Odränerad Analys

File Information

Created By: Petter Karlsson
Revision Number: 59
Last Edited By: Karlsson, Petter
Date: 2011-04-28
Time: 11:09:35
File Name: V23500_odränerad.gsz
Directory: V:_UPPDRAG\227763\G_Text\V23500, U05112-U05114\
Last Solved Date: 2011-04-28
Last Solved Time: 11:10:02

Project Settings

Length(L) Units: meters
Time(t) Units: Seconds
Force(F) Units: kN
Pressure(p) Units: kPa
Strength Units: kPa
Unit Weight of Water: 9.807 kN/m³
View: 2D

Analysis Settings

Odränerad Analys

Kind: SLOPE/W
Method: Morgenstern-Price
Settings
- Apply Phreatic Correction: No
- Side Function
  - Interslice force function option: Half-Sine
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Entry and Exit
- Critical slip surfaces saved: 5
- Optimize Critical Slip Surface Location: Yes
- Tension Crack
  - Tension Crack Option: Tension Crack Line
  - Percentage Wet: 0.5
  - Tension Crack Fluid Unit Weight: 9.807 kN/m³

FOS Distribution
- FOS Calculation Option: Constant

Advanced
Number of Slices: 30
Optimization Tolerance: 0.01
Minimum Slip Surface Depth: 0.1 m
Optimization Maximum Iterations: 2000
Optimization Convergence Tolerance: 1e-007
Starting Optimization Points: 8
Ending Optimization Points: 16
Complete Passes per Insertion: 1
Driving Side Maximum Convex Angle: 5 °
Resisting Side Maximum Convex Angle: 1 °

Materials

Crust

Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion: 30 kPa
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

Sa

Model: Mohr-Coulomb
Unit Weight: 19.5 kN/m³
Cohesion: 0 kPa
Phi: 35 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

Cl 1

Model: S=f(datum)
Unit Weight: 16.4 kN/m³
C-Datum: 20 kPa
C-Rate of Change: 0 kPa/m
Limiting C: 0 kPa
Elevation: 23 m
Pore Water Pressure
Piezometric Line: 1

Cl 2

Model: S=f(datum)
Unit Weight: 16.4 kN/m³
C-Datum: 20 kPa
C-Rate of Change: 2.04 kPa/m
Limiting C: 0 kPa
Elevation: 15 m
Pore Water Pressure

Piezometric Line: 1

Cl 3

Model: S=f(datum)
Unit Weight: 17 kN/m³
C-Datum: 20 kPa
C-Rate of Change: 2.04 kPa/m
Limiting C: 0 kPa
Elevation: 15 m
Pore Water Pressure
Piezometric Line: 1

Cl 4

Model: S=f(datum)
Unit Weight: 16.4 kN/m³
C-Datum: 25 kPa
C-Rate of Change: 0 kPa/m
Limiting C: 0 kPa
Elevation: 15 m
Pore Water Pressure
Piezometric Line: 1

Cl 5

Model: S=f(datum)
Unit Weight: 16.4 kN/m³
C-Datum: 25 kPa
C-Rate of Change: 1.67 kPa/m
Limiting C: 0 kPa
Elevation: 7 m
Pore Water Pressure
Piezometric Line: 1

