Bijlage 2 Berekeningsrapporten deelgebied C

B2.1 STBI

- **DP5 langs Hollandse IJssel**
- **DP2 langs Spuikanaal**

```
Program     : D-Geo Stability
Version     : 10.1.4.3
License     : Unknown
Company     : Royal HaskoningDHV
Date        : 7-10-2015
Time        : 14:04:12

Output file : C:\Users\nl85691\Desktop\Box Sync\Box Sync\BE1234 PUF VIJG\BE1234 PU
Input file  : C:\Users\nl85691\Desktop\Box Sync\Box Sync\BE1234 PUF VIJG\BE1234 PU
==========================    BEGINNING OF DATA     ==========================


               ECHO OF THE INPUT
               =================


 Problem identification : Dijkversterking VIJG
                        : DG C dp 5 STBI

 Calculation model      : Bishop
 Default shear strength : C phi

               LAYER BOUNDARIES
               ================

 Boundary no.| Co-ordinates [m]
 ------------|-----------------------------------------------------
             |
  10  - X -  | -50.00   -42.41   -39.70   -39.23   -36.23   -31.23
  10  - Y -  |  -4.00    -4.00    -3.10    -2.94    -2.94    -2.44
             |
  10  - X -  | -29.70   -26.91   -21.91   -17.30   -16.70    -7.19
  10  - Y -  |  -2.00    -1.00    -0.90     0.64     0.65     3.82
             |
  10  - X -  |  -3.69    -3.42    -2.27     0.00     2.04     3.13
  10  - Y -  |   3.89     3.97     4.14     4.21     4.19     4.13
             |
  10  - X -  |   4.67     7.50     8.94    10.11    11.59    12.38
  10  - Y -  |   3.73     2.56     2.00     1.69     1.32     1.29
             |
  10  - X -  |  12.75    13.39    33.67    40.78    42.36    44.05
  10  - Y -  |   1.44     1.00     0.00     0.00    -0.76    -0.74
             |
  10  - X -  |  45.65    49.56    53.48    59.00    70.00
  10  - Y -  |  -1.00    -2.00    -3.00    -3.00    -3.00
             |
   9  - X -  | -50.00   -42.41   -39.70   -39.23   -36.23   -31.23
   9  - Y -  |  -4.00    -4.00    -3.10    -2.94    -2.94    -2.44
             |
   9  - X -  | -29.70   -26.91   -21.91   -17.30   -16.70   -10.30
   9  - Y -  |  -2.00    -1.00    -0.90     0.64     0.65     1.00
             |
   9  - X -  |  -7.89    -7.02    -4.67    -3.69    -3.42    -2.27
   9  - Y -  |   2.00     2.46     3.57     3.89     3.97     4.14
             |
   9  - X -  |   0.00     2.04     3.13     4.67     7.50     8.94
   9  - Y -  |   4.21     4.19     4.13     3.73     2.56     2.00
             |
   9  - X -  |  10.11    11.59    12.38    12.75    13.39    33.67
   9  - Y -  |   1.69     1.32     1.29     1.44     1.00     0.00
             |
   9  - X -  |  40.78    42.36    44.05    45.65    49.56    53.48
   9  - Y -  |   0.00    -0.76    -0.74    -1.00    -2.00    -3.00
             |
   9  - X -  |  59.00    70.00
   9  - Y -  |  -3.00    -3.00
             |
   8  - X -  | -50.00   -42.41   -39.70   -39.23   -36.23   -31.23
   8  - Y -  |  -4.00    -4.00    -3.10    -2.94    -2.94    -2.44
             |
   8  - X -  | -29.70   -26.91   -21.91   -16.30   -14.00   -12.11
   8  - Y -  |  -2.00    -1.00    -0.90    -0.90    -0.09     0.54
             |
   8  - X -  | -10.30    -7.89    -7.02    -4.67    -3.69    -3.42
   8  - Y -  |   1.00     2.00     2.46     3.57     3.89     3.97
             |
   8  - X -  |  -2.27     0.00     2.04     3.13     4.67     7.50
```

8 - Y -	4.14	4.21	4.19	4.13	3.73	2.56
8 - X -	8.94	10.11	11.59	12.38	12.75	13.39
8 - Y -	2.00	1.69	1.32	1.29	1.44	1.00
8 - X -	33.67	40.78	42.36	44.05	45.65	49.56
8 - Y -	0.00	0.00	-0.76	-0.74	-1.00	-2.00
8 - X -	53.48	59.00	70.00			
8 - Y -	-3.00	-3.00	-3.00			
7 - X -	-50.00	-42.41	-39.70	-39.23	-36.23	-31.23
7 - Y -	-4.00	-4.00	-3.10	-2.94	-2.94	-2.44
7 - X -	-29.70	-26.91	-21.91	-16.30	-14.00	-12.11
7 - Y -	-2.00	-1.00	-0.90	-0.90	-0.09	0.54
7 - X -	-10.30	-7.89	8.94	10.11	11.59	12.38
7 - Y -	1.00	2.00	2.00	1.69	1.32	1.29
7 - X -	12.75	13.39	33.67	40.78	42.36	44.05
7 - Y -	1.44	1.00	0.00	0.00	-0.76	-0.74
7 - X -	45.65	49.56	53.48	59.00	70.00	
7 - Y -	-1.00	-2.00	-3.00	-3.00	-3.00	
6 - X -	-50.00	-42.41	-39.70	-39.23	-36.23	-31.23
6 - Y -	-4.00	-4.00	-3.10	-2.94	-2.94	-2.44
6 - X -	-29.70	-26.91	-21.91	-16.30	-14.00	-9.00
6 - Y -	-2.00	-1.00	-0.90	-0.90	-0.09	-2.00
6 - X -	7.39	13.39	33.67	40.78	42.36	44.05
6 - Y -	-2.00	1.00	0.00	0.00	-0.76	-0.74
6 - X -	45.65	49.56	53.48	59.00	70.00	
6 - Y -	-1.00	-2.00	-3.00	-3.00	-3.00	
5 - X -	-50.00	-42.41	-39.70	-39.23	-36.23	-31.23
5 - Y -	-4.00	-4.00	-3.10	-2.94	-2.94	-2.44
5 - X -	-29.70	-9.00	7.39	13.39	33.67	40.78
5 - Y -	-2.00	-2.00	-2.00	1.00	0.00	0.00
5 - X -	42.36	44.05	45.65	49.56	53.48	59.00
5 - Y -	-0.76	-0.74	-1.00	-2.00	-3.00	-3.00
5 - X -	70.00					
5 - Y -	-3.00					
4 - X -	-50.00	-42.41	-39.70	-39.23	-36.23	-31.23
4 - Y -	-4.00	-4.00	-3.10	-2.94	-2.94	-2.44
4 - X -	-29.70	-9.00	7.39	49.56	53.48	59.00
4 - Y -	-2.00	-2.00	-2.00	-2.00	-3.00	-3.00
4 - X -	70.00					
4 - Y -	-3.00					
3 - X -	-50.00	-42.41	-39.70	-20.00	-10.42	70.00
3 - Y -	-4.00	-4.00	-3.10	-3.10	-4.80	-4.80
2 - X -	-50.00	70.00				
2 - Y -	-7.30	-7.30				
1 - X -	-50.00	70.00				
1 - Y -	-10.10	-10.10				
0 - X -	-50.00	70.00				
0 - Y -	-15.00	-15.00				

PL LINES
========

PL line no.	Co-ordinates [m]

1 - X -	-50.00	-29.70	-16.30	-10.30	-7.18	3.10
1 - Y -	-2.30	-2.30	-0.90	1.00	2.32	2.75
1 - X -	4.80	70.00				
1 - Y -	3.53	3.53				
2 - X -	-50.00	70.00				
2 - Y -	-3.07	-3.07				
3 - X -	-50.00	-29.70	11.00	70.00		
3 - Y -	-2.30	-2.30	1.48	1.48		

Unit weight of water used for calculation: 9.81 [kN/m3]
The groundwater level is determined by PL-line number 1

FORBIDDEN LINES

No forbidden lines were input.

SOIL PROPERTIES

Layer no.	Material name
10	Ophoogmateriaal, klei
9	Ophoogmateriaal, zand
8	Zand, siltig (toplaag)
7	Klei, dijkmateriaal
6	Klei, siltig
5	Klei, humeus
4	Klei, humeus
3	Veen_sterker
2	Klei, humeus
1	Pleistoceen zand matig

Layer number	Gam usat [kN/m3]	Gam sat [kN/m3]	PL-line top	PL-line bottom
10	17.00	17.00	1	1
9	18.00	20.00	1	1
8	17.00	19.00	1	1
7	16.80	16.80	1	99
6	16.20	16.20	1	3
5	12.90	12.90	99	99
4	12.90	12.90	3	3
3	12.00	12.00	3	99
2	12.90	12.90	99	99
1	18.00	20.00	2	-

Layer number	Cohesion [kN/m2]	Phi [degrees]	Cu/Pc [-]	POP [kN/m2]	Cu top [kN/m2]	Cu bot. [kN/m2]	Cu grad. [kN/m2/m]
10	1.50	17.60	-	-	-	-	-
9	0.00	28.00	-	-	-	-	-
8	0.00	25.70	-	-	-	-	-
7	2.40	28.40	-	-	-	-	-
6	0.00	27.70	-	-	-	-	-
5	0.00	27.20	-	-	-	-	-
4	0.00	27.20	-	-	-	-	-
3	3.33	21.80	-	-	-	-	-
2	0.00	27.20	-	-	-	-	-
1	0.00	28.00	-	-	-	-	-

No degree of consolidation <> 100% input.

CENTER POINT GRID AND TANGENT LINES

X co-ordinate grid left : -19.87 [m]
X co-ordinate grid right : -7.84 [m]
Number of grid points in X - direction : 14

Y co-ordinate grid bottom : 9.38 [m]
Y co-ordinate grid top : 19.82 [m]
Number of grid points in Y - direction : 14

Y co-ordinate tangent smallest circle : 3.00 [m]
Y co-ordinate tangent biggest circle : -6.87 [m]
Number of circles per grid point : 15

No fixed points input.

Total number of center points in the grid: 196
Total number of slip circles in the grid : 2940

LINE LOADS

No line loads input.

UNIFORM LOAD

Uniform load number	Magnitude [kN/m]	X start [m]	X end [m]	Distrib. degrees	Load Type
1	13.30	-2.27	2.04	30.00	Temporary

TREE ON SLOPE

No tree on slope was input.

DEGREE OF CONSOLIDATION : TEMPORARY LOADS

Layer number	Degree of consolidation
10	100
9	100
8	100
7	100
6	100
5	0
4	0
3	0
2	0
1	100

EARTHQUAKE

No earth quake factors were input.

****
********** The input has been tested, and is correct. **********
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RESULTS OF THE SLOPE STABILITY ANALYSIS
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The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -20.79 [m]
X maximum = -8.76 [m]
Y minimum = 10.19 [m]
Y maximum = 20.62 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -21.72 [m]
X maximum = -9.69 [m]
Y minimum = 10.99 [m]
Y maximum = 21.43 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -22.64 [m]
X maximum = -10.61 [m]
Y minimum = 10.99 [m]
Y maximum = 21.43 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -23.57 [m]
X maximum = -11.54 [m]
Y minimum = 10.99 [m]
Y maximum = 21.43 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -24.49 [m]
X maximum = -12.46 [m]
Y minimum = 10.99 [m]
Y maximum = 21.43 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -25.42 [m]
X maximum = -13.39 [m]
Y minimum = 10.99 [m]
Y maximum = 21.43 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -25.42 [m]
X maximum = -13.39 [m]
Y minimum = 10.99 [m]
Y maximum = 21.43 [m]
tangent minimum = -16.04 [m]
tangent maximum = -6.17 [m]

Information on the critical circle : Fmin = 1.330
Calculation method used : Bishop - C phi
==========

X co-ordinate center point : -24.49 [m]
Y co-ordinate center point : 15.00 [m]
Radius of critical circle : 21.88 [m]

The center point of the critical circle is enclosed

Total driving moment : -9164.75 [kNm/m]
Driving moment free water : 283.35 [kNm/m]
Driving moment external loads : 0.00 [kNm/m]

```
Iterated resisting moment       :      9164.75 [kNm/m]
Non-iterated resisting moment   :     11814.84 [kNm/m]


                          END OF D-Geo Stability OUTPUT
                          ============================
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```
Program     : D-Geo Stability
Version     : 10.1.4.3
License     : Unknown
Company     : Royal HaskoningDHV
Date        : 4-11-2015
Time        : 14:55:01

Output file : C:\Users\nl85691\Desktop\Box Sync\Box Sync\BE1234 PUF VIJG\BE1234 PU
Input file  : C:\Users\nl85691\Desktop\Box Sync\Box Sync\BE1234 PUF VIJG\BE1234 PU
==========================    BEGINNING OF DATA     ==========================


               ECHO OF THE INPUT
               =================


 Problem identification :
                        :

 Calculation model      : Bishop
 Default shear strength : C phi

               LAYER BOUNDARIES
               ================

 Boundary no.| Co-ordinates [m]
 ------------|-----------------------------------------------------
             |
   8  - X -  | -60.00   -57.90   -51.60   -50.00   -48.50   -45.50
   8  - Y -  |  -4.00    -4.00    -4.00    -3.46    -2.95    -2.95
             |
   8  - X -  | -42.00   -40.50   -38.70   -36.10   -31.70   -30.20
   8  - Y -  |  -2.60    -2.45    -2.00    -1.35    -1.20    -0.91
             |
   8  - X -  | -27.55   -22.60   -21.40   -18.70   -17.80   -17.00
   8  - Y -  |  -0.40     0.56     0.79     0.90     0.95     1.00
             |
   8  - X -  | -15.50   -13.70    -5.70    -3.70     1.40     6.60
   8  - Y -  |   1.35     1.78     3.70     3.90     4.00     4.14
             |
   8  - X -  |   9.80    12.10    23.00    25.90    40.00    59.00
   8  - Y -  |   2.18     1.61    -2.00    -3.00    -3.00    -3.00
             |
   8  - X -  |  70.00
   8  - Y -  |  -3.00
             |
   7  - X -  | -60.00   -57.90   -51.60   -50.00   -48.50   -45.50
   7  - Y -  |  -4.00    -4.00    -4.00    -3.46    -2.95    -2.95
             |
   7  - X -  | -42.00   -40.50   -38.70   -36.10   -31.70   -30.20
   7  - Y -  |  -2.60    -2.45    -2.00    -1.35    -1.20    -1.15
             |
   7  - X -  | -27.55   -22.60   -21.40   -18.70   -17.80   -17.00
   7  - Y -  |  -0.84    -0.26     0.10     0.90     0.95     1.00
             |
   7  - X -  | -15.50   -13.70    -5.70    -3.70     1.40     6.60
   7  - Y -  |   1.35     1.78     3.70     3.90     4.00     4.14
             |
   7  - X -  |   9.80    12.10    23.00    25.90    40.00    59.00
   7  - Y -  |   2.18     1.61    -2.00    -3.00    -3.00    -3.00
             |
   7  - X -  |  70.00
   7  - Y -  |  -3.00
             |
   6  - X -  | -60.00   -57.90   -51.60   -50.00   -48.50   -45.50
   6  - Y -  |  -4.00    -4.00    -4.00    -3.46    -2.95    -2.95
             |
   6  - X -  | -42.00   -40.50   -38.70   -36.10   -31.70   -30.20
   6  - Y -  |  -2.60    -2.45    -2.00    -1.35    -1.20    -1.15
             |
   6  - X -  | -27.55   -22.60   -21.40   -18.70   -17.80   -17.00
   6  - Y -  |  -0.84    -0.26     0.10     0.90     0.95     1.00
             |
   6  - X -  | -15.50   -13.70    -5.70    -3.70     1.40     6.60
   6  - Y -  |   1.35     1.50     3.70     3.90     4.00     4.14
             |
   6  - X -  |   9.80    12.10    23.00    25.90    40.00    59.00
```

6 - Y -	2.18	1.61	-2.00	-3.00	-3.00	-3.00
6 - X -	70.00					
6 - Y -	-3.00					
5 - X -	-60.00	-57.90	-51.60	-50.00	-48.50	-45.50
5 - Y -	-4.00	-4.00	-4.00	-3.46	-2.95	-2.95
5 - X -	-42.00	-40.50	-38.70	-36.10	-31.70	-30.20
5 - Y -	-2.60	-2.45	-2.00	-2.00	-2.00	-2.00
5 - X -	-27.55	-22.60	-21.40	-18.70	-17.80	-17.00
5 - Y -	-2.01	-2.01	-2.00	-2.00	-2.00	-2.00
5 - X -	-15.50	-13.70	-5.70	-3.70	1.40	6.60
5 - Y -	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00
5 - X -	9.80	12.10	23.00	25.90	40.00	59.00
5 - Y -	-2.00	-2.00	-2.00	-3.00	-3.00	-3.00
5 - X -	70.00					
5 - Y -	-3.00					
4 - X -	-60.00	-57.90	-51.60	-50.00	-48.50	-45.50
4 - Y -	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00
4 - X -	-42.00	-40.50	-38.70	-36.10	-31.70	-30.20
4 - Y -	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00
4 - X -	-27.55	-22.60	-21.40	-18.70	-17.80	-17.00
4 - Y -	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00
4 - X -	-15.50	-13.70	-5.70	-3.70	1.40	6.60
4 - Y -	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00
4 - X -	9.80	12.10	23.00	25.90	40.00	59.00
4 - Y -	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00
4 - X -	70.00					
4 - Y -	-4.00					
3 - X -	-60.00	-57.90	-51.60	-50.00	-48.50	-45.50
3 - Y -	-5.00	-5.00	-5.00	-5.00	-5.00	-5.00
3 - X -	-42.00	-40.50	-38.70	-36.10	-31.70	-30.20
3 - Y -	-5.00	-5.00	-5.00	-5.00	-5.00	-5.00
3 - X -	-27.55	-22.60	-21.40	-18.70	-17.80	-17.00
3 - Y -	-5.00	-5.00	-5.00	-5.00	-5.00	-5.00
3 - X -	-15.50	-13.70	-5.70	-3.70	1.40	6.60
3 - Y -	-5.00	-5.00	-5.00	-5.00	-5.00	-5.00
3 - X -	9.80	12.10	23.00	25.90	40.00	59.00
3 - Y -	-5.00	-5.00	-5.00	-5.00	-5.00	-5.00
3 - X -	70.00					
3 - Y -	-5.00					
2 - X -	-60.00	-57.90	-51.60	-50.00	-48.50	-45.50
2 - Y -	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
2 - X -	-42.00	-40.50	-38.70	-36.10	-31.70	-30.20
2 - Y -	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
2 - X -	-27.55	-22.60	-21.40	-18.70	-17.80	-17.00
2 - Y -	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
2 - X -	-15.50	-13.70	-5.70	-3.70	1.40	6.60
2 - Y -	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
2 - X -	9.80	12.10	23.00	25.90	40.00	59.00
2 - Y -	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
2 - X -	70.00					
2 - Y -	-7.00					

1 - X -	-60.00	-57.90	-51.60	-50.00	-48.50	-45.50
1 - Y -	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
1 - X -	-42.00	-40.50	-38.70	-36.10	-31.70	-30.20
1 - Y -	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
1 - X -	-27.55	-22.60	-21.40	-18.70	-17.80	-17.00
1 - Y -	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
1 - X -	-15.50	-13.70	-5.70	-3.70	1.40	6.60
1 - Y -	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
1 - X -	9.80	12.10	23.00	25.90	40.00	59.00
1 - Y -	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
1 - X -	70.00					
1 - Y -	-8.00					
0 - X -	-60.00	70.00				
0 - Y -	-15.00	-15.00				

PL LINES

PL line no.	Co-ordinates [m]				
1 - X -	-60.00	-39.00	-31.70	7.50	70.00
1 - Y -	-2.30	-2.30	-1.20	3.53	3.53
2 - X -	-60.00	70.00			
2 - Y -	-3.07	-3.07			

Unit weight of water used for calculation: 9.81 [kN/m3]
The groundwater level is determined by PL-line number 1

FORBIDDEN LINES

No forbidden lines were input.

SOIL PROPERTIES

Layer no.	Material name
8	Ophoogmateriaal, klei
7	Ophoogmateriaal, klei
6	Ophoogmateriaal, zand
5	Zand, siltig (toplaag)
4	Klei, humeus
3	Hollandveen
2	Klei, humeus
1	Pleistoceen zand matig

Layer number	Gam usat [kN/m3]	Gam sat [kN/m3]	PL-line top	PL-line bottom
8	17.00	17.00	1	1
7	17.00	17.00	1	1
6	18.00	20.00	1	1
5	17.00	19.00	1	1
4	12.90	12.90	1	99
3	12.00	12.00	99	99
2	12.90	12.90	99	2
1	18.00	20.00	2	-

Layer	Cohesion	Phi	Cu/Pc	POP	Cu top	Cu bot.	Cu grad.

number	[kN/m2]	[degrees]	[-]	[kN/m2]	[kN/m2]	[kN/m2]	[kN/m2/m]
8	1.50	17.60	-	-	-	-	-
7	1.50	17.60	-	-	-	-	-
6	0.00	28.00	-	-	-	-	-
5	0.00	25.70	-	-	-	-	-
4	0.00	27.20	-	-	-	-	-
3	3.33	21.80	-	-	-	-	-
2	0.00	27.20	-	-	-	-	-
1	0.00	28.00	-	-	-	-	-

No degree of consolidation <> 100% input.

CENTER POINT GRID AND TANGENT LINES

X co-ordinate grid left : -14.76 [m]
X co-ordinate grid right : -11.46 [m]
Number of grid points in X - direction : 5

Y co-ordinate grid bottom : 12.09 [m]
Y co-ordinate grid top : 13.74 [m]
Number of grid points in Y - direction : 5

Y co-ordinate tangent smallest circle : -2.59 [m]
Y co-ordinate tangent biggest circle : -4.24 [m]
Number of circles per grid point : 5

No fixed points input.

Total number of center points in the grid: 25
Total number of slip circles in the grid : 125

LINE LOADS

No line loads input.

UNIFORM LOAD

Uniform load number	Magnitude [kN/m]	X start [m]	X end [m]	Distrib. degrees	Load Type
1	13.33	-2.70	1.30	30.00	Temporary

TREE ON SLOPE

No tree on slope was input.

DEGREE OF CONSOLIDATION : TEMPORARY LOADS

Layer number	Degree of consolidation
8	0
7	0
6	100
5	100
4	0
3	0
2	0
1	100

EARTHQUAKE
==========

No earth quake factors were input.

****
********** The input has been tested, and is correct. **********
****

RESULTS OF THE SLOPE STABILITY ANALYSIS
=======================================

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -15.59 [m]
X maximum = -12.28 [m]
Y minimum = 12.51 [m]
Y maximum = 14.16 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -16.41 [m]
X maximum = -13.11 [m]
Y minimum = 12.92 [m]
Y maximum = 14.57 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -16.41 [m]
X maximum = -13.11 [m]
Y minimum = 13.33 [m]
Y maximum = 14.98 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -17.24 [m]
X maximum = -13.94 [m]
Y minimum = 13.74 [m]
Y maximum = 15.40 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -17.24 [m]
X maximum = -13.94 [m]
Y minimum = 14.16 [m]
Y maximum = 15.81 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -17.24 [m]
X maximum = -13.94 [m]
Y minimum = 14.57 [m]
Y maximum = 16.22 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = -18.06 [m]
X maximum = -14.76 [m]
Y minimum = 14.98 [m]
Y maximum = 16.63 [m]

The center point of the critical circle lies on the edge of the grid.

```
New grid with  : X minimum =  -18.06 [m]
                 X maximum =  -14.76 [m]
                 Y minimum =   15.40 [m]
                 Y maximum =   17.05 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -18.06 [m]
                 X maximum =  -14.76 [m]
                 Y minimum =   15.81 [m]
                 Y maximum =   17.46 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -18.89 [m]
                 X maximum =  -15.59 [m]
                 Y minimum =   16.22 [m]
                 Y maximum =   17.87 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -18.89 [m]
                 X maximum =  -15.59 [m]
                 Y minimum =   16.63 [m]
                 Y maximum =   18.29 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -19.71 [m]
                 X maximum =  -16.41 [m]
                 Y minimum =   17.05 [m]
                 Y maximum =   18.70 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -20.54 [m]
                 X maximum =  -17.24 [m]
                 Y minimum =   17.46 [m]
                 Y maximum =   19.11 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -21.36 [m]
                 X maximum =  -18.06 [m]
                 Y minimum =   17.87 [m]
                 Y maximum =   19.52 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -22.19 [m]
                 X maximum =  -18.89 [m]
                 Y minimum =   18.29 [m]
                 Y maximum =   19.94 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -23.02 [m]
                 X maximum =  -19.71 [m]
                 Y minimum =   18.70 [m]
                 Y maximum =   20.35 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -23.02 [m]
                 X maximum =  -19.71 [m]
                 Y minimum =   19.11 [m]
                 Y maximum =   20.76 [m]
```

```
The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -23.02 [m]
                 X maximum =  -19.71 [m]
                 Y minimum =   19.52 [m]
                 Y maximum =   21.17 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -23.02 [m]
                 X maximum =  -19.71 [m]
                 Y minimum =   19.94 [m]
                 Y maximum =   21.59 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -23.02 [m]
                 X maximum =  -19.71 [m]
                 Y minimum =   20.35 [m]
                 Y maximum =   22.00 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -23.02 [m]
                 X maximum =  -19.71 [m]
                 Y minimum =   20.76 [m]
                 Y maximum =   22.41 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -23.02 [m]
                 X maximum =  -19.71 [m]
                 Y minimum =   21.17 [m]
                 Y maximum =   22.83 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -23.02 [m]
                 X maximum =  -19.71 [m]
                 Y minimum =   21.59 [m]
                 Y maximum =   23.24 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -23.02 [m]
                 X maximum =  -19.71 [m]
                 Y minimum =   22.00 [m]
                 Y maximum =   23.65 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -23.02 [m]
                 X maximum =  -19.71 [m]
                 Y minimum =   22.41 [m]
                 Y maximum =   24.06 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -23.02 [m]
                 X maximum =  -19.71 [m]
                 Y minimum =   22.83 [m]
                 Y maximum =   24.48 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =  -23.02 [m]
                 X maximum =  -19.71 [m]
```

```
                Y minimum =   23.24 [m]
                Y maximum =   24.89 [m]


Information on the critical circle  : Fmin =      1.923
Calculation method used             : Bishop - C phi
================================================================================

X co-ordinate center point      :       -20.54 [m]
Y co-ordinate center point      :        24.48 [m]
Radius of critical circle       :        28.30 [m]

The center point of the critical circle is enclosed

Total driving moment            :     -9494.62 [kNm/m]
Driving moment free water       :         0.01 [kNm/m]
Driving moment external loads   :      -409.39 [kNm/m]
Iterated resisting moment       :      9494.62 [kNm/m]
Non-iterated resisting moment   :     17488.79 [kNm/m]


                          END OF D-Geo Stability OUTPUT
                          ============================
```

Bijlage 2 Berekeningsrapporten deelgebied C

B2.2 STBU

- **DP5 langs Hollandse IJssel**
- **DP2 langs Spuikanaal**

```
Program     : D-Geo Stability
Version     : 10.1.4.3
License     : Unknown
Company     : Royal HaskoningDHV
Date        : 8-10-2015
Time        : 10:51:42

Output file : C:\Users\nl85691\Desktop\Box Sync\Box Sync\BE1234 PUF VIJG\BE1234 PU
Input file  : C:\Users\nl85691\Desktop\Box Sync\Box Sync\BE1234 PUF VIJG\BE1234 PU
==========================    BEGINNING OF DATA     ==========================


               ECHO OF THE INPUT
               =================


 Problem identification : Dijkversterking VIJG
                        : DG C dp 5 STBU na val

 Calculation model      : Bishop
 Default shear strength : C phi

               LAYER BOUNDARIES
               ================
```

