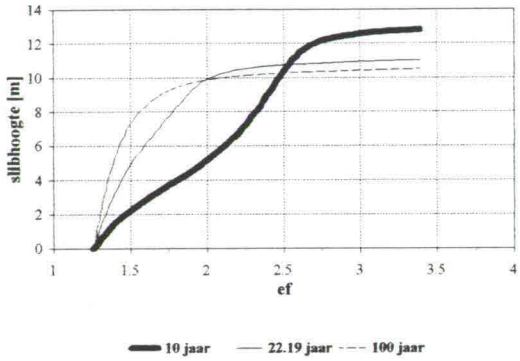
operatieve spanning = 0.1 kPa



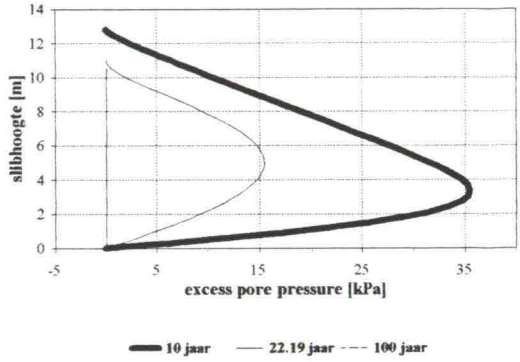
operatieve spanning = 0.1 kPa



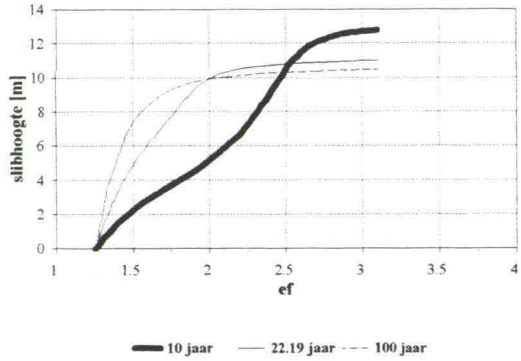
operatieve spanning = 0.3 kPa



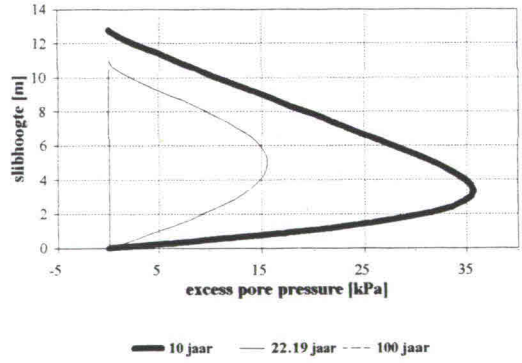
operatieve spanning = 0.3 kPa



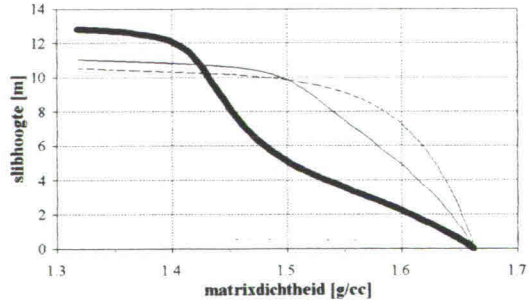
operatieve spanning = 0.5 kPa



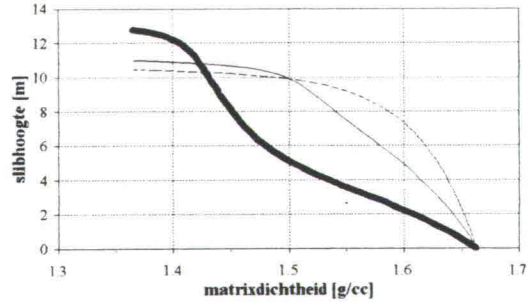
operatieve spanning = 0.5 kPa



operatieve spanning = 0.1 kPa

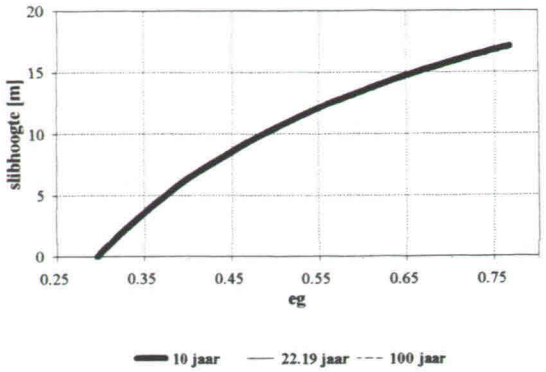


operatieve spanning = 0.5 kPa

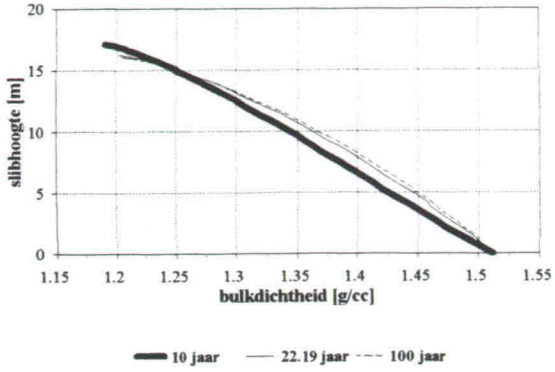


Ketelmeer K16a

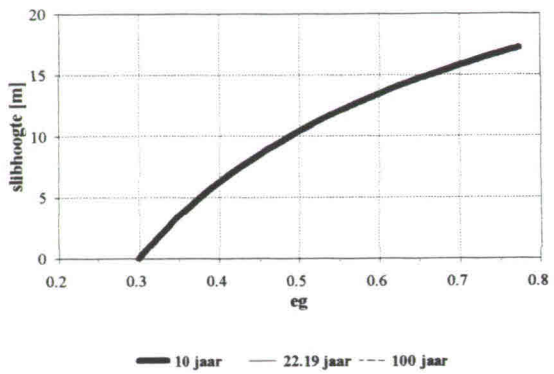
operatieve spanning = 0.3 kPa



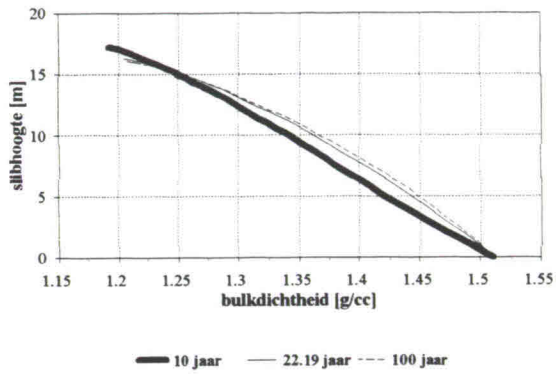
operatieve spanning = 0.3 kPa



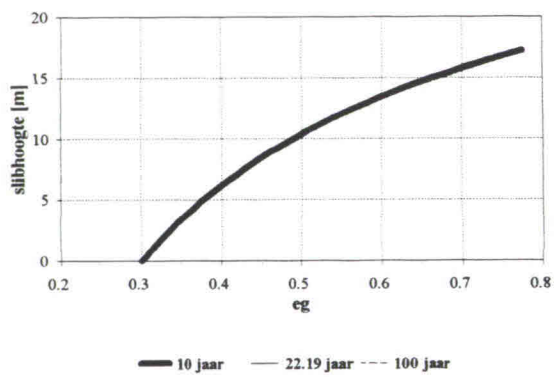
operatieve spanning = 0.4 kPa



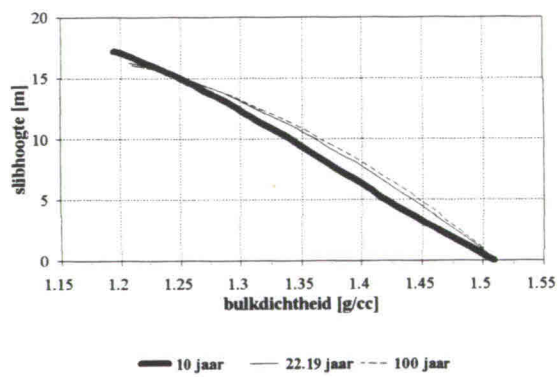
operatieve spanning = 0.4 kPa



operatieve spanning = 0.5 kPa



operatieve spanning = 0.5 kPa



INPUT:

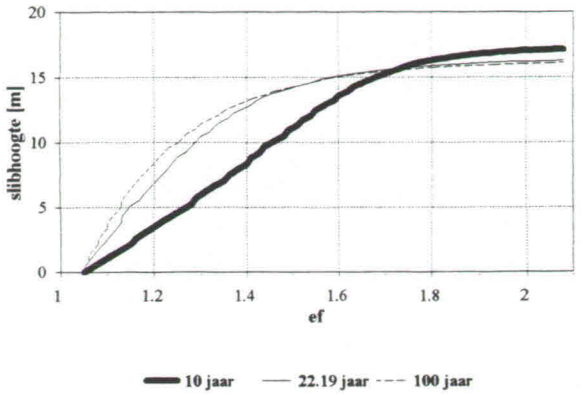
number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	2.33	2	2.08		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	12.9	-10.8	2.74	-0.39	
permeability parameters:	-27.3	6.48	-0.43	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	1.5	0.0333	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

GEVOELIGHEIDSANALYSE:

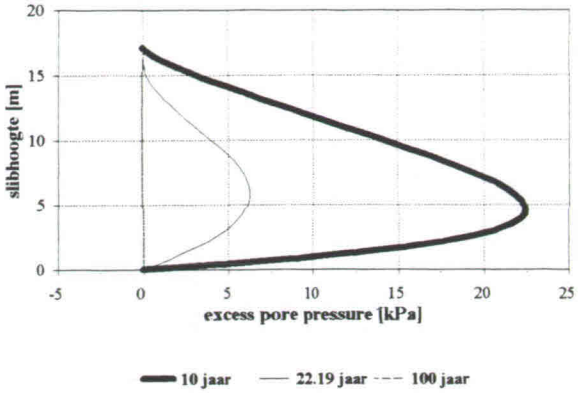
op.spann. = 0.3 kPa	->	e_set = 2.08
op.spann. = 0.4 kPa	->	e_set = 2.01
op.spann. = 0.5 kPa	->	e_set = 1.96

Ketelmeer K16a

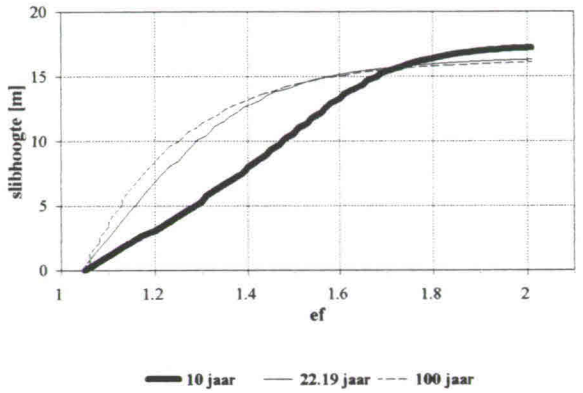
operatieve spanning = 0.3 kPa



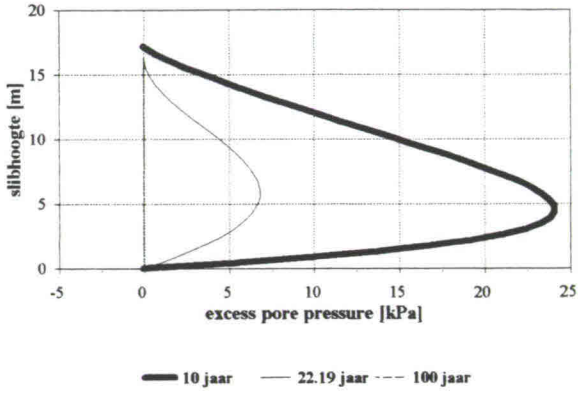
operatieve spanning = 0.3 kPa



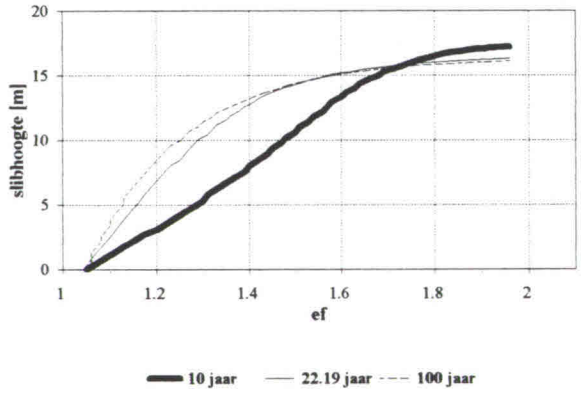
operatieve spanning = 0.4 kPa



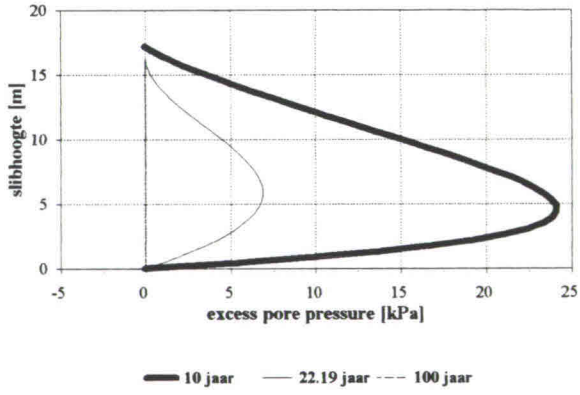
operatieve spanning = 0.4 kPa



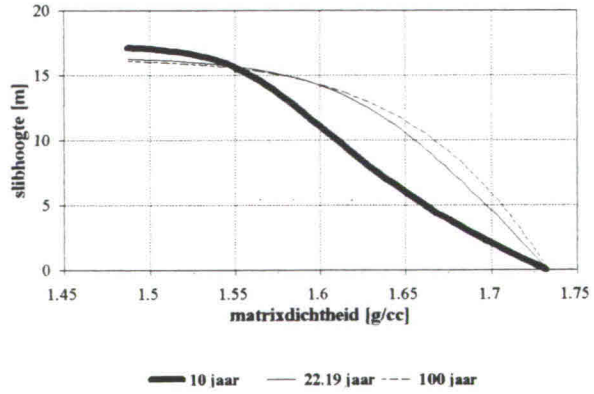
operatieve spanning = 0.5 kPa



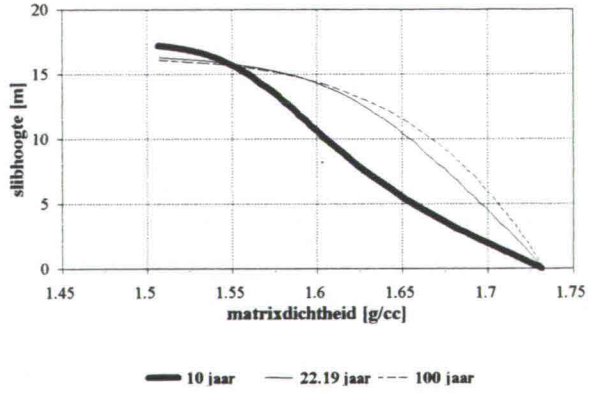
operatieve spanning = 0.5 kPa



operatieve spanning = 0.3 kPa



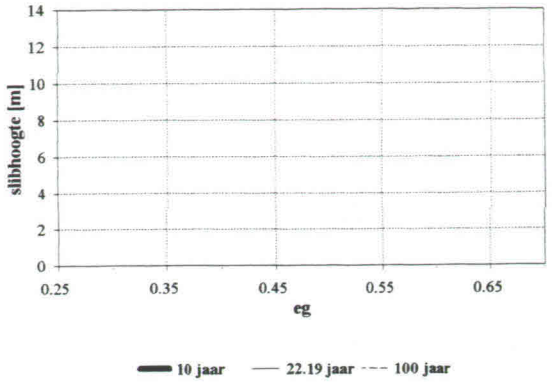
operatieve spanning = 0.5 kPa



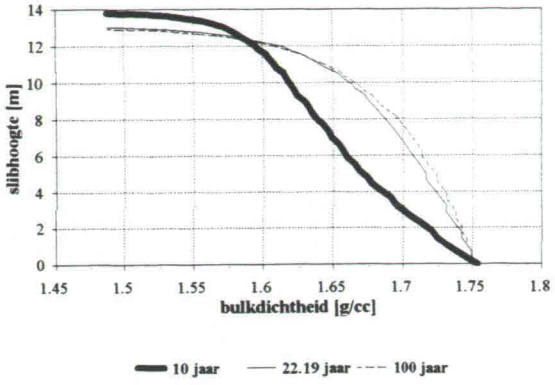
Ketelmeer K16a

zonder gas

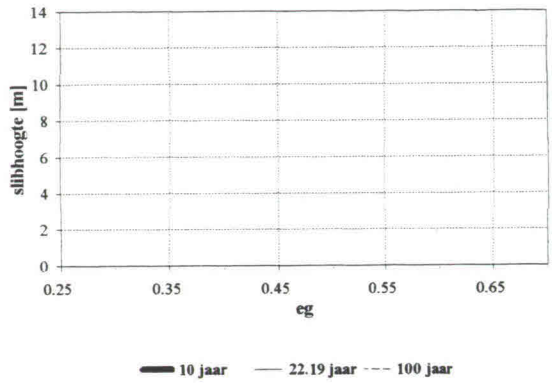
operatieve spanning = 0.3 kPa



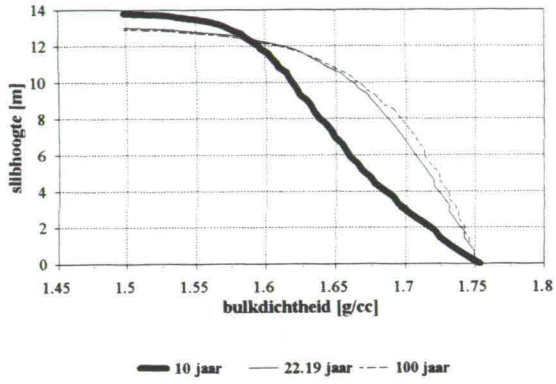
operatieve spanning = 0.3 kPa



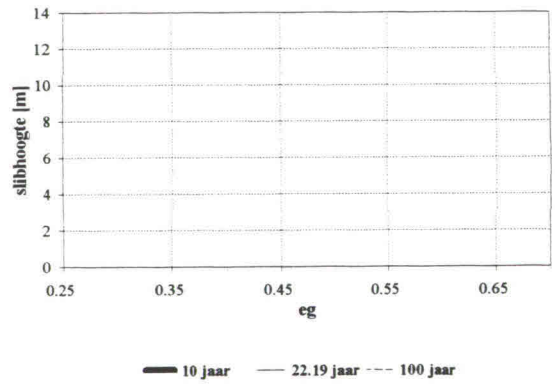
operatieve spanning = 0.4 kPa



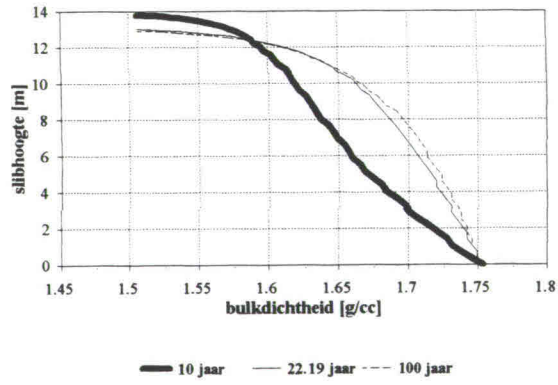
operatieve spanning = 0.4 kPa



operatieve spanning = 0.5 kPa



operatieve spanning = 0.5 kPa



INPUT:

number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	2.33	2	2.08		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	12.9	-10.8	2.74	-0.39	
permeability parameters:	-27.3	6.48	-0.43	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	0	0	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

GEVOELIGHEIDSANALYSE:

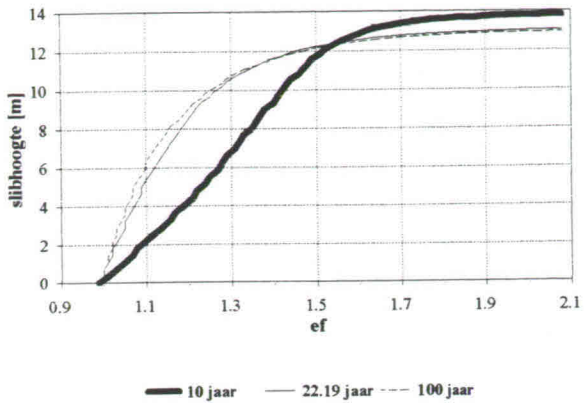
op.spann. = 0.3 kPa	->	e_set =	2.08
op.spann. = 0.4 kPa	->	e_set =	2.01
op.spann. = 0.5 kPa	->	e_set =	1.96

Berekeningen voor op.spann. = 0.3 resp. 0.4 kPa zij uitgevoerd met "fszwel" i.v.m. stabiliteit berekening.

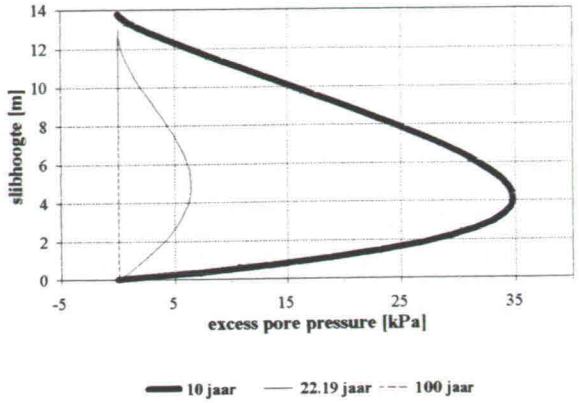
Ketelmeer K16a

zonder gas

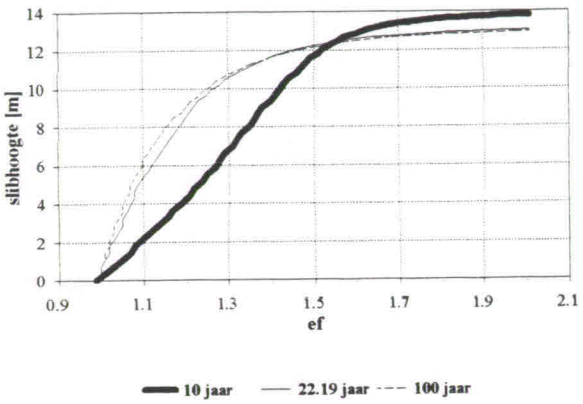
operatieve spanning = 0.3 kPa



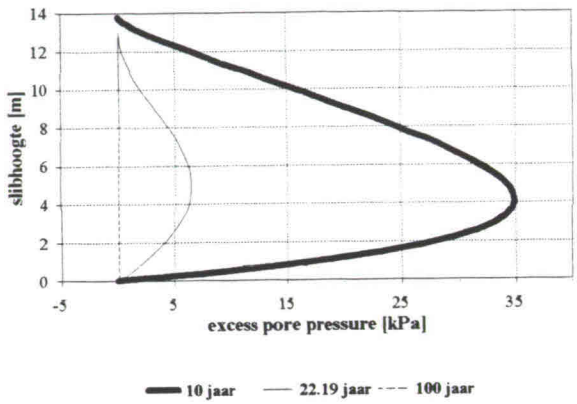
operatieve spanning = 0.3 kPa



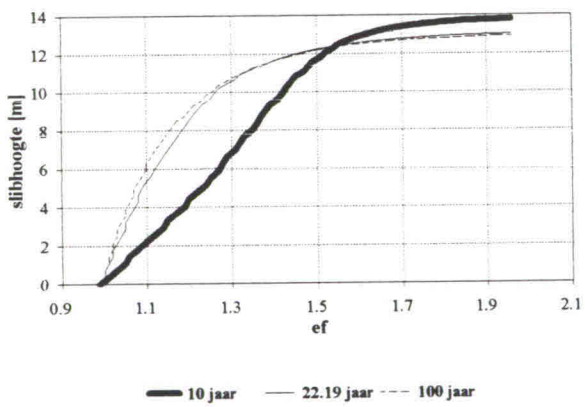
operatieve spanning = 0.4 kPa



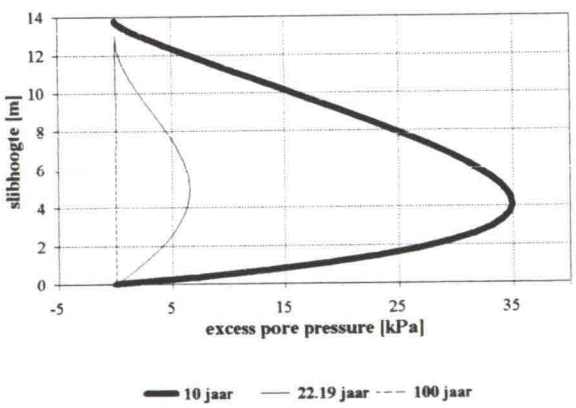
operatieve spanning = 0.4 kPa



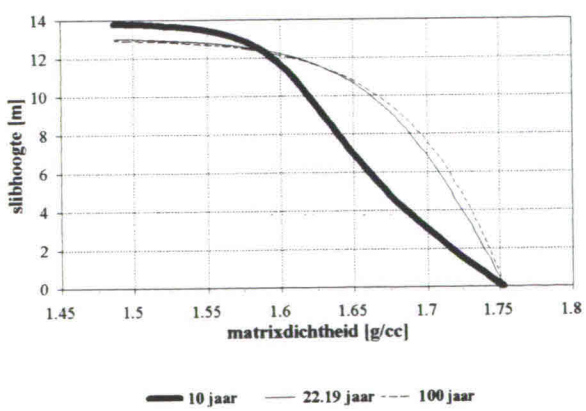
operatieve spanning = 0.5 kPa



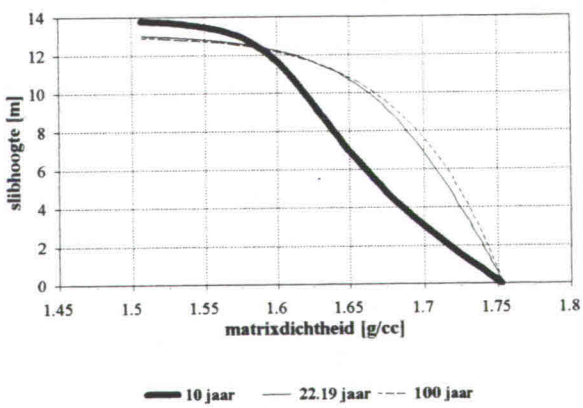
operatieve spanning = 0.5 kPa



operatieve spanning = 0.3 kPa



operatieve spanning = 0.5 kPa

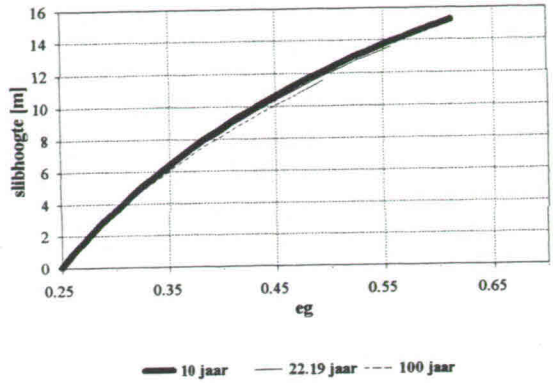


A.2 Profielen parameter sets lineair exponentieeel

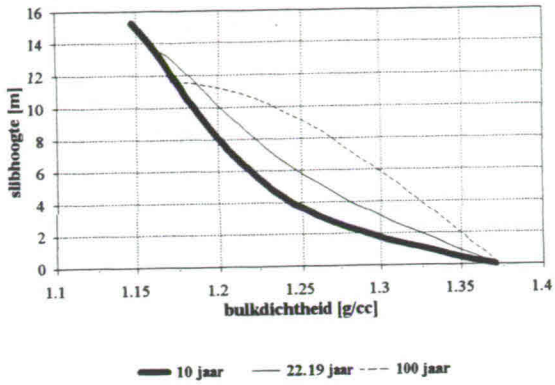
Slufter zuid

materiaalparameters lineair

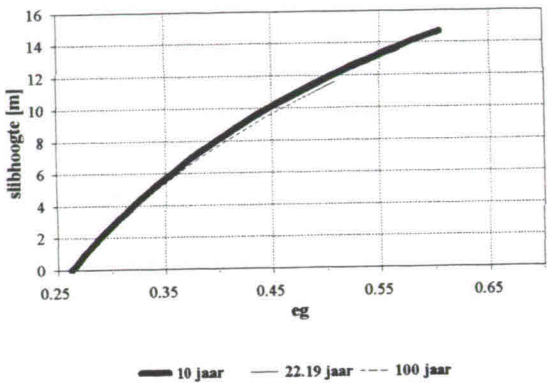
operatieve spanning = 0.1 kPa



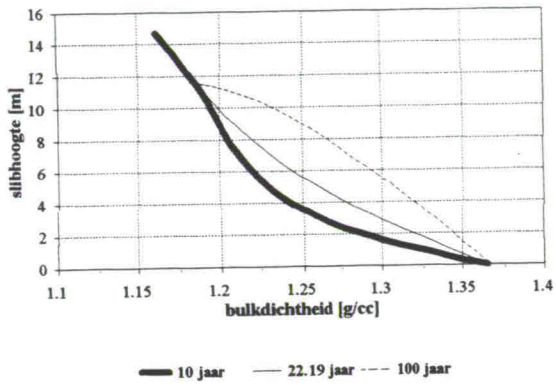
operatieve spanning = 0.1 kPa



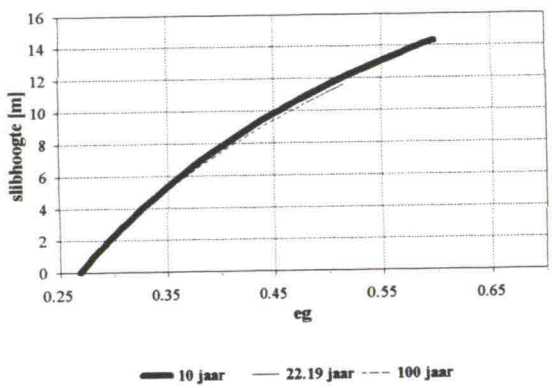
operatieve spanning = 0.3 kPa



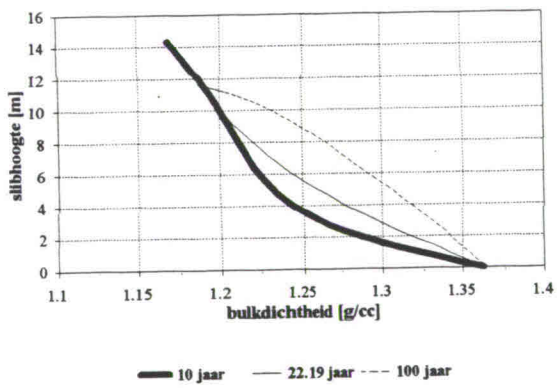
operatieve spanning = 0.3 kPa



operatieve spanning = 0.5 kPa



operatieve spanning = 0.5 kPa



INPUT:

number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	5.73	2	4.39		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	8.97	-2.57	0	0	
permeability parameters:	-25.21	1.74	0	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	1.5	0.0333	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

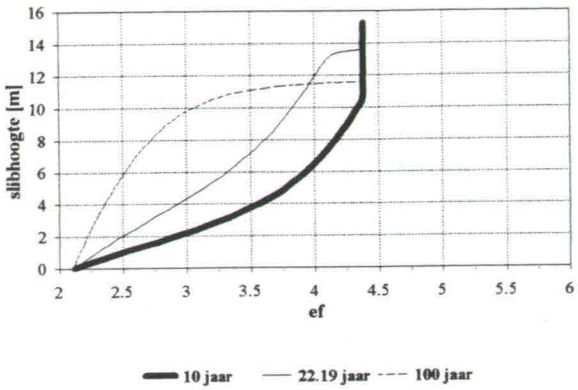
GEVOELIGHEIDSANALYSE:

op.spann. = 0.1 kPa	->	e_set =	4.39
op.spann. = 0.3 kPa	->	e_set =	3.96
op.spann. = 0.5 kPa	->	e_set =	3.76

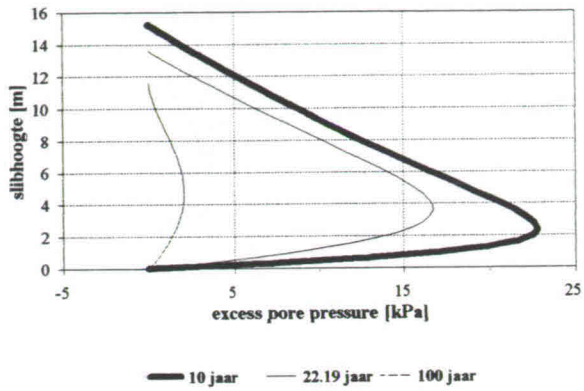
Slufter zuid

materiaalparameters lineair

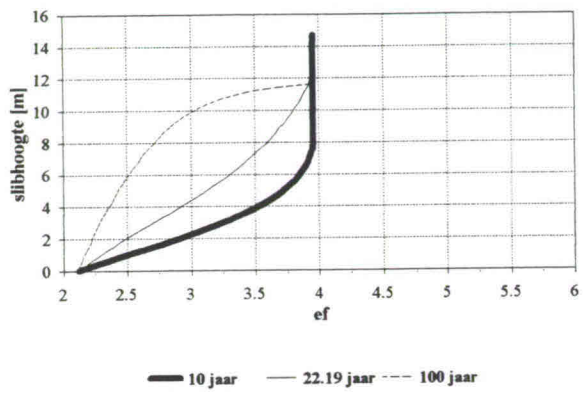
operatieve spanning = 0.1 kPa



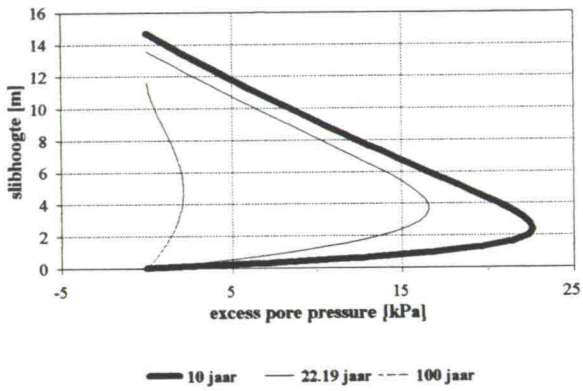
operatieve spanning = 0.1 kPa



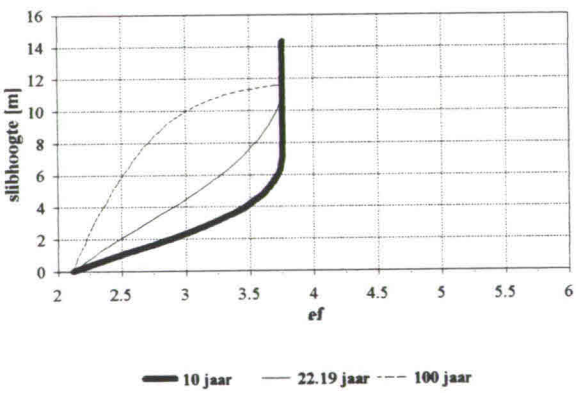
operatieve spanning = 0.3 kPa



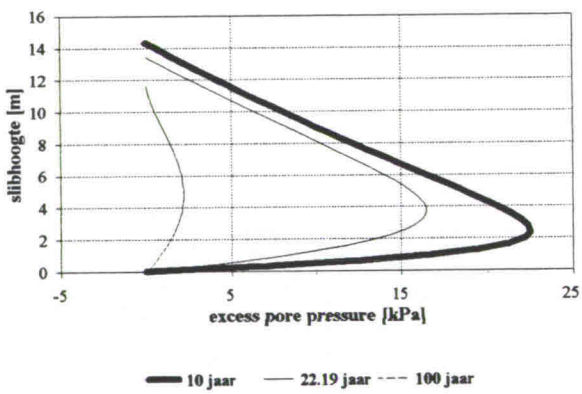
operatieve spanning = 0.3 kPa



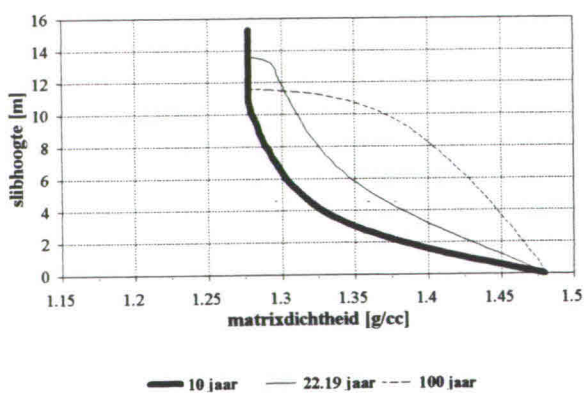
operatieve spanning = 0.5 kPa



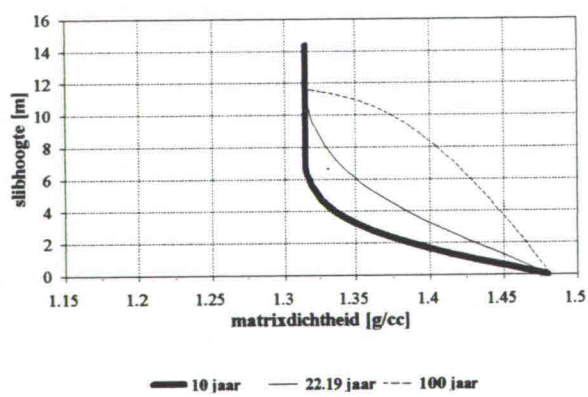
operatieve spanning = 0.5 kPa



operatieve spanning = 0.1 kPa



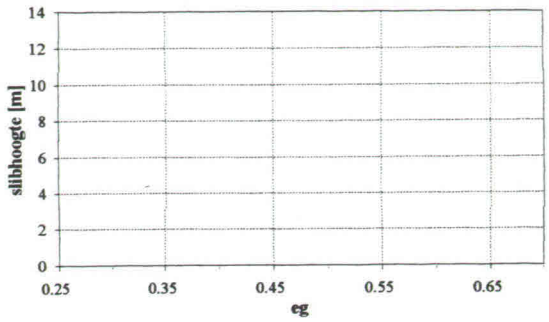
operatieve spanning = 0.5 kPa



Slufter zuid

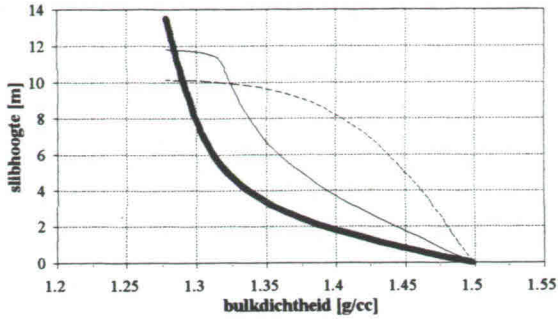
materiaalparameters lineair en zonder gas

operatieve spanning = 0.1 kPa



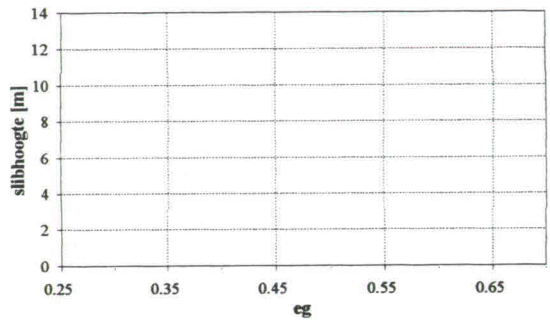
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.1 kPa



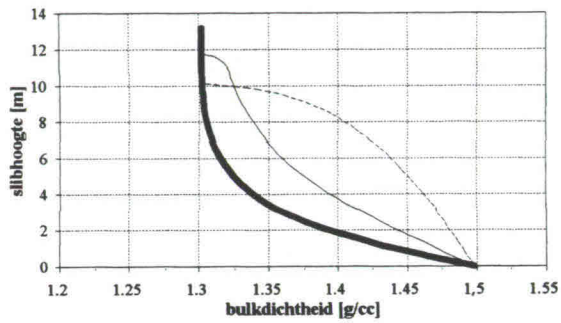
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.3 kPa



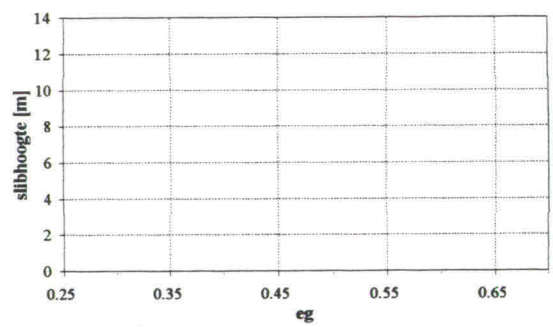
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.3 kPa



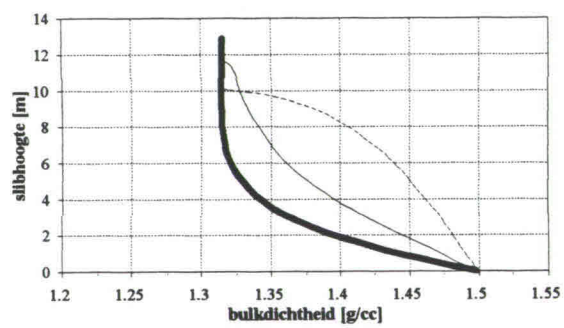
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.5 kPa



10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.5 kPa



10 jaar — 22.19 jaar --- 100 jaar

INPUT:

number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	5.73	2	4.39		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	8.97	-2.57	0	0	
permeability parameters:	-25.21	1.74	0	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	0	0	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

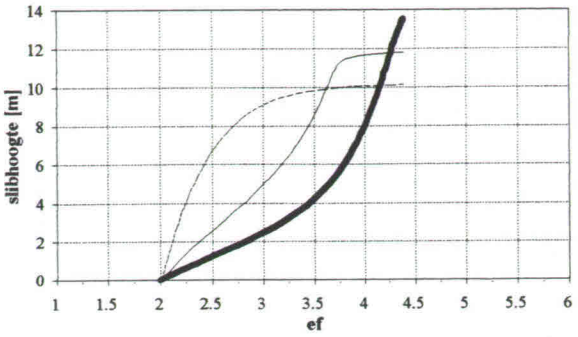
GEVOELIGHEIDSANALYSE:

op.spann. = 0.1 kPa	->	e_set =	4.39
op.spann. = 0.3 kPa	->	e_set =	3.96
op.spann. = 0.5 kPa	->	e_set =	3.76

Slufter zuid

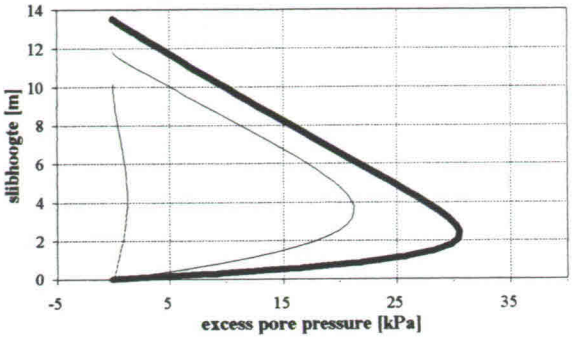
materiaalparameters lineair en zonder gas

operatieve spanning = 0.1 kPa



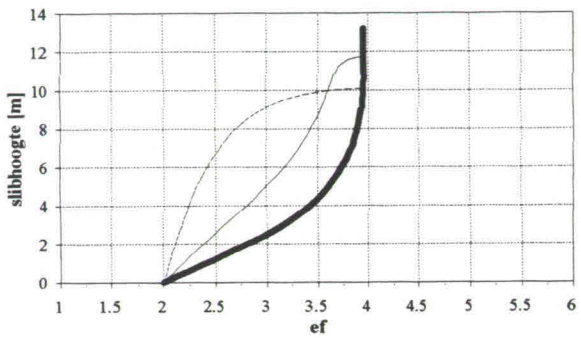
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.1 kPa



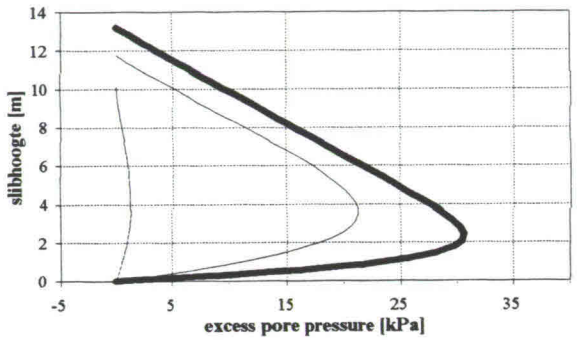
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.3 kPa



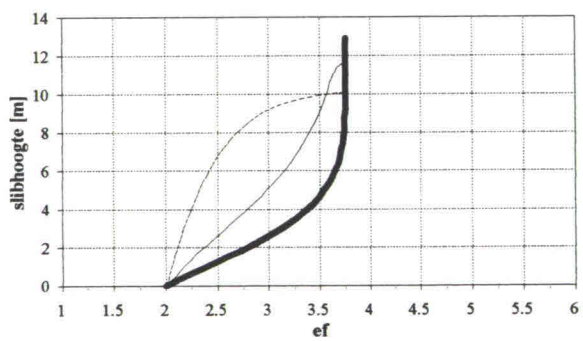
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.3 kPa



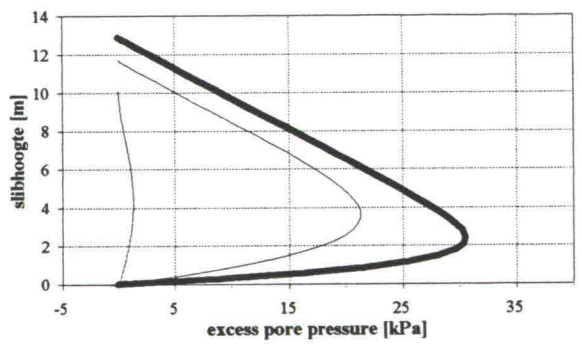
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.5 kPa



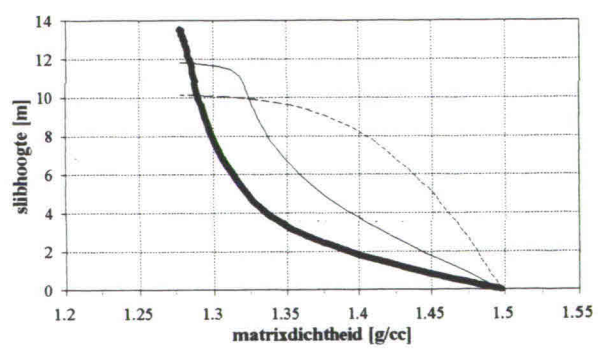
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.5 kPa



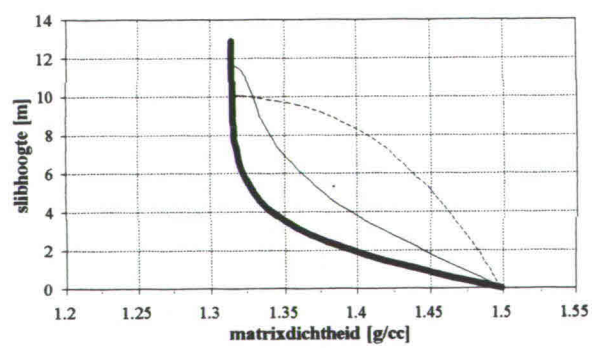
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.1 kPa



10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.5 kPa

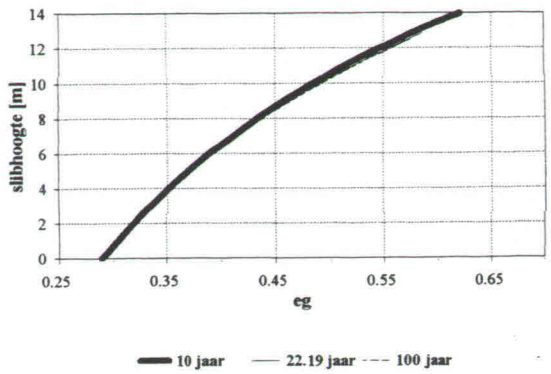


10 jaar — 22.19 jaar --- 100 jaar

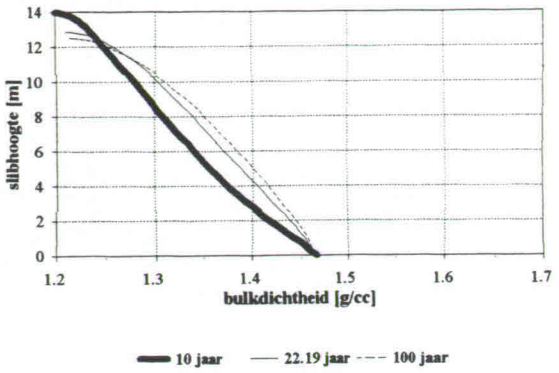
mengmonster 20 Ketelmeer

materiaalparameters lineair

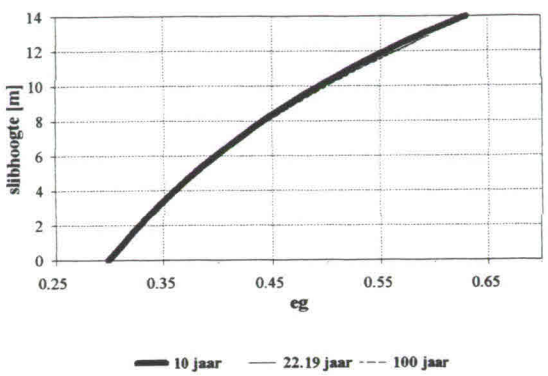
operatieve spanning = 0.1 kPa



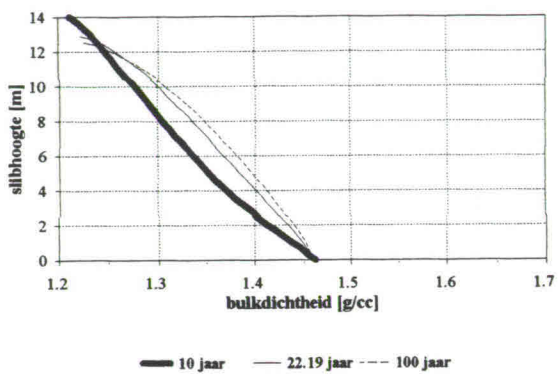
operatieve spanning = 0.1 kPa



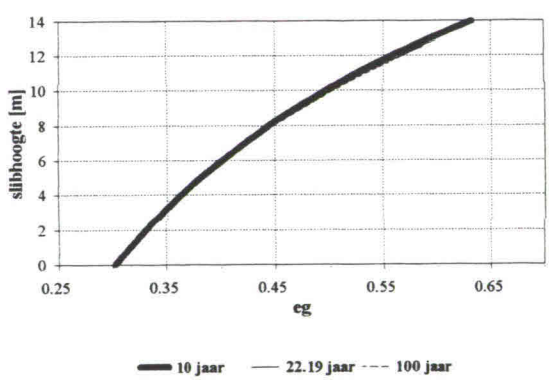
operatieve spanning = 0.3 kPa



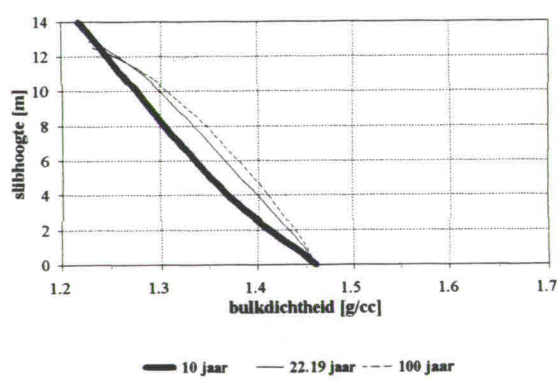
operatieve spanning = 0.3 kPa



operatieve spanning = 0.5 kPa



operatieve spanning = 0.5 kPa



INPUT:

number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	3.7	2	2.76		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	9.25	-4.19	0	0	
permeability parameters:	-25.11	3.23	0	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	1.5	0.0333	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

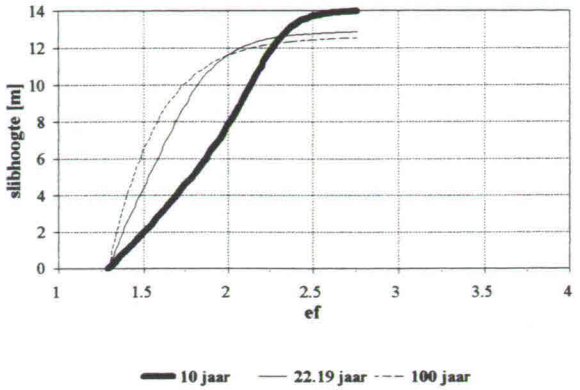
GEVOELIGHEIDSANALYSE:

op.spann. = 0.1 kPa	->	e_set =	2.76
op.spann. = 0.3 kPa	->	e_set =	2.49
op.spann. = 0.5 kPa	->	e_set =	2.37

