

Odränerad Analys

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File Information

Created By: [Petter Karlsson](#)
Revision Number: 59
Last Edited By: [Karlsson, Petter](#)
Date: 2011-04-19
Time: 08:12:34
File Name: V19080_odränerad print.gsz
Directory: P:\!Göta älv utredningen 2009-2012\Delområde 1-10\Delområde 5-14085\Geoteknik\Text\Interngranskning\V19080\110816\
Last Solved Date: 2011-04-19
Last Solved Time: 08:13:36

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

CI 1

Model: $S=f(\text{datum})$

Unit Weight: 16.6 kN/m³

C-Datum: 28 kPa

C-Rate of Change: 0 kPa/m

Limiting C: 0 kPa

Elevation: 25 m

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

CI 2

Model: $S=f(\text{datum})$

Unit Weight: 16.6 kN/m³

C-Datum: 28 kPa

C-Rate of Change: 1.81 kPa/m

Limiting C: 0 kPa

Elevation: 15 m

Pore Water Pressure

Piezometric Line: 1

CI 3

Model: $S=f(\text{datum})$
Unit Weight: 17 kN/m^3
C-Datum: 28 kPa
C-Rate of Change: 1.81 kPa/m
Limiting C: 0 kPa
Elevation: 15 m
Pore Water Pressure
Piezometric Line: 1

CI 4

Model: $S=f(\text{datum})$
Unit Weight: 16.6 kN/m^3
C-Datum: 28 kPa
C-Rate of Change: 0 kPa/m
Limiting C: 0 kPa
Elevation: 15 m
Pore Water Pressure
Piezometric Line: 1

Crust

Model: Mohr-Coulomb
Unit Weight: 18 kN/m^3
Cohesion: 30 kPa
Phi: 0°
Phi-B: 0°
Pore Water Pressure
Piezometric Line: 1

CI 5

Model: $S=f(\text{datum})$
Unit Weight: 17 kN/m^3
C-Datum: 28 kPa
C-Rate of Change: 2.1 kPa/m
Limiting C: 0 kPa
Elevation: 5 m
Pore Water Pressure
Piezometric Line: 1

CI 6

Model: $S=f(\text{depth})$
Unit Weight: 17 kN/m^3
C-Top of Layer: 3 kPa
C-Rate of Change: 16.5 kPa/m
Limiting C: 36 kPa
Pore Water Pressure