Boundary no.	Co-ordinates [m]					
11 - X -	-50.00	-42.41	-39.70	-39.23	-36.23	-26.91
11 - Y -	-4.00	-4.00	-3.10	-2.94	-2.94	-1.00
11 - X -	-21.91	-17.30	-16.70	-7.19	-3.69	-3.42
11 - Y -	-0.90	0.64	0.65	3.82	3.89	3.97
11 - X -	-2.27	0.00	2.04	3.13	4.67	7.50
11 - Y -	4.14	4.21	4.19	4.13	3.73	2.56
11 - X -	8.94	10.11	11.59	12.38	12.75	13.39
11 - Y -	2.00	1.69	1.32	1.29	1.44	1.00
11 - X -	33.67	40.78	42.36	44.05	45.65	49.56
11 - Y -	0.00	0.00	-0.76	-0.74	-1.00	-2.00
11 - X -	53.48	59.00	70.00			
11 - Y -	-3.00	-3.00	-3.00			
10 - X -	-50.00	-42.41	-39.70	-39.23	-36.23	-31.23
10 - Y -	-4.00	-4.00	-3.10	-2.94	-2.94	-2.44
10 - X -	-29.70	-26.91	-21.91	-17.30	-16.70	-7.19
10 - Y -	-2.00	-1.00	-0.90	0.64	0.65	3.82
10 - X -	-3.69	-3.42	-2.27	0.00	2.04	3.13
10 - Y -	3.89	3.97	4.14	4.21	4.19	4.13
10 - X -	4.67	7.50	8.94	10.11	11.59	12.38
10 - Y -	3.73	2.56	2.00	1.69	1.32	1.29
10 - X -	12.75	13.39	33.67	40.78	42.36	44.05
10 - Y -	1.44	1.00	0.00	0.00	-0.76	-0.74
10 - X -	45.65	49.56	53.48	59.00	70.00	
10 - Y -	-1.00	-2.00	-3.00	-3.00	-3.00	
9 - X -	-50.00	-42.41	-39.70	-39.23	-36.23	-31.23
9 - Y -	-4.00	-4.00	-3.10	-2.94	-2.94	-2.44
9 - X -	-29.70	-26.91	-21.91	-17.30	-16.70	-10.30
9 - Y -	-2.00	-1.00	-0.90	0.64	0.65	1.00
9 - X -	-7.89	-7.02	-4.67	-3.69	-3.42	-2.27
9 - Y -	2.00	2.46	3.57	3.89	3.97	4.14
9 - X -	0.00	2.04	3.13	4.67	7.50	8.94
9 - Y -	4.21	4.19	4.13	3.73	2.56	2.00
9 - X -	10.11	11.59	12.38	12.75	13.39	33.67

9 - Y -	1.69	1.32	1.29	1.44	1.00	0.00
9 - X -	40.78	42.36	44.05	45.65	49.56	53.48
9 - Y -	0.00	-0.76	-0.74	-1.00	-2.00	-3.00
9 - X -	59.00	70.00				
9 - Y -	-3.00	-3.00				
8 - X -	-50.00	-42.41	-39.70	-39.23	-36.23	-31.23
8 - Y -	-4.00	-4.00	-3.10	-2.94	-2.94	-2.44
8 - X -	-29.70	-26.91	-21.91	-16.30	-14.00	-12.11
8 - Y -	-2.00	-1.00	-0.90	-0.90	-0.09	0.54
8 - X -	-10.30	-7.89	-7.02	-4.67	-3.69	-3.42
8 - Y -	1.00	2.00	2.46	3.57	3.89	3.97
8 - X -	-2.27	0.00	2.04	3.13	4.67	7.50
8 - Y -	4.14	4.21	4.19	4.13	3.73	2.56
8 - X -	8.94	10.11	11.59	12.38	12.75	13.39
8 - Y -	2.00	1.69	1.32	1.29	1.44	1.00
8 - X -	33.67	40.78	42.36	44.05	45.65	49.56
8 - Y -	0.00	0.00	-0.76	-0.74	-1.00	-2.00
8 - X -	53.48	59.00	70.00			
8 - Y -	-3.00	-3.00	-3.00			
7 - X -	-50.00	-42.41	-39.70	-39.23	-36.23	-31.23
7 - Y -	-4.00	-4.00	-3.10	-2.94	-2.94	-2.44
7 - X -	-29.70	-26.91	-21.91	-16.30	-14.00	-12.11
7 - Y -	-2.00	-1.00	-0.90	-0.90	-0.09	0.54
7 - X -	-10.30	-7.89	8.94	10.11	11.59	12.38
7 - Y -	1.00	2.00	2.00	1.69	1.32	1.29
7 - X -	12.75	13.39	33.67	40.78	42.36	44.05
7 - Y -	1.44	1.00	0.00	0.00	-0.76	-0.74
7 - X -	45.65	49.56	53.48	59.00	70.00	
7 - Y -	-1.00	-2.00	-3.00	-3.00	-3.00	
6 - X -	-50.00	-42.41	-39.70	-39.23	-36.23	-31.23
6 - Y -	-4.00	-4.00	-3.10	-2.94	-2.94	-2.44
6 - X -	-29.70	-26.91	-21.91	-16.30	-14.00	-9.00
6 - Y -	-2.00	-1.00	-0.90	-0.90	-0.09	-2.00
6 - X -	7.39	13.39	33.67	40.78	42.36	44.05
6 - Y -	-2.00	1.00	0.00	0.00	-0.76	-0.74
6 - X -	45.65	49.56	53.48	59.00	70.00	
6 - Y -	-1.00	-2.00	-3.00	-3.00	-3.00	
5 - X -	-50.00	-42.41	-39.70	-39.23	-36.23	-31.23
5 - Y -	-4.00	-4.00	-3.10	-2.94	-2.94	-2.44
5 - X -	-29.70	-9.00	7.39	13.39	33.67	40.78
5 - Y -	-2.00	-2.00	-2.00	1.00	0.00	0.00
5 - X -	42.36	44.05	45.65	49.56	53.48	59.00
5 - Y -	-0.76	-0.74	-1.00	-2.00	-3.00	-3.00
5 - X -	70.00					
5 - Y -	-3.00					
4 - X -	-50.00	-42.41	-39.70	-39.23	-36.23	-31.23
4 - Y -	-4.00	-4.00	-3.10	-2.94	-2.94	-2.44
4 - X -	-29.70	-9.00	7.39	49.56	53.48	59.00
4 - Y -	-2.00	-2.00	-2.00	-2.00	-3.00	-3.00
4 - X -	70.00					
4 - Y -	-3.00					

3 - X -	-50.00	-42.41	-39.70	-20.00	-10.42	70.00
3 - Y -	-4.00	-4.00	-3.10	-3.10	-4.80	-4.80
2 - X -	-50.00	70.00				
2 - Y -	-7.30	-7.30				
1 - X -	-50.00	70.00				
1 - Y -	-10.10	-10.10				
0 - X -	-50.00	70.00				
0 - Y -	-15.00	-15.00				

PL LINES

PL line no.	Co-ordinates [m]					
1 - X -	-50.00	-33.00	-16.30	-10.30	-7.18	3.10
1 - Y -	-2.30	-2.30	-0.90	1.00	2.32	2.75
1 - X -	4.80	9.80	70.00			
1 - Y -	3.53	1.48	1.48			
2 - X -	-50.00	70.00				
2 - Y -	-3.07	-3.07				
3 - X -	-50.00	-33.00	11.00	70.00		
3 - Y -	-2.30	-2.30	1.48	1.48		

Unit weight of water used for calculation: 9.81 [kN/m3]
The groundwater level is determined by PL-line number 1

FORBIDDEN LINES

No forbidden lines were input.

SOIL PROPERTIES

Layer no.	Material name
11	Ophoogmateriaal, zand
10	Ophoogmateriaal, klei
9	Ophoogmateriaal, zand
8	Zand, siltig (toplaag)
7	Klei, dijkmateriaal
6	Klei, siltig
5	Klei, humeus
4	Klei, humeus
3	Veen_sterker
2	Klei, humeus
1	Pleistoceen zand matig

Layer number	Gam usat [kN/m3]	Gam sat [kN/m3]	PL-line top	PL-line bottom
11	18.00	20.00	1	1
10	17.00	17.00	1	1
9	18.00	20.00	1	1
8	17.00	19.00	1	1
7	16.80	16.80	1	99
6	16.20	16.20	1	3
5	12.90	12.90	99	99
4	12.90	12.90	3	3
3	12.00	12.00	3	99
2	12.90	12.90	99	99

1	18.00	20.00	2	-				

Layer number	Cohesion [kN/m2]	Phi [degrees]	Cu/Pc [-]	POP [kN/m2]	Cu top [kN/m2]	Cu bot. [kN/m2]	Cu grad. [kN/m2/m]
11	0.00	28.00	-	-	-	-	-
10	1.50	17.60	-	-	-	-	-
9	0.00	28.00	-	-	-	-	-
8	0.00	25.70	-	-	-	-	-
7	2.40	28.40	-	-	-	-	-
6	0.00	27.70	-	-	-	-	-
5	0.00	27.20	-	-	-	-	-
4	0.00	27.20	-	-	-	-	-
3	3.33	21.80	-	-	-	-	-
2	0.00	27.20	-	-	-	-	-
1	0.00	28.00	-	-	-	-	-

No degree of consolidation <> 100% input.

CENTER POINT GRID AND TANGENT LINES

X co-ordinate grid left : 4.59 [m]
X co-ordinate grid right : 16.62 [m]
Number of grid points in X - direction : 14

Y co-ordinate grid bottom : 13.20 [m]
Y co-ordinate grid top : 23.64 [m]
Number of grid points in Y - direction : 14

Y co-ordinate tangent smallest circle : 3.00 [m]
Y co-ordinate tangent biggest circle : -6.87 [m]
Number of circles per grid point : 15

No fixed points input.

Total number of center points in the grid: 196
Total number of slip circles in the grid : 2940

LINE LOADS

No line loads input.

UNIFORM LOAD

Uniform load number	Magnitude [kN/m]	X start [m]	X end [m]	Distrib. degrees	Load Type
1	13.30	-2.27	2.04	30.00	Temporary

TREE ON SLOPE

No tree on slope was input.

DEGREE OF CONSOLIDATION : TEMPORARY LOADS

Layer number	Degree of consolidation
11	100
10	100
9	100

8		100
7		100
6		100
5		0
4		0
3		0
2		0
1		100

EARTHQUAKE
==========

No earth quake factors were input.

****
********** The input has been tested, and is correct. **********
****

RESULTS OF THE SLOPE STABILITY ANALYSIS
=======================================

Information on the critical circle : Fmin = 1.296
Calculation method used : Bishop - C phi

X co-ordinate center point : 12.91 [m]
Y co-ordinate center point : 14.00 [m]
Radius of critical circle : 14.53 [m]

The center point of the critical circle is enclosed

Total driving moment : 1228.40 [kNm/m]
Driving moment free water : -144.75 [kNm/m]
Driving moment external loads : 0.00 [kNm/m]
Iterated resisting moment : 1228.40 [kNm/m]
Non-iterated resisting moment : 1536.16 [kNm/m]

END OF D-Geo Stability OUTPUT
=============================

```
Program     : D-Geo Stability
Version     : 10.1.4.3
License     : Unknown
Company     : Royal HaskoningDHV
Date        : 4-11-2015
Time        : 15:05:33

Output file : C:\Users\nl85691\Desktop\Box Sync\Box Sync\BE1234 PUF VIJG\BE1234 PU
Input file  : C:\Users\nl85691\Desktop\Box Sync\Box Sync\BE1234 PUF VIJG\BE1234 PU
==========================    BEGINNING OF DATA     ==========================


               ECHO OF THE INPUT
               =================


 Problem identification : Dijkversterking VIJG
                        : DG C dp2 STBU

 Calculation model      : Bishop
 Default shear strength : C phi

               LAYER BOUNDARIES
               ================

 Boundary no.| Co-ordinates [m]
 ------------|-----------------------------------------------------
             |
   8  - X -  | -60.00   -57.90   -51.60   -50.00   -48.50   -45.50
   8  - Y -  |  -4.00    -4.00    -4.00    -3.46    -2.95    -2.95
             |
   8  - X -  | -42.00   -40.50   -38.70   -36.10   -31.70   -30.20
   8  - Y -  |  -2.60    -2.45    -2.00    -1.35    -1.20    -0.91
             |
   8  - X -  | -27.55   -22.60   -21.40   -18.70   -17.80   -17.00
   8  - Y -  |  -0.40     0.56     0.79     0.90     0.95     1.00
             |
   8  - X -  | -15.50   -13.70    -5.70    -3.70     1.40     6.60
   8  - Y -  |   1.35     1.78     3.70     3.90     4.00     4.14
             |
   8  - X -  |   9.80    12.10    23.00    25.90    40.00    59.00
   8  - Y -  |   2.18     1.61    -2.00    -3.00    -3.00    -3.00
             |
   8  - X -  |  70.00
   8  - Y -  |  -3.00
             |
   7  - X -  | -60.00   -57.90   -51.60   -50.00   -48.50   -45.50
   7  - Y -  |  -4.00    -4.00    -4.00    -3.46    -2.95    -2.95
             |
   7  - X -  | -42.00   -40.50   -38.70   -36.10   -31.70   -30.20
   7  - Y -  |  -2.60    -2.45    -2.00    -1.35    -1.20    -1.15
             |
   7  - X -  | -27.55   -22.60   -21.40   -18.70   -17.80   -17.00
   7  - Y -  |  -0.84    -0.26     0.10     0.90     0.95     1.00
             |
   7  - X -  | -15.50   -13.70    -5.70    -3.70     1.40     6.60
   7  - Y -  |   1.35     1.78     3.70     3.90     4.00     4.14
             |
   7  - X -  |   9.80    12.10    23.00    25.90    40.00    59.00
   7  - Y -  |   2.18     1.61    -2.00    -3.00    -3.00    -3.00
             |
   7  - X -  |  70.00
   7  - Y -  |  -3.00
             |
   6  - X -  | -60.00   -57.90   -51.60   -50.00   -48.50   -45.50
   6  - Y -  |  -4.00    -4.00    -4.00    -3.46    -2.95    -2.95
             |
   6  - X -  | -42.00   -40.50   -38.70   -36.10   -31.70   -30.20
   6  - Y -  |  -2.60    -2.45    -2.00    -1.35    -1.20    -1.15
             |
   6  - X -  | -27.55   -22.60   -21.40   -18.70   -17.80   -17.00
   6  - Y -  |  -0.84    -0.26     0.10     0.90     0.95     1.00
             |
   6  - X -  | -15.50   -13.70    -5.70    -3.70     1.40     6.60
   6  - Y -  |   1.35     1.50     3.70     3.90     4.00     4.14
             |
   6  - X -  |   9.80    12.10    23.00    25.90    40.00    59.00
```

6 - Y -	2.18	1.61	-2.00	-3.00	-3.00	-3.00
6 - X -	70.00					
6 - Y -	-3.00					
5 - X -	-60.00	-57.90	-51.60	-50.00	-48.50	-45.50
5 - Y -	-4.00	-4.00	-4.00	-3.46	-2.95	-2.95
5 - X -	-42.00	-40.50	-38.70	-36.10	-31.70	-30.20
5 - Y -	-2.60	-2.45	-2.00	-2.00	-2.00	-2.00
5 - X -	-27.55	-22.60	-21.40	-18.70	-17.80	-17.00
5 - Y -	-2.01	-2.01	-2.00	-2.00	-2.00	-2.00
5 - X -	-15.50	-13.70	-5.70	-3.70	1.40	6.60
5 - Y -	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00
5 - X -	9.80	12.10	23.00	25.90	40.00	59.00
5 - Y -	-2.00	-2.00	-2.00	-3.00	-3.00	-3.00
5 - X -	70.00					
5 - Y -	-3.00					
4 - X -	-60.00	-57.90	-51.60	-50.00	-48.50	-45.50
4 - Y -	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00
4 - X -	-42.00	-40.50	-38.70	-36.10	-31.70	-30.20
4 - Y -	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00
4 - X -	-27.55	-22.60	-21.40	-18.70	-17.80	-17.00
4 - Y -	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00
4 - X -	-15.50	-13.70	-5.70	-3.70	1.40	6.60
4 - Y -	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00
4 - X -	9.80	12.10	23.00	25.90	40.00	59.00
4 - Y -	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00
4 - X -	70.00					
4 - Y -	-4.00					
3 - X -	-60.00	-57.90	-51.60	-50.00	-48.50	-45.50
3 - Y -	-5.00	-5.00	-5.00	-5.00	-5.00	-5.00
3 - X -	-42.00	-40.50	-38.70	-36.10	-31.70	-30.20
3 - Y -	-5.00	-5.00	-5.00	-5.00	-5.00	-5.00
3 - X -	-27.55	-22.60	-21.40	-18.70	-17.80	-17.00
3 - Y -	-5.00	-5.00	-5.00	-5.00	-5.00	-5.00
3 - X -	-15.50	-13.70	-5.70	-3.70	1.40	6.60
3 - Y -	-5.00	-5.00	-5.00	-5.00	-5.00	-5.00
3 - X -	9.80	12.10	23.00	25.90	40.00	59.00
3 - Y -	-5.00	-5.00	-5.00	-5.00	-5.00	-5.00
3 - X -	70.00					
3 - Y -	-5.00					
2 - X -	-60.00	-57.90	-51.60	-50.00	-48.50	-45.50
2 - Y -	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
2 - X -	-42.00	-40.50	-38.70	-36.10	-31.70	-30.20
2 - Y -	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
2 - X -	-27.55	-22.60	-21.40	-18.70	-17.80	-17.00
2 - Y -	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
2 - X -	-15.50	-13.70	-5.70	-3.70	1.40	6.60
2 - Y -	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
2 - X -	9.80	12.10	23.00	25.90	40.00	59.00
2 - Y -	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
2 - X -	70.00					
2 - Y -	-7.00					

1 - X -	-60.00	-57.90	-51.60	-50.00	-48.50	-45.50
1 - Y -	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
1 - X -	-42.00	-40.50	-38.70	-36.10	-31.70	-30.20
1 - Y -	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
1 - X -	-27.55	-22.60	-21.40	-18.70	-17.80	-17.00
1 - Y -	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
1 - X -	-15.50	-13.70	-5.70	-3.70	1.40	6.60
1 - Y -	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
1 - X -	9.80	12.10	23.00	25.90	40.00	59.00
1 - Y -	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
1 - X -	70.00					
1 - Y -	-8.00					
0 - X -	-60.00	70.00				
0 - Y -	-15.00	-15.00				

PL LINES

PL line no.	Co-ordinates [m]					
1 - X -	-60.00	-39.00	-31.70	7.50	11.21	70.00
1 - Y -	-2.30	-2.30	-1.20	2.50	1.48	1.48
2 - X -	-60.00	70.00				
2 - Y -	-3.07	-3.07				

Unit weight of water used for calculation: 9.81 [kN/m3]
The groundwater level is determined by PL-line number 1

FORBIDDEN LINES

No forbidden lines were input.

SOIL PROPERTIES

Layer no.	Material name
8	Ophoogmateriaal, klei
7	Ophoogmateriaal, klei
6	Ophoogmateriaal, zand
5	Zand, siltig (toplaag)
4	Klei, humeus
3	Hollandveen
2	Klei, humeus
1	Pleistoceen zand matig

Layer number	Gam usat [kN/m3]	Gam sat [kN/m3]	PL-line top	PL-line bottom
8	17.00	17.00	1	1
7	17.00	17.00	1	1
6	18.00	20.00	1	1
5	17.00	19.00	1	1
4	12.90	12.90	1	99
3	12.00	12.00	99	99
2	12.90	12.90	99	2
1	18.00	20.00	2	-

Layer	Cohesion	Phi	Cu/Pc	POP	Cu top	Cu bot.	Cu grad.

number	[kN/m2]	[degrees]	[-]	[kN/m2]	[kN/m2]	[kN/m2]	[kN/m2/m]
8	1.50	17.60	-	-	-	-	-
7	1.50	17.60	-	-	-	-	-
6	0.00	28.00	-	-	-	-	-
5	0.00	25.70	-	-	-	-	-
4	0.00	27.20	-	-	-	-	-
3	3.33	21.80	-	-	-	-	-
2	0.00	27.20	-	-	-	-	-
1	0.00	28.00	-	-	-	-	-

No degree of consolidation <> 100% input.

CENTER POINT GRID AND TANGENT LINES

X co-ordinate grid left : 8.10 [m]
X co-ordinate grid right : 11.40 [m]
Number of grid points in X - direction : 5

Y co-ordinate grid bottom : 14.78 [m]
Y co-ordinate grid top : 16.43 [m]
Number of grid points in Y - direction : 5

Y co-ordinate tangent smallest circle : -2.59 [m]
Y co-ordinate tangent biggest circle : -4.24 [m]
Number of circles per grid point : 5

No fixed points input.

Total number of center points in the grid: 25
Total number of slip circles in the grid : 125

LINE LOADS

No line loads input.

UNIFORM LOAD

Uniform load number	Magnitude [kN/m]	X start [m]	X end [m]	Distrib. degrees	Load Type
1	13.33	-2.70	1.30	30.00	Temporary

TREE ON SLOPE

No tree on slope was input.

DEGREE OF CONSOLIDATION : TEMPORARY LOADS

Layer number	Degree of consolidation
8	0
7	0
6	100
5	100
4	0
3	0
2	0
1	100

EARTHQUAKE
==========

No earth quake factors were input.

****
********** The input has been tested, and is correct. **********
****

RESULTS OF THE SLOPE STABILITY ANALYSIS
=======================================

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = 8.93 [m]
X maximum = 12.23 [m]
Y minimum = 14.37 [m]
Y maximum = 16.02 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = 9.75 [m]
X maximum = 13.05 [m]
Y minimum = 13.95 [m]
Y maximum = 15.60 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = 10.58 [m]
X maximum = 13.88 [m]
Y minimum = 13.54 [m]
Y maximum = 15.19 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = 11.40 [m]
X maximum = 14.71 [m]
Y minimum = 13.13 [m]
Y maximum = 14.78 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = 12.23 [m]
X maximum = 15.53 [m]
Y minimum = 12.72 [m]
Y maximum = 14.37 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = 13.05 [m]
X maximum = 16.36 [m]
Y minimum = 12.30 [m]
Y maximum = 13.95 [m]

The center point of the critical circle lies on the edge of the grid.

New grid with : X minimum = 13.88 [m]
X maximum = 17.18 [m]
Y minimum = 11.89 [m]
Y maximum = 13.54 [m]

The center point of the critical circle lies on the edge of the grid.

```
New grid with  : X minimum =   14.71 [m]
                 X maximum =   18.01 [m]
                 Y minimum =   11.89 [m]
                 Y maximum =   13.54 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   15.53 [m]
                 X maximum =   18.83 [m]
                 Y minimum =   12.30 [m]
                 Y maximum =   13.95 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   15.53 [m]
                 X maximum =   18.83 [m]
                 Y minimum =   12.72 [m]
                 Y maximum =   14.37 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   15.53 [m]
                 X maximum =   18.83 [m]
                 Y minimum =   13.13 [m]
                 Y maximum =   14.78 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   16.36 [m]
                 X maximum =   19.66 [m]
                 Y minimum =   13.54 [m]
                 Y maximum =   15.19 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   16.36 [m]
                 X maximum =   19.66 [m]
                 Y minimum =   13.95 [m]
                 Y maximum =   15.60 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   16.36 [m]
                 X maximum =   19.66 [m]
                 Y minimum =   14.37 [m]
                 Y maximum =   16.02 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   16.36 [m]
                 X maximum =   19.66 [m]
                 Y minimum =   14.78 [m]
                 Y maximum =   16.43 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   16.36 [m]
                 X maximum =   19.66 [m]
                 Y minimum =   15.19 [m]
                 Y maximum =   16.84 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   17.18 [m]
                 X maximum =   20.48 [m]
                 Y minimum =   15.60 [m]
                 Y maximum =   17.26 [m]
```

```
The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   17.18 [m]
                 X maximum =   20.48 [m]
                 Y minimum =   16.02 [m]
                 Y maximum =   17.67 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   17.18 [m]
                 X maximum =   20.48 [m]
                 Y minimum =   16.43 [m]
                 Y maximum =   18.08 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   17.18 [m]
                 X maximum =   20.48 [m]
                 Y minimum =   16.84 [m]
                 Y maximum =   18.49 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   17.18 [m]
                 X maximum =   20.48 [m]
                 Y minimum =   16.84 [m]
                 Y maximum =   18.49 [m]
           tangent minimum =   -3.00 [m]
           tangent maximum =   -1.35 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   17.18 [m]
                 X maximum =   20.48 [m]
                 Y minimum =   16.84 [m]
                 Y maximum =   18.49 [m]
           tangent minimum =   -1.76 [m]
           tangent maximum =   -0.11 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   16.36 [m]
                 X maximum =   19.66 [m]
                 Y minimum =   17.26 [m]
                 Y maximum =   18.91 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   15.53 [m]
                 X maximum =   18.83 [m]
                 Y minimum =   16.84 [m]
                 Y maximum =   18.49 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   15.53 [m]
                 X maximum =   18.83 [m]
                 Y minimum =   16.43 [m]
                 Y maximum =   18.08 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   15.53 [m]
                 X maximum =   18.83 [m]
                 Y minimum =   16.02 [m]
                 Y maximum =   17.67 [m]
```

```
The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   15.53 [m]
                 X maximum =   18.83 [m]
                 Y minimum =   16.02 [m]
                 Y maximum =   17.67 [m]
           tangent minimum =   -0.52 [m]
           tangent maximum =    1.13 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   14.71 [m]
                 X maximum =   18.01 [m]
                 Y minimum =   15.60 [m]
                 Y maximum =   17.26 [m]


The center point of the critical circle lies on the edge of the grid.

New grid with  : X minimum =   14.71 [m]
                 X maximum =   18.01 [m]
                 Y minimum =   15.19 [m]
                 Y maximum =   16.84 [m]


Information on the critical circle  : Fmin =      1.202
Calculation method used             : Bishop - C phi
================================================================================

X co-ordinate center point      :        15.53 [m]
Y co-ordinate center point      :        15.60 [m]
Radius of critical circle       :        15.30 [m]

The center point of the critical circle is enclosed

Total driving moment            :       681.51 [kNm/m]
Driving moment free water       :       -85.87 [kNm/m]
Driving moment external loads   :         0.00 [kNm/m]
Iterated resisting moment       :       681.51 [kNm/m]
Non-iterated resisting moment   :       794.20 [kNm/m]


                        END OF D-Geo Stability OUTPUT
                        ============================
```

Bijlage 2 Berekeningsrapporten deelgebied C

B2.3 Zetting

- **DP5 langs Hollandse IJssel**
- **DP2 langs Spuikanaal**

Report for D-Settlement 14.1

Settlement Calculations
Developed by Deltares

Company:	Royal HaskoningDHV
Date of report:	6-11-2015
Time of report:	11:11:44
Date of calculation:	8-10-2015
Time of calculation:	11:15:00
Filename:	C:\..\07 GEO\8. Berekeningen\DG-C\DGC-dp5_zetting_ZC
Project identification:	Dijkversterking VIJG DG C dp5 Zetting sond dkp002 - esthetisch ontwerp - kleikern