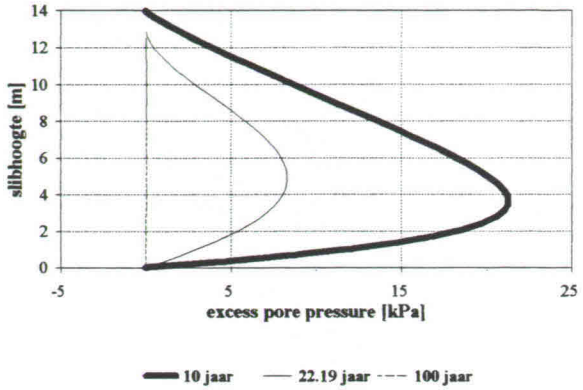
mengmonster 20 Ketelmeer

materiaalparameters lineair

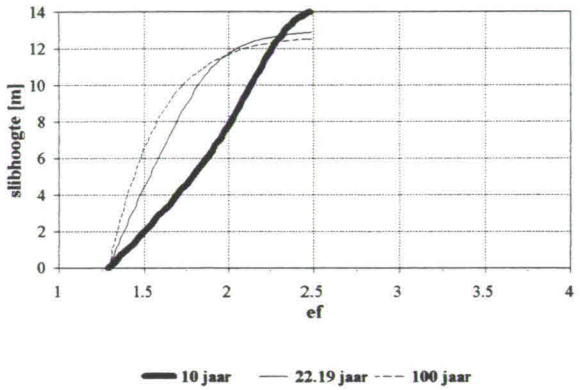
operatieve spanning = 0.1 kPa



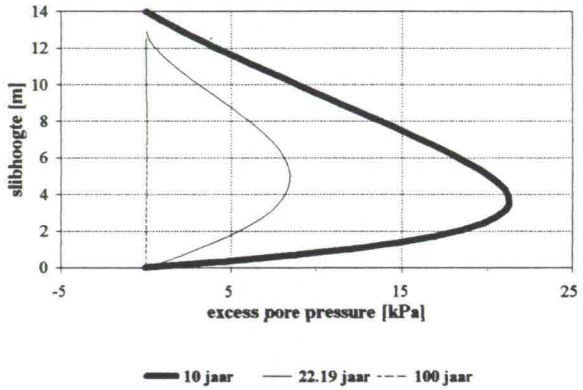
operatieve spanning = 0.1 kPa



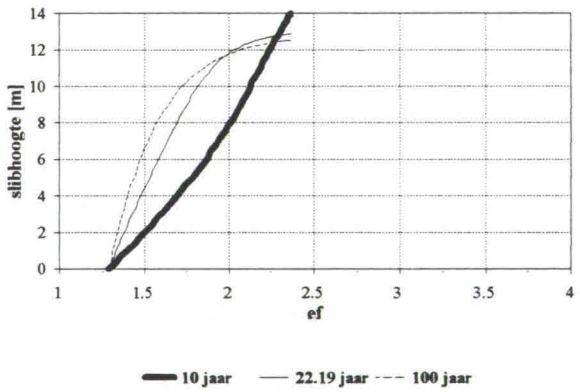
operatieve spanning = 0.3 kPa



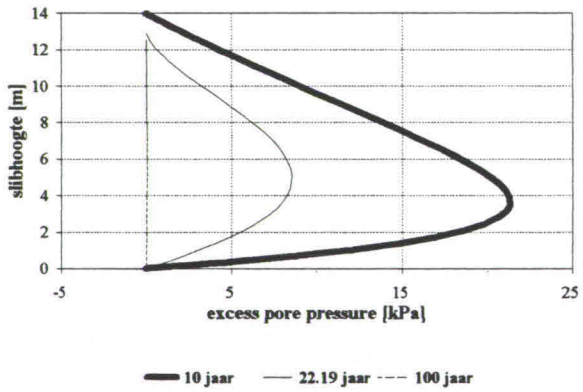
operatieve spanning = 0.3 kPa



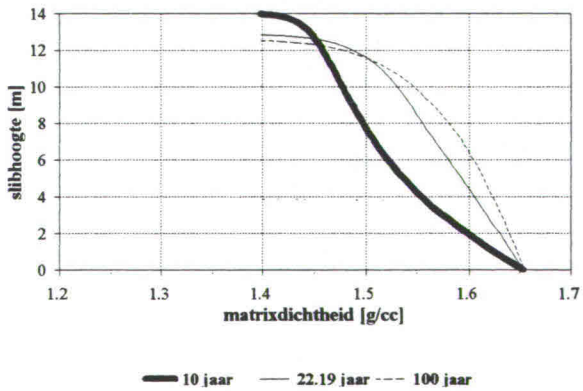
operatieve spanning = 0.5 kPa



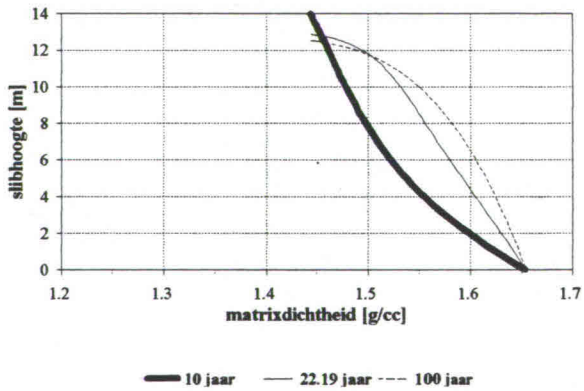
operatieve spanning = 0.5 kPa



operatieve spanning = 0.1 kPa



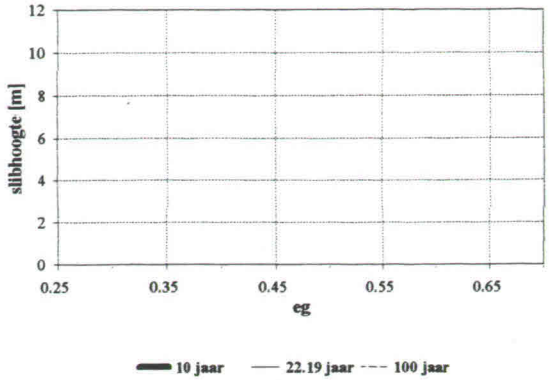
operatieve spanning = 0.5 kPa



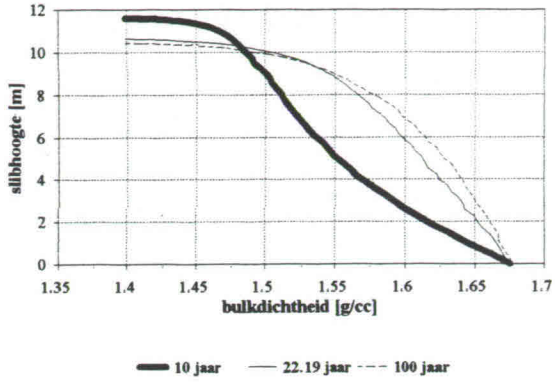
mengmonster 20 Ketelmeer

materiaalparameters lineair en zonder gas

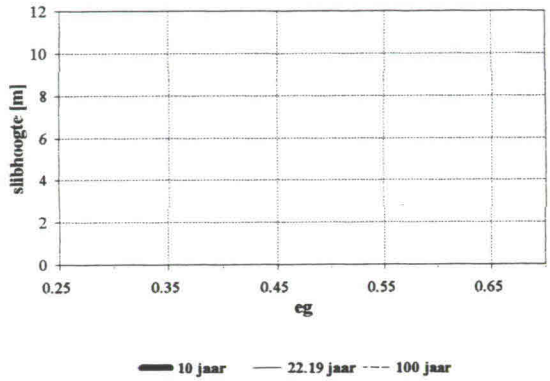
operatieve spanning = 0.1 kPa



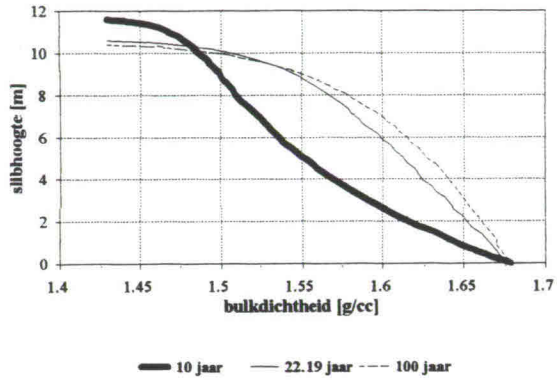
operatieve spanning = 0.1 kPa



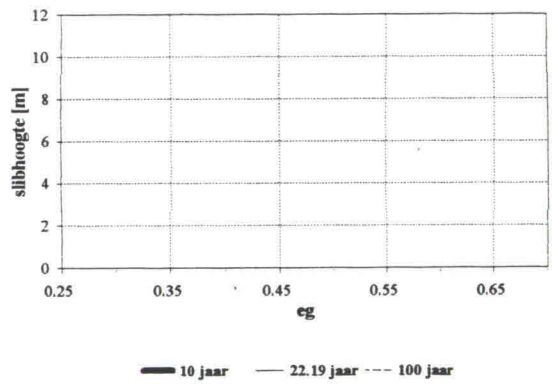
operatieve spanning = 0.3 kPa



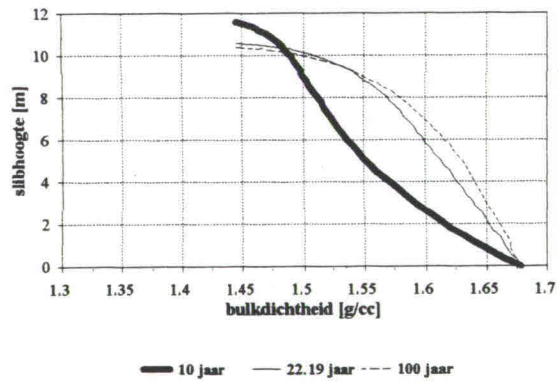
operatieve spanning = 0.3 kPa



operatieve spanning = 0.5 kPa



operatieve spanning = 0.5 kPa



INPUT:

number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	3.7	2	2.76		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	9.25	-4.19	0	0	
permeability parameters:	-25.11	3.23	0	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	0	0	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

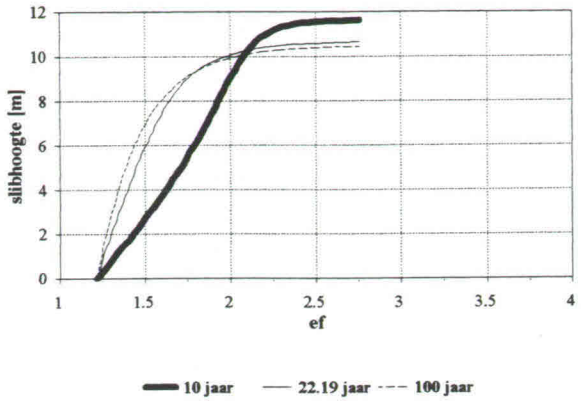
GEVOELIGHEIDSANALYSE:

op.spann. = 0.1 kPa	->	e_set =	2.76
op.spann. = 0.3 kPa	->	e_set =	2.49
op.spann. = 0.5 kPa	->	e_set =	2.76

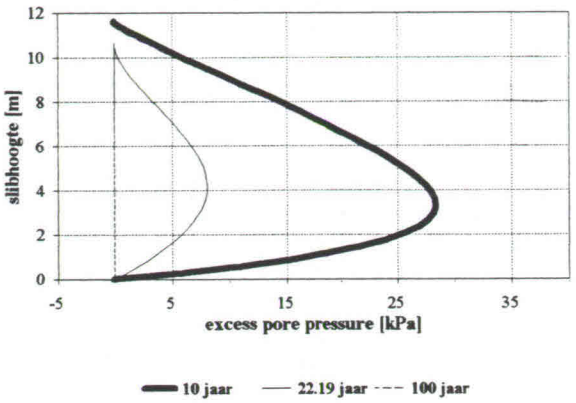
mengmonster 20 Ketelmeer

materiaalparameters lineair en zonder gas

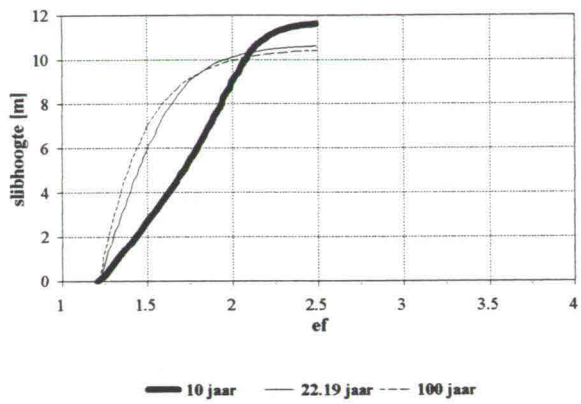
operatieve spanning = 0.1 kPa



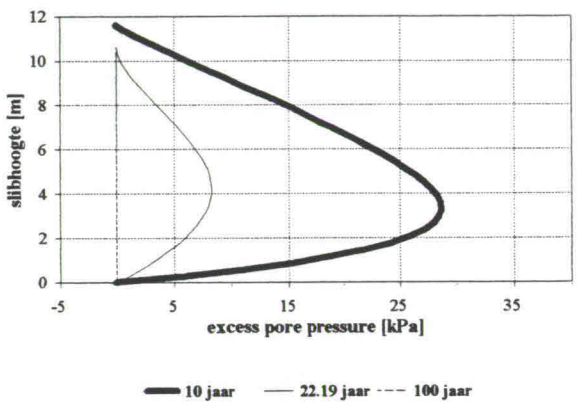
operatieve spanning = 0.1 kPa



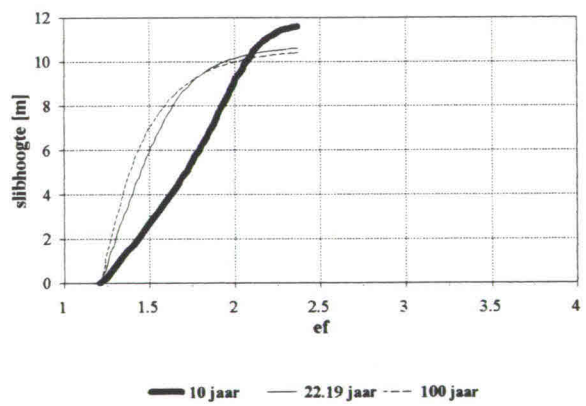
operatieve spanning = 0.3 kPa



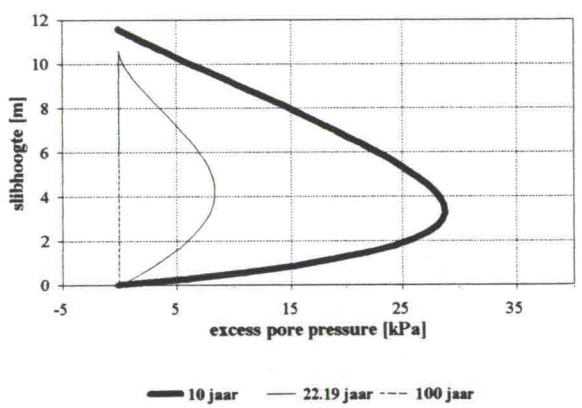
operatieve spanning = 0.3 kPa



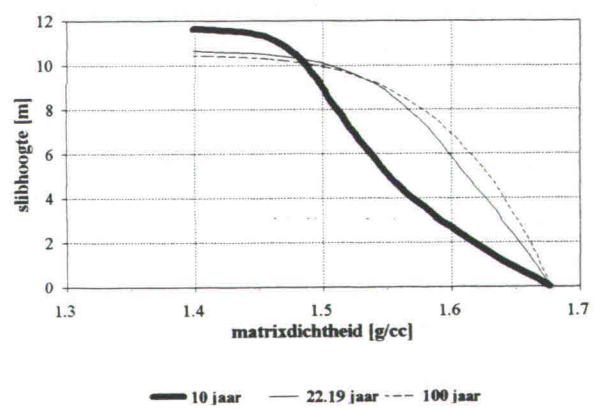
operatieve spanning = 0.5 kPa



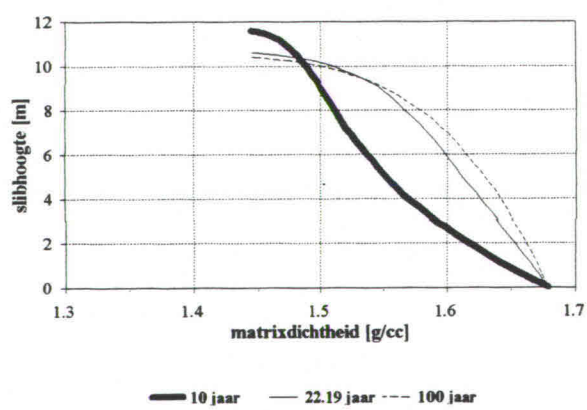
operatieve spanning = 0.5 kPa



operatieve spanning = 0.1 kPa



operatieve spanning = 0.5 kPa



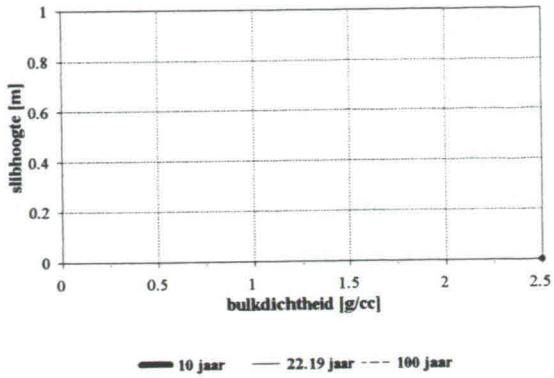
Ketelmeer K16a

materiaalparameters lineair

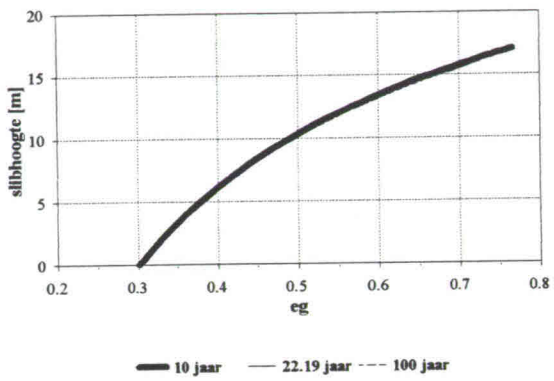
Graph Error

(No numeric data in X-Axis series)

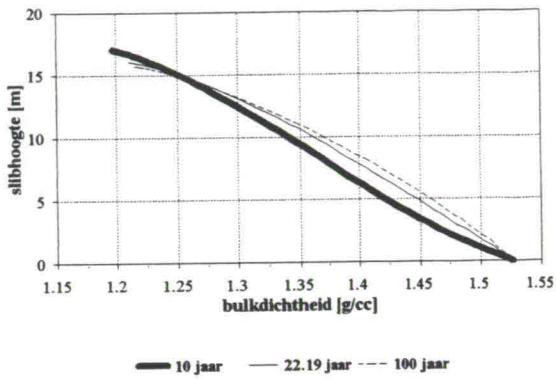
operatieve spanning = 0.3 kPa



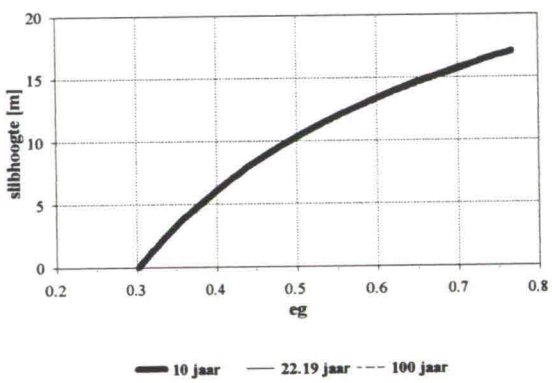
operatieve spanning = 0.4 kPa



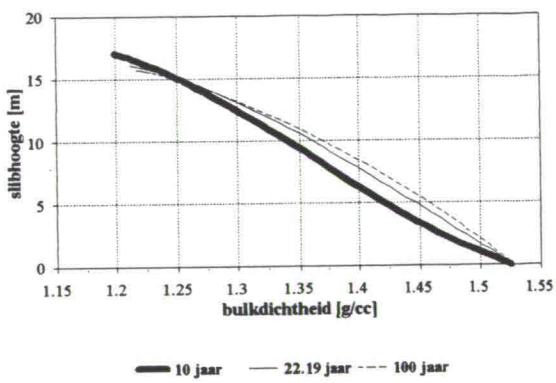
operatieve spanning = 0.4 kPa



operatieve spanning = 0.5 kPa



operatieve spanning = 0.5 kPa



INPUT:

number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	2.33	2	2		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	9.16	-5.19	0	0	
permeability parameters:	-26.78	5.54	0	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	1.5	0.0333	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

GEVOELIGHEIDSANALYSE:

op.spann. = 0.3 kPa	->	e_set = 2
op.spann. = 0.4 kPa	->	e_set = 1.94
op.spann. = 0.5 kPa	->	e_set = 1.9

Berekeningen voor op.spann. = 0.3 kPa zijn niet stabiel.

Ketelmeer K16a

materiaalparameters lineair

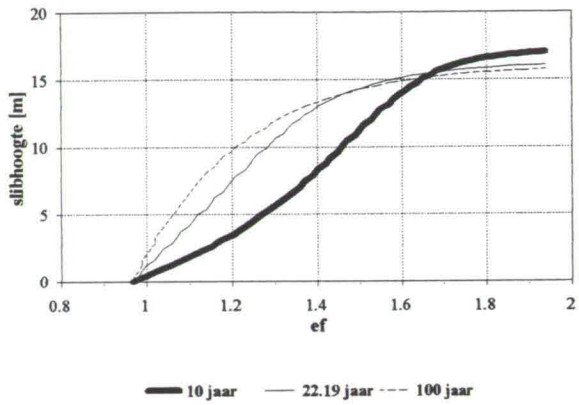
Graph Error

(No numeric data in X-Axis series)

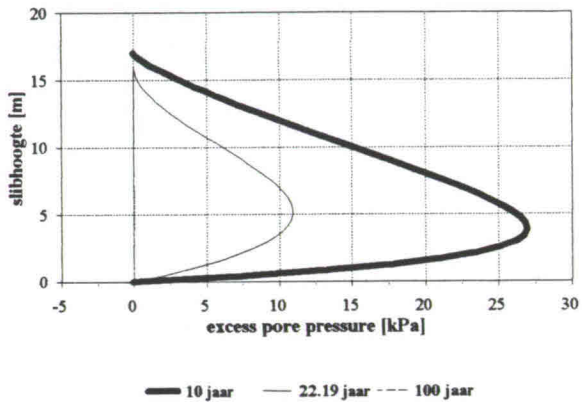
Graph Error

(No numeric data in X-Axis series)

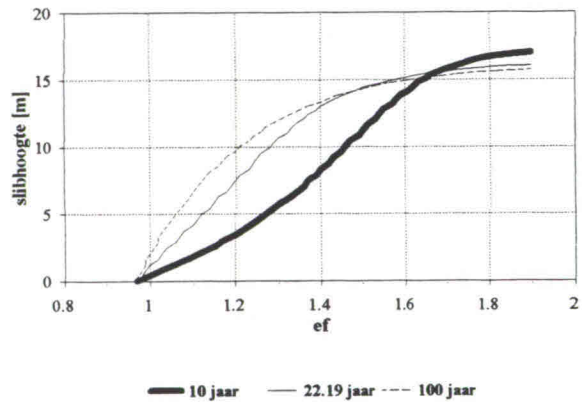
operatieve spanning = 0.4 kPa



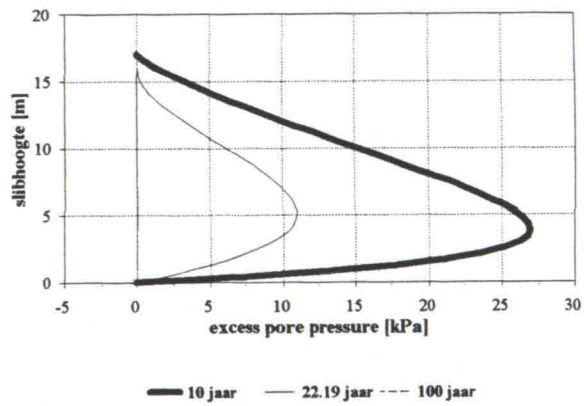
operatieve spanning = 0.4 kPa



operatieve spanning = 0.5 kPa



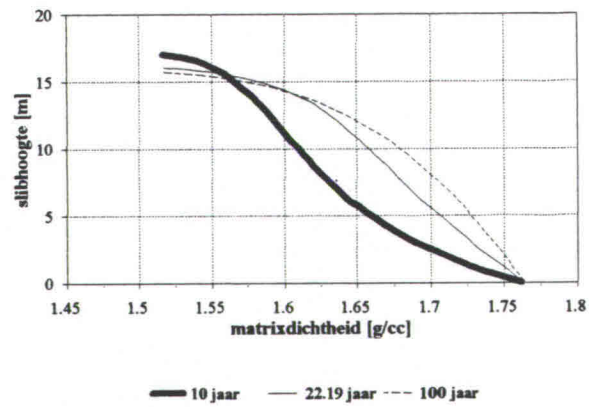
operatieve spanning = 0.5 kPa



Graph Error

(No numeric data in X-Axis series)

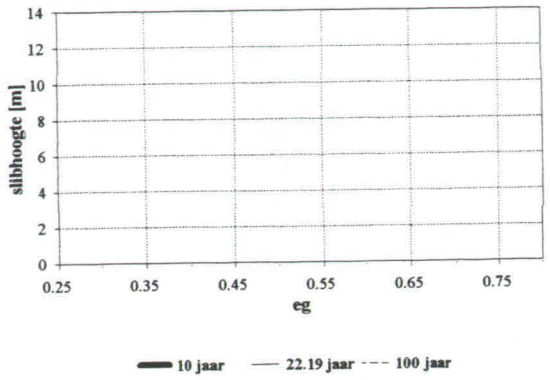
operatieve spanning = 0.5 kPa



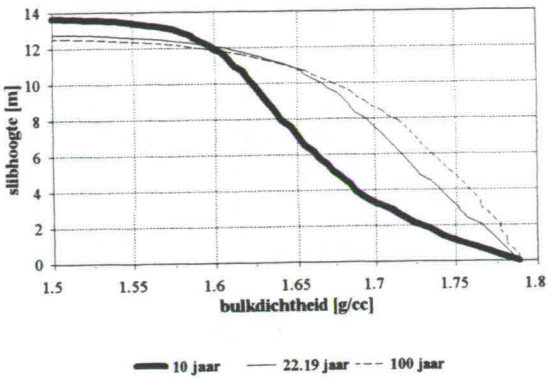
Ketelmeer K16a

materiaalparameters lineair en zonder gas

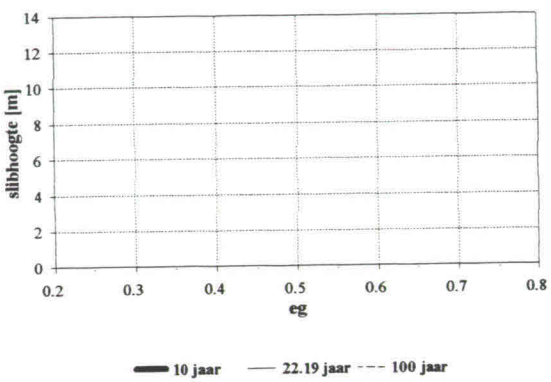
operatieve spanning = 0.3 kPa



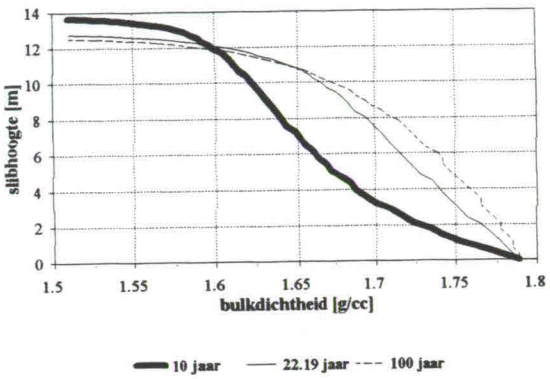
operatieve spanning = 0.3 kPa



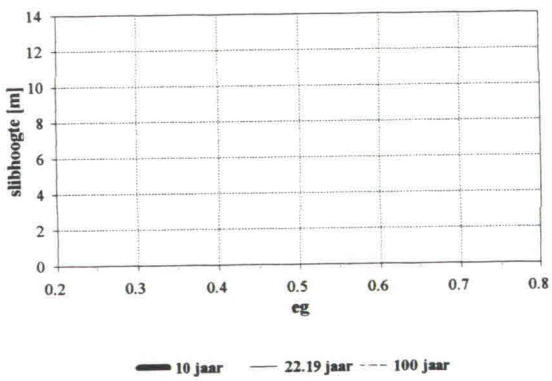
operatieve spanning = 0.4 kPa



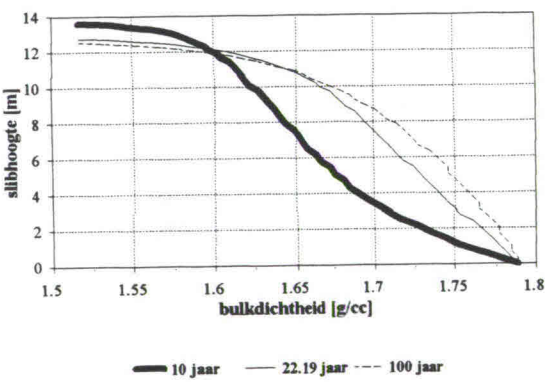
operatieve spanning = 0.4 kPa



operatieve spanning = 0.5 kPa



operatieve spanning = 0.5 kPa



INPUT:

number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	2.33	2	2		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	9.16	-5.19	0	0	
permeability parameters:	-26.8	5.54	0	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	0	0	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

GEVOELIGHEIDSANALYSE:

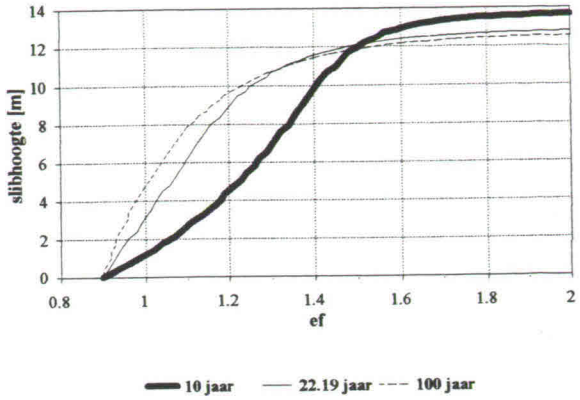
op.spann. = 0.3 kPa	->	e_set = 2
op.spann. = 0.4 kPa	->	e_set = 1.94
op.spann. = 0.5 kPa	->	e_set = 1.9

Berekeningen voor op.spann. = 0.3 resp. 0.5 kPa z
uitgevoerd met "fszwel" i.v.m. stabiliteit berekenin

Ketelmeer K16a

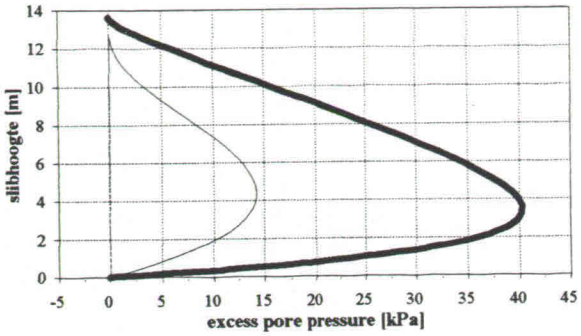
materiaalparameters lineair en zonder gas

operatieve spanning = 0.3 kPa



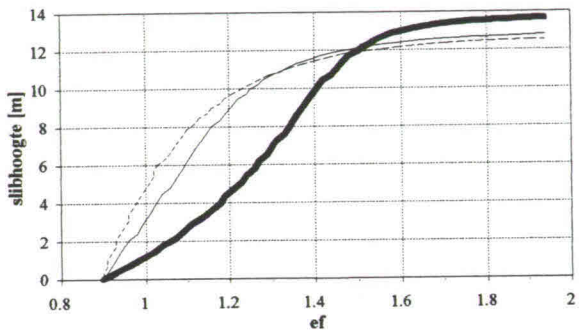
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.3 kPa



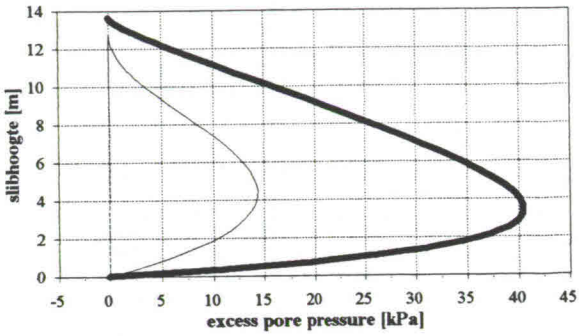
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.4 kPa



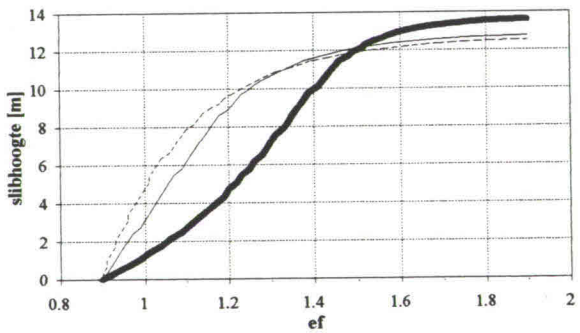
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.4 kPa



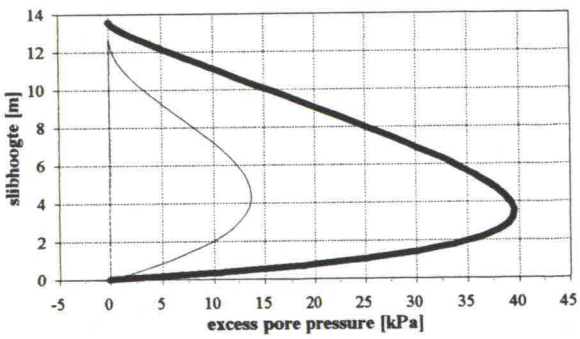
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.5 kPa



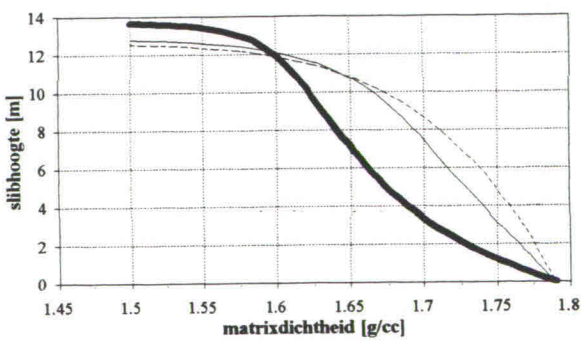
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.5 kPa



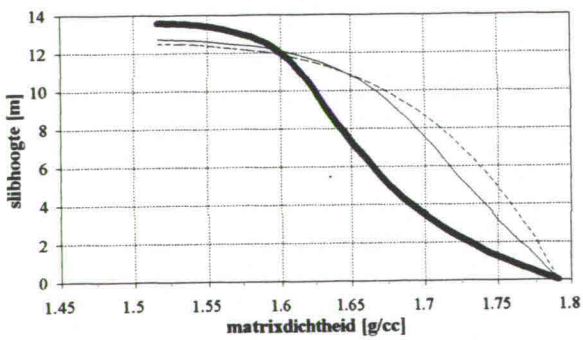
10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.3 kPa



10 jaar — 22.19 jaar --- 100 jaar

operatieve spanning = 0.5 kPa



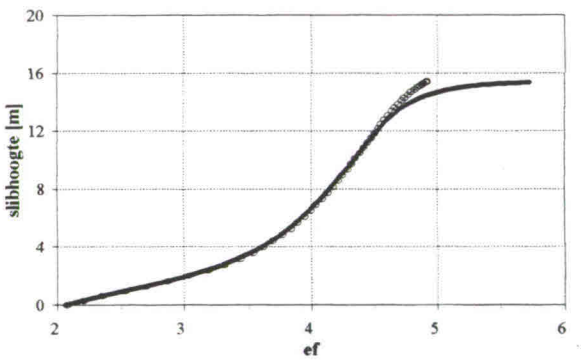
10 jaar — 22.19 jaar --- 100 jaar

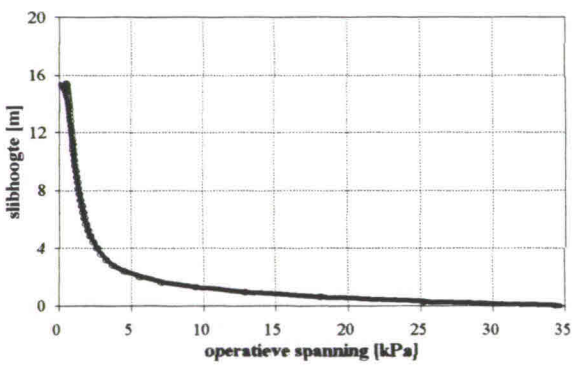
A.3 Tabel storingszône

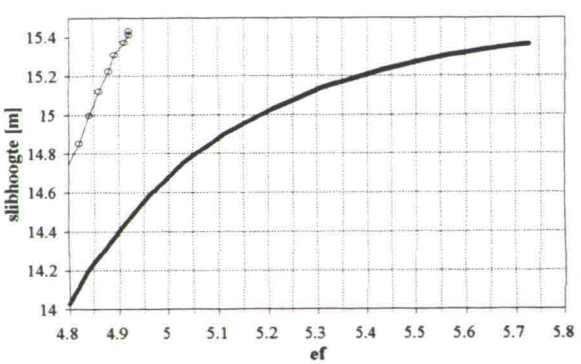
	v_dep [m/jaar]	tijd [jaren]	mengmonster 20 Ketelmeer 0.1 -> 0.5 [m]	mengmonster 20 Ketelmeer 0.3 -> 0.5 [m]	Ketelmeer K16a 0.1 -> 0.5 [m]	Ketelmeer K16a 0.3 -> 0.5 [m]	Slufter zuid 0.1 -> 0.5 [m]	Slufter zuid 0.3 -> 0.5 [m]
direct gasmodus3	2	t_dep	1.06	0.85	0.27		0.96	0.65
	2	100	0.21	0.21	0.10		0.26	0.12
	5	t_dep	6.66	6.65	0.58		4.87	4.90
	5	100	0.20	0.11	0.10		0.26	0.12
direct zonder gas	2	t_dep	0.19	0.11	0.04		0.36	0.15
	2	100	0.05	0.03	0.02		0.08	0.04
	5	t_dep	1.05	0.98	0.05		1.00	0.86
	5	100	0.05	0.03	0.03		0.08	0.04
lineair gasmodus3	2	t_dep	0.91	0.68			9.43	9.08
	2	100	0.19	0.08			0.24	0.11
	5	t_dep	5.60	5.50	0.44		12.27	11.92
	5	100	0.19	0.08	0.09		0.24	0.11
lineair zonder gas	2	t_dep	0.17	0.09	0.00		7.16	6.74
	2	100	0.06	0.03	0.03		0.08	0.04
	5	t_dep	1.02	0.96	0.06		10.71	10.36
	5	100	0.06	0.03	0.03		0.08	0.04

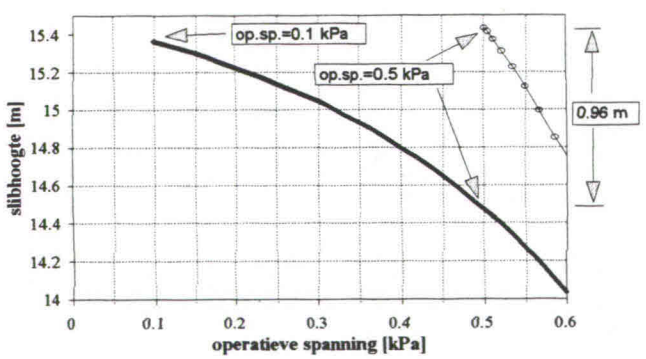
Voorbeeld berekening van verstoringszone: Slufter zuid op depositietijd (10 jaar)

parameterset: direct
gasmodus 3









op.spann. = 0.1 kPa op.spann. = 0.5 kPa

op.spann. = 0.1 kPa op.spann. = 0.5 kPa

A.4 Tabellen simulaties $v_{dep} = 2$ m/jaar $t_{dep} = 10$ jaar

Slufter zuid **depositiesnelheid: 2 m/jaar**

gevoeligheid kentallen voor e_set

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.1 kPa

		t = t_dep					
e_set		Fc	perc.afw.	Fc_sat	perc.afw.	U(t)	perc.afw.
direct gasmodus3							
5.73		0.7680	0.00%	0.7185	0.00%	0.6160	0.00%
5.22		0.8353	8.76%	0.7785	8.35%	0.5342	-13.27%
4.92		0.8771	14.20%	0.8157	13.52%	0.4767	-22.61%
direct zonder gas							
5.73 fszwel		0.6870	0.00%	0.6870	0.00%	0.6501	0.00%
5.22		0.7428	8.12%	0.7428	8.12%	0.5823	-10.42%
4.92		0.7787	13.35%	0.7787	13.35%	0.5323	-18.11%
lineair gasmodus 3							
4.39		0.9514	0.00%	0.8809	0.00%	0.3502	0.00%
3.96		0.9973	4.82%	0.9186	4.28%	0.2864	-18.22%
3.76		1.0130	6.47%	0.9303	5.61%	0.2718	-22.37%
lineair zonder gas							
4.39		0.8447	0.00%	0.8447	0.00%	0.4233	0.00%
3.96		0.8955	6.02%	0.8955	6.02%	0.3326	-21.42%
3.76		0.9119	7.96%	0.9119	7.96%	0.3071	-27.44%

gevoeligheid slibhoogte voor e_set

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.1 kPa

	t = t_dep						*t = 100 jaar*					
e_set	hsat [m]	perc.afw.	h [m]	perc.afw.	vg%	perc.afw.	hsat [m]	perc.afw.	h [m]	perc.afw.	vg%	perc.afw.
direct gasmodus3												
5.73	14.37	0.00%	15.36	0.00%	6.45	0.00%	10.86	0.00%	11.76	0.00%	7.65	0.00%
5.22	14.39	0.14%	15.44	0.52%	6.80	5.51%	10.82	-0.37%	11.77	0.09%	8.07	5.47%
4.92	14.35	-0.14%	15.43	0.46%	7.00	8.60%	10.79	-0.64%	11.76	0.00%	8.25	7.78%
direct zonder gas												
5.73 fszwel	13.74	0.00%	13.74	0.00%	0.00	ERR	10.37	0.00%	10.37	0.00%	0.00	ERR
5.22	13.73	-0.07%	13.73	-0.07%	0.00	ERR	10.32	-0.48%	10.32	-0.48%	0.00	ERR
4.92	13.70	-0.29%	13.70	-0.29%	0.00	ERR	10.28	-0.87%	10.28	-0.87%	0.00	ERR
lineair gasmodus 3												
4.39	14.11	0.00%	15.24	0.00%	7.41	0.00%	10.57	0.00%	11.60	0.00%	8.88	0.00%
3.96	13.54	-4.04%	14.70	-3.54%	7.89	6.43%	10.55	-0.19%	11.62	0.17%	9.21	3.70%
3.76	13.16	-6.73%	14.33	-5.97%	8.16	10.11%	10.52	-0.47%	11.61	0.09%	9.39	5.73%
lineair zonder gas												
4.39	13.53	0.00%	13.53	0.00%	0.00	ERR	10.14	0.00%	10.14	0.00%	0.00	ERR
3.96	13.20	-2.44%	13.20	-2.44%	0.00	ERR	10.11	-0.30%	10.11	-0.30%	0.00	ERR
3.76	12.90	-4.66%	12.90	-4.66%	0.00	ERR	10.09	-0.49%	10.09	-0.49%	0.00	ERR

percentage afwijking lineaire set van direct voor verzadigd slib

				t = t_dep			*t = t_dep*	*t = 100 j.*	*t = t_dep*	
	e_set	sigm_op [kPa]	k [m/s]	q_up [cm/d]	q_down [cm/d]	q_gem [cm/d]	h [m]	h [m]	Fc	U(t)
direct fszwel	5.73	0.1	3E-07	0.1549	-0.0126	0.1715	13.74	10.37	0.69	0.65
afw.perct. lineair	4.39	0.1	-92.18%	-64.04%	-0.79%	-60.26%	-1.53%	-2.22%	22.95%	-34.89%
direct	5.22	0.3	1.2E-07	0.1184	-0.0127	0.1303	13.73	10.32	0.74	0.58
afw.perct. lineair	3.96	0.3	-90.39%	-75.59%	-2.36%	-67.61%	-3.86%	-2.03%	20.56%	-42.88%
direct	4.92	0.5	6.7E-08	0.0966	-0.0127	0.1067	13.7	10.28	0.78	0.53
afw.perct. lineair	3.76	0.5	-88.17%	-77.95%	-3.94%	-68.00%	-5.84%	-1.85%	17.11%	-42.30%
direct	4.92	0.5	6.7E-08	0.0966	-0.0127	0.1067	13.7	10.28	0.78	0.53
afw.perct. lineair	4.99	0.02	0.55%	8.39%	-1.57%	10.22%	-1.39%	-1.17%	-2.54%	5.49%

Slufter zuid *gevoeligheid debiet voor e_set*

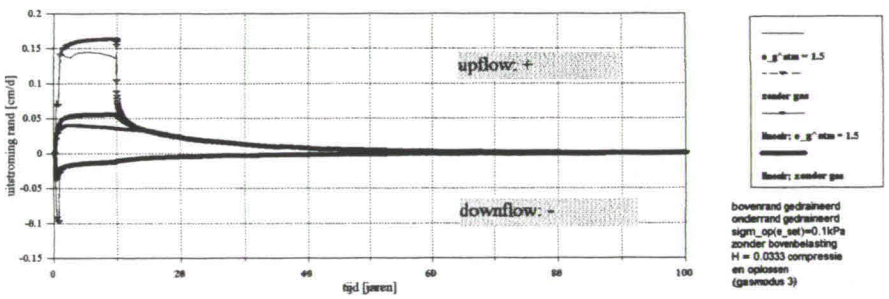
depositiesnelhei 2 m/jaar

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.1 kPa voor t=t_dep

e_set	k(e_set) [m/s]	perc.afw.	q_up [cm/d]	perc.afw.	q_down [cm/d]	perc.afw.	q_gem [cm/d]	perc.afw.
direct gasmodus3								
5.73	3.02E-07	0.00%	0.1293	0.00%	-0.0110	0.00%	0.1542	0.00%
5.22	1.16E-07	-61.47%	0.0924	-28.54%	-0.0111	0.91%	0.1122	-27.28%
4.92	6.67E-08	-77.90%	0.0701	-45.78%	-0.0111	0.91%	0.0888	-42.40%
direct zonder gas								
5.73 fszwel	3.02E-07	0.00%	0.1549	0.00%	-0.0126	0.00%	0.1715	0.00%
5.22	1.16E-07	-61.47%	0.1184	-23.56%	-0.0127	0.79%	0.1303	-24.05%
4.92	6.67E-08	-77.90%	0.0966	-37.64%	-0.0127	0.79%	0.1067	-37.81%
lineair gasmodus 3								
4.39	2.36E-08	0.00%	0.0359	0.00%	-0.0107	0.00%	0.0523	0.00%
3.96	1.12E-08	-52.68%	0.0197	-45.13%	-0.0105	-1.87%	0.0329	-37.10%
3.76	7.89E-09	-66.59%	0.0146	-59.33%	-0.0104	-2.80%	0.0270	-48.34%
4.99	6.71E-08	184.06%	0.0746	107.80%	-0.0108	0.93%	0.0976	86.65%
lineair zonder gas								
4.39	2.36E-08	0.00%	0.0557	0.00%	-0.0125	0.00%	0.0682	0.00%
3.96	1.12E-08	-52.68%	0.0289	-48.11%	-0.0124	-0.80%	0.0422	-38.10%
3.76	7.89E-09	-66.59%	0.0213	-61.76%	-0.0122	-2.40%	0.0341	-49.93%
4.99	6.71E-08	184.06%	0.1047	87.97%	-0.0125	0.00%	0.1176	72.48%

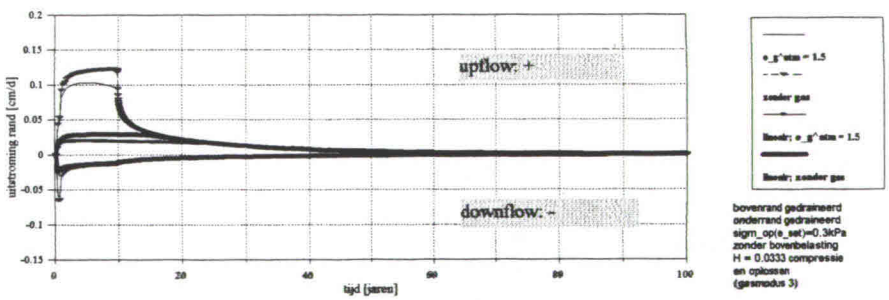
Slufter zuid

operatieve spanning = 0.1 kPa



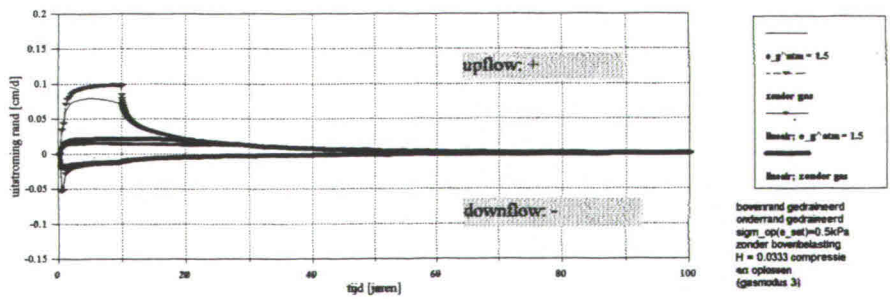
Slufter zuid

operatieve spanning = 0.3 kPa



Slufter zuid

operatieve spanning = 0.5 kPa



mengmonster 20 **depositiesnelheid: 2 m/jaar**

gevoeligheid kentallen voor e_set

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.1 kPa

		t = t_dep					
e_set		Fc	perc.afw.	Fc_sat	perc.afw.	U(t)	perc.afw.
direct gasmodus3							
3.7		0.7735	0.00%	0.6895	0.00%	0.6802	0.00%
3.4		0.8284	7.09%	0.7365	6.82%	0.6258	-7.99%
3.1		0.8890	14.93%	0.7881	14.30%	0.5562	-18.23%
direct zonder gas							
3.7		0.6400	0.00%	0.6400	0.00%	0.7603	0.00%
3.4		0.6831	6.73%	0.6831	6.73%	0.7215	-5.10%
3.1		0.7314	14.28%	0.7314	14.28%	0.6718	-11.64%
lineair gasmodus 3							
2.76		0.8744	0.00%	0.7644	0.00%	0.7278	0.00%
2.49		0.9434	7.89%	0.8222	7.56%	0.6519	-10.42%
2.37		0.9756	11.57%	0.8493	11.12%	0.6068	-16.63%
lineair zonder gas							
2.76		0.7256	0.00%	0.7256	0.00%	0.7882	0.00%
2.49		0.7818	7.74%	0.7818	7.74%	0.7298	-7.40%
2.37		0.8082	11.38%	0.8082	11.38%	0.6980	-11.44%

gevoeligheid slibhoogte voor e_set

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.1 kPa

	t = t_dep						*t = 100 jaar*					
e_set	hsat [m]	perc.afw.	h [m]	perc.afw.	vg%	perc.afw.	hsat [m]	perc.afw.	h [m]	perc.afw.	vg%	perc.afw.
direct gasmodus3												
3.7	13.79	0.00%	15.47	0.00%	10.86	0.00%	10.87	0.00%	12.44	0.00%	12.62	0.00%
3.4	13.79	0.00%	15.51	0.26%	11.09	2.12%	10.84	-0.28%	12.45	0.08%	12.93	2.47%
3.1	13.75	-0.29%	15.51	0.26%	11.35	4.49%	10.80	-0.64%	12.46	0.16%	13.32	5.56%
direct zonder gas												
3.7	12.80	0.00%	12.80	0.00%	0.00	ERR	10.53	0.00%	10.53	0.00%	0.00	ERR
3.4	12.79	-0.08%	12.79	-0.08%	0.00	ERR	10.50	-0.28%	10.50	-0.28%	0.00	ERR
3.1	12.76	-0.31%	12.76	-0.31%	0.00	ERR	10.47	-0.57%	10.47	-0.57%	0.00	ERR
lineair gasmodus 3												
2.76	12.23	0.00%	13.99	0.00%	12.58	0.00%	10.82	0.00%	12.52	0.00%	13.58	0.00%
2.49	12.21	-0.16%	14.01	0.14%	12.85	2.13%	10.80	-0.18%	12.54	0.16%	13.88	2.19%
2.37	12.18	-0.41%	13.99	0.00%	12.94	2.84%	10.78	-0.37%	12.54	0.16%	14.04	3.36%
lineair zonder gas												
2.76	11.61	0.00%	11.61	0.00%	0.00	ERR	10.43	0.00%	10.43	0.00%	0.00	ERR
2.49	11.61	0.00%	11.61	0.00%	0.00	ERR	10.41	-0.19%	10.41	-0.19%	0.00	ERR
2.37	11.59	-0.17%	11.59	-0.17%	0.00	ERR	10.40	-0.29%	10.40	-0.29%	0.00	ERR

percentage afwijking lineaire set van direct voor verzadigd slib

			t = t_dep				*t = t_dep*	*t = 100 j.*		*t = t_dep*	
		sigm_op [kPa]	k [m/s]	q_up [cm/d]	q_down [cm/d]	q_gem [cm/d]		h [m]	h [m]	Fc	U(t)
direct		0.1	1.8E-07	0.1782	-0.0140	0.1973		12.8	10.53	0.64	0.76
afw.perct. lineair			-47.90%	-38.10%	-10.71%	-39.03%		-9.30%	-0.95%	13.38%	3.66%
direct		0.3	9.9E-08	0.1481	-0.0140	0.1626		12.79	10.5	0.68	0.72
afw.perct. lineair			-60.41%	-45.10%	-10.00%	-45.38%		-9.23%	-0.86%	14.44%	1.15%
direct		0.5	5.3E-08	0.1166	-0.0140	0.1284		12.76	10.47	0.73	0.67
afw.perct. lineair			-49.97%	-40.91%	-10.00%	-41.32%		-9.17%	-0.67%	10.51%	3.90%

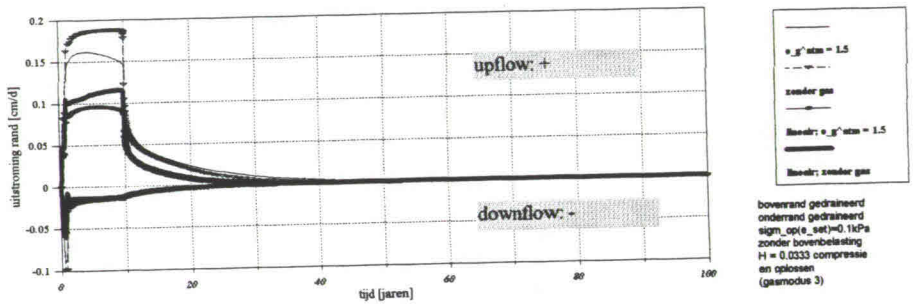
mengmonster 20 *gevoeligheid debiet voor e_set*

depositiesnelhei 2 m/jaar

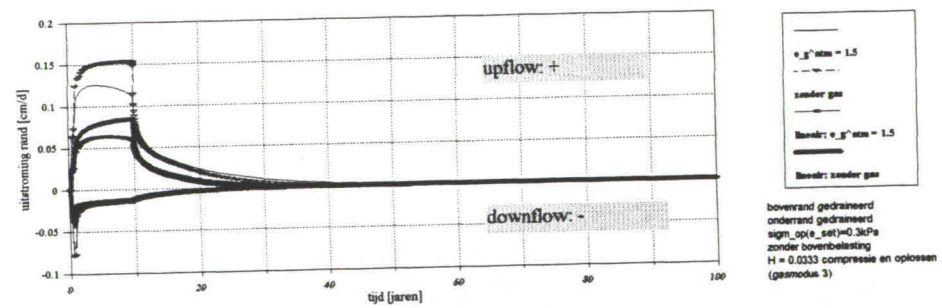
percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.1 kPa voor t=t_dep

e_set	k(e_set) [m/s]	perc.afw.	q_up [cm/d]	perc.afw.	q_down [cm/d]	perc.afw.	q_gem [cm/d]	perc.afw.
direct gasmodus3								
3.7	1.79E-07	0.00%	0.1413	0.00%	-0.0122	0.00%	0.1701	0.00%
3.4	9.88E-08	-44.98%	0.1099	-22.22%	-0.0122	0.00%	0.1352	-20.56%
3.1	5.30E-08	-70.45%	0.0775	-45.15%	-0.0121	-0.82%	0.1013	-40.47%
direct zonder gas								
3.7	1.79E-07	0.00%	0.1782	0.00%	-0.0140	0.00%	0.1973	0.00%
3.4	9.88E-08	-44.98%	0.1481	-16.89%	-0.0140	0.00%	0.1626	-17.59%
3.1	5.30E-08	-70.45%	0.1166	-34.57%	-0.0140	0.00%	0.1284	-34.91%
lineair gasmodus 3								
2.76	9.35E-08	0.00%	0.0870	0.00%	-0.0109	0.00%	0.1033	0.00%
2.49	3.91E-08	-58.19%	0.0586	-32.64%	-0.0109	0.00%	0.0724	-29.95%
2.37	2.65E-08	-71.63%	0.0461	-47.01%	-0.0109	0.00%	0.0592	-42.69%
lineair zonder gas								
2.76	9.35E-08	0.00%	0.1103	0.00%	-0.0125	0.00%	0.1203	0.00%
2.49	3.91E-08	-58.19%	0.0813	-26.29%	-0.0126	0.80%	0.0888	-26.17%
2.37	2.65E-08	-71.63%	0.0689	-37.53%	-0.0126	0.80%	0.0754	-37.35%

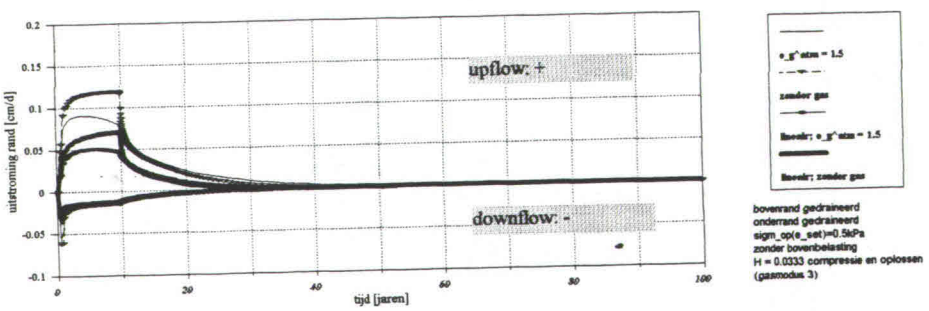
mengmonster 20 Ketelmeer
operatieve spanning = 0.1 kPa



mengmonster 20 Ketelmeer
operatieve spanning = 0.3 kPa



mengmonster 20 Ketelmeer
operatieve spanning = 0.5 kPa



Ketelmeer K16a **depositiesnelheid: 2 m/jaar**

gevoeligheid kentallen voor e_set

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.3 kPa

		t = t_dep					
e_set		Fc	perc.afw.	Fc_sat	perc.afw.	U(t)	perc.afw.
direct gasmodus3							
2.33 instabiel							
2.08		0.9255	0.00%	0.7757	0.00%	0.8137	0.00%
1.96		0.9686	4.66%	0.8111	4.56%	0.7635	-6.16%
direct zonder gas							
2.33 instabiel							
2.08 fszwel		0.7455	0.00%	0.7455	0.00%	0.8471	0.00%
1.96		0.7751	3.98%	0.7751	3.98%	0.8230	-2.85%
lineair gasmodus 3							
2.21 instabiel							
2 instabiel							
1.9		0.9783		0.8176		0.7242	
lineair zonder gas							
2.21 instabiel							
2 fszwel		0.7570	0.00%	0.7570	0.00%	0.7977	0.00%
1.9		0.7803	3.07%	0.7803	3.07%	0.7815	-2.03%

gevoeligheid slibhoogte voor e_set

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.3 kPa

	t = t_dep						*t = 100 jaar*					
e_set	hsat [m]	perc.afw.	h [m]	perc.afw.	vg%	perc.afw.	hsat [m]	perc.afw.	h [m]	perc.afw.	vg%	perc.afw.
direct gasmodus3												
2.33 instabiel												
2.08	14.35	0.00%	17.12	0.00%	16.18	0.00%	13.4000	0.00%	16.11	0.00%	16.82	0.00%
1.96	14.42	0.49%	17.22	0.58%	16.26	0.50%	13.3800	-0.15%	16.11	0.00%	16.95	0.74%
direct zonder gas												
2.33 instabiel												
2.08 fszwel	13.79	0.00%	13.79	0.00%	0.00	ERR	12.9400	0.00%	12.94	0.00%	0.00	ERR
1.96	13.78	-0.07%	13.78	-0.07%	0.00	ERR	12.9200	-0.15%	12.92	-0.15%	0.00	ERR
lineair gasmodus 3												
2.21 instabiel												
2 instabiel												
1.9	14.24		17.04		16.43		13.0300		15.74		17.22	
lineair zonder gas												
2.21 instabiel												
2 fszwel	13.64	0.00%	13.64	0.00%	0.00	ERR	12.5300	0.00%	12.53	0.00%	0.00	ERR
1.9	13.59	-0.37%	13.59	-0.37%	0.00	ERR	12.5200	-0.08%	12.52	-0.08%	0.00	ERR

percentage afwijking lineaire set van direct voor verzadigd slib

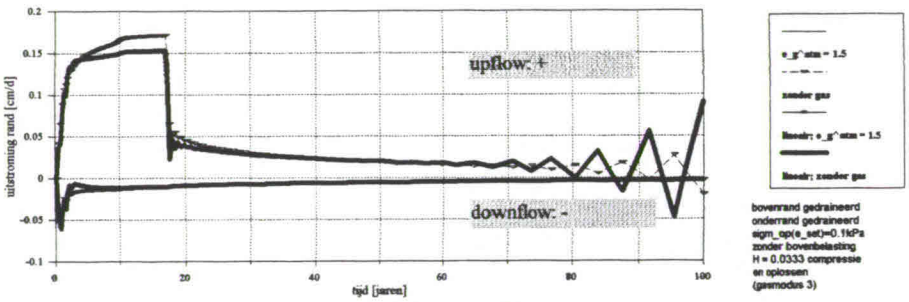
				t = t_dep				*t = t_dep*	*t = 100 j.*		*t = t_dep*	
		sigm_op [kPa]	k [m/s]	q_up [cm/d]	q_down [cm/d]	q_gem [cm/d]		h [m]	h [m]		Fc	U(t)
direct	instabiel	0.1	4.9E-07									
afw.perct. lineair			-2.04%									
direct	fszwel	0.3	1.5E-07	0.1207	-0.0110	0.1290		13.79	12.94		0.75	0.85
afw.perct. lineair			-3.73%	-7.54%	-4.55%	-7.02%		-1.09%	-3.17%		1.55%	-5.82%
direct		0.5	8.8E-08	0.1024	-0.0110	0.1095		13.78	12.92		0.78	0.82
afw.perct. lineair			-2.27%	-6.05%	-6.36%	-4.26%		-1.38%	-3.10%		0.66%	-5.04%