Cl 6

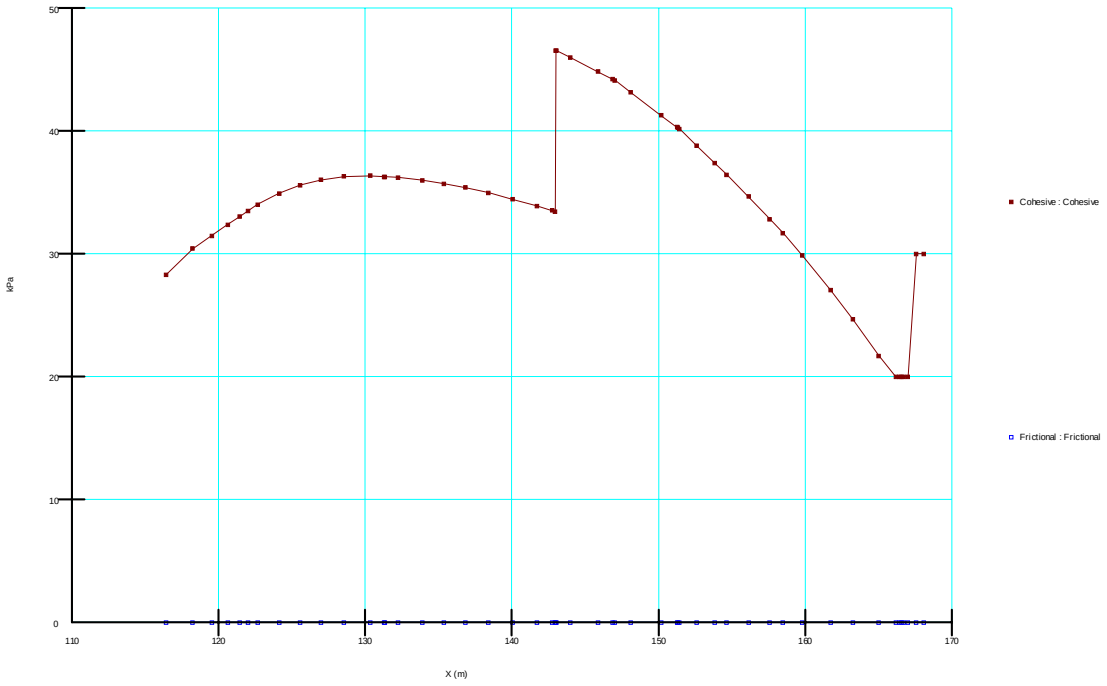
Model: S=f(datum)
Unit Weight: 17 kN/m³
C-Datum: 25 kPa
C-Rate of Change: 1.67 kPa/m
Limiting C: 0 kPa
Elevation: 7 m
Pore Water Pressure
Piezometric Line: 1

Cl 7

Model: S=f(depth)
Unit Weight: 16.4 kN/m³
C-Top of Layer: 3 kPa
C-Rate of Change: 11 kPa/m
Limiting C: 25 kPa
Pore Water Pressure
Piezometric Line: 1

Cl 8

Model: S=f(depth)
Unit Weight: 16.4 kN/m³
C-Top of Layer: 25 kPa
C-Rate of Change: 1.67 kPa/m
Limiting C: 0 kPa
Pore Water Pressure
Piezometric Line: 1

