Kombinerad analys, nulägesanalys 1

File Information

Created By: Karlström, Hanna
Revision Number: 528
Last Edited By: Karlström, Hanna
Date: 2011-04-14
Time: 10:37:39
File Name: 31150WKS.gsz
Directory: V:_UPPDRAG\224784\Teknik\Delområde 1-10\Delområde 4-14084\Geoteknik\Beräkningar\Sektion 25 V31_150\V31_150\
Last Solved Date: 2011-04-14
Last Solved Time: 10:39:32

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, nulägesanalys 1

Description: V31/150 kombinerad analys Uppsprucken torrskorpa, 50% vattenfyllda sprickor
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: 20
- 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: 2 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

Friction

Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Unit Wt. Above Water Table: 20 kN/m³
Cohesion: 0 kPa
Phi: 38 °
Phi-B: 0 °

Clay 1 co

Model: Combined, S=f(depth)
Unit Weight: 15.8 kN/m³
Phi: 30 °
C-Top of Layer: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 15 kPa
Cu-Rate of Change: 0.59 kPa/m
C/Cu Ratio: 0.1

Clay 2 co

Model: Combined, S=f(depth)
Unit Weight: 15.8 kN/m³
Phi: 30 °
C-Top of Layer: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 16 kPa
Cu-Rate of Change: 1.43 kPa/m
C/Cu Ratio: 0.1

Clay 3 co

Model: Combined, S=f(depth)
Unit Weight: 15.8 kN/m³
Phi: 30 °
C-Top of Layer: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 26 kPa

Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1

Clay 4 co

Model: Combined, S=f(depth)
Unit Weight: 15.8 kN/m³
Phi: 30 °
C-Top of Layer: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 26 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1

Clay 5 co

Model: Combined, S=f(depth)
Unit Weight: 15.8 kN/m³
Phi: 30 °
C-Top of Layer: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 19 kPa
Cu-Rate of Change: 1.08 kPa/m
C/Cu Ratio: 0.1

Clay 6 co

Model: Combined, S=f(depth)
Unit Weight: 15.8 kN/m³
Phi: 30 °
C-Top of Layer: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 23 kPa
Cu-Rate of Change: 2.67 kPa/m
C/Cu Ratio: 0.1

Clay 7 co

Model: Combined, S=f(depth)
Unit Weight: 15.8 kN/m³
Phi: 30 °
C-Top of Layer: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 31 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1

Clay 8 co

Model: Combined, S=f(datum)
Unit Weight: 15.7 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 16 kPa
Cu-Rate of Change: 0 kPa/m

C/Cu Ratio: 0.1
Elevation: 12 m

Clay 9 co

Model: Combined, S=f(datum)
Unit Weight: 15.7 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 16 kPa
Cu-Rate of Change: 1.25 kPa/m
C/Cu Ratio: 0.1
Elevation: 7 m

Clay 10 co

Model: Combined, S=f(datum)
Unit Weight: 16 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 26 kPa
Cu-Rate of Change: 1.44 kPa/m
C/Cu Ratio: 0.1
Elevation: -1 m

Clay 11 co

Model: Combined, S=f(datum)
Unit Weight: 16 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 39 kPa
Cu-Rate of Change: 1.2 kPa/m
C/Cu Ratio: 0.1
Elevation: -10 m

Clay 12 co

Model: Combined, S=f(depth)
Unit Weight: 16 kN/m³
Phi: 30 °
C-Top of Layer: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 16 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1