Ketelmeer K16a *gevoeligheid debiet voor e_set*

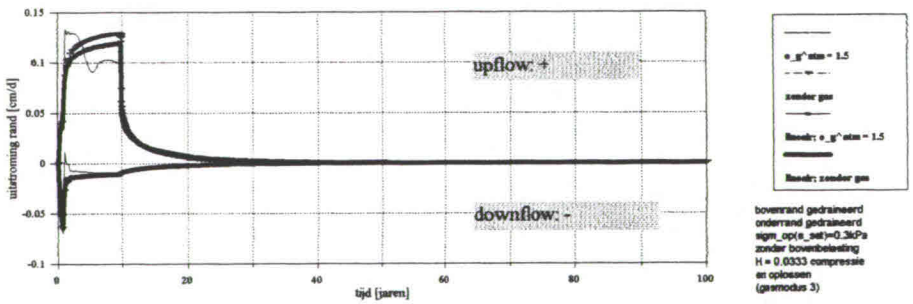
percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.3 kPa voor t=t_dep

e_set	k(e_set) [m/s]	perc.afw.	q_up [cm/d]	perc.afw.	q_down [cm/d]	perc.afw.	q_gem [cm/d]	perc.afw.
direct gasmodus3								
2.33 instabiel	4.87E-07							
2.08	1.55E-07	0.00%	0.0917	0.00%	-0.0084	0.00%	0.1137	0.00%
1.96	8.75E-08	-43.40%	0.0761	-17.01%	-0.0092	9.52%	0.0920	-19.06%
direct zonder gas								
2.33 instabiel	4.87E-07							
2.08 fszwel	1.55E-07	0.00%	0.1207	0.00%	-0.0110	0.00%	0.1290	0.00%
1.96	8.75E-08	-43.40%	0.1024	-15.16%	-0.0110	0.00%	0.1095	-15.09%
lineair gasmodus 3								
2.21 instabiel	4.77E-07							
2 instabiel	1.49E-07							
1.9	8.56E-08		0.0718		-0.0088		0.0871	
lineair zonder gas								
2.21 instabiel	4.77E-07							
2 fszwel	1.49E-07	0.00%	0.1116	0.00%	-0.0105	0.00%	0.1199	0.00%
1.9	8.56E-08	-42.54%	0.0962	-13.80%	-0.0103	-1.90%	0.1049	-12.58%

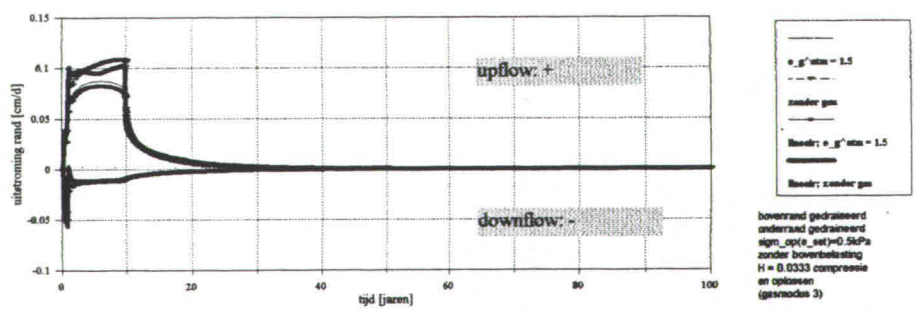
Ketelmeer K16a
operatieve spanning = 0.1 kPa



Ketelmeer K16a
operatieve spanning = 0.3 kPa



Ketelmeer K16a
operatieve spanning = 0.5 kPa



A.5 Tabellen simulaties $v_{dep} = 5$ m/jaar $t_{dep} = 4$ jaar

Slufter zuid **depositiesnelheid: 5 m/jaar**

gevoeligheid kentallen voor e_set

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.1 kPa

		t = t_dep					
e_set		Fc	perc.afw.	Fc_sat	perc.afw.	U(t)	perc.afw.
direct gasmodus3							
5.73		0.8485	0.00%	0.7955	0.00%	0.4470	0.00%
5.22		0.9192	8.33%	0.8591	8.00%	0.3398	-23.98%
4.92		0.9583	12.95%	0.8935	12.32%	0.2749	-38.50%
direct zonder gas							
5.73		0.7630	0.00%	0.7630	0.00%	0.4917	0.00%
5.22		0.8245	8.06%	0.8245	8.06%	0.3974	-19.18%
4.92		0.8628	13.09%	0.8628	13.09%	0.3299	-32.90%
lineair gasmodus 3							
4.39		1.0107	0.00%	0.9377	0.00%	0.1828	0.00%
3.96		1.0353	2.43%	0.9552	1.87%	0.1571	-14.05%
3.76		1.0448	3.37%	0.9607	2.45%	0.1532	-16.18%
lineair zonder gas							
4.39		0.9221	0.00%	0.9221	0.00%	0.2123	0.00%
3.96		0.9444	2.42%	0.9444	2.42%	0.1771	-16.58%
3.76		0.9515	3.19%	0.9515	3.19%	0.1691	-20.37%

gevoeligheid slibhoogte voor e_set

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.1 kPa

	t = t_dep						*t = 100 jaar*					
e_set	hsat [m]	perc.afw.	h [m]	perc.afw.	vg%	perc.afw.	hsat [m]	perc.afw.	h [m]	perc.afw.	vg%	perc.afw.
direct gasmodus3												
5.73	15.91	0.00%	16.97	0.00%	6.25	0.00%	10.85	0.00%	11.76	0.00%	7.74	0.00%
5.22	15.88	-0.19%	16.99	0.12%	6.53	4.59%	10.82	-0.28%	11.77	0.09%	8.07	4.31%
4.92	15.72	-1.19%	16.86	-0.65%	6.76	8.25%	10.78	-0.65%	11.76	0.00%	8.33	7.69%
direct zonder gas												
5.73	15.26	0.00%	15.26	0.00%	0.00	ERR	10.36	0.00%	10.36	0.00%	0.00	ERR
5.22	15.24	-0.13%	15.24	-0.13%	0.00	ERR	10.32	-0.39%	10.32	-0.39%	0.00	ERR
4.92	15.18	-0.52%	15.18	-0.52%	0.00	ERR	10.28	-0.77%	10.28	-0.77%	0.00	ERR
lineair gasmodus 3												
4.39	15.02	0.00%	16.19	0.00%	7.23	0.00%	10.56	0.00%	11.59	0.00%	8.89	0.00%
3.96	14.08	-6.26%	15.26	-5.74%	7.73	7.00%	10.54	-0.19%	11.61	0.17%	9.22	3.70%
3.76	13.59	-9.52%	14.78	-8.71%	8.05	11.41%	10.52	-0.38%	11.60	0.09%	9.31	4.76%
lineair zonder gas												
4.39	14.77	0.00%	14.77	0.00%	0.00	ERR	10.14	0.00%	10.14	0.00%	0.00	ERR
3.96	13.92	-5.75%	13.92	-5.75%	0.00	ERR	10.11	-0.30%	10.11	-0.30%	0.00	ERR
3.76	13.46	-8.87%	13.46	-8.87%	0.00	ERR	10.09	-0.49%	10.09	-0.49%	0.00	ERR

percentage afwijking lineaire set van direct voor verzadigd slib

		t = t_dep				*t = t_dep*	*t = 100 j.*	*t = t_dep*	
	sigm_op [kPa]	k [m/s]	q_up [cm/d]	q_down [cm/d]	q_gem [cm/d]	h [m]	h [m]	Fc	U(t)
direct	0.1	3E-07	0.2907	-0.0243	0.3247	15.26	10.36	0.76	0.49
afw.perct. lineair		-92.18%	-80.63%	-2.88%	-73.67%	-3.21%	-2.12%	20.85%	-56.82%
direct	0.3	1.2E-07	0.1975	-0.0243	0.2222	15.24	10.32	0.82	0.40
afw.perct. lineair		-90.39%	-85.37%	-4.94%	-74.73%	-8.66%	-2.03%	14.54%	-55.43%
direct	0.5	6.7E-08	0.1402	-0.0243	0.1653	15.18	10.28	0.86	0.33
afw.perct. lineair		-88.17%	-84.81%	-7.00%	-71.58%	-11.33%	-1.85%	10.28%	-48.76%

Slufter zuid

gevoeligheid debiet voor e_set

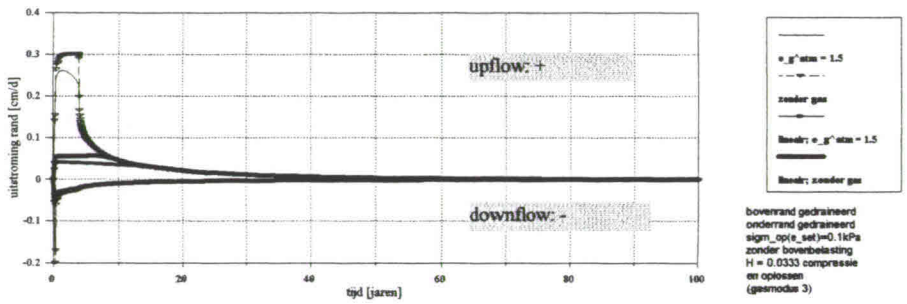
depositiesnelhei 5 m/jaar

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.1 kPa voor t=t_dep

e_set	k(e_set) [m/s]	perc.afw.	q_up [cm/d]	perc.afw.	q_down [cm/d]	perc.afw.	q_gem [cm/d]	perc.afw.
direct gasmodus3								
5.73	3.02E-07	0.00%	0.2214	0.00%	-0.0210	0.00%	0.2801	0.00%
5.22	1.16E-07	-61.47%	0.1271	-42.59%	-0.0209	-0.48%	0.1784	-36.32%
4.92	6.67E-08	-77.90%	0.0887	-59.94%	-0.0208	-0.95%	0.1283	-54.21%
direct zonder gas								
5.73	3.02E-07	0.00%	0.2907	0.00%	-0.0243	0.00%	0.3247	0.00%
5.22	1.16E-07	-61.47%	0.1975	-32.06%	-0.0243	0.00%	0.2222	-31.55%
4.92	6.67E-08	-77.90%	0.1402	-51.77%	-0.0243	0.00%	0.1653	-49.10%
lineair gasmodus 3								
4.39	2.36E-08	0.00%	0.0398	0.00%	-0.0205	0.00%	0.0683	0.00%
3.96	1.12E-08	-52.68%	0.0202	-49.25%	-0.0202	-1.46%	0.0452	-33.86%
3.76	7.89E-09	-66.59%	0.0147	-63.07%	-0.0194	-5.37%	0.0381	-44.32%
lineair zonder gas								
4.39	2.36E-08	0.00%	0.0563	0.00%	-0.0236	0.00%	0.0855	0.00%
3.96	1.12E-08	-52.68%	0.0289	-48.67%	-0.0231	-2.12%	0.0562	-34.29%
3.76	7.89E-09	-66.59%	0.0213	-62.17%	-0.0226	-4.24%	0.0470	-45.06%

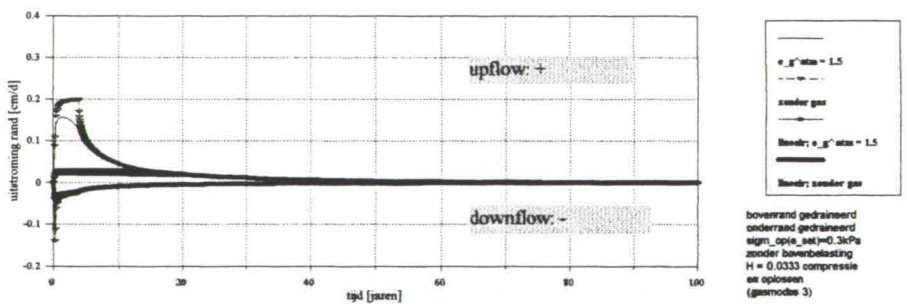
Slufter zuid

operatieve spanning = 0.1 kPa



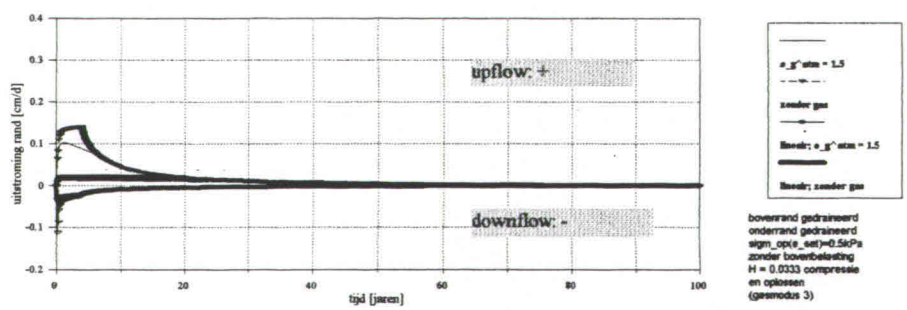
Slufter zuid

operatieve spanning = 0.3 kPa



Slufter zuid

operatieve spanning = 0.5 kPa



mengmonster 20 **depositiesnelheid: 5 m/jaar**

gevoeligheid kentallen voor e_set

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.1 kPa

		t = t_dep					
e_set		Fc	perc.afw.	Fc_sat	perc.afw.	U(t)	perc.afw.
direct gasmodus3							
3.7		0.8780	0.00%	0.7895	0.00%	0.4611	0.00%
3.4		0.9363	6.64%	0.8391	6.28%	0.3822	-17.10%
3.1		0.9881	12.55%	0.8821	11.73%	0.3094	-32.89%
direct zonder gas							
3.7		0.7345	0.00%	0.7345	0.00%	0.5607	0.00%
3.4		0.7840	6.75%	0.7840	6.75%	0.4917	-12.31%
3.1		0.8363	13.85%	0.8363	13.85%	0.4095	-26.97%
lineair gasmodus 3							
2.76		0.9450	0.00%	0.8319	0.00%	0.5193	0.00%
2.49		1.0147	7.38%	0.8908	7.09%	0.4002	-22.94%
2.37		1.0404	10.10%	0.9114	9.56%	0.3568	-31.29%
lineair zonder gas							
2.76		0.7894	0.00%	0.7894	0.00%	0.6050	0.00%
2.49		0.8491	7.57%	0.8491	7.57%	0.5046	-16.59%
2.37		0.8758	10.95%	0.8758	10.95%	0.4518	-25.32%

gevoeligheid slibhoogte voor e_set

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.1 kPa

	t = t_dep						*t = 100 jaar*					
e_set	hsat [m]	perc.afw.	h [m]	perc.afw.	vg%	perc.afw.	hsat [m]	perc.afw.	h [m]	perc.afw.	vg%	perc.afw.
direct gasmodus3												
3.7	15.79	0.00%	17.56	0.00%	10.08	0.00%	10.87	0.00%	12.44	0.00%	12.62	0.00%
3.4	15.71	-0.51%	17.53	-0.17%	10.38	3.00%	10.84	-0.28%	12.45	0.08%	12.93	2.47%
3.1	15.39	-2.53%	17.24	-1.82%	10.73	6.46%	10.80	-0.64%	12.45	0.08%	13.25	5.01%
direct zonder gas												
3.7	14.69	0.00%	14.69	0.00%	0.00	ERR	10.53	0.00%	10.53	0.00%	0.00	ERR
3.4	14.68	-0.07%	14.68	-0.07%	0.00	ERR	10.50	-0.28%	10.50	-0.28%	0.00	ERR
3.1	14.59	-0.68%	14.59	-0.68%	0.00	ERR	10.47	-0.57%	10.47	-0.57%	0.00	ERR
lineair gasmodus 3												
2.76	13.31	0.00%	15.12	0.00%	11.97	0.00%	10.82	0.00%	12.52	0.00%	13.58	0.00%
2.49	13.23	-0.60%	15.07	-0.33%	12.21	1.99%	10.80	-0.18%	12.54	0.16%	13.88	2.19%
2.37	13.07	-1.80%	14.92	-1.32%	12.40	3.58%	10.78	-0.37%	12.53	0.08%	13.97	2.86%
lineair zonder gas												
2.76	12.63	0.00%	12.63	0.00%	0.00	ERR	10.43	0.00%	10.43	0.00%	0.00	ERR
2.49	12.61	-0.16%	12.61	-0.16%	0.00	ERR	10.41	-0.19%	10.41	-0.19%	0.00	ERR
2.37	12.56	-0.55%	12.56	-0.55%	0.00	ERR	10.40	-0.29%	10.40	-0.29%	0.00	ERR

percentage afwijking lineaire set van direct voor verzadigd slib

			t = t_dep				*t = t_dep*	*t = 100 j.*		*t = t_dep*	
		sigm_op [kPa]	k [m/s]	q_up [cm/d]	q_down [cm/d]	q_gem [cm/d]		h [m]	h [m]	Fc	U(t)
direct		0.1	1.8E-07	0.3279	-0.0290	0.3637		14.69	10.53	0.73	0.56
afw.perct. lineair			-47.90%	-37.63%	-11.03%	-36.53%		-14.02%	-0.95%	7.47%	7.90%
direct		0.3	9.9E-08	0.2485	-0.0290	0.2769		14.68	10.5	0.78	0.49
afw.perct. lineair			-60.41%	-46.96%	-11.03%	-44.57%		-14.10%	-0.86%	8.30%	2.63%
direct		0.5	5.3E-08	0.1651	-0.0289	0.1957		14.59	10.47	0.84	0.41
afw.perct. lineair			-49.97%	-40.04%	-11.07%	-37.68%		-13.91%	-0.67%	4.73%	10.35%

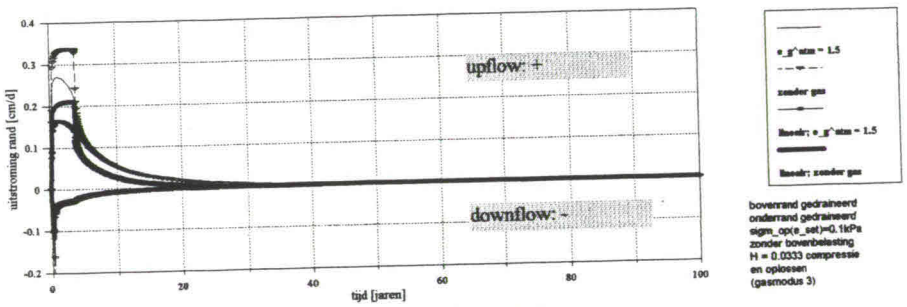
mengmonster 20 *gevoeligheid debiet voor e_set*

depositiesnelhei 5 m/jaar

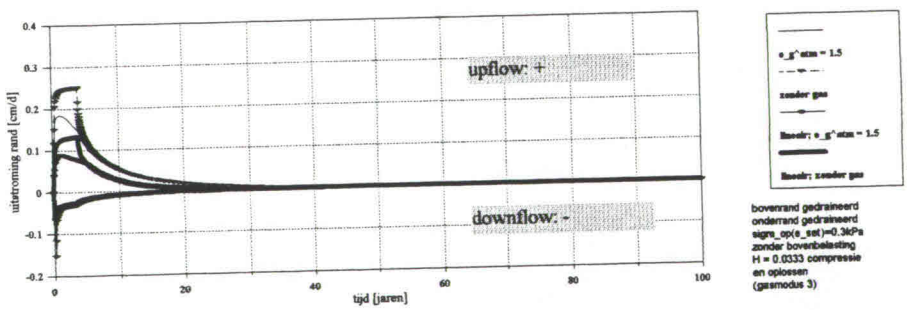
percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.1 kPa voor t=t_dep

e_set	k(e_set) [m/s]	perc.afw.	q_up [cm/d]	perc.afw.	q_down [cm/d]	perc.afw.	q_gem [cm/d]	perc.afw.
direct gasmodus3								
3.7	1.79E-07	0.00%	0.2119	0.00%	-0.0243	0.00%	0.2884	0.00%
3.4	9.88E-08	-44.98%	0.1472	-30.53%	-0.0243	0.00%	0.2064	-28.42%
3.1	5.30E-08	-70.45%	0.0987	-53.42%	-0.0242	-0.41%	0.1409	-51.14%
direct zonder gas								
3.7	1.79E-07	0.00%	0.3279	0.00%	-0.0290	0.00%	0.3637	0.00%
3.4	9.88E-08	-44.98%	0.2485	-24.21%	-0.0290	0.00%	0.2769	-23.85%
3.1	5.30E-08	-70.45%	0.1651	-49.65%	-0.0289	-0.34%	0.1957	-46.20%
lineair gasmodus 3								
2.76	9.35E-08	0.00%	0.1397	0.00%	-0.0219	0.00%	0.1842	0.00%
2.49	3.91E-08	-58.19%	0.0769	-44.95%	-0.0219	0.00%	0.1110	-39.74%
2.37	2.65E-08	-71.63%	0.0574	-58.91%	-0.0217	-0.91%	0.0870	-52.77%
lineair zonder gas								
2.76	9.35E-08	0.00%	0.2045	0.00%	-0.0258	0.00%	0.2308	0.00%
2.49	3.91E-08	-58.19%	0.1318	-35.55%	-0.0258	0.00%	0.1535	-33.50%
2.37	2.65E-08	-71.63%	0.0990	-51.59%	-0.0257	-0.39%	0.1219	-47.17%

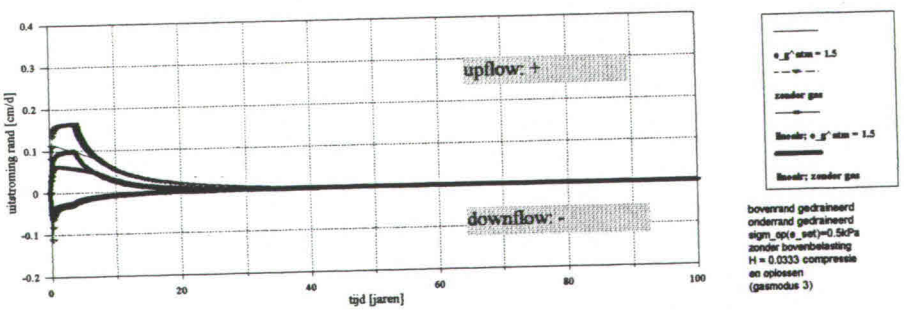
mengmonster 20 Ketelmeer
operatieve spanning = 0.1 kPa



mengmonster 20 Ketelmeer
operatieve spanning = 0.3 kPa



mengmonster 20 Ketelmeer
operatieve spanning = 0.5 kPa



Ketelmeer K16a **depositiesnelheid: 5 m/jaar**

gevoeligheid kentallen voor e_set

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.3 kPa

		t = t_dep					
e_set		Fc	perc.afw.	Fc_sat	perc.afw.	U(t)	perc.afw.
direct gasmodus3							
2.33 instabiel							
2.08		0.9795	0.00%	0.8260	0.00%	0.6313	0.00%
1.96		1.0198	4.11%	0.8584	3.92%	0.5725	-9.31%
direct zonder gas							
2.33 instabiel							
2.08		0.7866	0.00%	0.7866	0.00%	0.7104	0.00%
1.96		0.8179	3.98%	0.8179	3.98%	0.6665	-6.17%
lineair gasmodus 3							
2.21 instabiel							
2		0.9929	0.00%	0.8353	0.00%	0.5974	0.00%
1.9		1.0277	3.51%	0.8629	3.31%	0.5442	-8.92%
lineair zonder gas							
2.21 instabiel							
2		0.7981	0.00%	0.7981	0.00%	0.6629	0.00%
1.9		0.8256	3.45%	0.8256	3.45%	0.6202	-6.44%

gevoeligheid slibhoogte voor e_set

percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.3 kPa

	t = t_dep						*t = 100 jaar*					
e_set	hsat [m]	perc.afw.	h [m]	perc.afw.	vg%	perc.afw.	hsat [m]	perc.afw.	h [m]	perc.afw.	vg%	perc.afw.
direct gasmodus3												
2.33 instabiel												
2.08	15.28	0.00%	18.12	0.00%	15.67	0.00%	13.40	0.00%	16.11	0.00%	16.82	0.00%
1.96	15.26	-0.13%	18.13	0.06%	15.83	1.00%	13.38	-0.15%	16.11	0.00%	16.95	0.74%
direct zonder gas												
2.33 instabiel												
2.08	14.55	0.00%	14.55	0.00%	0.00	ERR	12.94	0.00%	12.94	0.00%	0.00	ERR
1.96	14.54	-0.07%	14.54	-0.07%	0.00	ERR	12.92	-0.15%	12.92	-0.15%	0.00	ERR
lineair gasmodus 3												
2.21 instabiel												
2	15.05	0.00%	17.89	0.00%	15.87	0.00%	13.05	0.00%	15.74	0.00%	17.09	0.00%
1.9	15.03	-0.13%	17.90	0.06%	16.03	1.00%	13.03	-0.15%	15.74	0.00%	17.22	0.74%
lineair zonder gas												
2.21 instabiel												
2	14.38	0.00%	14.38	0.00%	0.00	ERR	12.53	0.00%	12.53	0.00%	0.00	ERR
1.9	14.38	0.00%	14.38	0.00%	0.00	ERR	12.52	-0.08%	12.52	-0.08%	0.00	ERR

percentage afwijking lineaire set van direct voor verzadigd slib

				t = t_dep				*t = t_dep*	*t = 100 j.*		*t = t_dep*	
		sigm_op [kPa]	k [m/s]	q_up [cm/d]	q_down [cm/d]	q_gem [cm/d]		h [m]	h [m]		Fc	U(t)
direct	instabiel	0.1	4.9E-07									
afw.perct. lineair			-2.04%									
direct		0.3	1.5E-07	0.2469	-0.0231	0.2704		14.55	12.94		0.79	0.71
afw.perct. lineair			-3.73%	-8.34%	-7.79%	-7.86%		-1.17%	-3.17%		1.47%	-6.68%
direct		0.5	8.8E-08	0.2025	-0.0231	0.2218		14.54	12.92		0.82	0.67
afw.perct. lineair			-2.27%	-6.52%	-7.79%	-6.19%		-1.10%	-3.10%		0.95%	-6.95%

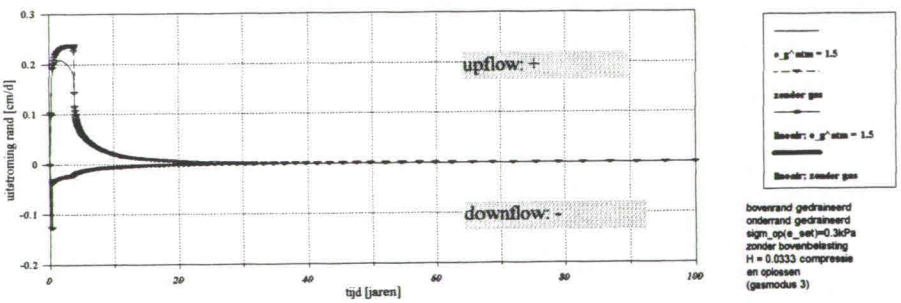
Ketelmeer K16a *gevoeligheid debiet voor e_set*

depositiesnelhei 5 m/jaar

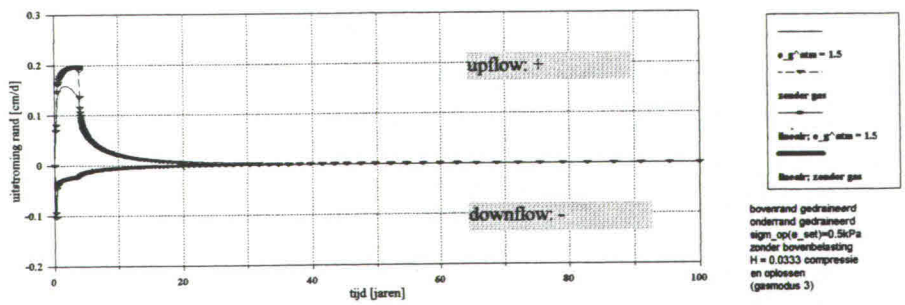
percentage afwijking t.o.v. waarde bij sigm_op(e_set) = 0.3 kPa voor t=t_dep

e_set	k(e_set) [m/s]	perc.afw.	q_up [cm/d]	perc.afw.	q_down [cm/d]	perc.afw.	q_gem [cm/d]	perc.afw.
direct gasmodus3								
2.33 instabiel	4.87E-07							
2.08	1.55E-07	0.00%	0.1690	0.00%	-0.0191	0.00%	0.2204	0.00%
1.96	8.75E-08	-43.40%	0.1254	-25.80%	-0.0191	0.00%	0.1725	-21.77%
direct zonder gas								
2.33 instabiel	4.87E-07							
2.08	1.55E-07	0.00%	0.2469	0.00%	-0.0231	0.00%	0.2704	0.00%
1.96	8.75E-08	-43.40%	0.2025	-17.98%	-0.0231	0.00%	0.2218	-18.00%
lineair gasmodus 3								
2.21 instabiel	4.77E-07							
2	1.49E-07	0.00%	0.1570	0.00%	-0.0175	0.00%	0.2033	0.00%
1.9	8.56E-08	-42.54%	0.1208	-23.06%	-0.0175	0.00%	0.1635	-19.56%
lineair zonder gas								
2.21 instabiel	4.77E-07							
2	1.49E-07	0.00%	0.2263	0.00%	-0.0213	0.00%	0.2492	0.00%
1.9	8.56E-08	-42.54%	0.1893	-16.35%	-0.0213	0.00%	0.2080	-16.51%

Ketelmeer K16a
operatieve spanning = 0.3 kPa



Ketelmeer K16a
operatieve spanning = 0.5 kPa



B Gevoeligheidsanalyse gas porie getal

B.1 Tabellen simulaties parameter set direct methode gasmodus 3

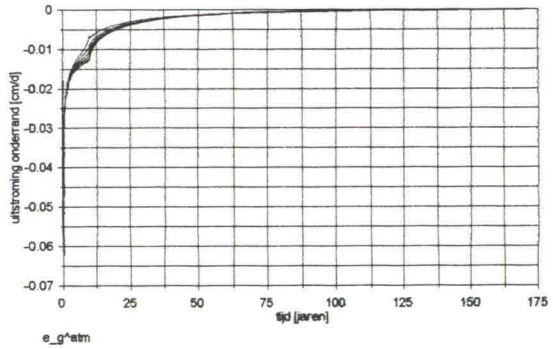
Slufter zuid

	t_dep	t_dep							t_dep = 10 jaar
eg^atm	eg toplaag	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	
0	0	13.75	0.00%	13.75	0.00%	0	0.00%	0.00	
0.5	0.2441	14.05	2.18%	14.56	5.89%	0.51	3.50%	0.17	
1	0.5101	14.39	4.65%	15.43	12.22%	1.04	6.74%	0.35	
1.5	0.8052	14.8	7.64%	16.41	19.35%	1.61	9.81%	0.54	
2	1.1425	15.32	11.42%	17.53	27.49%	2.21	0.126	0.74	
2.5	1.5387	15.9	15.64%	18.79	36.65%	2.89	0.154	0.97	begin instabiliteit

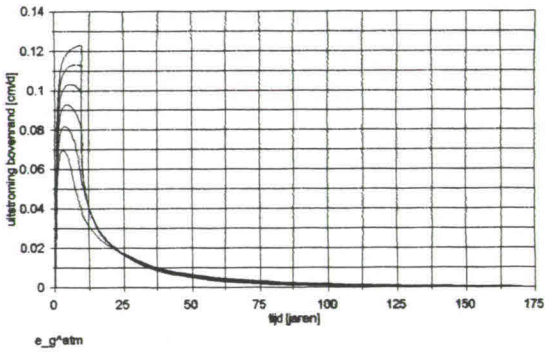
		t_eind							t_dep		
eg^atm	t_eind [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	U(t)	afw. perc.	
0	129.37	10.28	0.00%	10.28	0.00%	0	0.00%	0.00	0.577	0.00%	
0.5	135.34	10.47	1.85%	10.94	6.42%	0.47	4.30%	0.16	0.553	-4.12%	
1	148.2	10.7	4.09%	11.67	13.52%	0.97	8.31%	0.33	0.526	-8.85%	
1.5	155.11	11.01	7.10%	12.5	21.60%	1.49	11.92%	0.50	0.493	-14.58%	
2	162.38	11.46	11.48%	13.49	31.23%	2.03	15.05%	0.68	0.450	-21.93%	
2.5	155.11	12.23	18.97%	14.86	44.55%	2.63	17.70%	0.88	0.413	-28.39%	begin instabiliteit

		t = t_eind voor eg^atm = 0							
eg^atm	t [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	
0	129.37	10.28	0.00%	10.28	0.00%	0	0.00%	0.00	
0.5	129.37	10.47	1.85%	10.95	6.52%	0.48	4.38%	0.16	
1	129.37	10.72	4.28%	11.69	13.72%	0.97	8.30%	0.33	
1.5	129.37	11.05	7.49%	12.53	21.89%	1.48	11.81%	0.50	
2	129.37	11.52	12.06%	13.55	31.81%	2.03	14.98%	0.68	
2.5	129.37	12.3	19.65%	14.93	45.23%	2.63	17.62%	0.88	begin instabiliteit

Slufter zuid
variatie atmosferisch gasporiegetal



Slufter zuid
variatie atmosferisch gasporiegetal



	t_dep						max. qup			max. qdown			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.	qgem [cm/d]	afw. perc.	qup [cm/d]	afw. perc.	t [jaren]	qdown [cm/d]	afw. perc.	t [jaren]	
0	0.1193	0.00%	-0.0127	0.00%	0.12971	0.00%	0.1229	0.00%	9.02	-0.0623	0.00%	0.56	
0.5	0.1095	-8.21%	-0.0122	-3.94%	0.12149	-6.34%	0.1132	-7.89%	6.98	-0.059	-5.30%	0.56	
1	0.0971	-18.61%	-0.0115	-9.45%	0.112175	-13.52%	0.1033	-15.95%	5.49	-0.0556	-10.75%	0.56	
1.5	0.0799	-33.03%	-0.0106	-16.54%	0.100942	-22.18%	0.093	-24.33%	4.51	-0.0518	-16.85%	0.56	
2	0.0548	-54.07%	-0.0092	-27.56%	0.086696	-33.16%	0.0819	-33.36%	3.65	-0.0477	-23.43%	0.56	
2.5	0.038	-68.15%	-0.0064	-49.61%	0.070805	-45.41%	0.0698	-43.21%	3.12	-0.0431	-30.82%	0.56	begin instabiliteit

	gemiddeld over periode t=0 tot tdep			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.
0	0.114823	0.00%	-0.01628	0.00%
0.5	0.106441	-7.30%	-0.01584	-2.72%
1	0.096593	-15.88%	-0.01533	-5.87%
1.5	0.084418	-26.48%	-0.0147	-9.71%
2	0.068326	-40.49%	-0.01388	-14.77%
2.5	0.052163	-54.57%	-0.0126	-22.60%

INPUT

aantal lagen:		1			
aantal perioden:		2			
depositietijd [jaren]:		0	10		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		deposition			
e_dep; v_dep; e_set		5.73	2	5.22	
deeltijdstapfactor depositietijd		4			
consolidatietijd [jaren]		10	170		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		drained			
hoogte waterlaag:		25			
m1 t/m m4:		12.93	-7.15	1.54	-0.132
m5 t/m m8:		-25.1	1.64	0.021	0
gamma_s; gamma_f; eg^atm;	H:	25	10	0	0
aantal knopen		80			
grid verfijningsfactoren		0	1.49	0	-0.49
tijdsfactor; aantal tijdstappen;	skipout:	1.05	150	2	

gasmodus 3:
- compressie
- geen oplossen
- geen advectie

H = 0
hoogte vaste stof hs: 2.97 m
parameterset: direct

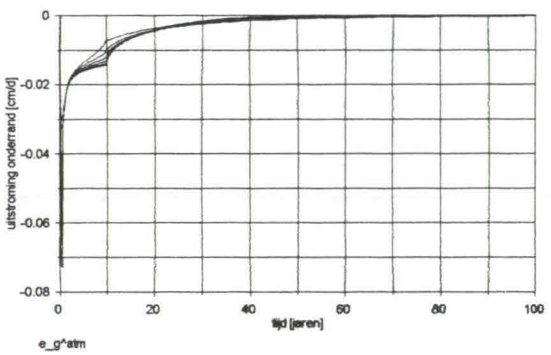
mengmonster 20 Ketelmeer

	t_dep	t_dep							t_dep =	10 jaar
eg^atm	eg toplaag	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ		
0	0	12.81	0.00%	12.81	0.00%	0	0.00%	0.00		
0.5	0.2364	13.18	2.89%	13.88	8.35%	0.7	5.04%	0.16		
1	0.5006	13.62	6.32%	15.06	17.56%	1.44	9.56%	0.34		
1.5	0.805	14.15	10.46%	16.4	28.02%	2.25	13.72%	0.53		
2	1.1729	14.84	15.85%	17.99	40.44%	3.15	0.175	0.74		
2.5	1.6363	15.58	21.62%	19.76	54.25%	4.18	0.212	0.98	begin instabiliteit	

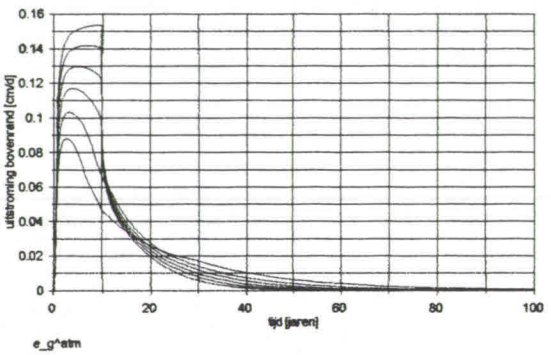
		t_eind							t_dep		
eg^atm	t_eind [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	U(t)	afw. perc.	
0	52.93	10.51	0.00%	10.51	0.00%	0	0.00%	0.00	0.720	0.00%	
0.5	57.41	10.63	1.14%	11.3	7.52%	0.67	5.93%	0.16	0.685	-4.87%	
1	64.99	10.78	2.57%	12.15	15.60%	1.37	11.28%	0.32	0.642	-10.76%	
1.5	73.76	10.98	4.47%	13.1	24.64%	2.12	16.18%	0.50	0.591	-17.97%	
2	87.65	11.28	7.33%	14.2	35.11%	2.92	20.56%	0.69	0.522	-27.54%	
2.5	100	11.88	13.04%	15.69	49.29%	3.81	24.28%	0.90	0.459	-36.20%	begin instabiliteit

		t = t_eind voor eg^atm = 0							
eg^atm	t [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	
0	52.93	10.51	0.00%	10.51	0.00%	0	0.00%	0.00	
0.5	52.93	10.64	1.24%	11.31	7.61%	0.67	5.92%	0.16	
1	52.93	10.81	2.85%	12.19	15.98%	1.38	11.32%	0.32	
1.5	52.93	11.07	5.33%	13.19	25.50%	2.12	16.07%	0.50	
2	52.93	11.49	9.32%	14.42	37.20%	2.93	20.32%	0.69	
2.5	52.93	12.32	17.22%	16.16	53.76%	3.84	23.76%	0.90	begin instabiliteit

mengmonster 20 Ketelmeer
variatie atmosferisch gasporiegetal



mengmonster 20 Ketelmeer
variatie atmosferisch gasporiegetal



	t_dep						max. qup			max. qdown			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.	qgem [cm/d]	afw. perc.	qup [cm/d]	afw. perc.	t [jaren]	qdown [cm/d]	afw. perc.	t [jaren]	
0	0.1492	0.00%	-0.0141	0.00%	0.162011	0.00%	0.1536	0.00%	8.75	-0.0729	0.00%	0.56	
0.5	0.1371	-8.11%	-0.0136	-3.55%	0.151874	-6.26%	0.1419	-7.62%	6.98	-0.0691	-5.21%	0.37	
1	0.1212	-18.77%	-0.0128	-9.22%	0.139819	-13.70%	0.1299	-15.43%	4.67	-0.0663	-9.05%	0.37	
1.5	0.0981	-34.25%	-0.0118	-16.31%	0.125299	-22.66%	0.1172	-23.70%	3.65	-0.0631	-13.44%	0.37	
2	0.067	-55.09%	-0.01	-29.08%	0.106395	-34.33%	0.1034	-32.68%	3.12	-0.0596	-18.24%	0.37	
2.5	0.0476	-68.10%	-0.0067	-52.48%	0.086121	-46.84%	0.0881	-42.64%	2.58	-0.0556	-23.73%	0.37	begin instabiliteit

	gemiddeld over periode t=0 tot tdep			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.
0	0.145341	0.00%	-0.01758	0.00%
0.5	0.13482	-7.24%	-0.01721	-2.09%
1	0.122204	-15.92%	-0.01671	-4.94%
1.5	0.106113	-26.99%	-0.01603	-8.79%
2	0.084858	-41.61%	-0.01504	-14.46%
2.5	0.065103	-55.21%	-0.01341	-23.69%

INPUT

aantal lagen:		1			
aantal perioden:		2			
depositietijd [jaren]:		0	10		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		deposition			
e_dep; v_dep; e_set		3.7	2	3.4	
deeltijdstapfactor depositietijd		4			
consolidatietijd [jaren]		10	100		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		drained			
hoogte waterlaag:		25			
m1 t/m m4:		19	-18.5	6.33	-0.777
m5 t/m m8:		-24.6	2.95	-0.135	0
gamma_s; gamma_f; eg^atm;	H:	25	10	0	0
aantal knopen		80			
grid verfijningsfactoren		0	1.49	0	-0.49
tijdsfactor; aantal tijdstappen;	skipout:	1.05	100	2	

gasmodus 3:
- compressie
- geen oplossen
- geen advectie

H = 0
hoogte vaste stof hs: 4.26 m
parameterset: direct

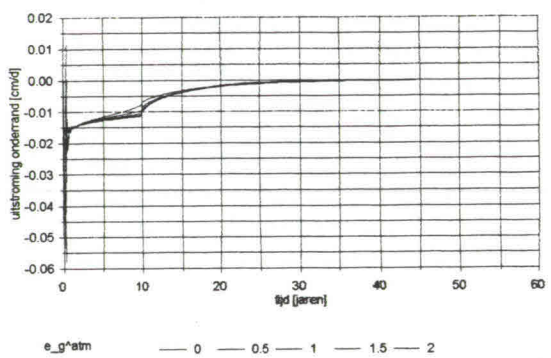
Ketelmeer K16a

	t_dep	t_dep							t_dep = 10 jaar
eg^atm	eg toplaag	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	
0	0	13.81	0.00%	13.81	0.00%	0	0.00%	0.00	fszwel
0.5	0.2481	14.01	1.45%	14.99	8.54%	0.98	6.54%	0.16	
1	0.5303	14.26	3.26%	16.3	18.03%	2.04	12.52%	0.34	
1.5	0.863	14.57	5.50%	17.8	28.89%	3.23	18.15%	0.54	
2	1.2827	15.04	8.91%	19.62	42.07%	4.58	23.34%	0.76	

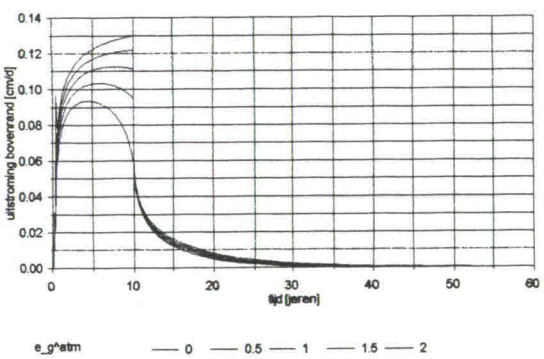
		t_eind							t_dep		
eg^atm	t_eind [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	U(t)	afw. perc.	
0	39.07	12.95	0.00%	12.95	0.00%	0	0.00%	0.00	0.845	0.00%	fszwel
0.5	42.09	13.08	1.00%	14.05	8.49%	0.97	6.90%	0.16	0.828	-1.97%	
1	43.72	13.26	2.39%	15.27	17.92%	2.01	13.16%	0.33	0.809	-4.25%	
1.5	45.42	13.51	4.32%	16.68	28.80%	3.17	19.00%	0.53	0.788	-6.80%	
2	45.42	13.94	7.64%	18.42	42.24%	4.48	24.32%	0.75	0.759	-10.21%	

	t = t_eind voor eg^atm = 0							
eg^atm	t [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	
0	39.07	12.95	0.00%	12.95	0.00%	0	0.00%	0.00	fszwel
0.5	39.07	13.08	1.00%	14.05	8.49%	0.97	6.90%	0.16	
1	39.07	13.27	2.47%	15.28	17.99%	2.01	13.15%	0.33	
1.5	39.07	13.52	4.40%	16.69	28.88%	3.17	18.99%	0.53	
2	39.07	13.95	7.72%	18.44	42.39%	4.49	24.35%	0.75	

Ketelmeer K16a
variatie atmosferisch gasporiegetal



Ketelmeer K16a
variatie atmosferisch gasporiegetal



	t_dep						max. qup			max. qdown			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.	qgem [cm/d]	afw. perc.	qup [cm/d]	afw. perc.	t [jaren]	qdown [cm/d]	afw. perc.	t [jaren]	
0	0.1298	0.00%	-0.0114	0.00%	0.128452	0.00%	0.1298	0.00%	9.92	-0.0478	0.00%	0.33	fszwel
0.5	0.1218	-6.16%	-0.0111	-2.63%	0.122973	-4.27%	0.1218	-6.16%	9.76	-0.0577	20.71%	0.33	begin instabiliteit
1	0.1114	-14.18%	-0.0106	-7.02%	0.116123	-9.60%	0.1127	-13.17%	7.45	-0.0441	-7.74%	0.33	
1.5	0.095	-26.81%	-0.0097	-14.91%	0.10763	-16.21%	0.1034	-20.34%	5.58	-0.0408	-14.64%	0.33	
2	0.0591	-54.47%	-0.0078	-31.58%	0.094753	-26.23%	0.0936	-27.89%	4.23	-0.04	-16.32%	0.33	

	gemiddeld over periode t=0 tot tdep			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.
0	0.115686	0.00%	-0.01353	0.00%
0.5	0.110587	-4.41%	-0.01293	-4.44%
1	0.10369	-10.37%	-0.0129	-4.64%
1.5	0.094984	-17.89%	-0.01259	-6.93%
2	0.082083	-29.05%	-0.01191	-11.98%

INPUT

aantal lagen:		1			
aantal perioden:		2			
depositietijd [jaren]:		0	10		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		deposition			
e_dep; v_dep; e_set		2.33	2	2.08	
deeltijdstapfactor depositietijd		4			
consolidatietijd [jaren]		10	60		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		drained			
hoogte waterlaag:		25			
m1 t/m m4:		12.9	-10.8	2.74	-0.39
m5 t/m m8:		-27.3	6.48	-0.43	0
gamma_s; gamma_f; eg^atm;	H:	25	10	0	0
aantal knopen		100			
grid verfijningsfactoren		0	1.1	0	-0.1
tijdsfactor; aantal tijdstappen;	skipout:	1.05	100	2	

gasmodus 3:
- compressie
- geen oplossen
- geen advectie

H = 0
hoogte vaste stof hs: 6.01 m
parameterset: direct

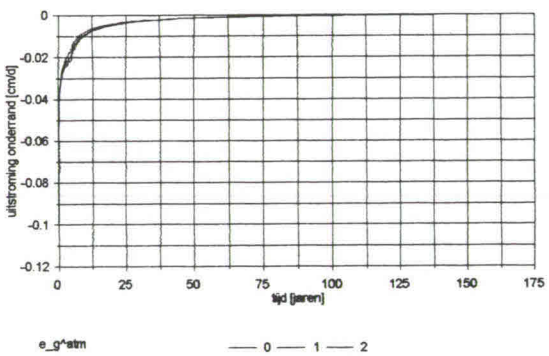
Slufter zuid

	t_dep	t_dep						t_dep =	5 jaar
eg^atm	eg toplaag	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	
0	0	14.89	0.00%	14.89	0.00%	0	0.00%	0.00	
1	0.5419	15.52	4.23%	16.59	11.42%	1.07	6.45%	0.36	
2	1.2165	16.31	9.54%	18.6	24.92%	2.29	0.123	0.77	

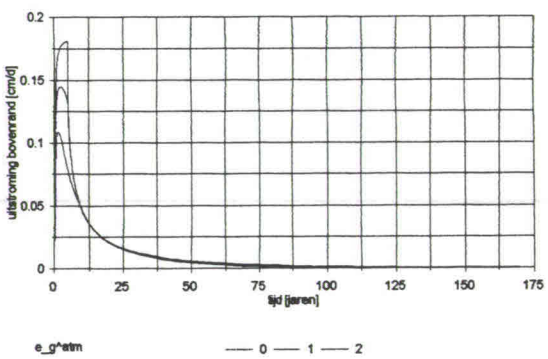
		t_eind							t_dep	
eg^atm	t_eind [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	U(t)	afw. perc.
0	122.23	10.28	0.00%	10.28	0.00%	0	0.00%	0.00	0.438	0.00%
1	140.73	10.71	4.18%	11.67	13.52%	0.96	8.23%	0.32	0.381	-12.97%
2	162.14	11.46	11.48%	13.49	31.23%	2.03	15.05%	0.68	0.310	-29.34%

		t = t_eind voor eg^atm = 0						
eg^atm	t [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ
0	122.23	10.28	0.00%	10.28	0.00%	0	0.00%	0.00
1	122.23	10.73	4.38%	11.7	13.81%	0.97	8.29%	0.33
2	122.23	11.54	12.26%	13.57	32.00%	2.03	14.96%	0.68

Slufter zuid
variatie atmosferisch gasporiegetal



Slufter zuid
variatie atmosferisch gasporiegetal



	t_dep						max. qup			max. qdown		
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.	qgem [cm/d]	afw. perc.	qup [cm/d]	afw. perc.	t [jaren]	qdown [cm/d]	afw. perc.	t [jaren]
0	0.1781	0.00%	-0.0208	0.00%	0.196953	0.00%	0.1807	0.00%	4.59	-0.1001	0.00%	0.19
1	0.1312	-26.33%	-0.0187	-10.10%	0.162433	-17.53%	0.1447	-19.92%	2.25	-0.088	-12.09%	0.19
2	0.0754	-57.66%	-0.0145	-30.29%	0.119145	-39.51%	0.1087	-39.85%	1.29	-0.0744	-25.67%	0.28

	gemiddeld over periode t=0 tot tdep			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.
0	0.170403	0.00%	-0.02718	0.00%
1	0.134256	-21.21%	-0.02545	-6.35%
2	0.088859	-47.85%	-0.02293	-15.62%

INPUT

aantal lagen:		1			
aantal perioden:		2			
depositietijd [jaren]:		0	5		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		deposition			
e_dep; v_dep; e_set		5.73	4	5.22	
deeltijdstapfactor depositietijd		4			
consolidatietijd [jaren]		5	170		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		drained			
hoogte waterlaag:		25			
m1 t/m m4:		12.93	-7.15	1.54	-0.132
m5 t/m m8:		-25.1	1.64	0.021	0
gamma_s; gamma_f; eg^atm;	H:	25	10	0	0
aantal knopen		80			
grid verfijningsfactoren		0	1.49	0	-0.49
tijdsfactor; aantal tijdstappen;	skipout:	1.05	150	2	

gasmodus 3:
- compressie
- geen oplossen
- geen advectie

H = 0
hoogte vaste stof hs: 2.97 m
parameterset: direct

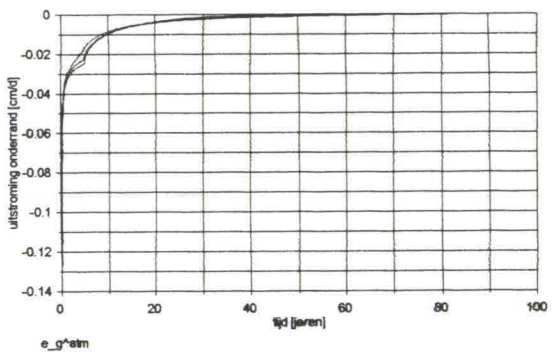
mengmonster 20 Ketelmeer

	t_dep	t_dep						t_dep =	5 jaar
eg^atm	eg toplaag	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	
0	0	14.22	0.00%	14.22	0.00%	0	0.00%	0.00	
1	0.5413	15.07	5.98%	16.56	16.46%	1.49	9.00%	0.35	
2	1.2783	16.11	13.29%	19.39	36.36%	3.28	0.169	0.77	

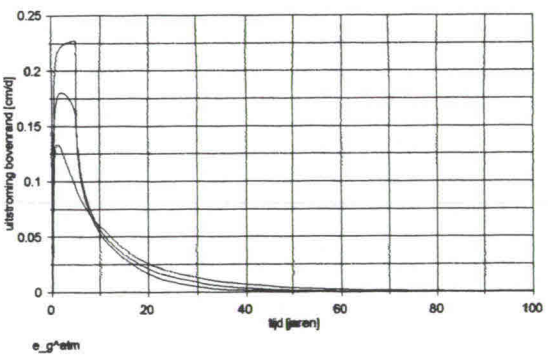
		t_eind							t_dep	
eg^atm	t_eind [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	U(t)	afw. perc.
0	50.32	10.51	0.00%	10.51	0.00%	0	0.00%	0.00	0.548	0.00%
1	63.04	10.78	2.57%	12.15	15.60%	1.37	11.28%	0.32	0.460	-16.12%
2	86.97	11.28	7.33%	14.2	35.11%	2.92	20.56%	0.69	0.351	-35.97%

		t = t_eind voor eg^atm = 0						
eg^atm	t [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ
0	50.32	10.51	0.00%	10.51	0.00%	0	0.00%	0.00
1	50.32	10.82	2.95%	12.19	15.98%	1.37	11.24%	0.32
2	50.32	11.51	9.51%	14.44	37.39%	2.93	20.29%	0.69

mengmonster 20 Ketelmeer
variatie atmosferisch gasporiegetal



mengmonster 20 Ketelmeer
variatie atmosferisch gasporiegetal



	t_dep						max. qup			max. qdown		
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.	qgem [cm/d]	afw. perc.	qup [cm/d]	afw. perc.	t [jaren]	qdown [cm/d]	afw. perc.	t [jaren]
0	0.2242	0.00%	-0.0245	0.00%	0.246762	0.00%	0.2271	0.00%	4.59	-0.1269	0.00%	0.19
1	0.1598	-28.72%	-0.0218	-11.02%	0.200187	-18.87%	0.1802	-20.65%	1.82	-0.1161	-8.51%	0.19
2	0.0938	-58.16%	-0.0163	-33.47%	0.1432	-41.97%	0.1334	-41.26%	1.2	-0.1042	-17.89%	0.19

	gemiddeld over periode t=0 tot tdep			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.
0	0.216093	0.00%	-0.03096	0.00%
1	0.166614	-22.90%	-0.02869	-7.33%
2	0.109144	-49.49%	-0.02522	-18.53%

INPUT

aantal lagen:		1			
aantal perioden:		2			
depositietijd [jaren]:		0	5		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		deposition			
e_dep; v_dep; e_set		3.7	4	3.4	
deeltijdstapfactor depositietijd		4			
consolidatietijd [jaren]		5	100		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		drained			
hoogte waterlaag:		25			
m1 t/m m4:		19	-18.5	6.33	-0.777
m5 t/m m8:		-24.6	2.95	-0.135	0
gamma_s; gamma_f; eg^atm;	H:	25	10	0	0
aantal knopen		80			
grid verfijningsfactoren		0	1.49	0	-0.49
tijdsfactor; aantal tijdstappen;	skipout:	1.05	100	2	

gasmodus 3:
- compressie
- geen oplossen
- geen advectie

H = 0
hoogte vaste stof hs: 4.26 m
parameterset: direct

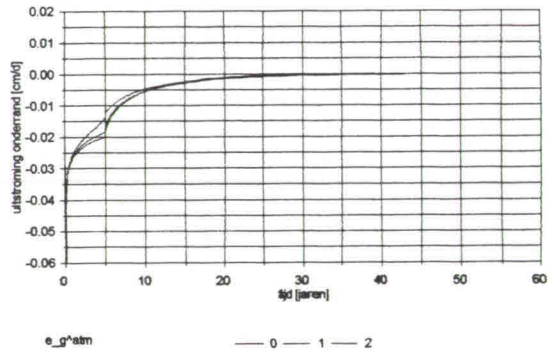
Ketelmeer K16a

	t_dep	t_dep							t_dep =	5 jaar
eg^atm	eg toplaag	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ		
0	0	14.36	0.00%	14.36	0.00%	0	0.00%	0.00	fszwel	
1	0.5483	14.86	3.48%	16.93	17.90%	2.07	12.23%	0.34		
2	1.3462	15.69	9.26%	20.37	41.85%	4.68	22.97%	0.78		