Piezometric Line: 1

CI 7

Model: $S=f(\text{depth})$

Unit Weight: 17 kN/m³

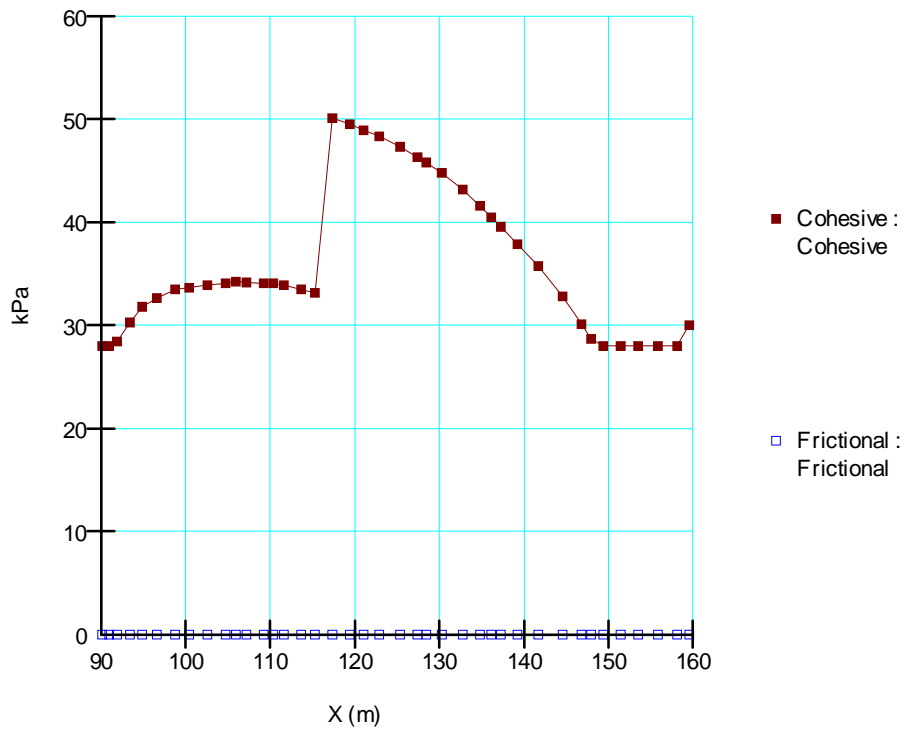
C-Top of Layer: 36 kPa

C-Rate of Change: 1.89 kPa/m

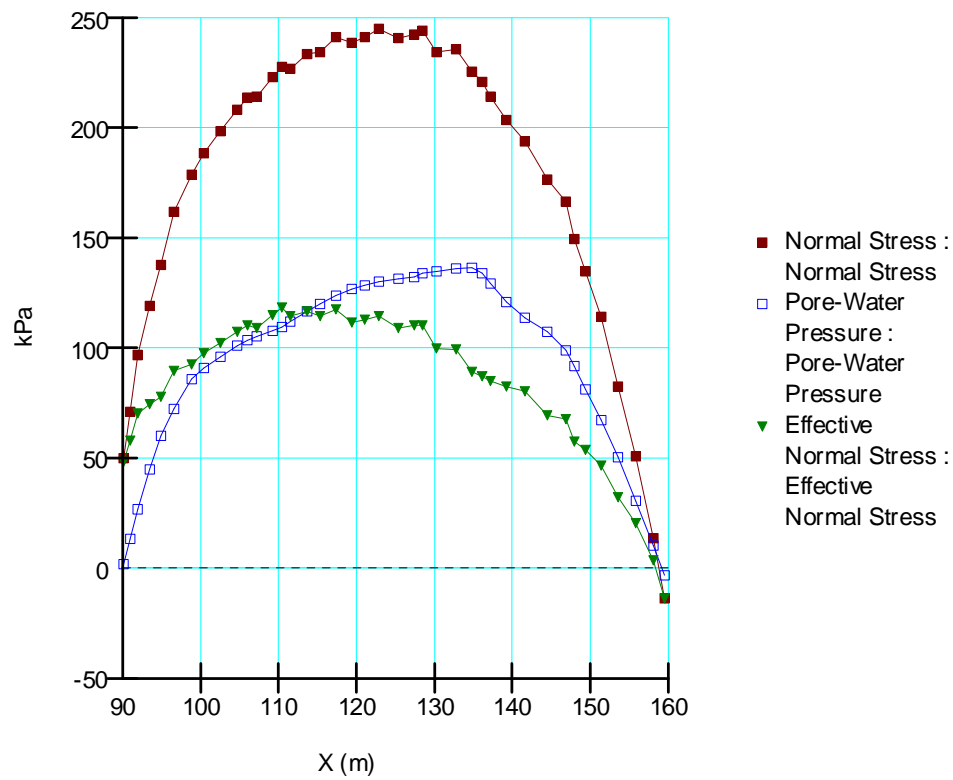
Limiting C: 0 kPa

Pore Water Pressure

Piezometric Line: 1



Figur 1. Kohesion och friktion.



Figur 2. Totalspänning, effektivspänning och portryck.



KLIMATANPASSNING SKREDFÖRUTSÄTTNINGAR I GÖTA ÄLVDALLEN

Sektion: V19080
 Delområde: Intagan - Ström
 Analysmetod: Odränerad analys

Slip Surface Option: Entry and Exit
 Method: Morgenstern-Price
 PWP Conditions Source: Piezometric Line
 Date: 2011-04-19
 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: CI 1
 Model: S=f(datum)
 Unit Weight: 16.6 kN/m³
 C-Datum: 28 kPa
 C-Rate of Change: 0 kPa/m
 Elevation: 25 m

Name: CI 2
 Model: S=f(datum)
 Unit Weight: 16.6 kN/m³
 C-Datum: 28 kPa
 C-Rate of Change: 1.81 kPa/m
 Elevation: 15 m