Crust co

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

Clay 13 co

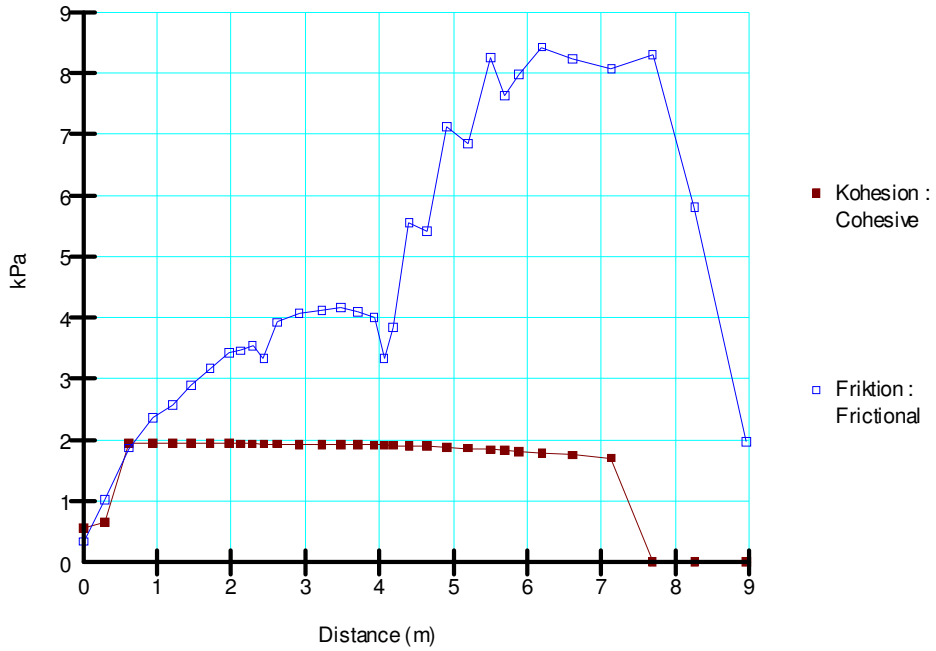
Model: Combined, S=f(datum)
Unit Weight: 16 kN/m³
Phi: 30 °
C-Datum: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Datum: 45 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1
Elevation: -15 m

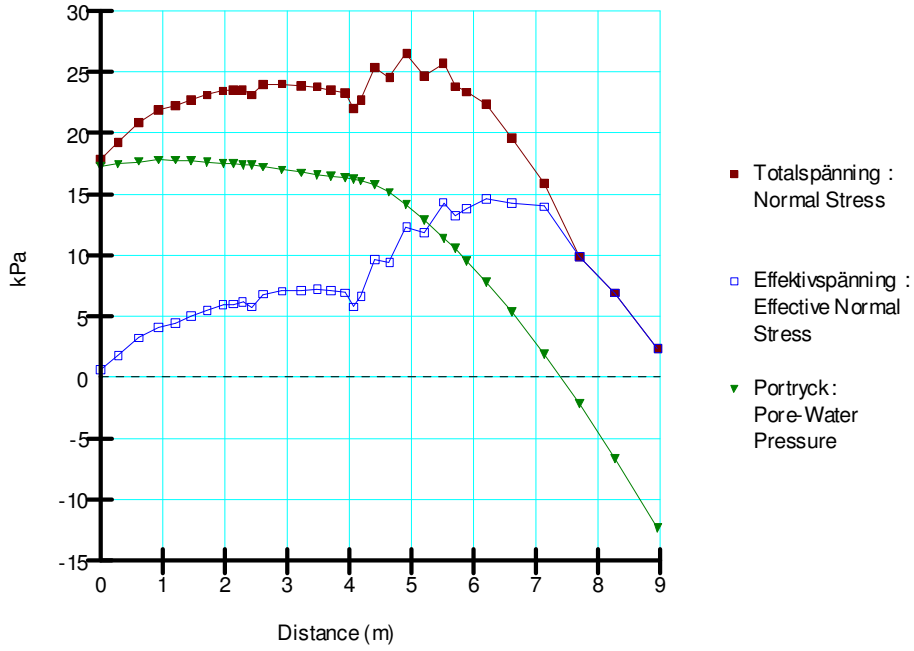
Strandskoning

Model: Mohr-Coulomb
Unit Weight: 21 kN/m³
Unit Wt. Above Water Table: 18 kN/m³
Cohesion: 0 kPa
Phi: 40 °
Phi-B: 0 °