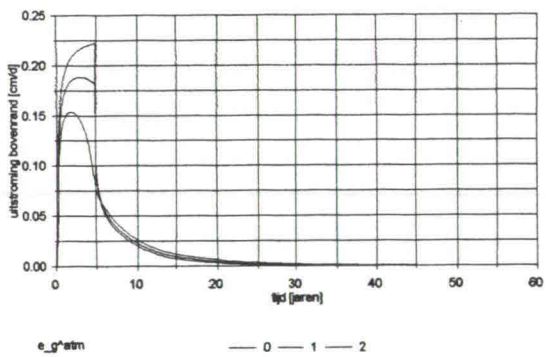
		t_eind							t_dep		
eg^atm	t_eind [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	U(t)	afw. perc.	
0	36.98	12.95	0.00%	12.95	0.00%	0	0.00%	0.00	0.746	0.00%	fszwel
1	40.3	13.26	2.39%	15.28	17.99%	2.02	13.22%	0.34	0.695	-6.88%	
2	43.97	13.93	7.57%	18.42	42.24%	4.49	24.38%	0.75	0.615	-17.58%	

		t = t_eind voor eg^atm = 0							
eg^atm	t [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	
0	36.98	12.95	0.00%	12.95	0.00%	0	0.00%	0.00	fszwel
1	36.98	13.26	2.39%	15.28	17.99%	2.02	13.22%	0.34	
2	36.98	13.95	7.72%	18.44	42.39%	4.49	24.35%	0.75	

Ketelmeer K16a
variatie atmosferisch gasporiegetal



Ketelmeer K16a
variatie atmosferisch gasporiegetal



	t_dep						max. qup			max. qdown			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.	qgem [cm/d]	afw. perc.	qup [cm/d]	afw. perc.	t [jaren]	qdown [cm/d]	afw. perc.	t [jaren]	
0	0.2222	0.00%	-0.02	0.00%	0.226767	0.00%	0.2222	0.00%	4.96	-0.0961	0.00%	0.16	fszwel
1	0.1814	-18.36%	-0.0184	-8.00%	0.19937	-12.08%	0.1885	-15.17%	2.94	-0.0877	-8.74%	0.16	
2	0.0838	-62.29%	-0.0136	-32.00%	0.15389	-32.14%	0.1538	-30.78%	1.74	-0.0767	-20.19%	0.16	

	gemiddeld over periode t=0 tot tdep			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.
0	0.202763	0.00%	-0.02474	0.00%
1	0.175939	-13.23%	-0.02365	-4.41%
2	0.130126	-35.82%	-0.0215	-13.10%

INPUT

aantal lagen:		1			
aantal perioden:		2			
depositietijd [jaren]:		0	5		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		deposition			
e_dep; v_dep; e_set		2.33	4	2.08	
deeltijdstapfactor depositietijd		4			
consolidatietijd [jaren]		5	60		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		drained			
hoogte waterlaag:		25			
m1 t/m m4:		12.9	-10.8	2.74	-0.39
m5 t/m m8:		-27.3	6.48	-0.43	0
gamma_s; gamma_f; eg^atm;	H:	25	10	0	0
aantal knopen		100			
grid verfijningsfactoren		0	1.1	0	-0.1
tijdsfactor; aantal tijdstappen;	skipout:	1.05	100	2	

gasmodus 3:
- compressie
- geen oplossen
- geen advectie

H = 0
hoogte vaste stof hs: 6.01 m
parameterset: direct

B.2 Kentallen simulaties parameter set direct methode gasmodus 3

Mengmonster **20 Ketelmeer** v_{dep} = 2 m/jaar

e_g^{atm}	Fc	Fc_{sat}	U(t)	$\Delta h_{eind\%}$	h_g	$(Fc_{sat}Fc_{verz.ber.})\cdot h_{set}$	$\Delta h_{eind\%}\cdot h_{eind(verz.ber.)}$	Δh
					[m]	[m]	[m]	[m]
$t = t_{dep}$								
0	0.684	0.684	0.720		0	0		0
0.5	0.741	0.704	0.685		0.7	0.37		1.07
1	0.804	0.727	0.642		1.44	0.81		2.25
1.5	0.876	0.756	0.591		2.25	1.34		3.59
2	0.961	0.793	0.522		3.15	2.03		5.18
2.5	1.055	0.832	0.459		4.18	2.77		6.95
$t = t_{eind}$								
0	0.561	0.561		0.00%	0		0	0
0.5	0.604	0.568		1.14%	0.67		0.12	0.79
1	0.649	0.576		2.57%	1.37		0.27	1.64
1.5	0.700	0.586		4.47%	2.12		0.47	2.59
2	0.758	0.602		7.33%	2.92		0.77	3.69
2.5	0.838	0.635		13.04%	3.81		1.37	5.18

Ketelmeer K16 v_{dep} = 2 m/jaar

e_g^{atm}	Fc	Fc_{sat}	U(t)	$\Delta h_{eind\%}$	h_g	$(Fc_{sat}Fc_{verz.ber.})\cdot h_{set}$	$\Delta h_{eind\%}\cdot h_{eind(verz.ber.)}$	Δh
					[m]	[m]	[m]	[m]
$t = t_{dep}$								
0	0.747	0.747	0.845		0	0		0
0.5	0.810	0.757	0.828		0.98	0.2		1.18
1	0.881	0.771	0.809		2.04	0.45		2.49
1.5	0.962	0.788	0.788		3.23	0.76		3.99
2	1.061	0.813	0.759		4.58	1.23		5.81
$t = t_{eind}$								
0	0.700	0.700		0.00%	0		0	0

e_g^{atm}	Fc	Fc_{sat}	U(t)	$\Delta h_{eind\%}$	h_g	$(Fc_{sat}Fc_{verz.ber.})\cdot h_{set}$	$\Delta h_{eind\%} \cdot h_{eind(verz.ber.)}$	Δh
					[m]	[m]	[m]	[m]
$t = t_{dep}$								
0.5	0.760	0.707		1.00%	0.97		0.13	1.10
1	0.825	0.717		2.39%	2.01		0.31	2.32
1.5	0.902	0.730		4.32%	3.17		0.56	3.73
2	0.996	0.754		7.64%	4.48		0.99	5.47

Slufter zuid $v_{dep} = 2$ m/jaar

e_g^{atm}	Fc	Fc_{sat}	U(t)	$\Delta h_{eind\%}$	h_g	$(Fc_{sat}Fc_{verz.ber.})\cdot h_{set}$	$\Delta h_{eind\%} \cdot h_{eind(verz.ber.)}$	Δh
					[m]	[m]	[m]	[m]
$t = t_{dep}$								
0	0.744	0.744	0.577		0	0		0
0.5	0.788	0.760	0.553		0.51	0.3		0.81
1	0.835	0.778	0.536		1.04	0.64		1.68
1.5	0.888	0.801	0.493		1.61	1.05		2.66
2	0.948	0.829	0.450		2.21	1.57		3.78
2.5	1.017	0.860	0.413		2.89	2.15		5.04
$t = t_{eind}$								
0	0.556	0.556		0.00%	0		0	0
0.5	0.592	0.566		1.85%	0.47		0.19	0.66
1	0.631	0.579		4.09%	0.97		0.42	1.39
1.5	0.676	0.596		7.10%	1.49		0.73	2.22
2	0.730	0.620		11.48%	2.03		1.18	3.21
2.5	0.804	0.662		18.97%	2.63		1.95	4.58

B.3 Tabellen simulaties parameter set direct methode gasmodus 1

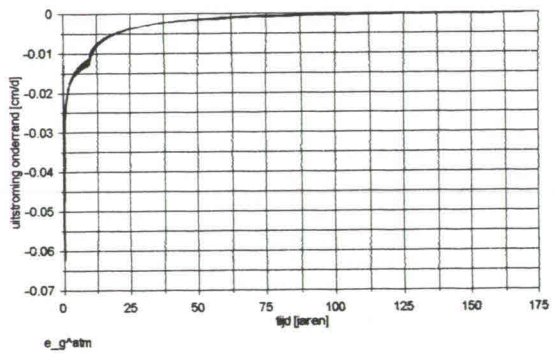
Slufter zuid

	t_dep	t_dep							t_dep =	10 jaar
eg^atm	eg toplaag	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ		
1E-07	0	13.75	0.00%	13.75	0.00%	0	0.00%	0.00		
0.193	0.193	14.07	2.33%	14.64	6.47%	0.57	3.89%	0.19		
0.391	0.391	14.43	4.95%	15.59	13.38%	1.16	7.44%	0.39		
0.593	0.593	14.85	8.00%	16.61	20.80%	1.76	10.60%	0.59		
0.799	0.799	15.35	11.64%	17.72	28.87%	2.37	0.134	0.80		
1.009	1.009	15.97	16.15%	18.97	37.96%	3	0.158	1.01		

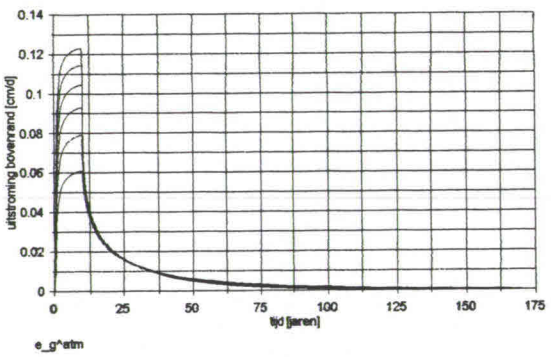
		t_eind							t_dep	
eg^atm	t_eind [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	U(t)	afw. perc.
1E-07	129.37	10.28	0.00%	10.28	0.00%	0	0.00%	0.00	0.577	0.00%
0.193	141.61	10.48	1.95%	11.05	7.49%	0.57	5.16%	0.19	0.551	-4.43%
0.391	148.2	10.73	4.38%	11.89	15.66%	1.16	9.76%	0.39	0.523	-9.39%
0.593	155.11	11.05	7.49%	12.81	24.61%	1.76	13.74%	0.59	0.489	-15.28%
0.799	162.38	11.48	11.67%	13.86	34.82%	2.38	17.17%	0.80	0.447	-22.45%
1.009	170	12.11	17.80%	15.11	46.98%	3	19.85%	1.01	0.394	-31.64%

		t = t_eind voor eg^atm = 0						
eg^atm	t [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ
1E-07	129.37	10.28	0.00%	10.28	0.00%	0	0.00%	0.00
0.193	129.37	10.49	2.04%	11.06	7.59%	0.57	5.15%	0.19
0.391	129.37	10.75	4.57%	11.91	15.86%	1.16	9.74%	0.39
0.593	129.37	11.09	7.88%	12.86	25.10%	1.77	13.76%	0.60
0.799	129.37	11.55	12.35%	13.92	35.41%	2.37	17.03%	0.80
1.009	129.37	12.21	18.77%	15.21	47.96%	3	19.72%	1.01

Slufter zuid
variatie atmosferisch gasporiegetal



Slufter zuid
variatie atmosferisch gasporiegetal



	t_dep						max. qup			max. qdown		
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.	qgem [cm/d]	afw. perc.	qup [cm/d]	afw. perc.	t [jaren]	qdown [cm/d]	afw. perc.	t [jaren]
1E-07	0.1193	0.00%	-0.0127	0.00%	0.12971	0.00%	0.1229	0.00%	9.02	-0.0623	0.00%	0.56
0.193	0.1114	-6.62%	-0.0124	-2.36%	0.120942	-6.76%	0.1143	-7.00%	9.19	-0.058	-6.90%	0.56
0.391	0.1023	-14.25%	-0.012	-5.51%	0.111079	-14.36%	0.1045	-14.97%	9.34	-0.053	-14.93%	0.56
0.593	0.0916	-23.22%	-0.0116	-8.66%	0.099573	-23.23%	0.093	-24.33%	9.34	-0.0473	-24.08%	0.56
0.799	0.0783	-34.37%	-0.0113	-11.02%	0.085874	-33.80%	0.079	-35.72%	9.34	-0.0406	-34.83%	0.56
1.009	0.0608	-49.04%	-0.011	-13.39%	0.068888	-46.89%	0.061	-50.37%	9.54	-0.0323	-48.15%	0.56

	gemiddeld over periode t=0 tot tdep			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.
1E-07	0.114823	0.00%	-0.01628	0.00%
0.193	0.106493	-7.25%	-0.01584	-2.70%
0.391	0.097009	-15.51%	-0.01541	-5.33%
0.593	0.085953	-25.14%	-0.01498	-8.01%
0.799	0.072609	-36.76%	-0.01452	-10.83%
1.009	0.055749	-51.45%	-0.01402	-13.89%

INPUT

aantal lagen:		1			
aantal perioden:		2			
depositietijd [jaren]:		0	10		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		deposition			
e_dep; v_dep; e_set		5.73	2	5.22	
deeltijdstapfactor depositietijd		4			
consolidatietijd [jaren]		10	170		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		drained			
hoogte waterlaag:		25			
m1 t/m m4:		12.93	-7.15	1.54	-0.132
m5 t/m m8:		-25.1	1.64	0.021	0
gamma_s; gamma_f; eg^atm;	H:	25	10	1E-07	0
aantal knopen		80			
grid verfijningsfactoren		0	1.49	0	-0.49
tijdsfactor; aantal tijdstappen;	skipout:	1.05	150	2	

gasmodus 1:
- geen compressie
- geen oplossen
- geen advectie

H = 0
hoogte vaste stof hs: 2.97 m
parameterset: direct

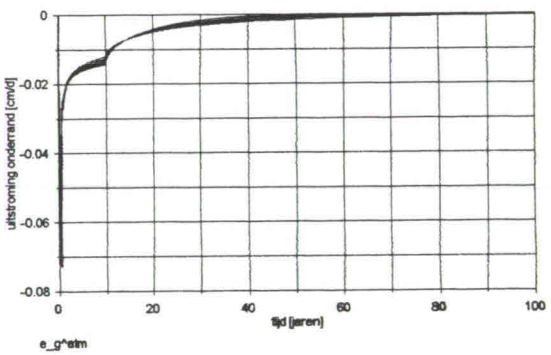
mengmonster 20 Ketelmeer

	t dep	t dep						t dep =	10 jaar
eg^atm	eg toplaag	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	
1E-07	0	12.81	0.00%	12.81	0.00%	0	0.00%	0.00	
0.19	0.19	13.21	3.12%	14.02	9.45%	0.81	5.78%	0.19	
0.387	0.387	13.66	6.64%	15.31	19.52%	1.65	10.78%	0.39	
0.59	0.59	14.21	10.93%	16.72	30.52%	2.51	15.01%	0.59	
0.798	0.798	14.87	16.08%	18.27	42.62%	3.4	0.186	0.80	
1.012	1.012	15.72	22.72%	20.03	56.36%	4.31	0.215	1.01	

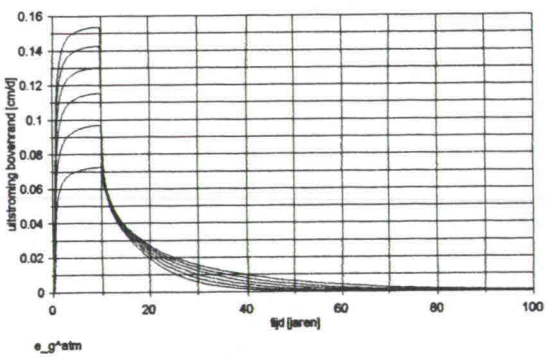
		t eind						t dep	
eg^atm	t_eind [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	U(t)	afw. perc.
1E-07	52.93	10.51	0.00%	10.51	0.00%	0	0.00%	0.00	0.720	0.00%
0.19	59.81	10.63	1.14%	11.44	8.85%	0.81	7.08%	0.19	0.681	-5.38%
0.387	67.77	10.78	2.57%	12.43	18.27%	1.65	13.27%	0.39	0.637	-11.46%
0.59	83.92	10.97	4.38%	13.48	28.26%	2.51	18.62%	0.59	0.582	-19.15%
0.798	95.68	11.24	6.95%	14.63	39.20%	3.39	23.17%	0.80	0.515	-28.48%
1.012	100	11.68	11.13%	15.98	52.05%	4.3	26.91%	1.01	0.426	-40.77%

		t = t eind voor eg^atm = 0						
eg^atm	t [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ
1E-07	52.93	10.51	0.00%	10.51	0.00%	0	0.00%	0.00
0.19	52.93	10.64	1.24%	11.45	8.94%	0.81	7.07%	0.19
0.387	52.93	10.83	3.04%	12.47	18.65%	1.64	13.15%	0.39
0.59	52.93	11.09	5.52%	13.6	29.40%	2.51	18.46%	0.59
0.798	52.93	11.5	9.42%	14.89	41.67%	3.39	22.77%	0.80
1.012	52.93	12.15	15.60%	16.46	56.61%	4.31	26.18%	1.01

mengmonster 20 Ketelmeer
variatie atmosferisch gasporiegetal



mengmonster 20 Ketelmeer
variatie atmosferisch gasporiegetal



	t dep						max. qup			max. qdown		
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.	qgem [cm/d]	afw. perc.	qup [cm/d]	afw. perc.	t [jaren]	qdown [cm/d]	afw. perc.	t [jaren]
1E-07	0.1492	0.00%	-0.0141	0.00%	0.162011	0.00%	0.1536	0.00%	8.75	-0.0729	0.00%	0.56
0.19	0.1393	-6.64%	-0.0137	-2.84%	0.151052	-6.76%	0.1428	-7.03%	9.02	-0.0682	-6.45%	0.37
0.387	0.1278	-14.34%	-0.0133	-5.67%	0.138723	-14.37%	0.1303	-15.17%	9.11	-0.0641	-12.07%	0.37
0.59	0.1139	-23.66%	-0.0129	-8.51%	0.123655	-23.68%	0.1155	-24.80%	9.48	-0.0592	-18.79%	0.37
0.798	0.0963	-35.46%	-0.0124	-12.06%	0.105573	-34.84%	0.097	-36.85%	9.34	-0.0529	-27.43%	0.37
1.012	0.0725	-51.41%	-0.0119	-15.60%	0.082285	-49.21%	0.0726	-52.73%	9.41	-0.0431	-40.88%	0.37

	gemiddeld over periode t=0 tot tdep			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.
1E-07	0.145341	0.00%	-0.01758	0.00%
0.19	0.134885	-7.19%	-0.01722	-2.01%
0.387	0.12278	-15.52%	-0.01679	-4.46%
0.59	0.108388	-25.43%	-0.01631	-7.20%
0.798	0.090668	-37.62%	-0.01573	-10.51%
1.012	0.067735	-53.40%	-0.01504	-14.44%

INPUT

aantal lagen:		1			
aantal perioden:		2			
depositietijd [jaren]:		0	10		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		deposition			
e_dep; v_dep; e_set		3.7	2	3.4	
deeltijdstapfactor depositietijd		4			
consolidatietijd [jaren]		10	100		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		drained			
hoogte waterlaag:		25			
m1 t/m m4:		19	-18.5	6.33	-0.777
m5 t/m m8:		-24.6	2.95	-0.135	0
gamma_s; gamma_f; eg^atm;	H:	25	10	1E-07	0
aantal knopen		80			
grid verfijningsfactoren		0	1.49	0	-0.49
tijdsfactor; aantal tijdstappen;	skipout:	1.05	100	2	

gasmodus 1:
- geen compressie
- geen opiossen
- geen advectie

H = 0
hoogte vaste stof hs: 4.26 m
parameterset: direct

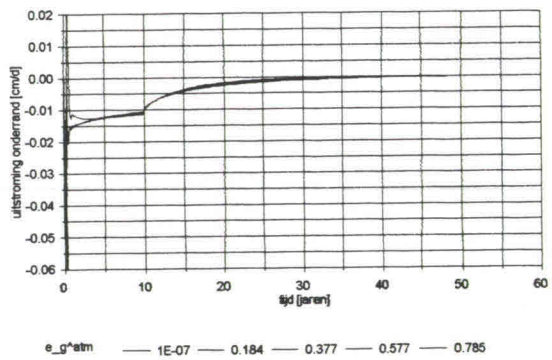
Ketelmeer K16a

	t_dep	t_dep						t_dep =	10 jaar
eg^atm	eg toplaag	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	
1E-07	0	13.8	0.00%	13.8	0.00%	0	0.00%	0.00	instabiel
0.184	0.184	14.01	1.52%	15.11	9.49%	1.1	7.28%	0.18	instabiel
0.377	0.377	14.24	3.19%	16.51	19.64%	2.27	13.75%	0.38	
0.577	0.577	14.52	5.22%	17.99	30.36%	3.47	19.29%	0.58	
0.785	0.785	14.88	7.83%	19.59	41.96%	4.71	24.04%	0.78	

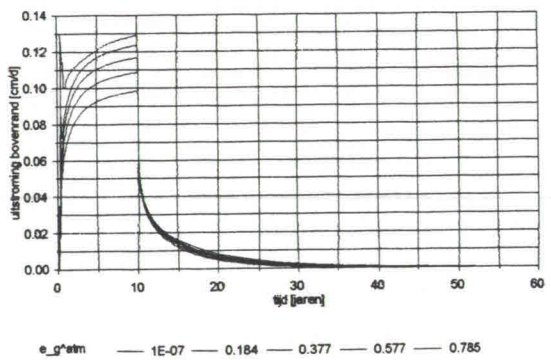
		t_eind						t_dep		
eg^atm	t_eind [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ	U(t)	afw. perc.
1E-07	39.07	12.95	0.00%	12.95	0.00%	0	0.00%	0.00	0.847	0.00% instabiel
0.184	42.09	13.07	0.93%	14.18	9.50%	1.11	7.83%	0.18	0.827	-2.36% instabiel
0.377	45.42	13.23	2.16%	15.5	19.69%	2.27	14.65%	0.38	0.808	-4.55%
0.577	47.21	13.43	3.71%	16.89	30.42%	3.46	20.49%	0.58	0.785	-7.31%
0.785	51.07	13.69	5.71%	18.4	42.08%	4.71	25.60%	0.78	0.753	-11.13%

		t = t_eind voor eg^atm = 0						
eg^atm	t [jaren]	hsat [m]	afw. perc.	h [m]	afw. perc.	hg [m]	vg%	eg^gem in situ
1E-07	39.07	12.95	0.00%	12.95	0.00%	0	0.00%	0.00 instabiel
0.184	39.07	13.08	1.00%	14.18	9.50%	1.1	7.76%	0.18 instabiel
0.377	39.07	13.24	2.24%	15.5	19.69%	2.26	14.58%	0.38
0.577	39.07	13.45	3.86%	16.91	30.58%	3.46	20.46%	0.58
0.785	39.07	13.72	5.95%	18.43	42.32%	4.71	25.56%	0.78

Ketelmeer K16a
variatie atmosferisch gasporiegetal



Ketelmeer K16a
variatie atmosferisch gasporiegetal



	t_dep						max. qup			max. qdown			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.	qgem [cm/d]	afw. perc.	qup [cm/d]	afw. perc.	t [jaren]	qdown [cm/d]	afw. perc.	t [jaren]	
1E-07	0.1293	0.00%	-0.0113	0.00%	0.128726	0.00%	0.1299	0.00%	0.44	-0.0718	0.00%	0.33	instabiel
0.184	0.1237	-4.33%	-0.0112	-0.88%	0.122973	-4.47%	0.1237	-4.77%	10	-0.0538	-25.07%	0.33	instabiel
0.377	0.1169	-9.59%	-0.011	-2.65%	0.116671	-9.36%	0.1169	-10.01%	10	-0.0413	-42.48%	0.33	
0.577	0.1086	-16.01%	-0.0108	-4.42%	0.109	-15.32%	0.1086	-16.40%	9.92	-0.0401	-44.15%	0.33	
0.785	0.0983	-23.98%	-0.0106	-6.19%	0.099137	-22.99%	0.0983	-24.33%	9.92	-0.0373	-48.05%	0.33	

	gemiddeld over periode t=0 tot tdep			
eg^atm	qup [cm/d]	afw. perc.	qdown [cm/d]	afw. perc.
1E-07	0.117464	0.00%	-0.01188	0.00%
0.184	0.110605	-5.84%	-0.01308	10.11%
0.377	0.104101	-11.38%	-0.01309	10.15%
0.577	0.096484	-17.86%	-0.01297	9.14%
0.785	0.086974	-25.96%	-0.01276	7.41%

INPUT

aantal lagen:		1			
aantal perioden:		2			
depositietijd [jaren]:		0	10		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		deposition			
e_dep; v_dep; e_set		2.33	2	2.08	
deeltijdstapfactor depositietijd		4			
consolidatietijd [jaren]		10	60		
bodemrandvoorwaarde:		drained			
bovenrandvoorwaarde:		drained			
hoogte waterlaag:		25			
m1 t/m m4:		12.9	-10.8	2.74	-0.39
m5 t/m m8:		-27.3	6.48	-0.43	0
gamma_s; gamma_f; eg^atm;	H:	25	10	1E-07	0
aantal knopen		100			
grid verfijningsfactoren		0	1.1	0	-0.1
tijdsfactor; aantal tijdstappen;	skipout:	1.05	100	2	

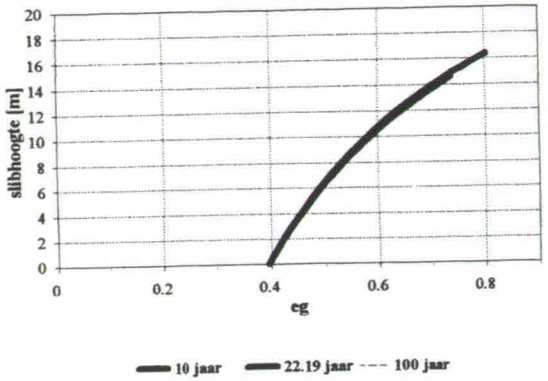
gasmodus 1:
- geen compressie
- geen oplossen
- geen advectie

H = 0
hoogte vaste stof hs: 6.01 m
parameterset: direct

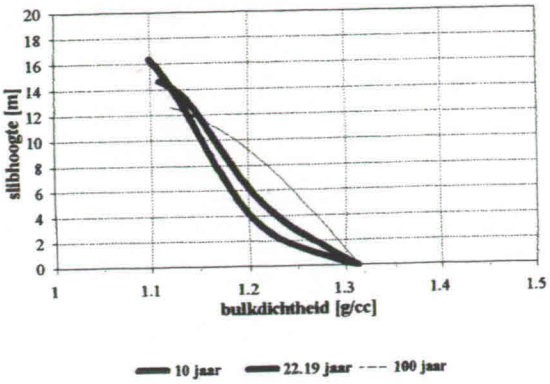
B.4 Profielen variatie coëfficiënt van Henry gasmodus 3

Slufter zuid

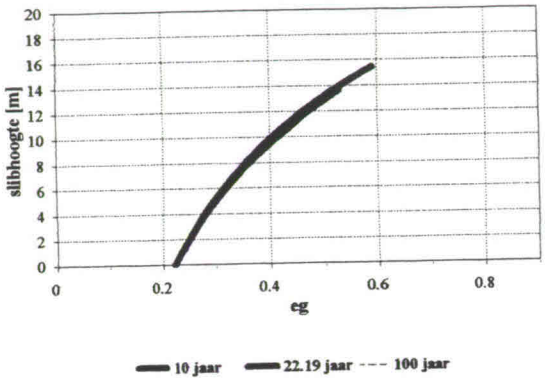
H = 0



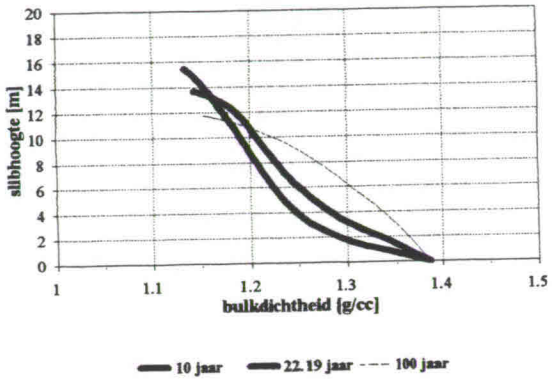
H = 0



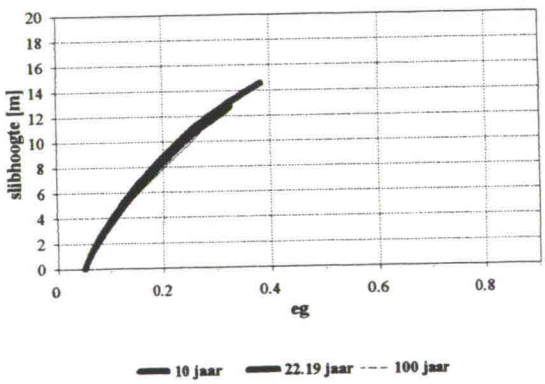
H = 0.0333



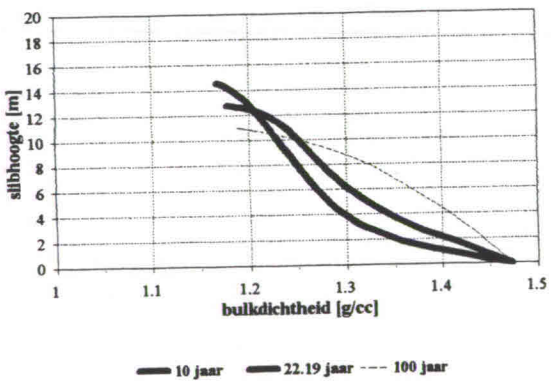
H = 0.0333



H = 0.0666



H = 0.0666



INPUT:

number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	5.73	2	5.22		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	12.93	-7.15	1.54	-0.132	
permeability parameters:	-25.1	1.64	0.021	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	1.5	0	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

GEVOELIGHEIDSANALYSE:

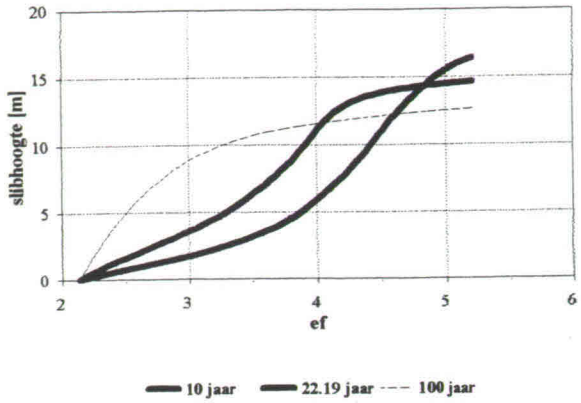
H = 0
H = 0.0333
H = 0.0666

BEREKENINGSMODUS: 3

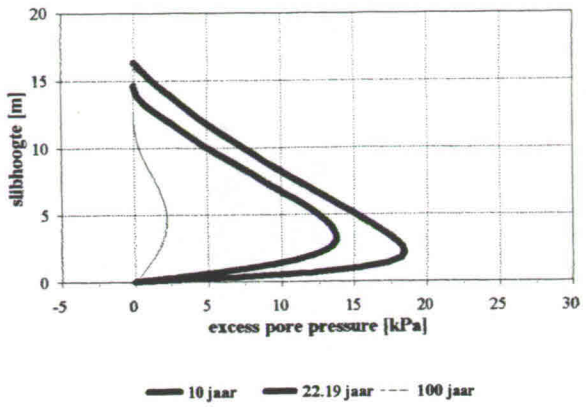
sig_op(e_set) = 0.3 kPa

Slufter zuid

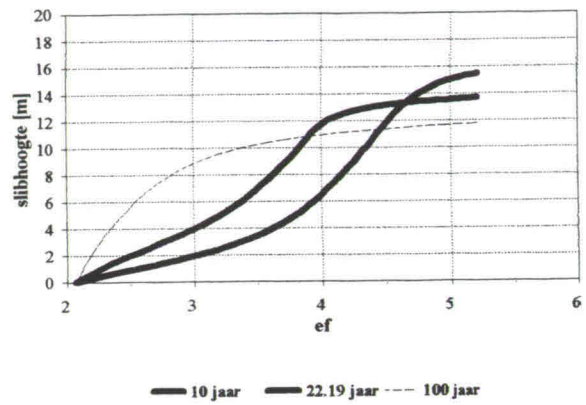
H = 0



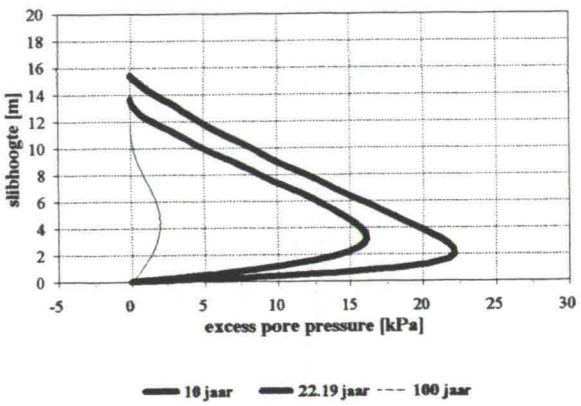
H = 0



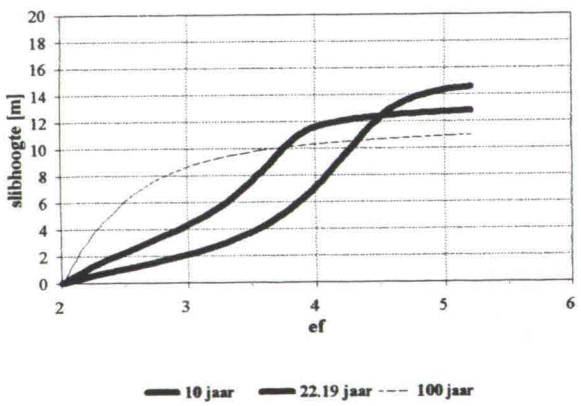
H = 0.0333



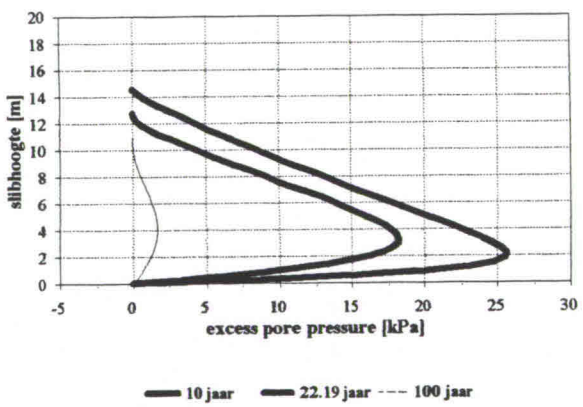
H = 0.0333



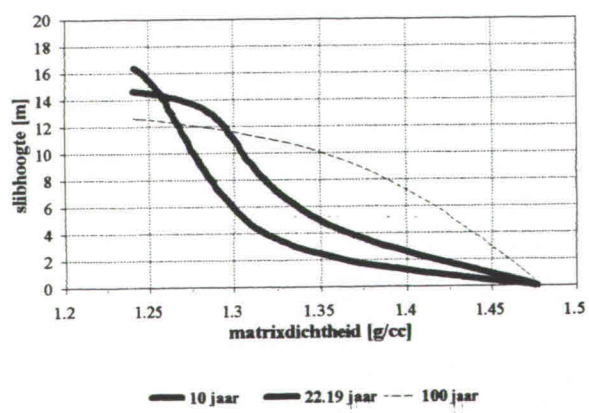
H = 0.0666



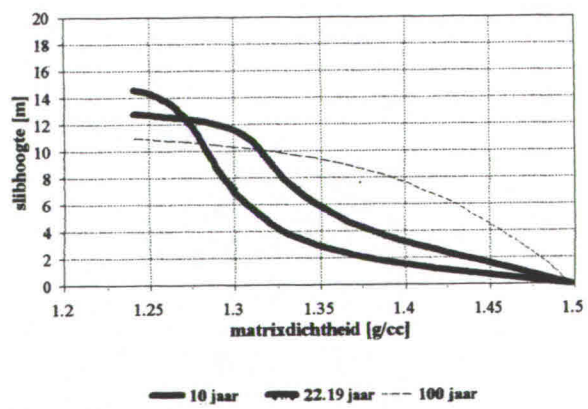
H = 0.0666



H = 0

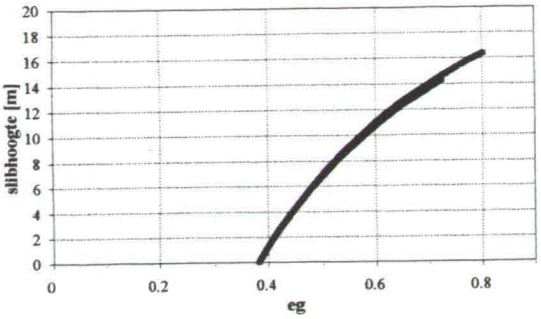


H = 0.0666

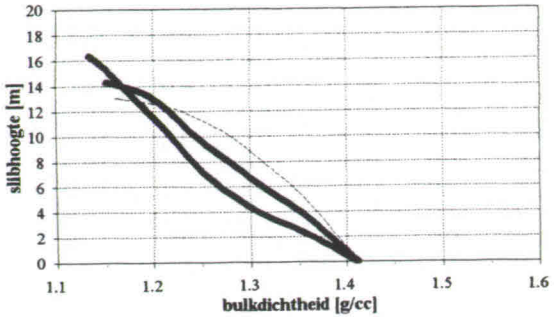


mengmonster 20 Ketelmeer

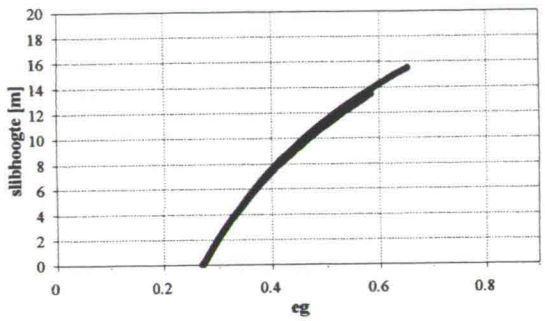
H = 0



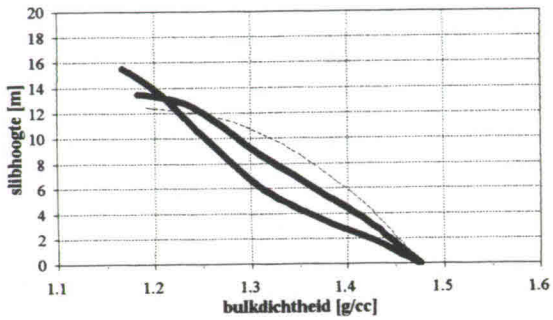
H = 0



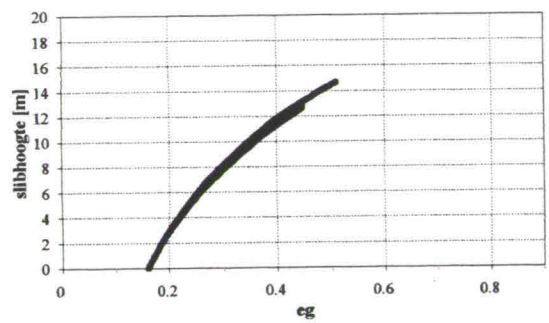
H = 0.0333



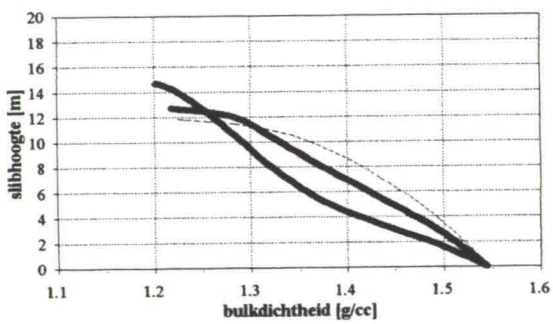
H = 0.0333



H = 0.0666



H = 0.0666



INPUT:

number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	3.7	2	3.4		
division timestep during depostion:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	19	-18.5	6.33	-0.777	
permeability parameters:	-24.6	2.95	-0.135	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	1.5	0	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

GEVOELIGHEIDSANALYSE:

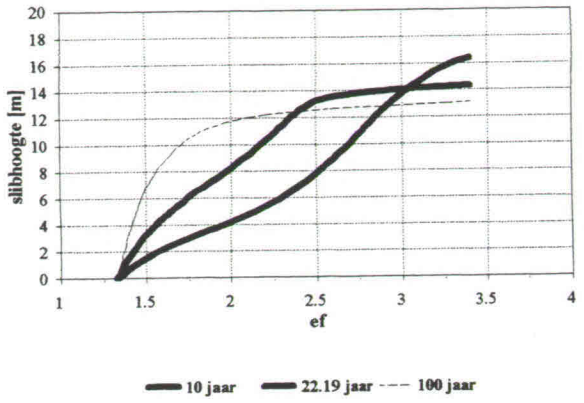
H = 0
H = 0.0333
H = 0.0666

BEREKENINGSMODUS: 3

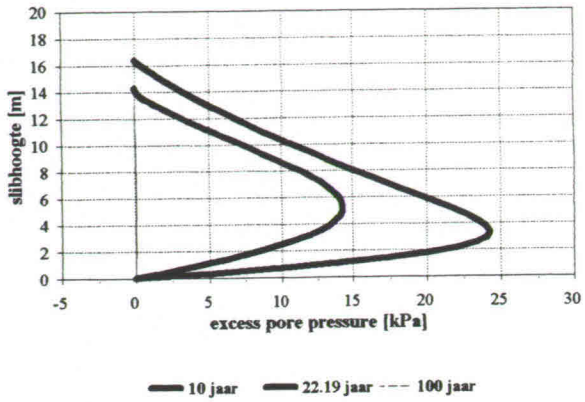
sig_op(e_set) = 0.3 kPa

mengmonster 20 Ketelmeer

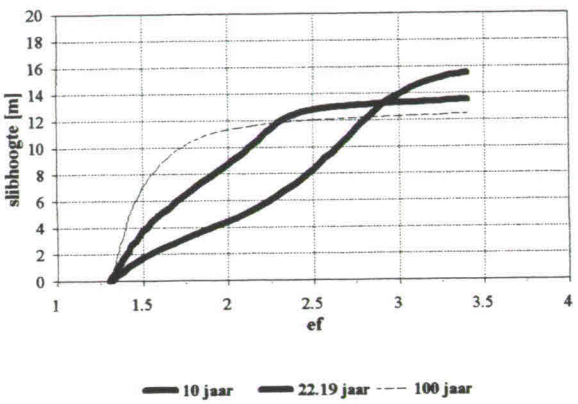
H = 0



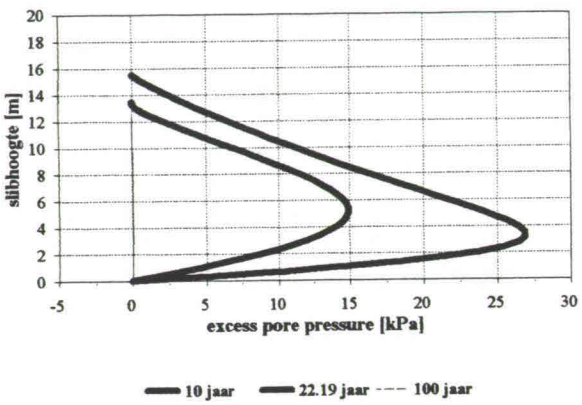
H = 0



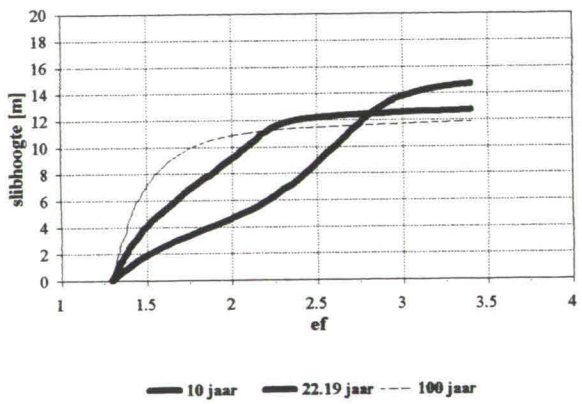
H = 0.0333



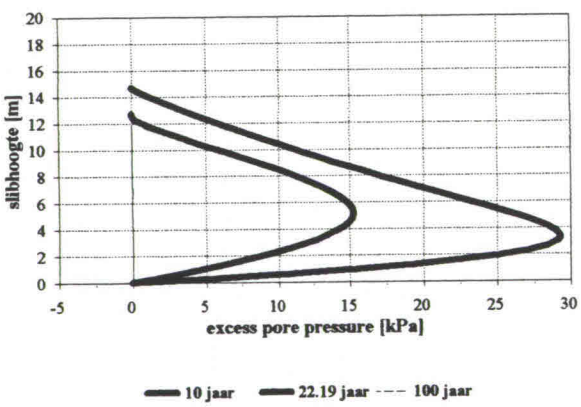
H = 0.0333



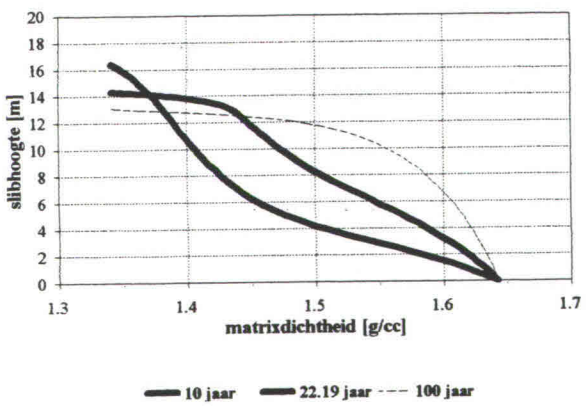
H = 0.0666



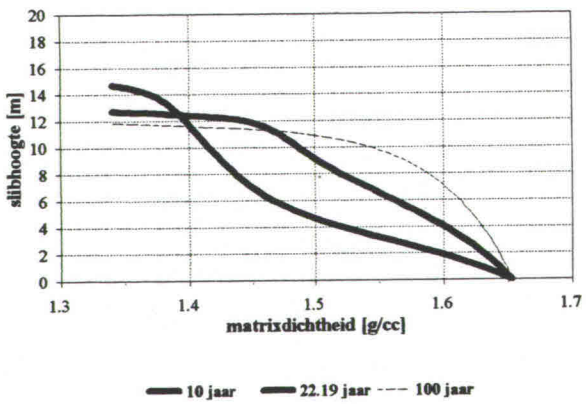
H = 0.0666



H = 0

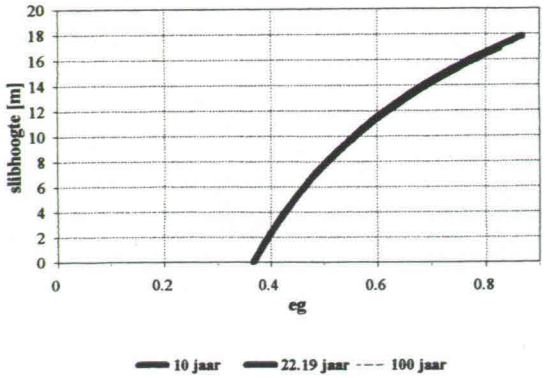


H = 0.0666

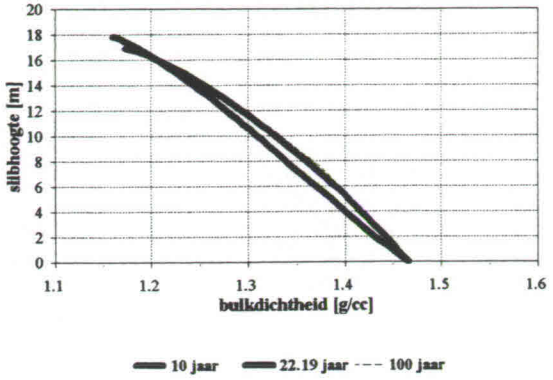


Ketelmeer K16a

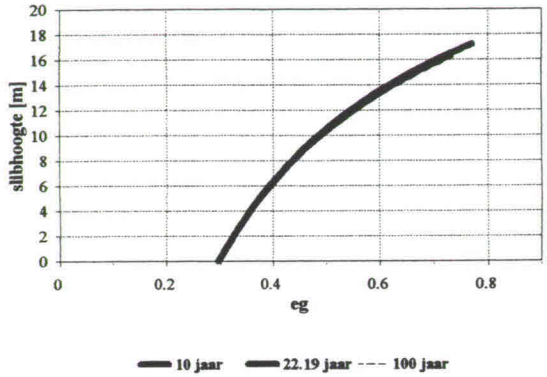
H = 0



H = 0



H = 0.0333



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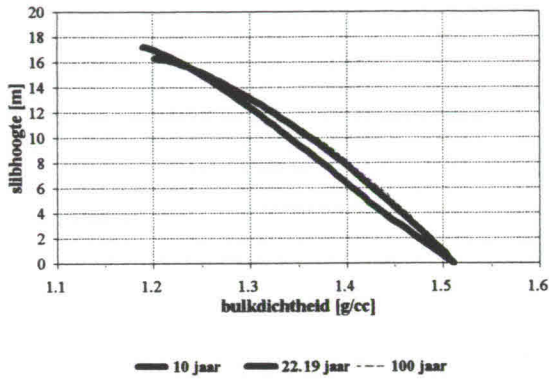
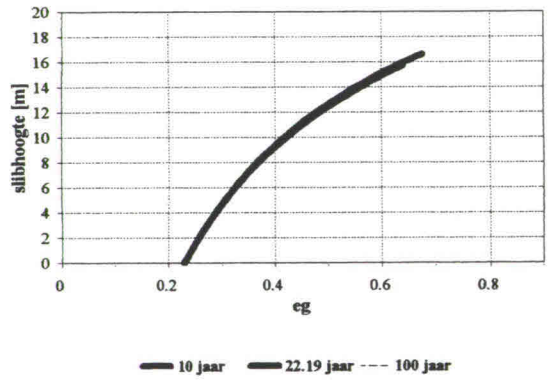
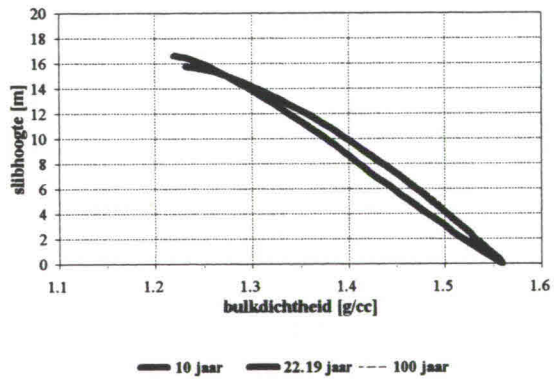


H = 0.0666



H = 0.0666



INPUT:

number of layers:	1				
number of periods:	2				
deposition time [years]:	0	10			
bottom boundary condition:	drained				
top boundary condition:	deposition				
e_dep; v_dep; e_set:	2.33	2	2.06		
division timestep during deposition:	4				
consolidation time [years]:	10	100			
bottom boundary condition:	drained				
top boundary condition:	drained				
height of water layer:	25				
operative stress parameters:	12.9	-10.8	2.74	-0.39	
permeability parameters:	-27.3	6.48	-0.43	0	
gamma_s; gamma_f; e_g^atm; H:	25	10	1.5	0	
number of nodes:	50				
grid refinement coefficients:	0	1.49	0	-0.49	0
timefactor; no. of timesteps; skipout:	1.05	100	5		

GEVOELIGHEIDSANALYSE:

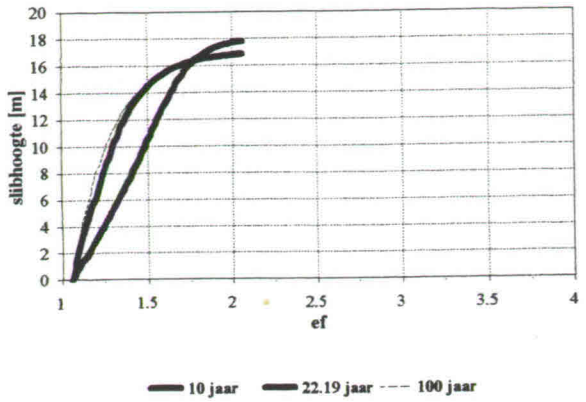
H = 0
H = 0.0333
H = 0.0666

BEREKENINGSMODUS: 3

sig_op(e_set) = 0.3 kPa

Ketelmeer K16a

H = 0



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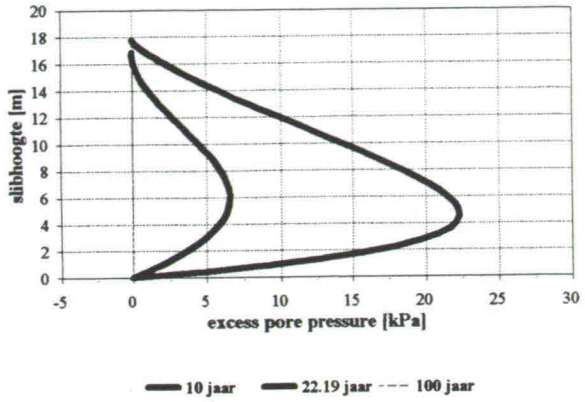
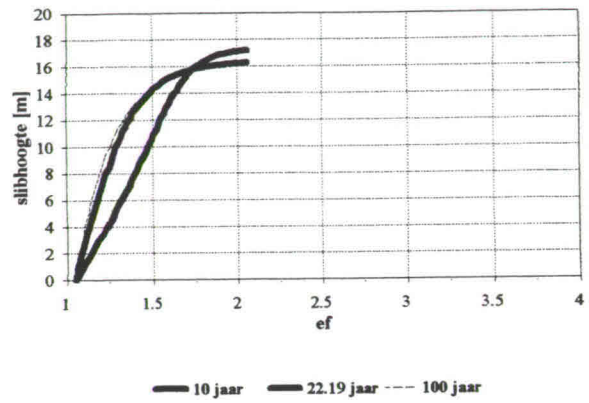
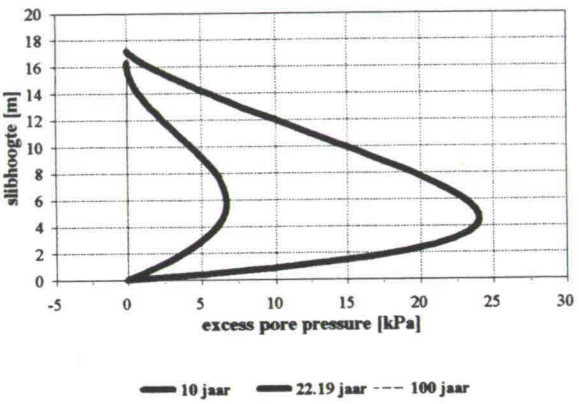