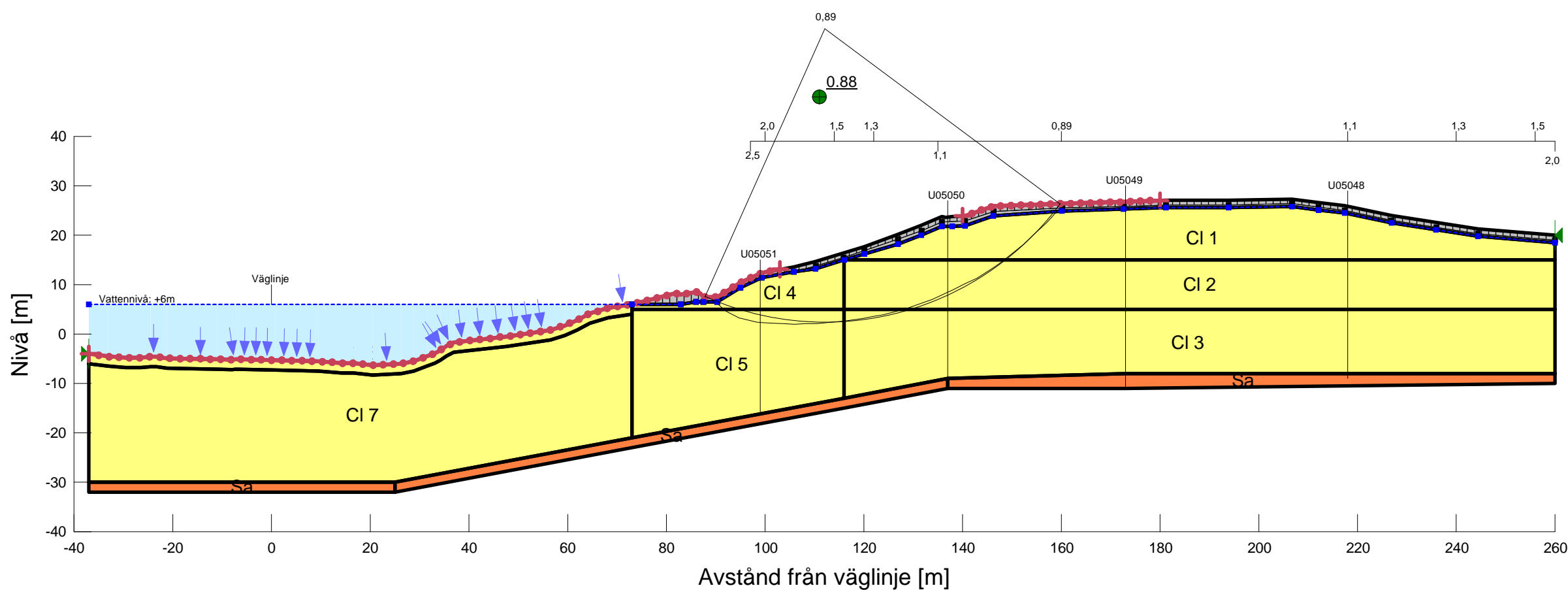
Name: CI 3
 Model: S=f(datum)
 Unit Weight: 17 kN/m³
 C-Datum: 28 kPa
 C-Rate of Change: 1.81 kPa/m
 Elevation: 15 m

Name: CI 4
 Model: S=f(datum)
 Unit Weight: 16.6 kN/m³
 C-Datum: 28 kPa
 C-Rate of Change: 0 kPa/m
 Elevation: 15 m

Name: CI 5
 Model: S=f(datum)
 Unit Weight: 17 kN/m³
 C-Datum: 28 kPa
 C-Rate of Change: 2.1 kPa/m
 Elevation: 5 m

Name: CI 6
 Model: S=f(depth)
 Unit Weight: 17 kN/m³
 C-Top of Layer: 3 kPa
 C-Rate of Change: 16.5 kPa/m

Name: CI 7
 Model: S=f(depth)
 Unit Weight: 17 kN/m³
 C-Top of Layer: 36 kPa
 C-Rate of Change: 1.89 kPa/m



Directory: P:\!Göta älv utredningen 2009-2012\Delområde 1-10\Delområde 5-14085\Geoteknik\Text\Interngranskning\V19080\110816\
 File Name: V19080_odränerad print.gsz