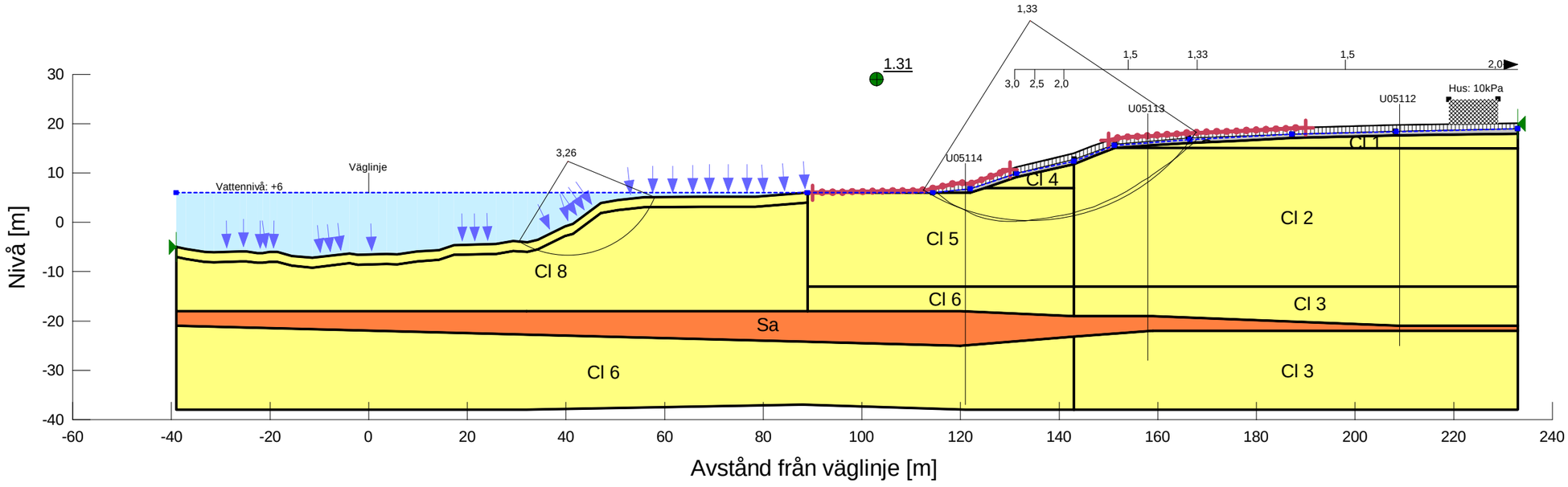


Figur 1. Kohesion och friktion.

KLIMATANPASSNING SKREDFÖRUTSÄTTNINGAR I GÖTA ÄLVDALEN

Sektion: V23500
Delområde: Intagan - Ström
Analysmetod: Odränerad analys

Slip Surface Option: Entry and Exit
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Date: 2011-04-28
Created By: Petter Karlsson
Last Edited By: Karlsson, Petter



Skala 1:1000 (A3)

Name: Crust
Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion: 30 kPa
Phi: 0 °

Name: Sa
Model: Mohr-Coulomb
Unit Weight: 19.5 kN/m³
Cohesion: 0 kPa
Phi: 35 °

Name: Cl 1
Model: S=f(datum)
Unit Weight: 16.4 kN/m³
C-Datum: 20 kPa
C-Rate of Change: 0 kPa/m
Elevation: 23 m

Name: Cl 2
Model: S=f(datum)
Unit Weight: 16.4 kN/m³
C-Datum: 20 kPa
C-Rate of Change: 2.04 kPa/m
Elevation: 15 m

Name: Cl 3
Model: S=f(datum)
Unit Weight: 17 kN/m³
C-Datum: 20 kPa
C-Rate of Change: 2.04 kPa/m
Elevation: 15 m

Name: Cl 4
Model: S=f(datum)
Unit Weight: 16.4 kN/m³
C-Datum: 25 kPa
C-Rate of Change: 0 kPa/m
Elevation: 15 m

Name: Cl 5
Model: S=f(datum)
Unit Weight: 16.4 kN/m³
C-Datum: 25 kPa
C-Rate of Change: 1.67 kPa/m
Elevation: 7 m

Name: Cl 6
Model: S=f(datum)
Unit Weight: 17 kN/m³
C-Datum: 25 kPa
C-Rate of Change: 1.67 kPa/m
Elevation: 7 m

Name: Cl 7
Model: S=f(depth)
Unit Weight: 16.4 kN/m³
C-Top of Layer: 3 kPa
C-Rate of Change: 11 kPa/m

Name: Cl 8
Model: S=f(depth)
Unit Weight: 16.4 kN/m³
C-Top of Layer: 25 kPa
C-Rate of Change: 1.67 kPa/m

Directory: V:_UPPDRAG\227763\G_Text\V23500, U05112-U05114\
File Name: V23500_odränerad.gsz

Kombinerad Analys

File Information

Created By: Petter Karlsson
Revision Number: 68
Last Edited By: Karlsson, Petter
Date: 2011-04-28
Time: 09:30:47
File Name: V23500_kombinerad.gsz
Directory: V:_UPPDRAG\227763\G_Text\V23500, U05112-U05114\
Last Solved Date: 2011-04-28
Last Solved Time: 09:32:43