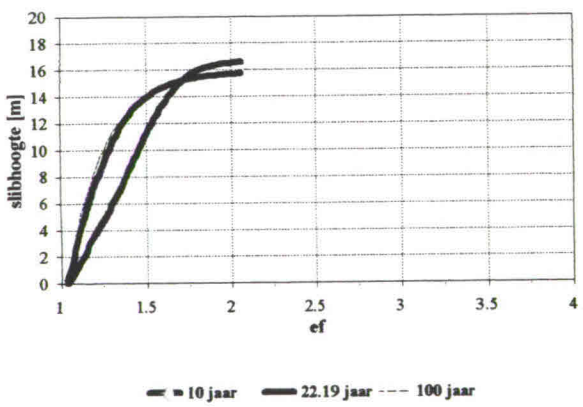
H = 0.0333



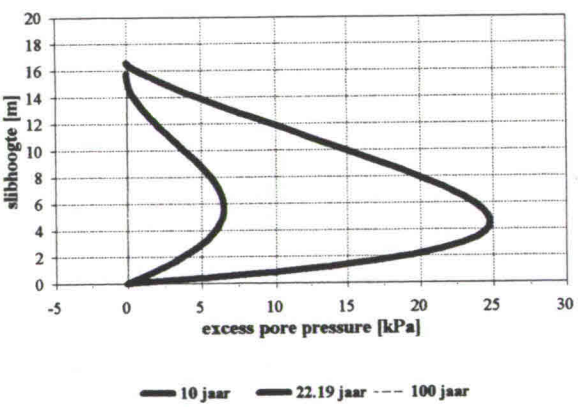
H = 0.0333



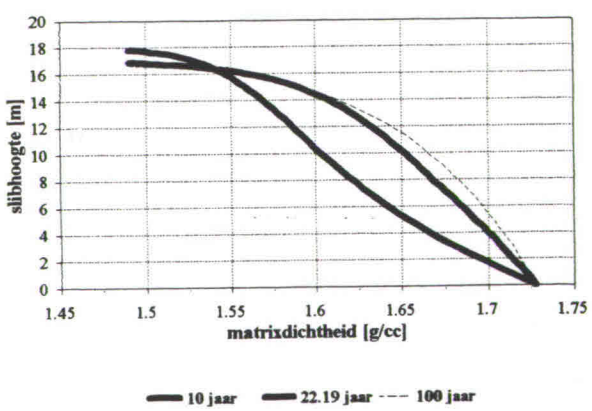
H = 0.0666



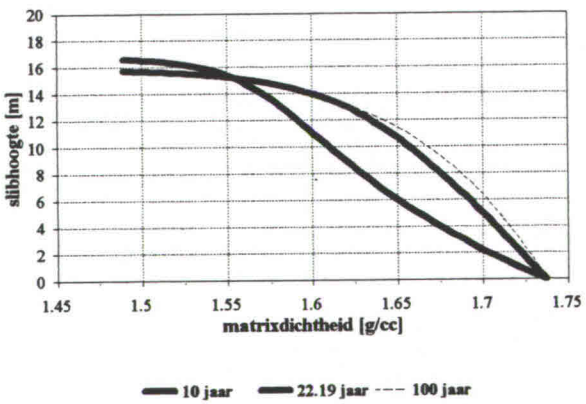
H = 0.0666



H = 0



H = 0.0666



C Toetsing simulatie aan veldmetingen Slufter

C.1 Meetgegevens en berekening vaste stof hoogte

Slufter noord november 1992

berekening via netto slibgewicht en w%

nr. monsterbuis	netto slibgewicht	w%	opp.buis		Ms	Vs rho_s=2.5	methode 2 hs
21	2960.8	216.398326	24.5		935.782448	374.312979	15.2780808
22	2754.1	199.930121	24.5		918.247221	367.298888	14.9917914
23	2903	174.907558	24.5		1055.99134	422.396535	17.2406749
24	2976.2	151.567271	24.5		1183.06328	473.225311	19.3153188
25	3078.4	116.814245	25.5175863		1419.83291	567.933164	22.2565393
26	3050.8	139.046868	25.5175863		1276.23508	510.494034	20.0055768
27	2928.1	158.166257	25.5175863		1134.1916	453.67664	17.7789793
28	2983.8	169.94075	24.5		1105.35367	442.14147	18.0465906
29	2928.1	173.556112	24.5		1070.38369	428.153476	17.4756521
30	2828	169.504401	25.5175863		1049.33352	419.733406	16.4487895
31	3058.3	158.886253	25.5175863		1181.32963	472.53185	18.5178897
32	2857.6	197.887524	25.5175863		959.288244	383.715298	15.0372881
33	2920	165.833666	25.5175863		1098.43123	439.37249	17.2184189
34	2927	156.013016	25.5175863		1143.30124	457.320498	17.9217772
35	2986.5	142.81409	25.5175863		1229.95333	491.981334	19.2800889
36	2982.4	125.900048	25.5175863		1320.22991	528.091965	20.6952161
37	3048	132.162291	25.5175863		1312.87471	525.149883	20.5799199
				totaal:	19393.8231		

		hs(1t/m17) =	308.088593 cm
schatting	depotbodem	20.68	cm
schatting	toplaag	3*15.3	cm
	hs =	3.59	m
	methode 2		

som buis 1 t/m 17				
50171.1 gram	gem(1t/m17)w%:	161.725223	%	
Mtot^nat = Mw + Ms	diameter buis:	25.52	of	24.5
			neem:	24.5
w%/100% = Mw/Ms = (Mtot-Ms)/Ms	Ms =	19169.379	g	
	rho_s =	2.5	g/cc	
benadering	h_s (1t/m17) =	312.969453	cm	

Slufter zuid november 1992

berekening via netto slibgewicht en w%

nr. monsterbuis	netto slibgewicht	w%	opp.buis		Ms	Vs rho_s=2.5	methode 2 hs
1	0 twijfelachtig	263.340892	24.5				
2	2472.6	231.095286	25.5175863		746.794081	298.717632	11.7063436
3	2762	203.568905	25.5175863		909.842856	363.937143	14.2622087
4	2951.5	176.920578	25.5175863		1065.82906	426.331625	16.7073649
5	2926.8	159.727921	25.5175863		1126.87153	450.748613	17.6642339
6	2982.5	160.370697	25.5175863		1145.48221	458.192882	17.9559648
7	3135	141.769386	24.5		1296.69023	518.676092	21.1704527
8	2968.5	146.839689	25.5175863		1202.60239	481.040956	18.8513502
9	3009	165.851905	24.5		1131.83316	452.733262	18.4789087
10	3014.3	129.214076	24.5		1315.05885	526.023541	21.4703486
11	3274.2	109.925554	24.5		1559.69578	623.878311	25.4644208
12	3105	115.134285	25.5175863		1443.2846	577.313839	22.6241554
13	3051	117.468007	25.5175863		1402.96499	561.185995	21.9921268
14	2976.9	115.685489	25.5175863		1380.20412	552.081647	21.6353396
15	3151.8	111.989102	25.5175863		1486.77455	594.709818	23.3058805
16	3087.9	118.068176	24.5		1416.02505	566.410019	23.1187763
17	3134	136.918153	24.5		1322.8197	529.127881	21.5970564
				totaal:	19952.7731		

		hs(2t/m17) =	318.004932 cm
	schatting	depotbodem	21.6 cm
	1e buis	hs'	6.86 cm
		hs =	**3.45 m**
		methode 2	

eerste buis:
begin slib is op 52 cm
e_f = w%/100%*rho_s 6.5835223
hs' = slibhoogte/(1+e) = 6.85697199 cm

som buis 2 t/m 17
48003 gram

Mtot^nat = Mw + Ms

w%/100% = Mw/Ms = (Mtot-Ms)/Ms

benadering

gem(2t/m17)w%: 146.284201 %

diameter buis: 25.52 of 24.5
neem: 24.5

Ms = 19490.8971 g
rho_s = 2.5 g/cc
h_s (2t/m17) = 318.218728 cm

Berekening e_g^atm uit gasgehalte en watergehalte
w% = rho_f/rho_s * e_f H= 0 -> e_f

gamma_s: 25 kN/m3
gamma_f: 10.2 kN/m3

gem vg1% 0.03506508 gem vg% atm 0.2352941
gem. eg atm 0.57329852 1992 stand. afw. 0.16483631
0.46594821 1994 stand. afw. 0.11688938

noord op -11m NAP epp + hydr.press = tot. spanning met epp = 6.573 kPa uit nrdpdr.xlc

	vg% atm	w%	e_f	e_g atm	diepte	diepte	tot.sp1	tussenwaarde totsp2	eg1	vg1%	tussenwaarde eg2	bulkdichtheid	bulkdichth [uit meting]	berek.m.dh.	**methode 3 berek. hs**
1992			6.2254902			1992									
		254	6.2254902	1.01493646	-9			95.74			0.51851255				0.13839891
	13.9	215.7	5.28676471	1.01493646	-11.5		124.734043	130.59042	0.4516167	6.70%	0.44014685	1.17127534	1.24330226	1.2554152	0.14840359
	9.2	199.9	4.8995098	0.59774769	-12.5		136.503595	142.59689	0.2527436	4.11%	0.24639545	1.21865917	1.16489373	1.2708683	0.16254207
	9.7	170.8	4.18627451	0.55710811	-13.5		148.827713	155.08445	0.22389311	4.14%	0.21840144	1.25134755	1.22660244	1.30536862	0.18483716
	8.9	151.6	3.71568627	0.46069822	-14.5		161.458476	167.887484	0.17620321	3.60%	0.17197452	1.28580174	1.25753158	1.33384615	0.20441999
	8.6	116.8	2.8627451	0.36345304	-15.5		174.604184	181.387493	0.13235524	3.31%	0.1291646	1.35666179	1.3129465	1.40314721	0.2503066
	7.5	139	3.40686275	0.3573132	-16.5		187.973653	194.567205	0.12407843	2.74%	0.12130108	1.31871056	1.28109515	1.35583982	0.2207047
	10.6	158.2	3.87745098	0.57831074	-17.5		201.023817	207.39024	0.19211461	3.79%	0.18813569	1.27328464	1.26069922	1.32343719	0.19725556
	9	169.5	4.15441176	0.50977699	-18.5		213.695753	220.031659	0.16250682	3.06%	0.15928955	1.26718134	1.39664663	1.30713267	0.18807886
	13.1	173.6	4.25490196	0.79216589	-19.5		226.348392	232.569245	0.24273626	4.42%	0.23819577	1.24417063	1.28234212	1.30164179	0.18189629
	10.6	169.5	4.15441176	0.61114949	-20.5		238.816223	245.130905	0.18037787	3.38%	0.17707759	1.2629364	1.21888671	1.30713267	0.18744882
	8.8	158.9	3.89460784	0.47228672	-21.5		251.51192	257.947139	0.13435866	2.67%	0.13194315	1.28704377	1.2975943	1.32237356	0.19884801
	11.3	197.9	4.8504902	0.74532739	-22.5		264.171612	270.321332	0.20466378	3.38%	0.20126504	1.22994395	1.24478906	1.27297026	0.16514857
	10	165.8	4.06372549	0.56263617	-23.5		276.631885	283.005238	0.14938623	2.87%	0.14690038	1.27467055	1.24669115	1.31227493	0.19182401
	10.4	156	3.82352941	0.55987395	-24.5		289.443313	295.885455	0.14376263	2.89%	0.14142322	1.28842837	1.25625013	1.32682927	0.20131693
	12.6	142.8	3.5	0.64874142	-25.5		302.424397	308.935584	0.16120827	3.46%	0.15864147	1.30223746	1.31073074	1.34888889	0.21453665
	11.4	125.9	3.08578431	0.5257104	-26.5		315.588428	322.292039	0.12649784	3.00%	0.12448977	1.34072215	1.29363031	1.38223155	0.237401
	8.4	132.2	3.24019608	0.38883894	-27.5		328.942002	335.643924	0.0906507	2.09%	0.08925614	1.34038452	1.29054111	1.36904046	0.23090173
tot -29m NAP	10.8	133.633333	3.2753268	0.52109692	-28.5		342.335094		0.11780592	2.68%				1.36617237	0.227628

	w%	161.42%	
	vg%	3.51%	
		3.30969562	
hs(-9m tot -11m NAP) =		0.13839891	
hs(-11m tot -28m NAP) =		3.36587054	hs = 3.73 m
hs(-28m tot -29m NAP) =		0.227628	

															methode 3 hs voor laagdikte 1m		**methode 3 hs laagdikte**
					0												
1994			4.17401961	0.59577388	-4.9			49.98			0.39723555			1.30604453			
	10.09	175.8	4.30882353	0.59577388	-5.7		59.6469171	68.7480167	0.3731822	6.57%	0.35305534	1.21347994	1.17042061	1.29878116	0.17599419	1.5	0.26399129
	10.57	171.1	4.19362745	0.61385041	-7.2		77.9122779	87.0898181	0.34502982	6.23%	0.32810466	1.22367203	1.16065012	1.30496461	0.18054917	1.5	0.27082376
	8.26	163.4	4.00490196	0.45062666	-8.7		96.3505417	105.785715	0.22950111	4.38%	0.21897859	1.25802311	1.21879603	1.31571009	0.19104375	1.5	0.28656563
	7.2	166.3	4.07598039	0.39382606	-10.2		115.215675	124.710164	0.18299135	3.48%	0.17525957	1.26593188	1.23014541	1.31156929	0.19015124	1.5	0.28522686
	9.68	171.8	4.21078431	0.55846315	-11.7		134.172118	143.524291	0.23848405	4.38%	0.22932544	1.24695639	1.17984903	1.30402634	0.18351087	1.5	0.27526631
	8.21	105.8	2.59313725	0.32138203	-13.2		153.619223	163.992609	0.12671833	3.41%	0.12173903	1.38311821	1.2974179	1.43189632	0.26882764	1.5	0.40324146
	7.21	149.8	3.67156863	0.36299181	-14.7		173.764045	183.513405	0.13259294	2.76%	0.12803338	1.29991465	1.2518586	1.33681007	0.20815287	1.5	0.3122293
	5.53	149.8	3.67156863	0.27346009	-16.2		193.272027	203.101898	0.09324452	1.96%	0.09022051	1.31064951	1.26774556	1.33681007	0.20987182	1.5	0.31480773
	8.58	159	3.89705882	0.45960145	-17.7		212.839171	222.467	0.14691301	2.91%	0.14252666	1.28371058	1.26021806	1.32222222	0.19825646	1.5	0.29738469
	13.79	110.4	2.70588235	0.59278642	-19.2		232.71799	242.874921	0.17816483	4.59%	0.17288708	1.35425749	1.26329803	1.41936508	0.2574634	1.5	0.3861951
	11.25	94.5	2.31617647	0.4203604	-20.7		253.327224	263.943578	0.11897198	3.46%	0.11550153	1.41551379	1.40480764	1.46629712	0.29110823	1.5	0.43666235
	14.74	82.2	2.01470588	0.52119124	-22.2		274.857391	289.300546	0.1390372	4.41%	0.13387889	1.44431549	1.47476663	1.51092683	0.31708353	1.8	0.57075036
	15.4	98.8	2.42156863	0.62283873	-24.2		303.279096	324.12634	0.1544436	4.32%	0.14685217	1.38981628	1.45292468	1.45255014	0.2796411	2.5	0.69910276
	13.06	63.4	1.55392157	0.38364637	-27.2		346.814283	356.87287	0.0858626	3.25%	0.08397224	1.547475	1.57827432	1.59950096	0.37881885	2.3	0.87128335
tot -29m NAP	14.4	81.4666667	1.99673203	0.50922545	-28.5		366.444816		0.10917164	3.51%				1.51387132	0.32196749	1	0.32196749

hs(-4.9m tot -28m NAP) =	5.67353095	
hs(-28m tot -29m NAP) =	0.32196749	hs = 5.99 m

Berekening e_g^atm uit gasgehalte en watergehalte
w% = rho_f/rho_s * e_f H= 0 -> e_f

gamma_s: 25 kN/m3
gamma_f: 10.2 kN/m3

gem vg1% 0.03974394 gem vg% atm11.0764706
gem. eg atm 0.61366953 1992 stand. afw. 0.311979
v/a -13.5mNAP 0.1718173
0.56987219 1994 stand. afw. 0.14955923

zuid op -11m NAP epp + hydr.press = tot. spanning met epp = 0 kPa uit zuidpdr.xlc

	vg% atm	w%	e_f	e_g atm	diepte	diepte
1992					1992	1994
			6.45343137	1.07452214	-11	
	12.6	263.3	6.45343137	1.07452214	-11.5	
	18.5	231.1	5.66421569	1.51273608	-12.5	
	14.9	203.1	4.97794118	1.04666655	-13.5	
	10.4	176.9	4.33578431	0.61933211	-14.5	
	7.6	159.7	3.91421569	0.40419956	-15.5	
	7.6	160.4	3.93137255	0.40561073	-16.5	
	7	141.8	3.4754902	0.33686485	-17.5	
	8.4	146.8	3.59803922	0.42165425	-18.5	
	8.9	165.9	4.06617647	0.4949393	-19.5	
	12.4	129.2	3.16666667	0.58980213	-20.5	
	9.4	109.9	2.69362745	0.38322404	-21.5	
	10	115.1	2.82107843	0.42456427	-22.5	
	11.3	117.5	2.87990196	0.49428289	-23.5	
	13.1	115.7	2.83578431	0.57823676	-24.5	
	11	112	2.74509804	0.46287729	-25.5	
	14.2	118.1	2.89460784	0.64456214	-26.5	
	11	136.9	3.35539216	0.5383069	-27.5	
tot -29m NAP	12.0666667	122.333333	2.99836601	0.54858211	-28.5	

tot.sp1	tussenwaarde totsp2	eg1	vg1%	tussenwaarde eg2	bulkdichtheid	bulkdichth [uit meting]	berek.m.dh.	berek. hs
	112.2			0.50637236				
117.905229	123.619976	0.49311444	6.21%	0.48051259	1.14294943	ontbreekt	1.21856626	0.12584084
129.412708	135.063951	0.65939506	9.00%	0.64354235	1.13024849	1.1301506	1.24208165	0.13654467
140.785856	146.694119	0.43468772	6.78%	0.42427706	1.18165266	1.18793144	1.26757688	0.15594228
152.70317	158.905163	0.24508284	4.39%	0.23921196	1.24039863	1.26145956	1.29737253	0.17918362
165.204368	171.611492	0.1524106	3.01%	0.14881534	1.28142469	1.23922432	1.32116708	0.19736999
178.018735	184.429666	0.14589331	2.87%	0.14260493	1.28218616	1.26411935	1.32011928	0.1969564
190.974572	197.55773	0.11577123	2.52%	0.11320991	1.31663163	1.3232594	1.35069003	0.21780507
204.105888	210.61887	0.13865376	2.93%	0.1357465	1.30259656	1.27406168	1.34187633	0.21111776
217.008335	223.372862	0.15612817	2.99%	0.1530553	1.27290544	1.3335106	1.31213353	0.19148634
230.005233	236.598425	0.17872508	4.11%	0.17522427	1.3186383	1.36228293	1.3752	0.23012885
243.380153	250.275266	0.11160343	2.93%	0.10940654	1.37902276	1.41418853	1.42069011	0.26279614
257.116025	263.940324	0.11888693	3.02%	0.11665766	1.36485972	1.33545515	1.40732521	0.25380934
270.74305	277.517528	0.13332223	3.32%	0.13092979	1.35489565	1.34048022	1.40145294	0.24917621
284.314716	291.078603	0.15045918	3.77%	0.14785692	1.35277737	1.33084471	1.40584026	0.25086275
297.885771	304.74851	0.11633421	3.01%	0.1143617	1.37254771	1.36565709	1.41518325	0.25897127
311.548885	318.278329	0.15661861	3.87%	0.15409886	1.34588872	1.36847703	1.40001259	0.24683883
324.845035	331.451873	0.12670665	2.83%	0.12476638	1.32136757	1.36228293	1.35980867	0.22310976
338.192298		0.12519209	3.04%				1.39015121	0.24250901

w% 153.14%
vg% 3.97%
3.43420421

hs(-11m tot -28m NAP) = 3.58794012
hs(-28m tot -29m NAP) = 0.24250901 hs = 3.83 m

op -7.2m NAP wijken de waterspanningen af van hydr.press

1994		178.2	4.36764706	0.78579449	-7.2
	12.77	178.2	4.36764706	0.78579449	-8.7
	11.76	162.7	3.9877451	0.66473121	-10.2
	11.61	220	5.39215686	0.83960789	-11.7
	10.41	189.2	4.6372549	0.65502649	-13.2
	8.62	151.9	3.72303922	0.44553073	-14.7
	9.7	155	3.79901961	0.5155093	-16.2
	10.36	149.9	3.67401961	0.54019236	-17.7
	7.99	137.2	3.3627451	0.37885375	-19.2
	13.11	140	3.43137255	0.66860737	-20.7
	11.47	100.7	2.46813725	0.44933395	-22.2
	9.99	118.1	2.89460784	0.43225344	-23.7
	11.98	98	2.40196078	0.46302534	-25.2
tot -29m NAP	11.1466667	105.6	2.58823529	0.44820424	-27.5

		73.44		0.45306416			1.29572603	
91.3630675	100.390412	0.41063017	7.11%	0.39213178	1.20364595	1.17307244	1.29572603	
109.546058	118.830985	0.31722439	5.98%	0.30376467	1.23799015	1.21555504	1.31672727	
127.791663	136.666428	0.36858587	5.45%	0.35476425	1.18330194	1.14902558	1.25153374	
145.715965	154.900675	0.26657873	4.52%	0.25697323	1.22462801	1.14121868	1.28253913	
164.384838	174.040509	0.16851599	3.45%	0.16257842	1.28742286	1.18854409	1.33335755	
183.677022	193.276492	0.18172403	3.65%	0.17577587	1.27992936	1.23171176	1.32839632	
202.937982	212.59441	0.17831781	3.67%	0.17280935	1.28752382	1.25911984	1.33664394	
222.400268	232.327157	0.11751037	2.62%	0.11400024	1.32358524	1.25818637	1.35923596	
242.227335	251.953402	0.19536936	4.22%	0.18997042	1.29680888	1.30931077	1.3539823	
262.240483	272.716363	0.124043	3.45%	0.12055654	1.39678403	1.34844519	1.44674205	
282.901189	293.105501	0.11288903	2.82%	0.10995863	1.36057499	1.36180074	1.40001259	
303.676643	319.863865	0.11470204	3.26%	0.11027987	1.40758448	1.36164291	1.45504323	
335.845954		0.10283547	2.79%				1.43245902	

methode 3 hs voor laagdikte 1m	laagdikte	**methode 3 hs**
0.18630137	0.8	0.1490411
0.17306196	1.5	0.25959294
0.1885025	1.5	0.28275375
0.14791274	1.5	0.22186911
0.16938147	1.5	0.2540722
0.20443396	1.5	0.30665094
0.20077323	1.5	0.30115985
0.20608625	1.5	0.30912937
0.22320156	1.5	0.33480234
0.21613481	1.5	0.32420222
0.27838247	1.5	0.4175737
0.24953232	1.5	0.37429848
0.2843605	1.5	0.42654075
0.27092409	3	0.81277228

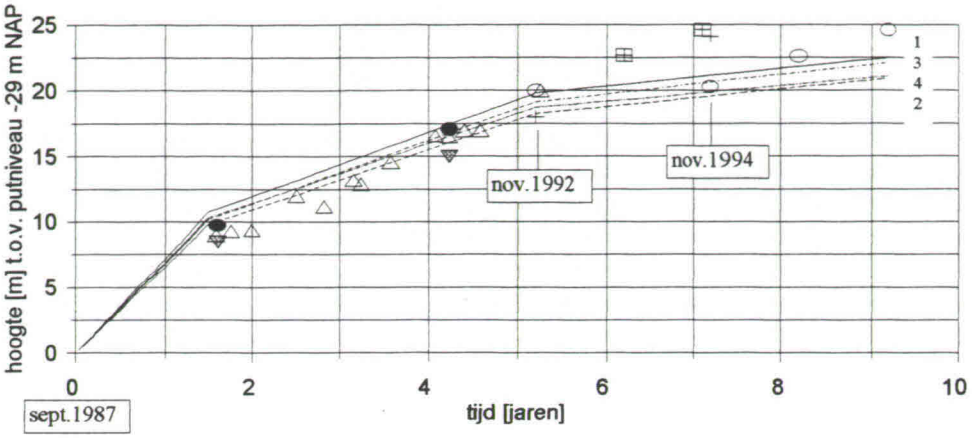
hs(-7.2 tot -8 NAP) = 0.1490411
hs(-8m tot -26m NAP) = 3.96168675
hs(-26m tot -29m NAP) = 0.81277228 hs = 4.92 m

C.2 Variatie e_{set} parameter set VP5 Slufter Noord en Slufter Zuid

Variatie e_{set}: $\sigma_{op}(e_{set}) = 0.1$ kPa ($e_{set} = 4.17$) en $\sigma_{op}(e_{set}) = 0.3$ kPa ($e_{set} = 3.77$)
Invoerfile computerprogramma fscongas ($\sigma_{op}(e_{set}) = 0.1$ kPa en $e_g = 0$):

aantal lagen	1
aantal periodes	4
depositie periode 1 [jaren]	0 1.5
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 15.0 4.17
deeltijdstapfactor depositietijd	4
depositie periode 2 [jaren]	1.5 5.2
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 5.64 4.17
deeltijdstapfactor depositietijd	4
depositie periode 3 [jaren]	5.2 7.2
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 2 4.17
deeltijdstapfactor depositietijd	4
depositie periode 4 [jaren]	7.2 9.2
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 2 4.17
deeltijdstapfactor depositietijd	4
hoogte waterlaag [m]	29
m1 t/m m4	9.21 -2.76 0 0
m5 t/m m8	-26.43 2.28 0 0
γ_s ; γ_f ; e_g^{atm} ; H	25 10.2 0 0
aantal knopen	100
grid verfijningsfactoren	0.0 1.1 0.0 -0.1 0.0
tijdsfactor; aantal tijdstappen; skipout	1.05 100 5

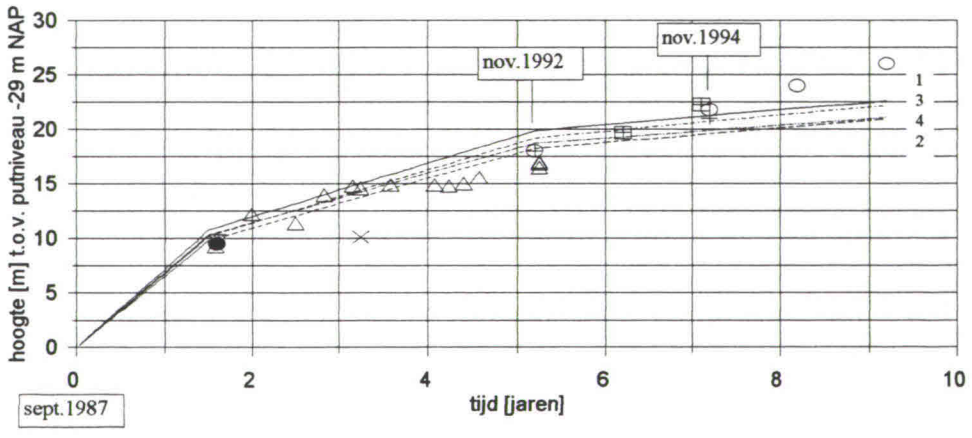
Slufter meetpaal noord



1 simulatie sig_op=0.1kPa 1992 eg=0.57
2 simulatie sig_op=0.3kPa 1992 eg=0
3 simulatie sig_op=0.3kPa 1992 eg=0.57
4 simulatie sig_op=0.1kPa 1992 eg=0
nucleaire dichtheidsmeting; rho = 1306
nucleaire dichtheidsmeting; rho = 1200
waterspanning
toplaag e_f meting
backscatter rho = 1200 kg/m3
metingen uit figuur 3 meetpaal noord
temp. meting noord

meting toplaag:	1992	20		1995	22.6
uit waterspanning	1994	20.3		1996	24.6

Slufter meetpaal zuid



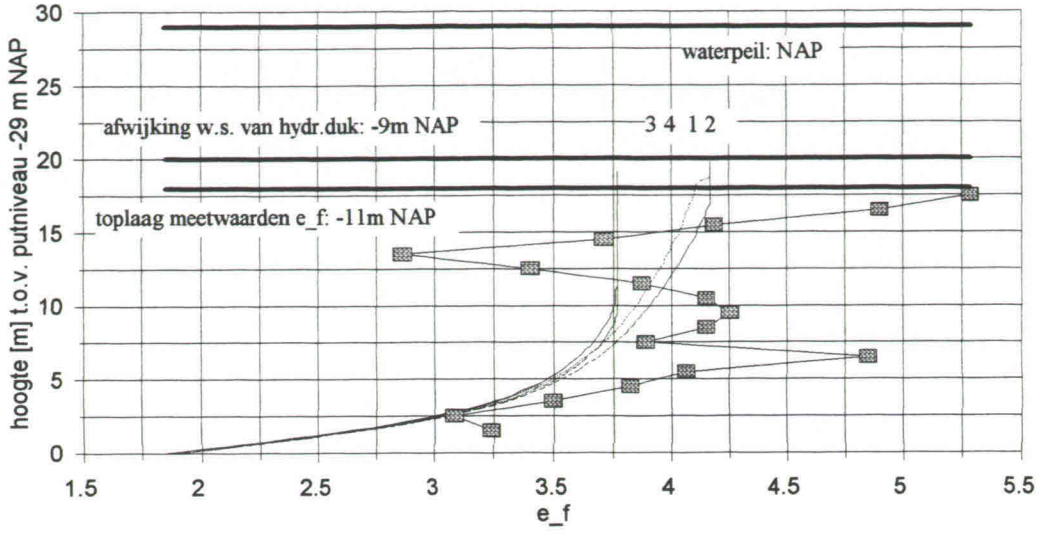
1 simulatie sig_op=0.1kPa 1992 eg=0.61
2 simulatie sig_op=0.3kPa 1992 eg=0
3 simulatie sig_op=0.3kPa 1992 eg=0.61
4 simulatie sig_op=0.1kPa 1992 eg=0
nucleaire dichtheidsmeting; rho = 1306
nucleaire dichtheidsmeting; rho = 1200
waterspanning
toplaag e_f meting
backscatter rho = 1200 kg/m3
metingen uit figuur 3 meetpaal zuid
temp. meting zuid

meting toplaag	1992	18		1995	24
uit waterspanning	1994	21.8		1996	26

operatieve spanning: 0.1 kPa
0.3 kPa

Slufter meetpaal noord

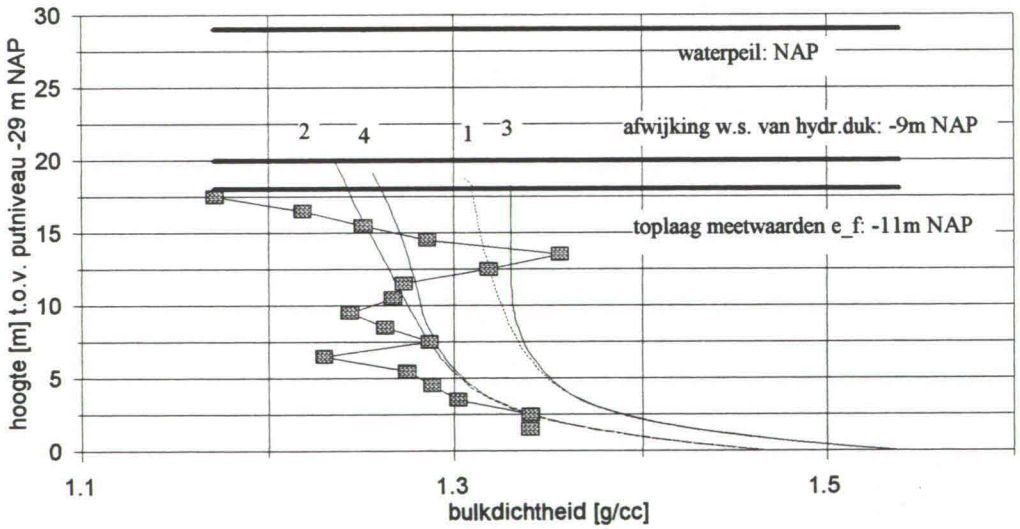
e_f 1992



1 sig_op=0.1kPa eg_atm=0
2 sig_op=0.1kPa eg_atm = 0.57
3 sig_op=0.3kPa eg_atm=0
4 sig_op=0.3kPa eg_atm=0.57
metingen noord nov. 1992 hs = 3.73 m

Slufter meetpaal noord

bulkdichtheid 1992

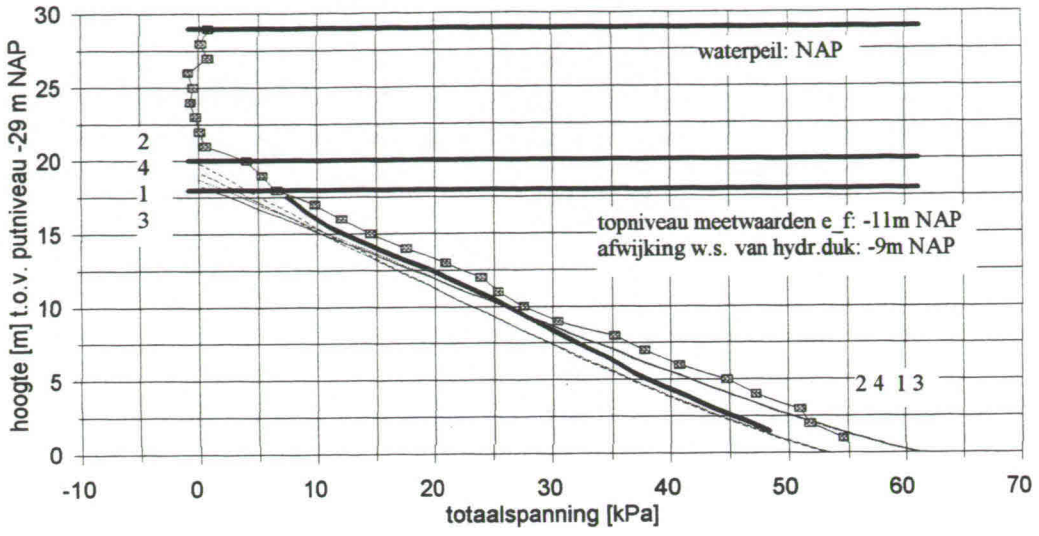


1 sig_op=0.1kPa eg_atm=0
2 sig_op=0.1kPa eg_atm = 0.57
3 sig_op=0.3kPa eg_atm=0
4 sig_op=0.3kPa eg_atm=0.57
metingen noord nov. 1992 hs = 3.73 m

operatieve spanning: 0.1 kPa
0.3 kPa

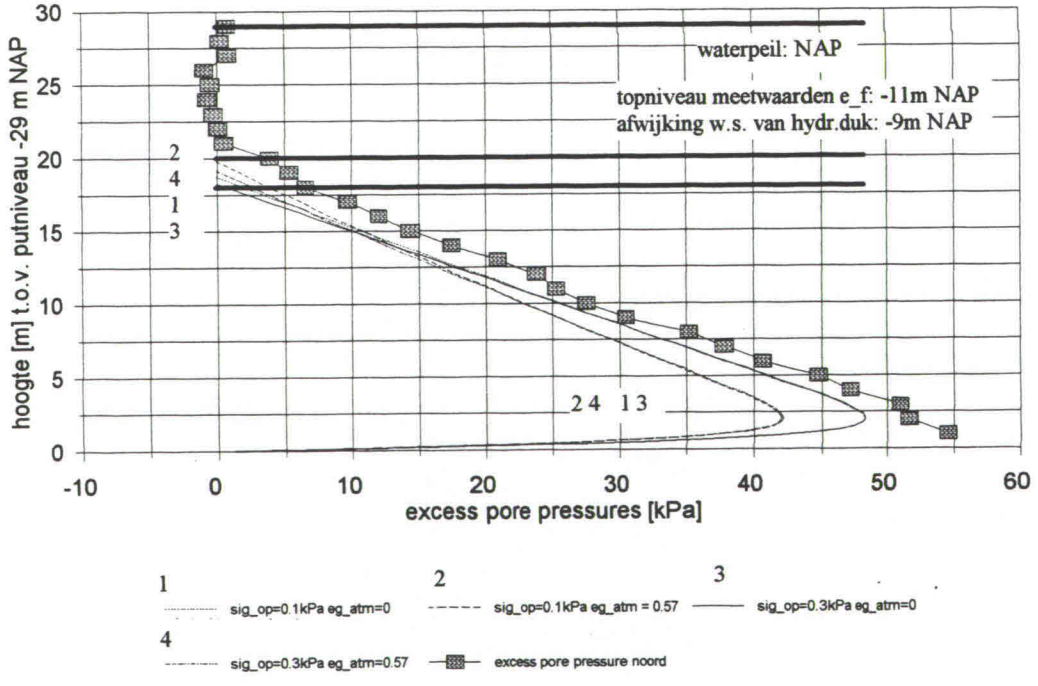
Slufter meetpaal noord

totaalspanning 1992 t.o.v. hydr. druk



Slufter meetpaal noord

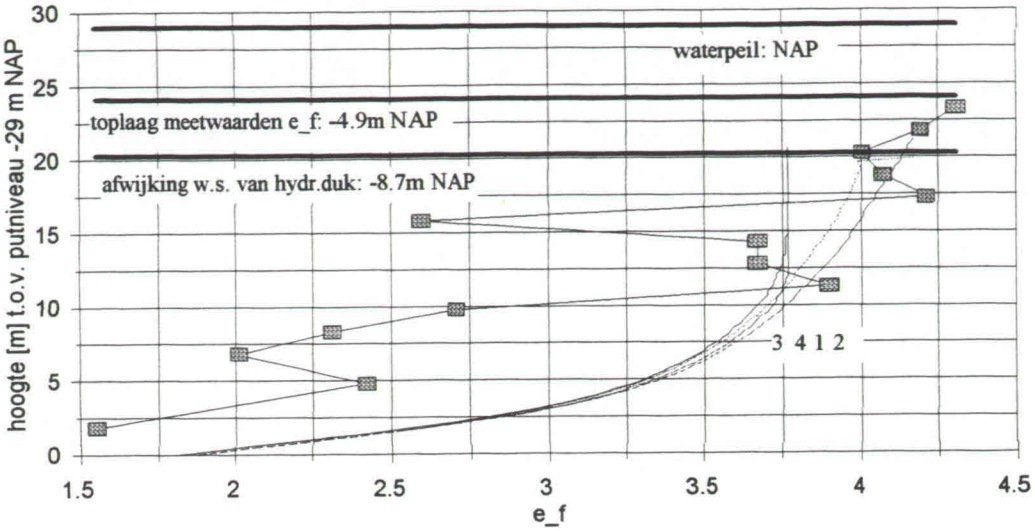
excess pore pressures 1992



operatieve spanning: 0.1 kPa
0.3 kPa

Slufter meetpaal noord

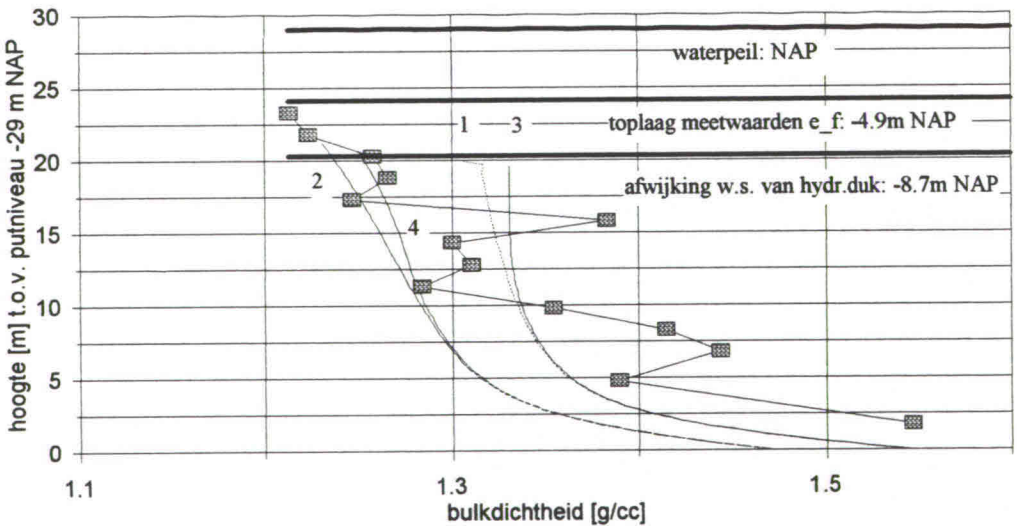
e_f 1994



1 sig_op=0.1kPa eg_atm=0
2 sig_op=0.1kPa eg_atm = 0.57
3 sig_op=0.3kPa eg_atm=0
4 sig_op=0.3kPa eg_atm=0.57
metingen noord nov. 1994 hs = 5.99 m

Slufter meetpaal noord

bulkdichtheid 1994

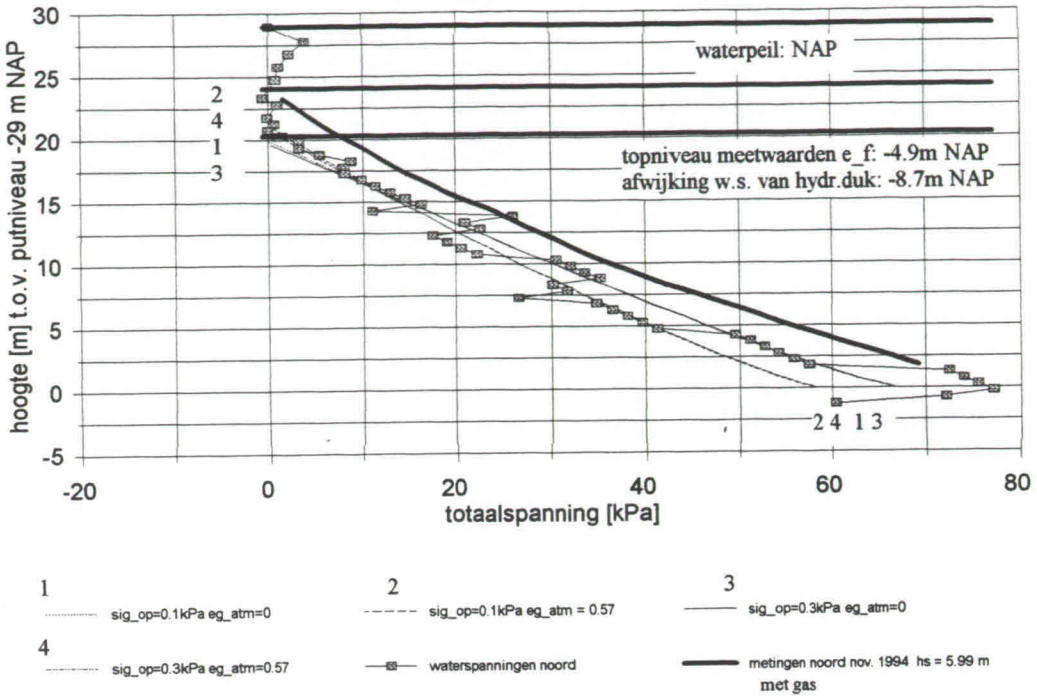


1 sig_op=0.1kPa eg_atm=0
2 sig_op=0.1kPa eg_atm = 0.57
3 sig_op=0.3kPa eg_atm=0
4 sig_op=0.3kPa eg_atm=0.57
metingen noord nov. 1994 hs = 5.99 m

operatieve spanning: 0.1 kPa
0.3 kPa

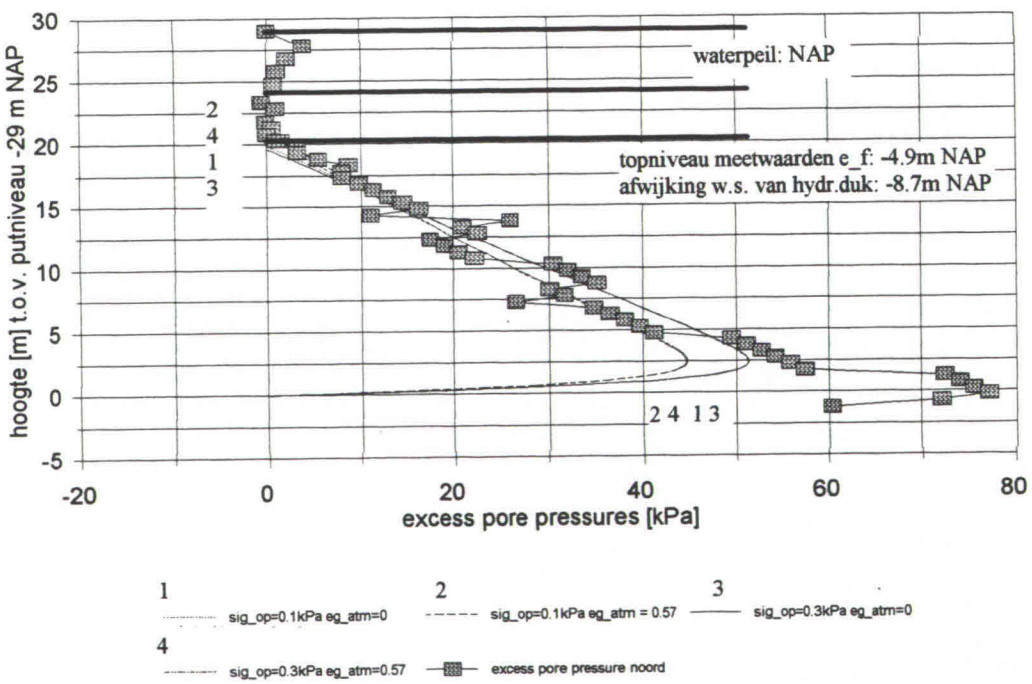
Slufter meetpaal noord

totaalspanning 1994 t.o.v. hydr. druk



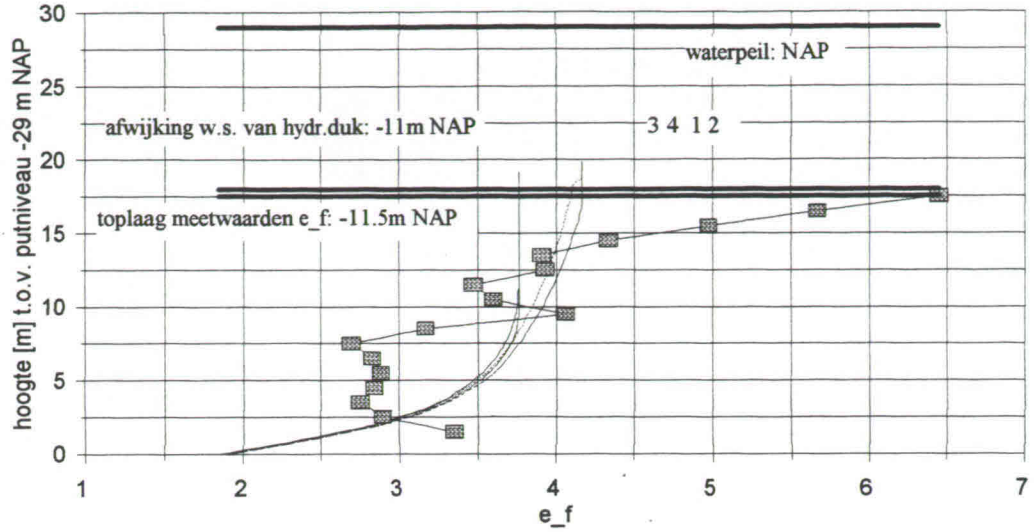
Slufter meetpaal noord

excess pore pressures 1994



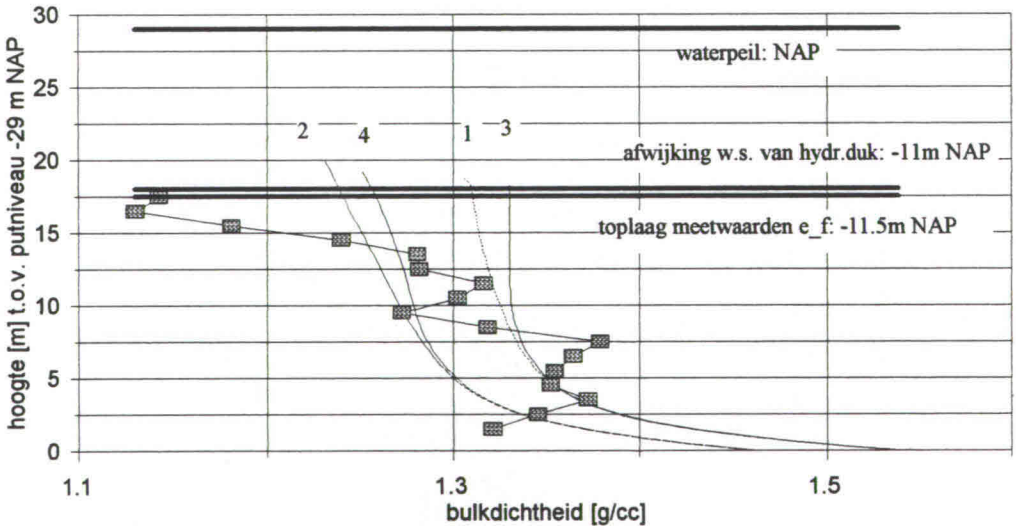
operatieve spanning: 0.1 kPa
0.3 kPa

Slufter meetpaal zuid
e_f 1992



1 sig_op=0.1kPa eg_atm=0
2 sig_op=0.1kPa eg_atm = 0.61
3 sig_op=0.3kPa eg_atm=0
4 sig_op=0.3kPa eg_atm=0.61
metingen zuid nov. 1992 hs = 3.83 m

Slufter meetpaal zuid
bulkdichtheid 1992

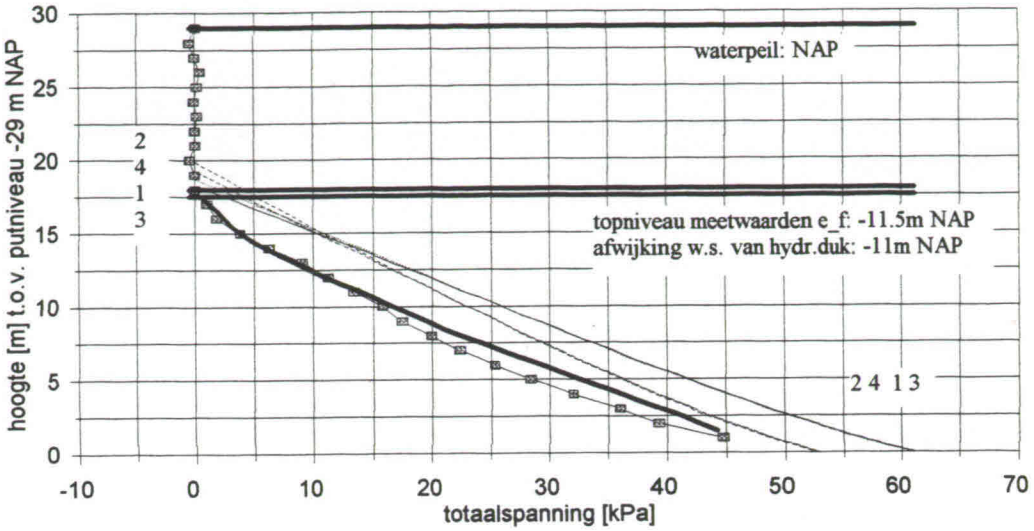


1 sig_op=0.1kPa eg_atm=0
2 sig_op=0.1kPa eg_atm = 0.61
3 sig_op=0.3kPa eg_atm=0
4 sig_op=0.3kPa eg_atm=0.61
metingen zuid nov. 1992 hs = 3.83 m

operatieve spanning: 0.1 kPa
0.3 kPa

Slufter meetpaal zuid

totaalspanning 1992 t.o.v. hydr. druk



1 sig_op=0.1kPa eg_atm=0

2 sig_op=0.1kPa eg_atm = 0.61

3 sig_op=0.3kPa eg_atm=0

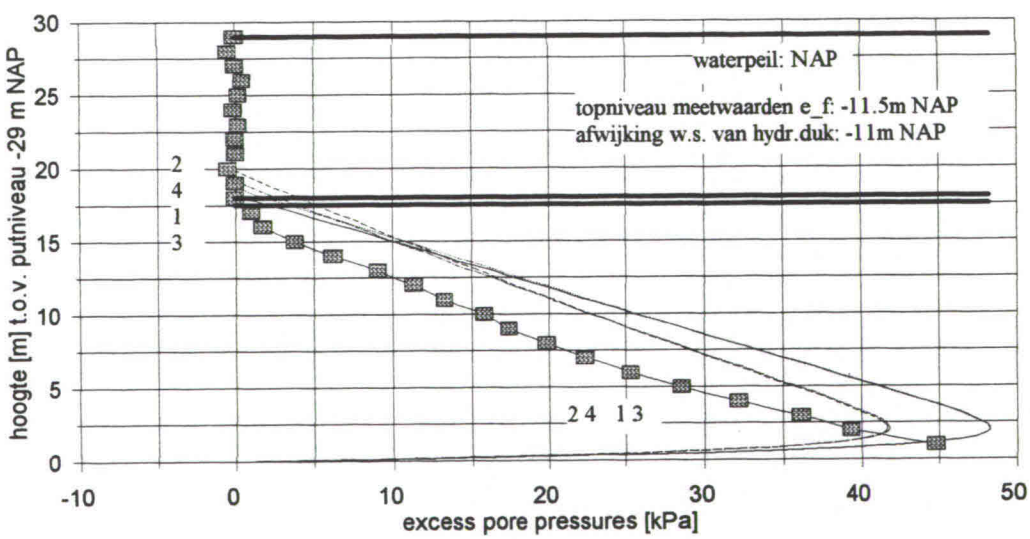
4 sig_op=0.3kPa eg_atm=0.61

metingen excess pore pressure zuid

metingen zuid nov. 1992 hs = 3.83 m met gas

Slufter meetpaal zuid

excess pore pressures 1992



1 sig_op=0.1kPa eg_atm=0

2 sig_op=0.1kPa eg_atm = 0.61

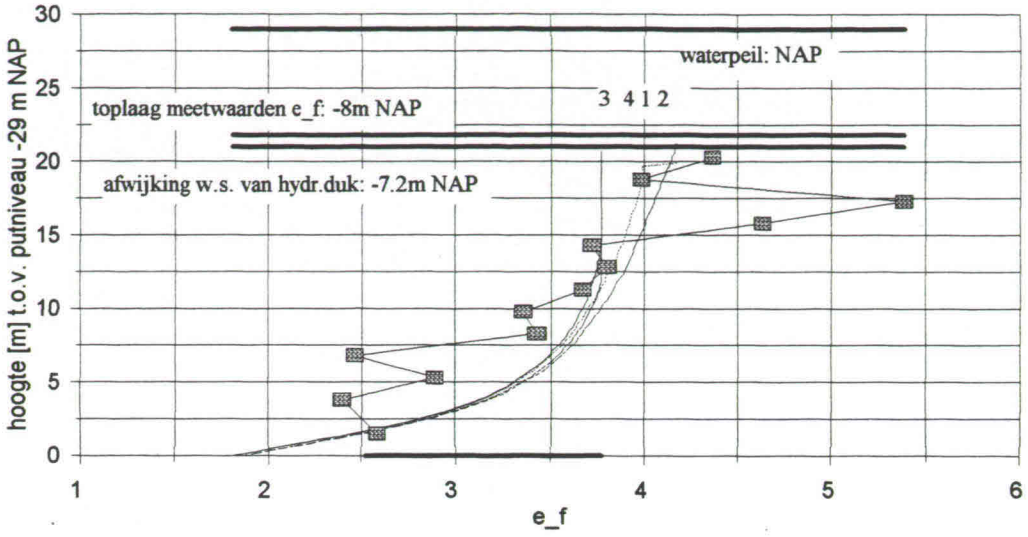
3 sig_op=0.3kPa eg_atm=0

4 sig_op=0.3kPa eg_atm=0.61

excess pore pressure zuid

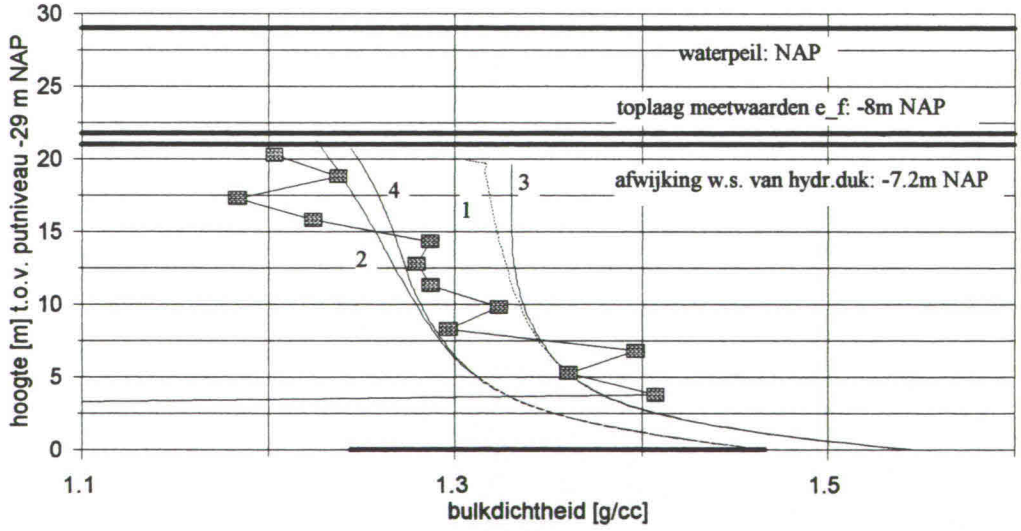
operatieve spanning: 0.1 kPa
0.3 kPa

Slufter meetpaal zuid
e_f 1994



1 sig_op=0.1kPa eg_atm=0
2 sig_op=0.1kPa eg_atm = 0.61
3 sig_op=0.3kPa eg_atm=0
4 sig_op=0.3kPa eg_atm=0.61
metingen zuid nov. 1994 hs = 4.92 m

