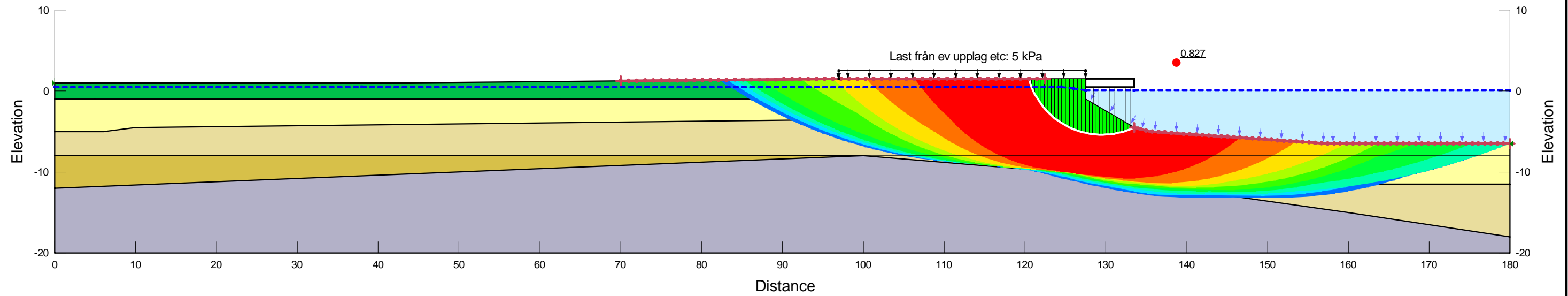
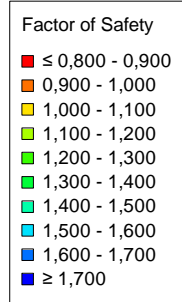


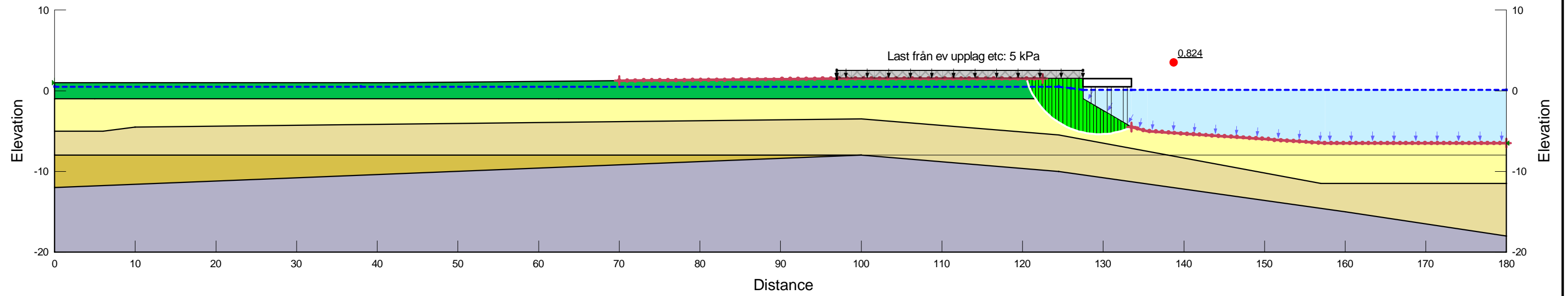
Title: Gamleby Hamn, section D odränerad analys
 Created By: Mattsson, Nina
 Date: 2019-09-27
 Method: Morgenstern-Price
 Scale: 1:500 (A3)

Color	Name	Unit Weight (kN/m ³)	C-Datum (kPa)	C-Rate of Change ((kN/m ²)/m)	C-Maximum (kPa)	Datum (Elevation) (m)	Cohesion (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Constant Unit Wt. Above Water Table (kN/m ³)	Piezometric Line
■	Fyllning	20						0	32	0	18	1
■	Gyttja	13					10					1
■	Lera	15					10					1
■	Lera under -8	15	10	2	50	-8						1
■	Morän	22						0	35	0	20	1



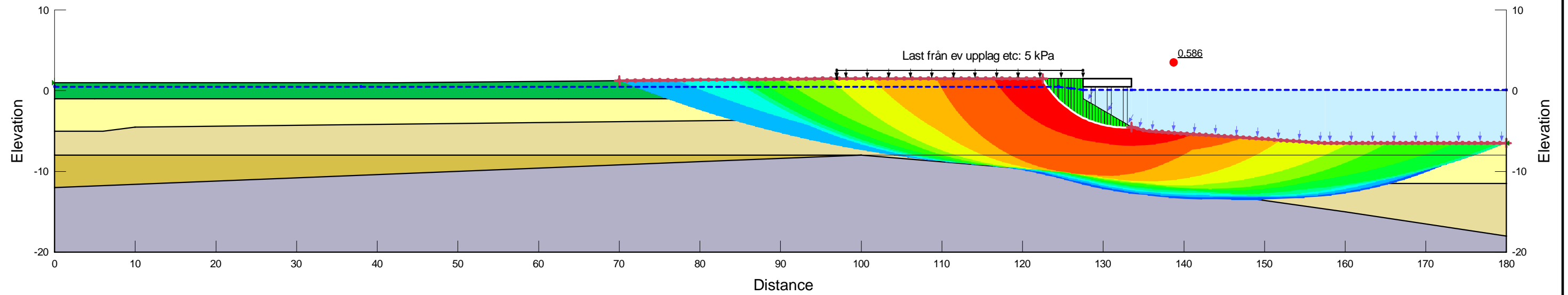
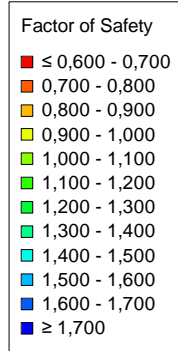
Title: Gamleby Hamn, section D odränerad analys
 Created By: Mattsson, Nina
 Date: 2019-08-23
 Method: Morgenstern-Price
 Scale: 1:500 (A3)

Color	Name	Unit Weight (kN/m ³)	C-Datum (kPa)	C-Rate of Change ((kN/m ²)/m)	C-Maximum (kPa)	Datum (Elevation) (m)	Cohesion (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Constant Unit Wt. Above Water Table (kN/m ³)	Piezometric Line
Green	Fyllning	20						0	30	0	18	1
Yellow	Gyttja	13					10					1
Light Brown	Lera	15					10					1
Dark Brown	Lera under -8	15	10	2	50	-8						1
Grey	Morän	22						0	35	0	20	1



