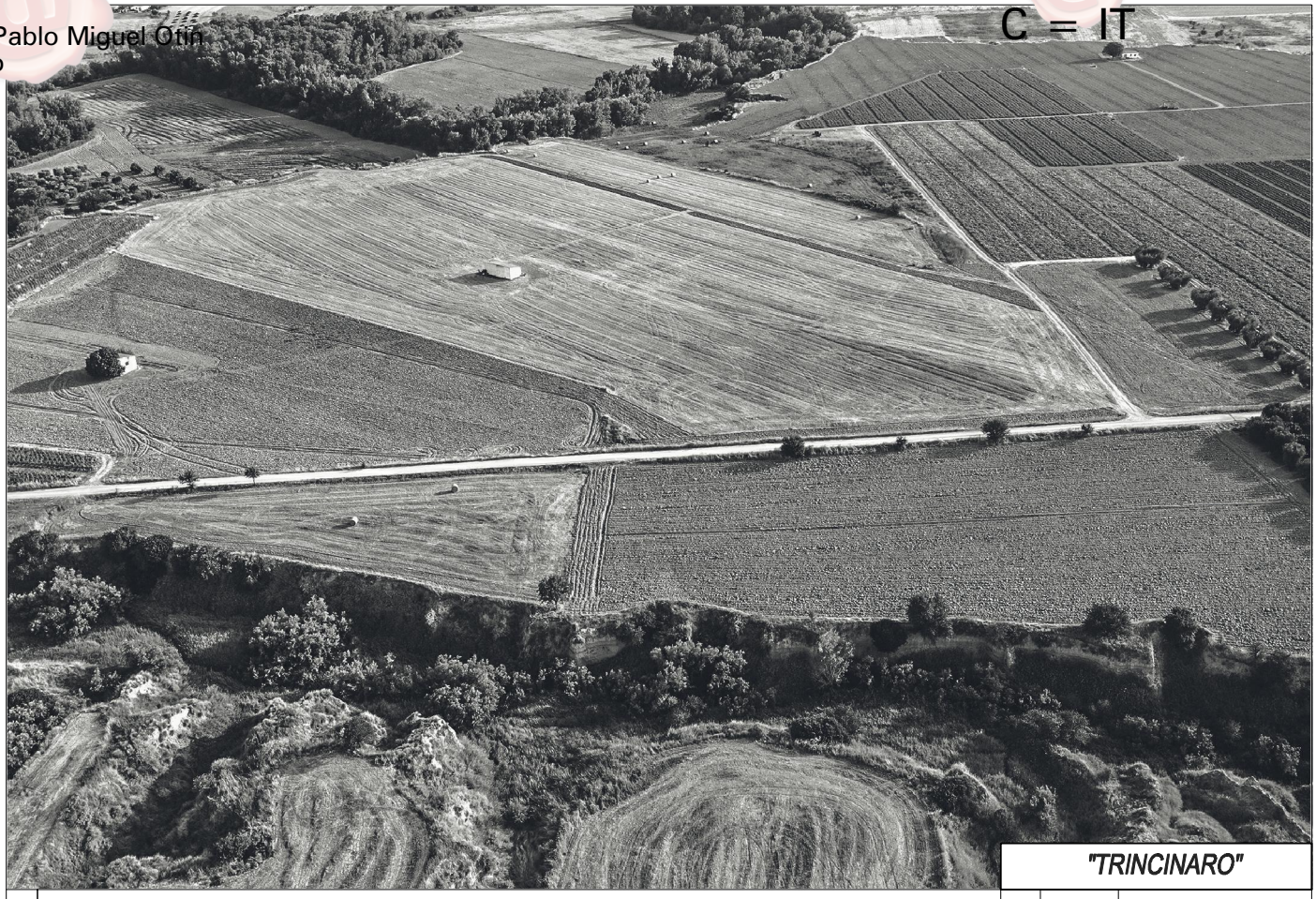


"TRINCINARO"

1	PROGETTO REV 00	MR	11/21	
REV.	DESCRIZIONE E REVISIONE	Sigla	Data	Firma
		EMESSO		

PROGETTAZIONE

GVC
SERVIZI DI INGEGNERIA
Via della Pineta 1 - 85100 - Potenza
email: info@gvcingegneria.it -
website: www.gvcingegneria.it
C.F e P.IVA 01737760767
P.E.C: gvcsrl@gigapec.it

Direttore Tecnico:
dott. ing. MICHELE RESTAINO

Collaboratori GVC s.r.l. per il progetto:
dott. ing. GIORGIO MARIA RESTAINO
dott. ing. CARLO RESTAINO
dott. ing. ATTILIO ZOLFANELLI

GVC S.r.l.
Direttore Tecnico
Ing.Michele Restaino

GEOLOGIA

Nuova Atlantide soc. coop. a r.l.
Località Palazzo snc - 75011 Accettura - Matera
email: progettazione@nuovaatlantide.com

Direttore Tecnico:
geol. ANTONIO DI BIASE

Collaboratore per il progetto:
geol. TOMMASO SANTOCHIRICO

"Nuova Atlantide"
Società Cooperativa
Località Palazzo, s.n.c. - 75011 Accettura (MT)

ORDINE DEI GEOLOGI DI BASILICATA
Dott. Geol. DIBIASE Antonio
N. Iscriz. 257

ARCHEOLOGIA

Dott. Antonio Bruscella
Piazza Alcide De Gasperi 27 - 85100 - Potenza
email: antoniobruscella@hotmail.it

Dott. Antonio Bruscella

ANTONIO BRUSCELLA
Archeologo Specializzato

AGRONOMIA

Dott. agr. Paolo Castelli
Viale Croce Rossa 25 - 90144 - Palermo
email: paolo:castelli@hotmail.it
P.IVA 0546509826

ORDINE DEI DOTTORI AGRONOMI E DOTTORI FORESTALI PROVINCIA DI PALERMO
Dott. CASTELLI PAOLO N. 1498 ALBO SEZ. A

Committente

AMBRA SOLARE 20 s.r.l.
Via Venti Settembre n.1 - 00187 ROMA, Italia
ambrasolare20srl@legalmail.it
C.F. e P.IVA 15946211008
SOCIETA' DEL GRUPPO POWERTIS s.r.l.

Powertis
Via Tevere, 41 - 00198 ROMA, Italia
www.powertis.com

Soltec
Via Tevere, 41 - 00198 ROMA, Italia
www.soltech.com

Comune

COMUNE DI POMARICO (MT)

Opera

PROGETTO PER LA REALIZZAZIONE DI UN IMPIANTO AGRIVOLTAICO DI POTENZA NOMINALE PARI A 19.994,88 kWp
DENOMINATO "TRINCINARO" - UBICATO NEL COMUNE DI POMARICO (MT) - REGIONE BASILICATA

COD. RIF	G/139/01/A/01/PD		
ELABORATO		FILE	
Categoria	N.°		
PD		Scala	1:10:000

Oggetto

PROGETTO DEFINITIVO

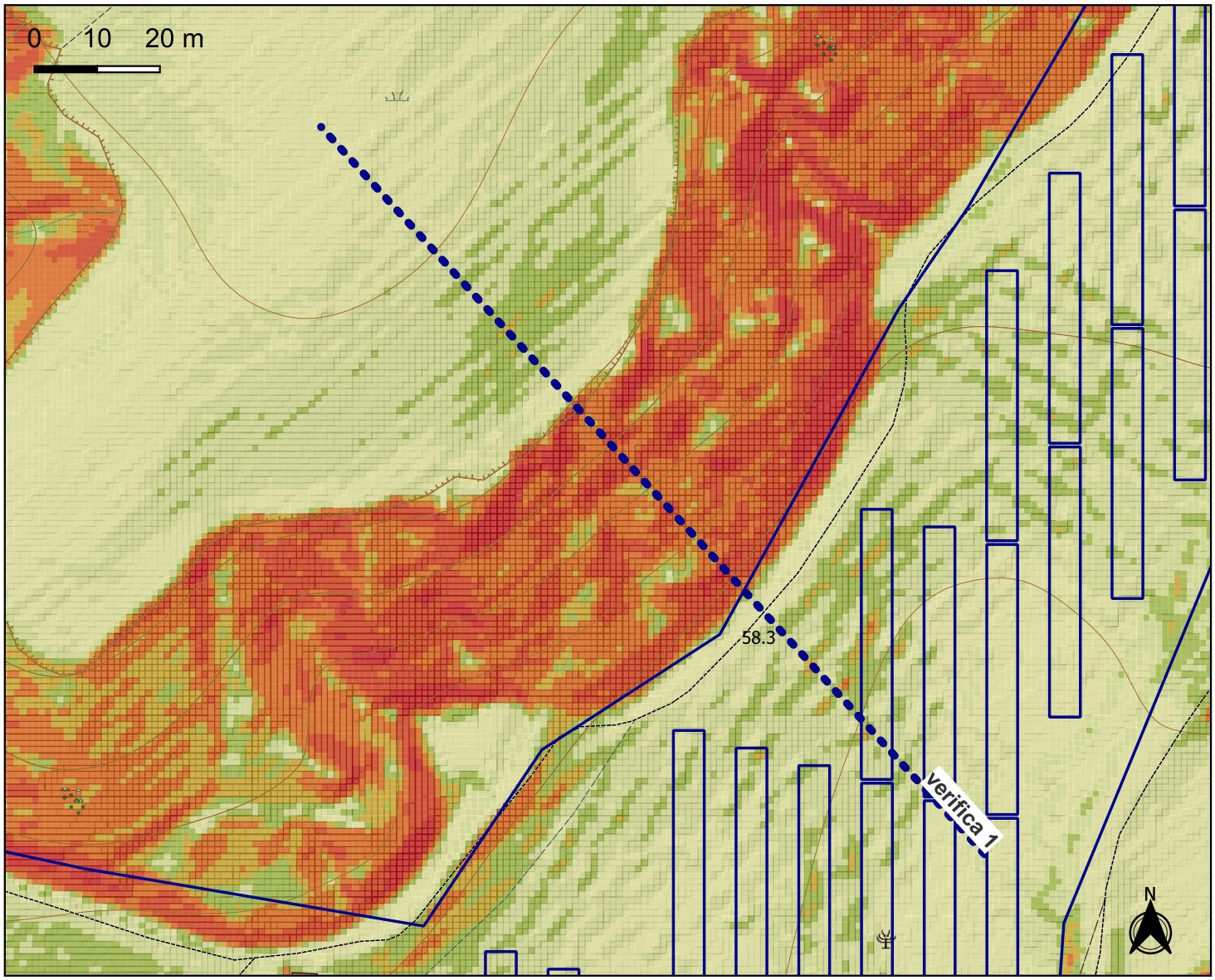
ANALISI DI STABILITA' DEI PENDII

A.2.7

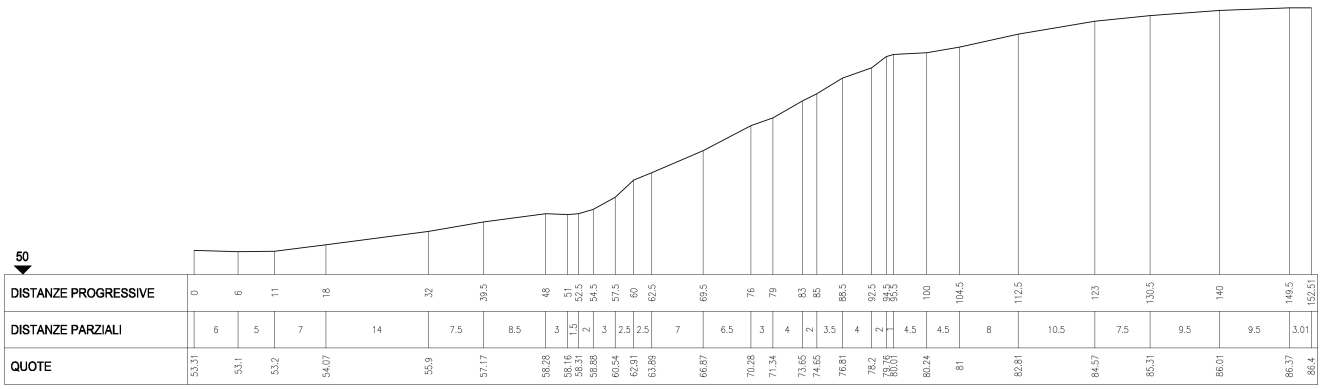
SEZIONE DI VERIFICA N. 1

VERIFICA IN CONDIZIONI DRENATE

SEZIONE DI VERIFICA



Sezione di verifica su carta delle pendenze (per la definizione delle classi di pendenza vedi l'allegata carta gemorfologica)



Report elaborazioni

SSAP 5.0 - Slope Stability Analysis Program (1991,2020)
WWW.SSAP.EU
Build No. 11719
BY
Dr. Geol. LORENZO BORSELLI *,**
*UASLP, San Luis Potosi, Mexico
e-mail: lborselli@gmail.com
CV e WEB page personale: WWW.LORENZO-BORSELLI.EU
** Gia' Ricercatore CNR-IRPI fino a Luglio 2011

Ultima Revisione struttura tabelle del report: 12 settembre 2020

File report: C:\SSAP\POMARICO\VERIFICA 1\DRENATA\MORG\MORG.txt
Data: 26/11/2021
Localita' :
Descrizione:
Modello pendio: DRENATA.mod

