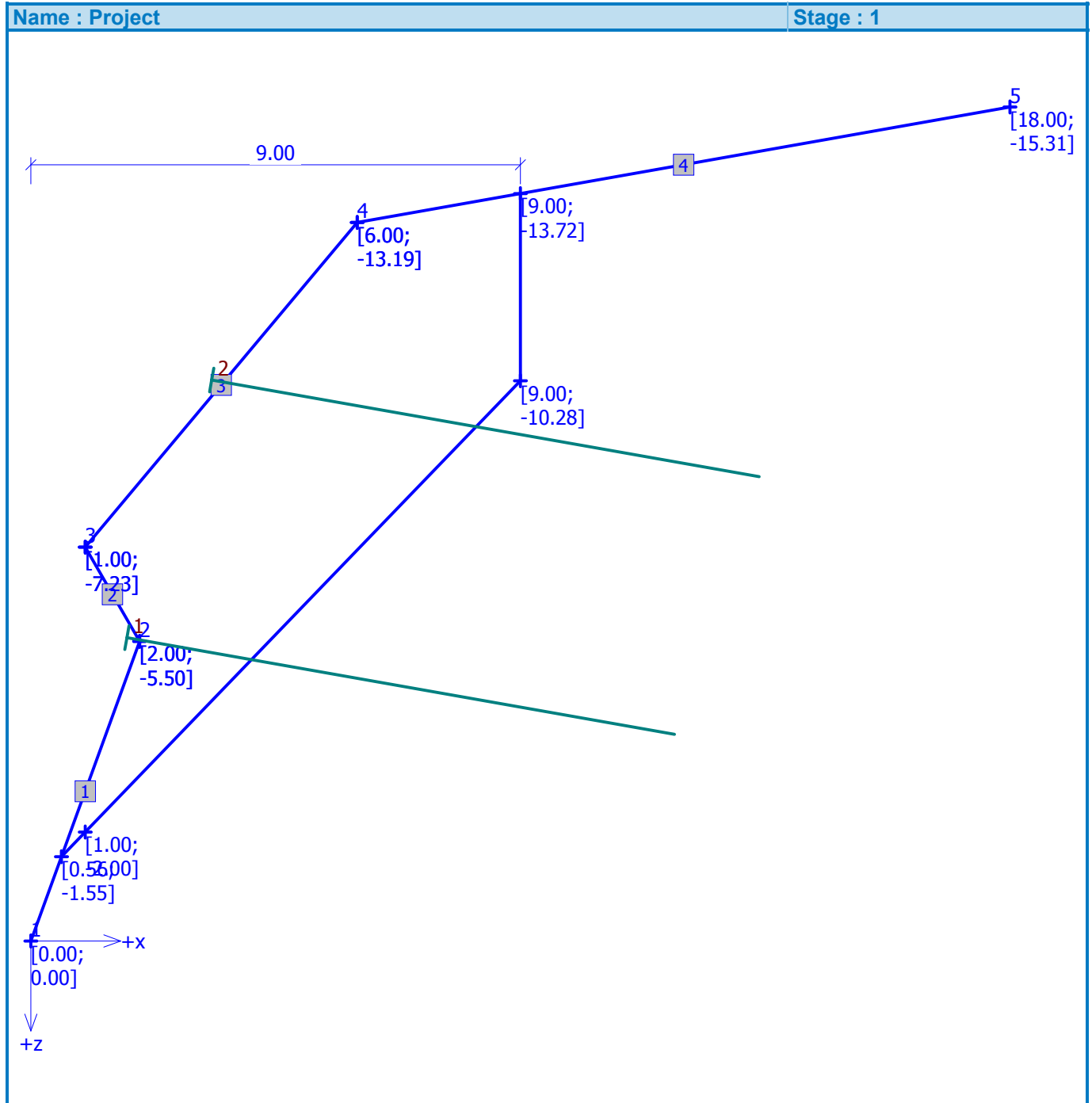


Analysis of rock stability

Input data

Project

Date : 6/15/2007



Terrain

Terrain sections

Number	Gradient α [°]	Overall length l [m]	Horizontal length l_h [m]	Height l_v [m]
1	70.00	5.85	2.00	5.50
2	120.00	2.00	-1.00	1.73

Number	Gradient α [°]	Overall length l [m]	Horizontal length l _h [m]	Height l _v [m]
3	50.00	7.78	5.00	5.96
4	10.00	12.19	12.00	2.12

Rock

Specific weight $\gamma = 15.00$ kN/m³
 Type of defined slip surface: Mohr-Coulomb
 Angle of internal friction $\phi = 36.00$ °
 Cohesion $c = 15.00$ kPa

Slip surface

Number	Coordinate	
	X [m]	Y [m]
1	0.56	-1.55
2	9.00	-10.28
3	9.00	-13.72

Slip surface gradient $\alpha = 46.00$ °
 Tension crack gradient $\phi = 0.00$ °
 Distance of tension crack $x = 9.00$ m
 Type of slip surface: smooth

Water

Influence of ground water table is not considered.