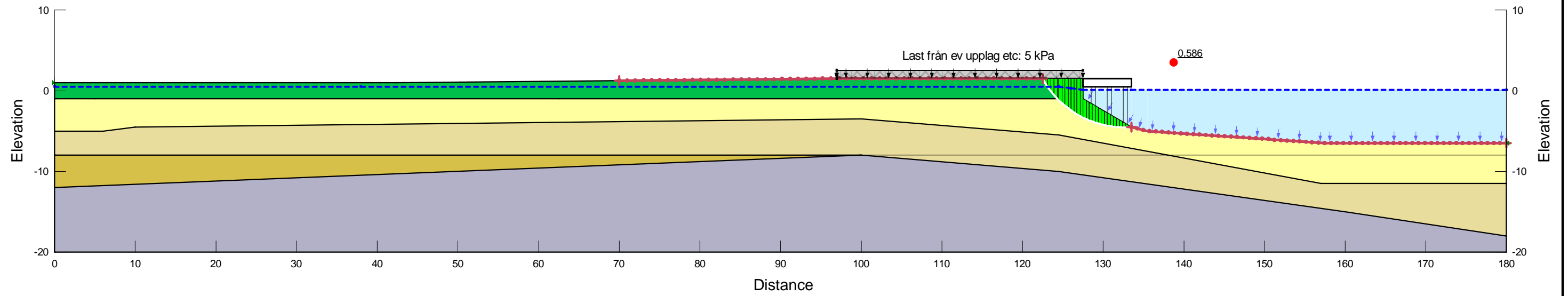
Title: Gamleby Hamn, section D kombinerad analys
 Created By: Mattsson, Nina
 Date: 2019-09-13
 Method: Morgenstern-Price
 Scale: 1:500 (A3)

Color	Name	Unit Weight (kN/m ³)	Cohesion' (kPa)	Phi' (°)	C-Datum (kPa)	Cu-Datum (kPa)	Cu-Rate of Change ((kN/m ²)/m)	C/Cu Ratio	Datum (Elevation) (m)	Phi-B (°)	Constant Unit Wt. Above Water Table (kN/m ³)	Piezometric Line
■	Fyllning	20	0	32						0	18	1
■	Gyttja (Komb)	13		20	1	10	0	0,1				1
■	Lera (Komb)	15		25	1	10	0	0,1				1
■	Lera (Komb) under -8	15		25	1	10	2	0,1	-8			1
■	Morän	22	0	35						0	20	1



Title: Gamleby Hamn, section D kombinerad analys
 Created By: Mattsson, Nina
 Date: 2019-08-23
 Method: Morgenstern-Price
 Scale: 1:500 (A3)

Color	Name	Unit Weight (kN/m³)	Cohesion' (kPa)	Phi' (°)	C-Datum (kPa)	Cu-Datum (kPa)	Cu-Rate of Change ((kN/m²)/m)	C/Cu Ratio	Datum (Elevation) (m)	Phi-B (°)	Constant Unit Wt. Above Water Table (kN/m³)	Piezometric Line
■	Fyllning	20	0	32						0	18	1
■	Gyttja (Komb)	13		20	1	10	0	0,1				1
■	Lera (Komb)	15		25	1	10	0	0,1				1
■	Lera (Komb) under -8	15		25	1	10	2	0,1	-8			1
■	Morän	22	0	35						0	20	1



Gamleby Hamn Sektion D Odränerad analys

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File Information

File Version: 9.01
Title: Gamleby Hamn, section D odränerad analys
Created By: Mattsson, Nina
Last Edited By: Klasson, Per
Revision Number: 104
Date: 2019-09-27
Time: 14:22:15
Tool Version: 9.1.1.16749
File Name: Sektion D_odrän_NM.gsz
Directory: O:\JKP\290261\G_Berakningar\Slope\Sektion D\
Last Solved Date: 2019-09-27
Last Solved Time: 14:22:37

Project Settings

Unit System: International System of Units (SI)

Analysis Settings

Gamleby Hamn Sektion D Odränerad analys

Kind: SLOPE/W

Method: Morgenstern-Price

Settings

Side Function

Interslice force function option: Half-Sine

PWP Conditions from: Piezometric Line

Apply Phreatic Correction: No

Use Staged Rapid Drawdown: No

Unit Weight of Water: 9,807 kN/m³

Slip Surface

Direction of movement: Left to Right

Use Passive Mode: No

Slip Surface Option: Entry and Exit

Critical slip surfaces saved: 1

Optimize Critical Slip Surface Location: No

Tension Crack Option: (none)

Distribution

F of S Calculation Option: Constant

Advanced

Geometry Settings

Minimum Slip Surface Depth: 0,1 m

Number of Slices: 30

Factor of Safety Convergence Settings

Maximum Number of Iterations: 100

Tolerable difference in F of S: 0,001

Solution Settings

Search Method: Root Finder

Tolerable difference between starting and converged F of S: 3

Maximum iterations to calculate converged lambda: 20
Max Absolute Lambda: 2

Materials

Fyllning

Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion': 0 kPa
Phi': 32 °
Phi-B: 0 °
Constant Unit Wt. Above Water Table: 18 kN/m³
Pore Water Pressure
Piezometric Line: 1

Morän

Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion': 0 kPa
Phi': 35 °
Phi-B: 0 °
Constant Unit Wt. Above Water Table: 20 kN/m³
Pore Water Pressure
Piezometric Line: 1

Gyttja

Model: Undrained (Phi=0)
Unit Weight: 13 kN/m³
Cohesion: 10 kPa
Pore Water Pressure
Piezometric Line: 1

Lera

Model: Undrained (Phi=0)
Unit Weight: 15 kN/m³
Cohesion: 10 kPa
Pore Water Pressure
Piezometric Line: 1

Lera under -8

Model: S=f(datum)
Unit Weight: 15 kN/m³
C-Datum: 10 kPa
C-Rate of Change: 2 (kN/m²)/m
C-Maximum: 50 kPa
Datum (Elevation): -8 m
Pore Water Pressure
Piezometric Line: 1

Slip Surface Entry and Exit

Left Type: Range
Left-Zone Left Coordinate: (70; 1,25) m
Left-Zone Right Coordinate: (122,5; 1,5) m
Left-Zone Increment: 52
Right Type: Range