---------- PARAMETRI DEL MODELLO DEL PENDIO ----------

__ PARAMETRI GEOMETRICI - Coordinate X Y (in m) __

SUP T.		SUP 2		SUP 3		SUP 4	
X	Y	X	Y	X	Y	X	Y
0.00	53.31	-	-	-	-	-	-
6.00	53.10	-	-	-	-	-	-
11.00	53.20	-	-	-	-	-	-
18.00	54.07	-	-	-	-	-	-
32.00	55.90	-	-	-	-	-	-
39.50	57.17	-	-	-	-	-	-
48.00	58.28	-	-	-	-	-	-
51.00	58.16	-	-	-	-	-	-
52.50	58.31	-	-	-	-	-	-
54.50	58.88	-	-	-	-	-	-
57.50	60.54	-	-	-	-	-	-
60.00	62.91	-	-	-	-	-	-
62.50	63.89	-	-	-	-	-	-
69.50	66.87	-	-	-	-	-	-
76.00	70.28	-	-	-	-	-	-
79.00	71.34	-	-	-	-	-	-
83.00	73.65	-	-	-	-	-	-
85.00	74.65	-	-	-	-	-	-
88.50	76.81	-	-	-	-	-	-
92.50	78.20	-	-	-	-	-	-
94.50	79.76	-	-	-	-	-	-
95.50	80.01	-	-	-	-	-	-
100.00	80.24	-	-	-	-	-	-
104.50	81.00	-	-	-	-	-	-
112.50	82.81	-	-	-	-	-	-
123.00	84.57	-	-	-	-	-	-
130.50	85.31	-	-	-	-	-	-
140.00	86.01	-	-	-	-	-	-
149.50	86.37	-	-	-	-	-	-
152.51	86.40	-	-	-	-	-	-

ASSENZA DI FALDA

------- PARAMETRI GEOMECCANICI -------

	fi`	C`	Cu	Gamm	Gamm_sat	STR_IDX	sgci	GSI	mi	D
STRATO 1	26.00	19.50	0.00	20.00	22.00	2.279	0.00	0.00	0.00	0.00

LEGENDA: fi`_____ Angolo di attrito interno efficace(in gradi)
C` _____ Coesione efficace (in Kpa)
Cu _____ Resistenza al taglio Non drenata (in Kpa)
Gamm _____ Peso di volume terreno fuori falda (in KN/m^3)
Gamm_sat __ Peso di volume terreno immerso (in KN/m^3)
STR_IDX ___ Indice di resistenza (usato in solo in 'SNIFF SEARCH) (adimensionale)
---- SOLO Per AMMASSI ROCCIOSI FRATTURATI - Parametri Criterio di Rottura di Hoek (2002)-
sigci _____ Resistenza Compressione Uniassiale Roccia Intatta (in MPa)

GSI _____ Geological Strenght Index ammasso(adimensionale)
mi _____ Indice litologico ammasso(adimensionale)
D _____ Fattore di disturbo ammasso(adimensionale)
Fattore di riduzione NTC2018: gammaPHI=1.25 e gammaC=1.25 - DISATTIVATO (solo per ROCCE)
Uso CRITERIO DI ROTTURA Hoek et al.(2002,2006) - non-lineare - Generalizzato, secondo Lei et al.(2016)

---------- INFORMAZIONI GENERAZIONE SUPERFICI RANDOM ----------
*** PARAMETRI PER LA GENERAZIONE DELLE SUPERFICI
METODO DI RICERCA: CONVEX RANDOM - Chen (1992)
FILTRAGGIO SUPERFICI : ATTIVATO
COORDINATE X1,X2,Y OSTACOLO : 0.00 0.00 0.00
LUNGHEZZA MEDIA SEGMENTI (m): 6.1 (+/-) 50%
INTERVALLO ASCISSE RANDOM STARTING POINT (Xmin .. Xmax): 3.05 140.31
LIVELLO MINIMO CONSIDERATO (Ymin): 23.13
INTERVALLO ASCISSE AMMESSO PER LA TERMINAZIONE (Xmin .. Xmax): 18.30 149.46

*** TOTALE SUPERFICI GENERATE : 10000

---------- INFORMAZIONI PARAMETRI DI CALCOLO ----------
METODO DI CALCOLO : MORGENSTERN - PRICE (Morgenstern & Price, 1965)
METODO DI ESPLORAZIONE CAMPO VALORI (lambda0,Fs0) ADOTTATO : A (rapido)
COEFFICIENTE SISMICO UTILIZZATO Kh : 0.0470
COEFFICIENTE SISMICO UTILIZZATO Kv (assunto Positivo): 0.0235
COEFFICIENTE c=Kv/Kh UTILIZZATO : 0.5000
FORZA ORIZZONTALE ADDIZIONALE IN TESTA (kN/m): 0.00
FORZA ORIZZONTALE ADDIZIONALE ALLA BASE (kN/m): 0.00

N.B. Le forze orizzontali addizionali in testa e alla base sono poste uguali a 0
durante le tutte le verifiche globali.
I valori >0 impostati dall'utente sono utilizzati solo in caso di verifica singola

---------- RISULTATO FINALE ELABORAZIONI ----------
---
* DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *

Fattore di sicurezza (FS) 1.3935 - Min. - X Y Lambda= 0.5372
50.38 58.18
53.57 56.50
54.99 55.80
55.88 55.44
56.57 55.24
57.30 55.14
57.90 55.13
58.60 55.21
59.39 55.36
60.42 55.63
61.36 55.87
62.23 56.10
63.08 56.33
63.89 56.55
64.72 56.77
65.54 56.99
66.37 57.22
67.21 57.46
68.03 57.69
68.84 57.94
69.64 58.19
70.45 58.45
71.25 58.72
72.06 59.01
72.89 59.31
73.75 59.63
74.58 59.95
75.39 60.27
76.19 60.60
77.00 60.95
77.81 61.30
78.63 61.67
79.48 62.06
80.37 62.48
81.19 62.89
81.98 63.31
82.75 63.75
83.55 64.23

84.32	64.72
85.12	65.26
85.94	65.84
86.83	66.49
87.67	67.12
88.49	67.75
89.30	68.39
90.12	69.03
90.92	69.69
91.73	70.36
92.56	71.06
93.41	71.79
94.24	72.51
95.05	73.24
95.86	73.97
96.67	74.72
97.58	75.57
98.59	76.55
99.46	77.40
99.46	80.21

Fattore di sicurezza (FS) 1.3992 - N.2 -- X Y Lambda= 0.5215

49.97	58.20
53.22	56.60
54.70	55.91
55.65	55.54
56.41	55.32
57.19	55.18
57.87	55.13
58.63	55.15
59.47	55.23
60.55	55.39
61.50	55.55
62.37	55.72
63.21	55.89
64.04	56.09
64.86	56.30
65.69	56.53
66.54	56.78
67.45	57.07
68.33	57.36
69.18	57.65
70.03	57.94
70.87	58.24
71.72	58.54
72.57	58.86
73.45	59.19
74.35	59.55
75.21	59.90
76.04	60.26
76.86	60.63
77.70	61.03
78.51	61.44
79.34	61.88
80.18	62.34
81.07	62.85
81.95	63.35
82.82	63.84
83.68	64.33
84.53	64.82
85.39	65.31
86.26	65.80
87.14	66.30
88.03	66.81
88.88	67.32
89.70	67.83
90.51	68.37
91.35	68.94
92.16	69.53
93.00	70.16
93.86	70.83
94.79	71.58
95.66	72.31
96.51	73.03

97.33	73.77
98.18	74.54
99.10	75.43
100.15	76.46
101.49	77.83
101.49	80.49

Fattore di sicurezza (FS) 1.4029 - N.3 -- X Y Lambda= 0.5484

53.00	58.45
55.43	57.20
56.53	56.67
57.24	56.39
57.79	56.22
58.38	56.12
58.87	56.08
59.43	56.10
60.05	56.16
60.86	56.30
61.57	56.42
62.22	56.55
62.85	56.68
63.48	56.83
64.09	56.99
64.71	57.15
65.34	57.34
66.00	57.54
66.65	57.74
67.29	57.94
67.93	58.14
68.56	58.34
69.20	58.54
69.83	58.74
70.47	58.94
71.11	59.15
71.75	59.35
72.38	59.56
73.01	59.77
73.64	59.98
74.28	60.19
74.91	60.41
75.55	60.63
76.20	60.85
76.83	61.08
77.47	61.30
78.09	61.53
78.73	61.77
79.36	62.00
80.00	62.25
80.66	62.50
81.33	62.77
81.96	63.03
82.58	63.31
83.18	63.59
83.80	63.90
84.41	64.22
85.03	64.57
85.68	64.95
86.38	65.37
87.02	65.78
87.65	66.19
88.26	66.61
88.89	67.06
89.49	67.52
90.11	67.99
90.74	68.50
91.40	69.04
92.05	69.59
92.70	70.12
93.34	70.65
93.97	71.17
94.62	71.70
95.26	72.24
95.92	72.78
96.58	73.33

97.21	73.87
97.82	74.43
98.43	74.99
99.05	75.61
99.73	76.31
100.50	77.14
100.93	77.62
100.93	80.40

Fattore di sicurezza (FS) 1.4088 - N.4 -- X Y Lambda= 0.5478

50.37	58.19
53.03	56.85
54.25	56.27
55.04	55.95
55.68	55.75
56.33	55.63
56.89	55.57
57.52	55.56
58.21	55.60
59.08	55.70
59.86	55.79
60.59	55.89
61.28	56.00
61.97	56.12
62.65	56.25
63.35	56.40
64.06	56.55
64.81	56.73
65.52	56.91
66.22	57.09
66.91	57.28
67.60	57.48
68.29	57.68
69.00	57.90
69.73	58.14
70.50	58.40
71.21	58.66
71.88	58.93
72.54	59.21
73.22	59.54
73.88	59.87
74.55	60.24
75.24	60.64
75.99	61.09
76.73	61.54
77.45	61.97
78.16	62.41
78.86	62.83
79.57	63.26
80.27	63.69
80.97	64.11
81.67	64.54
82.38	64.97
83.08	65.39
83.79	65.82
84.49	66.25
85.20	66.68
85.91	67.11
86.63	67.55
87.35	67.99
88.05	68.42
88.74	68.86
89.42	69.32
90.11	69.79
90.80	70.27
91.51	70.78
92.24	71.31
93.02	71.90
93.72	72.46
94.40	73.04
95.05	73.64
95.73	74.30
96.47	75.08
97.31	76.02

98.54 77.45
98.54 80.17

Fattore di sicurezza (FS) 1.4092 - N.5 -- X Y Lambda= 0.5376
51.58 58.22
54.74 56.99
56.17 56.48
57.08 56.22
57.81 56.08
58.56 56.04
59.21 56.06
59.94 56.16
60.76 56.34
61.81 56.62
62.73 56.88
63.58 57.15
64.38 57.42
65.19 57.71
65.98 58.01
66.78 58.33
67.60 58.68
68.46 59.07
69.31 59.45
70.15 59.83
70.98 60.20
71.81 60.57
72.64 60.94
73.46 61.32
74.29 61.69
75.12 62.06
75.94 62.43
76.77 62.80
77.59 63.18
78.41 63.55
79.24 63.93
80.07 64.31
80.91 64.70
81.76 65.09
82.58 65.48
83.39 65.88
84.20 66.28
85.02 66.70
85.83 67.13
86.65 67.57
87.48 68.03
88.34 68.51
89.18 68.98
90.00 69.46
90.81 69.95
91.63 70.45
92.44 70.96
93.27 71.49
94.12 72.04
95.02 72.63
95.84 73.20
96.64 73.79
97.42 74.40
98.23 75.06
99.10 75.83
100.10 76.75
100.97 77.60
100.97 80.40

Fattore di sicurezza (FS) 1.4099 - N.6 -- X Y Lambda= 0.5474
50.84 58.17
53.79 57.10
55.11 56.66
55.95 56.44
56.61 56.35
57.30 56.34
57.89 56.39
58.56 56.52
59.30 56.72

60.25 57.03
61.11 57.32
61.91 57.60
62.69 57.87
63.45 58.15
64.20 58.42
64.96 58.71
65.72 59.00
66.49 59.31
67.27 59.61
68.03 59.91
68.80 60.22
69.56 60.52
70.33 60.82
71.10 61.13
71.87 61.43
72.65 61.74
73.41 62.06
74.17 62.37
74.92 62.69
75.68 63.02
76.43 63.36
77.19 63.70
77.96 64.06
78.75 64.43
79.52 64.80
80.28 65.17
81.03 65.55
81.79 65.93
82.55 66.32
83.31 66.72
84.09 67.14
84.90 67.57
85.66 68.00
86.41 68.43
87.15 68.88
87.90 69.35
88.65 69.83
89.41 70.34
90.20 70.89
91.05 71.49
91.82 72.07
92.56 72.67
93.26 73.28
94.01 73.96
94.81 74.75
95.73 75.72
97.06 77.19
97.47 77.65
97.47 80.11

Fattore di sicurezza (FS) 1.4119 - N.7 -- X Y Lambda= 0.5236
50.09 58.20
53.06 57.05
54.44 56.56
55.35 56.28
56.10 56.12
56.85 56.02
57.51 55.99
58.25 56.00
59.05 56.07
60.03 56.19
60.90 56.32
61.70 56.46
62.46 56.62
63.24 56.80
64.00 56.99
64.77 57.22
65.58 57.47
66.46 57.77
67.28 58.06
68.07 58.35
68.85 58.65
69.63 58.97

70.40	59.30
71.18	59.65
71.97	60.01
72.80	60.41
73.61	60.80
74.42	61.18
75.22	61.57
76.02	61.95
76.82	62.34
77.62	62.73
78.43	63.12
79.24	63.51
80.04	63.90
80.83	64.30
81.61	64.70
82.40	65.11
83.20	65.53
84.00	65.97
84.83	66.42
85.71	66.91
86.50	67.38
87.26	67.87
88.00	68.38
88.77	68.96
89.51	69.54
90.28	70.18
91.07	70.87
91.93	71.66
92.76	72.43
93.57	73.18
94.38	73.94
95.17	74.68
96.06	75.53
97.06	76.48
97.91	77.31
97.91	80.13

Fattore di sicurezza (FS) 1.4123 - N.8 -- X Y Lambda= 0.5352

54.32	58.83
56.63	57.57
57.67	57.04
58.33	56.75
58.84	56.59
59.39	56.49
59.84	56.46
60.36	56.48
60.94	56.56
61.70	56.71
62.38	56.84
63.00	56.97
63.60	57.11
64.20	57.25
64.78	57.40
65.38	57.56
65.99	57.73
66.63	57.91
67.23	58.10
67.82	58.29
68.39	58.49
68.98	58.71
69.56	58.94
70.14	59.19
70.74	59.45
71.38	59.74
71.99	60.03
72.59	60.32
73.18	60.61
73.77	60.90
74.36	61.21
74.95	61.52
75.54	61.84
76.15	62.17
76.76	62.50
77.36	62.84