Slufter meetpaal zuid
bulkdichtheid 1994

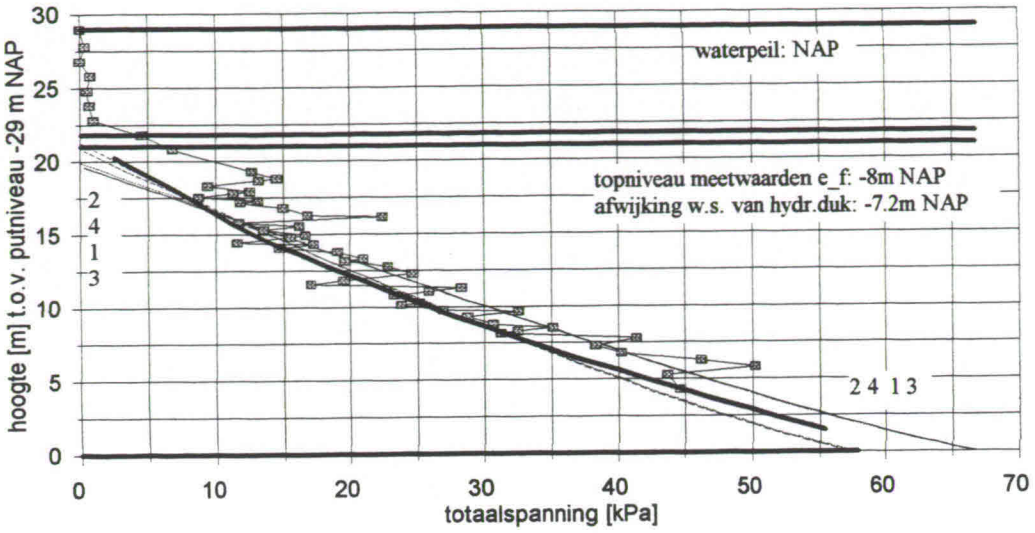


1 sig_op=0.1kPa eg_atm=0
2 sig_op=0.1kPa eg_atm = 0.61
3 sig_op=0.3kPa eg_atm=0
4 sig_op=0.3kPa eg_atm=0.61
metingen zuid nov. 1994 hs = 4.92 m

operatieve spanning: 0.1 kPa
0.3 kPa

Slufter meetpaal zuid

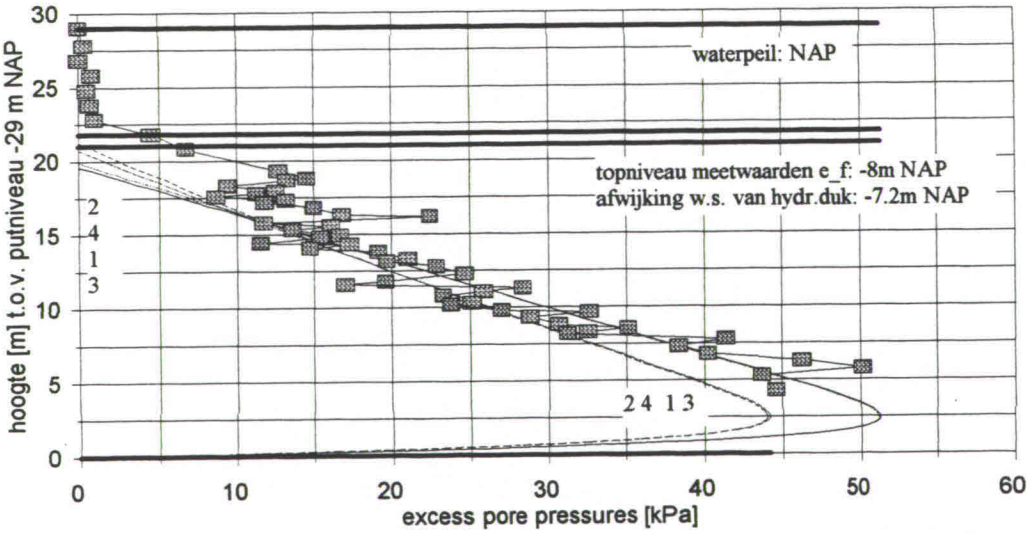
totaalspanning 1994 t.o.v. hydr. druk



1 sig_op=0.1kPa eg_atm=0
2 sig_op=0.1kPa eg_atm = 0.61
3 sig_op=0.3kPa eg_atm=0
4 sig_op=0.3kPa eg_atm=0.61
waterspanningen zuid
metingen zuid nov. 1994 hs = 4.92 m met gas

Slufter meetpaal zuid

excess pore pressures 1994



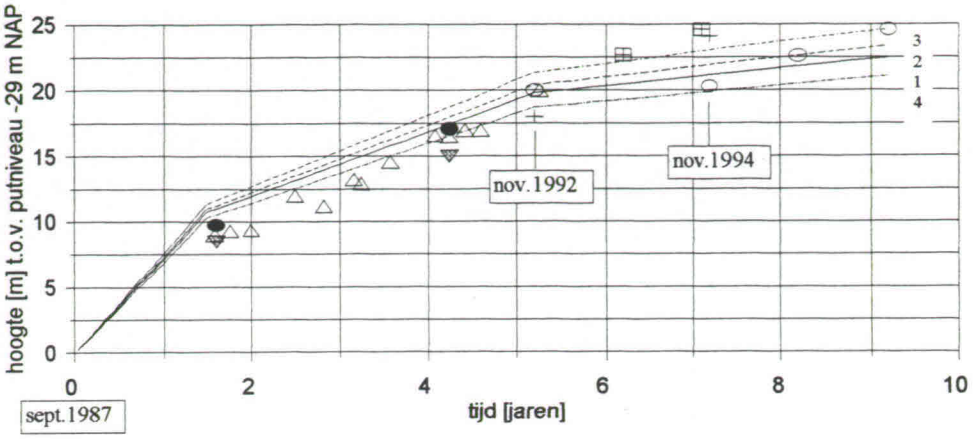
1 sig_op=0.1kPa eg_atm=0
2 sig_op=0.1kPa eg_atm = 0.61
3 sig_op=0.3kPa eg_atm=0
4 sig_op=0.3kPa eg_atm=0.61
excess pore pressure zuid

C.3 Parameterset VP5 en parameter set uit lineaire regressie

Invoerfile computerprogramma fscongas ($\sigma_{op}(e_{set})$ = 0.1 kPa parameter set afgeleid via lineaire regressie uit meetwaarden Slufter Zuid):

aantal lagen	1
aantal periodes	4
depositie periode 1 [jaren]	0 1.5
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 15 4.39
deeltijdstapfactor depositietijd	4
depositie periode 2 [jaren]	1.5 5.2
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 5.59 4.39
deeltijdstapfactor depositietijd	4
depositie periode 3 [jaren]	5.2 7.2
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 1.97 4.39
deeltijdstapfactor depositietijd	4
depositie periode 4 [jaren]	7.2 9.2
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 1.97 4.39
deeltijdstapfactor depositietijd	4
hoogte waterlaag [m]	29
m1 t/m m4	8.97 -2.57 0 0
m5 t/m m8	-25.21 1.74 0 0
γ_s ; γ_f ; e_g^{atm} ; H	25 10.2 0 0
aantal knopen	100
grid verfijningsfactoren	0.0 1.1 0.0 -0.1 0.0
tijdsfactor; aantal tijdstappen; skipout	1.05 100 5

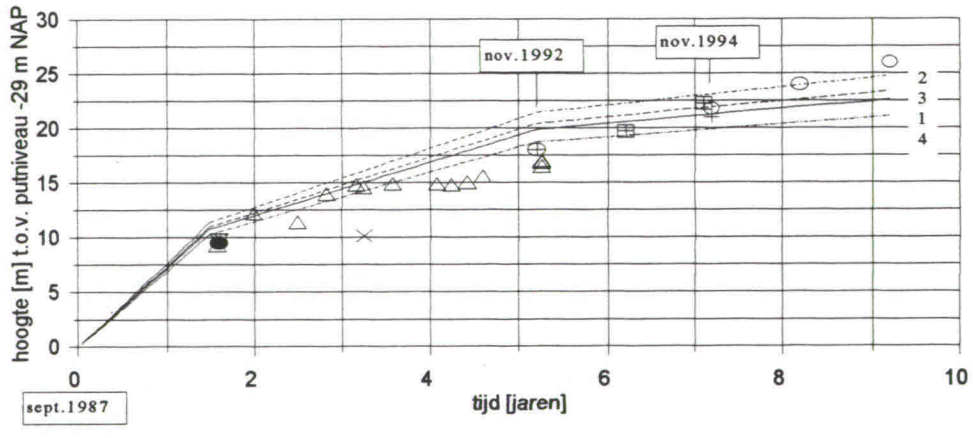
Slufter meetpaal noord



1 simulatie vp5 hs = 4.1m 1992 eg=0.57
2 simulatie lin. hs = 4.09m 1992 eg=0
3 simulatie lin. hs= 4.09m 1992 eg=0.57
4 simulatie vp5 hs = 4.1m 1992 eg=0
nucleaire dichtheidsmeting; rho = 1306
nucleaire dichtheidsmeting; rho = 1200
waterspanning
toplaag e_f meting
backscatter rho = 1200 kg/m3
metingen uit figuur 3 meetpaal noord
temp. meting noord

meting toplaag:	1992	20		1995	22.6
uit waterspanning	1994	20.3		1996	24.6

Slufter meetpaal zuid



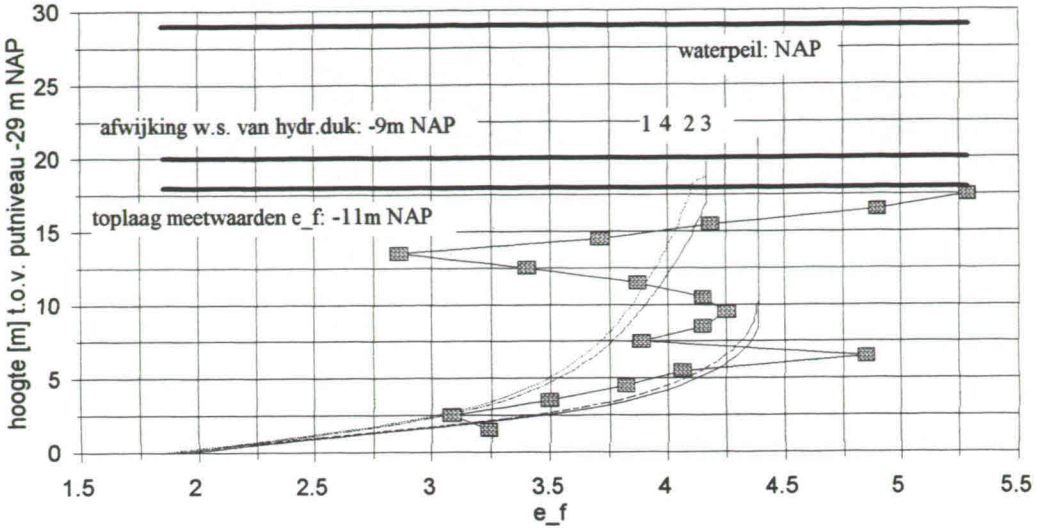
1 simulatie vp5 hs = 4.1m 1992 eg=0.61
2 simulatie lin. hs = 4.09m 1992 eg=0
3 simulatie lin. hs= 4.09m 1992 eg=0.61
4 simulatie vp5 hs = 4.1m 1992 eg=0
nucleaire dichtheidsmeting; rho = 1306
nucleaire dichtheidsmeting; rho = 1200
waterspanning
toplaag e_f meting
backscatter rho = 1200 kg/m3
metingen uit figuur 3 meetpaal zuid
temp. meting zuid

meting toplaag:	1992	18		1995	24
uit waterspanning	1994	21.8		1996	26

vergelijking parametersets vp5
m1=8.97 m2=-2.57 m5=-25.21 m6=1.74

Slufter meetpaal noord

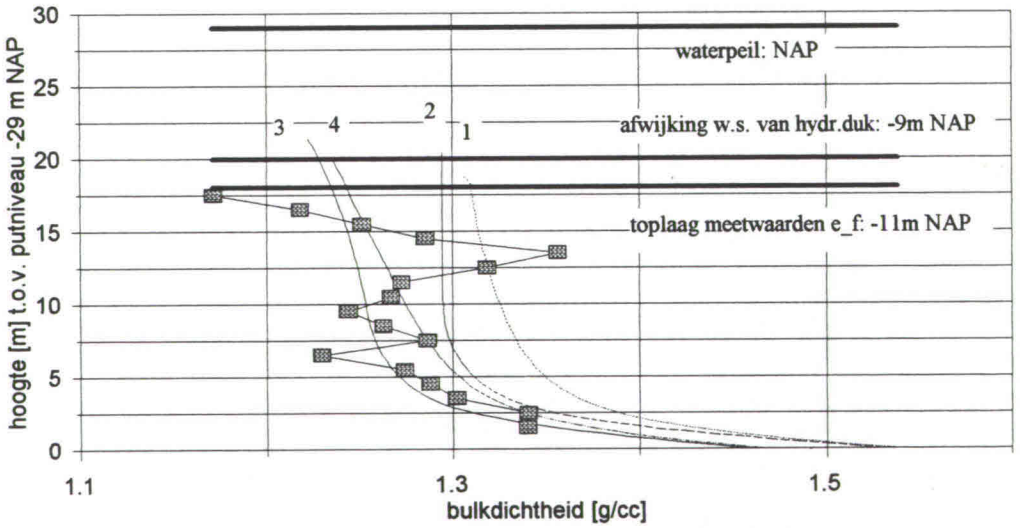
e_f 1992



1 vp5 hs = 4.10 m nov. 1992 eg_atm=0
2 lin. hs= 4.09 m nov. 1992 eg_atm = 0
3 lin. hs = 4.09 m nov. 1992 eg_atm=0.57
4 vp5 hs = 4.10 m nov. 1992 eg_atm=0.57
metingen noord nov. 1992 hs = 3.73 m

Slufter meetpaal noord

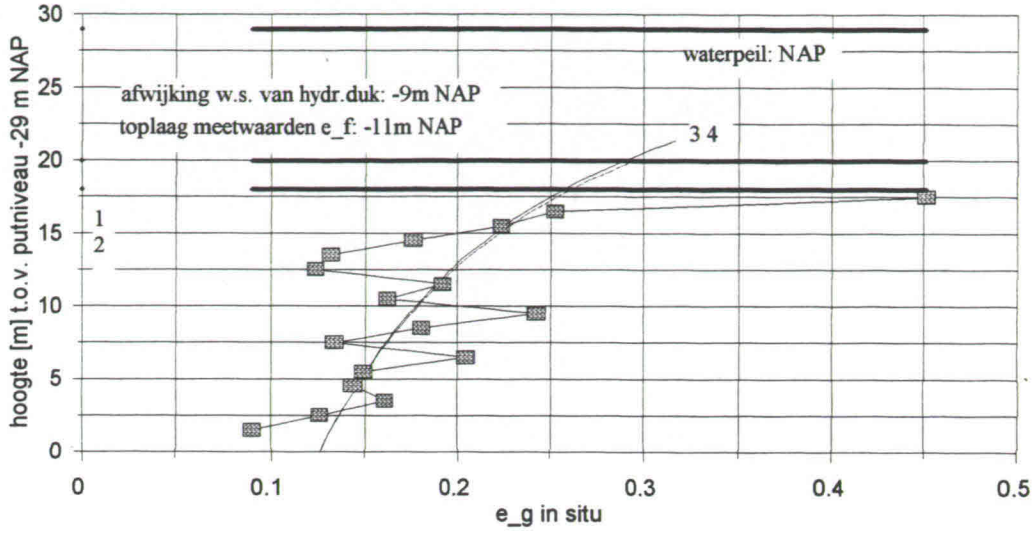
bulkdichtheid 1992



1 vp5 hs = 4.10 m nov. 1992 eg_atm=0
2 lin. hs= 4.09 m nov. 1992 eg_atm = 0
3 lin. hs = 4.09 m nov. 1992 eg_atm=0.57
4 vp5 hs = 4.10 m nov. 1992 eg_atm=0.57
metingen noord nov. 1992 hs = 3.73 m

Slufter meetpaal noord

e_g in situ 1992



1 vp5 hs = 4.10 m nov. 1992 eg_atm=0

2 lin. hs= 4.09 m nov. 1992 eg_atm = 0

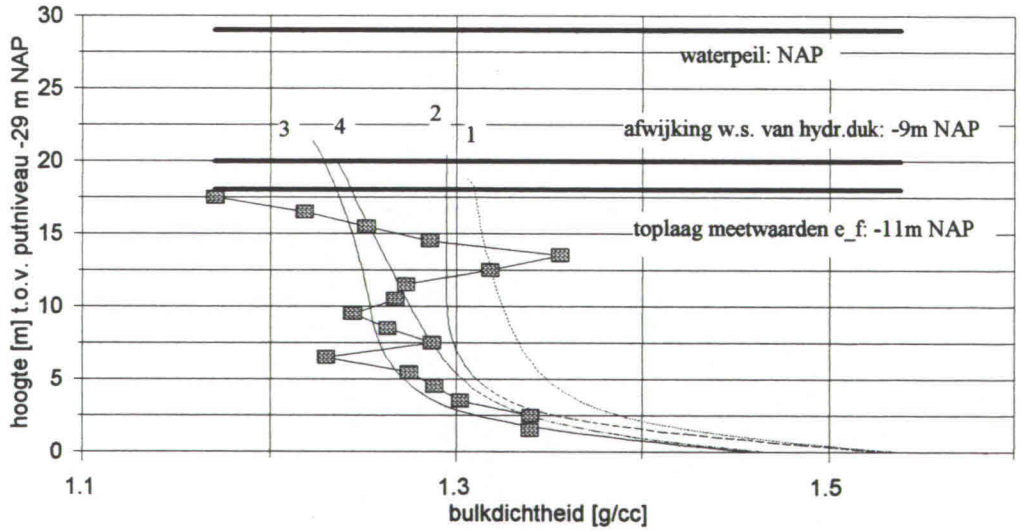
3 lin. hs = 4.09 m nov. 1992 eg_atm=0.57

4 vp5 hs = 4.10 m nov. 1992 eg_atm=0.57

metingen noord nov. 1992 hs = 3.73 m

Slufter meetpaal noord

bulkdichtheid 1992



1 vp5 hs = 4.10 m nov. 1992 eg_atm=0

2 lin. hs= 4.09 m nov. 1992 eg_atm = 0

3 lin. hs = 4.09 m nov. 1992 eg_atm=0.57

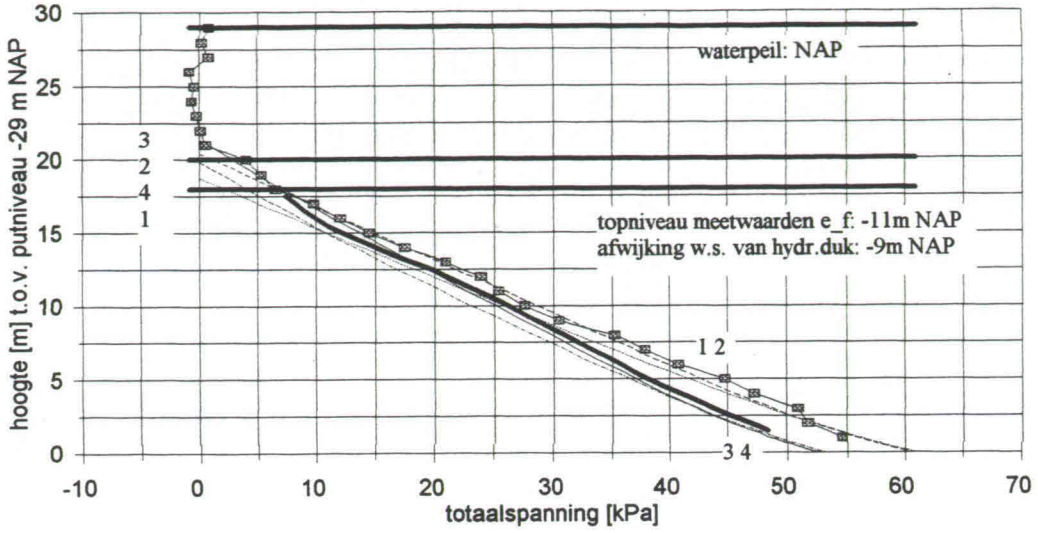
4 vp5 hs = 4.10 m nov. 1992 eg_atm=0.57

metingen noord nov. 1992 hs = 3.73 m

vergelijking parametersets vp5
m1=8.97 m2=-2.57 m5=-25.21 m6=1.74

Slufter meetpaal noord

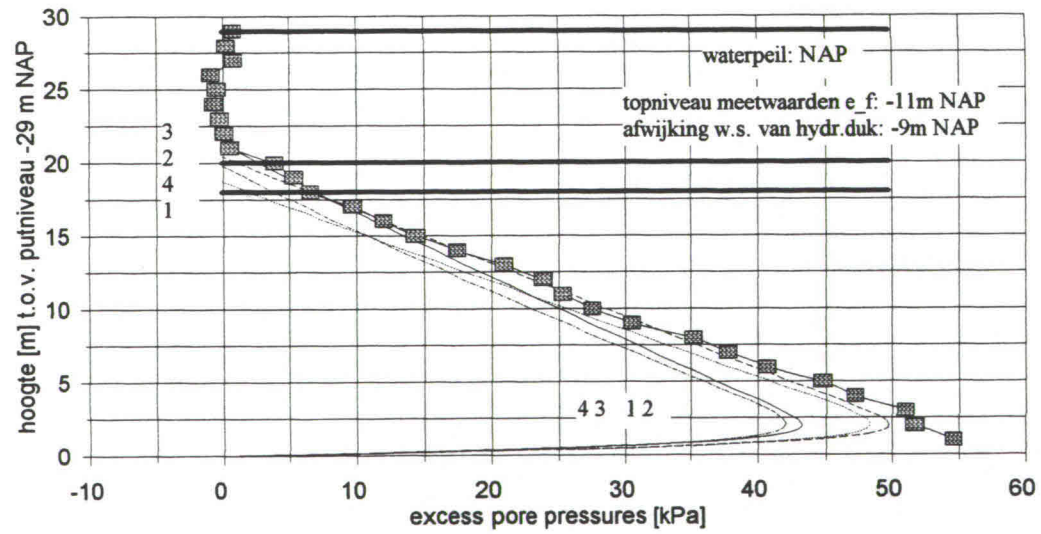
totaalspanning 1992 t.o.v. hydr. druk



1 vp5 hs = 4.10 m nov. 1992 eg_atm=0
2 lin. hs= 4.09 m nov. 1992 eg_atm = 0
3 lin. hs = 4.09 m nov. 1992 eg_atm=0.57
4 vp5 hs = 4.10 m nov. 1992 eg_atm=0.57
metingen excess pore pressure noord
metingen noord nov. 1992 hs = 3.73 m met gas

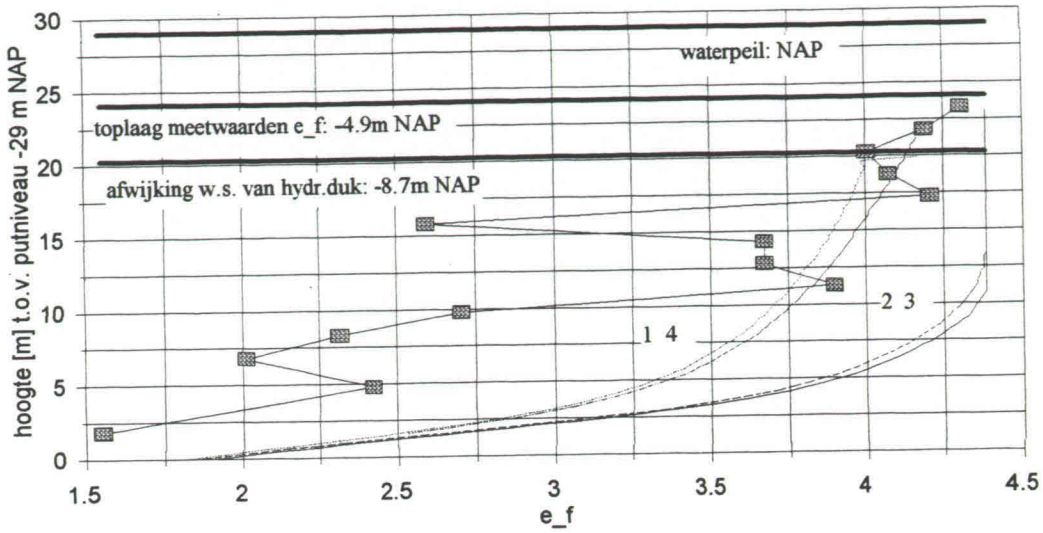
Slufter meetpaal noord

excess pore pressures 1992



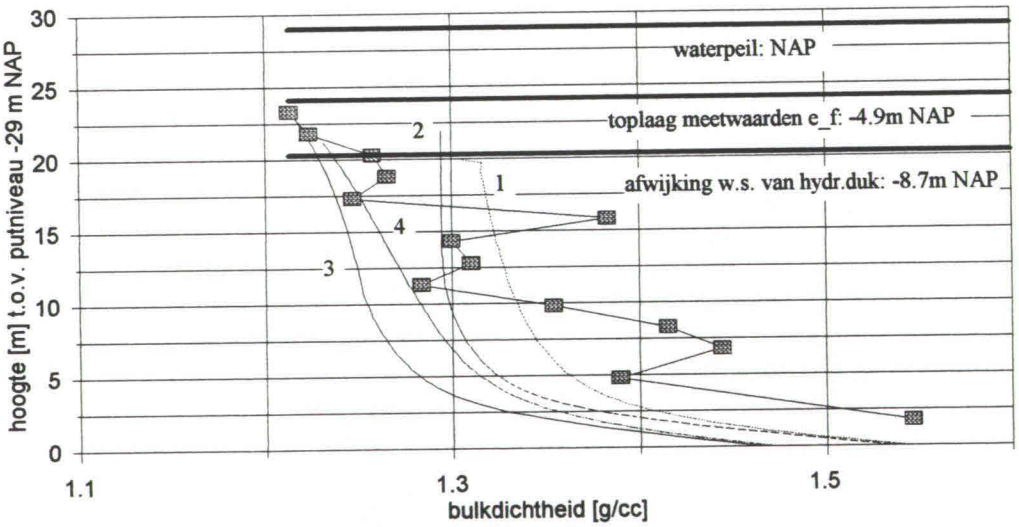
1 vp5 hs = 4.10 m nov. 1992 eg_atm=0
2 lin. hs= 4.09 m nov. 1992 eg_atm = 0
3 lin. hs = 4.09 m nov. 1992 eg_atm=0.57
4 vp5 hs = 4.10 m nov. 1992 eg_atm=0.57
excess pore pressure noord

Slufter meetpaal noord
e_f 1994



1 vp5 hs = 4.48 m nov. 1994 eg_atm=0
2 lin. hs= 4.46 m nov. 1994 eg_atm = 0
3 lin. hs = 4.46 m nov. 1994 eg_atm=0.57
4 vp5 hs = 4.48 m nov. 1994 eg_atm=0.57
metingen noord nov. 1994 hs = 5.99 m

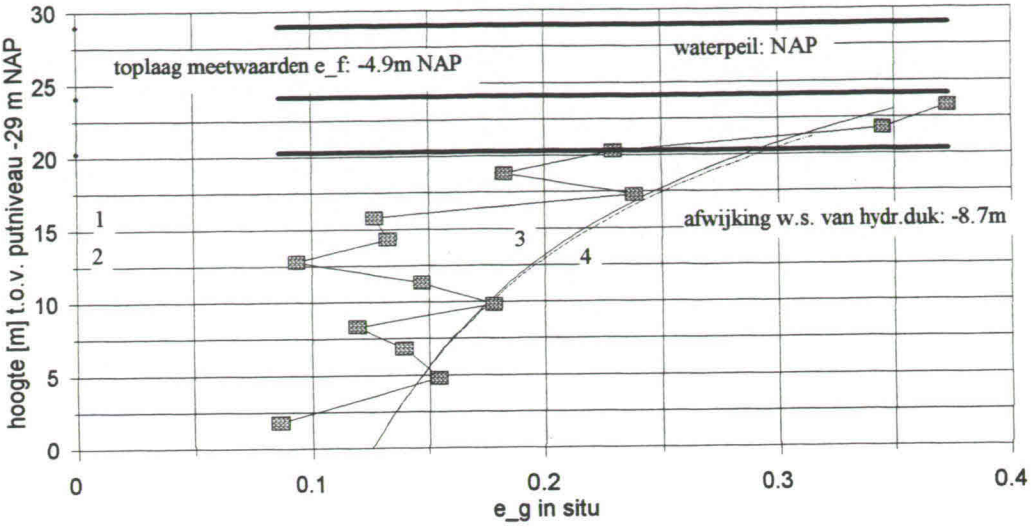
Slufter meetpaal noord
bulkdichtheid 1994



1 vp5 hs = 4.48 m nov. 1994 eg_atm=0
2 lin. hs= 4.46 m nov. 1994 eg_atm = 0
3 lin. hs = 4.46 m nov. 1994 eg_atm=0.57
4 vp5 hs = 4.48 m nov. 1994 eg_atm=0.57
metingen noord nov. 1994 hs = 5.99 m

Slufter meetpaal noord

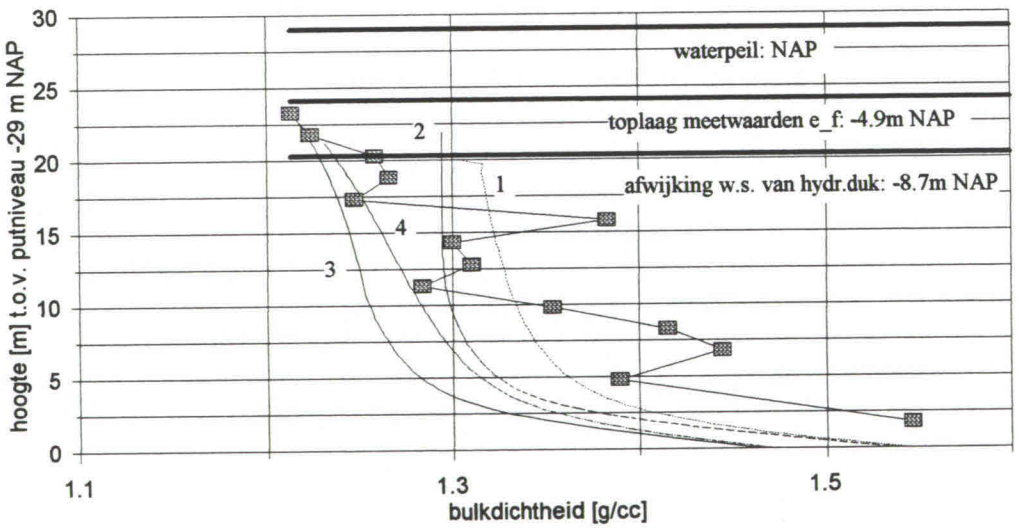
e_g in situ 1994



1 vp5 hs = 4.48 m nov. 1994 eg_atm=0
2 lin. hs= 4.46 m nov. 1994 eg_atm = 0
3 lin. hs = 4.46 m nov. 1994 eg_atm=0.57
4 vp5 hs = 4.48 m nov. 1994 eg_atm=0.57
metingen noord nov. 1994 hs = 5.99 m

Slufter meetpaal noord

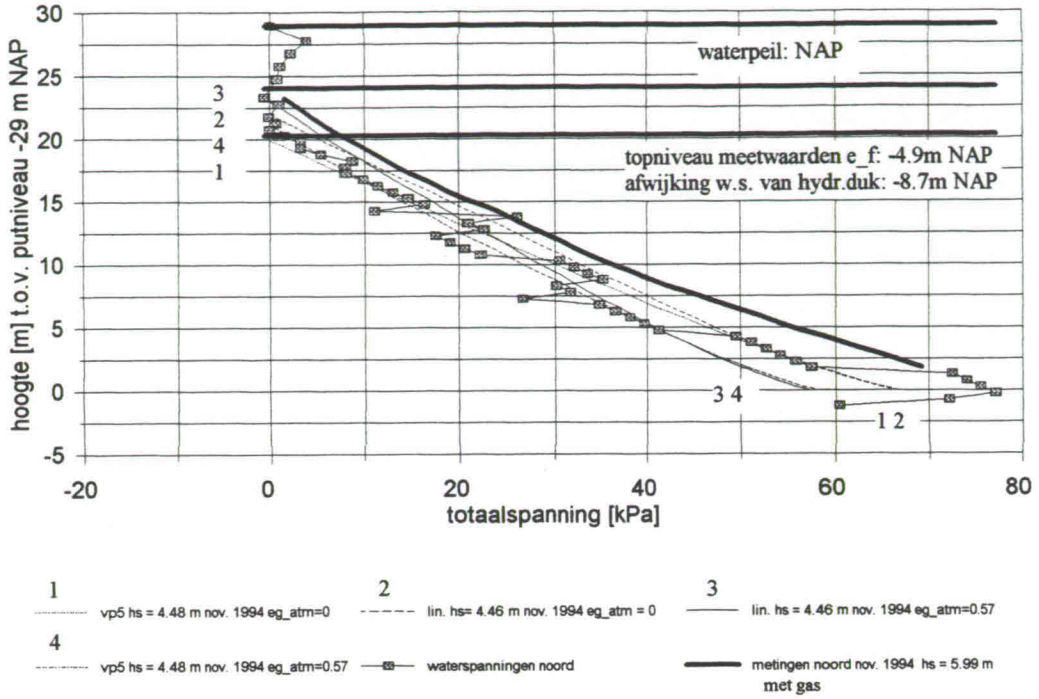
bulkdichtheid 1994



1 vp5 hs = 4.48 m nov. 1994 eg_atm=0
2 lin. hs= 4.46 m nov. 1994 eg_atm = 0
3 lin. hs = 4.46 m nov. 1994 eg_atm=0.57
4 vp5 hs = 4.48 m nov. 1994 eg_atm=0.57
metingen noord nov. 1994 hs = 5.99 m

Slufter meetpaal noord

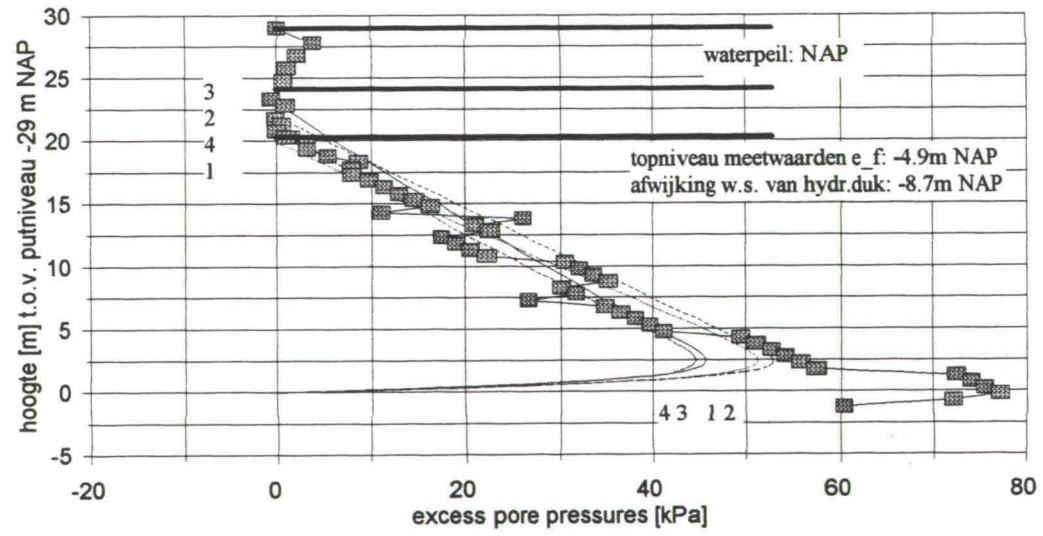
totaalspanning 1994 t.o.v. hydr. druk



1 vp5 hs = 4.48 m nov. 1994 eg_atm=0
2 lin. hs= 4.46 m nov. 1994 eg_atm = 0
3 lin. hs = 4.46 m nov. 1994 eg_atm=0.57
4 vp5 hs = 4.48 m nov. 1994 eg_atm=0.57
waterspanningen noord
metingen noord nov. 1994 hs = 5.99 m met gas

Slufter meetpaal noord

excess pore pressures 1994

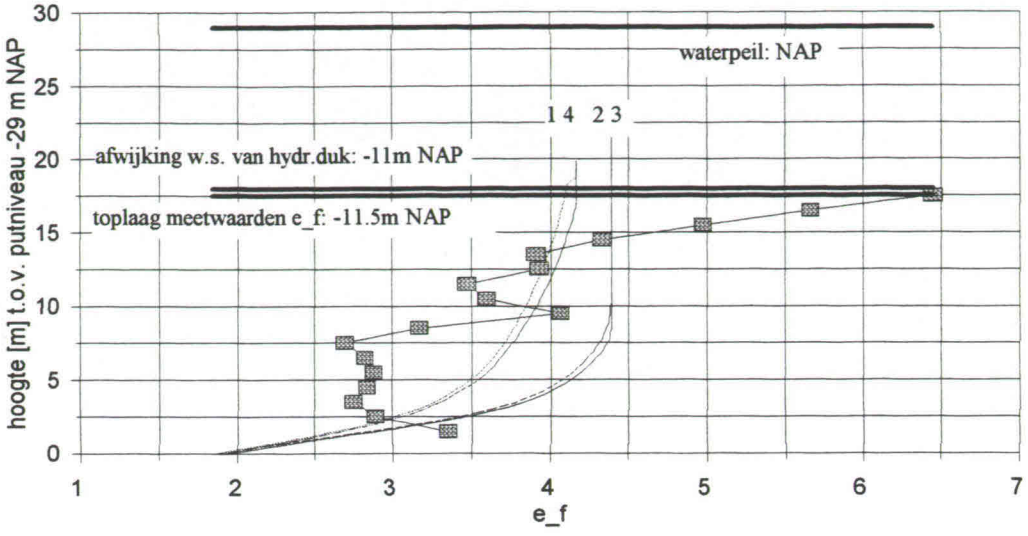


1 vp5 hs = 4.48 m nov. 1994 eg_atm=0
2 lin. hs= 4.46 m nov. 1994 eg_atm = 0
3 lin. hs = 4.46 m nov. 1994 eg_atm=0.57
4 vp5 hs = 4.48 m nov. 1994 eg_atm=0.57
excess pore pressure noord

vergelijking parametersets vp5
m1=8.97 m2=-2.57 m5=-25.21 m6=1.74

Slufter meetpaal zuid

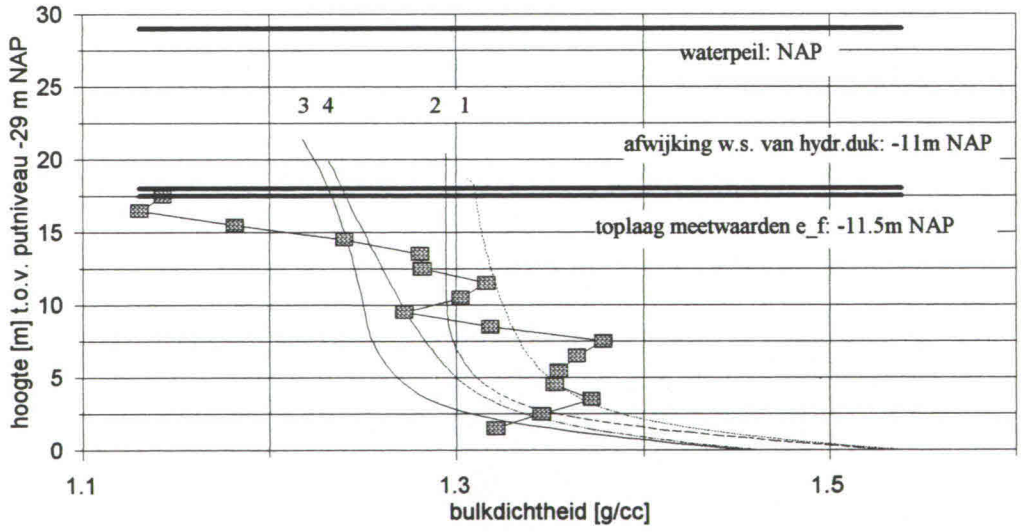
e_f 1992



1 vp5 hs = 4.10 m nov. 1992 eg_atm=0
2 lin. hs= 4.09 m nov. 1992 eg_atm = 0
3 lin. hs = 4.09 m nov. 1992 eg_atm=0.61
4 vp5 hs = 4.10 m nov. 1992 eg_atm=0.61
metingen zuid nov. 1992 hs = 3.83 m

Slufter meetpaal zuid

bulkdichtheid 1992

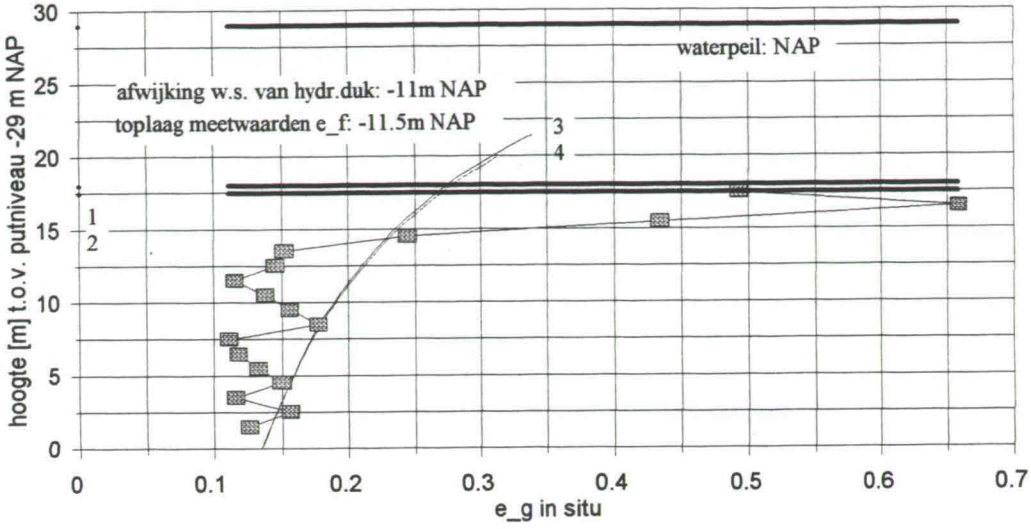


1 vp5 hs = 4.10 m nov. 1992 eg_atm=0
2 lin. hs= 4.09 m nov. 1992 eg_atm = 0
3 lin. hs = 4.09 m nov. 1992 eg_atm=0.61
4 vp5 hs = 4.10 m nov. 1992 eg_atm=0.61
metingen zuid nov. 1992 hs = 3.83 m

vergelijking parametersets vp5
m1=8.97 m2=-2.57 m5=-25.21 m6=1.74

Slufter meetpaal zuid

e_g in situ 1992



1 vp5 hs = 4.10 m nov. 1992 eg_atm=0

2 lin. hs= 4.09 m nov. 1992 eg_atm = 0

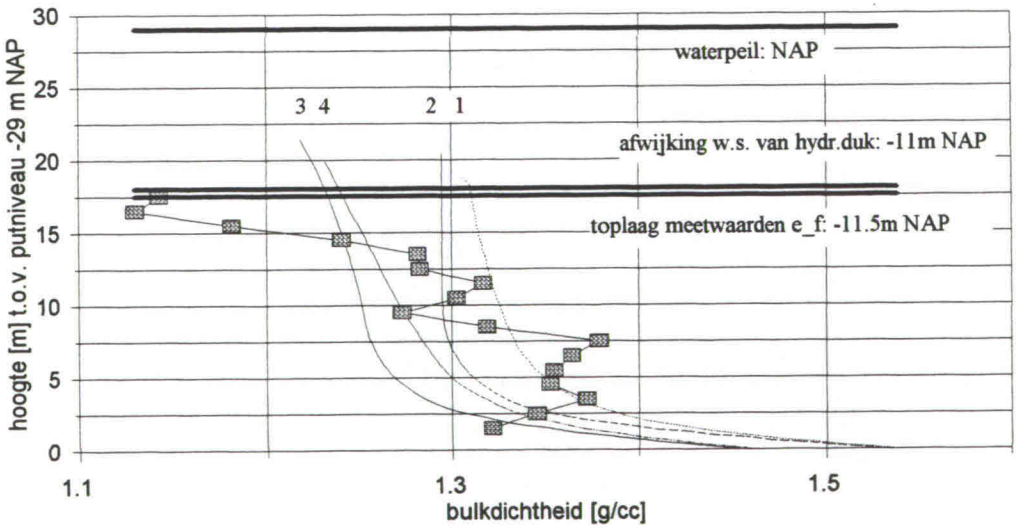
3 lin. hs = 4.09 m nov. 1992 eg_atm=0.61

4 vp5 hs = 4.10 m nov. 1992 eg_atm=0.61

metingen zuid nov. 1992 hs = 3.83 m

Slufter meetpaal zuid

bulkdichtheid 1992



1 vp5 hs = 4.10 m nov. 1992 eg_atm=0

2 lin. hs= 4.09 m nov. 1992 eg_atm = 0

3 lin. hs = 4.09 m nov. 1992 eg_atm=0.61

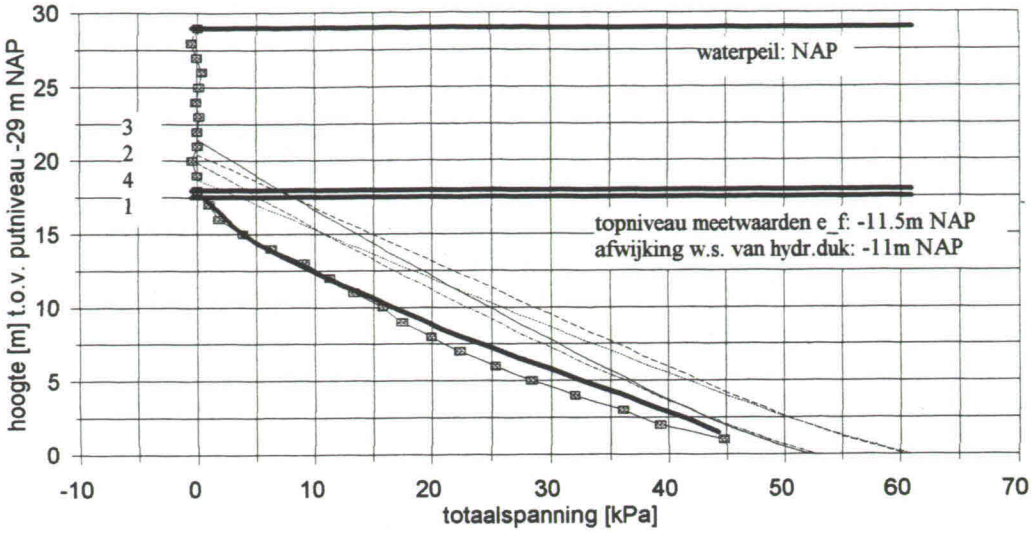
4 vp5 hs = 4.10 m nov. 1992 eg_atm=0.61

metingen zuid nov. 1992 hs = 3.83 m

vergelijking parametersets vp5
m1=8.97 m2=-2.57 m5=-25.21 m6=1.74

Slufter meetpaal zuid

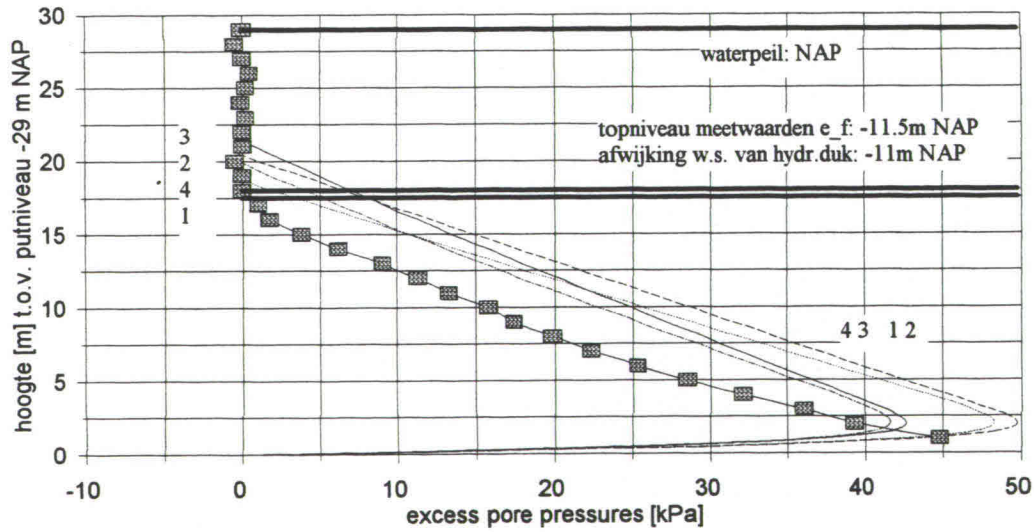
totaalspanning 1992 t.o.v. hydr. druk



1 vp5 hs = 4.10 m nov. 1992 eg_atm=0
2 lin. hs= 4.09 m nov. 1992 eg_atm = 0
3 lin. hs = 4.09 m nov. 1992 eg_atm=0.61
4 vp5 hs = 4.10 m nov. 1992 eg_atm=0.61
metingen excess pore pressure zuid
metingen zuid nov. 1992 hs = 3.83 m met gas

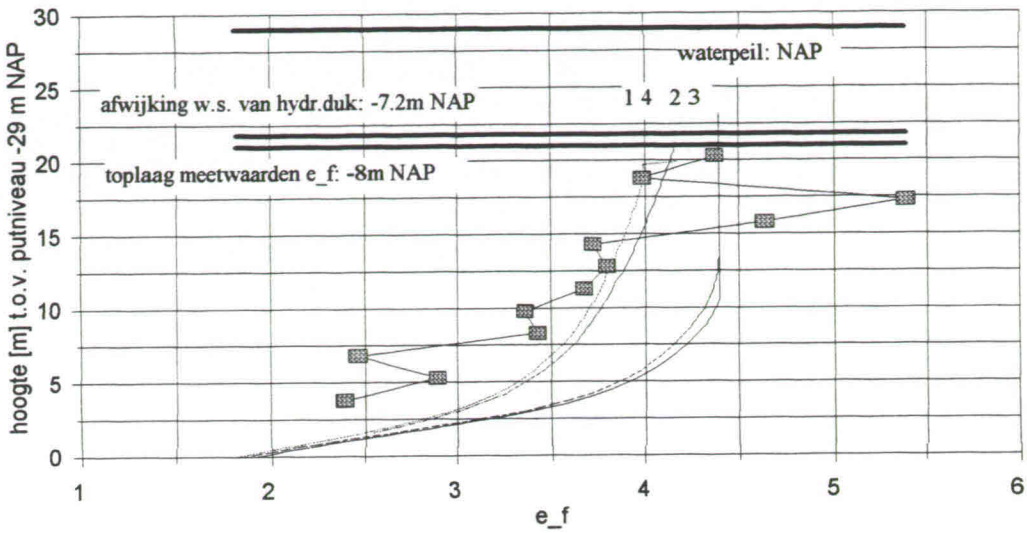
Slufter meetpaal zuid

excess pore pressures 1992



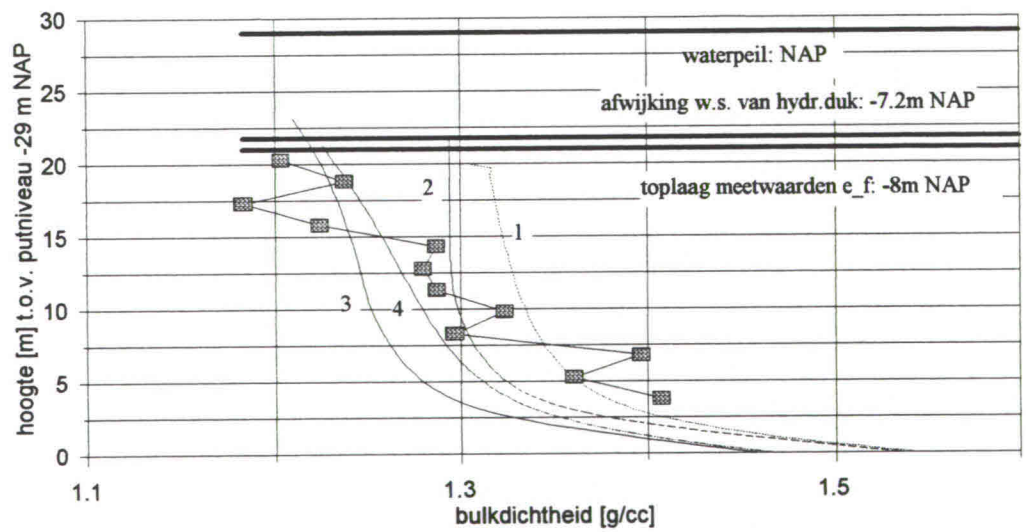
1 vp5 hs = 4.10 m nov. 1992 eg_atm=0
2 lin. hs= 4.09 m nov. 1992 eg_atm = 0
3 lin. hs = 4.09 m nov. 1992 eg_atm=0.61
4 vp5 hs = 4.10 m nov. 1992 eg_atm=0.61
excess pore pressure zuid

Slufter meetpaal zuid
e_f 1994



1 vp5 hs = 4.48 m nov. 1994 eg_atm=0
2 lin. hs= 4.46 m nov. 1994 eg_atm = 0
3 lin. hs = 4.46 m nov. 1994 eg_atm=0.61
4 vp5 hs = 4.48 m nov. 1994 eg_atm=0.61
metingen zuid nov. 1994 hs = 4.92 m

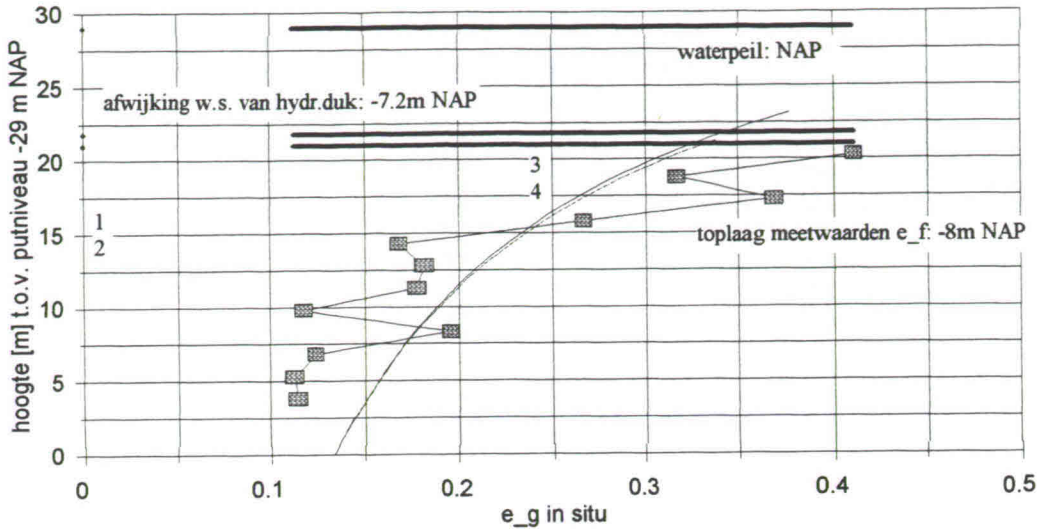
Slufter meetpaal zuid
bulkdichtheid 1994



1 vp5 hs = 4.48 m nov. 1994 eg_atm=0
2 lin. hs= 4.46 m nov. 1994 eg_atm = 0
3 lin. hs = 4.46 m nov. 1994 eg_atm=0.61
4 vp5 hs = 4.48 m nov. 1994 eg_atm=0.61
metingen zuid nov. 1994 hs = 4.92 m

Slufter meetpaal zuid

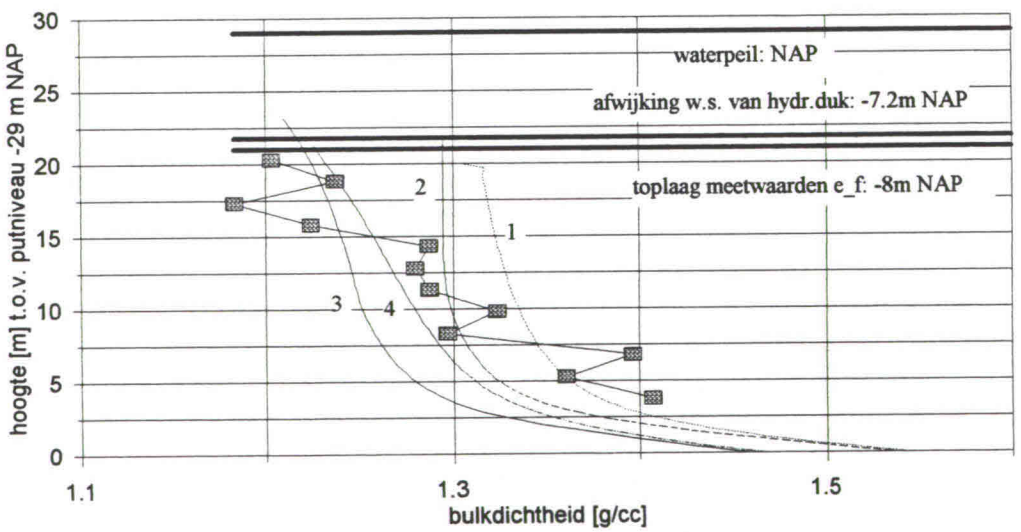
e_g in situ 1994



1 vp5 hs = 4.48 m nov. 1994 eg_atm=0
2 lin. hs= 4.46 m nov. 1994 eg_atm = 0
3 lin. hs = 4.46 m nov. 1994 eg_atm=0.61
4 vp5 hs = 4.48 m nov. 1994 eg_atm=0.61
metingen zuid nov. 1994 hs = 4.92 m