1 Table of Contents

2 Echo of the Input

2.1 Layer Boundaries

Boundary number	Co-ordinates [m]				
8 - X -	-50,000	-42,415	-39,700	-39,235	-36,200
8 - Y -	-4,000	-4,000	-3,100	-2,940	-2,900
8 - X -	-31,235	-29,700	-26,900	-21,900	-16,700
8 - Y -	-2,440	-2,000	-1,000	-0,900	-0,900
8 - X -	-13,999	-10,300	-7,886	-4,668	-3,700
8 - Y -	-0,091	1,000	2,000	3,574	3,900
8 - X -	-2,270	0,000	3,100	4,667	8,938
8 - Y -	4,136	4,206	4,135	3,725	2,000
8 - X -	11,591	13,390	33,670	40,780	42,360
8 - Y -	1,316	1,000	0,000	0,000	-0,760
8 - X -	44,054	45,651	49,565	53,480	59,000
8 - Y -	-0,744	-1,000	-2,000	-3,000	-3,000
8 - X -	70,000				
8 - Y -	-3,000				
7 - X -	-50,000	-42,415	-39,700	-39,235	-36,200
7 - Y -	-4,000	-4,000	-3,100	-2,940	-2,900
7 - X -	-31,235	-29,700	-26,900	-21,900	-16,700
7 - Y -	-2,440	-2,000	-1,000	-0,900	-0,900
7 - X -	-13,999	-10,300	-7,886	8,938	11,591
7 - Y -	-0,091	1,000	2,000	2,000	1,316
7 - X -	13,390	33,670	40,780	42,360	44,054
7 - Y -	1,000	0,000	0,000	-0,760	-0,744
7 - X -	45,651	49,565	53,480	59,000	70,000
7 - Y -	-1,000	-2,000	-3,000	-3,000	-3,000
6 - X -	-50,000	-42,415	-39,700	-39,235	-36,200
6 - Y -	-4,000	-4,000	-3,100	-2,940	-2,900
6 - X -	-31,235	-29,700	-26,900	-21,900	-16,700
6 - Y -	-2,440	-2,000	-1,000	-0,900	-0,900
6 - X -	-13,999	-9,000	7,390	13,390	33,670
6 - Y -	-0,091	-2,000	-2,000	1,000	0,000
6 - X -	40,780	42,360	44,054	45,651	49,565
6 - Y -	0,000	-0,760	-0,744	-1,000	-2,000
6 - X -	53,480	59,000	70,000		
6 - Y -	-3,000	-3,000	-3,000		
5 - X -	-50,000	-42,415	-39,700	-39,235	-36,200
5 - Y -	-4,000	-4,000	-3,100	-2,940	-2,900
5 - X -	-31,235	-29,700	-9,000	7,390	13,390
5 - Y -	-2,440	-2,000	-2,000	-2,000	1,000
5 - X -	33,670	40,780	42,360	44,054	45,651
5 - Y -	0,000	0,000	-0,760	-0,744	-1,000
5 - X -	49,565	53,480	59,000	70,000	
5 - Y -	-2,000	-3,000	-3,000	-3,000	
4 - X -	-50,000	-42,415	-39,700	-39,235	-36,200
4 - Y -	-4,000	-4,000	-3,100	-2,940	-2,900
4 - X -	-31,235	-29,700	-9,000	7,390	49,565
4 - Y -	-2,440	-2,000	-2,000	-2,000	-2,000
4 - X -	53,480	59,000	70,000		
4 - Y -	-3,000	-3,000	-3,000		
3 - X -	-50,000	-42,415	-39,700	-20,000	-10,300
3 - Y -	-4,000	-4,000	-3,100	-3,100	-4,800
3 - X -	70,000				
3 - Y -	-4,800				
2 - X -	-50,000	70,000			
2 - Y -	-7,300	-7,300			
1 - X -	-50,000	70,000			
1 - Y -	-10,100	-10,100			
0 - X -	-50,000	70,000			
0 - Y -	-15,000	-15,000			

2.2 PL Lines

PL line number	Co-ordinates [m]				
1 - X -	-50,000	-30,000	-2,270	3,100	40,000
1 - Y -	-2,300	-2,300	0,270	0,270	-0,360
1 - X -	70,000				
1 - Y -	-0,360				
2 - X -	-50,000	70,000			
2 - Y -	-3,070	-3,070			

2.3 General Data

Soil model:	Koppejan
Consolidation model:	Terzaghi
Strain model:	Natural
Groundwater level:	Initial determined by PL-line number 1
Unit weight of water:	9,81 [kN/m³]
Dispersion conditions layer boundaries	
- Top:	drained
- Bottom:	drained
Stress distribution	
- Soil:	Buisman
- Loads:	None
End of consolidation:	10000,00 [days]
No maintain profile	
Pc (initial):	Variable parallel to the initial effective stress
Pc (per step):	Automatic increased to the final effective stresses
No imaginary surface	
With submerging	
(only for non uniform loads)	
- Iteration stop criterium :	0,10 [m]
Load column width	
- Non-Uniform Loads :	1,00 [m]
- Trapezoidal Loads :	1,00 [m]

2.4 Soil Profiles

Layer number	Material name	PL-line top	PL-line bottom
8	Zand, siltig (toplaag)	1	1
7	Klei, dijkmateriaal	1	1
6	Klei, siltig	1	1
5	Klei, humeus	1	1
4	Klei, humeus	1	99
3	Hollandveen	99	99
2	Klei, humeus	99	2
1	Pleistoceen zand m...	2	2

2.5 Soil Properties

Layer number	Drained	Unit weight	
		Unsaturated [kN/m³]	Saturated [kN/m³]
8	Yes	17,00	19,00
7	No	16,80	16,80
6	No	16,20	16,20
5	No	12,90	12,90
4	No	12,90	12,90
3	No	12,00	12,00
2	No	12,90	12,90
1	Yes	18,00	20,00

Layer number	Vert. consolid. coefficient Cv [m²/s]	Ratio Ch/Cv [-]
8	-	1,000
7	5,00E-07	1,000
6	2,70E-07	1,000
5	1,00E-07	1,000
4	1,00E-07	1,000
3	5,30E-07	3,000
2	1,00E-07	1,000
1	-	1,000

Layer number	Precons. pressure [kN/m²]	POP [kN/m²]	OCR [-]
8	-	0,00	-
7	-	10,00	-
6	-	10,00	-
5	-	10,00	-
4	-	10,00	-
3	-	10,00	-
2	-	10,00	-
1	-	0,00	-

Layer number	Primary compr. coeff.		Secular compr. coef.		Swell constants	
	Cp [-]	Cp' [-]	Cs [-]	Cs' [-]	Ap [-]	As [-]
8	6,00E+02	2,00E+02	1,00E+09	1,00E+09	6,00E+02	1,00E+09
7	6,90E+01	1,60E+01	3,80E+02	2,30E+02	6,90E+01	2,30E+02
6	5,90E+01	1,20E+01	2,40E+02	1,10E+02	5,90E+01	1,10E+02
5	3,00E+01	7,50E+00	1,20E+02	3,00E+01	3,00E+01	3,00E+01
4	3,00E+01	7,50E+00	1,20E+02	3,00E+01	3,00E+01	3,00E+01
3	5,90E+01	5,00E+00	1,60E+02	6,00E+01	5,90E+01	6,00E+01
2	3,00E+01	7,50E+00	1,20E+02	3,00E+01	3,00E+01	3,00E+01
1	1,80E+03	6,00E+02	1,00E+09	1,00E+09	1,80E+03	1,00E+09

2.6 Non-Uniform Loads

Load number	Time [days]	Unit weight	
		Unsaturated [kN/m³]	Saturated [kN/m³]
1	7	18,00	20,00
2	90	17,00	17,00
3	190	18,00	20,00

Load number	Co-ordinates [m]					
1 - X -	-21,90	-17,30	-16,70	-10,30		
1 - Y -	-0,90	0,64	0,65	1,00		
2 - X -	-16,70	-7,20	-3,70			
2 - Y -	0,65	3,82	3,90			
3 - X -	-21,90	-17,30	-16,70	-7,20	-3,70	
3 - Y -	-0,90	2,16	2,23	4,38	3,90	

2.7 Verticals

Vertical number	X co-ordinates [m]				
1 - 5	-50,000	-42,415	-39,700	-39,235	-36,200
6 - 10	-31,235	-31,230	-30,000	-29,700	-26,900
11 - 15	-21,900	-20,000	-17,300	-16,700	-13,999
16 - 20	-10,300	-9,000	-7,886	-7,200	-4,668
21 - 25	-3,700	-2,270	0,000	3,100	4,667
26 - 30	7,390	8,938	11,591	13,390	33,670
31 - 35	40,000	40,780	42,360	44,054	45,651
36 - 39	49,565	53,480	59,000	70,000	

2.8 Vertical Drain

Drain type		Strip
Horizontal range "From"	[m]	-25,500
Horizontal range "To"	[m]	-10,500
Bottom position	[m]	-8,000
Center to center distance	[m]	1,000
Width	[m]	0,100
Thickness	[m]	0,003
Grid		Triangular
Enforced dewatering		Off
Start of drainage	[days]	30,000

3 Results per Vertical

3.1 Results for Vertical 10 (X = -26,90 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 6						
-1,00	0,001	0,000	0,001	-1,282	-1,308	0,027
-1,10	1,620	0,000	1,620	0,342	-1,308	1,650
-1,20	3,240	0,000	3,240	1,966	-1,308	3,275
-1,30	4,860	0,000	4,860	3,592	-1,308	4,900
-1,40	6,480	0,000	6,480	5,218	-1,308	6,526
-1,50	8,100	0,000	8,100	6,845	-1,308	8,153
-1,60	9,720	0,000	9,720	8,473	-1,308	9,781
-1,70	11,340	0,000	11,340	10,101	-1,308	11,410
-1,80	12,960	0,000	12,960	11,731	-1,308	13,040
-1,90	14,580	0,000	14,580	13,362	-1,308	14,671
-2,00	16,200	0,000	16,200	15,023	-1,280	16,303
Layer 4						
-2,00	16,200	0,000	16,200	15,024	-1,280	16,303
-2,01	16,364	0,000	16,364	15,318	-1,150	16,469
-2,55	23,295	4,582	18,713	22,547	3,635	18,911
-3,07	30,003	9,016	20,987	29,597	8,272	21,325
-3,10	30,390	9,272	21,118	30,005	8,539	21,466
Layer 3						
-3,10	30,390	9,272	21,118	30,005	8,539	21,466
-3,80	38,790	15,241	23,549	38,971	14,793	24,178
-4,80	50,790	23,769	27,021	51,956	23,729	28,227
-5,20	55,590	27,180	28,410	57,199	27,303	29,896
-5,90	63,990	33,149	30,841	66,428	33,559	32,869
-6,90	75,990	41,676	34,314	79,686	42,498	37,188
-7,30	80,790	45,087	35,703	85,002	46,074	38,927
Layer 2						
-7,30	80,790	45,087	35,703	85,002	46,075	38,928
-8,00	89,820	51,057	38,763	94,937	52,335	42,602
-8,70	98,850	57,026	41,824	104,863	58,597	46,267
-9,40	107,880	62,995	44,885	114,770	64,862	49,909
-10,10	116,910	68,964	47,946	124,649	71,128	53,521
Layer 1						
-10,10	116,910	68,964	47,946	122,493	68,972	53,521
-10,95	133,910	77,303	56,607	140,113	77,309	62,804
-11,95	153,910	87,113	66,797	160,770	87,117	73,653
-12,55	165,910	92,999	72,911	173,125	93,002	80,123
-13,40	182,910	101,337	81,573	190,580	101,340	89,240
-14,40	202,910	111,147	91,763	211,043	111,148	99,895
-15,00	214,910	117,033	97,877	223,286	117,033	106,253

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0025	0,0006	0,0000	0,0000
3	-0,0005	-0,0005	0,0043	0,0016	0,0000	0,0000
2	-0,0034	-0,0034	0,0096	0,0024	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0008	0,0000
Total	-0,0040	-0,0039	0,0163	0,0046	0,0008	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	[%]
-1,00	-2,00	6	0,0000	0,0000	0,0088	0,88
-2,00	-3,10	4	0,0025	0,0006	0,0049	0,44
-3,10	-7,30	3	0,0037	0,0010	0,0078	0,19
-7,30	-10,10	2	0,0062	-0,0010	0,0021	0,08
-10,10	-15,00	1	0,0008	0,0000	0,0008	0,02
Total			0,0131	0,0006	0,0244	

3.2 Results for Vertical 11 (X = -21,90 m; Z = 0,00 m)

Depth	Initial stress			Final stress		
[m]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 6						
-0,90	0,001	0,000	0,001	-3,959	-7,310	3,351
-1,00	1,620	0,000	1,620	-2,218	-7,310	5,092
-1,10	3,240	0,000	3,240	-0,451	-7,310	6,859
-1,20	4,860	0,000	4,860	1,338	-7,310	8,648
-1,30	6,480	0,000	6,480	3,722	-6,736	10,458
-1,40	8,100	0,000	8,100	6,493	-5,792	12,285
-1,45	8,910	0,000	8,910	7,886	-5,319	13,205
-1,50	9,720	0,000	9,720	9,283	-4,845	14,128
-1,55	10,519	0,000	10,519	10,664	-4,377	15,041
-1,60	11,340	0,497	10,843	11,590	-3,896	15,485
-1,70	12,960	1,478	11,482	13,423	-2,946	16,369
-1,80	14,580	2,459	12,121	15,263	-1,997	17,260
-1,90	16,200	3,440	12,760	17,108	-1,047	18,156
-2,00	17,820	4,421	13,399	18,956	-0,098	19,055
Layer 4						
-2,00	17,820	4,421	13,399	18,956	-0,098	19,055
-2,55	24,915	8,804	16,111	28,040	4,845	23,196
-3,07	31,623	12,947	18,676	36,571	9,533	27,038
-3,10	32,010	13,186	18,824	37,060	9,804	27,256
Layer 3						
-3,10	32,010	13,187	18,824	37,060	9,804	27,256
-3,80	40,410	18,764	21,646	47,818	16,201	31,617
-4,80	52,410	26,733	25,677	62,851	25,370	37,481
-5,20	57,210	29,920	27,290	68,761	29,050	39,710
-5,90	65,610	35,498	30,112	78,976	35,513	43,463
-6,90	77,610	43,466	34,144	93,334	44,800	48,534
-7,30	82,410	46,653	35,757	99,016	48,538	50,478
Layer 2						
-7,30	82,410	46,653	35,757	99,017	48,538	50,478
-8,00	91,440	52,231	39,209	109,506	55,094	54,411
-8,70	100,470	57,809	42,661	119,939	61,706	58,233
-9,40	109,500	63,387	46,113	130,330	68,369	61,961
-10,10	118,530	68,964	49,566	140,690	75,082	65,608
Layer 1						
-10,10	118,530	68,964	49,566	134,589	68,981	65,608
-10,95	135,530	77,303	58,227	151,730	77,315	74,415
-11,95	155,530	87,113	68,417	171,794	87,122	84,672
-12,55	167,530	92,999	74,531	183,788	93,006	90,783
-13,40	184,530	101,337	83,193	200,734	101,342	99,392
-14,40	204,530	111,147	93,383	220,613	111,149	109,464
-15,00	216,530	117,033	99,497	232,517	117,033	115,484

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0178	0,0044	0,0183	0,0046
3	-0,0002	-0,0002	0,0230	0,0085	0,0899	0,0075
2	-0,0076	-0,0076	0,0274	0,0069	0,0124	0,0031
1	0,0000	0,0000	0,0000	0,0000	0,0017	0,0000
Total	-0,0078	-0,0078	0,0682	0,0198	0,1223	0,0152

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
-0,90	-2,00	6	0,0000	0,0000	0,0476	4,33
-2,00	-3,10	4	0,0360	0,0090	0,0697	6,34
-3,10	-7,30	3	0,1127	0,0158	0,1720	4,09
-7,30	-10,10	2	0,0322	0,0023	0,0411	1,47
-10,10	-15,00	1	0,0017	0,0000	0,0017	0,03
Total			0,1826	0,0271	0,3320	

3.3 Results for Vertical 14 (X = -16,70 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 6						
-0,90	0,001	0,000	0,001	47,714	1,857	45,858
-1,00	1,620	0,000	1,620	50,082	2,592	47,490
-1,07	2,711	0,000	2,711	51,705	3,108	48,597
-1,10	3,240	0,320	2,920	52,175	3,361	48,814
-1,20	4,860	1,301	3,559	53,614	4,141	49,473
-1,30	6,480	2,282	4,198	55,042	4,928	50,114
-1,40	8,100	3,263	4,837	56,451	5,721	50,730
-1,45	8,910	3,754	5,156	57,147	6,120	51,027
-1,50	9,720	4,244	5,476	57,837	6,520	51,317
-1,60	11,340	5,225	6,115	59,199	7,324	51,875
-1,70	12,960	6,206	6,754	60,539	8,132	52,407
-1,80	14,580	7,187	7,393	61,862	8,946	52,916
-1,90	16,200	8,168	8,032	63,169	9,763	53,406
-2,00	17,820	9,149	8,671	64,465	10,584	53,881
Layer 4						
-2,00	17,820	9,149	8,671	64,465	10,584	53,881
-2,84	28,645	15,346	13,299	72,993	16,185	56,808
-3,07	31,623	17,051	14,572	75,362	17,790	57,572
-3,68	39,471	21,543	17,928	81,710	22,139	59,570
Layer 3						
-3,68	39,471	21,543	17,928	81,710	22,139	59,570
-4,59	50,401	28,269	22,131	90,754	28,990	61,764
-5,49	61,201	34,915	26,285	100,021	36,017	64,004
-6,40	72,131	41,641	30,489	109,731	43,361	66,370
-7,30	82,931	48,287	34,643	119,640	50,826	68,814
Layer 2						
-7,30	82,931	48,288	34,643	119,640	50,826	68,814
-8,00	91,961	53,457	38,504	128,161	56,740	71,420
-8,70	100,991	58,626	42,365	136,878	62,787	74,091
-9,40	110,021	63,795	46,225	145,779	68,954	76,825
-10,10	119,051	68,964	50,086	154,849	75,231	79,618
Layer 1						
-10,10	119,051	68,964	50,086	148,608	68,989	79,618
-10,95	136,051	77,303	58,748	164,382	77,322	87,060
-11,95	156,051	87,113	68,938	183,041	87,126	95,915
-12,55	168,051	92,999	75,052	194,285	93,009	101,276

Depth	Initial stress			Final stress		
	S-total	S-water	S-eff.	S-total	S-water	S-eff.
[m]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]
-13,40	185,051	101,337	83,713	210,273	101,343	108,929
-14,40	205,051	111,147	93,903	229,163	111,149	118,014
-15,00	217,051	117,033	100,017	240,536	117,033	123,503

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary	Secondary	Primary	Secondary 10 [days]	Primary	Secondary 10 [days]
	[m]	[m]	[m]	[m]	[m]	[m]
6	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0320	0,0080	0,2352	0,0588
3	0,0000	0,0000	0,0203	0,0075	0,4594	0,0383
2	-0,0059	-0,0059	0,0258	0,0065	0,1145	0,0286
1	0,0000	0,0000	0,0000	0,0000	0,0025	0,0000
Total	-0,0059	-0,0059	0,0781	0,0219	0,8116	0,1257

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height
From	To		Primary	Secondary 10 [days]	After 10000 [days]	
[m]	[m]		[m]	[m]	[m]	[%]
-0,90	-2,00	6	0,0000	0,0000	0,2104	19,12
-2,00	-3,68	4	0,2672	0,0668	0,4569	27,22
-3,68	-7,30	3	0,4796	0,0458	0,6035	16,66
-7,30	-10,10	2	0,1345	0,0292	0,2396	8,56
-10,10	-15,00	1	0,0025	0,0000	0,0025	0,05
Total			0,8838	0,1418	1,5129	

3.4 Results for Vertical 15 (X = -14,00 m; Z = 0,00 m)

Depth	Initial stress			Final stress		
	S-total	S-water	S-eff.	S-total	S-water	S-eff.
[m]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]
Layer 6						
-0,09	0,001	0,000	0,001	39,846	-5,948	45,794
-0,19	1,620	0,000	1,620	42,787	-5,215	48,002
-0,29	3,240	0,000	3,240	45,222	-4,448	49,670
-0,39	4,860	0,000	4,860	47,637	-3,661	51,298
-0,49	6,480	0,000	6,480	50,029	-2,861	52,890
-0,59	8,100	0,000	8,100	52,380	-2,050	54,429
-0,69	9,720	0,000	9,720	54,698	-1,229	55,927
-0,79	11,340	0,000	11,340	57,011	-0,399	57,410
-0,82	11,762	0,000	11,762	57,615	-0,182	57,797
-0,89	12,960	0,726	12,234	58,614	0,436	58,178
-0,99	14,580	1,707	12,873	59,987	1,275	58,712
-1,05	15,463	2,241	13,222	60,745	1,733	59,012
-1,09	16,200	2,688	13,512	61,383	2,116	59,267
-2,00	30,926	11,605	19,321	74,352	9,869	64,484
Layer 4						
-2,00	30,926	11,605	19,321	74,352	9,869	64,484
-2,57	38,279	15,641	22,638	81,281	13,976	67,305
-3,07	44,729	19,182	25,547	87,361	17,670	69,690
-3,08	44,804	19,223	25,581	87,432	17,714	69,718
-3,65	52,233	23,301	28,932	94,417	22,067	72,350
-4,15	58,683	26,842	31,841	100,463	25,924	74,539
Layer 3						
-4,15	58,683	26,842	31,841	100,463	25,924	74,539
-4,93	67,973	32,324	35,649	109,036	31,952	77,085
-5,73	77,573	37,989	39,583	117,904	38,322	79,582
-6,50	86,862	43,471	43,391	126,545	44,616	81,929
-7,30	96,462	49,136	47,326	135,580	51,247	84,333
Layer 2						
-7,30	96,462	49,136	47,326	135,580	51,247	84,333

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
-8,00	105,492	54,093	51,399	144,424	57,347	87,078
-8,70	114,522	59,050	55,472	153,415	63,563	89,852
-9,40	123,552	64,007	59,545	162,555	69,887	92,668
-10,10	132,582	68,964	63,618	171,845	76,313	95,532
Layer 1						
-10,10	132,583	68,964	63,618	164,519	68,987	95,532
-10,95	149,582	77,303	72,280	180,117	77,320	102,796
-11,95	169,582	87,113	82,470	198,572	87,125	111,447
-12,55	181,582	92,999	88,584	209,698	93,008	116,690
-13,40	198,582	101,337	97,245	225,528	101,343	124,185
-14,40	218,582	111,147	107,435	244,247	111,149	133,097
-15,00	230,582	117,033	113,549	255,525	117,033	138,492

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0240	0,0060	0,2322	0,0581
3	0,0000	0,0000	0,0121	0,0045	0,3281	0,0273
2	-0,0055	-0,0055	0,0210	0,0053	0,1036	0,0259
1	0,0000	0,0000	0,0000	0,0000	0,0023	0,0000
Total	-0,0055	-0,0055	0,0572	0,0157	0,6663	0,1113

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Total settlement (100% cons.) Secondary 10 [days] [m]	Total settlement (100% cons.) After 10000 [days] [m]	Percentage of original layer height [%]
-0,09	-2,00	6	0,0000	0,0000	0,2967	15,54
-2,00	-4,15	4	0,2562	0,0641	0,4553	21,16
-4,15	-7,30	3	0,3402	0,0318	0,4336	13,77
-7,30	-10,10	2	0,1192	0,0257	0,2128	7,60
-10,10	-15,00	1	0,0023	0,0000	0,0023	0,05
Total			0,7180	0,1216	1,4007	

3.5 Results for Vertical 17 (X = -9,00 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 7						
1,54	0,001	0,000	0,001	35,911	-5,224	41,135
1,44	1,680	0,000	1,680	38,301	-5,224	43,525
1,34	3,360	0,000	3,360	39,991	-5,224	45,215
1,24	5,040	0,000	5,040	41,075	-5,224	46,299
1,14	6,720	0,000	6,720	41,673	-5,224	46,897
1,04	8,400	0,000	8,400	42,446	-5,224	47,670
0,94	10,080	0,000	10,080	43,904	-5,224	49,129
0,84	11,760	0,000	11,760	45,824	-5,224	51,048
0,74	13,440	0,000	13,440	47,859	-5,224	53,083
0,64	15,120	0,000	15,120	49,838	-5,224	55,062
0,54	16,800	0,000	16,800	51,710	-5,224	56,934
-0,23	29,724	0,000	29,724	69,353	0,182	69,171
-0,35	31,790	0,000	31,790	72,331	1,323	71,008
-1,20	46,007	8,302	37,705	84,533	9,211	75,322
-2,00	59,447	16,150	43,297	96,179	16,715	79,464
Layer 4						
-2,00	59,447	16,150	43,297	96,179	16,715	79,464
-2,57	66,800	19,866	46,934	102,535	20,408	82,126
-3,07	73,250	23,127	50,124	108,204	23,696	84,508
-3,40	77,507	25,278	52,229	111,993	25,888	86,105

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
-4,10	86,537	29,843	56,695	120,148	30,593	89,555
-4,80	95,567	34,407	61,161	128,450	35,366	93,083
Layer 3						
-4,80	95,567	34,407	61,161	128,450	35,366	93,083
-5,45	103,367	38,645	64,722	135,461	39,627	95,834
-6,05	110,567	42,557	68,010	142,010	43,595	98,415
-6,70	118,367	46,795	71,572	149,177	47,930	101,247
-7,30	125,567	50,707	74,860	155,851	51,962	103,889
Layer 2						
-7,30	125,567	50,708	74,860	155,851	51,962	103,889
-8,00	134,597	55,272	79,326	164,816	57,189	107,627
-8,70	143,627	59,836	83,791	173,858	62,470	111,388
-9,40	152,657	64,400	88,257	182,968	67,800	115,168
-10,10	161,687	68,964	92,723	192,141	73,176	118,965
Layer 1						
-10,10	161,687	68,964	92,723	187,944	68,980	118,965
-10,95	178,687	77,303	101,384	204,150	77,315	126,835
-11,95	198,687	87,113	111,574	223,245	87,121	136,124
-12,55	210,687	92,999	117,688	234,718	93,005	141,713
-13,40	227,687	101,337	126,350	250,991	101,341	149,650
-14,40	247,687	111,147	136,540	270,167	111,149	159,018
-15,00	259,687	117,033	142,654	281,689	117,033	164,656

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
7	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0165	0,0041	0,1378	0,0345
3	0,0000	0,0000	0,0058	0,0021	0,1217	0,0101
2	-0,0022	-0,0022	0,0128	0,0032	0,0575	0,0144
1	0,0000	0,0000	0,0000	0,0000	0,0015	0,0000
Total	-0,0022	-0,0022	0,0351	0,0095	0,3186	0,0590

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	Percentage of original layer height [%]
1,54	-2,00	7	0,0000	0,0000	0,2407	6,80
-2,00	-4,80	4	0,1543	0,0386	0,2917	10,42
-4,80	-7,30	3	0,1276	0,0123	0,1705	6,82
-7,30	-10,10	2	0,0681	0,0154	0,1263	4,51
-10,10	-15,00	1	0,0015	0,0000	0,0015	0,03
Total			0,3515	0,0662	0,8309	

3.6 Results for Vertical 19 (X = -7,20 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 8						
2,34	0,001	0,000	0,001	29,986	-1,416	31,401
2,24	1,700	0,000	1,700	32,631	-1,416	34,046
2,17	2,852	0,000	2,852	34,403	-1,416	35,818
2,14	3,400	0,000	3,400	34,966	-1,416	36,382
2,04	5,100	0,000	5,100	36,682	-1,416	38,098
2,00	5,704	0,000	5,704	37,274	-1,416	38,690
Layer 7						
2,00	5,704	0,000	5,704	37,274	-1,416	38,690
1,94	6,787	0,000	6,787	38,300	-1,416	39,715
1,84	8,467	0,000	8,467	39,779	-1,416	41,194