77.97 63.17
78.56 63.49
79.16 63.82
79.76 64.15
80.36 64.48
80.96 64.81
81.56 65.14
82.16 65.47
82.75 65.80
83.35 66.13
83.95 66.46
84.55 66.80
85.15 67.13
85.75 67.47
86.35 67.80
86.95 68.14
87.54 68.48
88.14 68.82
88.74 69.17
89.35 69.52
89.97 69.89
90.62 70.26
91.21 70.63
91.78 71.01
92.34 71.41
92.92 71.85
93.48 72.30
94.05 72.79
94.65 73.32
95.29 73.92
95.91 74.50
96.52 75.08
97.12 75.65
97.72 76.22
98.39 76.87
99.13 77.59
99.13 80.20

Fattore di sicurezza (FS) 1.4129 - N.9 -- X Y Lambda= 0.5330
48.29 58.27
50.77 56.79
51.91 56.15
52.66 55.78
53.26 55.54
53.87 55.37
54.40 55.27
55.00 55.21
55.66 55.20
56.51 55.22
57.23 55.27
57.89 55.32
58.51 55.40
59.15 55.50
59.76 55.62
60.38 55.77
61.03 55.94
61.74 56.15
62.43 56.35
63.11 56.55
63.78 56.74
64.43 56.94
65.10 57.13
65.76 57.32
66.42 57.52
67.07 57.71
67.73 57.90
68.39 58.10
69.05 58.29
69.71 58.49
70.37 58.69
71.04 58.89
71.72 59.10
72.42 59.31
73.07 59.52

73.71	59.75
74.33	59.98
74.97	60.24
75.60	60.51
76.24	60.80
76.90	61.11
77.59	61.46
78.27	61.81
78.94	62.15
79.60	62.49
80.25	62.83
80.91	63.18
81.58	63.53
82.25	63.89
82.95	64.27
83.60	64.64
84.24	65.02
84.87	65.41
85.52	65.83
86.15	66.25
86.80	66.71
87.46	67.18
88.16	67.71
88.84	68.22
89.50	68.73
90.15	69.25
90.80	69.77
91.45	70.30
92.11	70.85
92.79	71.43
93.50	72.04
94.16	72.63
94.80	73.24
95.42	73.85
96.07	74.53
96.77	75.30
97.57	76.22
98.72	77.60
98.72	80.17

Fattore di sicurezza (FS) 1.4130 - N.10 -- X Y Lambda= 0.5359

52.31	58.29
55.81	56.64
57.38	55.96
58.37	55.60
59.13	55.42
59.95	55.33
60.63	55.34
61.41	55.44
62.29	55.62
63.43	55.92
64.45	56.20
65.40	56.47
66.32	56.74
67.22	57.01
68.11	57.29
69.01	57.57
69.93	57.88
70.89	58.20
71.79	58.51
72.68	58.84
73.55	59.18
74.44	59.54
75.32	59.92
76.22	60.32
77.14	60.75
78.13	61.22
79.04	61.68
79.92	62.16
80.78	62.64
81.67	63.17
82.52	63.71
83.40	64.29
84.31	64.91

85.28	65.61
86.21	66.28
87.11	66.96
88.01	67.63
88.90	68.32
89.79	69.01
90.69	69.73
91.60	70.47
92.54	71.24
93.45	72.01
94.35	72.77
95.23	73.55
96.13	74.34
97.12	75.25
98.24	76.29
99.51	77.49
99.51	80.22

---------- ANALISI DEFICIT DI RESISTENZA ----------
DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *
Analisi Deficit in riferimento a FS(progetto) = 1.100

Sup N.	FS	FTR(kN/m)	FTA(kN/m)	Bilancio(kN/m)	ESITO
1	1.394	4532.5	3252.6	954.7	Surplus
2	1.399	4870.0	3480.5	1041.4	Surplus
3	1.403	4542.1	3237.5	980.8	Surplus
4	1.409	4271.2	3031.8	936.2	Surplus
5	1.409	4096.4	2906.9	898.8	Surplus
6	1.410	3478.1	2466.9	764.5	Surplus
7	1.412	3995.0	2829.4	882.6	Surplus
8	1.412	3867.2	2738.1	855.2	Surplus
9	1.413	4490.8	3178.4	994.5	Surplus
10	1.413	4537.4	3211.2	1005.0	Surplus

Esito analisi: SURPLUS di RESISTENZA!

Valore minimo di SURPLUS di RESISTENZA (kN/m): 764.5

Note: FTR --> Forza totale Resistente lungo la superficie
di scivolamento
FTA --> Forza totale Agente lungo la superficie
di scivolamento

IMPORTANTE! : Il Deficit o il Surplus di resistenza viene espresso in kN
per metro di LARGHEZZA rispetto al fronte della scarpata

TABELLA PARAMETRI CONCI DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	alpha (°)	W (kN/m)	ru (-)	U (kPa)	phi' (°)	(c',Cu) (kPa)
50.375	0.436	-27.78	0.95	0.00	0.00	26.00	19.50
50.811	0.189	-27.78	1.00	0.00	0.00	26.00	19.50
51.000	0.436	-27.78	3.94	0.00	0.00	26.00	19.50
51.436	0.436	-27.78	6.38	0.00	0.00	26.00	19.50
51.872	0.436	-27.78	8.82	0.00	0.00	26.00	19.50
52.308	0.192	-27.78	4.65	0.00	0.00	26.00	19.50
52.500	0.436	-27.78	12.69	0.00	0.00	26.00	19.50
52.936	0.436	-27.78	15.85	0.00	0.00	26.00	19.50
53.372	0.197	-27.78	8.18	0.00	0.00	26.00	19.50
53.569	0.436	-26.23	20.37	0.00	0.00	26.00	19.50
54.005	0.436	-26.23	23.40	0.00	0.00	26.00	19.50
54.441	0.059	-26.23	3.40	0.00	0.00	26.00	19.50
54.500	0.436	-26.23	27.35	0.00	0.00	26.00	19.50
54.936	0.053	-26.23	3.59	0.00	0.00	26.00	19.50
54.989	0.436	-22.15	31.75	0.00	0.00	26.00	19.50
55.425	0.436	-22.15	35.49	0.00	0.00	26.00	19.50
55.861	0.022	-22.15	1.86	0.00	0.00	26.00	19.50
55.883	0.436	-15.96	39.18	0.00	0.00	26.00	19.50
56.319	0.248	-15.96	23.77	0.00	0.00	26.00	19.50
56.567	0.436	-7.66	44.01	0.00	0.00	26.00	19.50
57.003	0.298	-7.66	31.59	0.00	0.00	26.00	19.50
57.301	0.199	-0.92	21.79	0.00	0.00	26.00	19.50

57.500	0.404	-0.92	46.24	0.00	0.00	26.00	19.50
57.904	0.436	6.06	53.30	0.00	0.00	26.00	19.50
58.340	0.263	6.06	33.70	0.00	0.00	26.00	19.50
58.603	0.436	11.21	58.38	0.00	0.00	26.00	19.50
59.039	0.348	11.21	48.66	0.00	0.00	26.00	19.50
59.386	0.436	14.46	63.51	0.00	0.00	26.00	19.50
59.823	0.177	14.46	26.62	0.00	0.00	26.00	19.50
60.000	0.418	14.46	63.40	0.00	0.00	26.00	19.50
60.418	0.436	14.57	66.70	0.00	0.00	26.00	19.50
60.854	0.436	14.57	67.21	0.00	0.00	26.00	19.50
61.290	0.068	14.57	10.58	0.00	0.00	26.00	19.50
61.358	0.436	14.70	67.80	0.00	0.00	26.00	19.50
61.794	0.436	14.70	68.31	0.00	0.00	26.00	19.50
62.230	0.002	14.70	0.35	0.00	0.00	26.00	19.50
62.232	0.268	14.84	42.18	0.00	0.00	26.00	19.50
62.500	0.436	14.84	69.18	0.00	0.00	26.00	19.50
62.936	0.142	14.84	22.74	0.00	0.00	26.00	19.50
63.079	0.436	14.99	70.00	0.00	0.00	26.00	19.50
63.515	0.380	14.99	61.52	0.00	0.00	26.00	19.50
63.895	0.436	15.12	71.15	0.00	0.00	26.00	19.50
64.331	0.385	15.12	63.29	0.00	0.00	26.00	19.50
64.715	0.436	15.25	72.28	0.00	0.00	26.00	19.50
65.152	0.387	15.25	64.73	0.00	0.00	26.00	19.50
65.539	0.436	15.38	73.40	0.00	0.00	26.00	19.50
65.975	0.397	15.38	67.33	0.00	0.00	26.00	19.50
66.372	0.436	15.51	74.52	0.00	0.00	26.00	19.50
66.808	0.407	15.51	70.07	0.00	0.00	26.00	19.50
67.215	0.436	16.13	75.61	0.00	0.00	26.00	19.50
67.651	0.380	16.13	66.40	0.00	0.00	26.00	19.50
68.031	0.436	16.77	76.58	0.00	0.00	26.00	19.50
68.468	0.371	16.77	65.53	0.00	0.00	26.00	19.50
68.838	0.436	17.42	77.46	0.00	0.00	26.00	19.50
69.275	0.225	17.42	40.23	0.00	0.00	26.00	19.50
69.500	0.137	17.42	24.52	0.00	0.00	26.00	19.50
69.637	0.436	18.07	78.54	0.00	0.00	26.00	19.50
70.073	0.374	18.07	68.03	0.00	0.00	26.00	19.50
70.447	0.436	18.72	79.95	0.00	0.00	26.00	19.50
70.883	0.365	18.72	67.52	0.00	0.00	26.00	19.50
71.249	0.436	19.36	81.26	0.00	0.00	26.00	19.50
71.685	0.376	19.36	70.62	0.00	0.00	26.00	19.50
72.061	0.436	19.98	82.49	0.00	0.00	26.00	19.50
72.497	0.391	19.98	74.47	0.00	0.00	26.00	19.50
72.888	0.436	20.56	83.65	0.00	0.00	26.00	19.50
73.324	0.424	20.56	81.99	0.00	0.00	26.00	19.50
73.748	0.436	21.13	84.78	0.00	0.00	26.00	19.50
74.184	0.392	21.13	76.65	0.00	0.00	26.00	19.50
74.576	0.436	21.72	85.78	0.00	0.00	26.00	19.50
75.012	0.377	21.72	74.63	0.00	0.00	26.00	19.50
75.389	0.436	22.33	86.67	0.00	0.00	26.00	19.50
75.826	0.174	22.33	34.80	0.00	0.00	26.00	19.50
76.000	0.193	22.33	38.42	0.00	0.00	26.00	19.50
76.193	0.436	22.94	86.84	0.00	0.00	26.00	19.50
76.629	0.375	22.94	74.44	0.00	0.00	26.00	19.50
77.003	0.436	23.54	86.31	0.00	0.00	26.00	19.50
77.440	0.371	23.54	73.25	0.00	0.00	26.00	19.50
77.811	0.436	24.14	85.69	0.00	0.00	26.00	19.50
78.247	0.386	24.14	75.51	0.00	0.00	26.00	19.50
78.633	0.367	24.71	71.60	0.00	0.00	26.00	19.50
79.000	0.436	24.71	85.06	0.00	0.00	26.00	19.50
79.436	0.042	24.71	8.29	0.00	0.00	26.00	19.50
79.478	0.436	25.23	85.54	0.00	0.00	26.00	19.50
79.914	0.436	25.23	85.95	0.00	0.00	26.00	19.50
80.350	0.019	25.23	3.85	0.00	0.00	26.00	19.50
80.370	0.436	26.58	86.32	0.00	0.00	26.00	19.50
80.806	0.382	26.58	75.80	0.00	0.00	26.00	19.50
81.188	0.436	28.07	86.82	0.00	0.00	26.00	19.50
81.624	0.358	28.07	71.45	0.00	0.00	26.00	19.50
81.982	0.436	29.62	87.07	0.00	0.00	26.00	19.50
82.418	0.334	29.62	66.68	0.00	0.00	26.00	19.50
82.752	0.248	31.11	49.57	0.00	0.00	26.00	19.50
83.000	0.436	31.11	86.85	0.00	0.00	26.00	19.50
83.436	0.116	31.11	23.12	0.00	0.00	26.00	19.50
83.552	0.436	32.55	86.28	0.00	0.00	26.00	19.50
83.989	0.336	32.55	66.17	0.00	0.00	26.00	19.50
84.325	0.436	33.96	85.25	0.00	0.00	26.00	19.50