Project Settings

Length(L) Units: meters
Time(t) Units: Seconds
Force(F) Units: kN
Pressure(p) Units: kPa
Strength Units: kPa
Unit Weight of Water: 9.807 kN/m³
View: 2D

Analysis Settings

Kombinerad Analys

Kind: SLOPE/W
Method: Morgenstern-Price
Settings
- Side Function
  - Interslice force function option: Half-Sine
- PWP Conditions Source: Pressure Head Spatial Function
- Pressure Head Spatial Fn.: Nulägesanalys

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Entry and Exit
- Critical slip surfaces saved: 5
- Optimize Critical Slip Surface Location: Yes
- Tension Crack
  - Tension Crack Option: Tension Crack Line
  - Percentage Wet: 0.5
  - Tension Crack Fluid Unit Weight: 9.807 kN/m³

FOS Distribution
- FOS Calculation Option: Constant

Advanced

Number of Slices: 30
Optimization Tolerance: 0.01
Minimum Slip Surface Depth: 0.1 m
Optimization Maximum Iterations: 2000
Optimization Convergence Tolerance: 1e-007
Starting Optimization Points: 8
Ending Optimization Points: 16
Complete Passes per Insertion: 1
Driving Side Maximum Convex Angle: 5 °
Resisting Side Maximum Convex Angle: 1 °

Materials

Crust

Model: Combined, S=f(depth)
Unit Weight: 18 kN/m³
Phi: 30 °
C-Top of Layer: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 30 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1

Sa

Model: Mohr-Coulomb
Unit Weight: 19.5 kN/m³
Cohesion: 0 kPa
Phi: 35 °
Phi-B: 0 °

Cl 1

Model: Combined, S=f(datum)
Unit Weight: 16.4 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 20 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1
Elevation: 23 m

Cl 2

Model: Combined, S=f(datum)
Unit Weight: 16.4 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 20 kPa
Cu-Rate of Change: 2.04 kPa/m
C/Cu Ratio: 0.1

Elevation: 15 m

Cl 3

Model: Combined, S=f(datum)
Unit Weight: 17 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 20 kPa
Cu-Rate of Change: 2.04 kPa/m
C/Cu Ratio: 0.1
Elevation: 15 m

Cl 4

Model: Combined, S=f(datum)
Unit Weight: 16.4 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 25 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1
Elevation: 15 m

Cl 5

Model: Combined, S=f(datum)
Unit Weight: 16.4 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 25 kPa
Cu-Rate of Change: 1.67 kPa/m
C/Cu Ratio: 0.1
Elevation: 7 m

Cl 6

Model: Combined, S=f(datum)
Unit Weight: 17 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 25 kPa
Cu-Rate of Change: 1.67 kPa/m
C/Cu Ratio: 0.1
Elevation: 7 m