Right-Zone Left Coordinate: (133,5; -4,5) m

Right-Zone Right Coordinate: (180; -6,5) m

Right-Zone Increment: 60

Radius Increments: 8

Slip Surface Limits

Left Coordinate: (0; 1) m

Right Coordinate: (180; -6,5) m

Piezometric Lines

Piezometric Line 1

Coordinates

	X	Y
Coordinate 1	0 m	0,5 m
Coordinate 2	38 m	0,5 m
Coordinate 3	124,5 m	0,5 m
Coordinate 4	126 m	0,3 m
Coordinate 5	127,5 m	0,1 m
Coordinate 6	133,5 m	0,1 m
Coordinate 7	180 m	0,1 m

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 5 kN/m³

Direction: Vertical

Coordinates

	X	Y
	97 m	1,5 m
	97 m	2,5 m
	127,5 m	2,5 m

Points

	X	Y
Point 1	80 m	-20 m
Point 2	0 m	-12 m
Point 3	100 m	-8 m
Point 4	124,5 m	-10 m
Point 5	160 m	-15 m
Point 6	180 m	-20 m
Point 7	0 m	-20 m
Point 8	180 m	-18 m
Point 9	180 m	-11,5 m
Point 10	157 m	-11,5 m
Point 11	124,5 m	-5,5 m
Point 12	100 m	-3,5 m

Point 13	10 m	-4,5 m
Point 14	6 m	-5 m
Point 15	0 m	-5 m
Point 16	180 m	-6,5 m
Point 17	157,5 m	-6,5 m
Point 18	135,5 m	-5 m
Point 19	133,5 m	-4,5 m
Point 20	62,5 m	-1 m
Point 21	5 m	-1 m
Point 22	0 m	-1 m
Point 23	97,5 m	1,5 m
Point 24	42,5 m	1 m
Point 25	0 m	1 m
Point 26	127,5 m	-1 m
Point 27	127,5 m	1,5 m
Point 28	127,5 m	0,5 m
Point 29	0 m	-8 m
Point 30	138,04167 m	-8,000001 m

Regions

	Material	Points	Area
Region 1	Morän	2;3;4;5;8;6;7	1 605,8 m ²
Region 2	Lera	11;12;13;14;15;29;3;30	493,68 m ²
Region 3	Gyttja	16;17;18;19;26;20;21;22;15;14;13;12;11;30;10;9	633,75 m ²
Region 4	Fyllning	27;23;24;25;22;21;20;26;28	283,75 m ²
Region 5	Lera under -8	29;2;3	200 m ²
Region 6	Lera	3;4;5;8;9;10;30	240,57 m ²

Slip Results

Slip Surfaces Analysed: 27261 of 29097 converged

Current Slip Surface

Slip Surface: 27 457

Factor of Safety: 0,827

Volume: 46,629886 m³

Weight: 705,98766 kN

Resisting Moment: 1 417,2583 kN·m

Activating Moment: 1 713,0954 kN·m

Resisting Force: 125,85906 kN

Activating Force: 152,24796 kN

Slip Rank: 1 of 29 097 slip surfaces

Exit: (133,5; -4,5) m

Entry: (120,48073; 1,5) m

Radius: 9,3844986 m

Center: (129,52571; 4,0014032) m

Slip Slices

	X	Y	PWP	Base Normal Stress	Frictional Strength	Cohesive Strength	Suction Strength	Base Material
Slice 1	120,6498 m	1 m	-4,9035 kPa	4,2887446 kPa	2,679905 kPa	0 kPa	0 kPa	Fyllning

Slice 2	121,01041 m	0,083695102 m	4,0827021 kPa	14,112894 kPa	6,2675595 kPa	0 kPa	0 kPa	Fyllning
Slice 3	121,39348 m	-0,6663049 m	11,437952 kPa	25,649044 kPa	8,8800759 kPa	0 kPa	0 kPa	Fyllning
Slice 4	121,79322 m	-1,303495 m	17,686875 kPa	35,880678 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 5	122,20965 m	-1,8665856 m	23,209105 kPa	44,262979 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 6	122,62608 m	-2,3522859 m	27,972367 kPa	51,237615 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 7	123,0425 m	-2,7775212 m	32,142651 kPa	57,306741 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 8	123,45893 m	-3,1532076 m	35,827007 kPa	62,765227 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 9	123,87536 m	-3,4868729 m	39,099263 kPa	67,799809 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 10	124,29179 m	-3,78396 m	42,012796 kPa	72,533683 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 11	124,75 m	-4,0718248 m	44,508986 kPa	77,416528 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 12	125,25 m	-4,3477406 m	46,561092 kPa	82,489559 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 13	125,75 m	-4,5856931 m	48,240893 kPa	87,233176 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 14	126,25 m	-4,7887811 m	49,578776 kPa	92,039739 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 15	126,75 m	-4,9593856 m	50,598094 kPa	96,561893 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 16	127,25 m	-5,0993406 m	51,316833 kPa	102,7369 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 17	127,71429 m	-5,2040218 m	52,016542 kPa	65,278005 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 18	128,14286 m	-5,2781219 m	52,743242 kPa	67,553244 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 19	128,57143 m	-5,3319648 m	53,271278 kPa	69,438794 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 20	129 m	-5,3659004 m	53,604086 kPa	70,881035 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 21	129,42857 m	-5,3801454 m	53,743786 kPa	71,826705 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 22	129,85714 m	-5,3747897 m	53,691262 kPa	72,225932 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 23	130,28571 m	-5,3497994 m	53,446183 kPa	72,035362 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 24	130,71429 m	-5,3050162 m	53,006994 kPa	71,221221 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 25	131,14286 m	-5,2401516 m	52,370866 kPa	69,762094 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 26	131,57143 m	-5,1547778 m	51,533606 kPa	67,651164 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 27	132 m	-5,0483132 m	50,489508 kPa	64,897707 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 28	132,42857 m	-4,9200007 m	49,231146 kPa	61,527622 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 29	132,85714 m	-4,7688787 m	47,749094 kPa	57,582908 kPa	0 kPa	10 kPa	0 kPa	Gyttja
Slice 30	133,28571 m	-4,5937407 m	46,031515 kPa	53,120063 kPa	0 kPa	10 kPa	0 kPa	Gyttja

Gamleby Hamn Sektion D

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File Information

File Version: 9.01
Title: Gamleby Hamn, section D kombinerad analys
Created By: Mattsson, Nina
Last Edited By: Horndahl, Jacob
Revision Number: 96
Date: 2019-09-13
Time: 16:30:22
Tool Version: 9.1.1.16749
File Name: Sektion D_komb_NM.gsz
Directory: O:\JKP\290261\G_Berakningar\Slope\Sektion D\
Last Solved Date: 2019-09-13
Last Solved Time: 16:34:12

Project Settings

Unit System: International System of Units (SI)