84.761	0.239	33.96	46.47	0.00	0.00	26.00	19.50
85.000	0.120	33.96	23.34	0.00	0.00	26.00	19.50
85.120	0.436	35.24	84.31	0.00	0.00	26.00	19.50
85.556	0.384	35.24	73.99	0.00	0.00	26.00	19.50
85.941	0.436	36.34	83.60	0.00	0.00	26.00	19.50
86.377	0.436	36.34	83.14	0.00	0.00	26.00	19.50
86.813	0.015	36.34	2.85	0.00	0.00	26.00	19.50
86.828	0.436	36.86	82.64	0.00	0.00	26.00	19.50
87.264	0.409	36.86	76.97	0.00	0.00	26.00	19.50
87.672	0.436	37.42	81.61	0.00	0.00	26.00	19.50
88.108	0.387	37.42	71.86	0.00	0.00	26.00	19.50
88.495	0.005	37.99	0.94	0.00	0.00	26.00	19.50
88.500	0.436	37.99	79.96	0.00	0.00	26.00	19.50
88.936	0.368	37.99	66.10	0.00	0.00	26.00	19.50
89.304	0.436	38.56	76.81	0.00	0.00	26.00	19.50
89.740	0.375	38.56	64.73	0.00	0.00	26.00	19.50
90.115	0.436	39.11	73.53	0.00	0.00	26.00	19.50
90.551	0.369	39.11	60.73	0.00	0.00	26.00	19.50
90.920	0.436	39.64	70.16	0.00	0.00	26.00	19.50
91.356	0.377	39.64	59.19	0.00	0.00	26.00	19.50
91.733	0.436	40.16	66.63	0.00	0.00	26.00	19.50
92.169	0.331	40.16	49.28	0.00	0.00	26.00	19.50
92.500	0.059	40.16	8.72	0.00	0.00	26.00	19.50
92.559	0.436	40.65	64.01	0.00	0.00	26.00	19.50
92.995	0.418	40.65	61.02	0.00	0.00	26.00	19.50
93.413	0.436	41.15	63.39	0.00	0.00	26.00	19.50
93.849	0.390	41.15	56.45	0.00	0.00	26.00	19.50
94.239	0.261	41.67	37.50	0.00	0.00	26.00	19.50
94.500	0.436	41.67	61.37	0.00	0.00	26.00	19.50
94.936	0.118	41.67	16.12	0.00	0.00	26.00	19.50
95.054	0.436	42.20	58.18	0.00	0.00	26.00	19.50
95.490	0.010	42.20	1.35	0.00	0.00	26.00	19.50
95.500	0.359	42.20	45.70	0.00	0.00	26.00	19.50
95.859	0.436	42.72	52.40	0.00	0.00	26.00	19.50
96.295	0.376	42.72	42.50	0.00	0.00	26.00	19.50
96.672	0.436	43.38	46.03	0.00	0.00	26.00	19.50
97.108	0.436	43.38	42.55	0.00	0.00	26.00	19.50
97.544	0.031	43.38	2.92	0.00	0.00	26.00	19.50
97.575	0.436	43.91	38.79	0.00	0.00	26.00	19.50
98.011	0.436	43.91	35.24	0.00	0.00	26.00	19.50
98.447	0.141	43.91	10.61	0.00	0.00	26.00	19.50
98.588	0.436	44.39	30.52	0.00	0.00	26.00	19.50
99.024	0.436	44.39	26.91	0.00	0.00	26.00	19.50

LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
dx(m) : Larghezza concio
alpha(°) : Angolo pendenza base concio
W(kN/m) : Forza peso concio
ru(-) : Coefficiente locale pressione interstiziale
U(kPa) : Pressione totale dei pori base concio
phi'(°) : Angolo di attrito efficace base concio
c'/Cu (kPa) : Coesione efficace o Resistenza al taglio in condizioni non drenate

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TABELLA DIAGRAMMA DELLE FORZE DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	ht (m)	yt (m)	yt' (--)	E(x) (kN/m)	T(x) (kN/m)	E' (kN)	rho(x) (--)	FS_qFEM (--)	FS_srmFEM (--)		
50.375	0.000	58.185	-0.400	0.0000000000E+000	0.0000000000E+000	4.2517982117E+000	0.046	6.568	5.364		
50.811	0.042	57.998	-0.400	1.6182930376E+000	8.2690200279E-003	3.1707900361E+000	0.046	6.332	5.141		
51.000	0.079	57.935	-0.335	2.1731015939E+000	1.8614215824E-002	4.3831078485E+000	0.046	6.164	4.908		
51.436	0.162	57.788	-0.359	5.5400825095E+000	1.6730243152E-001	1.1392871379E+001	0.046	5.569	3.935		
51.872	0.225	57.621	-0.362	1.2108721793E+001	8.4923226487E-001	1.8695015177E+001	0.053	4.816	2.895		
52.308	0.306	57.473	-0.330	2.1843836342E+001	2.9405809469E+000	3.0779129333E+001	0.126	4.756	2.417		
52.500	0.349	57.415	-0.310	2.8462862597E+001	4.3460451969E+000	4.0593926277E+001	0.159	4.891	2.305		
52.936	0.442	57.278	-0.283	5.2204081645E+001	9.2855796226E+000	6.0609826327E+001	0.228	5.643	2.140		
53.372	0.562	57.168	-0.245	8.1320144547E+001	1.5541462496E+001	6.2332252216E+001	0.279	6.570	2.072		
53.569	0.621	57.123	-0.223	9.3187406624E+001	1.8121546299E+001	6.2075798329E+001	0.291	6.824	2.047		
54.005	0.740	57.027	-0.191	1.2194376023E+002	2.4478152283E+001	6.7886771081E+001	0.318	7.201	2.009		
54.441	0.884	56.956	-0.159	1.5239084635E+002	3.1622659276E+001	7.2339435560E+001	0.342	7.215	1.997		
54.500	0.905	56.948	-0.117	1.5668688634E+002	3.2681076170E+001	7.3322758721E+001	0.346	7.183	1.997		
54.936	1.069	56.898	-0.112	1.9072580848E+002	4.1401497399E+001	7.9156157939E+001	0.367	6.665	2.005		

54.989	1.091	56.894	-0.070	1.9491595259E+002	4.2537255990E+001	7.9487872154E+001	0.370	6.571	2.007
55.425	1.239	56.864	-0.040	2.3029298264E+002	5.2370399290E+001	8.1273185784E+001	0.393	5.727	2.025
55.861	1.411	56.858	-0.011	2.6579356364E+002	6.3231240325E+001	8.1071621601E+001	0.417	4.813	2.047
55.883	1.420	56.859	0.041	2.6754968016E+002	6.3788306102E+001	8.1026261490E+001	0.418	4.769	2.048
56.319	1.563	56.877	0.062	3.0263240988E+002	7.5713593177E+001	8.1066594332E+001	0.446	3.965	2.068
56.567	1.658	56.901	0.127	3.2284877609E+002	8.3258332801E+001	7.9240749738E+001	0.463	3.577	2.077
57.003	1.780	56.964	0.176	3.5573730268E+002	9.6803147209E+001	7.5354112045E+001	0.495	3.054	2.086
57.301	1.886	57.030	0.238	3.7815754396E+002	1.0714193178E+002	7.5462866272E+001	0.519	2.764	2.085
57.500	1.941	57.082	0.289	3.9321236399E+002	1.1442859174E+002	7.1583309817E+001	0.537	2.606	2.082
57.904	2.070	57.205	0.327	4.1885687644E+002	1.2840411730E+002	5.8814394103E+001	0.564	2.361	2.065
58.340	2.176	57.357	0.381	4.4229302325E+002	1.4296396620E+002	5.2640722103E+001	0.593	2.178	2.036
58.603	2.262	57.471	0.440	4.5594918078E+002	1.5241093994E+002	4.9527496051E+001	0.613	2.087	2.011
59.039	2.370	57.665	0.454	4.7577496749E+002	1.6721665161E+002	4.1538088621E+001	0.642	1.972	1.966
59.386	2.463	57.827	0.471	4.8913267326E+002	1.7820555768E+002	3.6092036866E+001	0.663	1.907	1.927
59.823	2.558	58.034	0.473	5.0360666470E+002	1.9092188267E+002	3.1653020844E+001	0.687	1.841	1.875
60.000	2.595	58.117	0.458	5.0911336300E+002	1.9581571508E+002	3.0145055841E+001	0.695	1.817	1.856
60.418	2.676	58.306	0.421	5.2083722423E+002	2.0629421055E+002	2.5438973381E+001	0.720	1.767	1.811
60.854	2.733	58.476	0.373	5.3073080630E+002	2.1502486786E+002	2.1515162538E+001	0.740	1.725	1.772
61.290	2.775	58.632	0.357	5.3960040310E+002	2.2251021883E+002	2.0652947023E+001	0.755	1.690	1.739
61.358	2.782	58.657	0.322	5.4101507476E+002	2.2367104437E+002	2.0343680048E+001	0.758	1.685	1.734
61.794	2.806	58.795	0.309	5.4888931816E+002	2.2974895738E+002	1.7698777270E+001	0.769	1.657	1.708
62.230	2.823	58.926	0.301	5.5645001852E+002	2.3526969548E+002	1.7212062778E+001	0.778	1.633	1.685
62.232	2.823	58.927	0.289	5.5648815090E+002	2.3529676001E+002	1.7207048318E+001	0.778	1.633	1.685
62.500	2.829	59.004	0.298	5.6095219195E+002	2.3841636616E+002	1.6980912749E+001	0.783	1.620	1.672
62.936	2.846	59.136	0.303	5.6857087180E+002	2.4361472381E+002	1.7330742226E+001	0.791	1.600	1.653
63.079	2.851	59.179	0.308	5.7103369918E+002	2.4527661787E+002	1.7341674737E+001	0.793	1.594	1.647
63.515	2.869	59.314	0.322	5.7867173448E+002	2.5043475008E+002	1.8200723254E+001	0.801	1.577	1.630
63.895	2.895	59.442	0.354	5.8581610057E+002	2.5533122015E+002	1.9557086056E+001	0.808	1.561	1.614
64.331	2.938	59.603	0.366	5.9472409566E+002	2.6157637045E+002	2.0055030877E+001	0.817	1.542	1.595
64.715	2.974	59.742	0.382	6.0231395707E+002	2.6705714152E+002	2.0532012785E+001	0.825	1.527	1.580
65.152	3.029	59.916	0.393	6.1166563181E+002	2.7396024042E+002	2.0876908640E+001	0.836	1.508	1.560
65.539	3.072	60.065	0.383	6.1955839525E+002	2.7991914922E+002	2.0029799683E+001	0.844	1.492	1.544
65.975	3.119	60.231	0.368	6.2812499150E+002	2.8651530652E+002	1.8648892069E+001	0.854	1.475	1.527
66.372	3.150	60.372	0.378	6.3516695451E+002	2.9200995532E+002	1.8360268192E+001	0.862	1.461	1.512
66.808	3.203	60.546	0.395	6.4346944177E+002	2.9856780029E+002	1.8414348962E+001	0.872	1.445	1.496
67.215	3.249	60.705	0.388	6.5072604571E+002	3.0434779872E+002	1.7282234719E+001	0.880	1.431	1.482
67.651	3.291	60.873	0.377	6.5800598182E+002	3.1021418512E+002	1.5727802244E+001	0.888	1.417	1.468
68.031	3.320	61.012	0.367	6.6366836073E+002	3.1483955317E+002	1.4382387341E+001	0.895	1.406	1.457
68.468	3.349	61.172	0.360	6.6968923194E+002	3.1987837907E+002	1.2884495973E+001	0.901	1.394	1.446
68.838	3.367	61.302	0.352	6.7417704436E+002	3.2375416184E+002	1.1604336178E+001	0.907	1.386	1.438
69.275	3.385	61.457	0.348	6.7898349811E+002	3.2810269553E+002	1.0104892664E+001	0.913	1.376	1.428
69.500	3.390	61.532	0.344	6.8115509389E+002	3.3014743354E+002	9.4396126149E+000	0.916	1.371	1.424
69.637	3.396	61.581	0.366	6.8243290587E+002	3.3142030263E+002	9.2098886348E+000	0.917	1.368	1.421
70.073	3.414	61.742	0.375	6.8629081506E+002	3.3545125445E+002	8.4221553660E+000	0.922	1.359	1.412
70.447	3.435	61.885	0.396	6.8930647278E+002	3.3888339128E+002	7.7671600211E+000	0.926	1.351	1.404
70.883	3.465	62.063	0.413	6.9254604087E+002	3.4295873544E+002	6.9511566551E+000	0.931	1.341	1.394
71.249	3.494	62.216	0.438	6.9493852835E+002	3.4632340126E+002	6.2544506150E+000	0.936	1.333	1.385
71.685	3.539	62.414	0.459	6.9751160594E+002	3.5044915162E+002	5.4069818182E+000	0.942	1.322	1.373
72.061	3.582	62.589	0.487	6.9938467127E+002	3.5391526692E+002	4.6197635251E+000	0.947	1.313	1.363
72.497	3.643	62.809	0.480	7.0121645007E+002	3.5795990575E+002	3.2352388242E+000	0.954	1.302	1.350
72.888	3.678	62.986	0.484	7.0214266357E+002	3.6086050360E+002	1.7651047710E+000	0.959	1.293	1.340
73.324	3.738	63.209	0.501	7.0261825611E+002	3.6392326949E+002	5.0342627850E-001	0.964	1.283	1.328
73.748	3.787	63.418	0.466	7.0258929656E+002	3.6638024065E+002	-5.8824103334E-001	0.968	1.274	1.318
74.184	3.811	63.610	0.442	7.0209985399E+002	3.6836991497E+002	-1.5978927889E+000	0.972	1.265	1.308
74.576	3.833	63.783	0.445	7.0130629015E+002	3.6959599134E+002	-2.4643561871E+000	0.974	1.259	1.301
75.012	3.855	63.979	0.449	7.0001860543E+002	3.7042205425E+002	-3.3302415509E+000	0.975	1.253	1.294
75.389	3.874	64.148	0.434	6.9863869516E+002	3.7064860404E+002	-4.0330186798E+000	0.975	1.248	1.290
75.826	3.879	64.332	0.406	6.9669047879E+002	3.7042059098E+002	-4.7226975112E+000	0.975	1.243	1.286
76.000	3.871	64.397	0.376	6.9584868499E+002	3.7019078581E+002	-5.2444135820E+000	0.974	1.242	1.285
76.193	3.866	64.470	0.394	6.9474985241E+002	3.6977034644E+002	-6.0077175804E+000	0.974	1.240	1.284
76.629	3.855	64.644	0.408	6.9183380890E+002	3.6841830336E+002	-7.3943802087E+000	0.974	1.237	1.281
77.003	3.854	64.801	0.428	6.8883379360E+002	3.6681125562E+002	-8.5234532693E+000	0.974	1.234	1.279
77.440	3.854	64.991	0.429	6.8485279917E+002	3.6454901704E+002	-9.8991888637E+000	0.973	1.231	1.278
77.811	3.848	65.147	0.415	6.8093348832E+002	3.6226894081E+002	-1.0952250231E+001	0.971	1.228	1.276
78.247	3.832	65.326	0.410	6.7595412022E+002	3.5938630643E+002	-1.1567336469E+001	0.970	1.225	1.274
78.633	3.817	65.485	0.414	6.7144065116E+002	3.5681218312E+002	-1.2173773235E+001	0.968	1.223	1.272
79.000	3.801	65.638	0.466	6.6680327855E+002	3.5424549798E+002	-1.2306356367E+001	0.967	1.220	1.270
79.436	3.822	65.859	0.507	6.6160284781E+002	3.5148604938E+002	-1.2934462403E+001	0.962	1.217	1.268
79.478	3.824	65.880	0.513	6.6105081966E+002	3.5119789984E+002	-1.3069904718E+001	0.962	1.216	1.267
79.914	3.842	66.104	0.507	6.5518336172E+002	3.4817730059E+002	-1.4382924340E+001	0.957	1.212	1.264
80.350	3.855	66.323	0.498	6.4850760129E+002	3.4475466956E+002	-1.5337062938E+001	0.952	1.207	1.260
80.370	3.855	66.331	0.520	6.4820853708E+002	3.4460126487E+002	-1.5486775109E+001	0.952	1.207	1.259
80.806	3.865	66.559	0.529	6.4000756207E+002	3.4034432297E+002	-1.9736762467E+001	0.947	1.200	1.254
81.188	3.878	66.764	0.554	6.3216458477E+002	3.3622615990E+002	-2.1810068234E+001	0.941	1.194	1.249
81.624	3.894	67.012	0.562	6.2202665479E+002	3.3081753391E+002	-2.4125661725E+001	0.935	1.186	1.243

