# Kombinerad analys, befintliga förhållanden



## File Information

Created By: Åsa Bergh
Revision Number: 256
Last Edited By: Bergh Åsa
Date: 2010-12-07
Time: 11:08:09
File Name: 37850WKS_2000.gsz
Directory: K:\60_Externt\6020xx\602085_Stabilitetsutredning GÄ_Tyréns\GÄU DELOMRÅDE 4\Delområde 1-10\Delområde 4-14084\Geoteknik\Beräkningar\Sektion 13 37850\

## 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, befintliga förhållanden

Description: V37/850 kombinerad analys Uppsprucken torrskorpa, vattenfyllda sprickor (50%)
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: Grid and Radius
    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: 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 co

Model: Combined, S=f(depth)
Unit Weight: 18 kN/m³
Phi: 30 °
C-Top of Layer: 3 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 0 kPa
Cu-Rate of Change: 30 kPa/m
C/Cu Ratio: 0.1
Pore Water Pressure
Piezometric Line: 1

## Clay 1 co

Model: Combined, S=f(depth)
Unit Weight: 14.9 kN/m³
Phi: 30 °
C-Top of Layer: 1.2 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 12 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1
Pore Water Pressure
Piezometric Line: 1

## Clay 2 co

Model: Combined, S=f(depth)
Unit Weight: 16.6 kN/m³
Phi: 30 °
C-Top of Layer: 2.88 kPa
C-Rate of Change: 0.153 kPa/m
Cu-Top of Layer: 28.8 kPa
Cu-Rate of Change: 1.53 kPa/m
C/Cu Ratio: 0.1
Pore Water Pressure
    Piezometric Line: 1

## Clay 3 co

Model: Combined, S=f(datum)
Unit Weight: 16 kN/m³
Phi: 30 °
C-Datum: 0.8 kPa
C-Rate of Change: 0.053 kPa/m
Cu-Datum: 8 kPa
Cu-Rate of Change: 0.53 kPa/m
C/Cu Ratio: 0.1
Elevation: 10 m
Pore Water Pressure
    Piezometric Line: 1

## Clay 4 co

Model: Combined, S=f(datum)
Unit Weight: 15.3 kN/m³
Phi: 30 °
C-Datum: 0.8 kPa
C-Rate of Change: 0.053 kPa/m
Cu-Datum: 8 kPa
Cu-Rate of Change: 0.53 kPa/m
C/Cu Ratio: 0.1
Elevation: 10 m
Pore Water Pressure
    Piezometric Line: 1

## Clay 5 co

Model: Combined, S=f(datum)
Unit Weight: 15.3 kN/m³
Phi: 30 °
C-Datum: 1.6 kPa
C-Rate of Change: 0.113 kPa/m
Cu-Datum: 16 kPa
Cu-Rate of Change: 1.13 kPa/m
C/Cu Ratio: 0.1
Elevation: -5 m
Pore Water Pressure
    Piezometric Line: 1

### Clay 6 co älv

Model: Combined, S=f(depth)
Unit Weight: 15.3 kN/m³
Phi: 30 °
C-Top of Layer: 0.8 kPa
C-Rate of Change: 0 kPa/m
Cu-Top of Layer: 8 kPa
Cu-Rate of Change: 0 kPa/m
C/Cu Ratio: 0.1
Pore Water Pressure
Piezometric Line: 1

### Clay 7 co älv

Model: Combined, S=f(depth)
Unit Weight: 16.5 kN/m³
Phi: 30 °
C-Top of Layer: 0.8 kPa
C-Rate of Change: 0.54 kPa/m
Cu-Top of Layer: 8 kPa
Cu-Rate of Change: 5.4 kPa/m
C/Cu Ratio: 0.1
Pore Water Pressure
Piezometric Line: 1

### Clay 9 co

Model: Combined, S=f(depth)
Unit Weight: 15.5 kN/m³
Phi: 30 °
C-Top of Layer: 1.2 kPa
C-Rate of Change: 0.153 kPa/m
Cu-Top of Layer: 12 kPa
Cu-Rate of Change: 1.53 kPa/m
C/Cu Ratio: 0.1
Pore Water Pressure
Piezometric Line: 1

