

Load/Deformation

Report generated using GeoStudio 2021.4. Copyright © 1991-2022 GEOSLOPE International Ltd.

File Information

File Version: 11.03
Created By: Alexandra Ayala
Last Edited By: Alexandra Ayala
Revision Number: 67
Date: 27/06/2022
Time: 02:27:19 p. m.
Tool Version: 11.3.1.23726
File Name: ZODME 1.gsz
Directory: C:\Users\aleyr\OneDrive\Escritorio\Zodme\
Last Solved Date: 12/07/2022

Project Settings

Unit System: International System of Units (SI)

Analysis Settings

Load/Deformation

Kind: SIGMA/W
Parent: Slope Stability
Analysis Type: Load/Deformation
Settings
Initial Stress and PWP Conditions from: (none)
Final PWP Conditions from: (none)
Bulk Modulus of Pore-Fluid: 2,083,333.3 kPa
Reset displacements and strains: No
Reset state variables: No
Convergence
Maximum Number of Iterations: 300
Convergence Scheme: Unbalanced Energy
Tolerable Error: 1e-05
Tolerable Error for Stress Update: 0.005
Steps
Starting Time: 0 d
Duration: 7,310 d
of Steps: 20
Time Increment: 365.5 d
Save Steps Every: 1

Materials

Arena Arcillosa #1

Stress
Stress Material Model: Mohr-Coulomb
Initial Void Ratio: 0.5
Unit Weight: 20.17 kN/m³

Response Type: Drained
Effective Elastic Modulus: 43,599 kPa
Effective Poisson's Ratio: 0.4
Effective Cohesion: 81 kPa
Effective Friction Angle: 21 °
Dilation Angle: 0 °
Tensile Strength: 0 kPa
K0 Type: Calculated
K0: 0.6416

Hydraulic

Hydraulic Material Model: (none)

Arena Arcillosa #2

Stress

Stress Material Model: Mohr-Coulomb
Initial Void Ratio: 0.5
Unit Weight: 18.93 kN/m³
Response Type: Drained
Effective Elastic Modulus: 43,599 kPa
Effective Poisson's Ratio: 0.4
Effective Cohesion: 47 kPa
Effective Friction Angle: 26 °
Dilation Angle: 0 °
K0 Type: Calculated
K0: 0.5616

Hydraulic

Hydraulic Material Model: (none)

Relleno Zodme

Stress

Stress Material Model: Mohr-Coulomb
Initial Void Ratio: 0.5
Unit Weight: 16.42 kN/m³
Response Type: Drained
Effective Elastic Modulus: 5,000 kPa
Effective Poisson's Ratio: 0.45
Effective Cohesion: 8 kPa
Effective Friction Angle: 19.74 °
Dilation Angle: 0 °
K0 Type: Calculated
K0: 0.7168

Hydraulic

Hydraulic Material Model: (none)

Boundary Conditions

Fixed X

Category: Stress/Strain

X-Type: X-Displacement 0 m

Fixed X/Y

Category: Stress/Strain

X-Type: X-Displacement 0 m

Y-Type: Y-Displacement 0 m

Geometry

Name: 2D Geometry

Settings

View: 2D

Element Thickness: 1 m

Points

	X	Y
Point 1	0.993108 m	6.322553 m
Point 2	50.993108 m	6.322553 m
Point 3	50.993108 m	6.922553 m
Point 4	0.993108 m	6.922553 m
Point 5	0.993108 m	7.722553 m
Point 6	50.993108 m	7.722553 m
Point 7	32.993108 m	6.322553 m
Point 8	32.993108 m	7.722553 m
Point 9	19.493108 m	7.722553 m
Point 10	19.493108 m	12.222553 m
Point 11	0.993108 m	12.222553 m
Point 12	16.493108 m	6.322553 m
Point 13	0.993108 m	1.002753 m
Point 14	50.981008 m	1.002753 m
Point 15	1 m	1 m

Lines

	Start Point	End Point	Stress/Strain Boundary	Length	Angle
Line 1	4	1	Fixed X	0.6 m	90 °
Line 2	2	3	Fixed X	0.6 m	90 °
Line 3	3	4		50 m	0 °
Line 4	6	3	Fixed X	0.8 m	90 °
Line 5	4	5	Fixed X	0.8 m	90 °
Line 6	7	2		18 m	0 °
Line 7	8	6		18 m	0 °
Line 8	5	9		18.5 m	0 °
Line 9	9	8		13.5 m	0 °
Line 10	8	10		14.23 m	-18.4 °
Line 11	10	11		18.5 m	0 °
Line 12	11	5	Fixed X	4.5 m	90 °
Line 13	1	12		15.5 m	0 °
Line 14	12	7		16.5 m	0 °
Line 15	1	13	Fixed X	5.3198 m	90 °
Line 16	13	14	Fixed X/Y	49.988 m	0 °
Line 17	14	2	Fixed X	5.3198 m	89.9 °

Regions

	Material	Points	Area
Region 1	Arena Arcillosa #2	4;1;12;7;2;3	30 m²
Region 2	Arena Arcillosa #1	6;3;4;5;9;8	40 m²
Region 3	Relleno Zodme	8;10;11;5;9	113.62 m²
Region 4	Arena Arcillosa #2	1;13;14;2;7;12	265.96 m²

Mesh Properties

Global Element Size: 1 m