Kombinerad Analys

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File Information

Created By: [Petter Karlsson](#)
Revision Number: [52](#)
Last Edited By: [Karlsson, Petter](#)
Date: [2011-04-19](#)
Time: [08:06:33](#)
File Name: [V19080_kombinerad print.gsz](#)
Directory: [P:\!Göta älv utredningen 2009-2012\Delområde 1-10\Delområde 5-14085\Geoteknik\Text\Interngranskning\V19080\110816\](#)
Last Solved Date: [2011-04-19](#)
Last Solved Time: [08:08:22](#)

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

CI 1

Model: Combined, S=f(datum)

Unit Weight: 16.6 kN/m³

Phi: 30 °

C-Datum: 0 kPa

C-Rate of Change: 0 kPa/m

Cu-Datum: 28 kPa

Cu-Rate of Change: 0 kPa/m

C/Cu Ratio: 0.1

Elevation: 25 m

Sa

Model: Mohr-Coulomb

Unit Weight: 19.5 kN/m³

Cohesion: 0 kPa

Phi: 35 °

Phi-B: 0 °

CI 2

Model: Combined, S=f(datum)

Unit Weight: 16.6 kN/m³

Phi: 30 °

C-Datum: 0 kPa

C-Rate of Change: 0 kPa/m

Cu-Datum: 28 kPa

Cu-Rate of Change: 1.81 kPa/m

C/Cu Ratio: 0.1

Elevation: 15 m

CI 3

Model: Combined, $S=f(\text{datum})$
Unit Weight: 17 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 28 kPa
Cu-Rate of Change: 1.81 kPa/m
C/Cu Ratio: 0.1
Elevation: 15 m

CI 4

Model: Combined, $S=f(\text{datum})$
Unit Weight: 16.6 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 28 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1
Elevation: 15 m

Crust

Model: Combined, $S=f(\text{depth})$
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

CI 5

Model: Combined, $S=f(\text{datum})$
Unit Weight: 17 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 28 kPa
Cu-Rate of Change: 2.1 kPa/m
C/Cu Ratio: 0.1
Elevation: 5 m