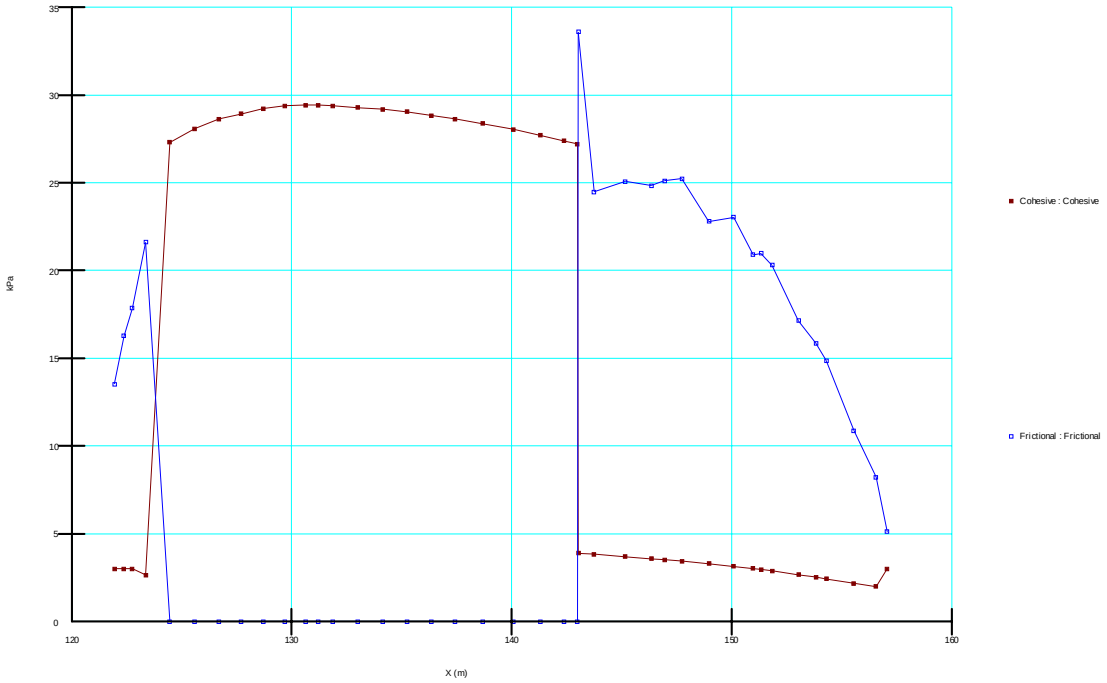
Cl 7

Model: Combined, S=f(depth)
Unit Weight: 16.4 kN/m³
Phi: 30 °
C-Top of Layer: 0 kPa

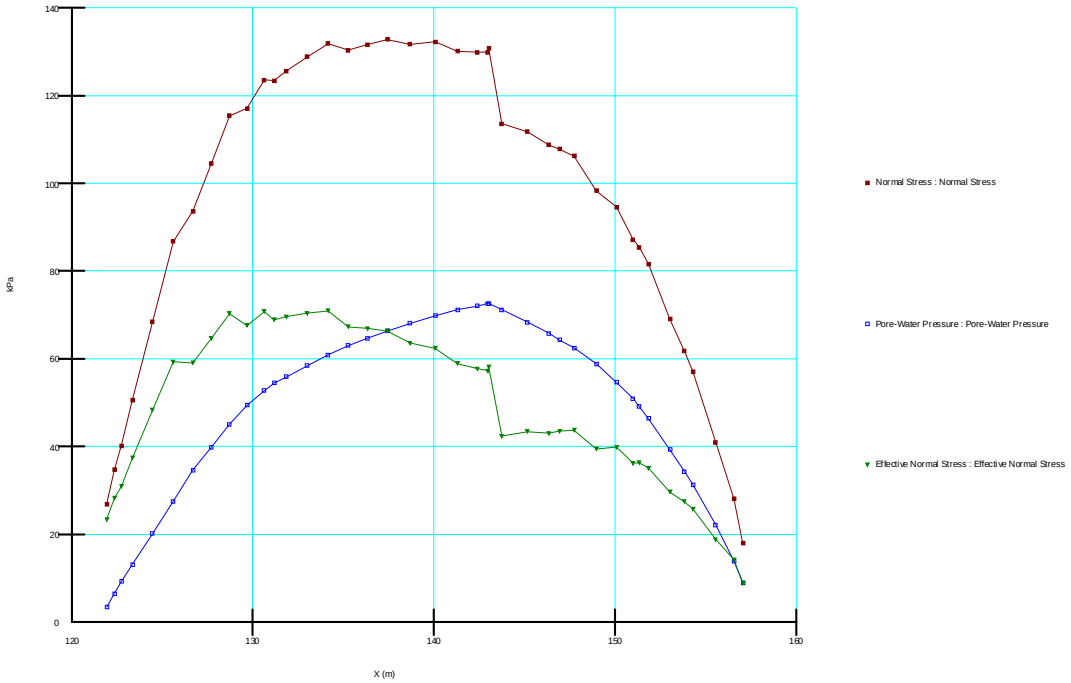
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 3 kPa
Cu-Rate of Change: 11 kPa/m
C/Cu Ratio: 0.1