81.982	3.901	67.210	0.564	6.1312707622E+002	3.2598163016E+002	-2.7307605907E+001	0.929	1.180	1.238
82.418	3.903	67.460	0.572	5.9991267315E+002	3.1865510704E+002	-2.9646771423E+001	0.920	1.171	1.231
82.752	3.904	67.651	0.581	5.9018371008E+002	3.1318650351E+002	-2.9580905585E+001	0.913	1.165	1.227
83.000	3.901	67.798	0.573	5.8276151021E+002	3.0899348739E+002	-3.0189202748E+001	0.908	1.160	1.223
83.436	3.883	68.043	0.562	5.6938116310E+002	3.0137468063E+002	-2.9208871073E+001	0.899	1.153	1.218
83.552	3.878	68.109	0.579	5.6602676785E+002	2.9944561692E+002	-2.9427754370E+001	0.897	1.152	1.217
83.989	3.854	68.363	0.583	5.5219347883E+002	2.9146160035E+002	-3.3094567321E+001	0.888	1.146	1.212
84.325	3.836	68.559	0.591	5.4070897832E+002	2.8478654620E+002	-3.4622797655E+001	0.881	1.141	1.209
84.761	3.802	68.819	0.590	5.2534524559E+002	2.7582599862E+002	-3.5538377270E+001	0.870	1.136	1.204
85.000	3.779	68.957	0.563	5.1680574202E+002	2.7083105147E+002	-3.4204901732E+001	0.864	1.133	1.202
85.120	3.763	69.022	0.600	5.1277814049E+002	2.6846933400E+002	-3.4595405713E+001	0.861	1.131	1.200
85.556	3.724	69.291	0.649	4.9588361039E+002	2.5852691146E+002	-4.1166271231E+001	0.846	1.126	1.196
85.941	3.715	69.554	0.683	4.7924910070E+002	2.4870095813E+002	-4.3422371376E+001	0.831	1.122	1.192
86.377	3.692	69.851	0.662	4.6025421274E+002	2.3747489458E+002	-4.2511994260E+001	0.814	1.118	1.188
86.813	3.651	70.131	0.643	4.4217477459E+002	2.2678929626E+002	-4.1841090547E+001	0.796	1.115	1.184
86.828	3.650	70.141	0.644	4.4154749691E+002	2.2641797823E+002	-4.1862291978E+001	0.796	1.114	1.184
87.264	3.604	70.422	0.642	4.2318984199E+002	2.1554052099E+002	-4.2215477105E+001	0.777	1.112	1.181
87.672	3.559	70.683	0.644	4.0589657843E+002	2.0523859202E+002	-4.2871402708E+001	0.759	1.111	1.178
88.108	3.508	70.966	0.608	3.8694768406E+002	1.9386663379E+002	-4.0798411874E+001	0.737	1.110	1.176
88.495	3.430	71.183	0.563	3.7208822781E+002	1.8487982264E+002	-4.0339661522E+001	0.720	1.110	1.176
88.500	3.429	71.186	0.574	3.7188366534E+002	1.8475525243E+002	-4.0359868803E+001	0.719	1.110	1.176
88.936	3.338	71.437	0.576	3.5446006886E+002	1.7407045606E+002	-4.0293811068E+001	0.702	1.111	1.175
89.304	3.264	71.650	0.624	3.3954283978E+002	1.6480976377E+002	-4.3152317079E+001	0.685	1.112	1.175
89.740	3.205	71.938	0.655	3.1939440495E+002	1.5220467012E+002	-4.5408085268E+001	0.659	1.114	1.175
90.115	3.149	72.181	0.642	3.0260507467E+002	1.4166200383E+002	-4.4143431526E+001	0.636	1.115	1.175
90.551	3.073	72.459	0.638	2.8364856448E+002	1.2981252365E+002	-4.2876311823E+001	0.609	1.117	1.175
90.920	3.008	72.694	0.654	2.6803351512E+002	1.2015943993E+002	-4.2661970518E+001	0.585	1.119	1.174
91.356	2.938	72.985	0.667	2.4928105323E+002	1.0879740468E+002	-4.1804883996E+001	0.556	1.121	1.173
91.733	2.876	73.236	0.660	2.3390186503E+002	9.9827676673E+001	-3.9656496530E+001	0.531	1.122	1.171
92.169	2.794	73.522	0.656	2.1716897747E+002	9.0501218402E+001	-3.7659820512E+001	0.506	1.123	1.170
92.500	2.732	73.739	0.672	2.0488572962E+002	8.3947193042E+001	-4.1366514503E+001	0.487	1.124	1.168
92.559	2.727	73.784	0.748	2.0239089789E+002	8.2663409223E+001	-4.1965583859E+001	0.482	1.125	1.168
92.995	2.678	74.110	0.732	1.8460983312E+002	7.3681451994E+001	-3.9719213880E+001	0.447	1.128	1.168
93.413	2.619	74.409	0.710	1.6844685479E+002	6.5801207233E+001	-3.8313012258E+001	0.415	1.132	1.169
93.849	2.544	74.715	0.679	1.5191922245E+002	5.7976396281E+001	-3.6600120039E+001	0.381	1.138	1.172
94.239	2.458	74.970	0.639	1.3808308526E+002	5.1586560787E+001	-3.4532244466E+001	0.351	1.145	1.177
94.500	2.387	75.131	0.629	1.2924037142E+002	4.7546563911E+001	-3.4530086824E+001	0.332	1.150	1.180
94.936	2.276	75.409	0.631	1.1374668619E+002	4.0521809773E+001	-3.4649474078E+001	0.302	1.163	1.191
95.054	2.243	75.481	0.598	1.0970234431E+002	3.8698209714E+001	-3.4238537615E+001	0.294	1.167	1.194
95.490	2.107	75.740	0.595	9.5052651260E+001	3.2134071771E+001	-3.4575038489E+001	0.262	1.185	1.209
95.500	2.104	75.746	0.538	9.4693508315E+001	3.1974833975E+001	-3.4472563828E+001	0.262	1.185	1.209
95.859	1.971	75.939	0.533	8.3872000718E+001	2.7269245109E+001	-2.9655099720E+001	0.239	1.203	1.225
96.295	1.799	76.170	0.532	7.1186849897E+001	2.1869246916E+001	-2.9451004739E+001	0.209	1.228	1.247
96.672	1.653	76.371	0.557	5.9986417772E+001	1.7062353447E+001	-3.0761042597E+001	0.178	1.257	1.273
97.108	1.492	76.622	0.587	4.6068170693E+001	1.1068287789E+001	-3.1182169757E+001	0.129	1.305	1.317
97.544	1.340	76.882	0.586	3.2792729248E+001	5.5648183010E+000	-2.0907181020E+001	0.074	1.358	1.365
97.575	1.325	76.896	0.481	3.2159999363E+001	5.3231358366E+000	-2.0184361598E+001	0.071	1.362	1.368
98.011	1.116	77.107	0.540	2.3592286165E+001	2.4887179235E+000	-1.9673181563E+001	0.046	1.416	1.416
98.447	0.956	77.367	0.603	1.5003195463E+001	7.7023667997E-001	-1.8580076919E+001	0.046	1.491	1.485
98.588	0.908	77.455	0.727	1.2441235842E+001	4.2557234974E-001	-1.7967887659E+001	0.046	1.506	1.499
99.024	0.813	77.787	0.727	4.9468724274E+000	4.9983820397E-002	-1.4265984097E+001	0.046	1.633	1.621

LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
ht(m) : Altezza linea di thrust da nodo sinistro base concio
yt(m) : coordinata Y linea di trust
yt'(-) : gradiente pendenza locale linea di trust
E(x)(kN/m) : Forza Normale interconcio
T(x)(kN/m) : Forza Tangenziale interconcio
E' (kN) : derivata Forza normale interconcio
Rho(x) (-) : fattore mobilizzazione resistenza al taglio verticale interconcio ZhU et al.(2003)
FS_qFEM(x)(-) : fattore di sicurezza locale stimato (locale in X) by qFEM
FS_srmFEM(x)(-) : fattore di sicurezza locale stimato (locale in X) by SRM Procedure

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TABELLA SFORZI DI TAGLIO DISTRIBUITI LUNGO SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	dl (m)	alpha (°)	TauStress (kPa)	TauF (kN/m)	TauStrength (kPa)	TauS (kN/m)
50.375	0.436	0.493	-27.784	-0.816	-0.402	20.368	10.039
50.811	0.189	0.214	-27.784	-1.986	-0.424	21.621	4.617
51.000	0.436	0.493	-27.784	-3.390	-1.671	23.357	11.512
51.436	0.436	0.493	-27.784	-5.492	-2.707	26.716	13.167

51.872	0.436	0.493	-27.784	-7.594	-3.743	31.997	15.770
52.308	0.192	0.217	-27.784	-9.107	-1.975	35.992	7.805
52.500	0.436	0.493	-27.784	-10.931	-5.387	41.719	20.562
52.936	0.436	0.493	-27.784	-13.653	-6.729	47.441	23.382
53.372	0.197	0.222	-27.784	-15.628	-3.475	48.321	10.744
53.569	0.436	0.486	-26.232	-16.754	-8.144	52.032	25.293
54.005	0.436	0.486	-26.232	-19.243	-9.354	56.526	27.478
54.441	0.059	0.066	-26.232	-20.657	-1.361	59.547	3.924
54.500	0.436	0.486	-26.232	-22.500	-10.938	63.588	30.910
54.936	0.053	0.059	-26.232	-24.378	-1.436	67.100	3.953
54.989	0.436	0.471	-22.154	-22.497	-10.592	70.959	33.408
55.425	0.436	0.471	-22.154	-25.145	-11.839	76.748	36.133
55.861	0.022	0.023	-22.154	-26.536	-0.621	79.394	1.857
55.883	0.436	0.454	-15.956	-19.845	-9.000	82.960	37.624
56.319	0.248	0.258	-15.956	-21.144	-5.461	88.132	22.762
56.567	0.436	0.440	-7.661	-8.676	-3.817	88.759	39.052
57.003	0.298	0.300	-7.661	-9.120	-2.740	93.679	28.142
57.301	0.199	0.199	-0.917	3.389	0.675	91.513	18.234
57.500	0.404	0.404	-0.917	3.548	1.433	93.021	37.567
57.904	0.436	0.438	6.057	18.509	8.116	89.385	39.195
58.340	0.263	0.264	6.057	19.421	5.131	93.136	24.609
58.603	0.436	0.445	11.206	31.576	14.036	88.659	39.411
59.039	0.348	0.355	11.206	32.995	11.699	90.975	32.258
59.386	0.436	0.450	14.459	41.631	18.747	88.809	39.991
59.823	0.177	0.183	14.459	42.869	7.858	90.576	16.602
60.000	0.418	0.431	14.459	43.392	18.714	91.102	39.291
60.418	0.436	0.451	14.573	43.984	19.817	90.881	40.945
60.854	0.436	0.451	14.573	44.323	19.969	91.077	41.034
61.290	0.068	0.071	14.573	44.519	3.143	91.363	6.451
61.358	0.436	0.451	14.704	45.014	20.293	91.169	41.100
61.794	0.436	0.451	14.704	45.349	20.444	91.545	41.269
62.230	0.002	0.002	14.704	45.517	0.104	91.756	0.210
62.232	0.268	0.277	14.840	45.935	12.718	91.713	25.393
62.500	0.436	0.451	14.840	46.246	20.861	92.221	41.600
62.936	0.142	0.147	14.840	46.523	6.858	92.621	13.653
63.079	0.436	0.451	14.986	47.141	21.279	92.912	41.940
63.515	0.380	0.393	14.986	47.529	18.701	93.618	36.835
63.895	0.436	0.452	15.119	48.233	21.786	94.212	42.553
64.331	0.385	0.399	15.119	48.619	19.379	94.790	37.781
64.715	0.436	0.452	15.251	49.322	22.292	95.381	43.109
65.152	0.387	0.402	15.251	49.706	19.962	95.914	38.519
65.539	0.436	0.452	15.382	50.408	22.797	96.309	43.555
65.975	0.397	0.412	15.382	50.793	20.910	96.759	39.833
66.372	0.436	0.453	15.510	51.492	23.302	97.293	44.028
66.808	0.407	0.422	15.510	51.878	21.912	97.786	41.302
67.215	0.436	0.454	16.126	53.788	24.415	97.543	44.275
67.651	0.380	0.396	16.126	54.142	21.442	97.948	38.790
68.031	0.436	0.455	16.767	56.080	25.539	97.640	44.466
68.468	0.371	0.387	16.767	56.408	21.852	98.024	37.974
68.838	0.436	0.457	17.422	58.345	26.664	97.665	44.634
69.275	0.225	0.236	17.422	58.594	13.848	97.954	23.151
69.500	0.137	0.144	17.422	58.776	8.442	98.207	14.106
69.637	0.436	0.459	18.070	60.767	27.872	97.958	44.930
70.073	0.374	0.394	18.070	61.322	24.143	98.670	38.847
70.447	0.436	0.460	18.719	63.463	29.218	98.571	45.382
70.883	0.365	0.386	18.719	63.990	24.677	99.225	38.265
71.249	0.436	0.462	19.362	66.082	30.542	99.046	45.777
71.685	0.376	0.399	19.362	66.593	26.543	99.661	39.723
72.061	0.436	0.464	19.980	68.601	31.829	99.447	46.140
72.497	0.391	0.416	19.980	69.095	28.737	100.055	41.613
72.888	0.436	0.466	20.558	70.984	33.057	99.871	46.510
73.324	0.424	0.453	20.558	71.471	32.399	100.463	45.542
73.748	0.436	0.467	21.126	73.318	34.273	100.313	46.892
74.184	0.392	0.420	21.126	73.760	30.986	100.864	42.372
74.576	0.436	0.469	21.722	75.616	35.492	100.645	47.240
75.012	0.377	0.406	21.722	76.020	30.880	101.154	41.090
75.389	0.436	0.471	22.330	77.850	36.698	100.888	47.558
75.826	0.174	0.189	22.330	78.129	14.737	101.236	19.095
76.000	0.193	0.208	22.330	78.164	16.268	101.336	21.091
76.193	0.436	0.473	22.935	79.408	37.598	100.509	47.589
76.629	0.375	0.407	22.935	79.177	32.232	100.377	40.862
77.003	0.436	0.476	23.544	80.300	38.194	99.493	47.323
77.440	0.371	0.405	23.544	80.024	32.415	99.315	40.229
77.811	0.436	0.478	24.139	81.028	38.717	98.389	47.013
78.247	0.386	0.423	24.139	80.699	34.119	98.079	41.467