Defined anchors

Number	New anchor	Origin		Length l [m]	Gradient α [°]	Spacing b [m]
		X [m]	Z [m]			
1	YES	1.98	-5.53	10.00	10.00	1.00
2	YES	3.54	-10.26	10.00	10.00	1.00

Number	Anchor type	Post-stressing	Force F [kN]	Bearing cap. R _t [kN]
1	active		95.00	
2	active		95.00	

Earthquake

Horizontal seismic coefficient $K_h = 0.0000$
 Vertical seismic coefficient $K_v = 0.0000$

Analysis settings

Type of analysis - plane slip surface
 Analysis carried out according to classical theory (safety factor)
 Safety factor SF = 1.50

Analysis No. 1 (Stage of construction 1)

Partial results

Slip surface length = 12.15 m
 Slip surface gradient = 46.00 °
 Gravity force $W_z = 603.03$ kN/m
 Forces due to active anchors $F_{ax} = 187.11$ kN/m
 Forces due to active anchors $F_{az} = 32.99$ kN/m
 Normal force on slip surface $N = 576.42$ kN/m
 Shear stress on slip surface $\tau = 49.48$ kPa

Verification

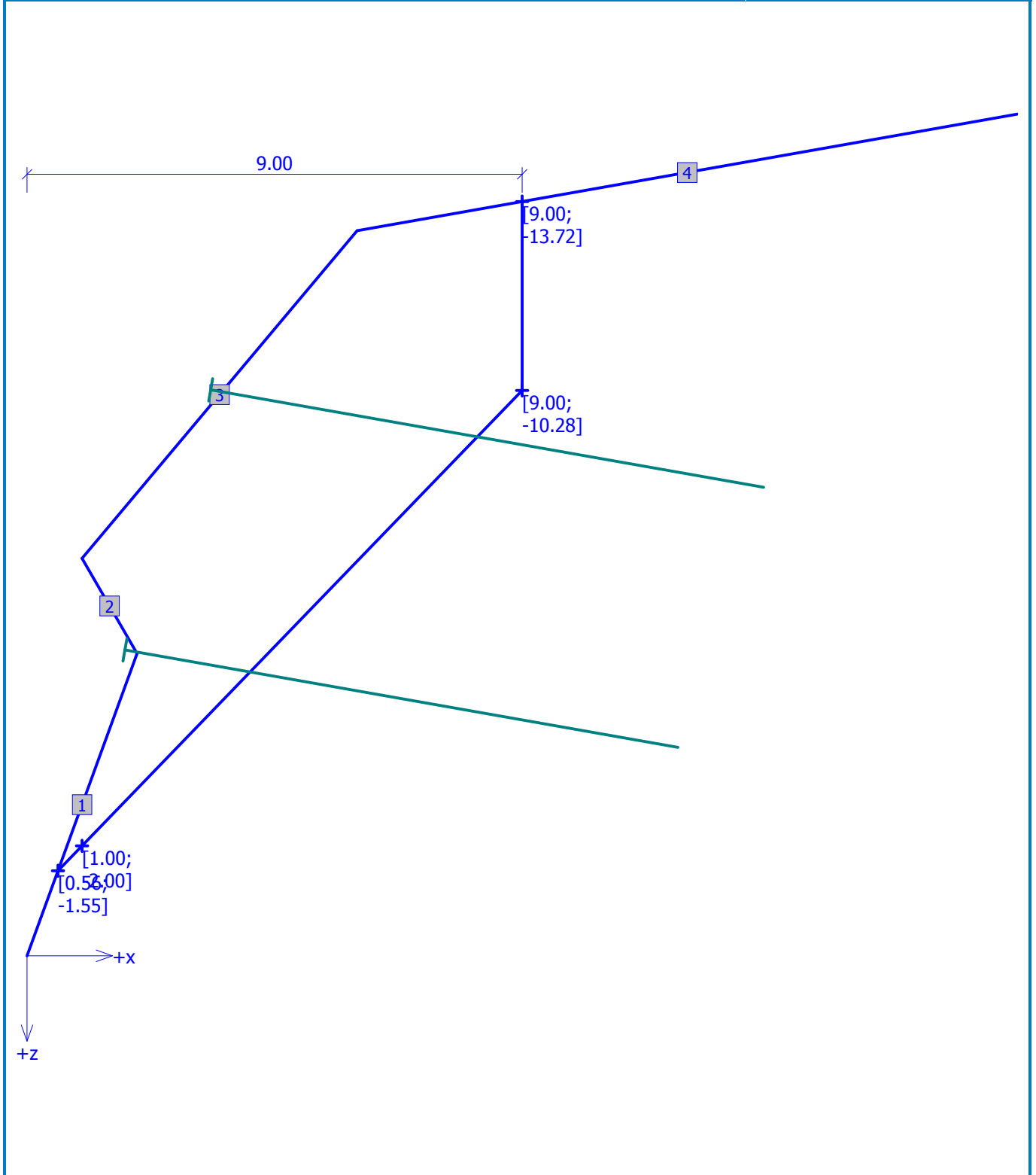
Resisting force $T_{resist} = 600.98$ kN/m
 Driving force $T_{driv} = 327.54$ kN/m

Factor of safety = 1.83 > 1.50

Stability of rock slope is **SATISFACTORY**

Name : Analysis

Stage : 1; Analysis : 1





Soil Boring - geotechnical services
Tiverton rd. 24
London, United Kingdom

tel:5478354125, fax:5478354126
www.soilboring.com, info@soilboring.com
Project: Shopping center - Black Rose