### Clay 10 co

Model: Combined, S=f(depth)
Unit Weight: 15.5 kN/m³
Phi: 30 °
C-Top of Layer: 2.27 kPa
C-Rate of Change: 0.153 kPa/m
Cu-Top of Layer: 22.7 kPa
Cu-Rate of Change: 1.53 kPa/m
C/Cu Ratio: 0.1
Pore Water Pressure
Piezometric Line: 1

## Clay 11 co

Model: Combined, S=f(depth)
Unit Weight: 16.6 kN/m³
Phi: 30 °
C-Top of Layer: 4.42 kPa
C-Rate of Change: 0.153 kPa/m
Cu-Top of Layer: 44.2 kPa
Cu-Rate of Change: 1.53 kPa/m
C/Cu Ratio: 0.1
Pore Water Pressure
    Piezometric Line: 1

## Clay 12 co

Model: Combined, S=f(depth)
Unit Weight: 16.6 kN/m³
Phi: 30 °
C-Top of Layer: 5.3 kPa
C-Rate of Change: 0.153 kPa/m
Cu-Top of Layer: 53 kPa
Cu-Rate of Change: 1.53 kPa/m
C/Cu Ratio: 0.1
Pore Water Pressure
    Piezometric Line: 1

## Clay 13 co

Model: Combined, S=f(datum)
Unit Weight: 15.3 kN/m³
Phi: 30 °
C-Datum: 0.8 kPa
C-Rate of Change: 0.053 kPa/m
Cu-Datum: 8 kPa
Cu-Rate of Change: 0.53 kPa/m
C/Cu Ratio: 0.1
Elevation: 10 m
Pore Water Pressure
    Piezometric Line: 1

## Clay 14 co

Model: Combined, S=f(datum)
Unit Weight: 15.3 kN/m³
Phi: 30 °
C-Datum: 1.6 kPa
C-Rate of Change: 0.113 kPa/m
Cu-Datum: 16 kPa
Cu-Rate of Change: 1.13 kPa/m
C/Cu Ratio: 0.1
Elevation: -5 m
Pore Water Pressure
    Piezometric Line: 1

### Clay 15 co

Model: Combined, S=f(datum)
Unit Weight: 16.5 kN/m³
Phi: 30 °
C-Datum: 1.6 kPa
C-Rate of Change: 0.113 kPa/m
Cu-Datum: 16 kPa
Cu-Rate of Change: 1.13 kPa/m
C/Cu Ratio: 0.1
Elevation: -5 m
Pore Water Pressure
Piezometric Line: 1

### 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 °
Pore Water Pressure
Piezometric Line: 1

### Silt

Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Unit Wt. Above Water Table: 17 kN/m³
Cohesion: 0 kPa
Phi: 30 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

### Gravel

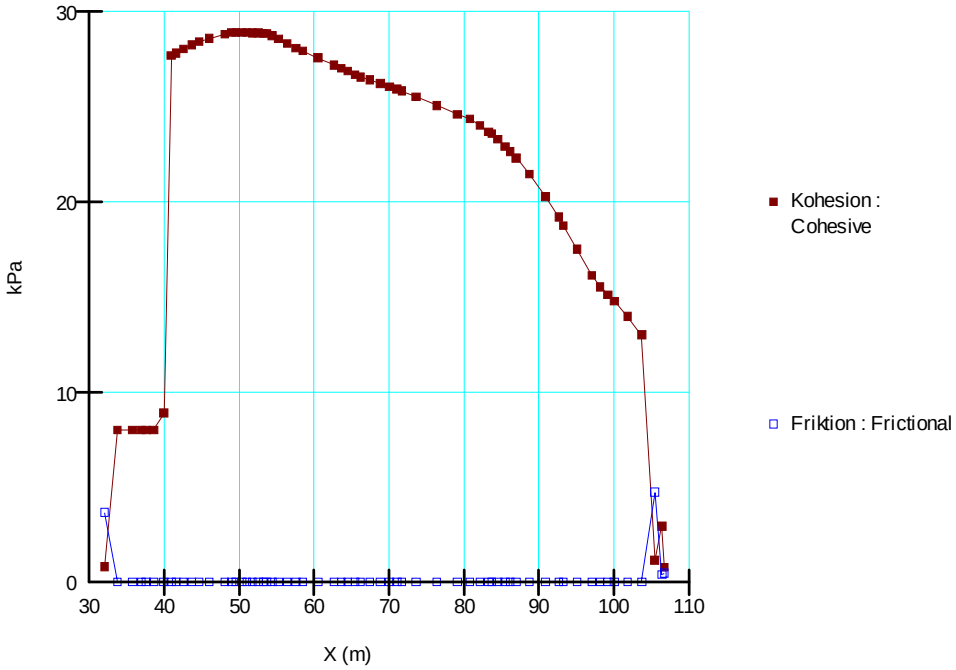
Model: Mohr-Coulomb
Unit Weight: 21 kN/m³
Unit Wt. Above Water Table: 18 kN/m³
Cohesion: 0 kPa
Phi: 40 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