Slufter meetpaal zuid

bulkdichtheid 1994

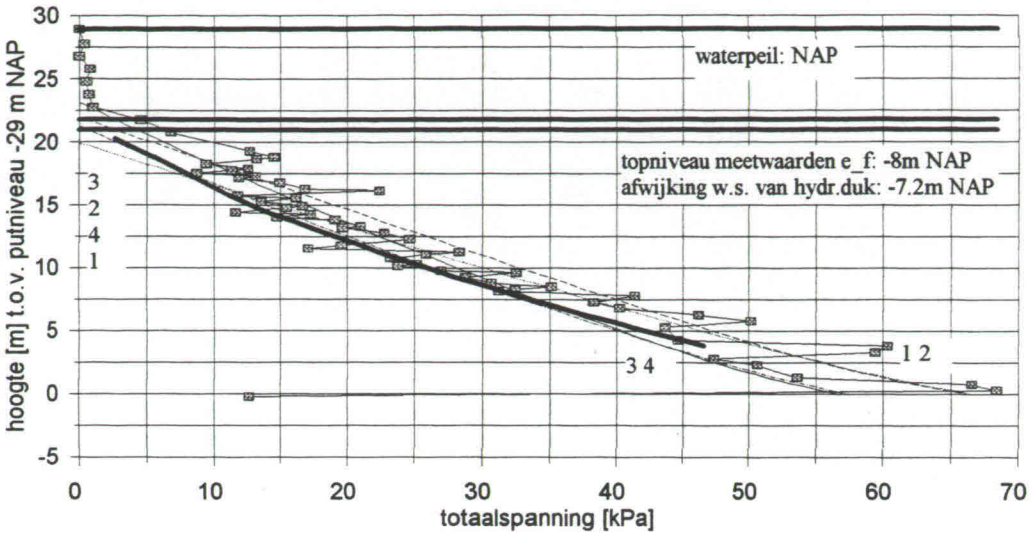


1 vp5 hs = 4.48 m nov. 1994 eg_atm=0
2 lin. hs= 4.46 m nov. 1994 eg_atm = 0
3 lin. hs = 4.46 m nov. 1994 eg_atm=0.61
4 vp5 hs = 4.48 m nov. 1994 eg_atm=0.61
metingen zuid nov. 1994 hs = 4.92 m

vergelijking parametersets vp5
m1=8.97 m2=-2.57 m5=-25.21 m6=1.74

Slufter meetpaal zuid

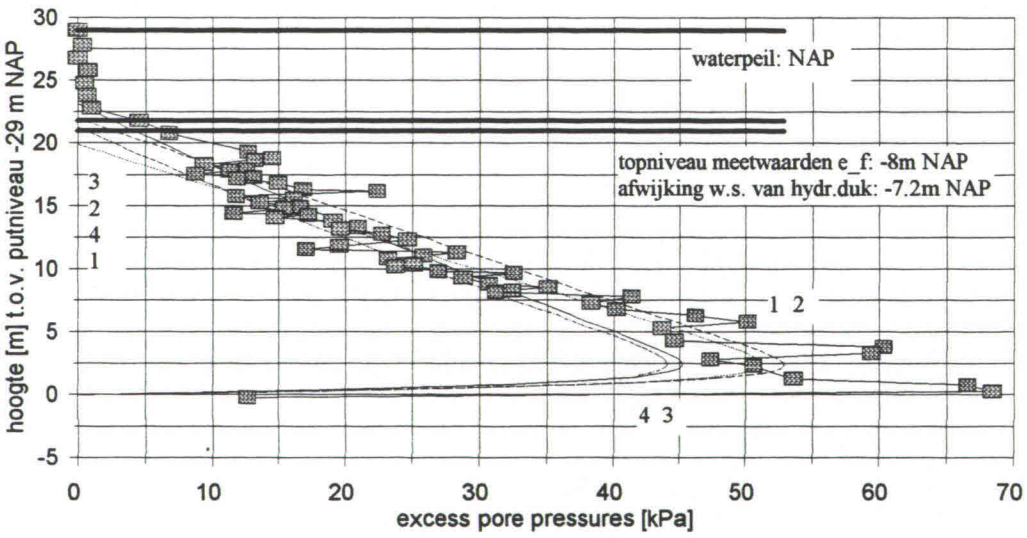
totaalspanning 1994 t.o.v. hydr. druk



1 vp5 hs = 4.48 m nov. 1994 eg_atm=0
2 lin. hs= 4.46 m nov. 1994 eg_atm = 0
3 lin. hs = 4.46 m nov. 1994 eg_atm=0.61
4 vp5 hs = 4.48 m nov. 1994 eg_atm=0.61
waterspanningen zuid
metingen zuid nov. 1994 hs = 4.92 m met gas

Slufter meetpaal zuid

excess pore pressures 1994



1 vp5 hs = 4.48 m nov. 1994 eg_atm=0
2 lin. hs= 4.46 m nov. 1994 eg_atm = 0
3 lin. hs = 4.46 m nov. 1994 eg_atm=0.61
4 vp5 hs = 4.48 m nov. 1994 eg_atm=0.61
excess pore pressure zuid

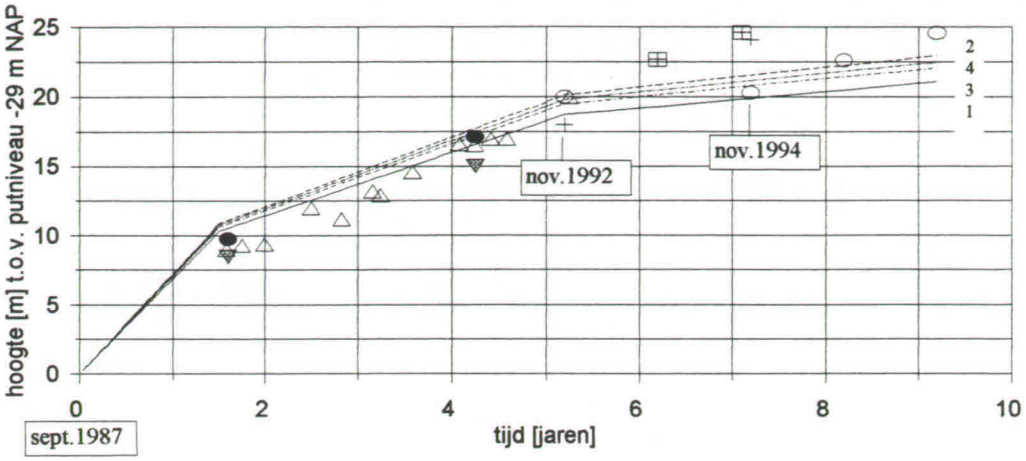
C.4 Variatie atmosferisch gasgehalte simulaties Noord en Zuid (H=0)

	e_g^{atm} = gem.-st.dev.	e_g^{atm} = gem.	e_g^{atm} = gem.+st.dev.
Noord	0.41	0.57	0.73
Zuid	0.44	0.61	0.78

Voorbeeld invoerfile computerprogramma fscongas (Noord, $\sigma_{op}(e_{set})$ = 0.1 kPa en e_g = 0.57):

aantal lagen	1
aantal periodes	4
depositie periode 1 [jaren]	0 1.5
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 15.0 4.17
deeltijdstapfactor depositietijd	4
depositie periode 2 [jaren]	1.5 5.2
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 5.64 4.17
deeltijdstapfactor depositietijd	4
depositie periode 3 [jaren]	5.2 7.2
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 2 4.17
deeltijdstapfactor depositietijd	4
depositie periode 4 [jaren]	7.2 9.2
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 2 4.17
deeltijdstapfactor depositietijd	4
hoogte waterlaag [m]	29
m1 t/m m4	9.21 -2.76 0 0
m5 t/m m8	-26.43 2.28 0 0
γ_s ; γ_f ; e_g^{atm} ; H	25 10.2 0.57 0
aantal knopen	100
grid verfijningsfactoren	0.0 1.1 0.0 -0.1 0.0
tijdsfactor; aantal tijdstappen; skipout	1.05 100 5

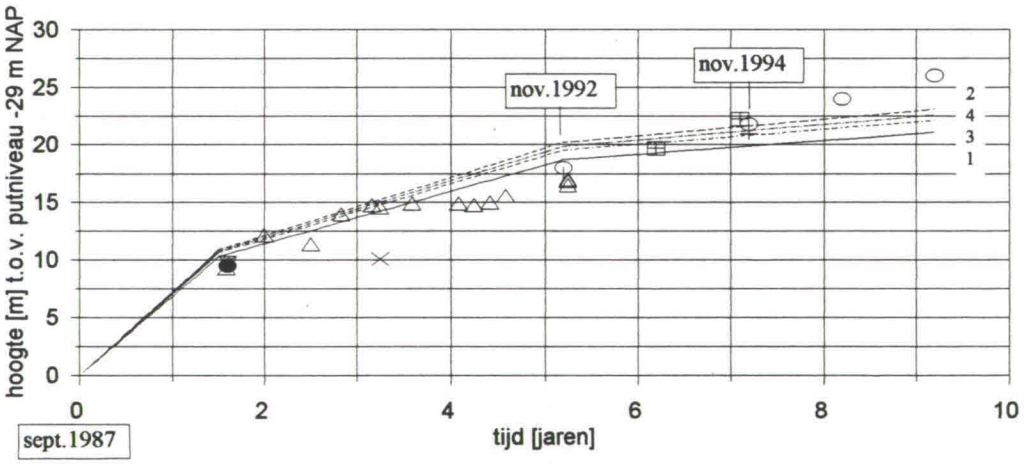
Slufter meetpaal noord



1 simulatie hs = 4.1m 1992 eg=0
2 simulatie hs = 4.1m 1992 eg=0.73
3 simulatie hs = 4.1m 1992 eg=0.41
4 simulatie hs = 4.1m 1992 eg=0.57
nucleaire dichtheidsmeting; rho = 1306
nucleaire dichtheidsmeting; rho = 1200
waterspanning
toplaag slibsampler
backscatter rho = 1200 kg/m3
metingen CATS II
temp. meting noord

meting toplaag:	1992	20		1995	22.6
uit waterspanning	1994	20.3		1996	24.6

Slufter meetpaal zuid

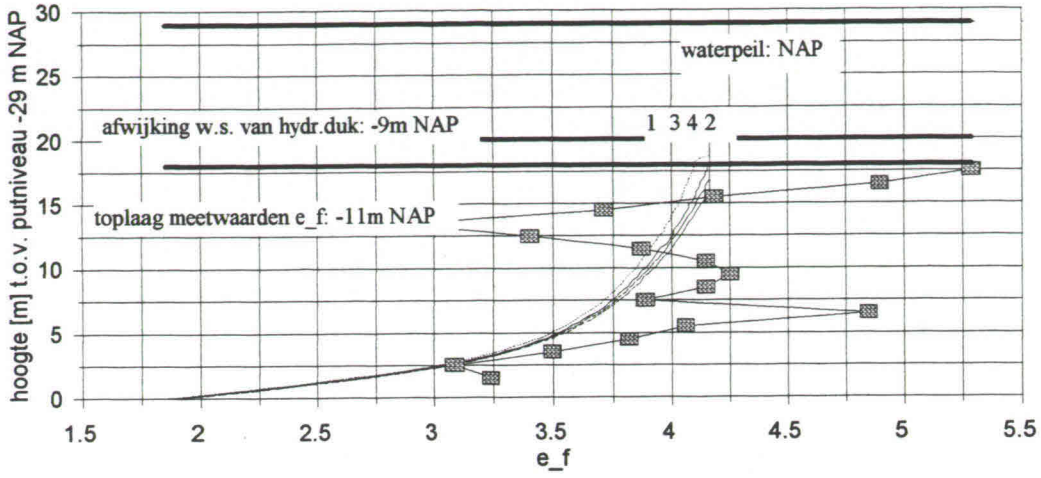


1 simulatie hs = 4.1m 1992 eg=0
2 simulatie hs = 4.1m 1992 eg=0.78
3 simulatie hs = 4.1m 1992 eg=0.44
4 simulatie hs = 4.1m 1992 eg=0.61
nucleaire dichtheidsmeting; rho = 1306
nucleaire dichtheidsmeting; rho = 1200
waterspanning
toplaag slibsampler
backscatter rho = 1200 kg/m3
metingen CATS II
temp. meting zuid

meting toplaag:	1992	18		1995	24
uit waterspanning	1994	21.8		1996	26

Slufter meetpaal noord

e_f 1992



1 hs = 4.10 m nov. 1992 eg_atm=0

2 hs= 4.10 m nov. 1992 eg_atm=0.73

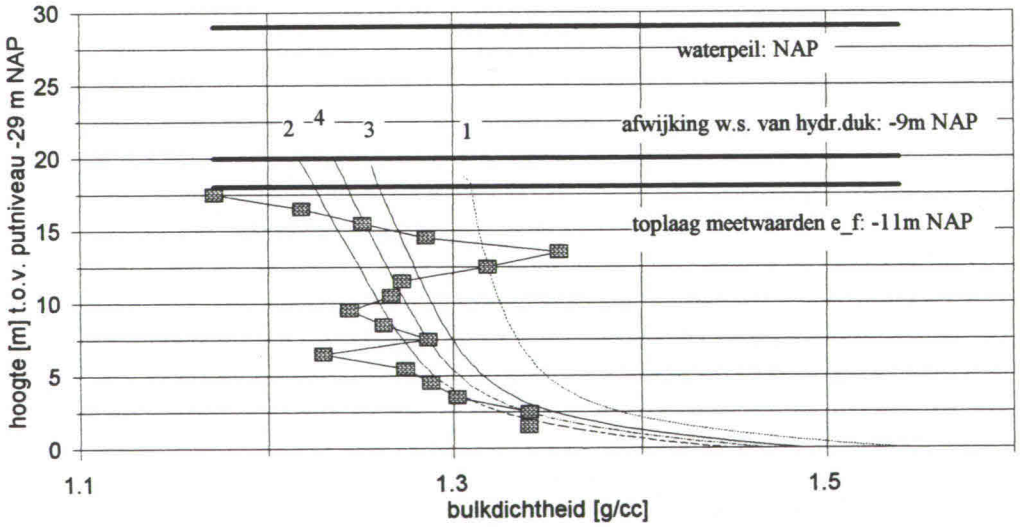
3 hs = 4.10 m nov. 1992 eg_atm=0.41

4 hs = 4.10 m nov. 1992 eg_atm=0.57

metingen noord nov. 1992 hs = 3.73 m

Slufter meetpaal noord

bulkdichtheid 1992



1 hs = 4.10 m nov. 1992 eg_atm=0

2 hs= 4.10 m nov. 1992 eg_atm=0.73

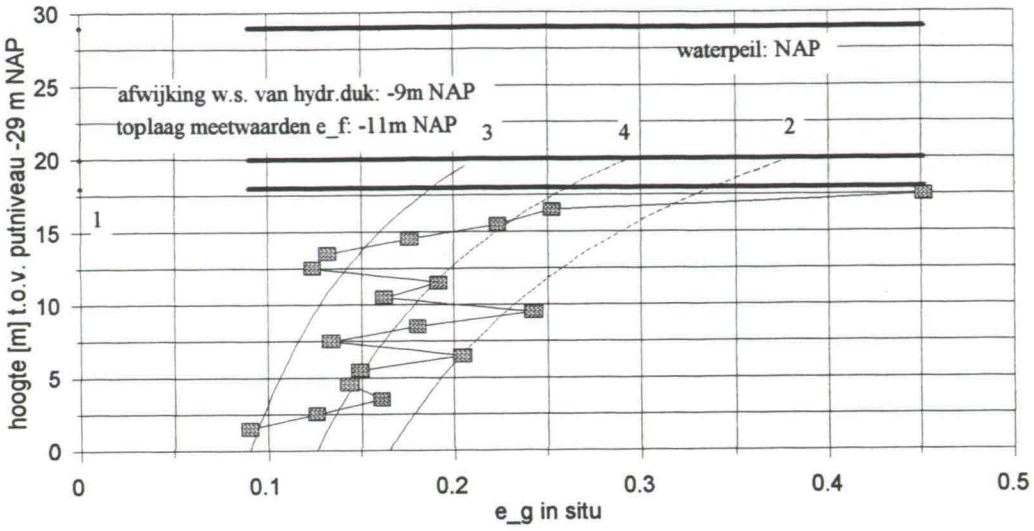
3 hs = 4.10 m nov. 1992 eg_atm=0.41

4 hs = 4.10 m nov. 1992 eg_atm=0.57

metingen noord nov. 1992 hs = 3.73 m

Slufter meetpaal noord

e_g in situ 1992



1 hs = 4.10 m nov. 1992 eg_atm=0

2 hs= 4.10 m nov. 1992 eg_atm=0.73

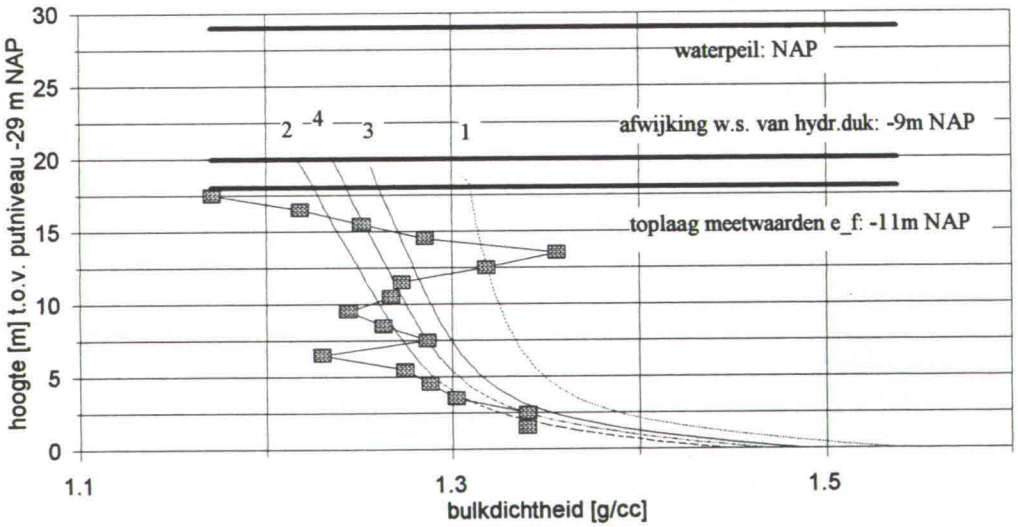
3 hs = 4.10 m nov. 1992 eg_atm=0.41

4 hs = 4.10 m nov. 1992 eg_atm=0.57

metingen noord nov. 1992 hs = 3.73 m

Slufter meetpaal noord

bulkdichtheid 1992



1 hs = 4.10 m nov. 1992 eg_atm=0

2 hs= 4.10 m nov. 1992 eg_atm=0.73

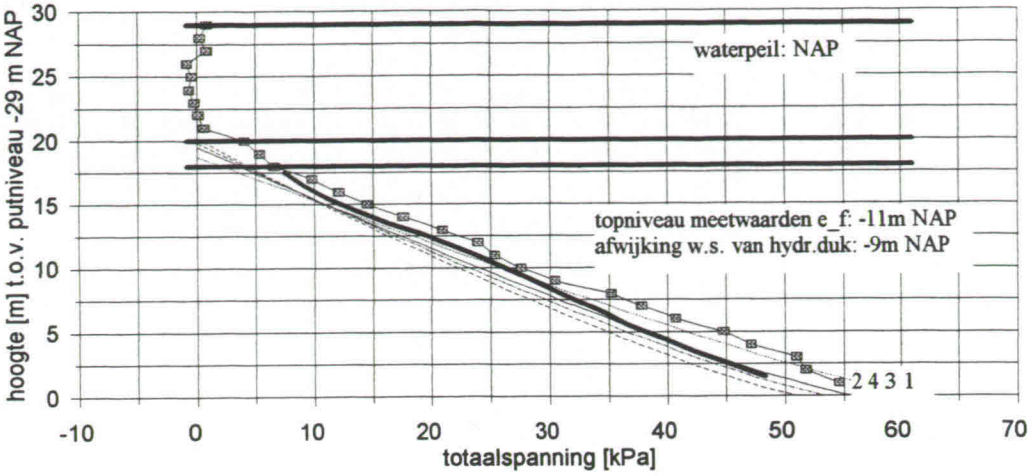
3 hs = 4.10 m nov. 1992 eg_atm=0.41

4 hs = 4.10 m nov. 1992 eg_atm=0.57

metingen noord nov. 1992 hs = 3.73 m

Slufter meetpaal noord

totaalspanning 1992 t.o.v. hydr. druk



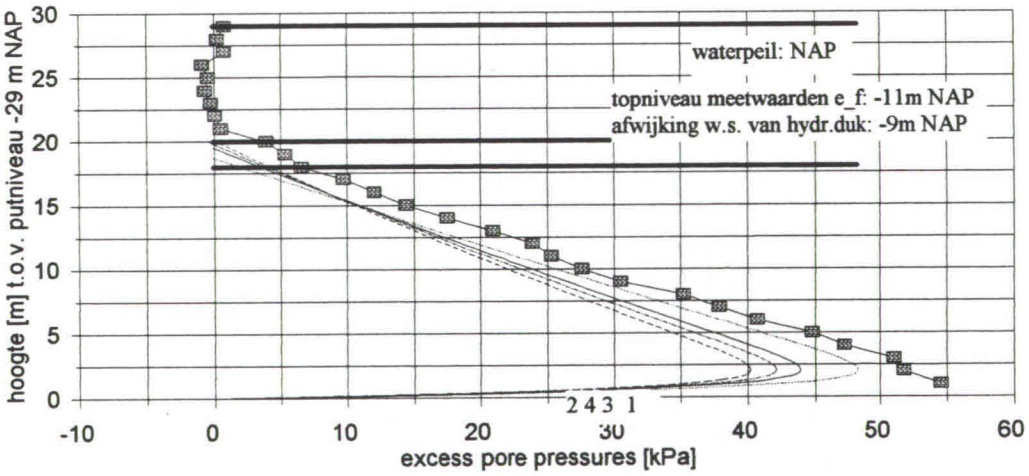
1 hs = 4.10 m nov. 1992 eg_atm=0 — 2 hs= 4.10 m nov. 1992 eg_atm=0.73

3 hs = 4.10 m nov. 1992 eg_atm=0.41 — 4 hs = 4.10 m nov. 1992 eg_atm=0.57

metingen excess pore pressure noord — metingen noord nov. 1992 hs = 3.73 m

Slufter meetpaal noord

excess pore pressures 1992



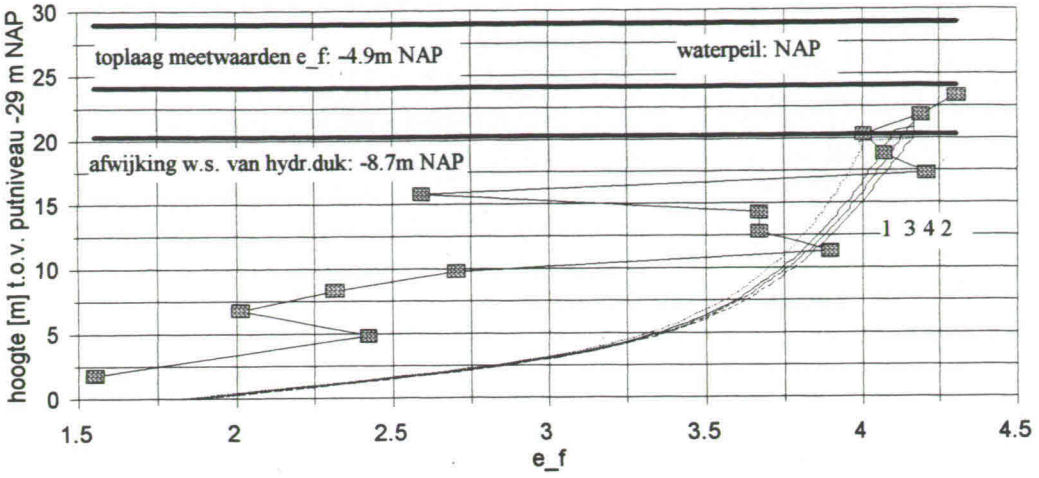
1 hs = 4.10 m nov. 1992 eg_atm=0 — 2 hs= 4.10 m nov. 1992 eg_atm=0.73

3 hs = 4.10 m nov. 1992 eg_atm=0.41 — 4 hs = 4.10 m nov. 1992 eg_atm=0.57

metingen excess pore pressure noord

Slufter meetpaal noord

e_f 1994



1 hs = 4.48 m nov. 1994 eg_atm=0

2 hs= 4.48 m nov. 1994 eg_atm=0.73

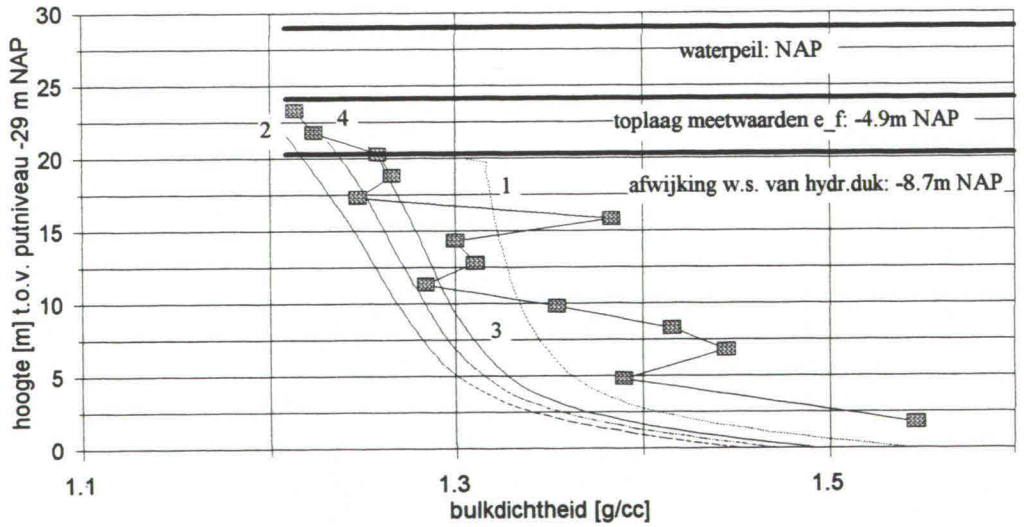
3 hs = 4.48 m nov. 1994 eg_atm=0.41

4 hs = 4.48 m nov. 1994 eg_atm=0.57

metingen noord nov. 1994 hs = 5.99 m

Slufter meetpaal noord

bulkdichtheid 1994



1 hs = 4.48 m nov. 1994 eg_atm=0

2 hs= 4.48 m nov. 1994 eg_atm=0.73

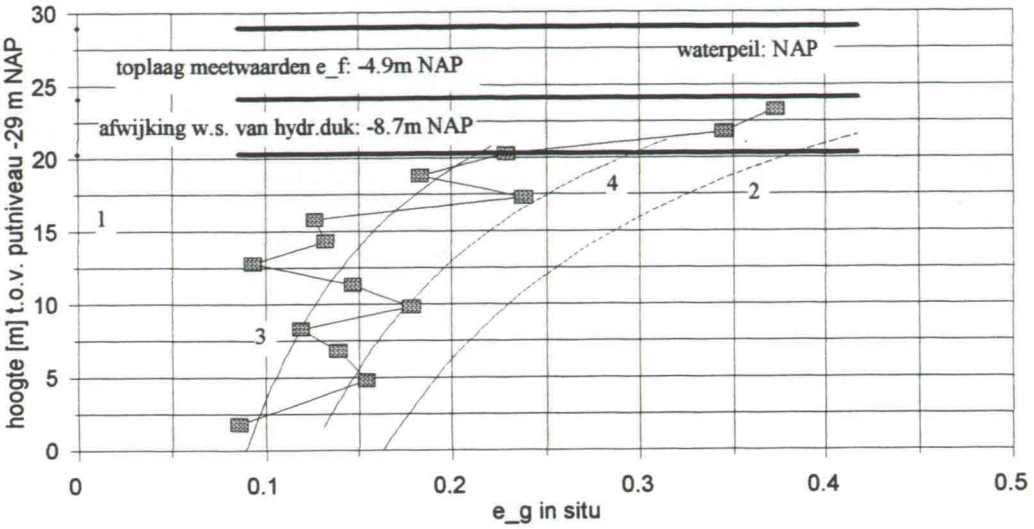
3 hs = 4.48 m nov. 1994 eg_atm=0.41

4 hs = 4.48 m nov. 1994 eg_atm=0.57

metingen noord nov. 1994 hs = 5.99 m

Slufter meetpaal noord

e_g in situ 1994



1 hs = 4.48 m nov. 1994 eg_atm=0

2 hs= 4.48 m nov. 1994 eg_atm=0.73

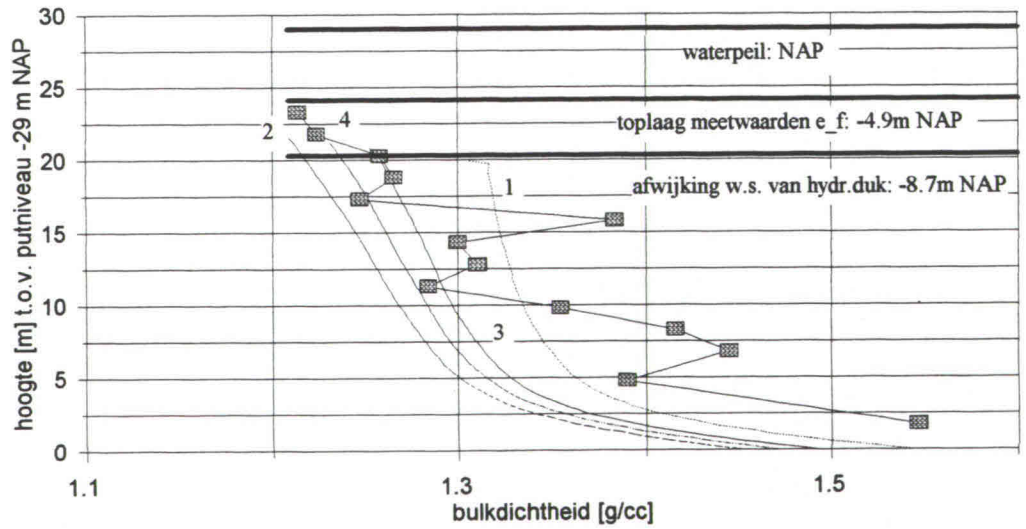
3 hs = 4.48 m nov. 1994 eg_atm=0.41

4 hs = 4.48 m nov. 1994 eg_atm=0.57

metingen noord nov. 1994 hs = 5.99 m

Slufter meetpaal noord

bulkdichtheid 1994



1 hs = 4.48 m nov. 1994 eg_atm=0

2 hs= 4.48 m nov. 1994 eg_atm=0.73

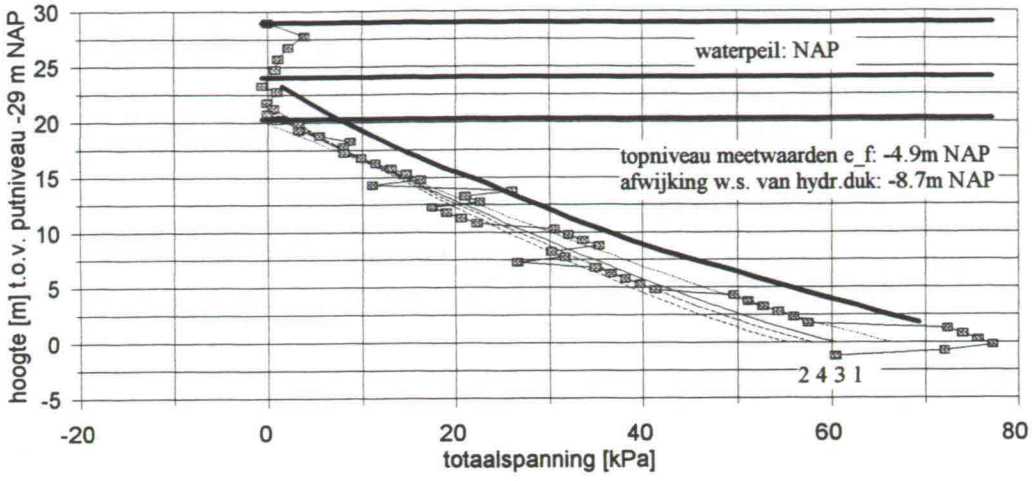
3 hs = 4.48 m nov. 1994 eg_atm=0.41

4 hs = 4.48 m nov. 1994 eg_atm=0.57

metingen noord nov. 1994 hs = 5.99 m

Slufter meetpaal noord

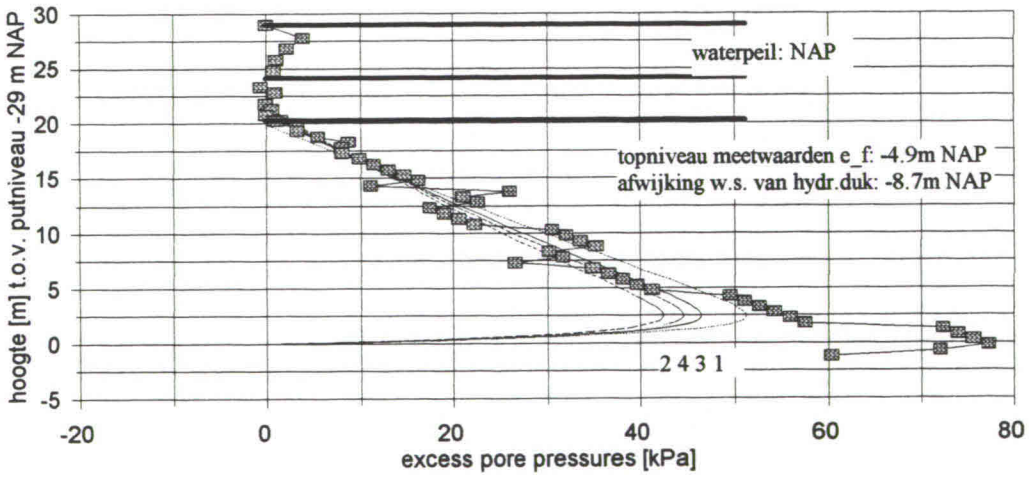
totaalspanning 1994 t.o.v. hydr. druk



1 hs = 4.48 m nov. 1994 eg_atm=0
2 hs= 4.48 m nov. 1994 eg_atm=0.73
3 hs = 4.48 m nov. 1994 eg_atm=0.41
4 hs = 4.48 m nov. 1994 eg_atm=0.57
metingen excess pore pressure noord
metingen noord nov. 1994 hs = 5.99 m

Slufter meetpaal noord

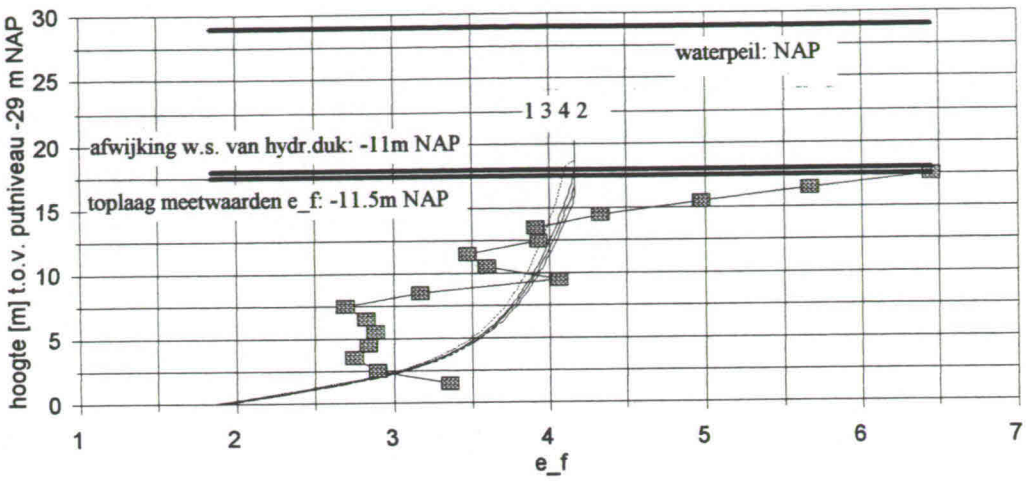
excess pore pressures 1994



1 hs = 4.48 m nov. 1994 eg_atm=0
2 hs= 4.48 m nov. 1994 eg_atm=0.73
3 hs = 4.48 m nov. 1994 eg_atm=0.41
4 hs = 4.48 m nov. 1994 eg_atm=0.57
metingen excess pore pressure noord

Slufter meetpaal zuid

e_f 1992



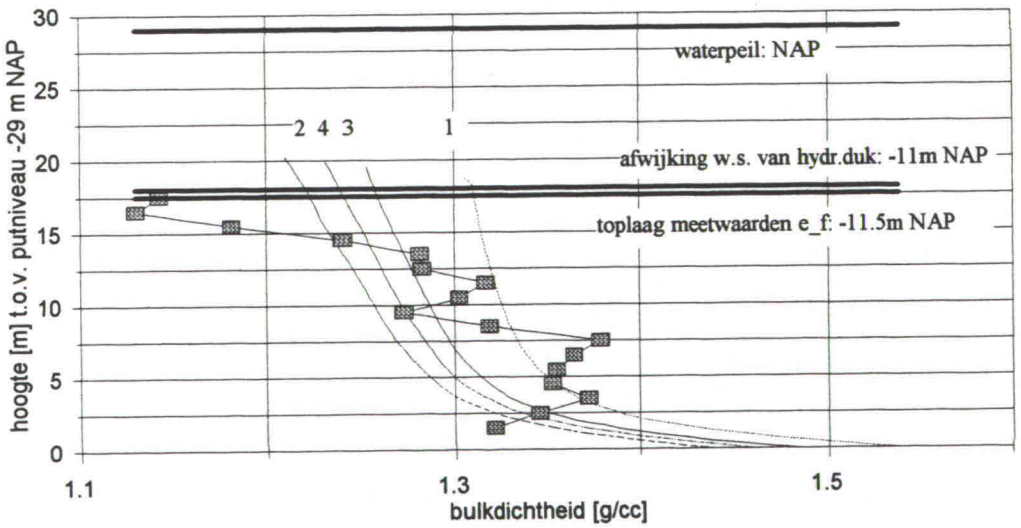
1 hs = 4.10 m nov. 1992 eg_atm=0 ----- 2 hs= 4.10 m nov. 1992 eg_atm=0.78

3 hs = 4.10 m nov. 1992 eg_atm=0.44 ····· 4 hs = 4.10 m nov. 1992 eg_atm=0.61

metingen zuid nov. 1992 hs = 3.83 m

Slufter meetpaal zuid

bulkdichtheid 1992



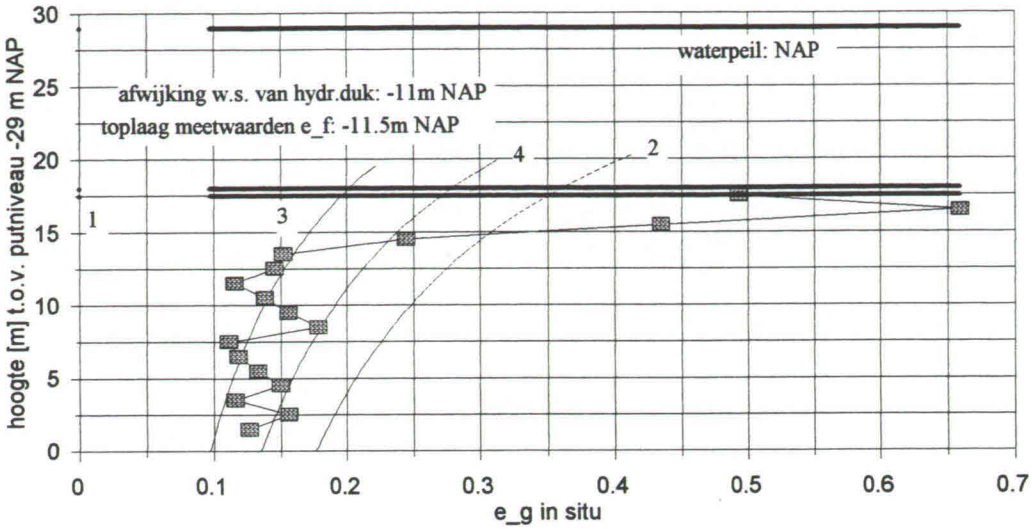
1 hs = 4.10 m nov. 1992 eg_atm=0 ----- 2 hs= 4.10 m nov. 1992 eg_atm=0.78

3 hs = 4.10 m nov. 1992 eg_atm=0.44 ····· 4 hs = 4.10 m nov. 1992 eg_atm=0.61

metingen zuid nov. 1992 hs = 3.83 m

Slufter meetpaal zuid

e_g in situ 1992



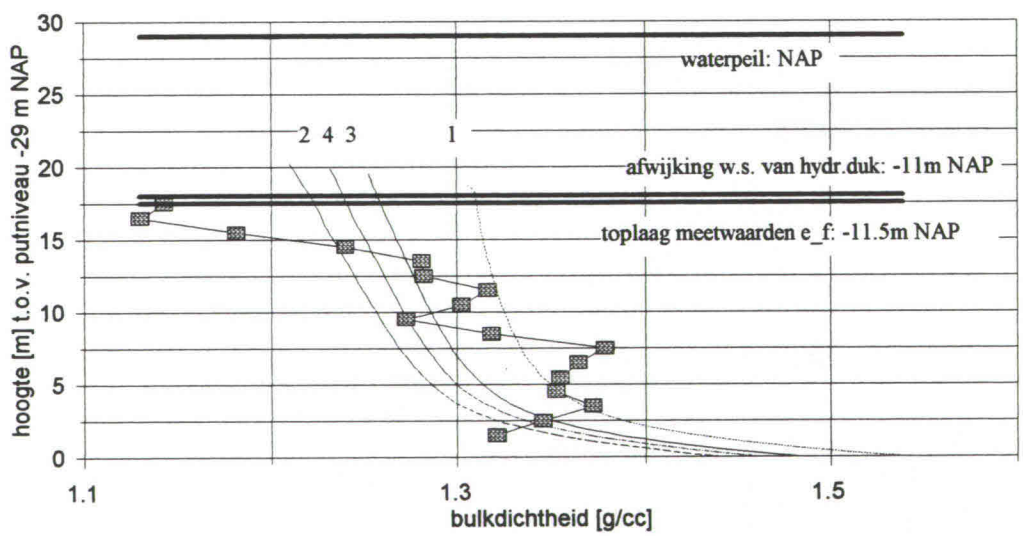
1 hs = 4.10 m nov. 1992 eg_atm=0 — 2 hs= 4.10 m nov. 1992 eg_atm=0.78

3 hs = 4.10 m nov. 1992 eg_atm=0.44 — 4 hs = 4.10 m nov. 1992 eg_atm=0.61

metingen zuid nov. 1992 hs = 3.83 m

Slufter meetpaal zuid

bulkdichtheid 1992



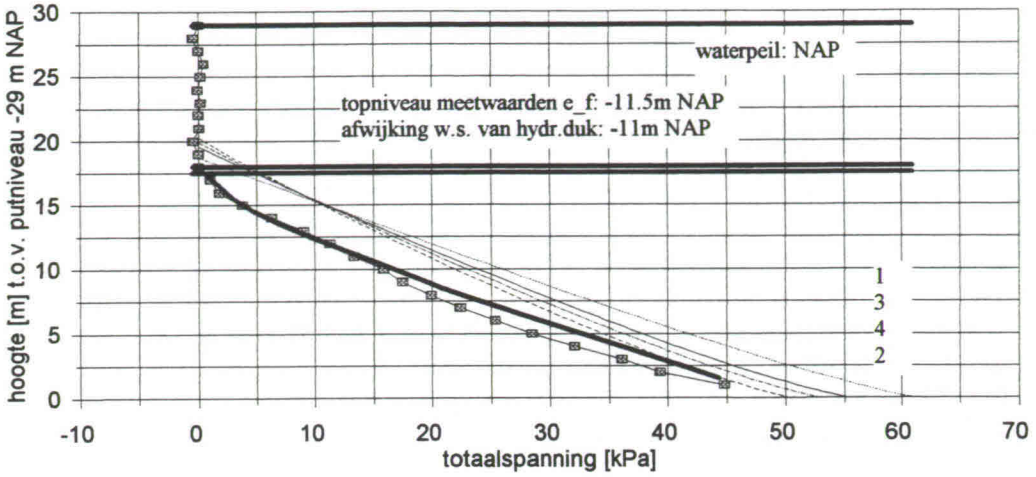
1 hs = 4.10 m nov. 1992 eg_atm=0 — 2 hs= 4.10 m nov. 1992 eg_atm=0.78

3 hs = 4.10 m nov. 1992 eg_atm=0.44 — 4 hs = 4.10 m nov. 1992 eg_atm=0.61

metingen zuid nov. 1992 hs = 3.83 m

Slufter meetpaal zuid

totaalspanning 1992 t.o.v. hydr. druk



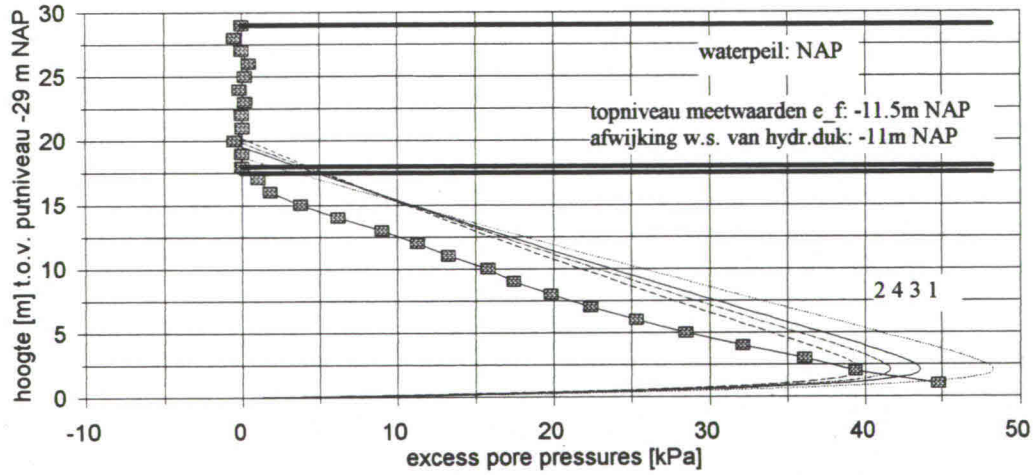
1 hs = 4.10 m nov. 1992 eg_atm=0 — 2 hs= 4.10 m nov. 1992 eg_atm=0.78

3 hs = 4.10 m nov. 1992 eg_atm=0.44 — 4 hs = 4.10 m nov. 1992 eg_atm=0.61

metingen excess pore pressure zuid — metingen zuid nov. 1992 hs = 3.83 m

Slufter meetpaal zuid

excess pore pressures 1992

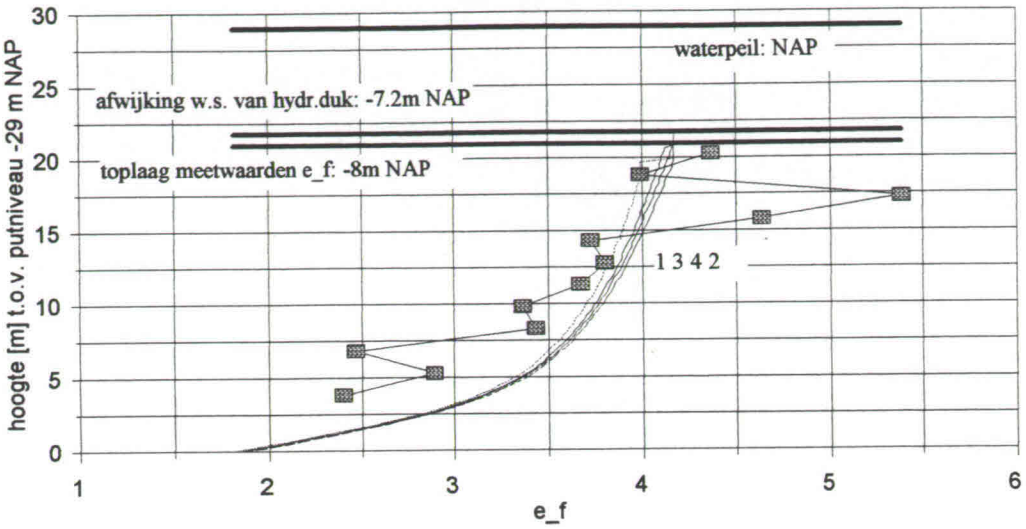


1 hs = 4.10 m nov. 1992 eg_atm=0 — 2 hs= 4.10 m nov. 1992 eg_atm=0.78

3 hs = 4.10 m nov. 1992 eg_atm=0.44 — 4 hs = 4.10 m nov. 1992 eg_atm=0.61

metingen excess pore pressure zuid

Slufter meetpaal zuid
e_f 1994

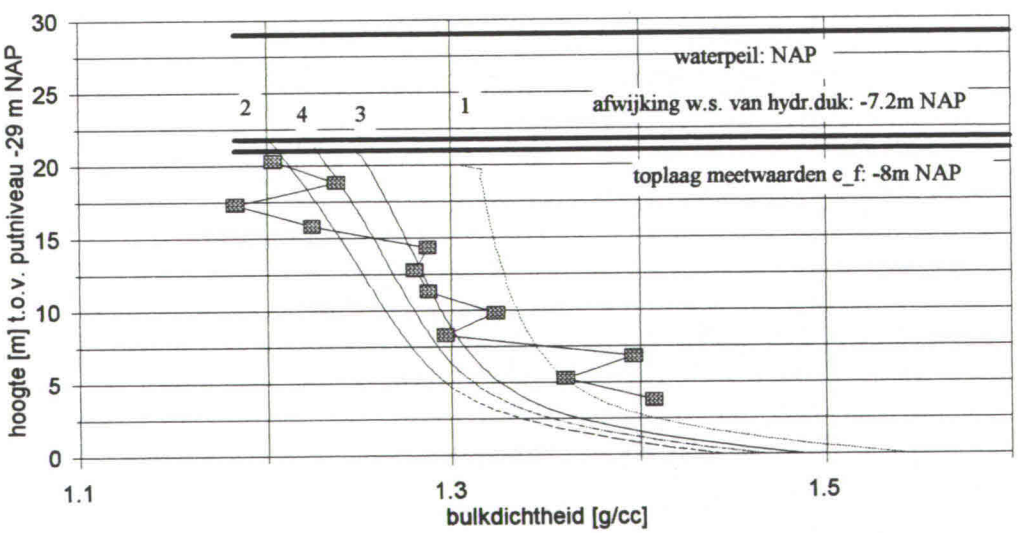


1 hs = 4.48 m nov. 1' 4 eg_atm=0 — 2 hs= 4.48 m nov. 1994 eg_atm=0.78

3 hs = 4.48 m nov. 1994 eg_atm=0.44 — 4 hs = 4.48 m nov. 1994 eg_atm=0.61

metingen zuid nov. 1994 hs = 4.92 m

Slufter meetpaal zuid
bulkdichtheid 1994



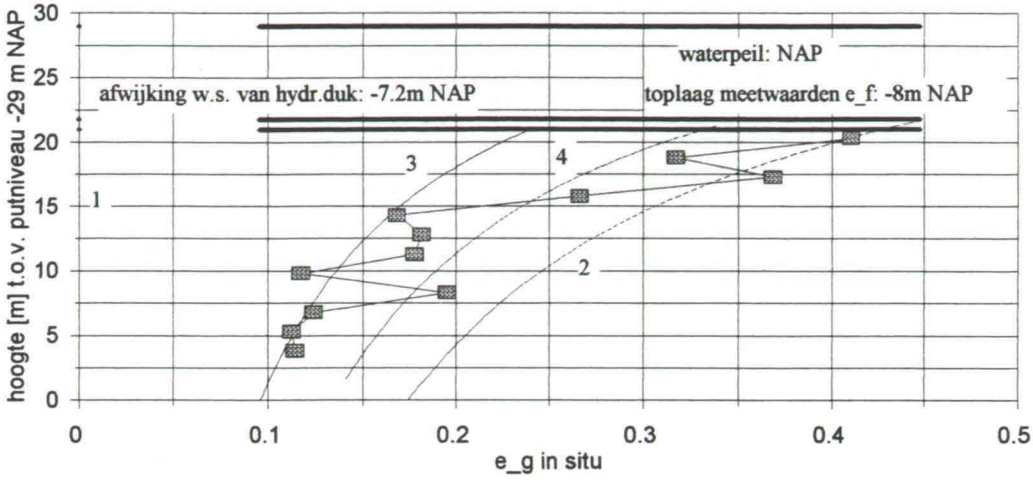
1 hs = 4.48 m nov. 1994 eg_atm=0 — 2 hs= 4.48 m nov. 1994 eg_atm=0.78

3 hs = 4.48 m nov. 1994 eg_atm=0.44 — 4 hs = 4.48 m nov. 1994 eg_atm=0.61

metingen zuid nov. 1994 hs = 4.92 m

Slufter meetpaal zuid

e_g in situ 1994



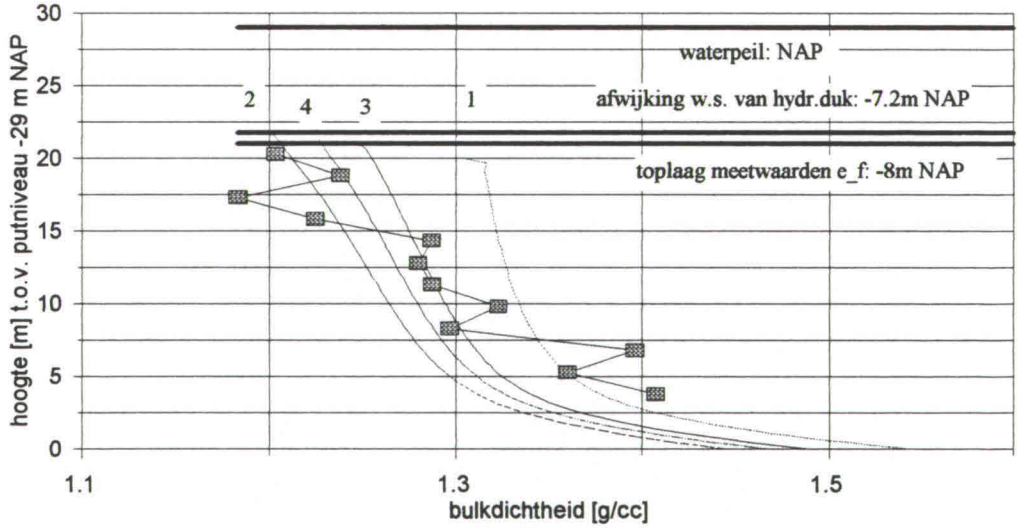
1 hs = 4.48 m nov. 1994 eg_atm=0 ----- 2 hs= 4.48 m nov. 1994 eg_atm=0.78

3 hs = 4.48 m nov. 1994 eg_atm=0.44 ------ 4 hs = 4.48 m nov. 1994 eg_atm=0.61

metingen zuid nov. 1994 hs = 4.92 m

Slufter meetpaal zuid

bulkdichtheid 1994



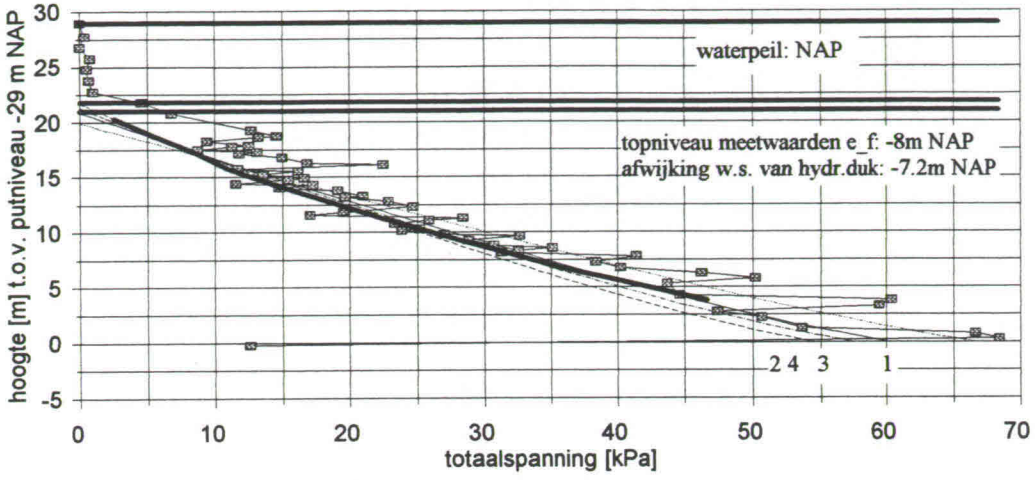
1 hs = 4.48 m nov. 1994 eg_atm=0 ----- 2 hs= 4.48 m nov. 1994 eg_atm=0.78

3 hs = 4.48 m nov. 1994 eg_atm=0.44 ------ 4 hs = 4.48 m nov. 1994 eg_atm=0.61

metingen zuid nov. 1994 hs = 4.92 m

Slufter meetpaal zuid

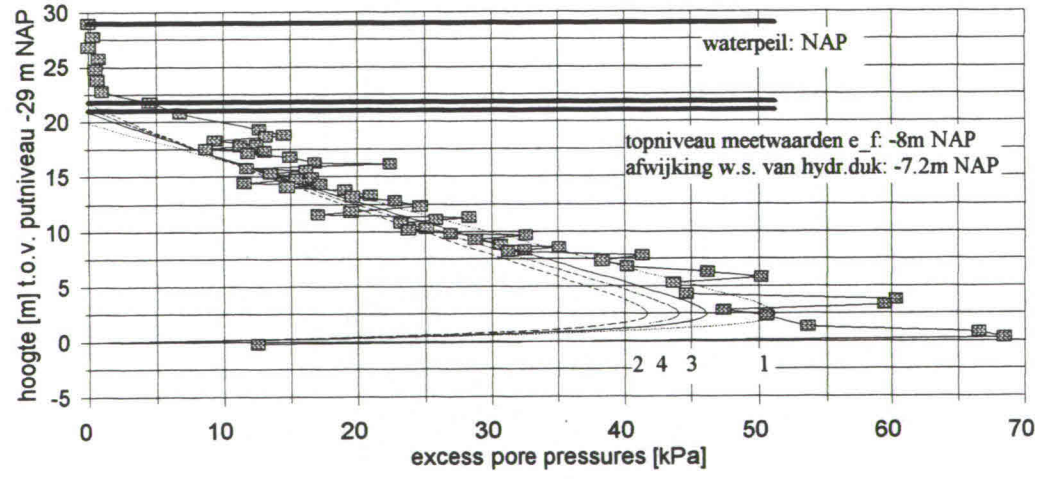
totaalspanning 1994 t.o.v. hydr. druk



1 hs = 4.48 m nov. 1994 eg_atm=0
2 hs= 4.48 m nov. 1994 eg_atm=0.78
3 hs = 4.48 m nov. 1994 eg_atm=0.44
4 hs = 4.48 m nov. 1994 eg_atm=0.61
metingen excess pore pressure zuid
metingen zuid nov. 1994 hs = 4.92 m