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
1,74	10,147	0,000	10,147	41,120	-1,416	42,536
1,64	11,827	0,000	11,827	42,351	-1,416	43,767
1,54	13,507	0,000	13,507	43,523	-1,416	44,938
1,44	15,187	0,000	15,187	44,691	-1,416	46,106
1,34	16,867	0,000	16,867	45,899	-1,416	47,315
0,70	27,544	0,000	27,544	54,858	-1,416	56,274
0,00	39,304	0,000	39,304	67,821	0,909	66,912
-0,19	42,444	0,000	42,444	72,477	2,688	69,789
-1,10	57,784	8,957	48,827	86,587	11,402	75,186
-2,00	72,904	17,786	55,118	100,885	20,019	80,865
Layer 4						
-2,00	72,904	17,786	55,118	100,885	20,019	80,866
-2,57	80,257	21,388	58,869	107,758	23,437	84,321
-3,07	86,707	24,547	62,160	113,837	26,456	87,381
-3,40	90,964	26,632	64,332	117,867	28,459	89,409
-4,10	99,994	31,055	68,939	126,454	32,731	93,723
-4,80	109,024	35,478	73,547	135,078	37,033	98,044
Layer 3						
-4,80	109,024	35,478	73,547	135,078	37,033	98,045
-5,45	116,824	39,584	77,240	142,431	40,958	101,473
-6,05	124,024	43,375	80,649	149,233	44,596	104,636
-6,70	131,824	47,482	84,342	156,611	48,553	108,058
-7,30	139,024	51,273	87,751	163,430	52,219	111,211
Layer 2						
-7,30	139,024	51,273	87,751	163,430	52,219	111,211
-8,00	148,054	55,696	92,358	172,236	56,725	115,511
-8,70	157,084	60,119	96,965	181,055	61,254	119,800
-9,40	166,114	64,542	101,573	189,886	65,806	124,080
-10,10	175,144	68,964	106,180	198,727	70,377	128,350
Layer 1						
-10,10	175,144	68,964	106,180	197,327	68,976	128,350
-10,95	192,144	77,303	114,841	213,903	77,312	136,591
-11,95	212,144	87,113	125,031	233,392	87,120	146,272
-12,55	224,144	92,999	131,145	245,080	93,004	152,076
-13,40	241,144	101,337	139,807	261,634	101,341	160,293
-14,40	261,144	111,147	149,997	281,106	111,148	169,958
-15,00	273,144	117,033	156,111	292,790	117,033	175,757

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
8	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
7	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0136	0,0034	0,0733	0,0183
3	0,0000	0,0000	0,0050	0,0018	0,0730	0,0061
2	-0,0006	-0,0006	0,0098	0,0025	0,0403	0,0101
1	0,0000	0,0000	0,0000	0,0000	0,0012	0,0000
Total	-0,0006	-0,0006	0,0284	0,0077	0,1878	0,0345

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	Percentage of original layer height [%]
2,34	2,00	8	0,0000	0,0000	0,0046	1,37
2,00	-2,00	7	0,0000	0,0000	0,1559	3,90
-2,00	-4,80	4	0,0869	0,0217	0,1683	6,01
-4,80	-7,30	3	0,0779	0,0079	0,1072	4,29
-7,30	-10,10	2	0,0495	0,0119	0,0952	3,40
-10,10	-15,00	1	0,0012	0,0000	0,0012	0,02
Total			0,2155	0,0415	0,5324	

3.7 Results for Vertical 21 (X = -3,70 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 8						
3,90	0,001	0,000	0,001	0,312	-0,287	0,598
3,80	1,700	0,000	1,700	2,866	-0,287	3,153
3,70	3,400	0,000	3,400	5,102	-0,287	5,389
3,60	5,100	0,000	5,100	6,803	-0,287	7,090
3,50	6,800	0,000	6,800	8,507	-0,287	8,794
3,40	8,500	0,000	8,500	10,213	-0,287	10,499
3,30	10,200	0,000	10,200	11,921	-0,287	12,207
3,20	11,900	0,000	11,900	13,632	-0,287	13,919
3,10	13,600	0,000	13,600	15,352	-0,287	15,638
3,00	15,300	0,000	15,300	17,081	-0,287	17,368
2,95	16,150	0,000	16,150	17,951	-0,287	18,238
2,90	17,000	0,000	17,000	18,824	-0,287	19,110
2,00	32,300	0,000	32,300	34,996	-0,287	35,283
Layer 7						
2,00	32,300	0,000	32,300	34,996	-0,287	35,283
1,04	48,471	0,000	48,471	52,506	-0,287	52,793
0,14	63,591	0,000	63,591	69,659	0,500	69,159
0,00	65,900	1,349	64,551	72,151	1,846	70,305
-1,00	82,700	11,159	71,541	90,231	11,633	78,598
-2,00	99,500	20,969	78,531	108,222	21,419	86,803
Layer 4						
-2,00	99,500	20,969	78,532	108,222	21,419	86,803
-2,57	106,853	24,346	82,507	116,235	24,807	91,428
-3,07	113,303	27,309	85,994	123,236	27,779	95,457
-3,40	117,560	29,264	88,296	127,841	29,740	98,101
-4,10	126,590	33,412	93,178	137,562	33,896	103,667
-4,80	135,620	37,560	98,060	147,216	38,044	109,172
Layer 3						
-4,80	135,620	37,560	98,060	147,216	38,044	109,172
-5,45	143,420	41,411	102,009	155,505	41,860	113,645
-6,05	150,620	44,966	105,654	163,104	45,377	117,727
-6,70	158,420	48,818	109,602	171,284	49,184	122,100
-7,30	165,620	52,373	113,247	178,787	52,694	126,093
Layer 2						
-7,30	165,620	52,373	113,247	178,787	52,694	126,093
-8,00	174,650	56,521	118,129	188,196	56,866	131,330
-8,70	183,680	60,669	123,011	197,554	61,039	136,514
-9,40	192,710	64,817	127,893	206,864	65,213	141,650
-10,10	201,740	68,964	132,776	216,130	69,389	146,741
Layer 1						
-10,10	201,740	68,964	132,776	215,712	68,971	146,741
-10,95	218,740	77,303	141,437	232,907	77,308	155,599
-11,95	238,740	87,113	151,627	253,066	87,117	165,949
-12,55	250,740	92,999	157,741	265,128	93,002	172,126
-13,40	267,740	101,337	166,403	282,178	101,339	180,839
-14,40	287,740	111,147	176,593	302,186	111,148	191,038
-15,00	299,740	117,033	182,707	314,168	117,033	197,134

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
8	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
7	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0097	0,0024	0,0010	0,0003
3	0,0000	0,0000	0,0038	0,0014	0,0088	0,0007
2	-0,0002	-0,0002	0,0075	0,0019	0,0090	0,0023

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
1	0,0000	0,0000	0,0000	0,0000	0,0007	0,0000
Total	-0,0002	-0,0002	0,0210	0,0057	0,0195	0,0032

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
3,90	2,00	8	0,0000	0,0000	0,0022	0,11
2,00	-2,00	7	0,0000	0,0000	0,0094	0,23
-2,00	-4,80	4	0,0107	0,0027	0,0213	0,76
-4,80	-7,30	3	0,0126	0,0021	0,0211	0,84
-7,30	-10,10	2	0,0163	0,0040	0,0320	1,14
-10,10	-15,00	1	0,0007	0,0000	0,0007	0,01
Total			0,0404	0,0088	0,0866	

3.8 Results for Vertical 23 (X = 0,00 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 8						
4,21	0,001	0,000	0,001	-0,112	-0,113	0,001
4,11	1,700	0,000	1,700	1,587	-0,113	1,700
4,01	3,400	0,000	3,400	3,287	-0,113	3,400
3,91	5,100	0,000	5,100	4,987	-0,113	5,100
3,81	6,800	0,000	6,800	6,687	-0,113	6,800
3,71	8,500	0,000	8,500	8,387	-0,113	8,500
3,61	10,200	0,000	10,200	10,087	-0,113	10,200
3,51	11,900	0,000	11,900	11,787	-0,113	11,900
3,41	13,600	0,000	13,600	13,487	-0,113	13,600
3,31	15,300	0,000	15,300	15,187	-0,113	15,300
3,21	17,000	0,000	17,000	16,887	-0,113	17,001
3,10	18,751	0,000	18,751	18,639	-0,113	18,752
2,60	27,302	0,000	27,302	27,197	-0,113	27,311
2,00	37,502	0,000	37,502	37,429	-0,113	37,542
Layer 7						
2,00	37,502	0,000	37,502	37,429	-0,113	37,542
1,17	51,446	0,000	51,446	51,488	-0,113	51,601
0,27	66,566	0,000	66,566	67,050	0,080	66,969
0,00	71,102	2,649	68,453	71,686	2,728	68,958
-1,00	87,902	12,459	75,443	88,960	12,536	76,424
-2,00	104,702	22,269	82,433	106,366	22,341	84,025
Layer 4						
-2,00	104,702	22,269	82,433	106,367	22,342	84,025
-2,57	112,055	25,555	86,500	114,126	25,640	88,486
-3,07	118,505	28,437	90,068	120,951	28,532	92,419
-3,40	122,762	30,340	92,422	125,463	30,440	95,023
-4,10	131,792	34,375	97,417	135,046	34,486	100,559
-4,80	140,822	38,410	102,412	144,636	38,531	106,105
Layer 3						
-4,80	140,822	38,410	102,412	144,637	38,531	106,105
-5,45	148,622	42,158	106,464	152,942	42,272	110,669
-6,05	155,822	45,617	110,206	160,601	45,724	114,876
-6,70	163,622	49,364	114,258	168,886	49,464	119,422
-7,30	170,822	52,823	117,999	176,518	52,915	123,603
Layer 2						
-7,30	170,822	52,823	117,999	176,518	52,915	123,604
-8,00	179,852	56,858	122,994	186,062	56,973	129,090
-8,70	188,882	60,893	127,989	195,580	61,030	134,550
-9,40	197,912	64,929	132,983	205,068	65,087	139,981

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
-10,10	206,942	68,964	137,978	214,526	69,144	145,382
Layer 1						
-10,10	206,942	68,964	137,978	214,351	68,968	145,382
-10,95	223,942	77,303	146,639	231,802	77,306	154,496
-11,95	243,942	87,113	156,829	252,275	87,115	165,159
-12,55	255,942	92,999	162,943	264,529	93,001	171,528
-13,40	272,942	101,337	171,605	281,851	101,339	180,513
-14,40	292,942	111,147	181,795	302,178	111,148	191,030
-15,00	304,942	117,033	187,909	314,348	117,033	197,315

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
8	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
7	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0026	0,0007	0,0000	0,0000
3	0,0000	0,0000	0,0018	0,0006	0,0000	0,0000
2	-0,0001	-0,0001	0,0046	0,0012	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0004	0,0000
Total	-0,0001	-0,0001	0,0090	0,0025	0,0004	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	Percentage of original layer height [%]
4,21	2,00	8	0,0000	0,0000	0,0002	0,01
2,00	-2,00	7	0,0000	0,0000	0,0010	0,03
-2,00	-4,80	4	0,0026	0,0007	0,0053	0,19
-4,80	-7,30	3	0,0018	0,0006	0,0043	0,17
-7,30	-10,10	2	0,0046	0,0011	0,0090	0,32
-10,10	-15,00	1	0,0004	0,0000	0,0004	0,01
Total			0,0094	0,0024	0,0202	

3.9 Results for Vertical 24 (X = 3,10 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 8						
4,13	0,001	0,000	0,001	-0,065	-0,066	0,001
4,04	1,700	0,000	1,700	1,634	-0,066	1,700
3,94	3,400	0,000	3,400	3,334	-0,066	3,400
3,83	5,100	0,000	5,100	5,034	-0,066	5,100
3,73	6,800	0,000	6,800	6,734	-0,066	6,800
3,63	8,500	0,000	8,500	8,434	-0,066	8,500
3,54	10,200	0,000	10,200	10,134	-0,066	10,200
3,44	11,900	0,000	11,900	11,834	-0,066	11,900
3,33	13,600	0,000	13,600	13,534	-0,066	13,600
3,23	15,300	0,000	15,300	15,234	-0,066	15,300
3,13	17,000	0,000	17,000	16,934	-0,066	17,000
3,07	18,148	0,000	18,148	18,081	-0,066	18,148
2,50	27,795	0,000	27,795	27,730	-0,066	27,796
2,00	36,295	0,000	36,295	36,233	-0,066	36,300
Layer 7						
2,00	36,295	0,000	36,295	36,233	-0,066	36,300
1,17	50,239	0,000	50,239	50,194	-0,066	50,260
0,27	65,359	0,000	65,359	65,449	0,021	65,428
0,00	69,895	2,649	67,246	70,008	2,670	67,338
-1,00	86,695	12,459	74,236	86,935	12,479	74,456
-2,00	103,495	22,269	81,226	103,940	22,288	81,652

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 4						
-2,00	103,495	22,269	81,226	103,940	22,288	81,652
-2,57	110,848	25,555	85,293	111,456	25,583	85,873
-3,07	117,298	28,437	88,861	118,070	28,473	89,597
-3,40	121,555	30,340	91,215	122,446	30,380	92,065
-4,10	130,585	34,375	96,210	131,752	34,425	97,327
-4,80	139,615	38,410	101,205	141,088	38,469	102,619
Layer 3						
-4,80	139,615	38,410	101,205	141,088	38,469	102,619
-5,45	147,415	42,158	105,257	149,185	42,214	106,971
-6,05	154,615	45,617	108,999	156,674	45,671	111,003
-6,70	162,415	49,364	113,051	164,799	49,416	115,384
-7,30	169,615	52,823	116,792	172,307	52,871	119,435
Layer 2						
-7,30	169,615	52,823	116,792	172,307	52,871	119,435
-8,00	178,645	56,858	121,787	181,718	56,921	124,797
-8,70	187,675	60,893	126,782	191,130	60,970	130,159
-9,40	196,705	64,929	131,776	200,537	65,019	135,519
-10,10	205,735	68,964	136,771	209,938	69,066	140,871
Layer 1						
-10,10	205,735	68,964	136,771	209,838	68,967	140,871
-10,95	222,735	77,303	145,432	227,259	77,305	149,954
-11,95	242,735	87,113	155,622	247,730	87,114	160,616
-12,55	254,735	92,999	161,736	259,999	93,000	166,999
-13,40	271,735	101,337	170,398	277,359	101,338	176,021
-14,40	291,735	111,147	180,588	297,751	111,148	186,603
-15,00	303,735	117,033	186,702	309,969	117,033	192,935

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
8	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
7	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0009	0,0002	0,0000	0,0000
3	0,0000	0,0000	0,0008	0,0003	0,0000	0,0000
2	0,0000	0,0000	0,0024	0,0006	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0003	0,0000
Total	0,0000	0,0000	0,0041	0,0011	0,0003	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Total settlement (100% cons.) Secondary 10 [days] [m]	Total settlement (100% cons.) After 10000 [days] [m]	Percentage of original layer height [%]
4,13	2,00	8	0,0000	0,0000	0,0001	0,00
2,00	-2,00	7	0,0000	0,0000	0,0003	0,01
-2,00	-4,80	4	0,0009	0,0002	0,0018	0,07
-4,80	-7,30	3	0,0008	0,0003	0,0019	0,08
-7,30	-10,10	2	0,0024	0,0006	0,0047	0,17
-10,10	-15,00	1	0,0003	0,0000	0,0003	0,01
Total			0,0044	0,0011	0,0091	

4 Settlements

4.1 Settlements

Vertical number	X co-ordinate [m]	Z co-ordinate [m]	Surface level [m]	Settlement [m]
1	-50,00	0,00	-4,00	0,001
2	-42,41	0,00	-4,00	0,004
3	-39,70	0,00	-3,10	0,005
4	-39,23	0,00	-2,94	0,005
5	-36,20	0,00	-2,90	0,009
6	-31,23	0,00	-2,44	0,023
7	-31,23	0,00	-2,44	0,023
8	-30,00	0,00	-2,09	0,022
9	-29,70	0,00	-2,00	0,023
10	-26,90	0,00	-1,00	0,024
11	-21,90	0,00	-0,90	0,332
12	-20,00	0,00	-0,90	0,906
13	-17,30	0,00	-0,90	1,446
14	-16,70	0,00	-0,90	1,513
15	-14,00	0,00	-0,09	1,401
16	-10,30	0,00	1,00	1,076
17	-9,00	0,00	1,54	0,831
18	-7,89	0,00	2,00	0,669
19	-7,20	0,00	2,34	0,532
20	-4,67	0,00	3,57	0,159
21	-3,70	0,00	3,90	0,087
22	-2,27	0,00	4,14	0,040
23	0,00	0,00	4,21	0,020
24	3,10	0,00	4,13	0,009
25	4,67	0,00	3,73	0,007
26	7,39	0,00	2,63	0,004
27	8,94	0,00	2,00	0,004
28	11,59	0,00	1,32	0,003
29	13,39	0,00	1,00	0,003
30	33,67	0,00	0,00	0,000
31	40,00	0,00	0,00	0,000
32	40,78	0,00	0,00	0,000
33	42,36	0,00	-0,76	0,000
34	44,05	0,00	-0,74	0,000
35	45,65	0,00	-1,00	0,000
36	49,56	0,00	-2,00	0,000
37	53,48	0,00	-3,00	0,000
38	59,00	0,00	-3,00	0,000
39	70,00	0,00	-3,00	0,000

4.2 Residual Times

Vertical number	Time [days]	Settlement [m]	Part of final settlement [%]	Residual settlements [m]
1	14	0,000	2,403	0,001
	30	0,000	3,630	0,001
	90	0,000	6,312	0,001
	180	0,000	21,947	0,001
	190	0,000	22,600	0,001
	365	0,001	65,260	0,000
2	14	0,000	2,727	0,003
	30	0,000	4,142	0,003
	90	0,000	6,909	0,003
	180	0,001	21,454	0,003
	190	0,001	22,078	0,003
	365	0,002	65,137	0,001

Vertical number	Time [days]	Settlement [m]	Part of final settlement [%]	Residual settlements [m]
3	14	0,000	2,854	0,004
	30	0,000	4,290	0,004
	90	0,000	7,079	0,004
	180	0,001	20,655	0,004
	190	0,001	21,243	0,004
	365	0,003	63,117	0,002
4	14	0,000	2,802	0,005
	30	0,000	4,199	0,005
	90	0,000	7,260	0,005
	180	0,001	20,591	0,004
	190	0,001	21,179	0,004
	365	0,003	62,414	0,002
5	14	0,000	3,027	0,008
	30	0,000	4,564	0,008
	90	0,001	7,664	0,008
	180	0,002	20,316	0,007
	190	0,002	20,886	0,007
	365	0,005	62,165	0,003
6	14	0,001	3,423	0,022
	30	0,001	5,201	0,022
	90	0,002	8,881	0,021
	180	0,005	19,974	0,018
	190	0,005	20,510	0,018
	365	0,014	60,178	0,009
7	14	0,001	3,424	0,022
	30	0,001	5,201	0,022
	90	0,002	8,882	0,021
	180	0,005	19,973	0,018
	190	0,005	20,509	0,018
	365	0,014	60,172	0,009
8	14	0,001	4,091	0,022
	30	0,001	6,187	0,021
	90	0,002	6,978	0,021
	180	0,004	17,374	0,019
	190	0,004	17,852	0,018
	365	0,013	58,474	0,009
9	14	0,001	4,120	0,022
	30	0,001	6,226	0,022
	90	0,002	7,194	0,021
	180	0,004	17,500	0,019
	190	0,004	17,980	0,019
	365	0,013	58,257	0,010
10	14	0,001	5,475	0,023
	30	0,002	8,261	0,022
	90	0,000	1,270	0,024
	180	0,003	12,787	0,021
	190	0,003	13,397	0,021
	365	0,015	63,095	0,009
11	14	0,011	3,165	0,322
	30	0,017	4,976	0,316
	90	0,066	19,729	0,267
	180	0,080	23,986	0,252
	190	0,080	24,076	0,252
	365	0,280	84,400	0,052
12	14	0,023	2,555	0,883
	30	0,037	4,048	0,869
	90	0,213	23,571	0,692
	180	0,271	29,962	0,634
	190	0,272	30,068	0,633
	365	0,777	85,815	0,128
13	14	0,056	3,908	1,389
	30	0,091	6,271	1,355
	90	0,458	31,652	0,988

Vertical number	Time [days]	Settlement [m]	Part of final settlement [%]	Residual settlements [m]
	180	0,640	44,247	0,806
	190	0,642	44,409	0,804
	365	1,245	86,082	0,201
14	14	0,058	3,813	1,455
	30	0,093	6,115	1,420
	90	0,474	31,346	1,039
	180	0,696	46,000	0,817
	190	0,699	46,176	0,814
	365	1,302	86,037	0,211
15	14	0,023	1,626	1,378
	30	0,036	2,571	1,365
	90	0,308	21,992	1,093
	180	0,699	49,935	0,701
	190	0,703	50,193	0,698
	365	1,198	85,539	0,203
16	14	0,005	0,457	1,071
	30	0,008	0,713	1,068
	90	0,070	6,478	1,006
	180	0,486	45,152	0,590
	190	0,504	46,808	0,572
	365	0,883	82,115	0,192
17	14	0,002	0,280	0,829
	30	0,004	0,429	0,827
	90	0,015	1,765	0,816
	180	0,208	25,049	0,623
	190	0,217	26,085	0,614
	365	0,461	55,428	0,370
18	14	0,001	0,211	0,667
	30	0,002	0,320	0,667
	90	0,007	1,050	0,662
	180	0,146	21,857	0,523
	190	0,152	22,702	0,517
	365	0,330	49,307	0,339
19	14	0,001	0,197	0,531
	30	0,002	0,297	0,531
	90	0,004	0,830	0,528
	180	0,111	20,758	0,422
	190	0,115	21,519	0,418
	365	0,258	48,394	0,275
20	14	0,000	0,247	0,158
	30	0,001	0,363	0,158
	90	0,001	0,831	0,158
	180	0,024	15,342	0,135
	190	0,025	15,773	0,134
	365	0,076	48,073	0,083
21	14	0,000	0,327	0,086
	30	0,000	0,477	0,086
	90	0,001	1,070	0,086
	180	0,016	18,315	0,071
	190	0,016	18,863	0,070
	365	0,042	48,791	0,044
22	14	0,000	0,471	0,039
	30	0,000	0,679	0,039
	90	0,001	1,544	0,039
	180	0,009	23,638	0,030
	190	0,010	24,382	0,030
	365	0,020	50,114	0,020
23	14	0,000	0,511	0,020
	30	0,000	0,726	0,020
	90	0,000	1,676	0,020
	180	0,005	23,915	0,015
	190	0,005	24,652	0,015
	365	0,010	50,437	0,010

Vertical number	Time [days]	Settlement [m]	Part of final settlement [%]	Residual settlements [m]
24	14	0,000	0,558	0,009
	30	0,000	0,779	0,009
	90	0,000	1,970	0,009
	180	0,002	23,682	0,007
	190	0,002	24,386	0,007
	365	0,005	50,797	0,004
25	14	0,000	0,578	0,007
	30	0,000	0,803	0,007
	90	0,000	2,319	0,006
	180	0,002	23,718	0,005
	190	0,002	24,409	0,005
	365	0,003	50,990	0,003
26	14	0,000	0,599	0,004
	30	0,000	0,825	0,004
	90	0,000	3,196	0,004
	180	0,001	23,920	0,003
	190	0,001	24,597	0,003
	365	0,002	51,194	0,002
27	14	0,000	0,560	0,004
	30	0,000	0,773	0,004
	90	0,000	4,235	0,004
	180	0,001	23,833	0,003
	190	0,001	24,507	0,003
	365	0,002	49,902	0,002
28	14	0,000	0,544	0,003
	30	0,000	0,753	0,003
	90	0,000	5,407	0,003
	180	0,001	23,952	0,002
	190	0,001	24,604	0,002
	365	0,002	49,224	0,002
29	14	0,000	0,463	0,003
	30	0,000	0,638	0,003
	90	0,000	9,225	0,003
	180	0,001	26,051	0,002
	190	0,001	26,707	0,002
	365	0,002	49,060	0,002
30	14	0,000	0,348	0,000
	30	0,000	0,498	0,000
	90	0,000	19,279	0,000
	180	0,000	32,988	0,000
	190	0,000	33,731	0,000
	365	0,000	52,189	0,000
31	14	0,000	0,333	0,000
	30	0,000	0,464	0,000
	90	0,000	20,919	0,000
	180	0,000	34,127	0,000
	190	0,000	34,880	0,000
	365	0,000	52,386	0,000
32	14	0,000	0,310	0,000
	30	0,000	0,442	0,000
	90	0,000	21,185	0,000
	180	0,000	34,326	0,000
	190	0,000	35,073	0,000
	365	0,000	52,413	0,000
33	14	0,000	0,162	0,000
	30	0,000	0,232	0,000
	90	0,000	26,195	0,000
	180	0,000	38,558	0,000
	190	0,000	39,397	0,000
	365	0,000	54,851	0,000
34	14	0,000	0,151	0,000
	30	0,000	0,227	0,000
	90	0,000	26,650	0,000

Vertical number	Time [days]	Settlement [m]	Part of final settlement [%]	Residual settlements [m]
	180	0,000	38,885	0,000
	190	0,000	39,723	0,000
	365	0,000	54,886	0,000
35	14	0,000	0,167	0,000
	30	0,000	0,227	0,000
	90	0,000	26,813	0,000
	180	0,000	39,241	0,000
	190	0,000	40,091	0,000
	365	0,000	55,613	0,000
36	14	0,000	0,330	0,000
	30	0,000	0,473	0,000
	90	0,000	22,989	0,000
	180	0,000	37,489	0,000
	190	0,000	38,337	0,000
	365	0,000	58,277	0,000
37	14	0,000	0,369	0,000
	30	0,000	0,554	0,000
	90	0,000	21,607	0,000
	180	0,000	37,661	0,000
	190	0,000	38,596	0,000
	365	0,000	61,989	0,000
38	14	0,000	0,363	0,000
	30	0,000	0,484	0,000
	90	0,000	23,487	0,000
	180	0,000	39,260	0,000
	190	0,000	40,194	0,000
	365	0,000	62,319	0,000
39	14	0,000	0,190	0,000
	30	0,000	0,380	0,000
	90	0,000	26,806	0,000
	180	0,000	41,767	0,000
	190	0,000	42,776	0,000
	365	0,000	62,958	0,000

End of Report

Report for D-Settlement 14.1

Settlement Calculations
Developed by Deltares

Company:	Royal HaskoningDHV
Date of report:	6-11-2015
Time of report:	11:12:27
Date of calculation:	4-11-2015
Time of calculation:	15:15:44
Filename:	C:\..\07 GEO\8. Berekeningen\DG-C\DGC-dp2_zetting_MP
Project identification:	Dijkversterking VIJG DG C dp2 - zandprofiel zetting ter plaatse van gestuurde boring