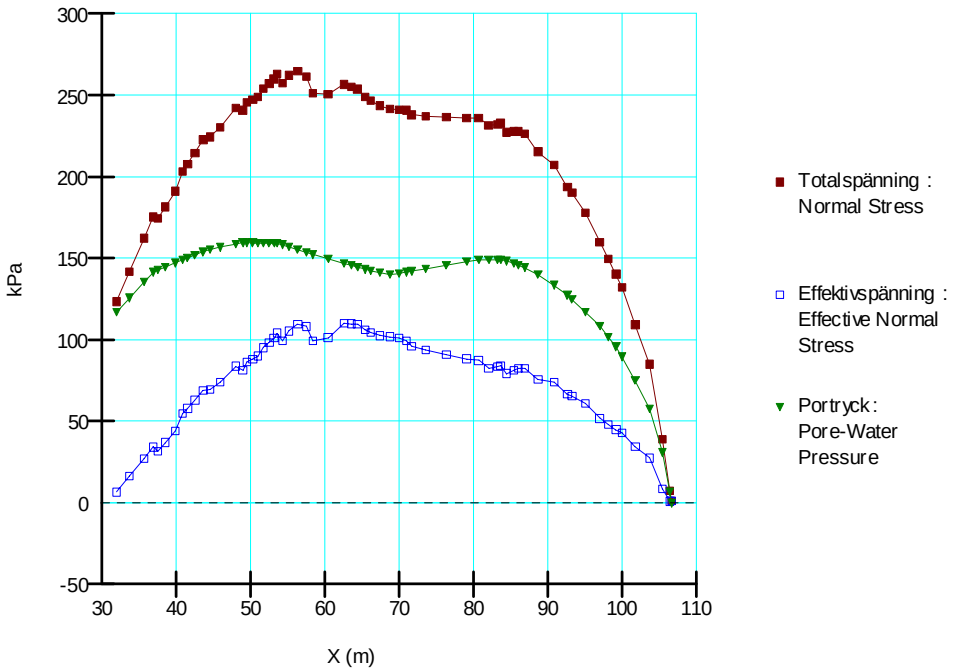
## Surcharge Loads

### Surcharge Load 1

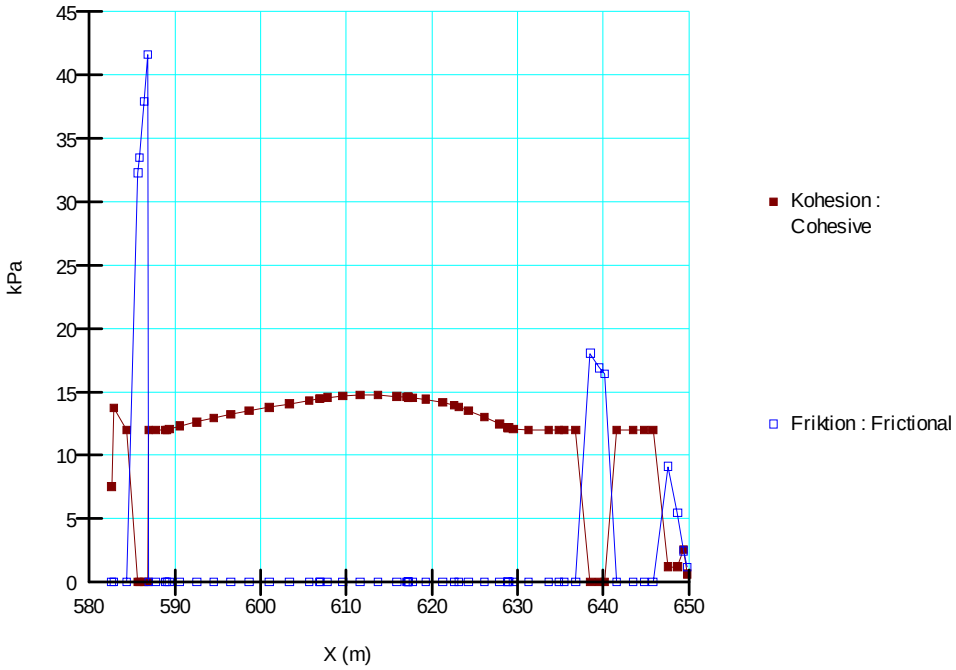
Surcharge (Unit Weight): 10 kN/m³
Direction: Vertical