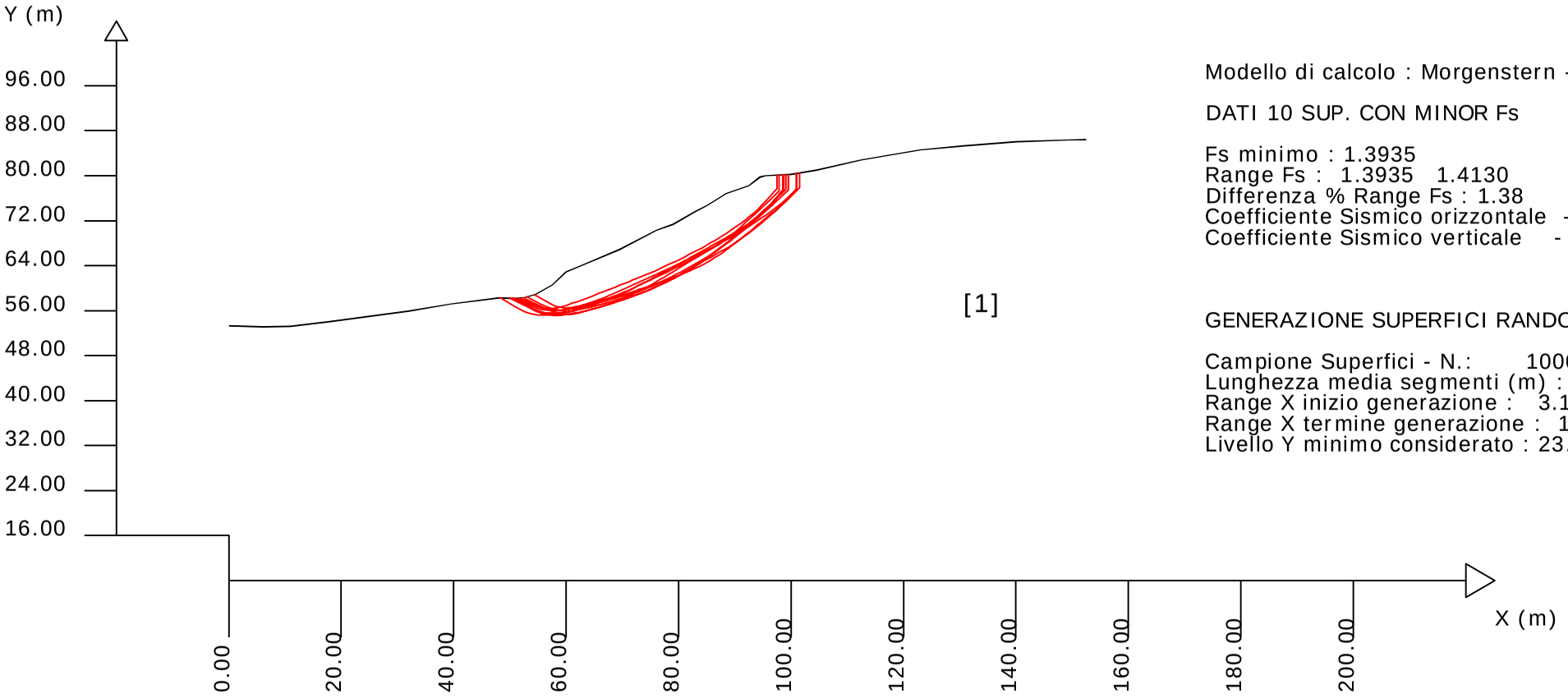
78.633	0.367	0.404	24.708	81.586	32.984	97.155	39.278
79.000	0.436	0.480	24.708	81.637	39.185	97.119	46.616
79.436	0.042	0.047	24.708	81.878	3.818	97.406	4.542
79.478	0.436	0.482	25.232	83.186	40.099	97.013	46.764
79.914	0.436	0.482	25.232	83.588	40.292	97.511	47.004
80.350	0.019	0.022	25.232	83.798	1.806	97.707	2.106
80.370	0.436	0.488	26.581	86.664	42.256	96.544	47.073
80.806	0.382	0.427	26.581	86.947	37.105	96.962	41.380
81.188	0.436	0.494	28.069	89.957	44.454	95.685	47.285
81.624	0.358	0.406	28.069	90.120	36.584	96.037	38.986
81.982	0.436	0.502	29.617	92.881	46.587	95.003	47.652
82.418	0.334	0.384	29.617	92.914	35.680	94.932	36.455
82.752	0.248	0.290	31.108	95.225	27.602	93.256	27.031
83.000	0.436	0.509	31.108	94.974	48.368	93.222	47.476
83.436	0.116	0.136	31.108	94.695	12.875	92.785	12.616
83.552	0.436	0.517	32.555	96.348	49.844	91.231	47.197
83.989	0.336	0.399	32.555	95.815	38.227	91.303	36.427
84.325	0.436	0.526	33.962	96.913	50.950	89.396	46.999
84.761	0.239	0.288	33.962	96.318	27.774	89.111	25.696
85.000	0.120	0.145	33.962	96.073	13.947	88.556	12.856
85.120	0.436	0.534	35.236	97.179	51.879	87.880	46.915
85.556	0.384	0.470	35.236	96.802	45.531	88.564	41.656
85.941	0.436	0.541	36.338	97.362	52.703	87.057	47.125
86.377	0.436	0.541	36.338	96.825	52.413	86.302	46.716
86.813	0.015	0.019	36.338	96.548	1.796	86.229	1.604
86.828	0.436	0.545	36.865	96.663	52.683	85.476	46.586
87.264	0.409	0.511	36.865	96.077	49.068	85.226	43.526
87.672	0.436	0.549	37.423	95.868	52.637	84.517	46.404
88.108	0.387	0.487	37.423	95.230	46.350	83.115	40.453
88.495	0.005	0.006	37.990	95.304	0.613	82.747	0.532
88.500	0.436	0.553	37.990	94.305	52.177	82.152	45.453
88.936	0.368	0.466	37.990	92.471	43.135	81.367	37.955
89.304	0.436	0.558	38.557	90.926	50.701	81.085	45.214
89.740	0.375	0.480	38.557	88.999	42.728	79.698	38.263
90.115	0.436	0.562	39.106	87.306	49.060	77.685	43.653
90.551	0.369	0.475	39.106	85.322	40.521	76.221	36.199
90.920	0.436	0.566	39.645	83.527	47.300	74.519	42.199
91.356	0.377	0.490	39.645	81.448	39.904	72.504	35.522
91.733	0.436	0.571	40.162	79.513	45.368	69.901	39.883
92.169	0.331	0.433	40.162	77.486	33.553	68.198	29.531
92.500	0.059	0.077	40.162	76.591	5.935	68.480	5.307
92.559	0.436	0.575	40.647	76.529	43.981	67.460	38.769
92.995	0.418	0.550	40.647	76.171	41.923	66.570	36.639
93.413	0.436	0.579	41.151	75.901	43.954	65.475	37.916
93.849	0.390	0.519	41.151	75.486	39.147	64.610	33.506
94.239	0.261	0.349	41.672	75.239	26.250	63.532	22.166
94.500	0.436	0.584	41.672	73.592	42.960	62.966	36.757
94.936	0.118	0.157	41.672	71.696	11.281	61.771	9.719
95.054	0.436	0.589	42.197	69.834	41.103	60.103	35.376
95.490	0.010	0.014	42.197	68.264	0.956	59.456	0.833
95.500	0.359	0.485	42.197	66.581	32.290	57.677	27.971
95.859	0.436	0.593	42.715	62.942	37.355	55.108	32.705
96.295	0.376	0.512	42.715	59.144	30.294	53.449	27.377
96.672	0.436	0.600	43.383	55.321	33.191	51.510	30.904
97.108	0.436	0.600	43.383	51.139	30.682	49.052	29.430
97.544	0.031	0.043	43.383	48.898	2.105	45.855	1.974
97.575	0.436	0.605	43.909	46.617	28.214	43.881	26.559
98.011	0.436	0.605	43.909	42.353	25.634	40.781	24.682
98.447	0.141	0.195	43.909	39.534	7.716	38.820	7.577
98.588	0.436	0.610	44.395	36.666	22.375	36.512	22.281
99.024	0.436	0.610	44.395	32.327	19.727	34.210	20.877

LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
dx(m) : Larghezza concio
dl(m) : lunghezza base concio
alpha(°) : Angolo pendenza base concio
TauStress(kPa) : Sforzo di taglio su base concio
TauF (kN/m) : Forza di taglio su base concio
TauStrength(kPa) : Resistenza al taglio su base concio
TauS (kN/m) : Forza resistente al taglio su base concio

SSAP 5.0 (2020) - Slope Stability Analysis Program
Software by Dr.Geol. L.Borselli - www.lorenzo-borselli.eu
SSAP/DXF generator rel. 2.0 (2020)

Data : 26/11/2021
Localita' :
Descrizione :
[n] = N. strato o lente



Modello di calcolo : Morgenstern - Price (1965)

DATI 10 SUP. CON MINOR Fs

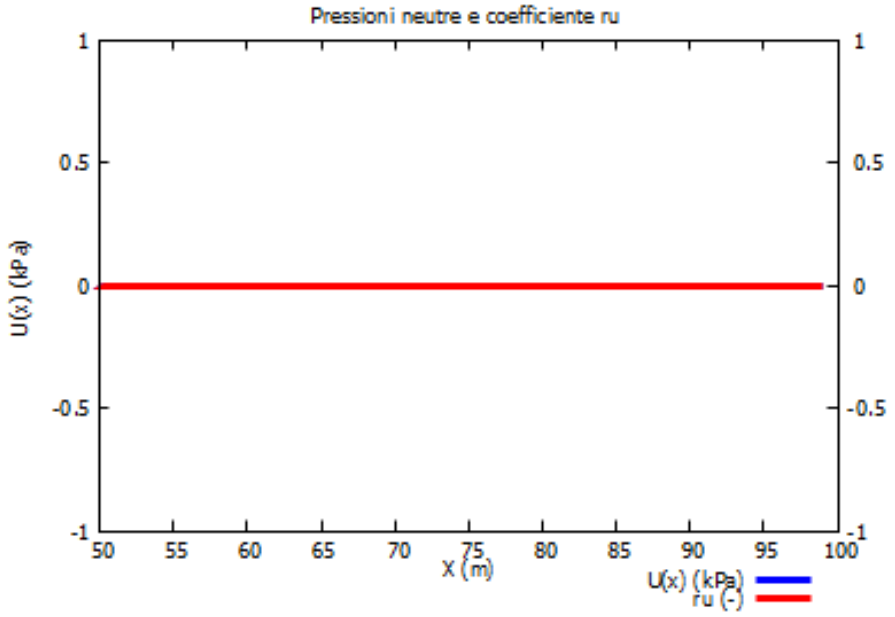
Fs minimo : 1.3935
Range Fs : 1.3935 1.4130
Differenza % Range Fs : 1.38
Coefficiente Sismico orizzontale - Kh: 0.0470
Coefficiente Sismico verticale - Kv: 0.0235