1 Table of Contents

2 Echo of the Input

2.1 Layer Boundaries

Boundary number	Co-ordinates [m]				
9 - X -	-60,000	-57,900	-50,000	-36,100	-31,700
9 - Y -	-2,900	-2,200	-2,000	-1,350	-1,200
9 - X -	-30,200	-27,546	-22,600	-18,700	-17,800
9 - Y -	-1,140	-0,829	-0,250	0,900	1,200
9 - X -	-15,500	-13,700	-5,700	-3,700	1,400
9 - Y -	1,350	1,500	3,700	3,900	4,000
9 - X -	6,600	9,800	12,100	23,000	25,900
9 - Y -	4,140	2,180	1,610	-2,000	-3,000
9 - X -	59,000	70,000			
9 - Y -	-3,000	-3,000			
8 - X -	-60,000	-57,900	-50,000	-38,700	-36,100
8 - Y -	-2,900	-2,200	-2,000	-2,000	-1,350
8 - X -	-31,700	-30,200	-27,546	-22,600	-18,700
8 - Y -	-1,200	-1,140	-0,829	-0,250	0,900
8 - X -	-17,800	-15,500	-13,700	-5,700	-3,700
8 - Y -	1,200	1,350	1,500	3,700	3,900
8 - X -	1,400	6,600	9,800	12,100	23,000
8 - Y -	4,000	4,140	2,180	1,610	-2,000
8 - X -	25,900	59,000	70,000		
8 - Y -	-3,000	-3,000	-3,000		
7 - X -	-60,000	-51,600	-48,500	-45,500	-40,500
7 - Y -	-4,000	-4,000	-2,950	-2,950	-2,450
7 - X -	-38,700	-36,100	-31,700	-30,200	-27,546
7 - Y -	-2,000	-1,350	-1,200	-1,140	-0,829
7 - X -	-22,600	-18,700	-17,800	-15,500	-13,700
7 - Y -	-0,250	0,900	1,200	1,350	1,500
7 - X -	-5,700	-3,700	1,400	6,600	9,800
7 - Y -	3,700	3,900	4,000	4,140	2,180
7 - X -	12,100	23,000	25,900	59,000	70,000
7 - Y -	1,610	-2,000	-3,000	-3,000	-3,000
6 - X -	-60,000	-51,600	-48,500	-45,500	-40,500
6 - Y -	-4,000	-4,000	-2,950	-2,950	-2,450
6 - X -	-38,700	-36,100	-31,700	-30,200	-27,546
6 - Y -	-2,000	-1,350	-1,200	-1,140	-0,829
6 - X -	-22,600	-18,700	-17,000	-15,500	-13,700
6 - Y -	-0,250	0,900	1,000	1,350	1,500
6 - X -	-5,700	-3,700	1,400	6,600	9,800
6 - Y -	3,700	3,900	4,000	4,140	2,180
6 - X -	12,100	23,000	25,900	59,000	70,000
6 - Y -	1,610	-2,000	-3,000	-3,000	-3,000
5 - X -	-60,000	-51,600	-48,500	-45,500	-40,500
5 - Y -	-4,000	-4,000	-2,950	-2,950	-2,450
5 - X -	-38,700	23,000	25,900	59,000	70,000
5 - Y -	-2,000	-2,000	-3,000	-3,000	-3,000
4 - X -	-60,000	-51,600	70,000		
4 - Y -	-4,000	-4,000	-4,000		
3 - X -	-60,000	70,000			
3 - Y -	-5,000	-5,000			
2 - X -	-60,000	70,000			
2 - Y -	-7,000	-7,000			
1 - X -	-60,000	70,000			
1 - Y -	-8,000	-8,000			
0 - X -	-60,000	70,000			
0 - Y -	-15,000	-15,000			

2.2 PL Lines

PL line number	Co-ordinates [m]

PL line number	Co-ordinates [m]				
1 - X -	-60,000	-42,000	-5,700	6,600	40,000
1 - Y -	-2,300	-2,300	0,270	0,270	-0,360
1 - X -	70,000				
1 - Y -	-0,360				
2 - X -	-60,000	70,000			
2 - Y -	-3,070	-3,070			

2.3 General Data

Soil model:	Koppejan
Consolidation model:	Terzaghi
Strain model:	Natural
Groundwater level:	Initial determined by PL-line number 1
Unit weight of water:	9,81 [kN/m³]
Dispersion conditions layer boundaries	
- Top:	drained
- Bottom:	drained
Stress distribution	
- Soil:	Buisman
- Loads:	None
End of consolidation:	10000,00 [days]
With maintain profile	
(only for non uniform loads)	
- Material:	Superelevation
- Time:	4,00 [days]
- Unit weight above phreatic.:	18,00 [kN/m³]
- Unit weight below phreatic:	20,00 [kN/m³]
- Iteration stop criterium:	0,10 [m]
Pc (initial):	Variable parallel to the initial effective stress
Pc (per step):	Automatic increased to the final effective stresses
No imaginary surface	
With submerging	
(only for non uniform loads)	
- Iteration stop criterium :	0,10 [m]
Load column width	
- Non-Uniform Loads :	1,00 [m]
- Trapezoidal Loads :	1,00 [m]

2.4 Soil Profiles

Layer number	Material name	PL-line top	PL-line bottom
9	Ophoogmateriaal, z...	1	1
8	Zand, siltig (toplaag)	1	1
7	Ophoogmateriaal, z...	1	1
6	Ophoogmateriaal, z...	1	1
5	Zand, siltig (toplaag)	1	1
4	Klei, humeus	1	99
3	Hollandveen	99	99
2	Klei, humeus	99	2
1	Pleistoceen zand m...	2	2

2.5 Soil Properties

Layer number	Drained	Unit weight	
		Unsaturated [kN/m³]	Saturated [kN/m³]
9	Yes	18,00	20,00
8	Yes	17,00	19,00
7	Yes	18,00	20,00
6	Yes	18,00	20,00
5	Yes	17,00	19,00
4	No	12,90	12,90
3	No	12,00	12,00
2	No	12,90	12,90

Layer number	Drained	Unit weight	
		Unsaturated [kN/m³]	Saturated [kN/m³]
1	Yes	18,00	20,00

Layer number	Vert. consolid. coefficient Cv [m²/s]
9	-
8	-
7	-
6	-
5	-
4	1,00E-07
3	5,30E-07
2	1,00E-07
1	-

Layer number	Precons. pressure [kN/m²]	POP [kN/m²]	OCR [-]
9	-	0,00	-
8	-	0,00	-
7	-	0,00	-
6	-	0,00	-
5	-	0,00	-
4	-	10,00	-
3	-	10,00	-
2	-	10,00	-
1	-	0,00	-

Layer number	Primary compr. coeff.		Secular compr. coef.		Swell constants	
	Cp [-]	Cp' [-]	Cs [-]	Cs' [-]	Ap [-]	As [-]
9	3,00E+03	6,00E+02	1,00E+09	1,00E+09	1,00E+00	1,00E+00
8	6,00E+02	2,00E+02	1,00E+09	1,00E+09	6,00E+02	1,00E+09
7	3,00E+03	6,00E+02	1,00E+09	1,00E+09	1,00E+00	1,00E+00
6	3,00E+03	6,00E+02	1,00E+09	1,00E+09	1,00E+00	1,00E+00
5	6,00E+02	2,00E+02	1,00E+09	1,00E+09	6,00E+02	1,00E+09
4	3,00E+01	7,50E+00	1,20E+02	3,00E+01	3,00E+01	3,00E+01
3	5,90E+01	5,00E+00	1,60E+02	6,00E+01	5,90E+01	6,00E+01
2	3,00E+01	7,50E+00	1,20E+02	3,00E+01	3,00E+01	3,00E+01
1	1,80E+03	6,00E+02	1,00E+09	1,00E+09	1,80E+03	1,00E+09

2.6 Non-Uniform Loads

Load number	Time [days]	Unit weight	
		Unsaturated [kN/m³]	Saturated [kN/m³]
1	2	17,00	17,00
2	2	17,00	17,00

Load number	Co-ordinates [m]					
1 - X -	-15,50	-5,70				
1 - Y -	1,35	3,70				
2 - X -	-31,70	-21,40	-18,70			
2 - Y -	-1,20	0,80	0,90			

2.7 Verticals

Vertical number	X co-ordinates [m]				
1 - 5	-60,000	-57,900	-51,600	-50,000	-48,500
6 - 10	-45,500	-42,000	-40,500	-38,700	-36,100
11 - 15	-31,700	-30,200	-27,546	-22,600	-21,400
16 - 20	-18,700	-17,800	-17,000	-15,500	-13,700
21 - 25	-5,700	-3,700	1,400	6,600	9,800
26 - 30	12,100	23,000	25,900	40,000	59,000

Vertical number	X co-ordinates [m]				
31	70,000				

3 Results per Vertical

3.1 Results for Vertical 1 (X = -60,00 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 8						
-2,90	5,887	5,886	0,001	5,887	5,886	0,001
-3,00	7,786	6,867	0,919	7,786	6,867	0,919
-3,07	9,116	7,554	1,562	9,116	7,554	1,562
-3,10	9,686	7,848	1,838	9,686	7,848	1,838
-3,20	11,586	8,829	2,757	11,586	8,829	2,757
-3,30	13,486	9,810	3,676	13,486	9,810	3,676
-3,40	15,386	10,791	4,595	15,386	10,791	4,595
-3,45	16,336	11,281	5,054	16,336	11,282	5,055
-3,50	17,286	11,772	5,514	17,286	11,772	5,514
-3,60	19,186	12,753	6,433	19,186	12,753	6,433
-3,70	21,086	13,734	7,352	21,087	13,734	7,352
-3,80	22,986	14,715	8,271	22,987	14,715	8,271
-3,90	24,886	15,696	9,190	24,887	15,696	9,190
-4,00	26,786	16,677	10,109	26,787	16,677	10,109
Layer 4						
-4,00	26,786	16,677	10,109	26,787	16,677	10,109
-4,50	33,236	20,638	12,598	33,237	20,638	12,599
-5,00	39,686	24,599	15,087	39,687	24,599	15,088
Layer 3						
-5,00	39,686	24,599	15,087	39,687	24,599	15,088
-6,00	51,686	32,520	19,166	51,688	32,520	19,168
-7,00	63,686	40,442	23,244	63,689	40,442	23,247
Layer 2						
-7,00	63,686	40,442	23,244	63,689	40,442	23,247
-7,50	70,136	44,403	25,733	70,140	44,403	25,738
-8,00	76,586	48,363	28,223	76,591	48,363	28,228
Layer 1						
-8,00	76,586	48,363	28,223	76,591	48,363	28,228
-8,80	92,586	56,211	36,375	92,594	56,211	36,382
-9,80	112,586	66,021	46,565	112,597	66,021	46,576
-10,80	132,586	75,831	56,755	132,602	75,831	56,771
-11,50	146,586	82,698	63,888	146,607	82,698	63,908
-12,30	162,586	90,546	72,040	162,612	90,546	72,066
-13,30	182,586	100,356	82,230	182,621	100,356	82,264
-14,30	202,586	110,166	92,420	202,630	110,166	92,464
-15,00	216,586	117,033	99,553	216,638	117,033	99,605

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
8	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
-2,90	-4,00	8	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	[%]
-5,00	-7,00	3	0,0000	0,0000	0,0000	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0000	0,00
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0000	0,0000	0,0000	

3.2 Results for Vertical 2 (X = -57,90 m; Z = 0,00 m)

Depth	Initial stress			Final stress		
[m]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 8						
-2,20	0,001	0,000	0,001	0,001	0,000	0,001
-2,30	1,700	0,000	1,700	1,700	0,000	1,700
-2,40	3,600	0,981	2,619	3,600	0,981	2,619
-2,50	5,500	1,962	3,538	5,500	1,962	3,538
-2,60	7,400	2,943	4,457	7,400	2,943	4,457
-2,70	9,300	3,924	5,376	9,300	3,924	5,376
-2,80	11,200	4,905	6,295	11,200	4,905	6,295
-2,90	13,100	5,886	7,214	13,100	5,886	7,214
-3,00	15,000	6,867	8,133	15,000	6,867	8,133
-3,07	16,330	7,554	8,776	16,330	7,554	8,776
-3,10	16,900	7,848	9,052	16,900	7,848	9,052
-3,20	18,800	8,829	9,971	18,800	8,829	9,971
-4,00	34,000	16,677	17,323	34,001	16,677	17,323
Layer 4						
-4,00	34,000	16,677	17,323	34,001	16,677	17,324
-4,50	40,450	20,638	19,812	40,451	20,638	19,813
-5,00	46,900	24,599	22,301	46,901	24,599	22,303
Layer 3						
-5,00	46,900	24,599	22,301	46,901	24,599	22,303
-6,00	58,900	32,520	26,380	58,902	32,520	26,382
-7,00	70,900	40,442	30,458	70,904	40,442	30,462
Layer 2						
-7,00	70,900	40,442	30,458	70,904	40,442	30,462
-7,50	77,350	44,403	32,947	77,356	44,403	32,953
-8,00	83,800	48,363	35,437	83,807	48,363	35,444
Layer 1						
-8,00	83,800	48,363	35,437	83,807	48,363	35,444
-8,80	99,800	56,211	43,589	99,810	56,211	43,599
-9,80	119,800	66,021	53,779	119,815	66,021	53,794
-10,80	139,800	75,831	63,969	139,822	75,831	63,990
-11,50	153,800	82,698	71,102	153,827	82,698	71,129
-12,30	169,800	90,546	79,254	169,834	90,546	79,288
-13,30	189,800	100,356	89,444	189,845	100,356	89,489
-14,30	209,800	110,166	99,634	209,858	110,166	99,691
-15,00	223,800	117,033	106,767	223,867	117,033	106,834

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
8	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	[%]
-2,20	-4,00	8	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0000	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0000	0,00
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0000	0,0000	0,0000	

3.3 Results for Vertical 3 (X = -51,60 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 8						
-2,04	0,001	0,000	0,001	0,001	0,000	0,001
-2,14	1,700	0,000	1,700	1,700	0,000	1,700
-2,24	3,400	0,000	3,400	3,400	0,000	3,400
-2,30	4,411	0,000	4,411	4,412	0,001	4,412
-2,34	5,181	0,397	4,784	5,182	0,398	4,784
-2,44	7,081	1,378	5,703	7,082	1,379	5,703
-2,54	8,981	2,359	6,622	8,982	2,360	6,622
-2,64	10,881	3,340	7,541	10,882	3,341	7,541
-2,74	12,781	4,321	8,460	12,782	4,322	8,460
-2,84	14,681	5,302	9,379	14,682	5,303	9,379
-2,94	16,581	6,283	10,298	16,582	6,284	10,298
-3,02	18,096	7,066	11,031	18,097	7,066	11,031
-3,04	18,481	7,264	11,217	18,482	7,265	11,217
-3,07	19,041	7,554	11,488	19,042	7,554	11,488
-4,00	36,711	16,677	20,034	36,713	16,678	20,036
Layer 4						
-4,00	36,712	16,677	20,034	36,713	16,678	20,036
-4,50	43,161	20,638	22,524	43,164	20,638	22,526
-5,00	49,611	24,599	25,013	49,615	24,599	25,016
Layer 3						
-5,00	49,612	24,599	25,013	49,615	24,599	25,016
-6,00	61,611	32,520	29,091	61,618	32,521	29,097
-7,00	73,611	40,442	33,170	73,623	40,442	33,181
Layer 2						
-7,00	73,612	40,442	33,170	73,623	40,442	33,181
-7,50	80,061	44,403	35,659	80,076	44,403	35,674
-8,00	86,511	48,363	38,148	86,530	48,363	38,167
Layer 1						
-8,00	86,512	48,363	38,148	86,530	48,364	38,167
-8,80	102,511	56,211	46,300	102,538	56,211	46,327
-9,80	122,511	66,021	56,490	122,551	66,021	56,530
-10,80	142,511	75,831	66,680	142,567	75,831	66,736
-11,50	156,511	82,698	73,813	156,580	82,698	73,882
-12,30	172,511	90,546	81,965	172,597	90,546	82,051
-13,30	192,511	100,356	92,155	192,621	100,356	92,265
-14,30	212,511	110,166	102,345	212,649	110,166	102,482
-15,00	226,511	117,033	109,478	226,669	117,033	109,636

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
8	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
-2,04	-4,00	8	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0000	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0000	0,00
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0000	0,0000	0,0001	

3.4 Results for Vertical 4 (X = -50,00 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 8						
-2,00	0,001	0,000	0,001	0,001	0,000	0,001
-2,10	1,700	0,000	1,700	1,700	0,000	1,700
-2,20	3,400	0,000	3,400	3,400	0,000	3,400
-2,30	5,100	0,000	5,100	5,101	0,001	5,100
-2,40	7,000	0,981	6,019	7,001	0,982	6,019
-2,50	8,900	1,962	6,938	8,901	1,963	6,938
-2,60	10,800	2,943	7,857	10,801	2,944	7,857
-2,70	12,700	3,924	8,776	12,701	3,925	8,776
-2,73	13,252	4,209	9,043	13,253	4,210	9,043
-2,80	14,600	4,905	9,695	14,601	4,906	9,695
-2,90	16,500	5,886	10,614	16,501	5,887	10,614
-3,00	18,400	6,867	11,533	18,401	6,868	11,534
-3,07	19,730	7,554	12,176	19,731	7,555	12,177
-3,46	27,103	11,361	15,743	27,105	11,361	15,743
Layer 5						
-3,46	27,103	11,361	15,743	27,105	11,362	15,744
-3,73	32,252	14,019	18,233	32,254	14,020	18,234
-4,00	37,400	16,677	20,723	37,402	16,678	20,725
Layer 4						
-4,00	37,400	16,677	20,723	37,403	16,678	20,725
-4,50	43,850	20,638	23,212	43,853	20,639	23,215
-5,00	50,300	24,599	25,701	50,305	24,599	25,705
Layer 3						
-5,00	50,300	24,599	25,701	50,305	24,599	25,705
-6,00	62,300	32,520	29,780	62,309	32,521	29,788
-7,00	74,300	40,442	33,858	74,315	40,442	33,873
Layer 2						
-7,00	74,300	40,442	33,858	74,316	40,442	33,873
-7,50	80,750	44,403	36,347	80,770	44,403	36,367
-8,00	87,200	48,363	38,837	87,225	48,363	38,862
Layer 1						
-8,00	87,200	48,363	38,837	87,225	48,364	38,862
-8,80	103,200	56,211	46,989	103,236	56,211	47,024
-9,80	123,200	66,021	57,179	123,252	66,021	57,231
-10,80	143,200	75,831	67,369	143,273	75,831	67,441
-11,50	157,200	82,698	74,502	157,290	82,698	74,591
-12,30	173,200	90,546	82,654	173,311	90,546	82,765
-13,30	193,200	100,356	92,844	193,341	100,356	92,985
-14,30	213,200	110,166	103,034	213,375	110,166	103,208
-15,00	227,200	117,033	110,167	227,400	117,033	110,367

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
8	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
-2,00	-3,46	8	0,0000	0,0000	0,0000	0,00
-3,46	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0000	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0000	0,00
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0000	0,0000	0,0001	

3.5 Results for Vertical 5 (X = -48,50 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 9						
-1,93	0,001	0,000	0,001	0,001	0,000	0,001
-1,96	0,631	0,000	0,631	0,631	0,000	0,631
-2,00	1,263	0,000	1,263	1,263	0,000	1,263
Layer 8						
-2,00	1,263	0,000	1,263	1,263	0,000	1,263
-2,03	1,770	0,000	1,770	1,770	0,000	1,770
-2,13	3,470	0,000	3,470	3,470	0,000	3,470
-2,23	5,170	0,000	5,170	5,170	0,000	5,170
-2,30	6,363	0,000	6,363	6,364	0,001	6,363
-2,33	6,930	0,293	6,637	6,931	0,294	6,637
-2,43	8,830	1,274	7,556	8,831	1,275	7,556
-2,48	9,688	1,717	7,971	9,689	1,718	7,971
-2,53	10,730	2,255	8,475	10,731	2,256	8,475
-2,63	12,630	3,236	9,394	12,631	3,237	9,394
-2,73	14,530	4,217	10,313	14,531	4,218	10,313
-2,83	16,430	5,198	11,232	16,431	5,199	11,232
-2,93	18,330	6,179	12,151	18,332	6,180	12,152
-2,95	18,713	6,377	12,336	18,714	6,378	12,337
Layer 5						
-2,95	18,713	6,377	12,336	18,714	6,378	12,337
-3,07	20,993	7,554	13,439	20,994	7,555	13,440
-3,48	28,688	11,527	17,161	28,690	11,528	17,162
-4,00	38,663	16,677	21,986	38,666	16,678	21,988
Layer 4						
-4,00	38,663	16,677	21,986	38,666	16,678	21,988
-4,50	45,113	20,638	24,475	45,117	20,639	24,478
-5,00	51,563	24,599	26,964	51,569	24,600	26,969
Layer 3						
-5,00	51,563	24,599	26,964	51,569	24,600	26,969
-6,00	63,563	32,520	31,042	63,574	32,521	31,053
-7,00	75,563	40,442	35,121	75,583	40,442	35,141
Layer 2						
-7,00	75,563	40,442	35,121	75,583	40,442	35,141

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
-7,50	82,013	44,403	37,610	82,039	44,403	37,636
-8,00	88,463	48,363	40,099	88,496	48,363	40,132
Layer 1						
-8,00	88,463	48,363	40,099	88,496	48,364	40,133
-8,80	104,463	56,211	48,251	104,510	56,211	48,298
-9,80	124,463	66,021	58,441	124,531	66,021	58,510
-10,80	144,463	75,831	68,631	144,557	75,831	68,726
-11,50	158,463	82,698	75,764	158,579	82,698	75,880
-12,30	174,463	90,546	83,916	174,606	90,546	84,059
-13,30	194,463	100,356	94,106	194,643	100,356	94,286
-14,30	214,463	110,166	104,296	214,683	110,166	104,517
-15,00	228,463	117,033	111,429	228,714	117,033	111,680

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
9	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
8	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Total settlement (100% cons.) Secondary 10 [days] [m]	Total settlement (100% cons.) After 10000 [days] [m]	Percentage of original layer height [%]
-1,93	-2,00	9	0,0000	0,0000	0,0000	0,00
-2,00	-2,95	8	0,0000	0,0000	0,0000	0,00
-2,95	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0000	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0000	0,00
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0001	0,0000	0,0001	

3.6 Results for Vertical 6 (X = -45,50 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 9						
-1,79	0,001	0,000	0,001	0,001	0,000	0,001
-1,89	1,800	0,000	1,800	1,800	0,000	1,800
-1,89	1,894	0,000	1,894	1,894	0,000	1,894
-1,99	3,600	0,000	3,600	3,600	0,000	3,600
-2,00	3,788	0,000	3,788	3,788	0,000	3,788
Layer 8						
-2,00	3,788	0,000	3,788	3,788	0,000	3,788
-2,09	5,310	0,000	5,310	5,311	0,000	5,311
-2,19	7,010	0,000	7,010	7,011	0,000	7,011
-2,29	8,710	0,000	8,710	8,711	0,000	8,711
-2,30	8,888	0,000	8,888	8,890	0,002	8,888
-2,39	10,590	0,879	9,711	10,592	0,880	9,711
-2,48	12,213	1,717	10,496	12,215	1,719	10,497
-2,49	12,490	1,860	10,630	12,492	1,861	10,630
-2,59	14,390	2,841	11,549	14,392	2,842	11,550
-2,69	16,290	3,822	12,468	16,292	3,823	12,469

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
-2,79	18,190	4,803	13,387	18,192	4,804	13,388
-2,95	21,238	6,377	14,861	21,241	6,378	14,862
Layer 5						
-2,95	21,238	6,377	14,861	21,241	6,378	14,863
-3,07	23,518	7,554	15,964	23,521	7,556	15,965
-3,48	31,213	11,527	19,686	31,217	11,529	19,688
-4,00	41,188	16,677	24,511	41,194	16,679	24,515
Layer 4						
-4,00	41,188	16,677	24,511	41,194	16,679	24,515
-4,50	47,638	20,638	27,000	47,646	20,640	27,007
-5,00	54,088	24,599	29,489	54,100	24,600	29,499
Layer 3						
-5,00	54,088	24,599	29,489	54,100	24,600	29,499
-6,00	66,088	32,520	33,568	66,110	32,522	33,589
-7,00	78,088	40,442	37,646	78,127	40,443	37,684
Layer 2						
-7,00	78,088	40,442	37,646	78,127	40,443	37,684
-7,50	84,538	44,403	40,135	84,588	44,403	40,184
-8,00	90,988	48,363	42,624	91,050	48,364	42,687
Layer 1						
-8,00	90,988	48,363	42,625	91,050	48,364	42,687
-8,80	106,988	56,211	50,776	107,075	56,212	50,863
-9,80	126,988	66,021	60,966	127,112	66,022	61,090
-10,80	146,988	75,831	71,156	147,155	75,832	71,324
-11,50	160,988	82,698	78,289	161,190	82,698	78,491
-12,30	176,988	90,546	86,441	177,232	90,546	86,686
-13,30	196,988	100,356	96,631	197,289	100,356	96,932
-14,30	216,988	110,166	106,821	217,348	110,166	107,182
-15,00	230,988	117,033	113,954	231,392	117,033	114,358

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
9	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
8	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0001	0,0000	0,0000	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	Percentage of original layer height [%]
-1,79	-2,00	9	0,0000	0,0000	0,0000	0,00
-2,00	-2,95	8	0,0000	0,0000	0,0000	0,00
-2,95	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0001	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0001	0,01
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0001	0,0000	0,0002	

3.7 Results for Vertical 7 (X = -42,00 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 9						
-1,63	0,001	0,000	0,001	0,001	0,000	0,001
-1,73	1,800	0,000	1,800	1,800	0,000	1,800
-1,81	3,367	0,000	3,367	3,367	0,000	3,367
-1,83	3,600	0,000	3,600	3,600	0,000	3,600
-1,93	5,400	0,000	5,400	5,400	0,000	5,400
-2,00	6,734	0,000	6,734	6,734	0,000	6,734
Layer 8						
-2,00	6,734	0,000	6,734	6,735	0,000	6,735
-2,03	7,174	0,000	7,174	7,175	0,000	7,175
-2,13	8,874	0,000	8,874	8,875	0,000	8,875
-2,23	10,574	0,000	10,574	10,575	0,000	10,575
-2,30	11,834	0,000	11,834	11,839	0,004	11,835
-2,33	12,326	0,254	12,072	12,331	0,258	12,073
-2,43	14,226	1,235	12,991	14,231	1,239	12,992
-2,53	16,126	2,216	13,910	16,131	2,220	13,911
-2,60	17,534	2,943	14,591	17,539	2,947	14,592
Layer 5						
-2,60	17,534	2,943	14,591	17,540	2,947	14,592
-2,63	18,026	3,197	14,829	18,032	3,201	14,830
-3,07	26,464	7,554	18,910	26,471	7,558	18,913
-3,30	30,834	9,810	21,024	30,842	9,814	21,028
-4,00	44,134	16,677	27,457	44,148	16,681	27,467
Layer 4						
-4,00	44,134	16,677	27,457	44,148	16,681	27,467
-4,50	50,584	20,638	29,946	50,604	20,642	29,963
-5,00	57,034	24,599	32,435	57,063	24,602	32,461
Layer 3						
-5,00	57,034	24,599	32,435	57,063	24,602	32,461
-6,00	69,034	32,520	36,514	69,089	32,523	36,566
-7,00	81,034	40,442	40,592	81,128	40,444	40,684
Layer 2						
-7,00	81,034	40,442	40,592	81,128	40,444	40,684
-7,50	87,484	44,403	43,081	87,602	44,404	43,198
-8,00	93,934	48,363	45,571	94,079	48,364	45,715
Layer 1						
-8,00	93,934	48,363	45,571	94,079	48,364	45,715
-8,80	109,934	56,211	53,723	110,130	56,212	53,918
-9,80	129,934	66,021	63,913	130,203	66,022	64,181
-10,80	149,934	75,831	74,103	150,284	75,832	74,452
-11,50	163,934	82,698	81,236	164,344	82,699	81,645
-12,30	179,934	90,546	89,388	180,415	90,547	89,868
-13,30	199,934	100,356	99,578	200,505	100,356	100,148
-14,30	219,934	110,166	109,768	220,594	110,166	110,428
-15,00	233,934	117,033	116,901	234,655	117,033	117,622

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
9	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
8	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0001	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0001	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0001	0,0000
Total	0,0000	0,0000	0,0002	0,0000	0,0001	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
-1,63	-2,00	9	0,0000	0,0000	0,0000	0,00
-2,00	-2,60	8	0,0000	0,0000	0,0000	0,00
-2,60	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0001	0,0000	0,0001	0,01
-7,00	-8,00	2	0,0001	0,0000	0,0002	0,02
-8,00	-15,00	1	0,0001	0,0000	0,0001	0,00
Total			0,0002	0,0000	0,0004	