Cl 8

Model: Combined, S=f(depth)
Unit Weight: 16.4 kN/m³
Phi: 30 °
C-Top of Layer: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 25 kPa
Cu-Rate of Change: 1.67 kPa/m
C/Cu Ratio: 0.1



Figur 1. Kohesion och friktion.



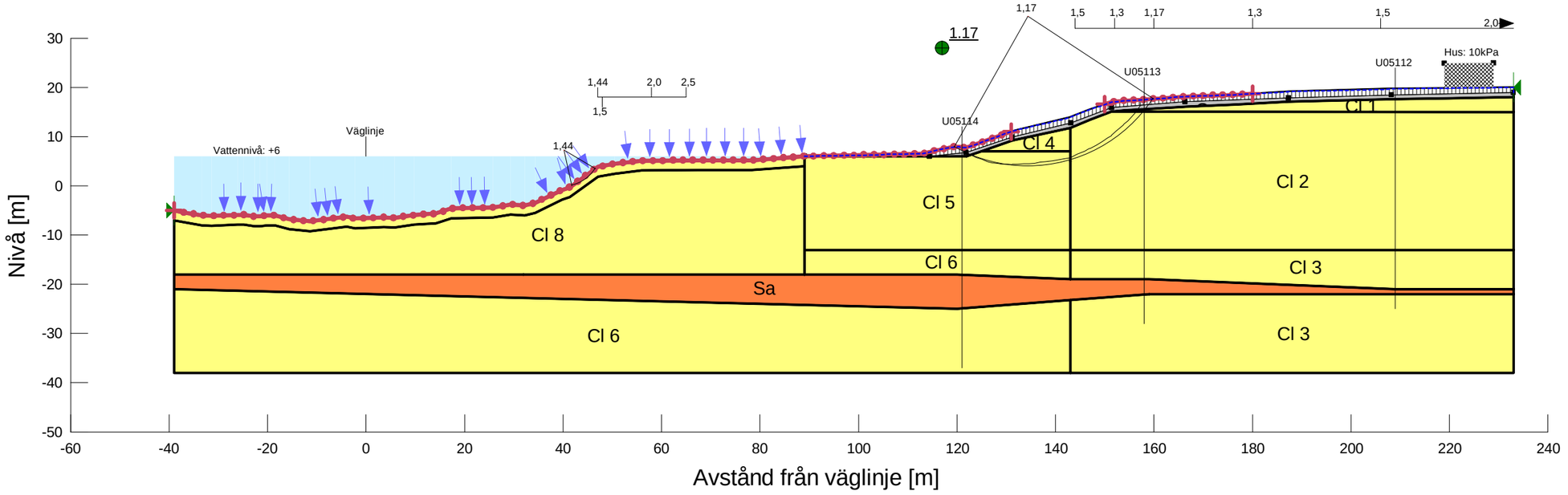
Figur 2. Totalspänning, effektivspänning och portryck.

KLIMATANPASSNING SKREDFÖRUTSÄTTNINGAR I GÖTA ÄLVDALEN

Sektion: V23500
Delområde: Intagan - Ström
Analysmetod: Kombinerad analys

Slip Surface Option: Entry and Exit
Method: Morgenstern-Price
PWP Conditions Source: Pressure Head Spatial Function
Date: 2011-04-28
Created By: Petter Karlsson
Last Edited By: Karlsson, Petter

Skala 1:1000 (A3)



Name: Crust
Model: Combined, S=f(depth)
Unit Weight: 18 kN/m³
Phi: 30 °
Cu-Top of Layer: 30 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1