Analysis Settings

Gamleby Hamn Sektion D

Kind: SLOPE/W

Method: Morgenstern-Price

Settings

Side Function

Interslice force function option: Half-Sine

PWP Conditions from: Piezometric Line

Apply Phreatic Correction: No

Use Staged Rapid Drawdown: No

Unit Weight of Water: 9,807 kN/m³

Slip Surface

Direction of movement: Left to Right

Use Passive Mode: No

Slip Surface Option: Entry and Exit

Critical slip surfaces saved: 1

Optimize Critical Slip Surface Location: No

Tension Crack Option: (none)

Distribution

F of S Calculation Option: Constant

Advanced

Geometry Settings

Minimum Slip Surface Depth: 0,1 m

Number of Slices: 30

Factor of Safety Convergence Settings

Maximum Number of Iterations: 100

Tolerable difference in F of S: 0,001

Solution Settings

Search Method: Root Finder

Tolerable difference between starting and converged F of S: 3

Maximum iterations to calculate converged lambda: 20
Max Absolute Lambda: 2

Materials

Fyllning

Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion': 0 kPa
Phi': 32 °
Phi-B: 0 °
Constant Unit Wt. Above Water Table: 18 kN/m³
Pore Water Pressure
Piezometric Line: 1

Morän

Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion': 0 kPa
Phi': 35 °
Phi-B: 0 °
Constant Unit Wt. Above Water Table: 20 kN/m³
Pore Water Pressure
Piezometric Line: 1

Gyttja (Komb)

Model: Combined, S=f(datum)
Unit Weight: 13 kN/m³
Phi': 20 °
C-Datum: 1 kPa
Cu-Datum: 10 kPa
Cu-Rate of Change: 0 (kN/m²)/m
C/Cu Ratio: 0,1
Pore Water Pressure
Piezometric Line: 1

Lera (Komb)

Model: Combined, S=f(datum)
Unit Weight: 15 kN/m³
Phi': 25 °
C-Datum: 1 kPa
Cu-Datum: 10 kPa
Cu-Rate of Change: 0 (kN/m²)/m
C/Cu Ratio: 0,1
Pore Water Pressure
Piezometric Line: 1

Lera (Komb) under -8

Model: Combined, S=f(datum)
Unit Weight: 15 kN/m³
Phi': 25 °
C-Datum: 1 kPa
Cu-Datum: 10 kPa
Cu-Rate of Change: 2 (kN/m²)/m
C/Cu Ratio: 0,1
Datum (Elevation): -8 m

Pore Water Pressure
Piezometric Line: 1

Slip Surface Entry and Exit

Left Type: Range
 Left-Zone Left Coordinate: (70; 1,25) m
 Left-Zone Right Coordinate: (122,5; 1,5) m
 Left-Zone Increment: 52
 Right Type: Range
 Right-Zone Left Coordinate: (133,5; -4,5) m
 Right-Zone Right Coordinate: (180; -6,5) m
 Right-Zone Increment: 60
 Radius Increments: 8

Slip Surface Limits

Left Coordinate: (0; 1) m
 Right Coordinate: (180; -6,5) m

Piezometric Lines

Piezometric Line 1

Coordinates

	X	Y
Coordinate 1	0 m	0,5 m
Coordinate 2	38 m	0,5 m
Coordinate 3	124,5 m	0,5 m
Coordinate 4	126 m	0,3 m
Coordinate 5	127,5 m	0,1 m
Coordinate 6	133,5 m	0,1 m
Coordinate 7	180 m	0,1 m

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 5 kN/m³
 Direction: Vertical

Coordinates

	X	Y
	97 m	1,5 m
	97 m	2,5 m
	127,5 m	2,5 m

Points

	X	Y
Point 1	80 m	-20 m
Point 2	0 m	-12 m
Point 3	100 m	-8 m

Point 4	124,5 m	-10 m
Point 5	160 m	-15 m
Point 6	180 m	-20 m
Point 7	0 m	-20 m
Point 8	180 m	-18 m
Point 9	180 m	-11,5 m
Point 10	157 m	-11,5 m
Point 11	124,5 m	-5,5 m
Point 12	100 m	-3,5 m
Point 13	10 m	-4,5 m
Point 14	6 m	-5 m
Point 15	0 m	-5 m
Point 16	180 m	-6,5 m
Point 17	157,5 m	-6,5 m
Point 18	135,5 m	-5 m
Point 19	133,5 m	-4,5 m
Point 20	62,5 m	-1 m
Point 21	5 m	-1 m
Point 22	0 m	-1 m
Point 23	97,5 m	1,5 m
Point 24	42,5 m	1 m
Point 25	0 m	1 m
Point 26	127,5 m	-1 m
Point 27	127,5 m	1,5 m
Point 28	127,5 m	0,5 m
Point 29	0 m	-8 m
Point 30	138,04167 m	-8,000001 m

Regions

	Material	Points	Area
Region 1	Morän	2;3;4;5;8;6;7	1 605,8 m ²
Region 2	Lera (Komb)	11;12;13;14;15;29;3;30	493,68 m ²
Region 3	Gyttja (Komb)	16;17;18;19;26;20;21;22;15;14;13;12;11;30;10;9	633,75 m ²
Region 4	Fyllning	27;23;24;25;22;21;20;26;28	283,75 m ²
Region 5	Lera (Komb) under -8	29;2;3	200 m ²
Region 6	Lera (Komb)	3;4;5;8;9;10;30	240,57 m ²

Slip Results

Slip Surfaces Analysed: 27239 of 29097 converged

Current Slip Surface

Slip Surface: 28 553
 Factor of Safety: 0,586
 Volume: 23,282242 m³
 Weight: 365,16764 kN
 Resisting Moment: 885,25771 kN·m
 Activating Moment: 1 510,8003 kN·m
 Resisting Force: 61,513895 kN
 Activating Force: 104,97282 kN
 Slip Rank: 1 of 29 097 slip surfaces
 Exit: (133,5; -4,5) m
 Entry: (122,5; 1,5) m