3.8 Results for Vertical 8 (X = -40,50 m; Z = 0,00 m)

Depth	Initial stress			Final stress		
[m]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 9						
-1,56	0,001	0,000	0,001	0,001	0,000	0,001
-1,66	1,800	0,000	1,800	1,800	0,000	1,800
-1,76	3,600	0,000	3,600	3,600	0,000	3,600
-1,78	3,998	0,000	3,998	3,999	0,000	3,999
-1,86	5,400	0,000	5,400	5,401	0,000	5,401
-1,96	7,200	0,000	7,200	7,201	0,000	7,201
-2,00	7,996	0,000	7,996	7,997	0,000	7,997
Layer 8						
-2,00	7,997	0,000	7,997	7,997	0,000	7,997
-2,06	8,944	0,000	8,944	8,945	0,000	8,945
-2,16	10,644	0,000	10,644	10,645	0,000	10,645
-2,19	11,291	0,000	11,291	11,298	0,006	11,292
-2,23	11,884	0,306	11,578	11,891	0,312	11,579
-2,26	12,468	0,608	11,860	12,475	0,614	11,862
-2,36	14,368	1,589	12,779	14,376	1,595	12,781
-2,45	16,159	2,513	13,645	16,167	2,519	13,647
Layer 5						
-2,45	16,159	2,513	13,646	16,167	2,519	13,647
-2,46	16,268	2,570	13,698	16,276	2,576	13,700
-2,56	18,168	3,551	14,617	18,176	3,557	14,620
-3,07	27,939	8,596	19,343	27,950	8,601	19,348
-3,23	30,884	10,116	20,768	30,896	10,122	20,774
-4,00	45,609	17,719	27,890	45,631	17,725	27,906
Layer 4						
-4,00	45,609	17,719	27,890	45,631	17,725	27,906
-4,50	52,059	21,549	30,509	52,091	21,555	30,536
-5,00	58,509	25,380	33,129	58,555	25,385	33,170
Layer 3						
-5,00	58,509	25,380	33,129	58,555	25,385	33,170
-6,00	70,509	33,041	37,468	70,595	33,046	37,550
-7,00	82,509	40,702	41,807	82,653	40,706	41,948
Layer 2						
-7,00	82,509	40,702	41,807	82,653	40,706	41,948
-7,50	88,959	44,533	44,426	89,138	44,535	44,603
-8,00	95,409	48,363	47,045	95,626	48,364	47,262
Layer 1						
-8,00	95,409	48,363	47,046	95,626	48,364	47,262
-8,80	111,409	56,211	55,197	111,697	56,212	55,485
-9,80	131,409	66,021	65,387	131,795	66,022	65,773
-10,80	151,409	75,831	75,577	151,899	75,832	76,067
-11,50	165,409	82,698	82,710	165,974	82,699	83,276
-12,30	181,409	90,546	90,862	182,061	90,547	91,514
-13,30	201,409	100,356	101,052	202,167	100,357	101,811
-14,30	221,409	110,166	111,242	222,270	110,166	112,103

Depth	Initial stress			Final stress		
	S-total	S-water	S-eff.	S-total	S-water	S-eff.
[m]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]
-15,00	235,409	117,033	118,375	236,338	117,033	119,305

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary	Secondary	Primary	Secondary 10 [days]	Primary	Secondary 10 [days]
	[m]	[m]	[m]	[m]	[m]	[m]
9	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
8	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0001	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0001	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0001	0,0000
Total	0,0000	0,0000	0,0002	0,0001	0,0001	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height
From	To		Primary	Secondary 10 [days]	After 10000 [days]	
[m]	[m]		[m]	[m]	[m]	[%]
-1,56	-2,00	9	0,0000	0,0000	0,0000	0,00
-2,00	-2,45	8	0,0000	0,0000	0,0000	0,00
-2,45	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0001	0,01
-5,00	-7,00	3	0,0001	0,0000	0,0002	0,01
-7,00	-8,00	2	0,0001	0,0000	0,0003	0,03
-8,00	-15,00	1	0,0001	0,0000	0,0001	0,00
Total			0,0003	0,0001	0,0006	

3.9 Results for Vertical 9 (X = -38,70 m; Z = 0,00 m)

Depth	Initial stress			Final stress		
	S-total	S-water	S-eff.	S-total	S-water	S-eff.
[m]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]
Layer 9						
-1,47	0,001	0,000	0,001	0,001	0,000	0,001
-1,57	1,800	0,000	1,800	1,801	0,000	1,801
-1,67	3,600	0,000	3,600	3,601	0,000	3,601
-1,74	4,756	0,000	4,756	4,757	0,000	4,757
-1,77	5,400	0,000	5,400	5,401	0,000	5,401
-1,87	7,200	0,000	7,200	7,201	0,000	7,201
-1,97	9,000	0,000	9,000	9,001	0,000	9,001
-2,00	9,512	0,000	9,512	9,513	0,000	9,513
Layer 5						
-2,00	9,512	0,000	9,512	9,513	0,000	9,513
-2,07	10,640	0,000	10,640	10,651	0,010	10,641
-2,07	10,739	0,051	10,688	10,750	0,061	10,689
-2,17	12,639	1,032	11,607	12,651	1,042	11,609
-2,27	14,539	2,013	12,526	14,551	2,023	12,528
-2,37	16,439	2,994	13,445	16,452	3,004	13,448
-2,47	18,339	3,975	14,364	18,352	3,985	14,367
-3,00	28,379	9,159	19,220	28,397	9,169	19,228
-3,07	29,709	9,846	19,863	29,728	9,856	19,873
-4,00	47,379	18,969	28,410	47,420	18,979	28,441
Layer 4						
-4,00	47,379	18,969	28,410	47,420	18,979	28,441
-4,50	53,829	22,643	31,186	53,889	22,653	31,236
-5,00	60,279	26,318	33,961	60,365	26,326	34,038
Layer 3						
-5,00	60,279	26,318	33,961	60,365	26,326	34,038
-6,00	72,279	33,666	38,613	72,436	33,674	38,763
-7,00	84,279	41,015	43,264	84,532	41,020	43,512

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 2						
-7,00	84,279	41,015	43,264	84,533	41,020	43,512
-7,50	90,729	44,689	46,040	91,037	44,692	46,345
-8,00	97,179	48,363	48,815	97,546	48,364	49,182
Layer 1						
-8,00	97,179	48,363	48,816	97,546	48,364	49,182
-8,80	113,179	56,211	56,967	113,650	56,212	57,438
-9,80	133,179	66,021	67,157	133,786	66,022	67,764
-10,80	153,179	75,831	77,347	153,924	75,832	78,092
-11,50	167,179	82,698	84,480	168,019	82,699	85,320
-12,30	183,179	90,546	92,632	184,124	90,547	93,577
-13,30	203,179	100,356	102,822	204,248	100,357	103,892
-14,30	223,179	110,166	113,012	224,362	110,166	114,196
-15,00	237,179	117,033	120,145	238,436	117,033	121,403

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
9	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0001	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0001	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0002	0,0001	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0001	0,0000
Total	0,0000	0,0000	0,0004	0,0001	0,0001	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	Percentage of original layer height [%]
-1,47	-2,00	9	0,0000	0,0000	0,0000	0,00
-2,00	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0001	0,0000	0,0001	0,01
-5,00	-7,00	3	0,0001	0,0000	0,0003	0,02
-7,00	-8,00	2	0,0002	0,0001	0,0004	0,04
-8,00	-15,00	1	0,0001	0,0000	0,0001	0,00
Total			0,0005	0,0001	0,0010	

3.10 Results for Vertical 10 (X = -36,10 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 6						
-1,35	0,001	0,000	0,001	0,002	0,000	0,002
-1,45	1,800	0,000	1,800	1,801	0,000	1,801
-1,55	3,600	0,000	3,600	3,601	0,000	3,601
-1,65	5,400	0,000	5,400	5,401	0,000	5,401
-1,68	5,850	0,000	5,850	5,852	0,000	5,852
-1,75	7,200	0,000	7,200	7,202	0,000	7,202
-1,85	9,000	0,000	9,000	9,003	0,000	9,003
-1,88	9,581	0,000	9,581	9,608	0,024	9,584
-1,95	10,935	0,664	10,271	10,962	0,688	10,274
-2,00	11,935	1,155	10,781	11,963	1,178	10,784
Layer 5						
-2,00	11,936	1,155	10,781	11,963	1,179	10,785
-2,05	12,885	1,645	11,240	12,913	1,669	11,244
-2,15	14,785	2,626	12,159	14,815	2,650	12,165
-2,25	16,685	3,607	13,078	16,716	3,631	13,085
-2,35	18,585	4,588	13,997	18,618	4,612	14,006

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
-3,00	30,935	10,965	19,971	30,989	10,988	20,000
-3,07	32,265	11,651	20,614	32,322	11,675	20,647
-4,00	49,935	20,775	29,161	50,064	20,798	29,265
Layer 4						
-4,00	49,936	20,775	29,161	50,064	20,798	29,265
-4,50	56,385	24,223	32,162	56,572	24,245	32,326
-5,00	62,835	27,672	35,164	63,093	27,692	35,401
Layer 3						
-5,00	62,836	27,672	35,164	63,093	27,692	35,401
-6,00	74,835	34,569	40,266	75,267	34,586	40,682
-7,00	86,835	41,466	45,369	87,467	41,478	45,989
Layer 2						
-7,00	86,836	41,466	45,369	87,467	41,478	45,989
-7,50	93,285	44,915	48,371	94,018	44,922	49,097
-8,00	99,735	48,363	51,372	100,570	48,365	52,205
Layer 1						
-8,00	99,736	48,363	51,372	100,570	48,365	52,205
-8,80	115,735	56,211	59,524	116,737	56,213	60,524
-9,80	135,735	66,021	69,714	136,934	66,023	70,911
-10,80	155,735	75,831	79,904	157,114	75,832	81,281
-11,50	169,735	82,698	87,037	171,228	82,699	88,529
-12,30	185,735	90,546	95,189	187,346	90,547	96,799
-13,30	205,735	100,356	105,379	207,474	100,357	107,118
-14,30	225,735	110,166	115,569	227,583	110,166	117,417
-15,00	239,735	117,033	122,702	241,649	117,033	124,615

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0002	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0003	0,0001	0,0000	0,0000
2	0,0000	0,0000	0,0005	0,0001	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0002	0,0000
Total	0,0000	0,0000	0,0010	0,0003	0,0002	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	Percentage of original layer height [%]
-1,35	-2,00	6	0,0000	0,0000	0,0000	0,00
-2,00	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0002	0,0000	0,0003	0,03
-5,00	-7,00	3	0,0003	0,0001	0,0009	0,04
-7,00	-8,00	2	0,0005	0,0001	0,0010	0,10
-8,00	-15,00	1	0,0002	0,0000	0,0002	0,00
Total			0,0012	0,0003	0,0024	

3.11 Results for Vertical 11 (X = -31,70 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 6						
-1,20	0,001	0,000	0,001	0,827	0,000	0,827
-1,30	1,800	0,000	1,800	2,628	0,000	2,628
-1,40	3,600	0,000	3,600	4,434	0,000	4,434
-1,50	5,400	0,000	5,400	6,245	0,000	6,245
-1,57	6,674	0,000	6,674	7,676	0,146	7,529

Depth	Initial stress			Final stress		
	S-total	S-water	S-eff.	S-total	S-water	S-eff.
[m]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]
-1,60	7,258	0,287	6,972	8,266	0,433	7,833
-1,70	9,258	1,268	7,991	10,289	1,414	8,875
-1,80	11,258	2,249	9,010	12,319	2,395	9,924
-1,90	13,258	3,230	10,029	14,355	3,376	10,979
-2,00	15,258	4,211	11,048	16,396	4,356	12,040
Layer 5						
-2,00	15,259	4,211	11,048	16,396	4,357	12,040
-2,10	17,158	5,192	11,967	18,342	5,337	13,005
-2,20	19,058	6,173	12,886	20,291	6,318	13,973
-3,00	34,258	14,021	20,238	35,927	14,163	21,764
-3,07	35,588	14,707	20,881	37,295	14,849	22,446
-4,00	53,258	23,831	29,428	55,427	23,969	31,458
Layer 4						
-4,00	53,259	23,831	29,428	55,427	23,969	31,458
-4,50	59,708	26,897	32,811	62,072	27,014	35,058
-5,00	66,158	29,964	36,195	68,696	30,059	38,636
Layer 3						
-5,00	66,159	29,964	36,195	68,696	30,059	38,636
-6,00	78,158	36,097	42,061	80,999	36,166	44,833
-7,00	90,158	42,230	47,928	93,231	42,273	50,958
Layer 2						
-7,00	90,159	42,230	47,928	93,231	42,273	50,958
-7,50	96,608	45,297	51,312	99,766	45,320	54,446
-8,00	103,058	48,363	54,695	106,287	48,368	57,919
Layer 1						
-8,00	103,059	48,363	54,695	106,287	48,368	57,919
-8,80	119,058	56,211	62,847	122,403	56,215	66,187
-9,80	139,058	66,021	73,037	142,505	66,024	76,480
-10,80	159,058	75,831	83,227	162,568	75,834	86,734
-11,50	173,058	82,698	90,360	176,592	82,700	93,892
-12,30	189,058	90,546	98,512	192,605	90,548	102,057
-13,30	209,058	100,356	108,702	212,601	100,357	112,243
-14,30	229,058	110,166	118,892	232,579	110,167	122,413
-15,00	243,058	117,033	126,025	246,556	117,033	129,523

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary	Secondary	Primary	Secondary 10 [days]	Primary	Secondary 10 [days]
	[m]	[m]	[m]	[m]	[m]	[m]
6	0,0000	0,0000	0,0000	0,0000	0,0003	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0007	0,0000
4	0,0000	0,0000	0,0022	0,0006	0,0000	0,0000
3	0,0000	0,0000	0,0022	0,0008	0,0000	0,0000
2	0,0000	0,0000	0,0020	0,0005	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0005	0,0000
Total	0,0000	0,0000	0,0063	0,0018	0,0015	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height
From	To		Primary	Secondary 10 [days]	After 10000 [days]	
[m]	[m]		[m]	[m]	[m]	[%]
-1,20	-2,00	6	0,0003	0,0000	0,0003	0,03
-2,00	-4,00	5	0,0007	0,0000	0,0007	0,04
-4,00	-5,00	4	0,0022	0,0006	0,0044	0,44
-5,00	-7,00	3	0,0022	0,0008	0,0053	0,27
-7,00	-8,00	2	0,0020	0,0005	0,0039	0,39
-8,00	-15,00	1	0,0005	0,0000	0,0005	0,01
Total			0,0078	0,0018	0,0151	

3.12 Results for Vertical 12 (X = -30,20 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 6						
-1,14	0,001	0,000	0,001	4,324	0,000	4,324
-1,24	1,800	0,000	1,800	6,214	0,000	6,214
-1,34	3,600	0,000	3,600	8,018	0,000	8,018
-1,44	5,400	0,000	5,400	9,819	0,006	9,813
-1,46	5,842	0,000	5,842	10,499	0,247	10,252
-1,54	7,351	0,740	6,611	11,995	0,986	11,009
-1,57	7,951	1,034	6,917	12,589	1,280	11,309
-1,64	9,351	1,721	7,630	13,974	1,966	12,008
-1,74	11,351	2,702	8,649	15,951	2,947	13,005
-1,84	13,351	3,683	9,668	17,930	3,927	14,003
-1,94	15,351	4,664	10,687	19,910	4,907	15,003
-2,00	16,551	5,253	11,298	21,100	5,496	15,604
Layer 5						
-2,00	16,551	5,253	11,298	21,100	5,496	15,604
-2,04	17,311	5,645	11,666	21,853	5,887	15,965
-2,14	19,211	6,626	12,585	23,738	6,867	16,871
-3,00	35,551	15,063	20,488	40,038	15,294	24,744
-3,07	36,881	15,749	21,132	41,369	15,980	25,389
-4,00	54,551	24,873	29,678	59,098	25,096	34,002
Layer 4						
-4,00	54,551	24,873	29,678	59,099	25,096	34,002
-4,50	61,001	27,809	33,192	65,556	27,990	37,566
-5,00	67,451	30,745	36,706	72,019	30,888	41,131
Layer 3						
-5,00	67,451	30,745	36,706	72,019	30,888	41,131
-6,00	79,451	36,618	42,833	84,063	36,717	47,346
-7,00	91,451	42,491	48,960	96,080	42,551	53,529
Layer 2						
-7,00	91,451	42,491	48,960	96,080	42,551	53,529
-7,50	97,901	45,427	52,474	102,516	45,459	57,057
-8,00	104,351	48,363	55,988	108,944	48,369	60,575
Layer 1						
-8,00	104,351	48,363	55,988	108,944	48,369	60,575
-8,80	120,351	56,211	64,140	124,933	56,216	68,717
-9,80	140,351	66,021	74,330	144,894	66,025	78,869
-10,80	160,351	75,831	84,520	164,832	75,834	88,998
-11,50	174,351	82,698	91,653	178,778	82,701	96,078
-12,30	190,351	90,546	99,805	194,709	90,548	104,161
-13,30	210,351	100,356	109,995	214,614	100,357	114,257
-14,30	230,351	110,166	120,185	234,514	110,167	124,347
-15,00	244,351	117,033	127,318	248,441	117,033	131,408

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0010	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0020	0,0000
4	0,0000	0,0000	0,0041	0,0010	0,0000	0,0000
3	0,0000	0,0000	0,0034	0,0013	0,0000	0,0000
2	0,0000	0,0000	0,0028	0,0007	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0006	0,0000
Total	0,0000	0,0000	0,0103	0,0030	0,0035	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Total settlement (100% cons.) Secondary 10 [days] [m]	Total settlement (100% cons.) After 10000 [days] [m]	Percentage of original layer height [%]
-1,14	-2,00	6	0,0010	0,0000	0,0010	0,11
-2,00	-4,00	5	0,0020	0,0000	0,0020	0,10

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	[%]
-4,00	-5,00	4	0,0041	0,0010	0,0082	0,82
-5,00	-7,00	3	0,0034	0,0013	0,0084	0,42
-7,00	-8,00	2	0,0028	0,0007	0,0056	0,56
-8,00	-15,00	1	0,0006	0,0000	0,0006	0,01
Total			0,0139	0,0030	0,0258	

3.13 Results for Vertical 13 (X = -27,55 m; Z = 0,00 m)

Depth	Initial stress			Final stress		
[m]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 6						
-0,83	0,001	0,000	0,001	7,885	0,000	7,885
-0,93	1,800	0,000	1,800	10,018	0,000	10,018
-1,03	3,600	0,000	3,600	11,830	0,000	11,830
-1,13	5,400	0,000	5,400	13,638	0,000	13,638
-1,23	7,200	0,000	7,200	15,440	0,000	15,440
-1,28	8,058	0,000	8,058	16,664	0,367	16,297
-1,33	9,105	0,513	8,591	17,709	0,880	16,828
-1,41	10,815	1,352	9,463	19,416	1,718	17,699
-1,43	11,105	1,494	9,610	19,706	1,860	17,846
-1,53	13,105	2,475	10,629	21,708	2,840	18,868
-1,63	15,105	3,456	11,648	23,714	3,820	19,894
-1,73	17,105	4,437	12,667	25,722	4,800	20,922
-1,83	19,105	5,418	13,686	27,732	5,781	21,952
-2,00	22,525	7,096	15,429	31,169	7,457	23,712
Layer 5						
-2,00	22,525	7,096	15,429	31,169	7,457	23,712
-3,00	41,525	16,906	24,619	50,178	17,250	32,928
-3,07	42,855	17,593	25,262	51,503	17,936	33,568
-4,00	60,525	26,716	33,809	69,046	27,048	41,999
Layer 4						
-4,00	60,525	26,716	33,809	69,046	27,048	41,999
-4,50	66,975	29,422	37,553	75,324	29,687	45,638
-5,00	73,425	32,128	41,297	81,586	32,333	49,254
Layer 3						
-5,00	73,425	32,128	41,297	81,586	32,333	49,254
-6,00	85,425	37,540	47,885	93,217	37,678	55,539
-7,00	97,425	42,951	54,473	104,826	43,034	61,791
Layer 2						
-7,00	97,425	42,951	54,473	104,826	43,034	61,792
-7,50	103,875	45,657	58,217	111,064	45,701	65,363
-8,00	110,325	48,363	61,961	117,305	48,370	68,935
Layer 1						
-8,00	110,325	48,363	61,961	117,306	48,371	68,935
-8,80	126,325	56,211	70,113	133,032	56,217	76,815
-9,80	146,325	66,021	80,303	152,704	66,026	86,678
-10,80	166,325	75,831	90,493	172,394	75,835	96,559
-11,50	180,325	82,698	97,626	186,189	82,701	103,488
-12,30	196,325	90,546	105,778	201,967	90,548	111,419
-13,30	216,325	100,356	115,968	221,708	100,357	121,351
-14,30	236,325	110,166	126,158	241,469	110,167	131,302
-15,00	250,325	117,033	133,291	255,312	117,033	138,279

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0016	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0030	0,0000

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
4	0,0000	0,0000	0,0065	0,0016	0,0000	0,0000
3	0,0000	0,0000	0,0050	0,0019	0,0000	0,0000
2	0,0000	0,0000	0,0039	0,0010	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0007	0,0000
Total	0,0000	0,0000	0,0154	0,0045	0,0053	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
-0,83	-2,00	6	0,0016	0,0000	0,0016	0,14
-2,00	-4,00	5	0,0030	0,0000	0,0030	0,15
-4,00	-5,00	4	0,0065	0,0016	0,0129	1,29
-5,00	-7,00	3	0,0050	0,0019	0,0125	0,62
-7,00	-8,00	2	0,0039	0,0010	0,0077	0,77
-8,00	-15,00	1	0,0007	0,0000	0,0007	0,01
Total			0,0208	0,0045	0,0384	

3.14 Results for Vertical 14 (X = -22,60 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 6						
-0,25	0,001	0,000	0,001	13,421	0,000	13,421
-0,35	1,800	0,000	1,800	15,733	0,000	15,733
-0,45	3,600	0,000	3,600	17,583	0,000	17,583
-0,55	5,400	0,000	5,400	19,426	0,000	19,426
-0,65	7,200	0,000	7,200	21,250	0,000	21,250
-0,75	9,000	0,000	9,000	23,045	0,000	23,045
-0,85	10,800	0,000	10,800	24,812	0,000	24,812
-0,93	12,177	0,000	12,177	26,526	0,379	26,147
-0,95	12,647	0,231	12,416	26,981	0,610	26,371
-1,05	14,647	1,212	13,435	28,902	1,589	27,312
-1,13	16,147	1,947	14,200	30,333	2,324	28,008
-1,15	16,647	2,193	14,454	30,808	2,569	28,239
-1,25	18,647	3,174	15,473	32,704	3,549	29,155
-2,00	33,647	10,531	23,116	46,793	10,900	35,892
Layer 5						
-2,00	33,647	10,531	23,116	46,793	10,900	35,893
-3,00	52,647	20,341	32,306	64,591	20,692	43,898
-3,07	53,977	21,028	32,949	65,843	21,378	44,465
-4,00	71,647	30,151	41,496	82,572	30,490	52,083
Layer 4						
-4,00	71,647	30,151	41,496	82,572	30,490	52,083
-4,50	78,097	32,428	45,669	88,508	32,690	55,818
-5,00	84,547	34,704	49,843	94,495	34,905	59,590
Layer 3						
-5,00	84,547	34,704	49,843	94,496	34,905	59,590
-6,00	96,547	39,257	57,290	105,720	39,392	66,328
-7,00	108,547	43,810	64,737	117,055	43,890	73,165
Layer 2						
-7,00	108,547	43,810	64,737	117,055	43,890	73,165
-7,50	114,997	46,087	68,910	123,191	46,129	77,063
-8,00	121,447	48,363	73,084	129,348	48,370	80,978
Layer 1						
-8,00	121,447	48,363	73,084	129,348	48,370	80,978
-8,80	137,447	56,211	81,236	144,964	56,217	88,747
-9,80	157,447	66,021	91,426	164,530	66,026	98,504
-10,80	177,447	75,831	101,616	184,139	75,835	108,305

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
-11,50	191,447	82,698	108,749	197,888	82,701	115,187
-12,30	207,447	90,546	116,901	213,621	90,548	123,073
-13,30	227,447	100,356	127,091	233,314	100,357	132,956
-14,30	247,447	110,166	137,281	253,032	110,167	142,866
-15,00	261,447	117,033	144,414	266,850	117,033	149,816

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0026	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0031	0,0000
4	0,0000	0,0000	0,0066	0,0016	0,0005	0,0001
3	0,0000	0,0000	0,0050	0,0018	0,0000	0,0000
2	0,0000	0,0000	0,0037	0,0009	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0007	0,0000
Total	0,0000	0,0000	0,0153	0,0044	0,0070	0,0001

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	Percentage of original layer height [%]
-0,25	-2,00	6	0,0026	0,0000	0,0026	0,15
-2,00	-4,00	5	0,0031	0,0000	0,0031	0,16
-4,00	-5,00	4	0,0071	0,0018	0,0140	1,40
-5,00	-7,00	3	0,0050	0,0018	0,0124	0,62
-7,00	-8,00	2	0,0037	0,0009	0,0074	0,74
-8,00	-15,00	1	0,0007	0,0000	0,0007	0,01
Total			0,0223	0,0045	0,0403	

3.15 Results for Vertical 15 (X = -21,40 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 6						
0,10	0,001	0,000	0,001	11,141	0,000	11,141
0,00	1,800	0,000	1,800	13,189	0,000	13,189
-0,10	3,600	0,000	3,600	14,567	0,000	14,567
-0,20	5,400	0,000	5,400	15,659	0,000	15,659
-0,30	7,200	0,000	7,200	17,309	0,000	17,309
-0,40	9,000	0,000	9,000	19,367	0,000	19,367
-0,50	10,800	0,000	10,800	21,444	0,000	21,444
-0,60	12,600	0,000	12,600	23,432	0,000	23,432
-0,70	14,400	0,000	14,400	25,331	0,000	25,331
-0,80	16,200	0,000	16,200	27,163	0,000	27,163
-0,84	17,017	0,000	17,017	28,271	0,293	27,978
-0,90	18,109	0,536	17,573	29,349	0,828	28,521
-0,95	19,148	1,045	18,103	30,366	1,337	29,029
-1,50	30,186	6,459	23,727	40,975	6,748	34,227
-2,00	40,186	11,364	28,822	50,561	11,650	38,911
Layer 5						
-2,00	40,186	11,365	28,822	50,561	11,650	38,911
-3,00	59,186	21,174	38,012	68,845	21,448	47,397
-3,07	60,516	21,861	38,655	70,130	22,134	47,996
-4,00	78,186	30,984	47,202	87,255	31,248	56,006
Layer 4						
-4,00	78,186	30,985	47,202	87,255	31,248	56,007
-4,50	84,636	33,157	51,479	93,397	33,368	60,029
-5,00	91,086	35,329	55,757	99,563	35,493	64,070
Layer 3						

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
-5,00	91,086	35,329	55,757	99,563	35,493	64,070
-6,00	103,086	39,674	63,412	111,081	39,785	71,296
-7,00	115,086	44,019	71,068	122,650	44,085	78,565
Layer 2						
-7,00	115,086	44,019	71,068	122,650	44,085	78,565
-7,50	121,536	46,191	75,345	128,888	46,226	82,662
-8,00	127,986	48,363	79,623	135,135	48,369	86,766
Layer 1						
-8,00	127,986	48,363	79,623	135,136	48,370	86,766
-8,80	143,986	56,211	87,775	150,869	56,216	94,652
-9,80	163,986	66,021	97,965	170,555	66,025	104,529
-10,80	183,986	75,831	108,155	190,260	75,834	114,425
-11,50	197,986	82,698	115,288	204,064	82,701	121,363
-12,30	213,986	90,546	123,440	219,850	90,548	129,302
-13,30	233,986	100,356	133,630	239,598	100,357	139,240
-14,30	253,986	110,166	143,820	259,361	110,167	149,194
-15,00	267,986	117,033	150,953	273,204	117,033	156,170