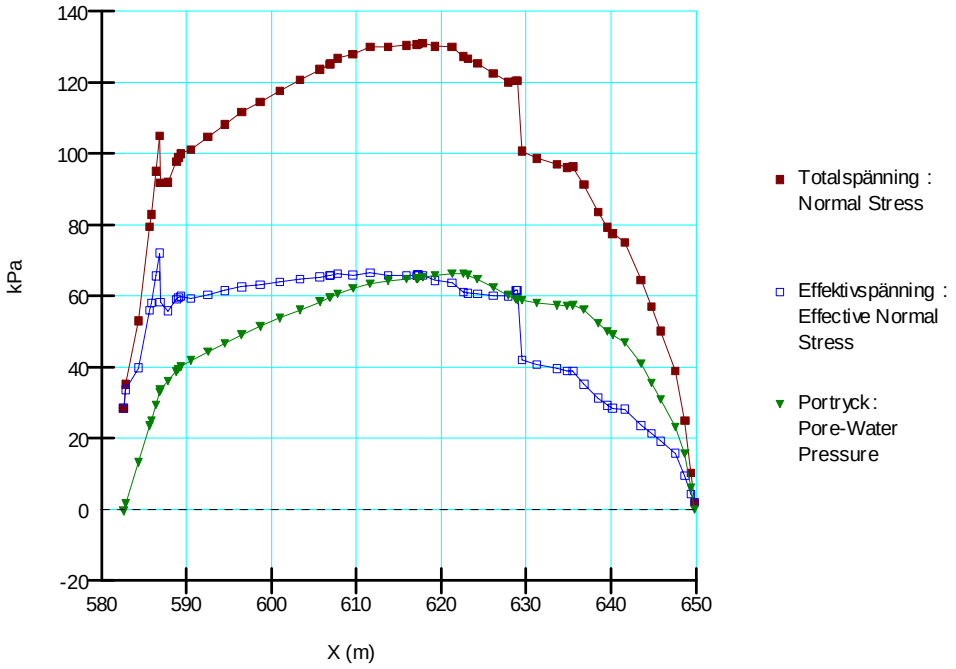
# Diagram för glidyta älvnära (Fk = 0,83)