Radius: 11,483402 m

Center: (132,6084; 6,9487365) m

Slip Slices

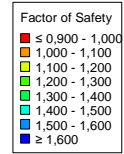
	X	Y	PWP	Base Normal Stress	Frictional Strength	Cohesive Strength	Suction Strength
Slice 1	122,65168 m	1,2356609 m	-7,214626 kPa	3,4038424 kPa	2,1269568 kPa	0 kPa	0 kPa
Slice 2	122,95503 m	0,73566086 m	-2,311126 kPa	7,0124163 kPa	4,381844 kPa	0 kPa	0 kPa
Slice 3	123,30903 m	0,22035465 m	2,7424819 kPa	13,036281 kPa	6,4322795 kPa	0 kPa	0 kPa
Slice 4	123,7137 m	-0,30731593 m	7,9173473 kPa	21,024913 kPa	8,190516 kPa	0 kPa	0 kPa
Slice 5	124,11836 m	-0,77767058 m	12,530115 kPa	28,366146 kPa	9,8954499 kPa	0 kPa	0 kPa
Slice 6	124,41035 m	-1,0914138 m	15,606996 kPa	36,463477 kPa	7,5911383 kPa	1 kPa	0 kPa
Slice 7	124,6875 m	-1,3615424 m	18,010971 kPa	39,828591 kPa	7,940964 kPa	1 kPa	0 kPa
Slice 8	125,0625 m	-1,7037768 m	20,876914 kPa	44,047574 kPa	8,4334303 kPa	1 kPa	0 kPa
Slice 9	125,4375 m	-2,017257 m	23,460864 kPa	48,173421 kPa	8,994635 kPa	1 kPa	0 kPa
Slice 10	125,8125 m	-2,3049177 m	25,791603 kPa	52,587558 kPa	0 kPa	10 kPa	0 kPa
Slice 11	126,1875 m	-2,5691088 m	27,892175 kPa	56,693802 kPa	0 kPa	10 kPa	0 kPa
Slice 12	126,5625 m	-2,8117421 m	29,781329 kPa	60,728304 kPa	0 kPa	10 kPa	0 kPa
Slice 13	126,9375 m	-3,0343937 m	31,474524 kPa	64,725144 kPa	0 kPa	10 kPa	0 kPa
Slice 14	127,3125 m	-3,238377 m	32,984639 kPa	71,074546 kPa	0 kPa	10 kPa	0 kPa
Slice 15	127,6875 m	-3,4247959 m	34,567673 kPa	38,390856 kPa	1,3915248 kPa	1 kPa	0 kPa
Slice 16	128,0625 m	-3,5945837 m	36,232782 kPa	40,732158 kPa	1,6376389 kPa	1 kPa	0 kPa
Slice 17	128,4375 m	-3,7485338 m	37,742571 kPa	42,946761 kPa	1,89417 kPa	1 kPa	0 kPa
Slice 18	128,8125 m	-3,8873225 m	39,103672 kPa	45,009991 kPa	2,1497246 kPa	1 kPa	0 kPa
Slice 19	129,1875 m	-4,0115265 m	40,32174 kPa	46,891056 kPa	2,3910353 kPa	1 kPa	0 kPa
Slice 20	129,5625 m	-4,1216375 m	41,401599 kPa	48,55457 kPa	2,6034688 kPa	1 kPa	0 kPa
Slice 21	129,9375 m	-4,2180729 m	42,347341 kPa	49,962445 kPa	2,7716714 kPa	1 kPa	0 kPa
Slice 22	130,3125 m	-4,3011848 m	43,162419 kPa	51,076069 kPa	2,8803327 kPa	1 kPa	0 kPa
Slice 23	130,6875 m	-4,3712672 m	43,849717 kPa	51,858679 kPa	2,9150237 kPa	1 kPa	0 kPa
Slice 24	131,0625 m	-4,428561 m	44,411597 kPa	52,277772 kPa	2,8630536 kPa	1 kPa	0 kPa
Slice 25	131,4375 m	-4,4732589 m	44,84995 kPa	52,30736 kPa	2,7142755 kPa	1 kPa	0 kPa
Slice 26	131,8125 m	-4,5055085 m	45,166222 kPa	51,929873 kPa	2,4617675 kPa	1 kPa	0 kPa
Slice	132,1875 m	-4,525415 m	45,361445 kPa	51,137528 kPa	2,1023221 kPa	1 kPa	0 kPa

2019-09-27

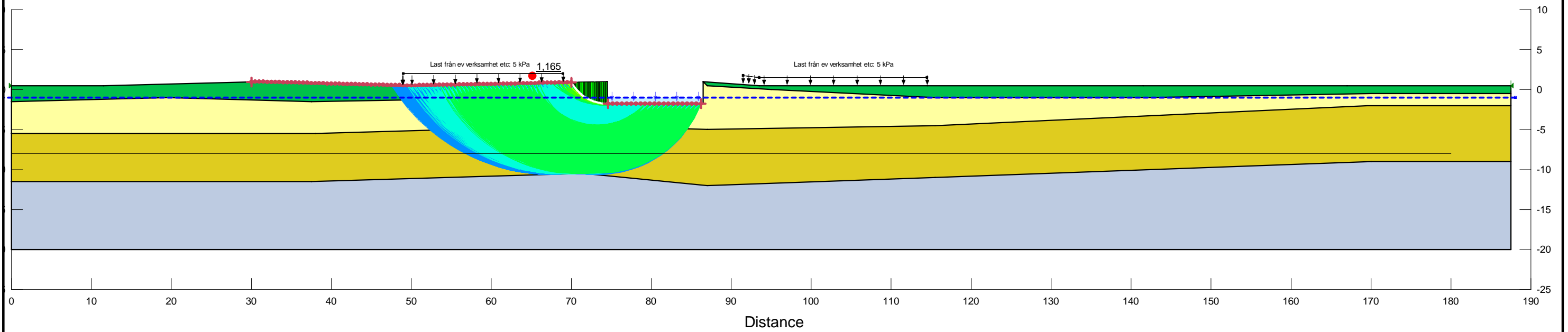
Gamleby Hamn Sektion D

27	m		kPa	kPa	kPa		
Slice 28	132,5625 m	-4,5330426 m	45,436249 kPa	49,933026 kPa	1,636693 kPa	1 kPa	0 kPa
Slice 29	132,9375 m	-4,5284158 m	45,390873 kPa	48,329498 kPa	1,069572 kPa	1 kPa	0 kPa
Slice 30	133,3125 m	-4,5115197 m	45,225173 kPa	46,349713 kPa	0,40929898 kPa	1 kPa	0 kPa

Title: Gamleby Hamn, section E odränerad analys
 Created By: Horndahl, Jacob
 Date: 2019-09-23
 Method: Morgenstern-Price
 Scale: 1:500 (A3)

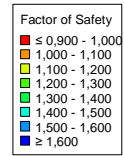


Color	Name	Unit Weight (kN/m³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m²)/m)	Cohesion (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Constant Unit Wt. Above Water Table (kN/m³)	Piezometric Line
Green	Fyllning	20				0	32	0	18	1
Yellow	Gyttja	13			10					1
Orange	Lera	15	10	0						1
Blue	Morän	22				0	35	0	20	1