Name: Sa
Model: Mohr-Coulomb
Unit Weight: 19.5 kN/m³
Cohesion: 0 kPa
Phi: 35 °

Name: Cl 1
Model: Combined, S=f(datum)
Unit Weight: 16.4 kN/m³
Phi: 30 °
Cu-Datum: 20 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1
Elevation: 23 m

Name: Cl 2
Model: Combined, S=f(datum)
Unit Weight: 16.4 kN/m³
Phi: 30 °
Cu-Datum: 20 kPa
Cu-Rate of Change: 2.04 kPa/m
C/Cu Ratio: 0.1
Elevation: 15 m

Name: Cl 3
Model: Combined, S=f(datum)
Unit Weight: 17 kN/m³
Phi: 30 °
Cu-Datum: 20 kPa
Cu-Rate of Change: 2.04 kPa/m
C/Cu Ratio: 0.1
Elevation: 15 m

Name: Cl 4
Model: Combined, S=f(datum)
Unit Weight: 16.4 kN/m³
Phi: 30 °
Cu-Datum: 25 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1
Elevation: 15 m

Name: Cl 5
Model: Combined, S=f(datum)
Unit Weight: 16.4 kN/m³
Phi: 30 °
Cu-Datum: 25 kPa
Cu-Rate of Change: 1.67 kPa/m
C/Cu Ratio: 0.1
Elevation: 7 m

Name: Cl 6
Model: Combined, S=f(datum)
Unit Weight: 17 kN/m³
Phi: 30 °
Cu-Datum: 25 kPa
Cu-Rate of Change: 1.67 kPa/m
C/Cu Ratio: 0.1
Elevation: 7 m

Name: Cl 7
Model: Combined, S=f(depth)
Unit Weight: 16.4 kN/m³
Phi: 30 °
Cu-Top of Layer: 3 kPa
Cu-Rate of Change: 11 kPa/m
C/Cu Ratio: 0.1

Name: Cl 8
Model: Combined, S=f(depth)
Unit Weight: 16.4 kN/m³
Phi: 30 °
Cu-Top of Layer: 25 kPa
Cu-Rate of Change: 1.67 kPa/m
C/Cu Ratio: 0.1

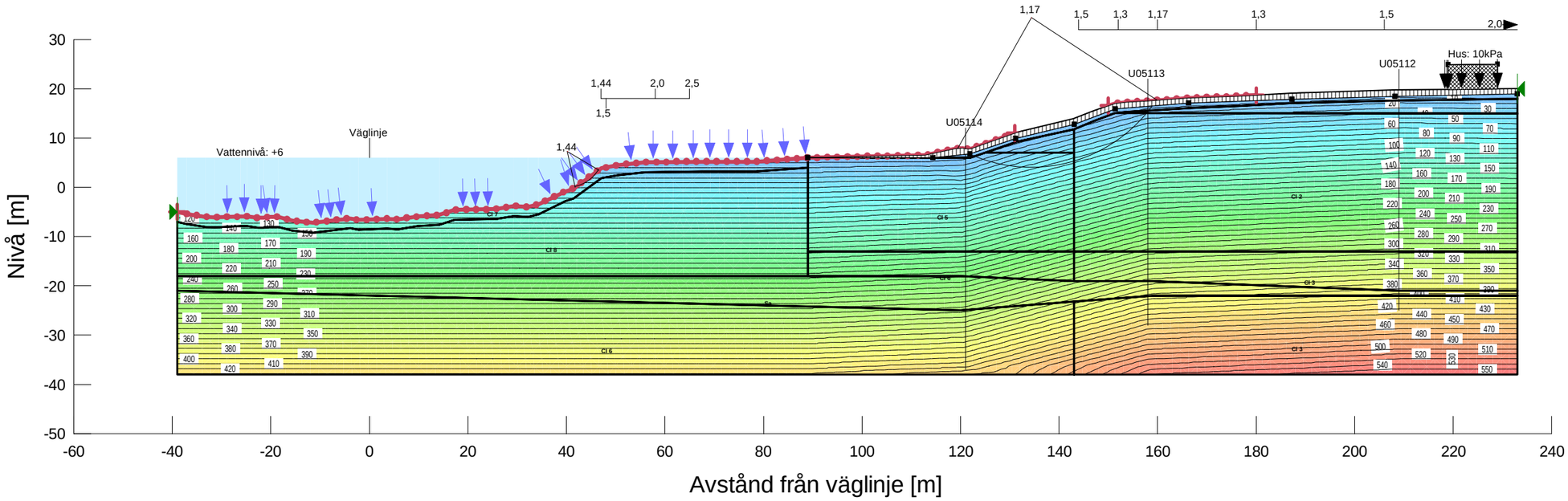
Directory: V:_UPPDRAG\227763\G_Text\V23500, U05112-U05114\
File Name: V23500_kombinerad.gsz