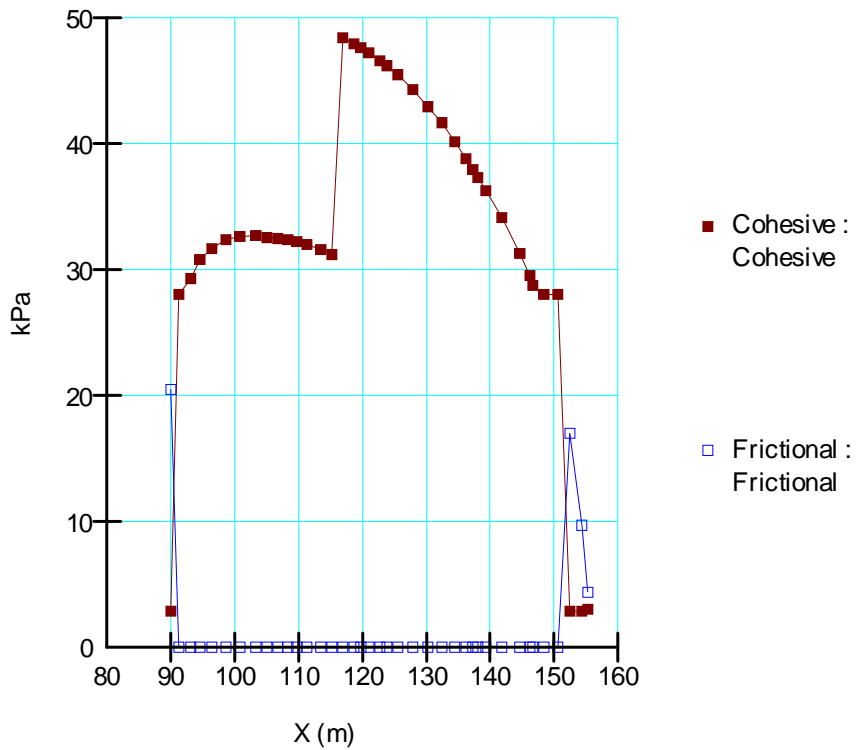
CI 6

Model: Combined, $S=f(\text{depth})$
Unit Weight: 17 kN/m³
Phi: 30 °

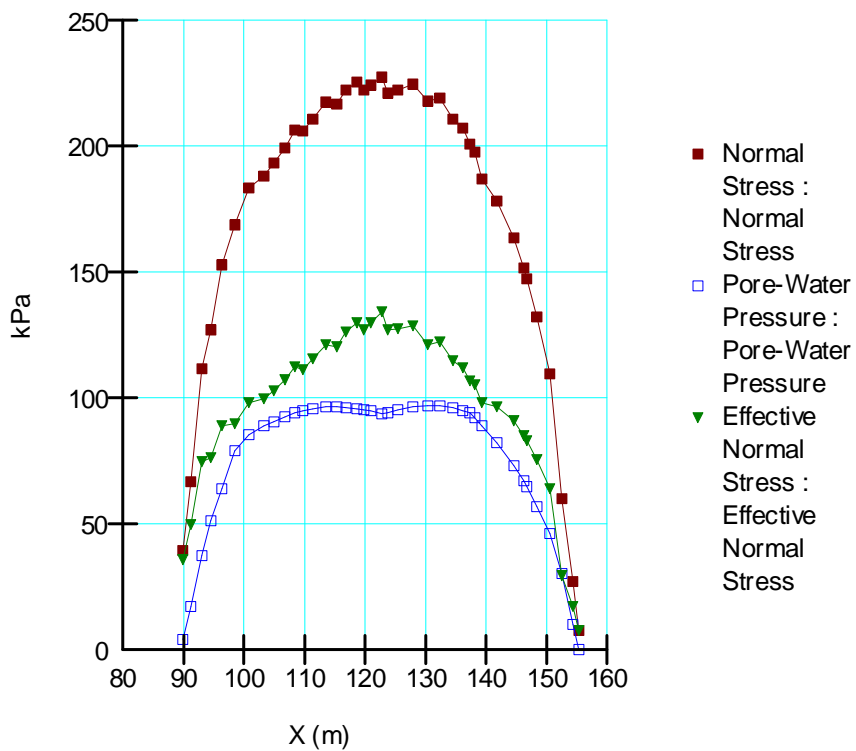
C-Top of Layer: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 3 kPa
Cu-Rate of Change: 16.5 kPa/m
C/Cu Ratio: 0.1

CI 7

Model: Combined, $S=f(\text{depth})$
Unit Weight: 17 kN/m³
Phi: 30 °
C-Top of Layer: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 36 kPa
Cu-Rate of Change: 1.89 kPa/m
C/Cu Ratio: 0.1



Figur 1. Kohesion och friktion.



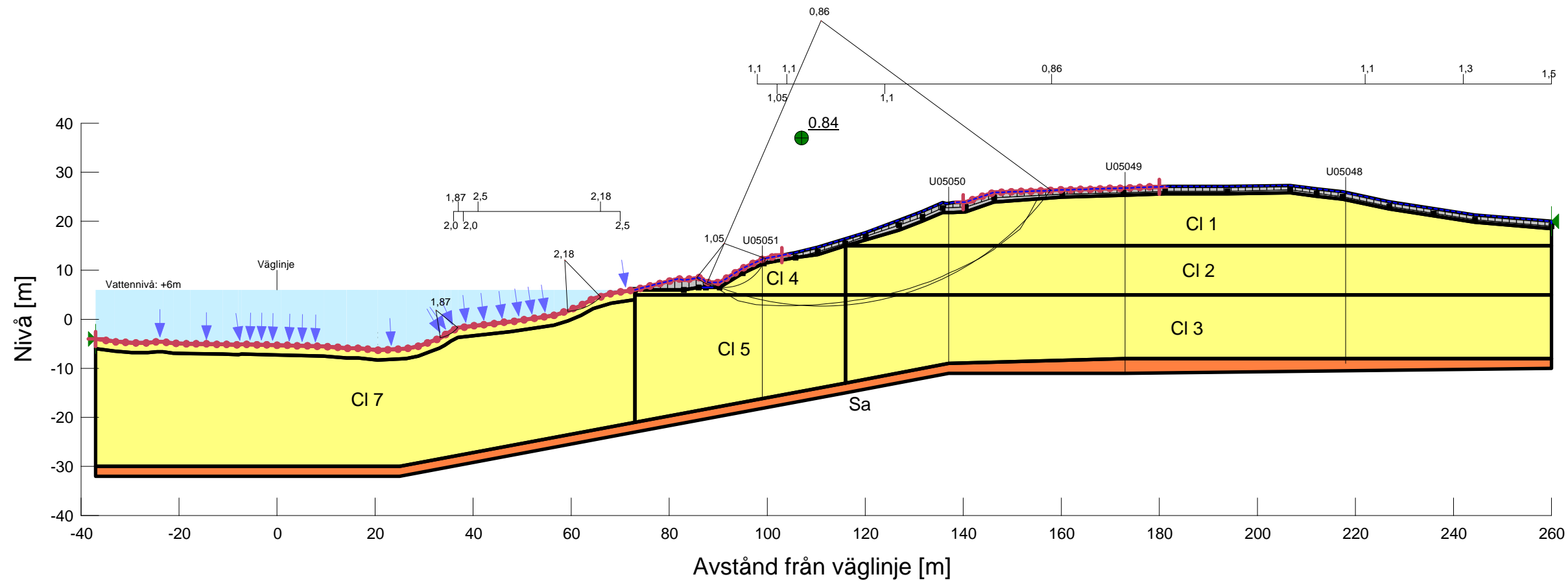
Figur 2. Totalspänning, effektivspänning och portryck.