Slufter meetpaal zuid

excess pore pressures 1994



1 hs = 4.48 m nov. 1994 eg_atm=0
2 hs= 4.48 m nov. 1994 eg_atm=0.78
3 hs = 4.48 m nov. 1994 eg_atm=0.44
4 hs = 4.48 m nov. 1994 eg_atm=0.61
metingen excess pore pressure zuid

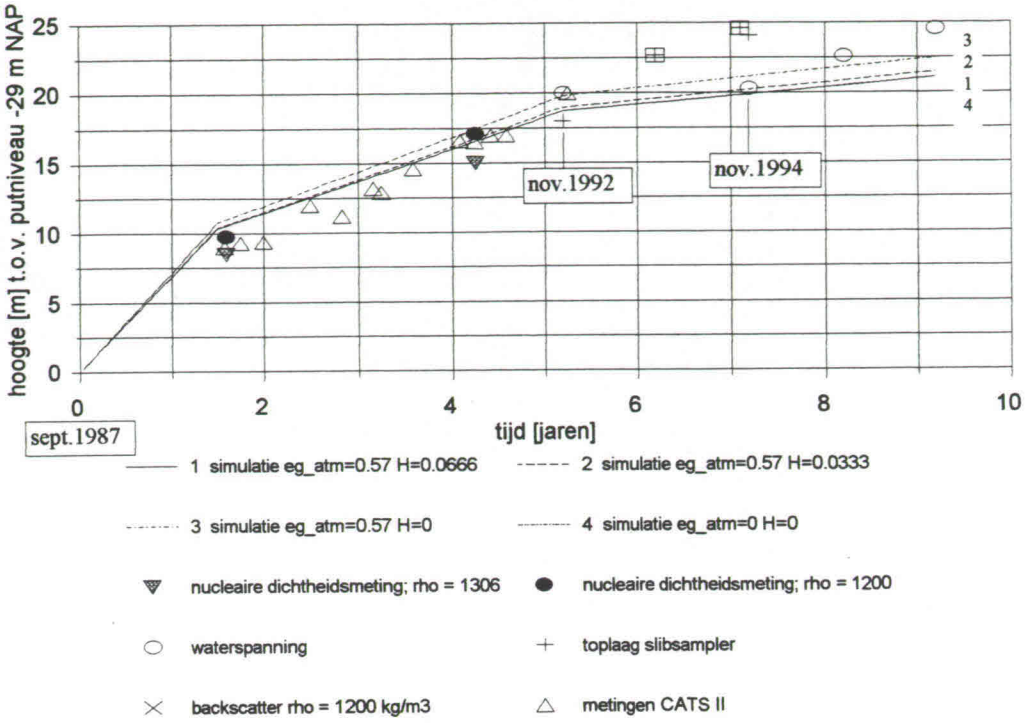
C.5 Gasmodus 3 met oplosbaar gas

Gekozen optimale simulatie: **Noord:** $e_g^{atm} = 0.57$ **H=0.0333**
Zuid: $e_g^{atm} = 0.61$ **H=0.0333**

Voorbeeld invoerfile computerprogramma fscongas (Noord, $\sigma_{op}(e_{set}) = 0.1$ kPa en $e_g = 0.57$):

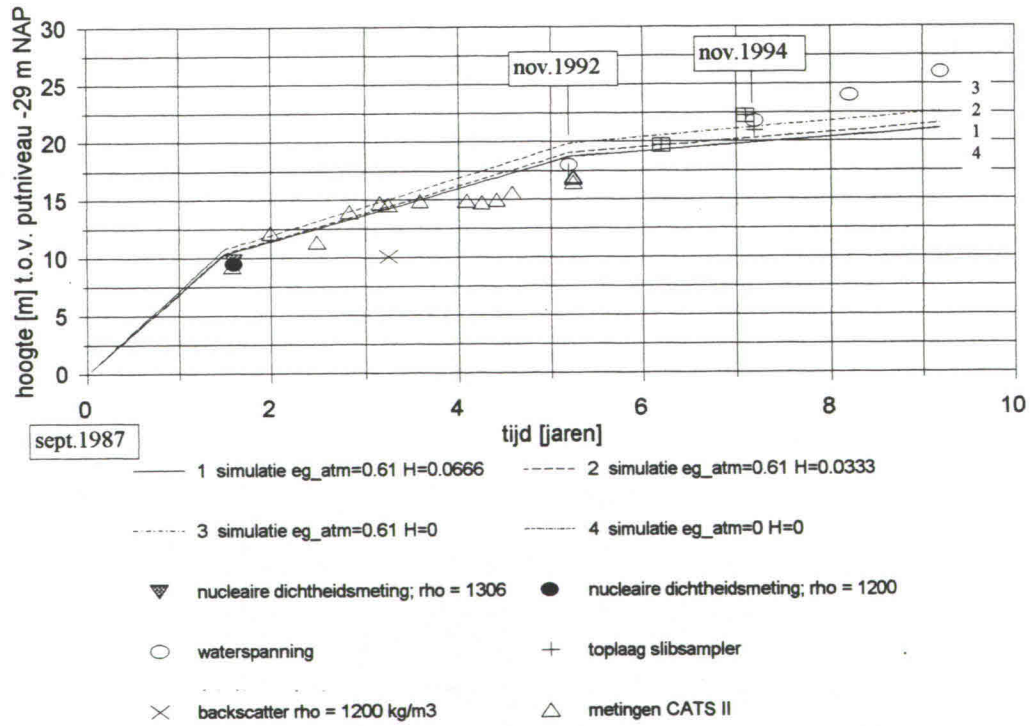
aantal lagen	1
aantal periodes	4
depositie periode 1 [jaren]	0 1.5
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 15.0 4.17
deeltijdstapfactor depositietijd	4
depositie periode 2 [jaren]	1.5 5.2
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 5.64 4.17
deeltijdstapfactor depositietijd	4
depositie periode 3 [jaren]	5.2 7.2
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 2 4.17
deeltijdstapfactor depositietijd	4
depositie periode 4 [jaren]	7.2 9.2
bodemrandvoorwaarde	d
bovenrandvoorwaarde	a
e_{dep} ; v_{dep} ; e_{set}	9.57 2 4.17
deeltijdstapfactor depositietijd	4
hoogte waterlaag [m]	29
m1 t/m m4	9.21 -2.76 0 0
m5 t/m m8	-26.43 2.28 0 0
γ_s ; γ_f ; e_g^{atm} ; H	25 10.2 0.57 0.0333
aantal knopen	100
grid verfijningsfactoren	0.0 1.1 0.0 -0.1 0.0
tijdsfactor; aantal tijdstappen; skipout	1.05 100 5

Slufter meetpaal noord



meting toplaag:	1992	20		1995	22.6
uit waterspanning	1994	20.3		1996	24.6

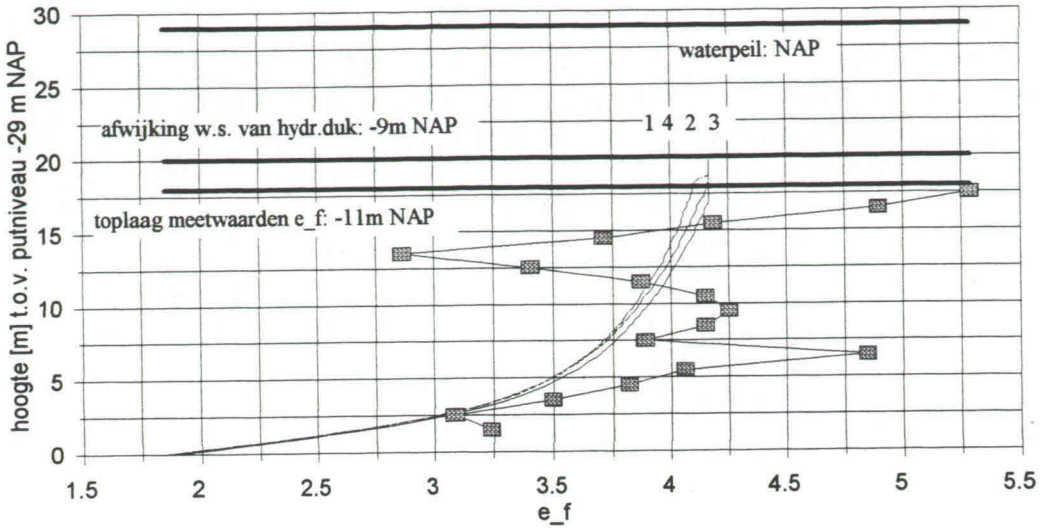
Slufter meetpaal zuid



meting toplaag:	1992	18		1995	24
uit waterspanning	1994	21.8		1996	26

Slufter meetpaal noord

e_f 1992

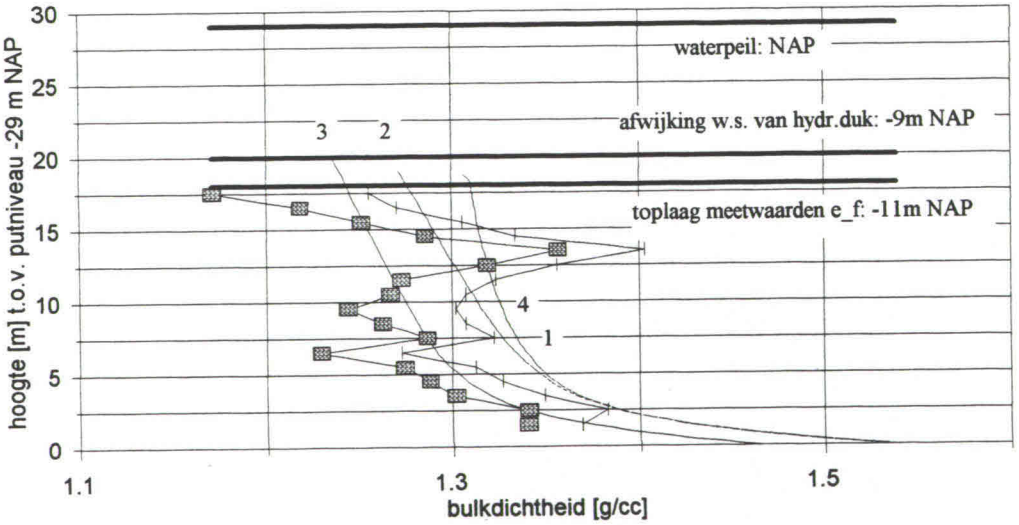


1 eg_atm=0.57 H=0.0666 — 2 eg_atm = 0.57 H=0.0333 — 3 eg_atm = 0.57 H=0

4 eg_atm = 0 H=0 — metingen Noord 1992

Slufter meetpaal noord

bulkdichtheid 1992

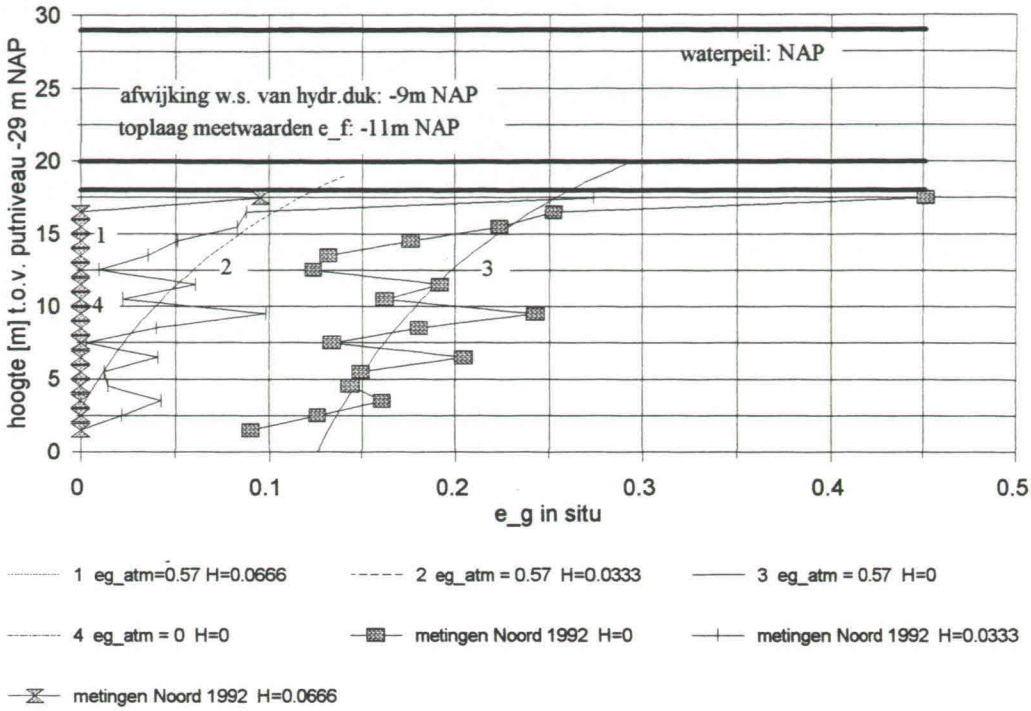


1 eg_atm=0.57 H=0.0666 — 2 eg_atm = 0.57 H=0.0333 — 3 eg_atm = 0.57 H=0

4 eg_atm = 0 H=0 — metingen Noord 1992 H=0 — matrixdichtheid meting Noord 1992

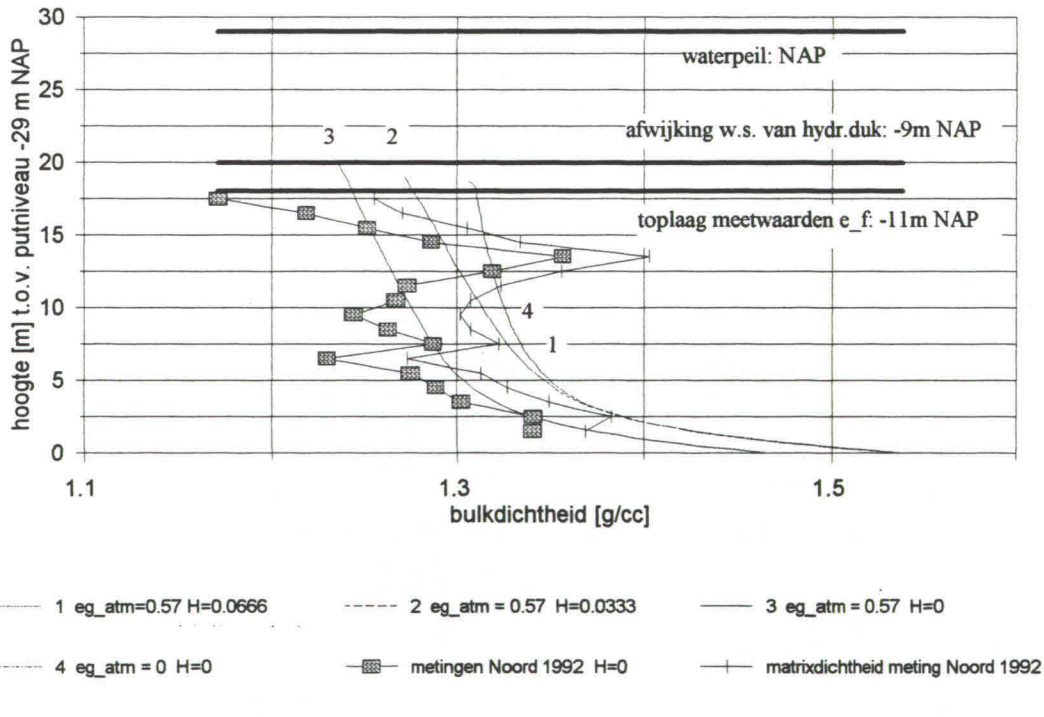
Slufter meetpaal noord

e_g in situ 1992



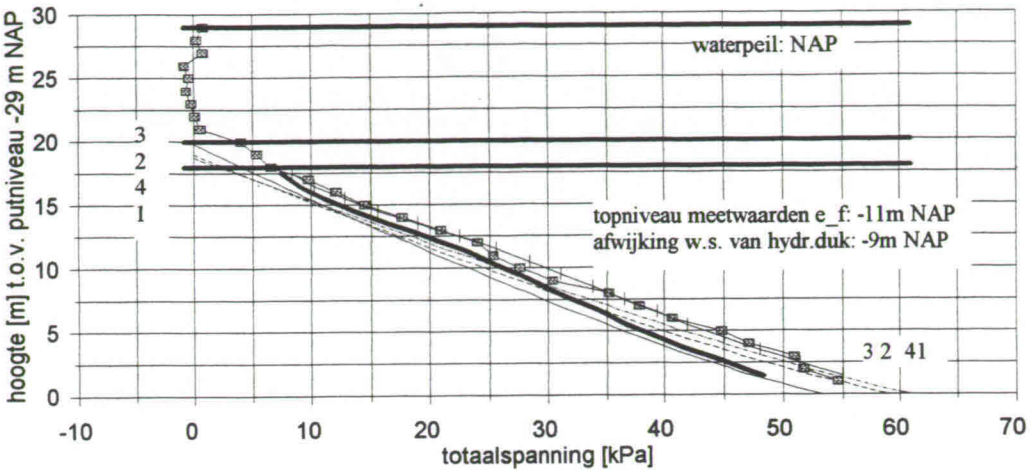
Slufter meetpaal noord

bulkdichtheid 1992



Slufter meetpaal noord

totaalspanning 1992 t.o.v. hydr. druk



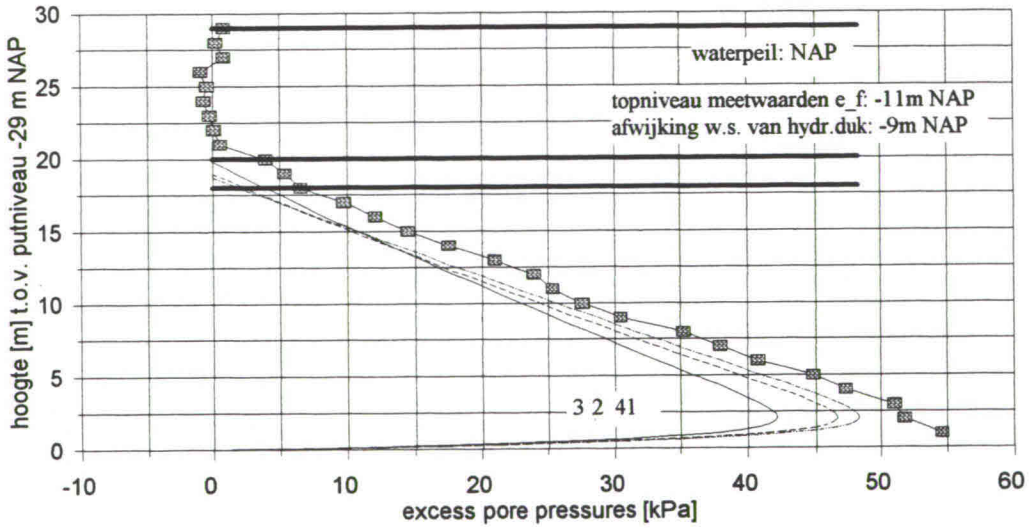
1 eg_atm=0.57 H=0.0666 — 2 eg_atm = 0.57 H=0.0333 — 3 eg_atm = 0.57 H=0

4 eg_atm = 0 H=0 — metingen exc.p.p. Noord — berekend uit meting H=0

berekend uit meting H=0.0333

Slufter meetpaal noord

excess pore pressures 1992

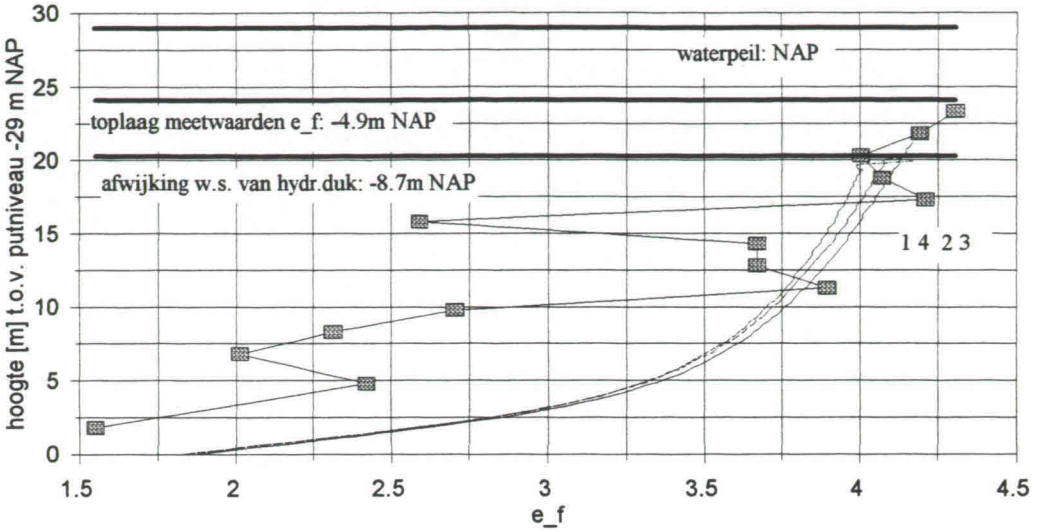


1 eg_atm=0.57 H=0.0666 — 2 eg_atm = 0.57 H=0.0333 — 3 eg_atm = 0.57 H=0

4 eg_atm = 0 H=0 — excess pore pressure noord

Slufter meetpaal noord

e_f 1994

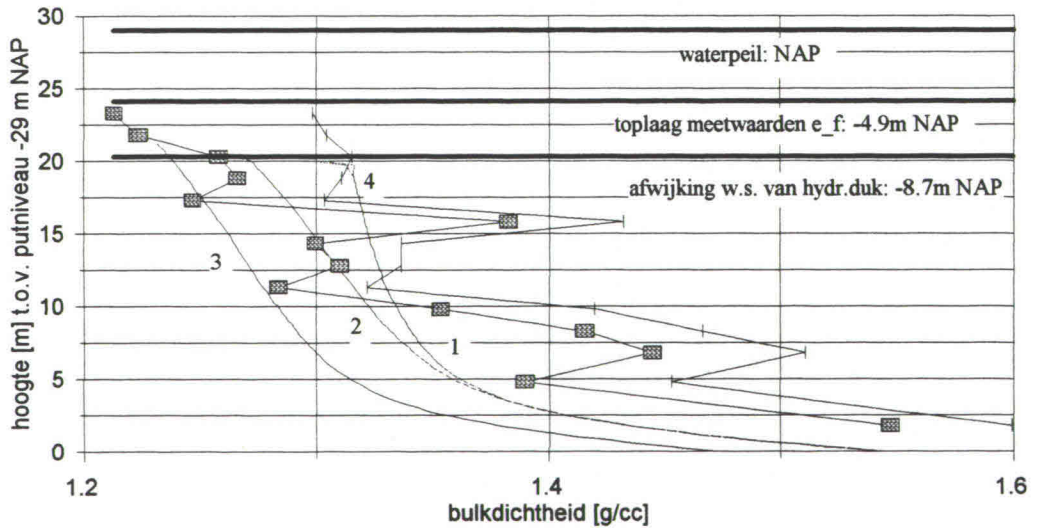


1 eg_atm=0.57 H=0.0666 ----- 2 eg_atm=0.57 H=0.0333 —— 3 eg_atm=0.57 H=0

4 eg_atm = 0 H=0 —▩— metingen Noord 1994

Slufter meetpaal noord

bulkdichtheid 1994

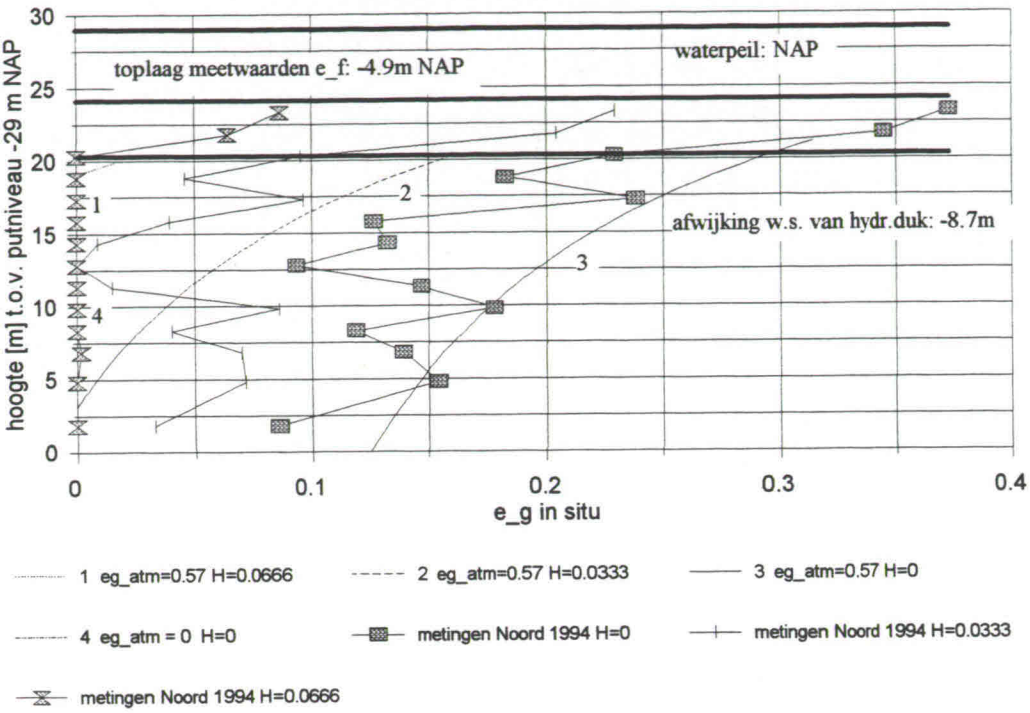


1 eg_atm=0.57 H=0.0666 ----- 2 eg_atm=0.57 H=0.0333 —— 3 eg_atm=0.57 H=0

4 eg_atm = 0 H=0 —▩— metingen Noord 1994 H=0 —+— matrixdichtheid meting Noord 1994

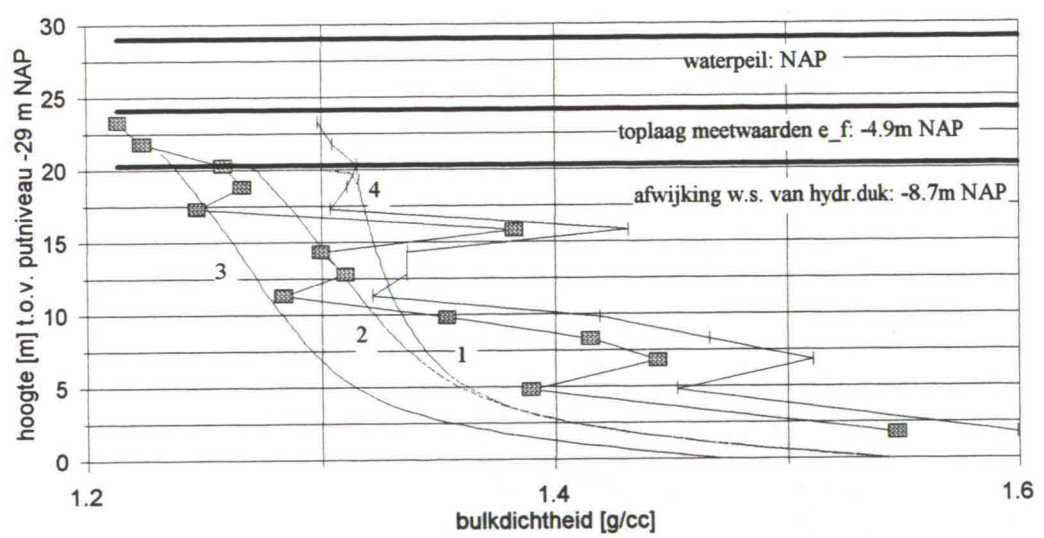
Slufter meetpaal noord

e_g in situ 1994



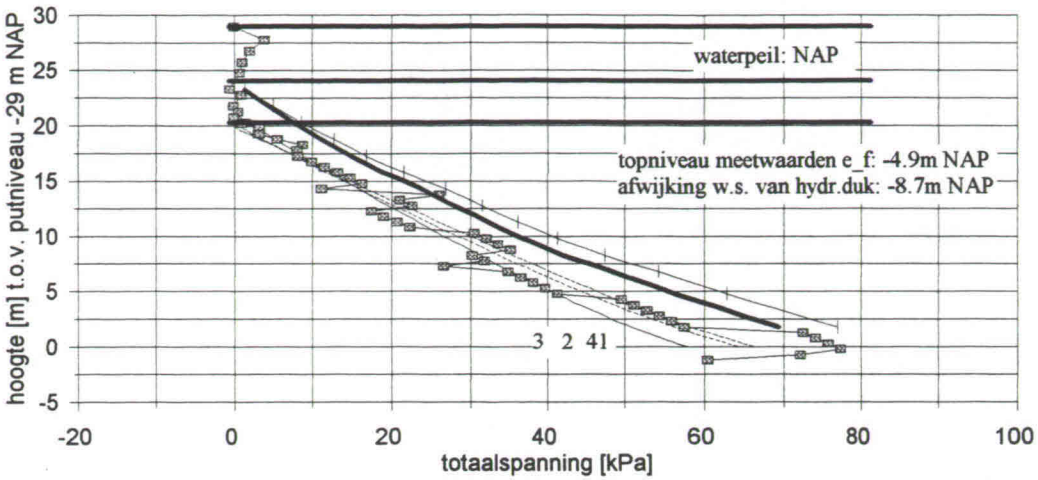
Slufter meetpaal noord

bulkdichtheid 1994



Slufter meetpaal noord

totaalspanning 1994 t.o.v. hydr. druk



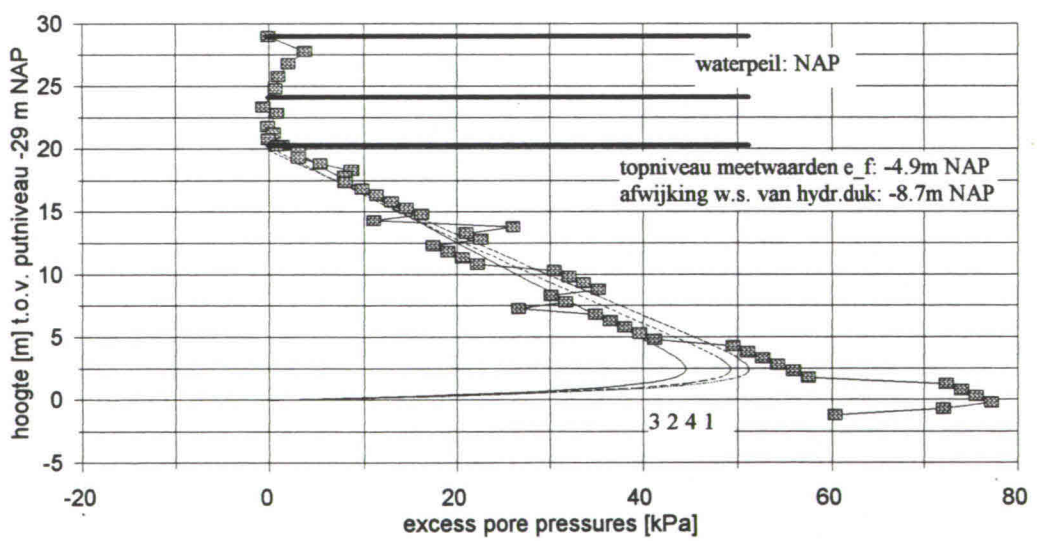
1 eg_atm=0.57 H=0.0666 — 2 eg_atm=0.57 H=0.0333 — 3 eg_atm=0.57 H=0

4 eg_atm = 0 H=0 — metingen exc.p.p. Noord — berekend uit meting H=0

berekend uit meting H=0.0333

Slufter meetpaal noord

excess pore pressures 1994

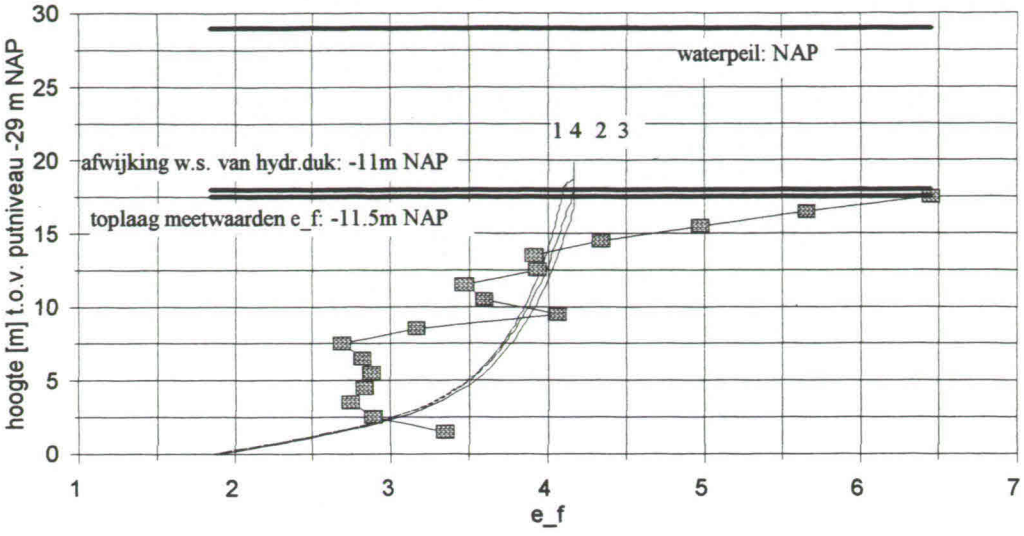


1 eg_atm=0.57 H=0.0666 — 2 eg_atm=0.57 H=0.0333 — 3 eg_atm=0.57 H=0

4 eg_atm = 0 H=0 — excess pore pressure noord

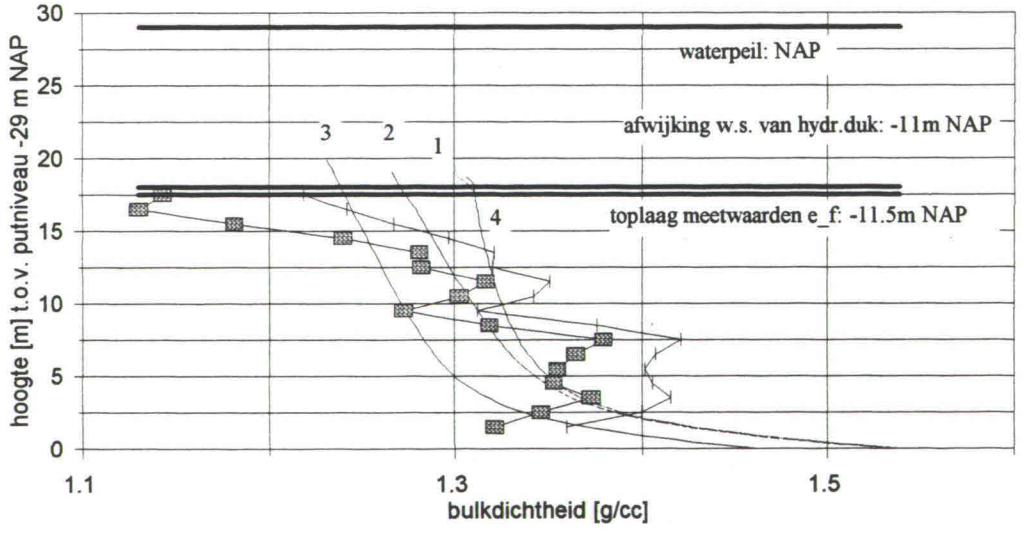
Slufter meetpaal zuid

e_f 1992



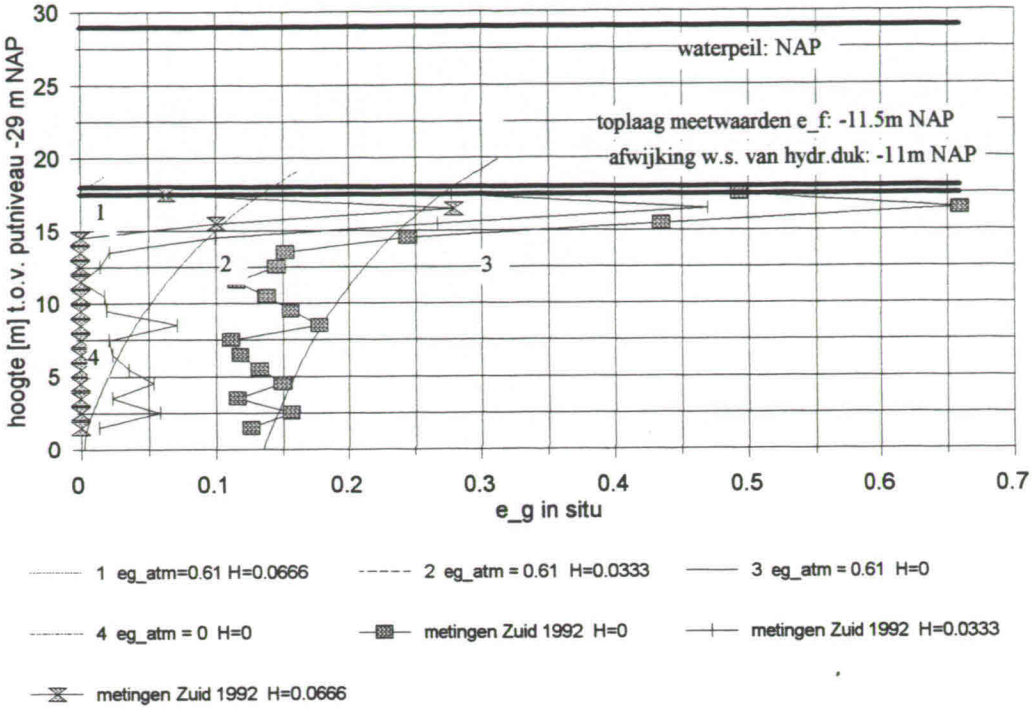
Slufter meetpaal zuid

bulkdichtheid 1992



Slufter meetpaal zuid

e_g in situ 1992



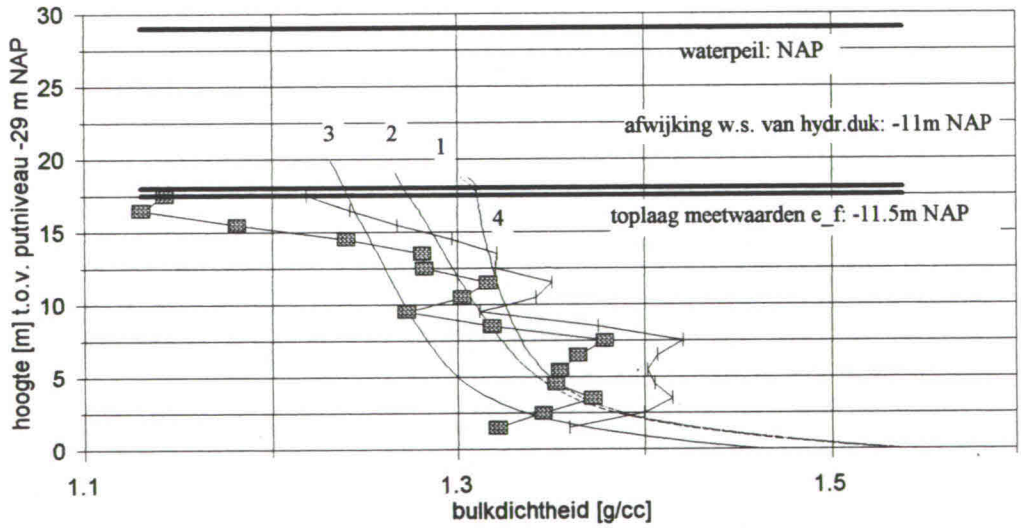
1 eg_atm=0.61 H=0.0666 — 2 eg_atm = 0.61 H=0.0333 — 3 eg_atm = 0.61 H=0

4 eg_atm = 0 H=0 — metingen Zuid 1992 H=0 — metingen Zuid 1992 H=0.0333

metingen Zuid 1992 H=0.0666

Slufter meetpaal zuid

bulkdichtheid 1992

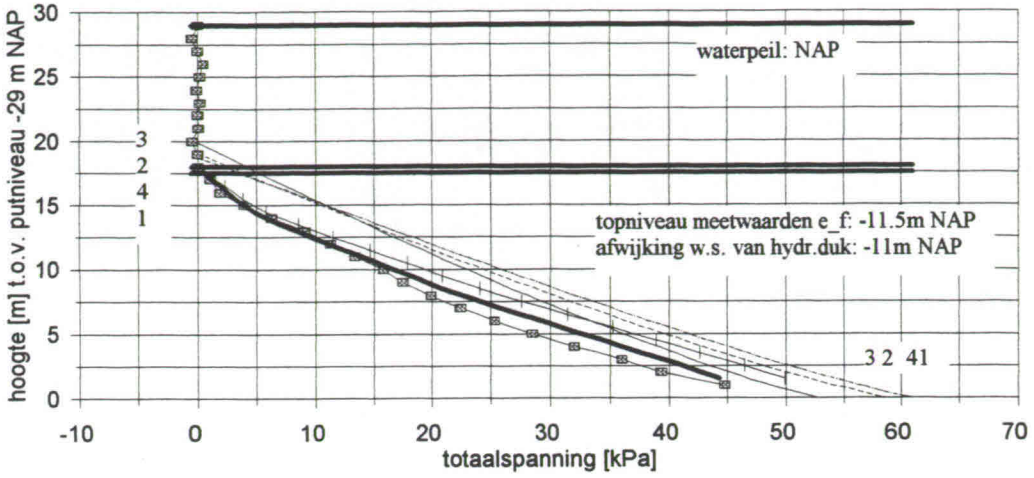


1 eg_atm=0.61 H=0.0666 — 2 eg_atm = 0.61 H=0.0333 — 3 eg_atm = 0.61 H=0

4 eg_atm = 0 H=0 — metingen Zuid 1992 H=0 — matrixdichtheid meting Zuid 1992

Slufter meetpaal zuid

totaalspanning 1992 t.o.v. hydr. druk



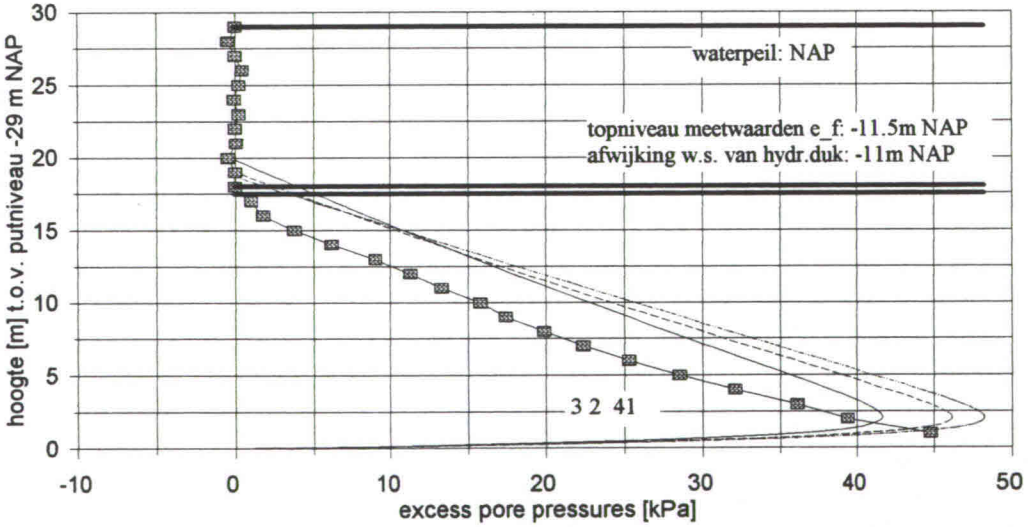
1 eg_atm=0.61 H=0.0666 — 2 eg_atm = 0.61 H=0.0333 — 3 eg_atm = 0.61 H=0

4 eg_atm = 0 H=0 — metingen exc.p.p. Zuid — berekend uit meting H=0

berekend uit meting H=0.0333

Slufter meetpaal zuid

excess pore pressures 1992

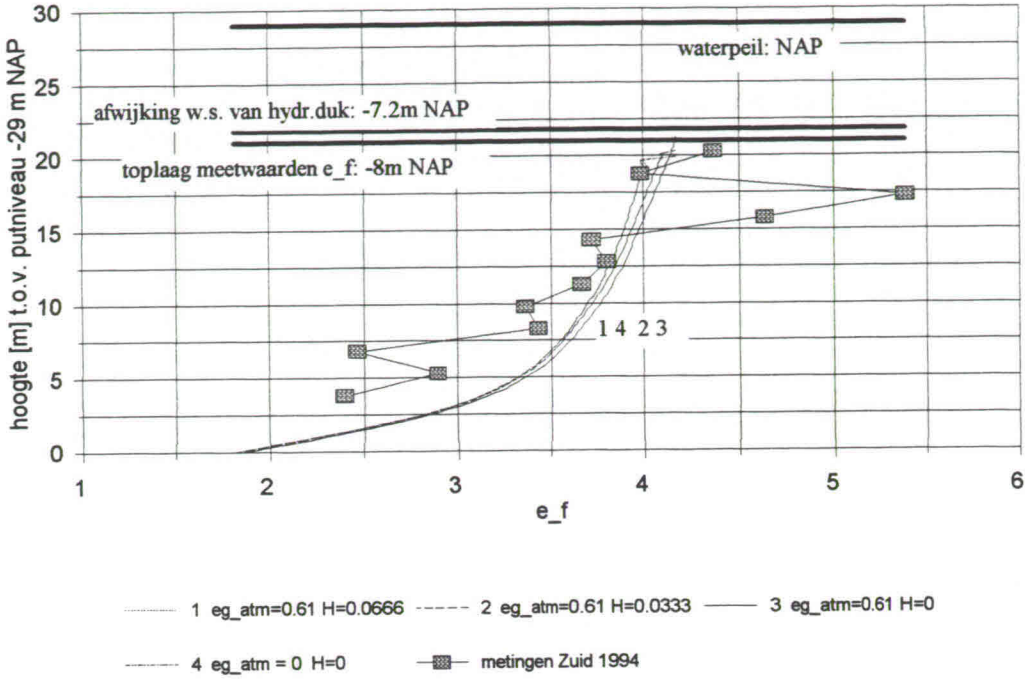


1 eg_atm=0.61 H=0.0666 — 2 eg_atm = 0.61 H=0.0333 — 3 eg_atm = 0.61 H=0

4 eg_atm = 0 H=0 — excess pore pressure zuid

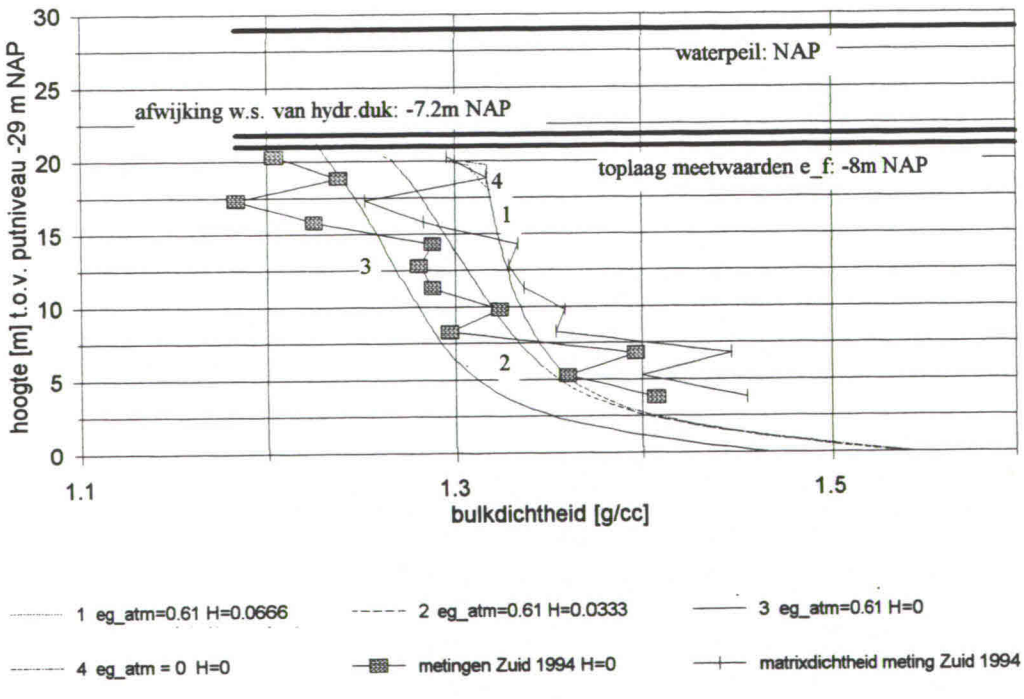
Slufter meetpaal zuid

e_f 1994



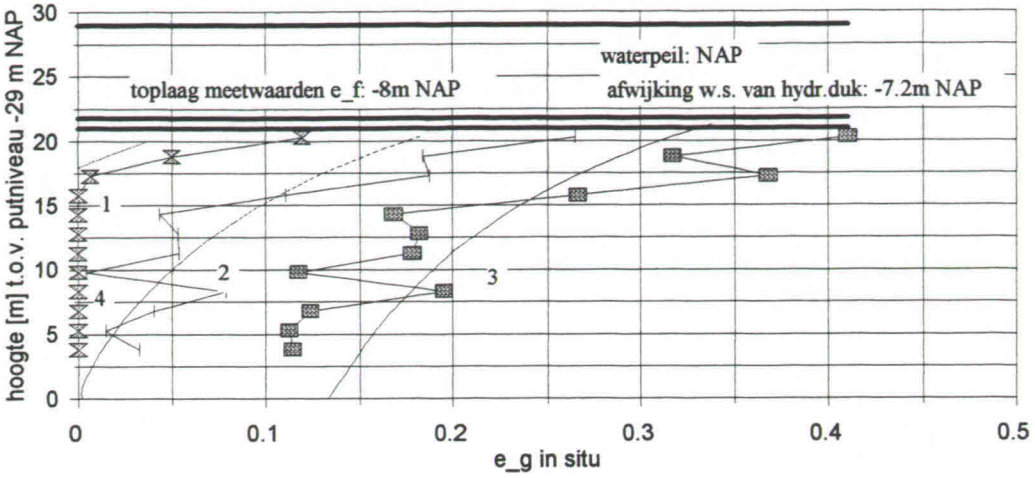
Slufter meetpaal zuid

bulkdichtheid 1994



Slufter meetpaal zuid

e_g in situ 1994



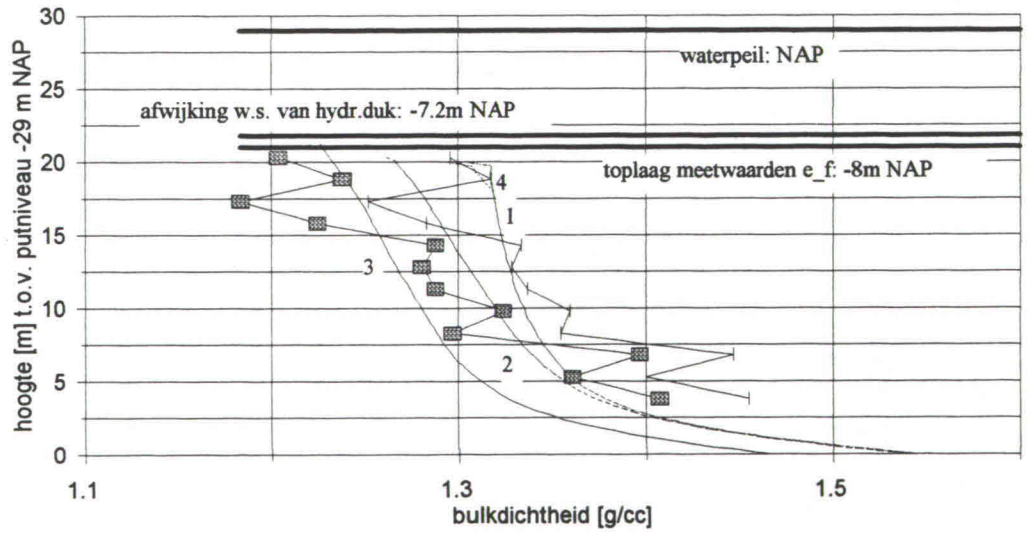
1 eg_atm=0.61 H=0.0666 — 2 eg_atm=0.61 H=0.0333 — 3 eg_atm=0.61 H=0

4 eg_atm = 0 H=0 — metingen Zuid 1994 H=0 — metingen Zuid 1994 H=0.0333

metingen Zuid 1994 H=0.0666

Slufter meetpaal zuid

bulkdichtheid 1994

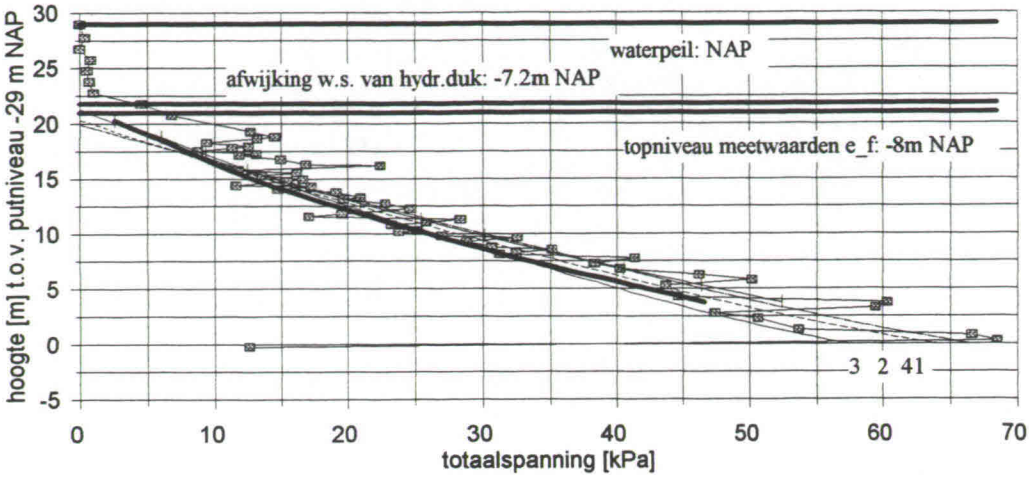


1 eg_atm=0.61 H=0.0666 — 2 eg_atm=0.61 H=0.0333 — 3 eg_atm=0.61 H=0

4 eg_atm = 0 H=0 — metingen Zuid 1994 H=0 — matrixdichtheid meting Zuid 1994

Slufter meetpaal zuid

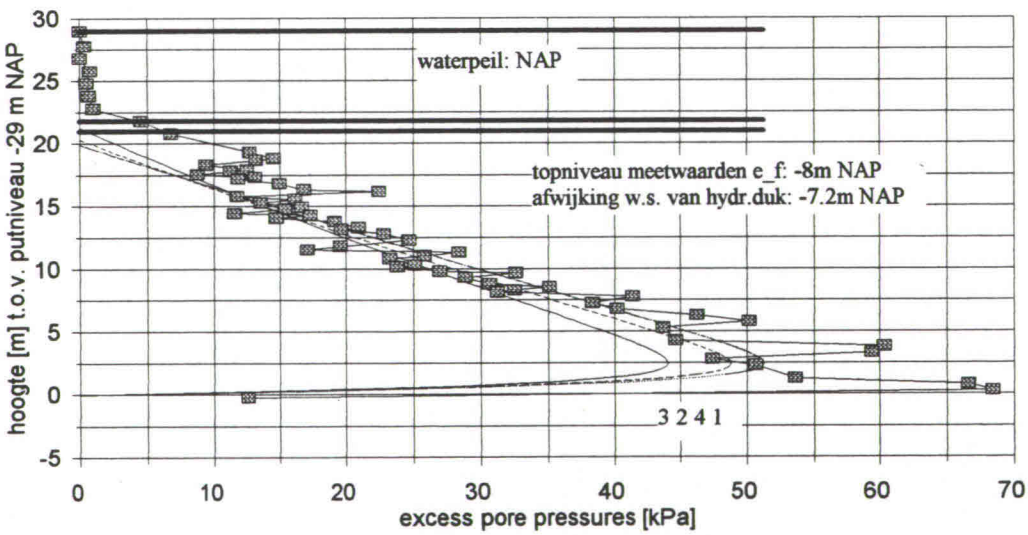
totaalspanning 1994 t.o.v. hydr. druk



1 eg_atm=0.61 H=0.0666 — 2 eg_atm=0.61 H=0.0333 — 3 eg_atm=0.61 H=0 — 4 eg_atm = 0 H=0 — metingen exc.p.p. Zuid — berekend uit meting H=0 — berekend uit meting H=0.0333

Slufter meetpaal zuid

excess pore pressures 1994



1 eg_atm=0.61 H=0.0666 — 2 eg_atm=0.61 H=0.0333 — 3 eg_atm=0.61 H=0 — 4 eg_atm = 0 H=0 — excess pore pressure Zuid