KLIMATANPASSNING SKREDFÖRUTSÄTTNINGAR I GÖTA ÄLVDALEN

Sektion: V23500
Delområde: Intagan - Ström
Analysmetod: Kombinerad analys

Slip Surface Option: Entry and Exit
Method: Morgenstern-Price
PWP Conditions Source: Pressure Head Spatial Function
Date: 2011-04-28
Created By: Petter Karlsson
Last Edited By: Karlsson, Petter

Skala 1:1000 (A3)



Name: Crust
Model: Combined, S=f(depth)
Unit Weight: 18 kN/m³
Phi: 30 °
Cu-Top of Layer: 30 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1

Name: Sa
Model: Mohr-Coulomb
Unit Weight: 19.5 kN/m³
Cohesion: 0 kPa
Phi: 35 °

Name: Cl 1
Model: Combined, S=f(datum)
Unit Weight: 16.4 kN/m³
Phi: 30 °
Cu-Datum: 20 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1
Elevation: 23 m

Name: Cl 2
Model: Combined, S=f(datum)
Unit Weight: 16.4 kN/m³
Phi: 30 °
Cu-Datum: 20 kPa
Cu-Rate of Change: 2.04 kPa/m
C/Cu Ratio: 0.1
Elevation: 15 m

Name: Cl 3
Model: Combined, S=f(datum)
Unit Weight: 17 kN/m³
Phi: 30 °
Cu-Datum: 20 kPa
Cu-Rate of Change: 2.04 kPa/m
C/Cu Ratio: 0.1
Elevation: 15 m

Name: Cl 4
Model: Combined, S=f(datum)
Unit Weight: 16.4 kN/m³
Phi: 30 °
Cu-Datum: 25 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1
Elevation: 15 m

Name: Cl 5
Model: Combined, S=f(datum)
Unit Weight: 16.4 kN/m³
Phi: 30 °
Cu-Datum: 25 kPa
Cu-Rate of Change: 1.67 kPa/m
C/Cu Ratio: 0.1
Elevation: 7 m

Name: Cl 6
Model: Combined, S=f(datum)
Unit Weight: 17 kN/m³
Phi: 30 °
Cu-Datum: 25 kPa
Cu-Rate of Change: 1.67 kPa/m
C/Cu Ratio: 0.1
Elevation: 7 m

Name: Cl 7
Model: Combined, S=f(depth)
Unit Weight: 16.4 kN/m³
Phi: 30 °
Cu-Top of Layer: 3 kPa
Cu-Rate of Change: 11 kPa/m
C/Cu Ratio: 0.1

Name: Cl 8
Model: Combined, S=f(depth)
Unit Weight: 16.4 kN/m³
Phi: 30 °
Cu-Top of Layer: 25 kPa
Cu-Rate of Change: 1.67 kPa/m
C/Cu Ratio: 0.1

Directory: V:_UPPDRAG\227763\G_Text\V23500, U05112-U05114\
File Name: V23500_kombinerad.gsz