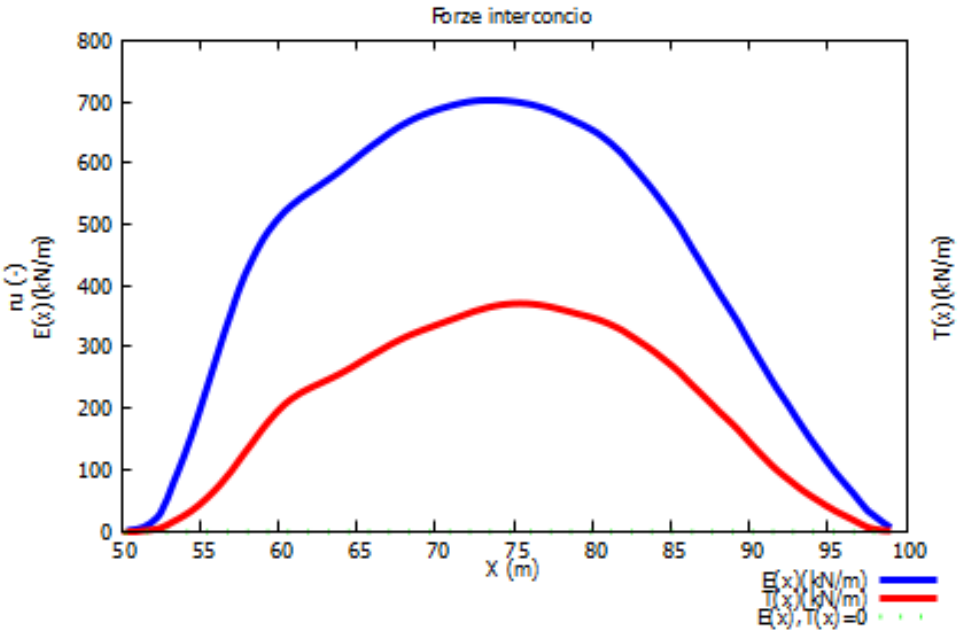
GENERAZIONE SUPERFICI RANDOM

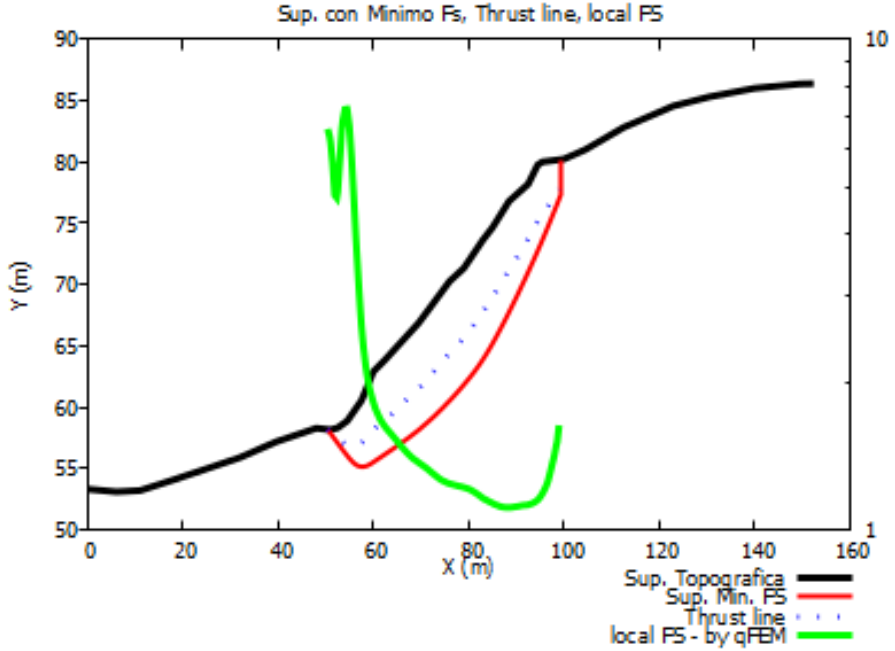
Campione Superfici - N.: 10000
Lunghezza media segmenti (m) : 6.1
Range X inizio generazione : 3.1 - 140.3
Range X termine generazione : 18.3 - 149.5
Livello Y minimo considerato : 23.1

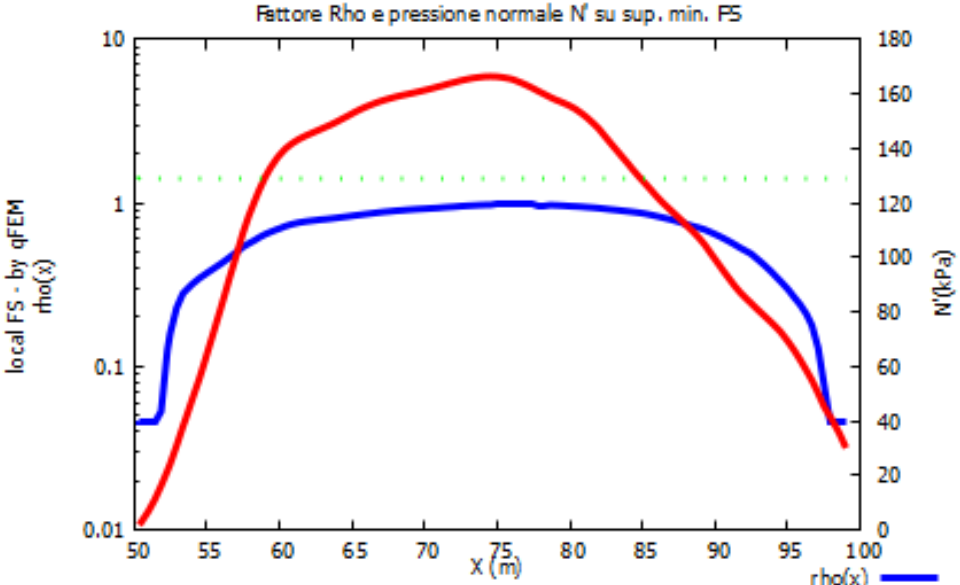
Parametri Geotecnici degli strati # ----------

N.	phi`	C`	Cu	Gamm	GammSat	sgci	GSI	mi	D
..	deg	kPa	kPa	kN/m3	kN/m3	MPa	..	..	..
1	26.00	19.50	0	20.00	22.00	0	0	0	0





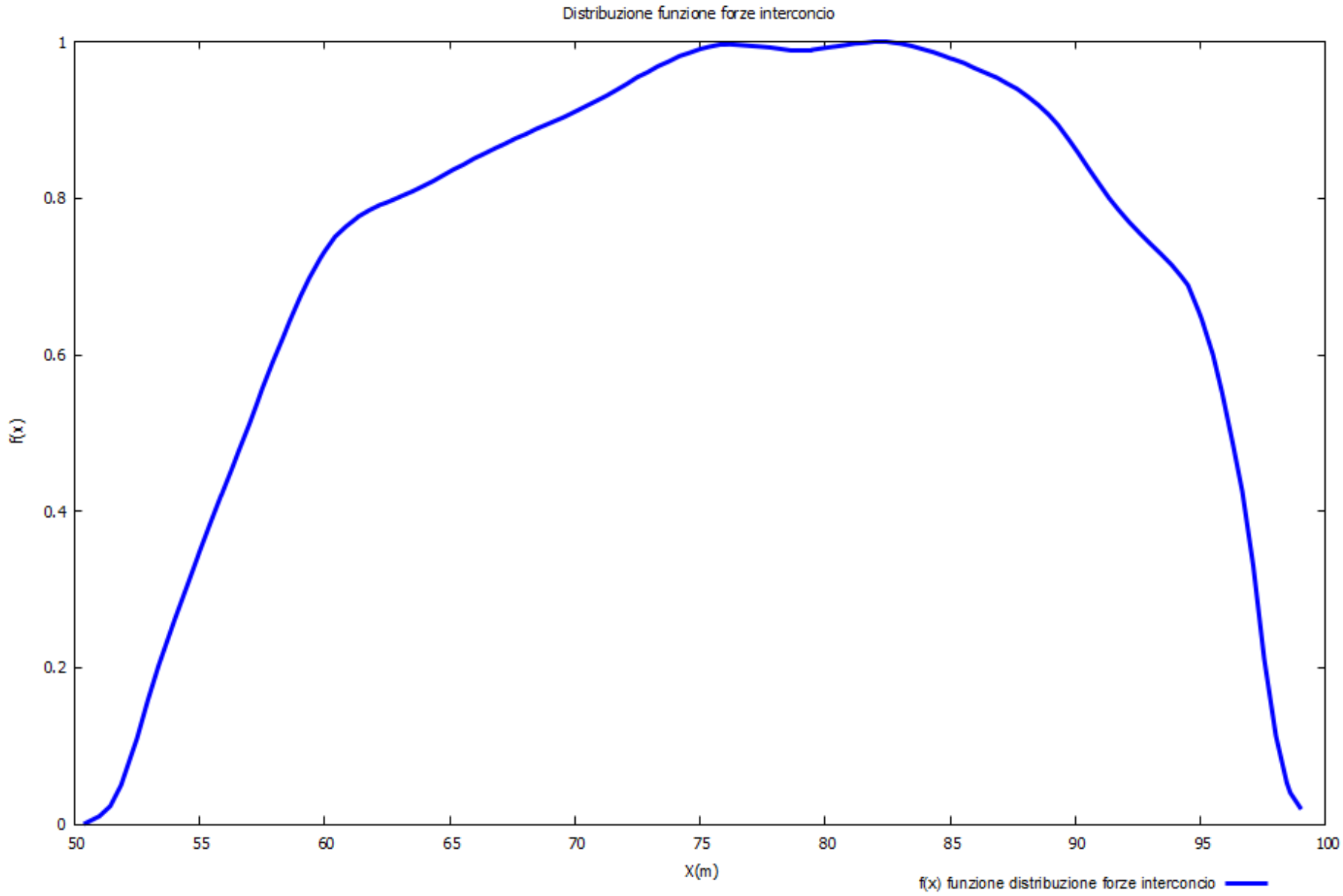


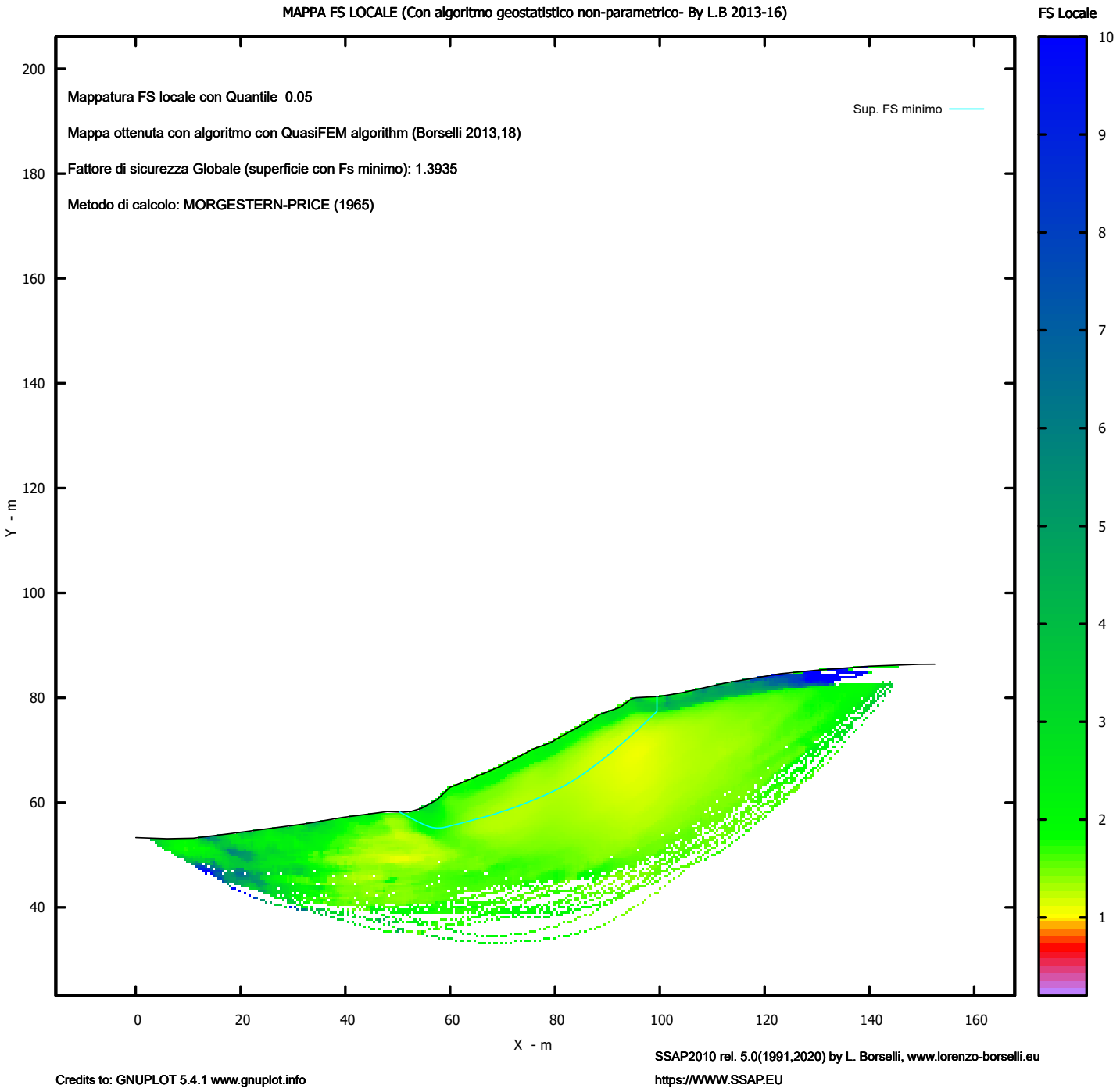


Metodo di calcolo: MORGESTERN-PRICE (1965)

SSAP2010 (versione 5.0 - 2020) - DISTRIBUZIONE FORZE e PRESSIONI

26/11/21 12:27




MAPPA FS LOCALE (Con algoritmo geostatistico non-parametrico- By L.B 2013-16)
FS Locale
Mappatura FS locale con Quantile 0.05
Mappa ottenuta con algoritmo con QuasiFEM algorithm (Borselli 2013,18)
Fattore di sicurezza Globale (superficie con Fs minimo): 1.3935
Metodo di calcolo: MORGESTERN-PRICE (1965)
Sup. FS minimo
Y - m
X - m
200
180
160
140
120
100
80
60
40
0
20
40
60
80
100
120
140
160
10
9
8
7
6
5
4
3
2
1
SSAP2010 rel. 5.0(1991,2020) by L. Borselli, www.lorenzo-borselli.eu
https://WWW.SSAP.EU
Credits to: GNUPLOT 5.4.1 www.gnuplot.info

Report elaborazioni

SSAP 5.0 - Slope Stability Analysis Program (1991,2020)
WWW.SSAP.EU
Build No. 11719
BY
Dr. Geol. LORENZO BORSELLI *,**
*UASLP, San Luis Potosi, Mexico
e-mail: lborselli@gmail.com
CV e WEB page personale: WWW.LORENZO-BORSELLI.EU
** Gia' Ricercatore CNR-IRPI fino a Luglio 2011

Ultima Revisione struttura tabelle del report: 12 settembre 2020

File report: C:\SSAP\POMARICO\VERIFICA 1\DRENATA\BERSELLI\BERSELLI.txt
Data: 26/11/2021
Localita' :
Descrizione:
Modello pendio: DRENATA.mod