KLIMATANPASSNING SKREDFÖRUTSÄTTNINGAR I GÖTA ÄLVDALEN

Sektion: V19080
 Delområde: Intagan - Ström
 Analysmetod: Kombinerad analys

Slip Surface Option: Entry and Exit
 Method: Morgenstern-Price
 PWP Conditions Source: Pressure Head Spatial Function
 Date: 2011-04-19
 Created By: Petter Karlsson
 Last Edited By: Karlsson, Petter



Name: CI 2
 Model: Combined, S=f(datum)
 Unit Weight: 16.6 kN/m³
 Phi: 30 °
 C-Datum: 0 kPa
 C-Rate of Change: 0 kPa/m
 Cu-Datum: 28 kPa
 Cu-Rate of Change: 1.81 kPa/m
 C/Cu Ratio: 0.1
 Elevation: 15 m

Name: CI 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: 28 kPa
 Cu-Rate of Change: 1.81 kPa/m
 C/Cu Ratio: 0.1
 Elevation: 15 m

Name: CI 4
 Model: Combined, S=f(datum)
 Unit Weight: 16.6 kN/m³
 Phi: 30 °
 C-Datum: 0 kPa
 C-Rate of Change: 0 kPa/m
 Cu-Datum: 28 kPa
 Cu-Rate of Change: 0 kPa/m
 C/Cu Ratio: 0.1
 Elevation: 15 m

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

Name: CI 5
 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: 28 kPa
 Cu-Rate of Change: 2.1 kPa/m
 C/Cu Ratio: 0.1
 Elevation: 5 m

Name: CI 6
 Model: Combined, S=f(depth)
 Unit Weight: 17 kN/m³
 Phi: 30 °
 C-Rate of Change: 0 kPa/m
 Cu-Rate of Change: 16.5 kPa/m
 C/Cu Ratio: 0.1

Name: CI 7
 Model: Combined, S=f(depth)
 Unit Weight: 17 kN/m³
 Phi: 30 °
 C-Rate of Change: 0 kPa/m
 Cu-Rate of Change: 1.89 kPa/m
 C/Cu Ratio: 0.1