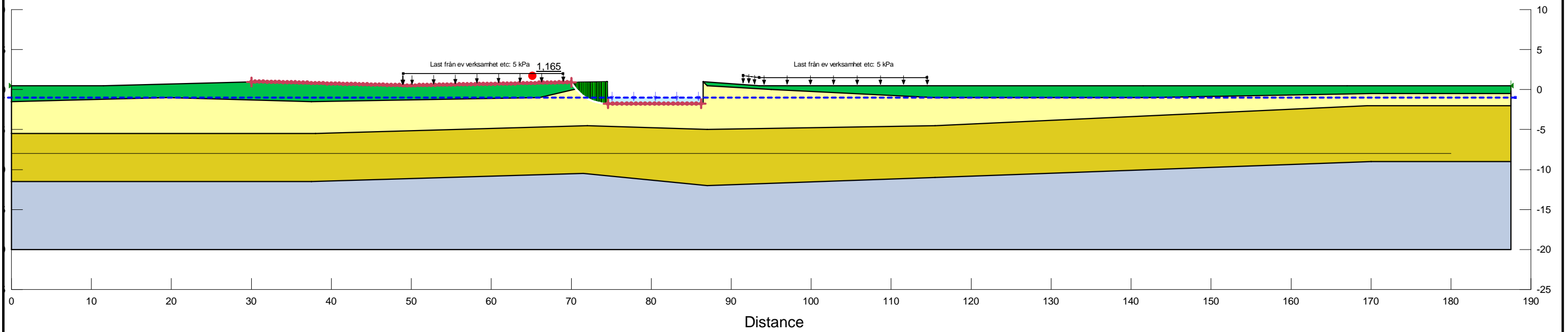


Gamleby Hamn Sektion E, odränerad analys	
Sektion E_odrän.gsz	
2019-09-23	1:500

Title: Gamleby Hamn, section E odränerad analys
 Created By: Horndahl, Jacob
 Date: 2019-09-23
 Method: Morgenstern-Price
 Scale: 1:500 (A3)

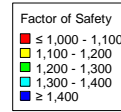


Color	Name	Unit Weight (kN/m ³)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m ²)/m)	Cohesion (kPa)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Constant Unit Wt. Above Water Table (kN/m ³)	Piezometric Line
Green	Fyllning	20				0	32	0	18	1
Yellow	Gyttja	13			10					1
Orange	Lera	15	10	0						1
Blue	Morän	22				0	35	0	20	1

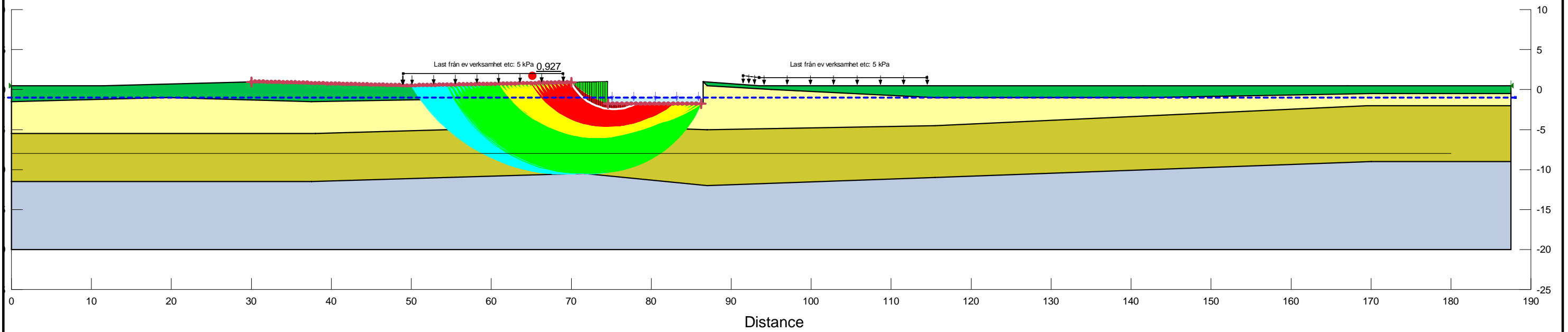


Gamleby Hamn Sektion E, odränerad analys	
Sektion E_odrän.gsz	
2019-09-23	1:500

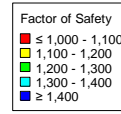
Title: Gamleby Hamn, section E kombinerad analys
 Created By: Horndahl, Jacob
 Date: 2019-09-23
 Method: Morgenstern-Price
 Scale: 1:500 (A3)



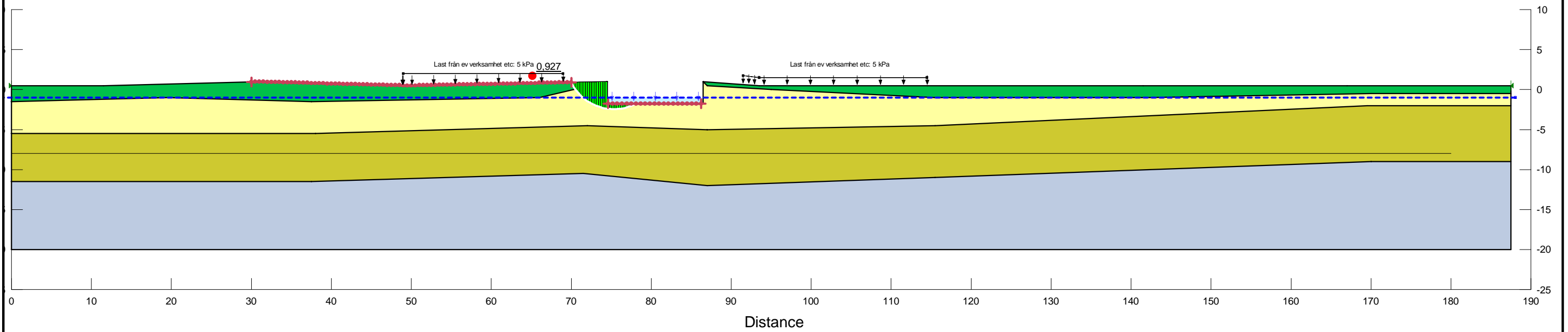
Color	Name	Unit Weight (kN/m ³)	Cohesion' (kPa)	Phi' (°)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m ²)/m)	Cu-Top of Layer (kPa)	Cu-Rate of Change ((kN/m ²)/m)	C/Cu Ratio	Phi-B (°)	Constant Unit Wt. Above Water Table (kN/m ³)	Piezometric Line
Green	Fyllning	20	0	32						0	18	1
Yellow	Gyttja (Komb)	13		20	1	0	10	0	0,1			1
Olive Green	Lera (Komb)	15		25	1	0	10	0	0,1			1
Blue-Gray	Morän	22	0	35						0	20	1