Clay 16 co älv

Model: Combined, S=f(depth)
Unit Weight: 16.8 kN/m³
Phi: 30 °
C-Top of Layer: 0 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 5 kPa
Cu-Rate of Change: 10.5 kPa/m
C/Cu Ratio: 0.1



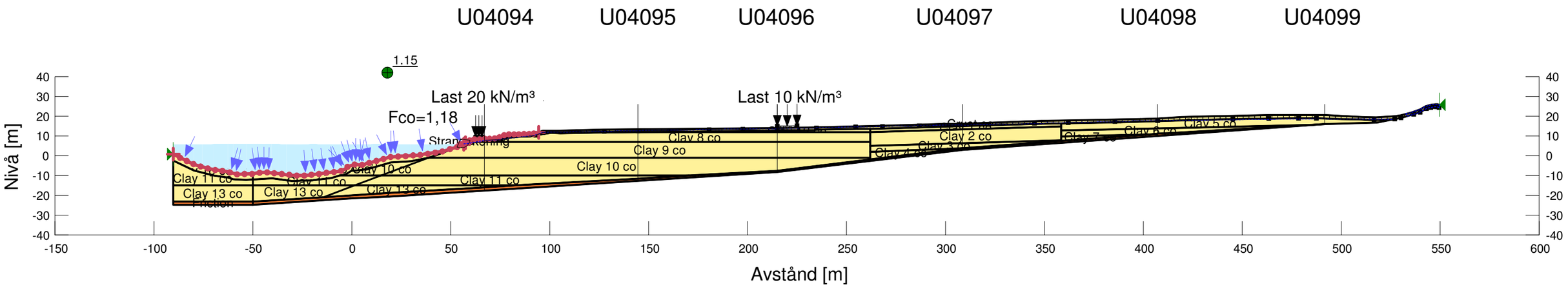


Kommentar:
Den ovan redovisade grafen över normalspänning, effektivspänning och portryck hör till den optimerade glidytan i nulägesanalysen där portrycket har modellerats med pressure head. Det negativa portrycket går inte att undvika då pressur head används (vilket går om en piezometric line används).
Det som framgår är dock att effektivspänningen inte påverkas och därmed bör inte heller resultatet påverkas av det negativa portrycket.

Skala 1:2000 (A3)
Leveransdatum 2011-03-31

Göta älv utredningen 2009-2012
SEKTION: V31/150 kombinerad analys
Uppsprucken torrskorpa, 50% vattenfyllda sprickor
Beräkningsmodell: Morgenstern-Price
Metod: Entry and Exit
Portrycksmodell: Pressure Head Spatial Function
Datum: 2011-04-14

Nivå för yttre vattenstånd + 6 [m]



Beräkning utförd av:
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Granskad av:
Mats Ekenberg

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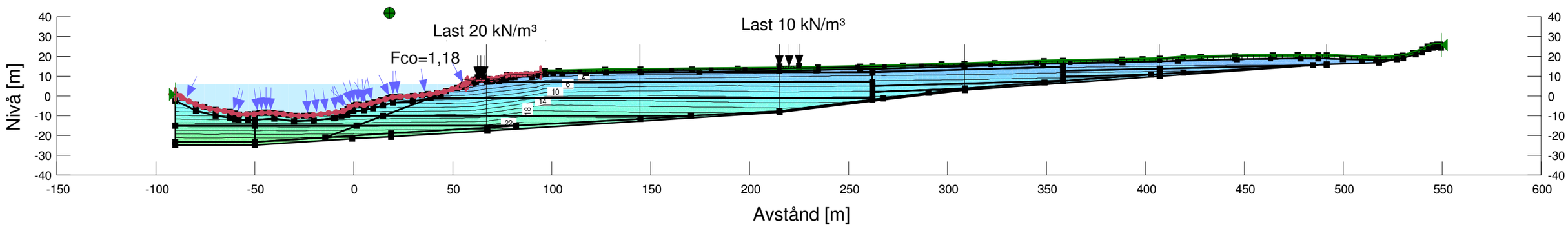

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