# Diagram för glidyta vid fastmark (Fk = 1,61)

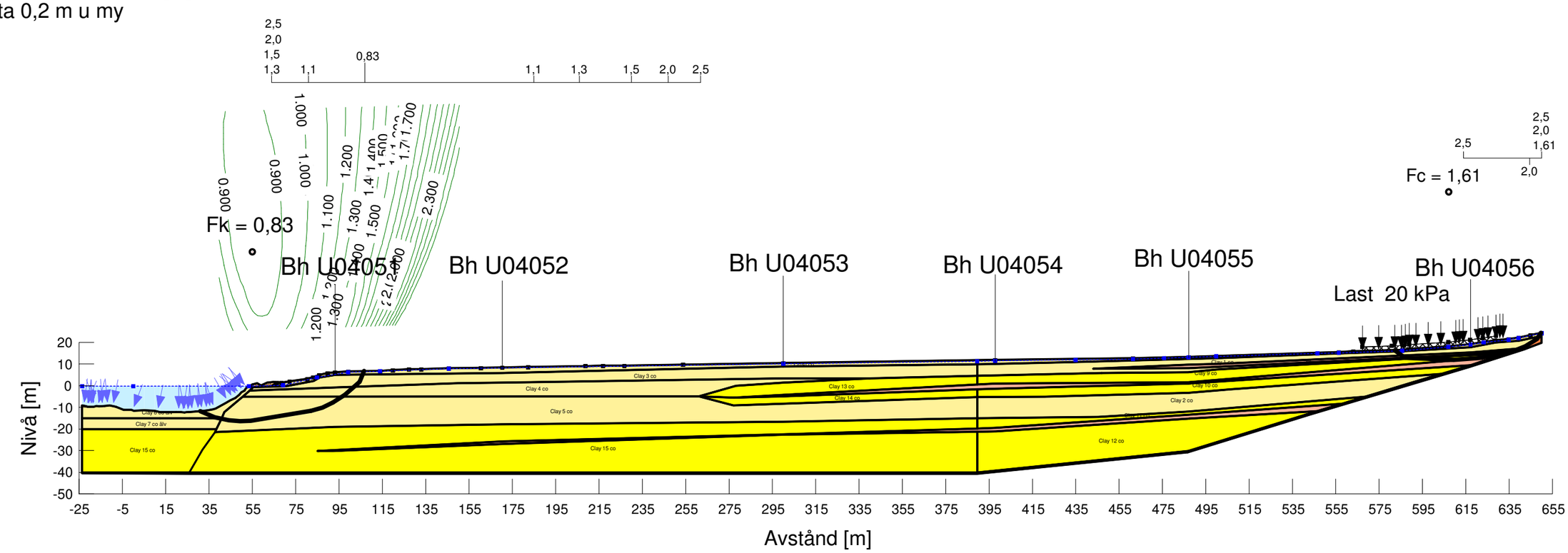


Skala 1:2000 (A3)
Leveransdatum: 2011-03-31

Göta älv utredningen 2009-2012
SEKTION: V37/850 kombinerad analys
Uppsprucken torrskorpa, vattenfyllda sprickor (50%)
Beräkningsmodell: Morgenstern-Price
Metod: Grid and Radius
Portrycksmodell: Piezometric Line
Datum: 2011-04-11

Nivå för yttre vattenstånd -0,19 [m]
Grundvattenyta 0,2 m u my

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

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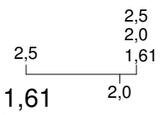
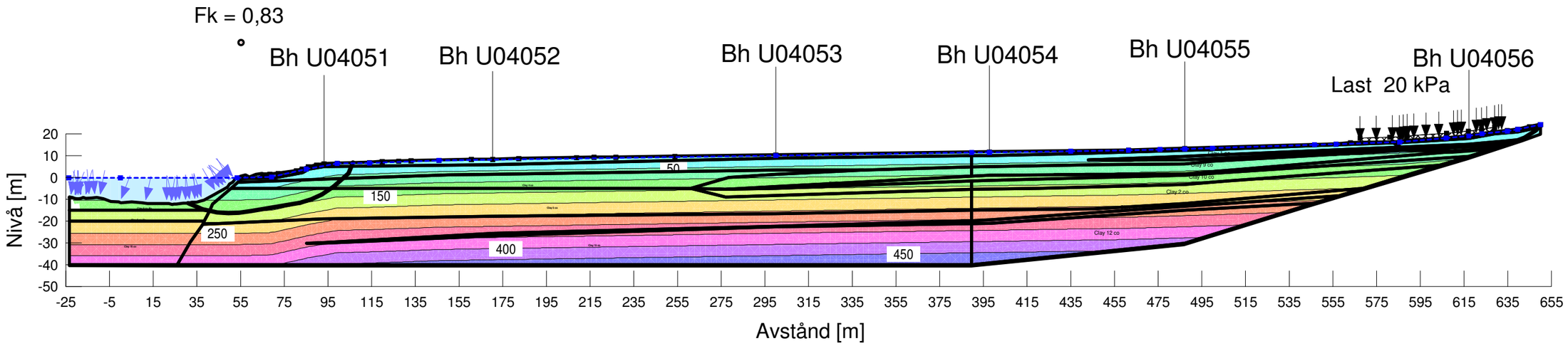



Fc = 1,61

Fk = 0,83

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