Title: Gamleby Hamn, section E kombinerad analys
 Created By: Horndahl, Jacob
 Date: 2019-09-23
 Method: Morgenstern-Price
 Scale: 1:500 (A3)



Color	Name	Unit Weight (kN/m ³)	Cohesion' (kPa)	Phi' (°)	C-Top of Layer (kPa)	C-Rate of Change ((kN/m ²)/m)	Cu-Top of Layer (kPa)	Cu-Rate of Change ((kN/m ²)/m)	C/Cu Ratio	Phi-B (°)	Constant Unit Wt. Above Water Table (kN/m ³)	Piezometric Line
Green	Fyllning	20	0	32						0	18	1
Yellow	Gyttja (Komb)	13		20	1	0	10	0	0,1			1
Olive Green	Lera (Komb)	15		25	1	0	10	0	0,1			1
Blue-Gray	Morän	22	0	35						0	20	1



Gamleby Hamn Sektion E, odränerad analys

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File Information

File Version: 9.01
Title: Gamleby Hamn, section E odränerad analys
Created By: Horndahl, Jacob
Last Edited By: Horndahl, Jacob
Revision Number: 117
Date: 2019-09-23
Time: 10:45:48
Tool Version: 9.1.1.16749
File Name: Sektion E_odrän.gsz
Directory: O:\JKP\290261\G_Berakningar\Slope\Sektion E\

Project Settings

Unit System: International System of Units (SI)

Analysis Settings

Gamleby Hamn Sektion E, odränerad analys

Kind: SLOPE/W

Method: Morgenstern-Price

Settings

Side Function

Interslice force function option: Half-Sine

PWP Conditions from: Piezometric Line

Apply Phreatic Correction: No

Use Staged Rapid Drawdown: No

Unit Weight of Water: 9,807 kN/m³

Slip Surface

Direction of movement: Left to Right

Use Passive Mode: No

Slip Surface Option: Entry and Exit

Critical slip surfaces saved: 1

Optimize Critical Slip Surface Location: No

Tension Crack Option: (none)

Distribution

F of S Calculation Option: Constant

Advanced

Geometry Settings

Minimum Slip Surface Depth: 0,5 m

Number of Slices: 30

Factor of Safety Convergence Settings

Maximum Number of Iterations: 100

Tolerable difference in F of S: 0,001

Solution Settings

Search Method: Root Finder

Tolerable difference between starting and converged F of S: 3

Maximum iterations to calculate converged lambda: 20

Max Absolute Lambda: 2

Materials

Fyllning

Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion': 0 kPa
Phi': 32 °
Phi-B: 0 °
Constant Unit Wt. Above Water Table: 18 kN/m³
Pore Water Pressure
Piezometric Line: 1

Gyttja

Model: Undrained (Phi=0)
Unit Weight: 13 kN/m³
Cohesion: 10 kPa
Pore Water Pressure
Piezometric Line: 1

Lera

Model: S=f(depth)
Unit Weight: 15 kN/m³
C-Top of Layer: 10 kPa
C-Rate of Change: 0 (kN/m²)/m
Pore Water Pressure
Piezometric Line: 1

Morän

Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion': 0 kPa
Phi': 35 °
Phi-B: 0 °
Constant Unit Wt. Above Water Table: 20 kN/m³
Pore Water Pressure
Piezometric Line: 1

Slip Surface Entry and Exit

Left Type: Range
Left-Zone Left Coordinate: (30; 0,974359) m
Left-Zone Right Coordinate: (70; 0,91) m
Left-Zone Increment: 80
Right Type: Range
Right-Zone Left Coordinate: (74,60516; -1,75) m
Right-Zone Right Coordinate: (86,25; -1,75) m
Right-Zone Increment: 20
Radius Increments: 50

Slip Surface Limits

Left Coordinate: (0; 0,5) m
Right Coordinate: (187,5; 0,5) m

Piezometric Lines

Piezometric Line 1

Coordinates

	X	Y
Coordinate 1	-1,4709 m	-1 m
Coordinate 2	188,0291 m	-1 m

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 5 kN/m³

Direction: Vertical

Coordinates

	X	Y
	49 m	2 m
	69 m	2 m

Surcharge Load 2

Surcharge (Unit Weight): 5 kN/m³

Direction: Vertical

Coordinates

	X	Y
	91,5 m	1,75 m
	93,5 m	1,5 m
	114,5 m	1,5 m

Points

	X	Y
Point 1	37,5 m	-11,5 m
Point 2	0 m	-11,5 m
Point 3	0 m	-20 m
Point 4	187,5 m	-20 m
Point 5	187,5 m	-9 m
Point 6	170 m	-9 m
Point 7	115,5 m	-11 m
Point 8	87 m	-12 m
Point 9	71,5 m	-10,5 m
Point 10	38 m	-5,5 m
Point 11	72 m	-4,5 m
Point 12	87 m	-5 m
Point 13	115,5 m	-4,5 m
Point 14	169,5 m	-2 m
Point 15	187,5 m	-2 m
Point 16	0 m	-5,5 m
Point 17	37,5 m	-1,5 m
Point 18	66 m	-1 m
Point 19	74,5 m	1 m
Point 20	49,5 m	0,5 m
Point 21	31 m	1 m

Point 22	11,5 m	0,5 m
Point 23	0 m	0,5 m
Point 24	0 m	-1,5 m
Point 25	19,5 m	-1 m
Point 26	87 m	0,5 m
Point 27	95 m	0 m
Point 28	115,5 m	-1 m
Point 29	142 m	-1 m
Point 30	170 m	-0,5 m
Point 31	187,5 m	-0,5 m
Point 32	187,5 m	0,5 m
Point 33	167 m	0,5 m
Point 34	141,5 m	0,5 m
Point 35	114,5 m	0,5 m
Point 36	93,5 m	0,5 m
Point 37	86,5 m	1 m
Point 38	74,5 m	-1,75 m
Point 39	86,5 m	-1,75 m