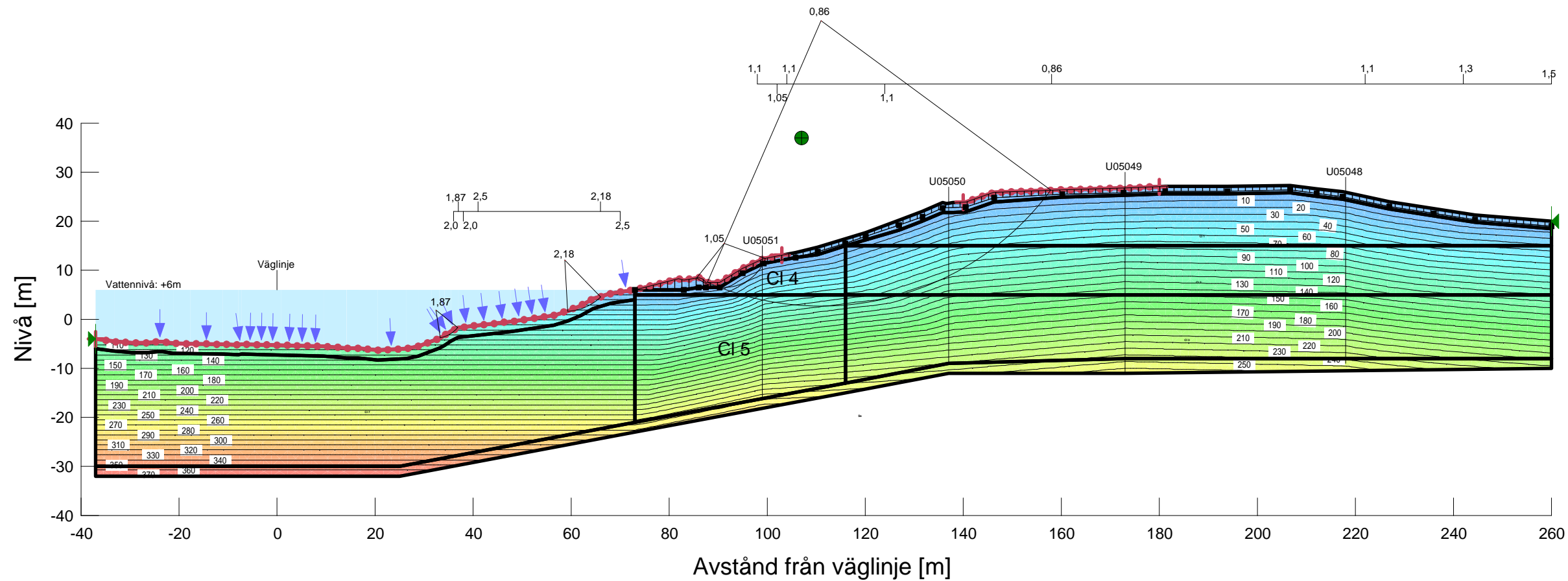
Directory: P:\Göta älv utredningen 2009-2012\Delområde 1-10\Delområde 5-14085\Geoteknik\Text\Interngranskning\V19080\110816\
 File Name: V19080_kombinerad print.gsz



KLIMATANPASSNING SKREDFÖRUTSÄTTNINGAR I GÖTA ÄLVDALEN

Sektion: V19080
Delområde: Intagan - Ström
Analysmetod: Kombinerad analys

Slip Surface Option: Entry and Exit
Method: Morgenstern-Price
PWP Conditions Source: Pressure Head Spatial Function
Date: 2011-08-18
Created By: Petter Karlsson
Last Edited By: Kine Meijer



Name: CI 2
 Model: Combined, S=f(datum)
 Unit Weight: 16.6 kN/m³
 Phi: 30 °
 C-Datum: 0 kPa
 C-Rate of Change: 0 kPa/m
 Cu-Datum: 28 kPa
 Cu-Rate of Change: 1.81 kPa/m
 C/Cu Ratio: 0.1
 Elevation: 15 m

Name: CI 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: 28 kPa
 Cu-Rate of Change: 1.81 kPa/m
 C/Cu Ratio: 0.1
 Elevation: 15 m

Name: CI 4
 Model: Combined, S=f(datum)
 Unit Weight: 16.6 kN/m³
 Phi: 30 °
 C-Datum: 0 kPa
 C-Rate of Change: 0 kPa/m
 Cu-Datum: 28 kPa
 Cu-Rate of Change: 0 kPa/m
 C/Cu Ratio: 0.1
 Elevation: 15 m

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

Name: CI 5
 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: 28 kPa
 Cu-Rate of Change: 2.1 kPa/m
 C/Cu Ratio: 0.1
 Elevation: 5 m

Name: CI 6
 Model: Combined, S=f(depth)
 Unit Weight: 17 kN/m³
 Phi: 30 °
 C-Rate of Change: 0 kPa/m
 Cu-Rate of Change: 16.5 kPa/m
 C/Cu Ratio: 0.1

Name: CI 7
 Model: Combined, S=f(depth)
 Unit Weight: 17 kN/m³
 Phi: 30 °
 C-Rate of Change: 0 kPa/m
 Cu-Rate of Change: 1.89 kPa/m
 C/Cu Ratio: 0.1