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0024	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0022	0,0000
4	0,0000	0,0000	0,0051	0,0013	0,0000	0,0000
3	0,0000	0,0000	0,0040	0,0015	0,0000	0,0000
2	0,0000	0,0000	0,0031	0,0008	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0006	0,0000
Total	0,0000	0,0000	0,0122	0,0035	0,0053	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	Percentage of original layer height [%]
0,10	-2,00	6	0,0024	0,0000	0,0024	0,11
-2,00	-4,00	5	0,0022	0,0000	0,0022	0,11
-4,00	-5,00	4	0,0051	0,0013	0,0102	1,02
-5,00	-7,00	3	0,0040	0,0015	0,0099	0,49
-7,00	-8,00	2	0,0031	0,0008	0,0062	0,62
-8,00	-15,00	1	0,0006	0,0000	0,0006	0,01
Total			0,0175	0,0035	0,0315	

3.16 Results for Vertical 16 (X = -18,70 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 6						
0,90	0,001	0,000	0,001	0,032	0,000	0,032
0,80	1,800	0,000	1,800	2,688	0,000	2,688
0,70	3,600	0,000	3,600	4,516	0,000	4,516
0,60	5,400	0,000	5,400	6,316	0,000	6,316
0,50	7,200	0,000	7,200	8,112	0,000	8,112
0,40	9,000	0,000	9,000	9,905	0,000	9,905
0,30	10,800	0,000	10,800	11,701	0,000	11,701
0,20	12,600	0,000	12,600	13,509	0,000	13,509
0,10	14,400	0,000	14,400	15,335	0,000	15,335
0,00	16,200	0,000	16,200	17,180	0,000	17,180
-0,10	18,000	0,000	18,000	19,039	0,000	19,039
-0,55	26,100	0,000	26,100	27,484	0,000	27,484
-0,65	27,907	0,000	27,907	29,505	0,134	29,371

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
-1,30	40,899	6,373	34,527	43,012	6,506	36,506
-2,00	54,899	13,240	41,660	57,561	13,372	44,188
Layer 5						
-2,00	54,899	13,240	41,660	57,561	13,373	44,188
-3,00	73,899	23,050	50,850	77,287	23,180	54,107
-3,07	75,229	23,736	51,493	78,663	23,866	54,797
-4,00	92,899	32,860	60,040	96,886	32,986	63,900
Layer 4						
-4,00	92,899	32,860	60,040	96,887	32,986	63,900
-4,50	99,349	34,798	64,552	103,561	34,904	68,657
-5,00	105,799	36,736	69,064	110,200	36,822	73,378
Layer 3						
-5,00	105,799	36,736	69,064	110,200	36,822	73,378
-6,00	117,799	40,612	77,188	122,491	40,674	81,817
-7,00	129,799	44,487	85,312	134,668	44,526	90,141
Layer 2						
-7,00	129,799	44,487	85,312	134,668	44,526	90,141
-7,50	136,249	46,425	89,824	141,165	46,447	94,718
-8,00	142,699	48,363	94,336	147,643	48,368	99,275
Layer 1						
-8,00	142,699	48,363	94,336	147,643	48,368	99,275
-8,80	158,699	56,211	102,488	163,680	56,215	107,465
-9,80	178,699	66,021	112,678	183,678	66,024	117,654
-10,80	198,699	75,831	122,868	203,636	75,834	127,802
-11,50	212,699	82,698	130,001	217,589	82,700	134,889
-12,30	228,699	90,546	138,153	233,522	90,548	142,974
-13,30	248,699	100,356	148,343	253,423	100,357	153,066
-14,30	268,699	110,166	158,533	273,314	110,167	163,147
-15,00	282,699	117,033	165,666	287,233	117,033	170,200

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0004	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0006	0,0000
4	0,0000	0,0000	0,0021	0,0005	0,0000	0,0000
3	0,0000	0,0000	0,0020	0,0007	0,0000	0,0000
2	0,0000	0,0000	0,0018	0,0004	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0004	0,0000
Total	0,0000	0,0000	0,0058	0,0017	0,0015	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	Percentage of original layer height [%]
0,90	-2,00	6	0,0004	0,0000	0,0004	0,01
-2,00	-4,00	5	0,0006	0,0000	0,0006	0,03
-4,00	-5,00	4	0,0021	0,0005	0,0041	0,41
-5,00	-7,00	3	0,0020	0,0007	0,0049	0,24
-7,00	-8,00	2	0,0018	0,0004	0,0035	0,35
-8,00	-15,00	1	0,0004	0,0000	0,0004	0,01
Total			0,0073	0,0017	0,0140	

3.17 Results for Vertical 17 (X = -17,80 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 7						
1,20	0,001	0,000	0,001	0,002	0,000	0,002

Depth	Initial stress			Final stress		
	S-total	S-water	S-eff.	S-total	S-water	S-eff.
[m]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]
1,10	1,800	0,000	1,800	1,802	0,000	1,802
1,08	2,224	0,000	2,224	2,225	0,000	2,225
1,00	3,600	0,000	3,600	3,602	0,000	3,602
0,95	4,447	0,000	4,447	4,450	0,000	4,450
Layer 6						
0,95	4,447	0,000	4,447	4,450	0,000	4,450
0,90	5,400	0,000	5,400	5,404	0,000	5,404
0,80	7,200	0,000	7,200	7,206	0,000	7,206
0,70	9,000	0,000	9,000	9,008	0,000	9,008
0,60	10,800	0,000	10,800	10,812	0,000	10,812
0,50	12,600	0,000	12,600	12,619	0,000	12,619
0,40	14,400	0,000	14,400	14,431	0,000	14,431
0,30	16,200	0,000	16,200	16,247	0,000	16,247
0,20	18,000	0,000	18,000	18,070	0,000	18,070
-0,52	31,024	0,000	31,024	31,411	0,000	31,411
-0,59	32,160	0,000	32,160	32,688	0,102	32,586
-1,30	46,427	6,998	39,429	47,448	7,100	40,348
-2,00	60,427	13,865	46,562	61,987	13,966	48,021
Layer 5						
-2,00	60,427	13,865	46,562	61,987	13,966	48,021
-3,00	79,427	23,675	55,752	81,740	23,775	57,966
-3,07	80,757	24,361	56,395	83,120	24,461	58,659
-4,00	98,427	33,485	64,942	101,398	33,582	67,816
Layer 4						
-4,00	98,427	33,485	64,942	101,398	33,583	67,816
-4,50	104,877	35,345	69,532	108,116	35,428	72,688
-5,00	111,327	37,204	74,122	114,801	37,273	77,528
Layer 3						
-5,00	111,327	37,204	74,122	114,801	37,273	77,528
-6,00	123,327	40,924	82,403	127,185	40,974	86,210
-7,00	135,327	44,644	90,683	139,454	44,676	94,778
Layer 2						
-7,00	135,327	44,644	90,683	139,454	44,676	94,778
-7,50	141,777	46,503	95,273	145,997	46,521	99,475
-8,00	148,227	48,363	99,863	152,518	48,367	104,151
Layer 1						
-8,00	148,227	48,363	99,863	152,518	48,367	104,151
-8,80	164,227	56,211	108,015	168,616	56,215	112,402
-9,80	184,227	66,021	118,205	188,684	66,024	122,660
-10,80	204,227	75,831	128,395	208,704	75,833	132,871
-11,50	218,227	82,698	135,528	222,696	82,700	139,996
-12,30	234,227	90,546	143,680	238,669	90,548	148,121
-13,30	254,227	100,356	153,870	258,615	100,357	158,258
-14,30	274,227	110,166	164,060	278,545	110,167	168,378
-15,00	288,227	117,033	171,193	292,488	117,033	175,455

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary	Secondary	Primary	Secondary 10 [days]	Primary	Secondary 10 [days]
	[m]	[m]	[m]	[m]	[m]	[m]
7	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
6	0,0000	0,0000	0,0000	0,0000	0,0001	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0004	0,0000
4	0,0000	0,0000	0,0015	0,0004	0,0000	0,0000
3	0,0000	0,0000	0,0015	0,0006	0,0000	0,0000
2	0,0000	0,0000	0,0014	0,0004	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0004	0,0000
Total	0,0000	0,0000	0,0044	0,0013	0,0008	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	[%]
1,20	0,95	7	0,0000	0,0000	0,0000	0,00
0,95	-2,00	6	0,0001	0,0000	0,0001	0,00
-2,00	-4,00	5	0,0004	0,0000	0,0004	0,02
-4,00	-5,00	4	0,0015	0,0004	0,0029	0,29
-5,00	-7,00	3	0,0015	0,0006	0,0038	0,19
-7,00	-8,00	2	0,0014	0,0004	0,0029	0,29
-8,00	-15,00	1	0,0004	0,0000	0,0004	0,01
Total			0,0053	0,0013	0,0104	

3.18 Results for Vertical 18 (X = -17,00 m; Z = 0,00 m)

Depth	Initial stress			Final stress		
[m]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 7						
1,25	0,001	0,000	0,001	0,003	0,000	0,003
1,15	1,800	0,000	1,800	1,803	0,000	1,803
1,13	2,270	0,000	2,270	2,273	0,000	2,273
1,05	3,600	0,000	3,600	3,604	0,000	3,604
1,00	4,539	0,000	4,539	4,545	0,000	4,545
Layer 6						
1,00	4,539	0,000	4,539	4,545	0,000	4,545
0,95	5,400	0,000	5,400	5,407	0,000	5,407
0,85	7,200	0,000	7,200	7,212	0,000	7,212
0,75	9,000	0,000	9,000	9,018	0,000	9,018
0,65	10,800	0,000	10,800	10,826	0,000	10,826
0,55	12,600	0,000	12,600	12,637	0,000	12,637
0,45	14,400	0,000	14,400	14,451	0,000	14,451
0,35	16,200	0,000	16,200	16,267	0,000	16,267
0,25	18,000	0,000	18,000	18,086	0,000	18,086
-0,50	31,539	0,000	31,539	31,868	0,000	31,868
-0,53	32,080	0,000	32,080	32,509	0,087	32,422
-1,30	47,479	7,553	39,926	48,309	7,640	40,669
-2,00	61,479	14,420	47,059	62,739	14,507	48,232
Layer 5						
-2,00	61,479	14,421	47,059	62,739	14,507	48,232
-3,00	80,479	24,230	56,249	82,367	24,316	58,052
-3,07	81,809	24,917	56,892	83,740	25,002	58,738
-4,00	99,479	34,040	65,439	101,946	34,124	67,822
Layer 4						
-4,00	99,479	34,040	65,439	101,946	34,124	67,822
-4,50	105,929	35,831	70,098	108,643	35,903	72,740
-5,00	112,379	37,621	74,758	115,316	37,681	77,635
Layer 3						
-5,00	112,379	37,621	74,758	115,316	37,681	77,635
-6,00	124,379	41,202	83,177	127,697	41,246	86,452
-7,00	136,379	44,783	91,596	139,986	44,811	95,175
Layer 2						
-7,00	136,379	44,783	91,597	139,986	44,811	95,176
-7,50	142,829	46,573	96,256	146,544	46,589	99,956
-8,00	149,279	48,363	100,916	153,084	48,367	104,717
Layer 1						
-8,00	149,279	48,363	100,916	153,084	48,367	104,717
-8,80	165,279	56,211	109,068	169,210	56,214	112,996
-9,80	185,279	66,021	119,258	189,316	66,024	123,292
-10,80	205,279	75,831	129,448	209,374	75,833	133,540
-11,50	219,279	82,698	136,581	223,391	82,700	140,691
-12,30	235,279	90,546	144,733	239,392	90,547	148,845
-13,30	255,279	100,356	154,923	259,371	100,357	159,014
-14,30	275,279	110,166	165,113	279,331	110,167	169,164

Depth	Initial stress			Final stress		
	S-total	S-water	S-eff.	S-total	S-water	S-eff.
[m]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]
-15,00	289,279	117,033	172,246	293,293	117,033	176,260

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary	Secondary	Primary	Secondary 10 [days]	Primary	Secondary 10 [days]
	[m]	[m]	[m]	[m]	[m]	[m]
7	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
6	0,0000	0,0000	0,0000	0,0000	0,0001	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0003	0,0000
4	0,0000	0,0000	0,0012	0,0003	0,0000	0,0000
3	0,0000	0,0000	0,0013	0,0005	0,0000	0,0000
2	0,0000	0,0000	0,0013	0,0003	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0003	0,0000
Total	0,0000	0,0000	0,0038	0,0011	0,0007	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height
From	To		Primary	Secondary 10 [days]	After 10000 [days]	
[m]	[m]		[m]	[m]	[m]	[%]
1,25	1,00	7	0,0000	0,0000	0,0000	0,00
1,00	-2,00	6	0,0001	0,0000	0,0001	0,00
-2,00	-4,00	5	0,0003	0,0000	0,0003	0,02
-4,00	-5,00	4	0,0012	0,0003	0,0025	0,25
-5,00	-7,00	3	0,0013	0,0005	0,0032	0,16
-7,00	-8,00	2	0,0013	0,0003	0,0025	0,25
-8,00	-15,00	1	0,0003	0,0000	0,0003	0,00
Total			0,0045	0,0011	0,0089	

3.19 Results for Vertical 19 (X = -15,50 m; Z = 0,00 m)

Depth	Initial stress			Final stress		
	S-total	S-water	S-eff.	S-total	S-water	S-eff.
[m]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]
Layer 6						
1,35	0,001	0,000	0,001	0,743	0,000	0,743
1,25	1,800	0,000	1,800	2,546	0,000	2,546
1,15	3,600	0,000	3,600	4,354	0,000	4,354
1,05	5,400	0,000	5,400	6,168	0,000	6,168
0,95	7,200	0,000	7,200	7,989	0,000	7,989
0,85	9,000	0,000	9,000	9,816	0,000	9,816
0,75	10,800	0,000	10,800	11,648	0,000	11,648
0,65	12,600	0,000	12,600	13,486	0,000	13,486
0,55	14,400	0,000	14,400	15,327	0,000	15,327
0,45	16,200	0,000	16,200	17,170	0,000	17,170
0,35	18,000	0,000	18,000	19,014	0,000	19,014
-0,33	30,150	0,000	30,150	31,440	0,000	31,440
-0,42	31,929	0,000	31,929	33,328	0,074	33,254
-1,20	47,452	7,614	39,838	49,070	7,688	41,382
-2,00	63,452	15,462	47,990	65,251	15,535	49,716
Layer 5						
-2,00	63,453	15,462	47,990	65,251	15,536	49,716
-3,00	82,452	25,272	57,180	84,479	25,344	59,135
-3,07	83,782	25,959	57,823	85,826	26,030	59,795
-4,00	101,452	35,082	66,370	103,729	35,152	68,577
Layer 4						
-4,00	101,452	35,082	66,370	103,729	35,152	68,577
-4,50	107,902	36,742	71,160	110,299	36,802	73,498
-5,00	114,352	38,403	75,950	116,869	38,451	78,418
Layer 3						
-5,00	114,352	38,403	75,950	116,869	38,451	78,418
-6,00	126,352	41,723	84,630	129,106	41,758	87,348

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
-7,00	138,352	45,043	93,309	141,317	45,066	96,251
Layer 2						
-7,00	138,352	45,043	93,309	141,317	45,066	96,251
-7,50	144,802	46,703	98,099	147,856	46,716	101,140
-8,00	151,252	48,363	102,889	154,386	48,366	106,020
Layer 1						
-8,00	151,253	48,363	102,889	154,386	48,366	106,020
-8,80	167,252	56,211	111,041	170,510	56,214	114,296
-9,80	187,252	66,021	121,231	190,632	66,023	124,609
-10,80	207,252	75,831	131,421	210,720	75,833	134,887
-11,50	221,252	82,698	138,554	224,763	82,700	142,063
-12,30	237,252	90,546	146,706	240,796	90,547	150,249
-13,30	257,252	100,356	156,896	260,817	100,357	160,460
-14,30	277,252	110,166	167,086	280,818	110,167	170,651
-15,00	291,252	117,033	174,219	294,809	117,033	177,776

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0004	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0003	0,0000
4	0,0000	0,0000	0,0011	0,0003	0,0000	0,0000
3	0,0000	0,0000	0,0011	0,0004	0,0000	0,0000
2	0,0000	0,0000	0,0010	0,0003	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0003	0,0000
Total	0,0000	0,0000	0,0032	0,0009	0,0010	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	Percentage of original layer height [%]
1,35	-2,00	6	0,0004	0,0000	0,0004	0,01
-2,00	-4,00	5	0,0003	0,0000	0,0003	0,02
-4,00	-5,00	4	0,0011	0,0003	0,0022	0,22
-5,00	-7,00	3	0,0011	0,0004	0,0026	0,13
-7,00	-8,00	2	0,0010	0,0003	0,0020	0,20
-8,00	-15,00	1	0,0003	0,0000	0,0003	0,00
Total			0,0042	0,0009	0,0079	

3.20 Results for Vertical 20 (X = -13,70 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 6						
1,50	0,001	0,000	0,001	3,998	0,000	3,998
1,40	1,800	0,000	1,800	6,101	0,000	6,101
1,30	3,600	0,000	3,600	7,924	0,000	7,924
1,20	5,400	0,000	5,400	9,743	0,000	9,743
1,10	7,200	0,000	7,200	11,553	0,000	11,553
1,00	9,000	0,000	9,000	13,350	0,000	13,350
0,90	10,800	0,000	10,800	15,133	0,000	15,133
0,80	12,600	0,000	12,600	16,903	0,000	16,903
0,70	14,400	0,000	14,400	18,664	0,000	18,664
0,60	16,200	0,000	16,200	20,416	0,000	20,416
0,50	18,000	0,000	18,000	22,163	0,000	22,163
-0,25	31,500	0,000	31,500	35,211	0,000	35,211
-0,30	32,335	0,000	32,335	36,089	0,071	36,018
-1,10	48,407	7,883	40,524	51,735	7,953	43,782
-2,00	66,407	16,712	49,695	69,376	16,781	52,595

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 5						
-2,00	66,407	16,713	49,695	69,376	16,781	52,596
-3,00	85,407	26,522	58,885	88,114	26,588	61,525
-3,07	86,737	27,209	59,528	89,430	27,275	62,155
-4,00	104,407	36,332	68,075	106,975	36,396	70,578
Layer 4						
-4,00	104,407	36,332	68,075	106,975	36,397	70,578
-4,50	110,857	37,836	73,021	113,383	37,889	75,494
-5,00	117,307	39,340	77,967	119,811	39,382	80,429
Layer 3						
-5,00	117,307	39,340	77,967	119,811	39,382	80,429
-6,00	129,307	42,348	86,959	131,824	42,378	89,446
-7,00	141,307	45,356	95,952	143,877	45,375	98,503
Layer 2						
-7,00	141,307	45,356	95,952	143,877	45,375	98,503
-7,50	147,757	46,859	100,898	150,360	46,870	103,490
-8,00	154,207	48,363	105,844	156,845	48,366	108,479
Layer 1						
-8,00	154,207	48,363	105,844	156,845	48,366	108,480
-8,80	170,207	56,211	113,996	172,916	56,213	116,703
-9,80	190,207	66,021	124,186	193,002	66,023	126,979
-10,80	210,207	75,831	134,376	213,078	75,833	137,246
-11,50	224,207	82,698	141,509	227,124	82,699	144,425
-12,30	240,207	90,546	149,661	243,168	90,547	152,621
-13,30	260,207	100,356	159,851	263,209	100,357	162,853
-14,30	280,207	110,166	170,041	283,237	110,166	173,071
-15,00	294,207	117,033	177,174	297,249	117,033	180,216

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0014	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0004	0,0000
4	0,0000	0,0000	0,0011	0,0003	0,0000	0,0000
3	0,0000	0,0000	0,0010	0,0004	0,0000	0,0000
2	0,0000	0,0000	0,0008	0,0002	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0002	0,0000
Total	0,0000	0,0000	0,0029	0,0008	0,0021	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	Percentage of original layer height [%]
1,50	-2,00	6	0,0014	0,0000	0,0014	0,04
-2,00	-4,00	5	0,0004	0,0000	0,0004	0,02
-4,00	-5,00	4	0,0011	0,0003	0,0022	0,22
-5,00	-7,00	3	0,0010	0,0004	0,0024	0,12
-7,00	-8,00	2	0,0008	0,0002	0,0017	0,17
-8,00	-15,00	1	0,0002	0,0000	0,0002	0,00
Total			0,0050	0,0008	0,0083	

3.21 Results for Vertical 21 (X = -5,70 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 6						
3,70	0,001	0,000	0,001	0,001	0,000	0,001
3,60	1,800	0,000	1,800	1,800	0,000	1,800
3,50	3,600	0,000	3,600	3,769	0,000	3,769

Depth	Initial stress			Final stress		
	S-total	S-water	S-eff.	S-total	S-water	S-eff.
[m]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]	[kN/m²]
3,40	5,400	0,000	5,400	5,569	0,000	5,569
3,30	7,200	0,000	7,200	7,369	0,000	7,369
3,20	9,000	0,000	9,000	9,168	0,000	9,168
3,10	10,800	0,000	10,800	10,967	0,000	10,967
3,00	12,600	0,000	12,600	12,766	0,000	12,766
2,90	14,400	0,000	14,400	14,565	0,000	14,565
2,80	16,200	0,000	16,200	16,366	0,000	16,366
2,70	18,000	0,000	18,000	18,167	0,000	18,167
1,75	35,100	0,000	35,100	35,333	0,000	35,333
0,85	51,300	0,000	51,300	51,617	0,000	51,617
0,27	61,740	0,000	61,740	62,131	0,017	62,114
-0,40	75,140	6,573	68,567	75,596	6,589	69,007
-1,40	95,140	16,383	78,757	95,693	16,399	79,294
-2,00	107,140	22,269	84,871	107,749	22,285	85,464
Layer 5						
-2,00	107,140	22,269	84,871	107,749	22,285	85,464
-3,00	126,140	32,079	94,061	126,834	32,095	94,740
-3,07	127,470	32,765	94,705	128,170	32,781	95,389
-4,00	145,140	41,889	103,251	145,911	41,904	104,006
Layer 4						
-4,00	145,140	41,889	103,251	145,911	41,904	104,006
-4,50	151,590	42,698	108,892	152,393	42,711	109,682
-5,00	158,040	43,507	114,533	158,873	43,518	115,355
Layer 3						
-5,00	158,040	43,507	114,533	158,873	43,518	115,355
-6,00	170,040	45,126	124,914	170,930	45,134	125,796
-7,00	182,040	46,745	135,295	182,981	46,750	136,231
Layer 2						
-7,00	182,040	46,745	135,295	182,981	46,750	136,232
-7,50	188,490	47,554	140,936	189,455	47,557	141,898
-8,00	194,940	48,363	146,577	195,928	48,364	147,564
Layer 1						
-8,00	194,940	48,363	146,577	195,929	48,364	147,564
-8,80	210,940	56,211	154,729	211,969	56,212	155,757
-9,80	230,940	66,021	164,919	232,019	66,022	165,998
-10,80	250,940	75,831	175,109	252,071	75,832	176,239
-11,50	264,940	82,698	182,242	266,107	82,699	183,408
-12,30	280,940	90,546	190,394	282,149	90,547	191,602
-13,30	300,940	100,356	200,584	302,201	100,356	201,844
-14,30	320,940	110,166	210,774	322,252	110,166	212,086
-15,00	334,940	117,033	217,907	336,287	117,033	219,254

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary	Secondary	Primary	Secondary 10 [days]	Primary	Secondary 10 [days]
	[m]	[m]	[m]	[m]	[m]	[m]
6	0,0000	0,0000	0,0000	0,0000	0,0001	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0001	0,0000
4	0,0000	0,0000	0,0002	0,0001	0,0000	0,0000
3	0,0000	0,0000	0,0002	0,0001	0,0000	0,0000
2	0,0000	0,0000	0,0002	0,0001	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0001	0,0000
Total	0,0000	0,0000	0,0007	0,0002	0,0002	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height
From	To		Primary	Secondary 10 [days]	After 10000 [days]	
[m]	[m]		[m]	[m]	[m]	[%]
3,70	-2,00	6	0,0001	0,0000	0,0001	0,00
-2,00	-4,00	5	0,0001	0,0000	0,0001	0,00
-4,00	-5,00	4	0,0002	0,0001	0,0005	0,05
-5,00	-7,00	3	0,0002	0,0001	0,0006	0,03
-7,00	-8,00	2	0,0002	0,0001	0,0005	0,05

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
-8,00	-15,00	1	0,0001	0,0000	0,0001	0,00
Total			0,0009	0,0002	0,0018	

3.22 Results for Vertical 22 (X = -3,70 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 6						
3,90	0,001	0,000	0,001	0,001	0,000	0,001
3,80	1,800	0,000	1,800	1,800	0,000	1,800
3,70	3,600	0,000	3,600	3,600	0,000	3,600
3,60	5,400	0,000	5,400	5,400	0,000	5,400
3,50	7,200	0,000	7,200	7,200	0,000	7,200
3,40	9,000	0,000	9,000	9,000	0,000	9,000
3,30	10,800	0,000	10,800	10,800	0,000	10,800
3,20	12,600	0,000	12,600	12,600	0,000	12,600
3,10	14,400	0,000	14,400	14,400	0,000	14,400
3,00	16,200	0,000	16,200	16,200	0,000	16,200
2,90	18,000	0,000	18,000	18,001	0,000	18,001
1,95	35,100	0,000	35,100	35,112	0,000	35,112
0,95	53,100	0,000	53,100	53,148	0,000	53,148
0,27	65,340	0,000	65,340	65,434	0,010	65,424
-0,40	78,740	6,573	72,167	78,876	6,582	72,294
-1,40	98,740	16,383	82,357	98,947	16,392	82,555
-2,00	110,740	22,269	88,471	110,992	22,278	88,714
Layer 5						
-2,00	110,740	22,269	88,471	110,992	22,278	88,714
-3,00	129,740	32,079	97,661	130,069	32,088	97,981
-3,07	131,070	32,765	98,305	131,404	32,775	98,629
-4,00	148,740	41,889	106,851	149,144	41,898	107,246
Layer 4						
-4,00	148,740	41,889	106,851	149,145	41,898	107,246
-4,50	155,190	42,698	112,492	155,630	42,706	112,924
-5,00	161,640	43,507	118,133	162,114	43,514	118,600
Layer 3						
-5,00	161,640	43,507	118,133	162,115	43,514	118,600
-6,00	173,640	45,126	128,514	174,181	45,131	129,050
-7,00	185,640	46,745	138,895	186,245	46,748	139,497
Layer 2						
-7,00	185,640	46,745	138,895	186,245	46,748	139,497
-7,50	192,090	47,554	144,536	192,725	47,556	145,169
-8,00	198,540	48,363	150,177	199,204	48,364	150,840
Layer 1						
-8,00	198,540	48,363	150,177	199,204	48,364	150,840
-8,80	214,540	56,211	158,329	215,252	56,212	159,040
-9,80	234,540	66,021	168,519	235,310	66,022	169,288
-10,80	254,540	75,831	178,709	255,367	75,832	179,536
-11,50	268,540	82,698	185,842	269,407	82,699	186,708
-12,30	284,540	90,546	193,994	285,451	90,547	194,905
-13,30	304,540	100,356	204,184	305,506	100,356	205,150
-14,30	324,540	110,166	214,374	325,560	110,166	215,394
-15,00	338,540	117,033	221,507	339,597	117,033	222,563

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
4	0,0000	0,0000	0,0001	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0001	0,0001	0,0000	0,0000
2	0,0000	0,0000	0,0001	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0001	0,0000
Total	0,0000	0,0000	0,0004	0,0001	0,0001	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
3,90	-2,00	6	0,0000	0,0000	0,0000	0,00
-2,00	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0001	0,0000	0,0003	0,03
-5,00	-7,00	3	0,0001	0,0001	0,0003	0,02
-7,00	-8,00	2	0,0001	0,0000	0,0003	0,03
-8,00	-15,00	1	0,0001	0,0000	0,0001	0,00
Total			0,0005	0,0001	0,0010	