Regions

	Material	Points	Area
Region 1	Morän	1;2;3;4;5;6;7;8;9	1 740,1 m ²
Region 2	Lera	10;11;12;13;14;15;5;6;7;8;9;1;2;16	1 212,8 m ²
Region 3	Fyllning	17;18;19;20;21;22;23;24;25	135,5 m ²
Region 4	Fyllning	26;27;28;29;30;31;32;33;34;35;36;37	116,38 m ²
Region 5	Gyttja	19;38;39;37;26;27;28;29;30;31;15;14;13;12;11;10;16;24;25;17;18	629,5 m ²

Gamleby Hamn Sektion E, kombinerad analys

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File Information

File Version: 9.01
Title: Gamleby Hamn, section E kombinerad analys
Created By: Horndahl, Jacob
Last Edited By: Horndahl, Jacob
Revision Number: 125
Date: 2019-09-23
Time: 11:01:47
Tool Version: 9.1.1.16749
File Name: Sektion E_komb.gsz
Directory: O:\JKP\290261\G_Berakningar\Slope\Sektion E\

Project Settings

Unit System: International System of Units (SI)

Analysis Settings

Gamleby Hamn Sektion E, kombinerad analys

Kind: SLOPE/W

Method: Morgenstern-Price

Settings

Side Function

Interslice force function option: Half-Sine

PWP Conditions from: Piezometric Line

Apply Phreatic Correction: No

Use Staged Rapid Drawdown: No

Unit Weight of Water: 9,807 kN/m³

Slip Surface

Direction of movement: Left to Right

Use Passive Mode: No

Slip Surface Option: Entry and Exit

Critical slip surfaces saved: 1

Optimize Critical Slip Surface Location: No

Tension Crack Option: (none)

Distribution

F of S Calculation Option: Constant

Advanced

Geometry Settings

Minimum Slip Surface Depth: 0,5 m

Number of Slices: 30

Factor of Safety Convergence Settings

Maximum Number of Iterations: 100

Tolerable difference in F of S: 0,001

Solution Settings

Search Method: Root Finder

Tolerable difference between starting and converged F of S: 3

Maximum iterations to calculate converged lambda: 20

Max Absolute Lambda: 2

Materials

Fyllning

Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion': 0 kPa
Phi': 32 °
Phi-B: 0 °
Constant Unit Wt. Above Water Table: 18 kN/m³
Pore Water Pressure
Piezometric Line: 1

Morän

Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion': 0 kPa
Phi': 35 °
Phi-B: 0 °
Constant Unit Wt. Above Water Table: 20 kN/m³
Pore Water Pressure
Piezometric Line: 1

Gyttja (Komb)

Model: Combined, S=f(depth)
Unit Weight: 13 kN/m³
Phi': 20 °
C-Top of Layer: 1 kPa
C-Rate of Change: 0 (kN/m²)/m
Cu-Top of Layer: 10 kPa
Cu-Rate of Change: 0 (kN/m²)/m
C/Cu Ratio: 0,1
Pore Water Pressure
Piezometric Line: 1

Lera (Komb)

Model: Combined, S=f(depth)
Unit Weight: 15 kN/m³
Phi': 25 °
C-Top of Layer: 1 kPa
C-Rate of Change: 0 (kN/m²)/m
Cu-Top of Layer: 10 kPa
Cu-Rate of Change: 0 (kN/m²)/m
C/Cu Ratio: 0,1
Pore Water Pressure
Piezometric Line: 1

Slip Surface Entry and Exit

Left Type: Range
Left-Zone Left Coordinate: (30; 0,974359) m
Left-Zone Right Coordinate: (70; 0,91) m
Left-Zone Increment: 80
Right Type: Range
Right-Zone Left Coordinate: (74,60516; -1,75) m
Right-Zone Right Coordinate: (86,25; -1,75) m
Right-Zone Increment: 20
Radius Increments: 50

Slip Surface Limits

Left Coordinate: (0; 0,5) m

Right Coordinate: (187,5; 0,5) m

Piezometric Lines

Piezometric Line 1

Coordinates

	X	Y
Coordinate 1	-1,4709 m	-1 m
Coordinate 2	188,0291 m	-1 m

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 5 kN/m³

Direction: Vertical

Coordinates

	X	Y
	49 m	2 m
	69 m	2 m

Surcharge Load 2

Surcharge (Unit Weight): 5 kN/m³

Direction: Vertical

Coordinates

	X	Y
	91,5 m	1,75 m
	93,5 m	1,5 m
	114,5 m	1,5 m

Points

	X	Y
Point 1	37,5 m	-11,5 m
Point 2	0 m	-11,5 m
Point 3	0 m	-20 m
Point 4	187,5 m	-20 m
Point 5	187,5 m	-9 m
Point 6	170 m	-9 m
Point 7	115,5 m	-11 m
Point 8	87 m	-12 m
Point 9	71,5 m	-10,5 m
Point 10	38 m	-5,5 m
Point 11	72 m	-4,5 m
Point 12	87 m	-5 m
Point 13	115,5 m	-4,5 m
Point 14	169,5 m	-2 m

Point 15	187,5 m	-2 m
Point 16	0 m	-5,5 m
Point 17	37,5 m	-1,5 m
Point 18	66 m	-1 m
Point 19	74,5 m	1 m
Point 20	49,5 m	0,5 m
Point 21	31 m	1 m
Point 22	11,5 m	0,5 m
Point 23	0 m	0,5 m
Point 24	0 m	-1,5 m
Point 25	19,5 m	-1 m
Point 26	87 m	0,5 m
Point 27	95 m	0 m
Point 28	115,5 m	-1 m
Point 29	142 m	-1 m
Point 30	170 m	-0,5 m
Point 31	187,5 m	-0,5 m
Point 32	187,5 m	0,5 m
Point 33	167 m	0,5 m
Point 34	141,5 m	0,5 m
Point 35	114,5 m	0,5 m
Point 36	93,5 m	0,5 m
Point 37	86,5 m	1 m
Point 38	74,5 m	-1,75 m
Point 39	86,5 m	-1,75 m

Regions

	Material	Points	Area
Region 1	Morän	1;2;3;4;5;6;7;8;9	1 740,1 m ²
Region 2	Lera (Komb)	10;11;12;13;14;15;5;6;7;8;9;1;2;16	1 212,8 m ²
Region 3	Fyllning	17;18;19;20;21;22;23;24;25	135,5 m ²
Region 4	Fyllning	26;27;28;29;30;31;32;33;34;35;36;37	116,38 m ²
Region 5	Gyttja (Komb)	19;38;39;37;26;27;28;29;30;31;15;14;13;12;11;10;16;24;25;17;18	629,5 m ²