3.23 Results for Vertical 23 (X = 1,40 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 6						
4,00	0,001	0,000	0,001	0,001	0,000	0,001
3,90	1,800	0,000	1,800	1,800	0,000	1,800
3,80	3,600	0,000	3,600	3,600	0,000	3,600
3,70	5,400	0,000	5,400	5,400	0,000	5,400
3,60	7,200	0,000	7,200	7,200	0,000	7,200
3,50	9,000	0,000	9,000	9,000	0,000	9,000
3,40	10,800	0,000	10,800	10,800	0,000	10,800
3,30	12,600	0,000	12,600	12,600	0,000	12,600
3,20	14,400	0,000	14,400	14,400	0,000	14,400
3,10	16,200	0,000	16,200	16,200	0,000	16,200
3,00	18,000	0,000	18,000	18,000	0,000	18,000
2,00	36,000	0,000	36,000	36,000	0,000	36,000
1,00	54,000	0,000	54,000	54,001	0,000	54,001
0,27	67,140	0,000	67,140	67,146	0,002	67,143
-0,40	80,540	6,573	73,967	80,549	6,575	73,974
-1,40	100,540	16,383	84,157	100,559	16,385	84,174
-2,00	112,540	22,269	90,271	112,568	22,271	90,296
Layer 5						
-2,00	112,540	22,269	90,271	112,568	22,271	90,296
-3,00	131,540	32,079	99,461	131,587	32,081	99,505
-3,07	132,870	32,765	100,105	132,918	32,768	100,150
-4,00	150,540	41,889	108,651	150,611	41,891	108,720
Layer 4						
-4,00	150,540	41,889	108,651	150,611	41,891	108,720
-4,50	156,990	42,698	114,292	157,076	42,700	114,375
-5,00	163,440	43,507	119,933	163,541	43,509	120,032
Layer 3						
-5,00	163,440	43,507	119,933	163,541	43,509	120,032
-6,00	175,440	45,126	130,314	175,575	45,128	130,448
-7,00	187,440	46,745	140,695	187,613	46,746	140,867
Layer 2						
-7,00	187,440	46,745	140,695	187,613	46,746	140,868
-7,50	193,890	47,554	146,336	194,083	47,555	146,528
-8,00	200,340	48,363	151,977	200,553	48,364	152,190
Layer 1						
-8,00	200,340	48,363	151,977	200,554	48,364	152,190

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
-8,80	216,340	56,211	160,129	216,588	56,212	160,376
-9,80	236,340	66,021	170,319	236,632	66,021	170,611
-10,80	256,340	75,831	180,509	256,678	75,831	180,847
-11,50	270,340	82,698	187,642	270,711	82,698	188,012
-12,30	286,340	90,546	195,794	286,748	90,546	196,202
-13,30	306,340	100,356	205,984	306,795	100,356	206,439
-14,30	326,340	110,166	216,174	326,843	110,166	216,676
-15,00	340,340	117,033	223,307	340,876	117,033	223,842

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0001	0,0000	0,0000	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	Percentage of original layer height [%]
4,00	-2,00	6	0,0000	0,0000	0,0000	0,00
-2,00	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0001	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0001	0,01
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0001	0,0000	0,0003	

3.24 Results for Vertical 24 (X = 6,60 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 6						
4,14	0,001	0,000	0,001	0,001	0,000	0,001
4,04	1,800	0,000	1,800	1,800	0,000	1,800
3,94	3,600	0,000	3,600	3,600	0,000	3,600
3,84	5,400	0,000	5,400	5,400	0,000	5,400
3,74	7,200	0,000	7,200	7,200	0,000	7,200
3,64	9,000	0,000	9,000	9,000	0,000	9,000
3,54	10,800	0,000	10,800	10,800	0,000	10,800
3,44	12,600	0,000	12,600	12,600	0,000	12,600
3,34	14,400	0,000	14,400	14,400	0,000	14,400
3,24	16,200	0,000	16,200	16,200	0,000	16,200
3,14	18,000	0,000	18,000	18,000	0,000	18,000
2,47	30,060	0,000	30,060	30,060	0,000	30,060
1,47	48,060	0,000	48,060	48,060	0,000	48,060
1,07	55,260	0,000	55,260	55,260	0,000	55,260
0,27	69,660	0,000	69,660	69,661	0,001	69,660
-0,40	83,060	6,573	76,487	83,062	6,573	76,488
-1,40	103,060	16,383	86,677	103,063	16,383	86,680
-2,00	115,060	22,269	92,791	115,065	22,269	92,796
Layer 5						
-2,00	115,060	22,269	92,791	115,065	22,269	92,796
-3,00	134,060	32,079	101,981	134,069	32,079	101,990
-3,07	135,390	32,765	102,625	135,400	32,766	102,634

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
-4,00	153,060	41,889	111,171	153,076	41,889	111,186
Layer 4						
-4,00	153,060	41,889	111,171	153,076	41,889	111,187
-4,50	159,510	42,698	116,812	159,530	42,699	116,831
-5,00	165,960	43,507	122,453	165,985	43,508	122,477
Layer 3						
-5,00	165,960	43,507	122,453	165,985	43,508	122,477
-6,00	177,960	45,126	132,834	177,997	45,126	132,870
-7,00	189,960	46,745	143,215	190,012	46,745	143,267
Layer 2						
-7,00	189,960	46,745	143,215	190,012	46,745	143,267
-7,50	196,410	47,554	148,856	196,470	47,554	148,916
-8,00	202,860	48,363	154,497	202,929	48,363	154,566
Layer 1						
-8,00	202,860	48,363	154,497	202,929	48,363	154,566
-8,80	218,860	56,211	162,649	218,945	56,211	162,734
-9,80	238,860	66,021	172,839	238,968	66,021	172,947
-10,80	258,860	75,831	183,029	258,993	75,831	183,162
-11,50	272,860	82,698	190,162	273,012	82,698	190,314
-12,30	288,860	90,546	198,314	289,035	90,546	198,488
-13,30	308,860	100,356	208,504	309,064	100,356	208,708
-14,30	328,860	110,166	218,694	329,096	110,166	218,929
-15,00	342,860	117,033	225,827	343,118	117,033	226,085

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	Percentage of original layer height [%]
4,14	-2,00	6	0,0000	0,0000	0,0000	0,00
-2,00	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0000	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0000	0,00
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0000	0,0000	0,0001	

3.25 Results for Vertical 25 (X = 9,80 m; Z = 0,00 m)

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
Layer 6						
2,18	0,001	0,000	0,001	0,001	0,000	0,001
2,08	1,800	0,000	1,800	1,800	0,000	1,800
1,98	3,600	0,000	3,600	3,600	0,000	3,600
1,88	5,400	0,000	5,400	5,400	0,000	5,400
1,78	7,200	0,000	7,200	7,200	0,000	7,200
1,68	9,000	0,000	9,000	9,000	0,000	9,000
1,58	10,800	0,000	10,800	10,800	0,000	10,800

Depth [m]	Initial stress S-total [kN/m²]	Initial stress S-water [kN/m²]	Initial stress S-eff. [kN/m²]	Final stress S-total [kN/m²]	Final stress S-water [kN/m²]	Final stress S-eff. [kN/m²]
1,48	12,600	0,000	12,600	12,600	0,000	12,600
1,38	14,400	0,000	14,400	14,400	0,000	14,400
1,28	16,200	0,000	16,200	16,200	0,000	16,200
1,18	18,000	0,000	18,000	18,000	0,000	18,000
0,21	35,466	0,000	35,466	35,467	0,000	35,467
0,09	37,859	1,174	36,686	37,860	1,174	36,686
-0,60	51,659	7,943	43,717	51,660	7,943	43,717
-1,60	71,659	17,753	53,907	71,661	17,753	53,908
-2,00	79,659	21,677	57,983	79,662	21,677	57,985
Layer 5						
-2,00	79,659	21,677	57,983	79,662	21,677	57,985
-3,00	98,659	31,487	67,173	98,664	31,487	67,176
-3,07	99,989	32,173	67,816	99,994	32,174	67,820
-4,00	117,659	41,297	76,363	117,667	41,297	76,370
Layer 4						
-4,00	117,659	41,297	76,363	117,667	41,297	76,370
-4,50	124,109	42,180	81,929	124,119	42,180	81,938
-5,00	130,559	43,063	87,496	130,571	43,064	87,508
Layer 3						
-5,00	130,559	43,063	87,496	130,571	43,064	87,508
-6,00	142,559	44,830	97,729	142,578	44,830	97,747
-7,00	154,559	46,597	107,963	154,586	46,597	107,989
Layer 2						
-7,00	154,559	46,597	107,963	154,586	46,597	107,989
-7,50	161,009	47,480	113,529	161,041	47,480	113,561
-8,00	167,459	48,363	119,096	167,496	48,363	119,133
Layer 1						
-8,00	167,459	48,363	119,096	167,497	48,363	119,133
-8,80	183,459	56,211	127,248	183,506	56,211	127,295
-9,80	203,459	66,021	137,438	203,521	66,021	137,499
-10,80	223,459	75,831	147,628	223,537	75,831	147,706
-11,50	237,459	82,698	154,761	237,549	82,698	154,851
-12,30	253,459	90,546	162,913	253,565	90,546	163,019
-13,30	273,459	100,356	173,103	273,586	100,356	173,230
-14,30	293,459	110,166	183,293	293,609	110,166	183,442
-15,00	307,459	117,033	190,426	307,625	117,033	190,592

Layer number	Swelling Primary [m]	Swelling Secondary [m]	Settlement b. Sp. Primary [m]	Settlement b. Sp. Secondary 10 [days] [m]	Settlement a. Sp. Primary [m]	Settlement a. Sp. Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Depth From [m]	Depth To [m]	Layer number	Total settlement (100% cons.) Primary [m]	Total settlement (100% cons.) Secondary 10 [days] [m]	Total settlement (100% cons.) After 10000 [days] [m]	Percentage of original layer height [%]
2,18	-2,00	6	0,0000	0,0000	0,0000	0,00
-2,00	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0000	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0000	0,00
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0000	0,0000	0,0000	

3.26 Results for Vertical 26 (X = 12,10 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 6						
1,61	0,001	0,000	0,001	0,001	0,000	0,001
1,51	1,800	0,000	1,800	1,800	0,000	1,800
1,41	3,600	0,000	3,600	3,600	0,000	3,600
1,31	5,400	0,000	5,400	5,400	0,000	5,400
1,21	7,200	0,000	7,200	7,200	0,000	7,200
1,11	9,000	0,000	9,000	9,000	0,000	9,000
1,01	10,800	0,000	10,800	10,800	0,000	10,800
0,91	12,600	0,000	12,600	12,600	0,000	12,600
0,81	14,400	0,000	14,400	14,400	0,000	14,400
0,71	16,200	0,000	16,200	16,200	0,000	16,200
0,61	18,000	0,000	18,000	18,000	0,000	18,000
0,17	25,987	0,000	25,987	25,988	0,000	25,987
-0,20	33,213	3,544	29,669	33,213	3,544	29,669
-1,10	51,313	12,422	38,891	51,313	12,422	38,891
-2,00	69,313	21,251	48,062	69,314	21,251	48,063
Layer 5						
-2,00	69,313	21,251	48,062	69,314	21,251	48,063
-3,00	88,313	31,061	57,252	88,315	31,061	57,254
-3,07	89,643	31,748	57,895	89,645	31,748	57,897
-4,00	107,313	40,871	66,442	107,317	40,871	66,446
Layer 4						
-4,00	107,313	40,871	66,442	107,317	40,871	66,446
-4,50	113,763	41,808	71,955	113,768	41,808	71,961
-5,00	120,213	42,744	77,468	120,220	42,744	77,476
Layer 3						
-5,00	120,213	42,744	77,469	120,220	42,744	77,476
-6,00	132,213	44,617	87,595	132,224	44,617	87,607
-7,00	144,213	46,490	97,722	144,230	46,490	97,739
Layer 2						
-7,00	144,213	46,490	97,722	144,230	46,490	97,740
-7,50	150,663	47,427	103,236	150,683	47,427	103,256
-8,00	157,113	48,363	108,749	157,137	48,363	108,774
Layer 1						
-8,00	157,113	48,363	108,749	157,137	48,363	108,774
-8,80	173,113	56,211	116,901	173,144	56,211	116,933
-9,80	193,113	66,021	127,091	193,154	66,021	127,133
-10,80	213,113	75,831	137,281	213,166	75,831	137,335
-11,50	227,113	82,698	144,414	227,176	82,698	144,477
-12,30	243,113	90,546	152,566	243,188	90,546	152,641
-13,30	263,113	100,356	162,756	263,204	100,356	162,847
-14,30	283,113	110,166	172,946	283,221	110,166	173,055
-15,00	297,113	117,033	180,079	297,235	117,033	180,201

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
6	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	[%]
1,61	-2,00	6	0,0000	0,0000	0,0000	0,00
-2,00	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0000	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0000	0,00
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0000	0,0000	0,0000	

3.27 Results for Vertical 27 (X = 23,00 m; Z = 0,00 m)

Depth	Initial stress			Final stress		
[m]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 5						
-2,00	19,235	19,234	0,001	19,235	19,234	0,001
-2,10	21,134	20,215	0,919	21,134	20,215	0,919
-2,20	23,034	21,196	1,838	23,034	21,196	1,838
-2,30	24,934	22,177	2,757	24,934	22,177	2,757
-2,40	26,834	23,158	3,676	26,834	23,158	3,676
-2,50	28,734	24,139	4,595	28,734	24,139	4,595
-2,60	30,634	25,120	5,514	30,634	25,120	5,514
-2,70	32,534	26,101	6,433	32,534	26,101	6,433
-2,80	34,434	27,082	7,352	34,434	27,082	7,352
-2,90	36,334	28,063	8,271	36,335	28,063	8,271
-3,00	38,234	29,044	9,190	38,235	29,044	9,190
-3,07	39,564	29,731	9,833	39,565	29,731	9,834
-4,00	57,234	38,854	18,380	57,235	38,854	18,381
Layer 4						
-4,00	57,234	38,854	18,380	57,235	38,854	18,381
-4,50	63,684	40,043	23,641	63,685	40,043	23,642
-5,00	70,134	41,231	28,903	70,135	41,231	28,904
Layer 3						
-5,00	70,134	41,231	28,903	70,136	41,232	28,904
-6,00	82,134	43,609	38,525	82,136	43,609	38,527
-7,00	94,134	45,986	48,148	94,137	45,986	48,151
Layer 2						
-7,00	94,134	45,986	48,148	94,137	45,986	48,151
-7,50	100,584	47,175	53,409	100,588	47,175	53,413
-8,00	107,034	48,363	58,671	107,039	48,363	58,676
Layer 1						
-8,00	107,034	48,363	58,671	107,039	48,363	58,676
-8,80	123,034	56,211	66,823	123,040	56,211	66,829
-9,80	143,034	66,021	77,013	143,043	66,021	77,022
-10,80	163,034	75,831	87,203	163,046	75,831	87,215
-11,50	177,034	82,698	94,336	177,049	82,698	94,350
-12,30	193,034	90,546	102,488	193,052	90,546	102,506
-13,30	213,034	100,356	112,678	213,057	100,356	112,701
-14,30	233,034	110,166	122,868	233,063	110,166	122,896
-15,00	247,034	117,033	130,001	247,067	117,033	130,034

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
Total	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
-2,00	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0000	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0000	0,00
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0000	0,0000	0,0000	

3.28 Results for Vertical 28 (X = 25,90 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 5						
-3,00	28,509	28,508	0,001	28,509	28,508	0,001
-3,07	29,837	29,194	0,643	29,838	29,194	0,644
-3,10	30,407	29,488	0,919	30,408	29,489	0,919
-3,20	32,307	30,469	1,838	32,308	30,470	1,838
-3,30	34,207	31,450	2,757	34,208	31,451	2,757
-3,40	36,107	32,431	3,676	36,108	32,432	3,676
-3,50	38,007	33,412	4,595	38,008	33,413	4,595
-3,60	39,907	34,393	5,514	39,908	34,394	5,514
-3,70	41,807	35,374	6,433	41,808	35,375	6,433
-3,80	43,707	36,355	7,352	43,708	36,356	7,352
-3,90	45,607	37,336	8,271	45,608	37,337	8,271
-4,00	47,507	38,317	9,190	47,508	38,318	9,190
Layer 4						
-4,00	47,508	38,317	9,190	47,508	38,318	9,191
-4,50	53,957	39,573	14,384	53,958	39,573	14,385
-5,00	60,407	40,829	19,579	60,408	40,829	19,579
Layer 3						
-5,00	60,408	40,829	19,579	60,408	40,829	19,579
-6,00	72,407	43,340	29,067	72,409	43,340	29,068
-7,00	84,407	45,852	38,556	84,410	45,852	38,558
Layer 2						
-7,00	84,408	45,852	38,556	84,410	45,852	38,558
-7,50	90,857	47,108	43,750	90,860	47,108	43,753
-8,00	97,307	48,363	48,944	97,311	48,363	48,947
Layer 1						
-8,00	97,308	48,363	48,944	97,311	48,363	48,948
-8,80	113,307	56,211	57,096	113,312	56,211	57,101
-9,80	133,307	66,021	67,286	133,314	66,021	67,292
-10,80	153,307	75,831	77,476	153,316	75,831	77,485
-11,50	167,307	82,698	84,609	167,318	82,698	84,620
-12,30	183,307	90,546	92,761	183,320	90,546	92,774
-13,30	203,307	100,356	102,951	203,324	100,356	102,968
-14,30	223,307	110,166	113,141	223,328	110,166	113,162
-15,00	237,307	117,033	120,274	237,332	117,033	120,298

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
-3,00	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0000	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0000	0,00
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0000	0,0000	0,0000	

3.29 Results for Vertical 29 (X = 40,00 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 5						
-3,00	25,899	25,898	0,001	25,900	25,899	0,001
-3,07	27,228	26,585	0,643	27,228	26,585	0,643
-3,10	27,798	26,879	0,919	27,798	26,879	0,919
-3,20	29,698	27,860	1,838	29,698	27,860	1,838
-3,30	31,598	28,841	2,757	31,598	28,841	2,757
-3,40	33,498	29,822	3,676	33,498	29,822	3,676
-3,50	35,398	30,803	4,595	35,398	30,803	4,595
-3,60	37,298	31,784	5,514	37,299	31,784	5,514
-3,70	39,198	32,765	6,433	39,199	32,765	6,433
-3,80	41,098	33,746	7,352	41,099	33,746	7,352
-3,90	42,998	34,727	8,271	42,999	34,727	8,271
-4,00	44,898	35,708	9,190	44,899	35,708	9,190
Layer 4						
-4,00	44,899	35,708	9,190	44,899	35,708	9,190
-4,50	51,348	37,290	14,058	51,349	37,290	14,058
-5,00	57,798	38,872	18,926	57,799	38,872	18,926
Layer 3						
-5,00	57,799	38,872	18,926	57,799	38,872	18,927
-6,00	69,798	42,036	27,763	69,799	42,036	27,763
-7,00	81,798	45,200	36,599	81,799	45,200	36,599
Layer 2						
-7,00	81,799	45,200	36,599	81,799	45,200	36,599
-7,50	88,248	46,781	41,467	88,249	46,781	41,468
-8,00	94,698	48,363	46,335	94,699	48,363	46,336
Layer 1						
-8,00	94,699	48,363	46,335	94,699	48,363	46,336
-8,80	110,698	56,211	54,487	110,699	56,211	54,488
-9,80	130,698	66,021	64,677	130,700	66,021	64,679
-10,80	150,698	75,831	74,867	150,701	75,831	74,869
-11,50	164,698	82,698	82,000	164,701	82,698	82,003
-12,30	180,698	90,546	90,152	180,702	90,546	90,155
-13,30	200,698	100,356	100,342	200,703	100,356	100,346
-14,30	220,698	110,166	110,532	220,704	110,166	110,538
-15,00	234,698	117,033	117,665	234,705	117,033	117,672

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
-3,00	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0000	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0000	0,00
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0000	0,0000	0,0000	

3.30 Results for Vertical 30 (X = 59,00 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 5						
-3,00	25,899	25,898	0,001	25,900	25,899	0,001
-3,07	27,228	26,585	0,643	27,228	26,585	0,643
-3,10	27,798	26,879	0,919	27,798	26,879	0,919
-3,20	29,698	27,860	1,838	29,698	27,860	1,838
-3,30	31,598	28,841	2,757	31,598	28,841	2,757
-3,40	33,498	29,822	3,676	33,498	29,822	3,676
-3,50	35,398	30,803	4,595	35,398	30,803	4,595
-3,60	37,298	31,784	5,514	37,298	31,784	5,514
-3,70	39,198	32,765	6,433	39,198	32,765	6,433
-3,80	41,098	33,746	7,352	41,098	33,746	7,352
-3,90	42,998	34,727	8,271	42,998	34,727	8,271
-4,00	44,898	35,708	9,190	44,898	35,708	9,190
Layer 4						
-4,00	44,899	35,708	9,190	44,899	35,708	9,190
-4,50	51,348	37,290	14,058	51,348	37,290	14,058
-5,00	57,798	38,872	18,926	57,798	38,872	18,926
Layer 3						
-5,00	57,799	38,872	18,926	57,799	38,872	18,926
-6,00	69,798	42,036	27,763	69,798	42,036	27,763
-7,00	81,798	45,200	36,599	81,799	45,200	36,599
Layer 2						
-7,00	81,799	45,200	36,599	81,799	45,200	36,599
-7,50	88,248	46,781	41,467	88,249	46,781	41,467
-8,00	94,698	48,363	46,335	94,699	48,363	46,335
Layer 1						
-8,00	94,699	48,363	46,335	94,699	48,363	46,335
-8,80	110,698	56,211	54,487	110,699	56,211	54,487
-9,80	130,698	66,021	64,677	130,699	66,021	64,677
-10,80	150,698	75,831	74,867	150,699	75,831	74,868
-11,50	164,698	82,698	82,000	164,699	82,698	82,001
-12,30	180,698	90,546	90,152	180,699	90,546	90,153
-13,30	200,698	100,356	100,342	200,700	100,356	100,343
-14,30	220,698	110,166	110,532	220,700	110,166	110,534
-15,00	234,698	117,033	117,665	234,700	117,033	117,667

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
-3,00	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0000	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0000	0,00
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0000	0,0000	0,0000	

3.31 Results for Vertical 31 (X = 70,00 m; Z = 0,00 m)

Depth [m]	Initial stress			Final stress		
	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]	S-total [kN/m²]	S-water [kN/m²]	S-eff. [kN/m²]
Layer 5						
-3,00	25,899	25,898	0,001	25,900	25,899	0,001
-3,07	27,228	26,585	0,643	27,228	26,585	0,643
-3,10	27,798	26,879	0,919	27,798	26,879	0,919
-3,20	29,698	27,860	1,838	29,698	27,860	1,838
-3,30	31,598	28,841	2,757	31,598	28,841	2,757
-3,40	33,498	29,822	3,676	33,498	29,822	3,676
-3,50	35,398	30,803	4,595	35,398	30,803	4,595
-3,60	37,298	31,784	5,514	37,298	31,784	5,514
-3,70	39,198	32,765	6,433	39,198	32,765	6,433
-3,80	41,098	33,746	7,352	41,098	33,746	7,352
-3,90	42,998	34,727	8,271	42,998	34,727	8,271
-4,00	44,898	35,708	9,190	44,898	35,708	9,190
Layer 4						
-4,00	44,899	35,708	9,190	44,899	35,708	9,190
-4,50	51,348	37,290	14,058	51,348	37,290	14,058
-5,00	57,798	38,872	18,926	57,798	38,872	18,926
Layer 3						
-5,00	57,799	38,872	18,926	57,799	38,872	18,926
-6,00	69,798	42,036	27,763	69,798	42,036	27,763
-7,00	81,798	45,200	36,599	81,798	45,200	36,599
Layer 2						
-7,00	81,799	45,200	36,599	81,799	45,200	36,599
-7,50	88,248	46,781	41,467	88,248	46,781	41,467
-8,00	94,698	48,363	46,335	94,698	48,363	46,335
Layer 1						
-8,00	94,699	48,363	46,335	94,699	48,363	46,335
-8,80	110,698	56,211	54,487	110,699	56,211	54,487
-9,80	130,698	66,021	64,677	130,699	66,021	64,677
-10,80	150,698	75,831	74,867	150,699	75,831	74,867
-11,50	164,698	82,698	82,000	164,699	82,698	82,000
-12,30	180,698	90,546	90,152	180,699	90,546	90,153
-13,30	200,698	100,356	100,342	200,699	100,356	100,343
-14,30	220,698	110,166	110,532	220,699	110,166	110,533
-15,00	234,698	117,033	117,665	234,699	117,033	117,666

Layer number	Swelling		Settlement b. Sp.		Settlement a. Sp.	
	Primary [m]	Secondary [m]	Primary [m]	Secondary 10 [days] [m]	Primary [m]	Secondary 10 [days] [m]
5	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
4	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
3	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
2	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
1	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Total	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000

Depth		Layer number	Total settlement (100% cons.)			Percentage of original layer height [%]
From [m]	To [m]		Primary [m]	Secondary 10 [days] [m]	After 10000 [days] [m]	
-3,00	-4,00	5	0,0000	0,0000	0,0000	0,00
-4,00	-5,00	4	0,0000	0,0000	0,0000	0,00
-5,00	-7,00	3	0,0000	0,0000	0,0000	0,00
-7,00	-8,00	2	0,0000	0,0000	0,0000	0,00
-8,00	-15,00	1	0,0000	0,0000	0,0000	0,00
Total			0,0000	0,0000	0,0000	

4 Settlements

4.1 Settlements

Vertical number	X co-ordinate [m]	Z co-ordinate [m]	Surface level [m]	Settlement [m]
1	-60,00	0,00	-2,90	0,000
2	-57,90	0,00	-2,20	0,000
3	-51,60	0,00	-2,04	0,000
4	-50,00	0,00	-2,00	0,000
5	-48,50	0,00	-1,93	0,000
6	-45,50	0,00	-1,79	0,000
7	-42,00	0,00	-1,63	0,000
8	-40,50	0,00	-1,56	0,001
9	-38,70	0,00	-1,47	0,001
10	-36,10	0,00	-1,35	0,002
11	-31,70	0,00	-1,20	0,015
12	-30,20	0,00	-1,14	0,026
13	-27,55	0,00	-0,83	0,038
14	-22,60	0,00	-0,25	0,040
15	-21,40	0,00	0,10	0,032
16	-18,70	0,00	0,90	0,014
17	-17,80	0,00	1,20	0,010
18	-17,00	0,00	1,25	0,009
19	-15,50	0,00	1,35	0,008
20	-13,70	0,00	1,50	0,008
21	-5,70	0,00	3,70	0,002
22	-3,70	0,00	3,90	0,001
23	1,40	0,00	4,00	0,000
24	6,60	0,00	4,14	0,000
25	9,80	0,00	2,18	0,000
26	12,10	0,00	1,61	0,000
27	23,00	0,00	-2,00	0,000
28	25,90	0,00	-3,00	0,000
29	40,00	0,00	-3,00	0,000
30	59,00	0,00	-3,00	0,000
31	70,00	0,00	-3,00	0,000

4.2 Maintain Profile Calculation Results

Load 1 consists of 1,380 m3 per Width
Load 2 consists of 6,004 m3 per Width
The extra amount of soil to be added is 0,468 m3 per Width
This equals the found settlements for non-uniform loads

5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 D-Settlement will incorporate submerging as a one-off load reduction at time zero, due to the limitations of the Terzaghi model. Use the Darcy model for a gradual weight reduction of soil and loading during submerging
2 The Terzaghi model uses one consolidation coefficient for loading/unloading. This can underestimate residual settlements after unloading. Switch to Darcy for, more accurate calculations of the consolidation stage.

End of Report