---------- PARAMETRI DEL MODELLO DEL PENDIO ----------

__ PARAMETRI GEOMETRICI - Coordinate X Y (in m) __

SUP T.		SUP 2		SUP 3		SUP 4	
X	Y	X	Y	X	Y	X	Y
0.00	53.31	-	-	-	-	-	-
6.00	53.10	-	-	-	-	-	-
11.00	53.20	-	-	-	-	-	-
18.00	54.07	-	-	-	-	-	-
32.00	55.90	-	-	-	-	-	-
39.50	57.17	-	-	-	-	-	-
48.00	58.28	-	-	-	-	-	-
51.00	58.16	-	-	-	-	-	-
52.50	58.31	-	-	-	-	-	-
54.50	58.88	-	-	-	-	-	-
57.50	60.54	-	-	-	-	-	-
60.00	62.91	-	-	-	-	-	-
62.50	63.89	-	-	-	-	-	-
69.50	66.87	-	-	-	-	-	-
76.00	70.28	-	-	-	-	-	-
79.00	71.34	-	-	-	-	-	-
83.00	73.65	-	-	-	-	-	-
85.00	74.65	-	-	-	-	-	-
88.50	76.81	-	-	-	-	-	-
92.50	78.20	-	-	-	-	-	-
94.50	79.76	-	-	-	-	-	-
95.50	80.01	-	-	-	-	-	-
100.00	80.24	-	-	-	-	-	-
104.50	81.00	-	-	-	-	-	-
112.50	82.81	-	-	-	-	-	-
123.00	84.57	-	-	-	-	-	-
130.50	85.31	-	-	-	-	-	-
140.00	86.01	-	-	-	-	-	-
149.50	86.37	-	-	-	-	-	-
152.51	86.40	-	-	-	-	-	-

ASSENZA DI FALDA

------- PARAMETRI GEOMECCANICI -------

	fi`	C`	Cu	Gamm	Gamm_sat	STR_IDX	sgci	GSI	mi	D
STRATO 1	26.00	19.50	0.00	20.00	22.00	2.279	0.00	0.00	0.00	0.00

LEGENDA: fi`_____ Angolo di attrito interno efficace(in gradi)
C` _____ Coesione efficace (in Kpa)
Cu _____ Resistenza al taglio Non drenata (in Kpa)
Gamm _____ Peso di volume terreno fuori falda (in KN/m^3)
Gamm_sat __ Peso di volume terreno immerso (in KN/m^3)
STR_IDX ___ Indice di resistenza (usato in solo in 'SNIFF SEARCH) (adimensionale)
---- SOLO Per AMMASSI ROCCIOSI FRATTURATI - Parametri Criterio di Rottura di Hoek (2002)-
sigci _____ Resistenza Compressione Uniassiale Roccia Intatta (in MPa)

GSI _____ Geological Strenght Index ammasso(adimensionale)
mi _____ Indice litologico ammasso(adimensionale)
D _____ Fattore di disturbo ammasso(adimensionale)
Fattore di riduzione NTC2018: gammaPHI=1.25 e gammaC=1.25 - DISATTIVATO (solo per ROCCE)
Uso CRITERIO DI ROTTURA Hoek et al.(2002,2006) - non-lineare - Generalizzato, secondo Lei et al.(2016)

---------- INFORMAZIONI GENERAZIONE SUPERFICI RANDOM ----------
*** PARAMETRI PER LA GENERAZIONE DELLE SUPERFICI
METODO DI RICERCA: CONVEX RANDOM - Chen (1992)
FILTRAGGIO SUPERFICI : ATTIVATO
COORDINATE X1,X2,Y OSTACOLO : 0.00 0.00 0.00
LUNGHEZZA MEDIA SEGMENTI (m): 6.1 (+/-) 50%
INTERVALLO ASCISSE RANDOM STARTING POINT (Xmin .. Xmax): 3.05 140.31
LIVELLO MINIMO CONSIDERATO (Ymin): 23.13
INTERVALLO ASCISSE AMMESSO PER LA TERMINAZIONE (Xmin .. Xmax): 18.30 149.46

*** TOTALE SUPERFICI GENERATE : 10000

---------- INFORMAZIONI PARAMETRI DI CALCOLO ----------
METODO DI CALCOLO : BORSELLI (Borselli, 2016)
METODO DI ESPLORAZIONE CAMPO VALORI (lambda0,Fs0) ADOTTATO : A (rapido)
COEFFICIENTE SISMICO UTILIZZATO Kh : 0.0470
COEFFICIENTE SISMICO UTILIZZATO Kv (assunto Positivo): 0.0235
COEFFICIENTE c=Kv/Kh UTILIZZATO : 0.5000
FORZA ORIZZONTALE ADDIZIONALE IN TESTA (kN/m): 0.00
FORZA ORIZZONTALE ADDIZIONALE ALLA BASE (kN/m): 0.00

N.B. Le forze orizzontali addizionali in testa e alla base sono poste uguali a 0
durante le tutte le verifiche globali.
I valori >0 impostati dall'utente sono utilizzati solo in caso di verifica singola

---------- RISULTATO FINALE ELABORAZIONI ----------
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* DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *

Fattore di sicurezza (FS) 1.4013 - Min. - X Y Lambda= 0.3513

X	Y
49.08	58.24
53.06	55.81
54.81	54.81
55.88	54.30
56.67	54.03
57.55	53.90
58.25	53.89
59.08	54.01
60.06	54.25
61.39	54.66
62.55	55.03
63.62	55.38
64.63	55.73
65.63	56.08
66.60	56.44
67.59	56.83
68.60	57.22
69.63	57.65
70.65	58.07
71.66	58.50
72.66	58.92
73.66	59.35
74.66	59.79
75.66	60.23
76.69	60.69
77.74	61.16
78.74	61.63
79.72	62.11
80.69	62.60
81.68	63.13
82.65	63.66
83.64	64.23
84.65	64.82
85.73	65.48
86.75	66.11
87.74	66.76
88.71	67.41
89.70	68.09

	90.67	68.78
	91.66	69.51
	92.68	70.27
	93.74	71.10
	94.76	71.90
	95.75	72.71
	96.74	73.53
	97.73	74.37
	98.83	75.32
	100.07	76.43
	101.45	77.68
	101.45	80.48

Fattore di sicurezza (FS) 1.4018 - N.2 -- X Y Lambda= 0.3592

	50.43	58.18
	52.83	56.88
	53.94	56.31
	54.66	55.99
	55.24	55.78
	55.84	55.64
	56.36	55.56
	56.94	55.52
	57.58	55.52
	58.40	55.57
	59.10	55.63
	59.74	55.70
	60.33	55.80
	60.95	55.92
	61.54	56.05
	62.15	56.22
	62.78	56.41
	63.48	56.64
	64.15	56.87
	64.80	57.09
	65.43	57.31
	66.07	57.54
	66.70	57.77
	67.33	58.01
	67.97	58.25
	68.61	58.50
	69.26	58.75
	69.90	59.00
	70.54	59.25
	71.18	59.50
	71.82	59.75
	72.46	59.99
	73.10	60.24
	73.74	60.49
	74.37	60.74
	75.01	60.99
	75.65	61.24
	76.28	61.50
	76.92	61.75
	77.57	62.02
	78.23	62.29
	78.91	62.56
	79.54	62.84
	80.16	63.12
	80.76	63.42
	81.38	63.75
	81.99	64.08
	82.62	64.44
	83.26	64.83
	83.96	65.27
	84.61	65.70
	85.25	66.13
	85.86	66.56
	86.49	67.01
	87.11	67.47
	87.73	67.95
	88.36	68.46
	89.02	69.00
	89.68	69.53
	90.32	70.06

90.97 70.58
91.60 71.10
92.25 71.63
92.90 72.16
93.55 72.70
94.22 73.24
94.85 73.77
95.47 74.32
96.08 74.87
96.71 75.47
97.39 76.15
98.17 76.95
98.60 77.40
98.60 80.17

Fattore di sicurezza (FS) 1.4027 - N.3 -- X Y Lambda= 0.3477
51.71 58.23
54.45 56.64
55.69 55.96
56.49 55.58
57.12 55.35
57.78 55.20
58.34 55.12
58.97 55.11
59.68 55.15
60.60 55.25
61.40 55.36
62.14 55.47
62.84 55.60
63.54 55.74
64.22 55.89
64.92 56.07
65.64 56.27
66.41 56.50
67.15 56.72
67.87 56.95
68.57 57.18
69.28 57.43
69.99 57.68
70.70 57.94
71.43 58.21
72.19 58.51
72.91 58.80
73.62 59.10
74.32 59.41
75.02 59.73
75.72 60.06
76.42 60.40
77.13 60.76
77.87 61.14
78.60 61.52
79.33 61.90
80.05 62.28
80.77 62.65
81.49 63.02
82.21 63.40
82.92 63.77
83.64 64.14
84.35 64.51
85.07 64.89
85.79 65.26
86.51 65.63
87.23 66.01
87.96 66.39
88.71 66.78
89.46 67.17
90.17 67.56
90.86 67.96
91.54 68.37
92.24 68.82
92.92 69.27
93.62 69.76
94.33 70.29
95.09 70.86

95.83 71.43
96.56 71.98
97.27 72.54
97.99 73.10
98.70 73.66
99.41 74.23
100.13 74.80
100.85 75.38
101.57 75.97
102.29 76.55
103.01 77.13
103.73 77.70
104.50 78.32
104.50 81.00

Fattore di sicurezza (FS) 1.4071 - N.4 -- X Y Lambda= 0.3501
51.37 58.20
54.95 56.90
56.58 56.35
57.64 56.07
58.49 55.93
59.36 55.87
60.12 55.89
60.97 55.99
61.90 56.17
63.09 56.46
64.13 56.73
65.09 57.00
66.01 57.28
66.94 57.59
67.84 57.91
68.75 58.25
69.69 58.63
70.68 59.04
71.65 59.45
72.61 59.86
73.56 60.26
74.50 60.67
75.45 61.07
76.40 61.48
77.37 61.90
78.34 62.32
79.28 62.74
80.21 63.17
81.12 63.62
82.05 64.08
82.97 64.56
83.90 65.06
84.86 65.59
85.86 66.16
86.82 66.72
87.76 67.29
88.67 67.86
89.61 68.46
90.53 69.07
91.47 69.71
92.44 70.38
93.46 71.11
94.41 71.82
95.33 72.54
96.23 73.27
97.16 74.07
98.16 74.98
99.31 76.06
100.88 77.59
100.88 80.39

Fattore di sicurezza (FS) 1.4082 - N.5 -- X Y Lambda= 0.3542
50.52 58.18
53.05 56.72
54.21 56.09
54.95 55.74
55.55 55.52

56.16 55.37
56.68 55.29
57.27 55.26
57.91 55.28
58.73 55.35
59.48 55.42
60.17 55.49
60.85 55.56
61.51 55.63
62.17 55.71
62.84 55.80
63.53 55.89
64.25 55.99
64.91 56.10
65.56 56.22
66.18 56.35
66.84 56.51
67.46 56.67
68.11 56.86
68.77 57.07
69.49 57.31
70.18 57.55
70.85 57.79
71.51 58.03
72.17 58.27
72.83 58.52
73.49 58.77
74.17 59.03
74.86 59.31
75.53 59.58
76.19 59.85
76.84 60.13
77.50 60.43
78.16 60.72
78.83 61.03
79.51 61.36
80.23 61.70
80.89 62.04
81.54 62.39
82.17 62.75
82.83 63.14
83.46 63.54
84.11 63.96
84.78 64.42
85.50 64.92
86.18 65.41
86.85 65.91
87.50 66.40
88.16 66.90
88.81 67.42
89.47 67.94
90.13 68.48
90.82 69.05
91.49 69.61
92.16 70.17
92.83 70.73
93.49 71.28
94.16 71.85
94.83 72.41
95.51 72.99
96.19 73.57
96.86 74.14
97.51 74.72
98.16 75.31
98.82 75.93
99.55 76.62
100.37 77.42
100.82 77.86
100.82 80.38

Fattore di sicurezza (FS) 1.4090 - N.6 -- X Y Lambda= 0.3567
50.16 58.19
53.65 56.10
55.18 55.24

56.12 54.79
56.82 54.56
57.59 54.45
58.21 54.44
58.94 54.53
59.79 54.73
60.94 55.08
61.96 55.39
62.90 55.68
63.80 55.97
64.67 56.26
65.54 56.55
66.42 56.85
67.30 57.17
68.21 57.49
69.10 57.82
69.97 58.15
70.84 58.48
71.71 58.83
72.58 59.18
73.46 59.54
74.36 59.92
75.29 60.32
76.17 60.71
77.03 61.12
77.88 61.53
78.74 61.97
79.60 62.42
80.47 62.90
81.36 63.42
82.32 63.98
83.21 64.53
84.07 65.08
84.92 65.64
85.78 66.25
86.63 66.87
87.50 67.53
88.41 68.24
89.39 69.04
90.28 69.80
91.13 70.58
91.95 71.38
92.81 72.26
93.74 73.27
94.80 74.51
96.33 76.37
97.16 77.41
97.16 80.10

Fattore di sicurezza (FS) 1.4095 - N.7 -- X Y Lambda= 0.3488
50.06 58.20
53.91 56.17
55.62 55.34
56.68 54.91
57.49 54.69
58.36 54.59
59.08 54.60
59.92 54.72
60.89 54.95
62.19 55.33
63.31 55.69
64.34 56.03
65.30 56.38
66.27 56.75
67.20 57.14
68.16 57.56
69.13 58.00
70.16 58.50
71.17 58.99
72.17 59.47
73.16 59.95
74.14 60.42
75.13 60.90
76.12 61.38

77.11 61.86
78.10 62.35
79.08 62.84
80.06 63.33
81.03 63.82
82.01 64.33
82.98 64.84
83.97 65.36
84.96 65.90
85.98 66.46
86.97 67.01
87.94 67.57
88.90 68.13
89.87 68.72
90.84 69.32
91.82 69.94
92.84 70.60
93.90 71.31
94.88 71.99
95.84 72.69
96.77 73.41
97.73 74.19
98.77 75.10
99.96 76.18
101.68 77.81
101.68 80.52

Fattore di sicurezza (FS) 1.4128 - N.8 -- X Y Lambda= 0.3567
49.47 58.22
52.44 56.53
53.81 55.79
54.70 55.37
55.41 55.10
56.14 54.91
56.78 54.80
57.49 54.75
58.27 54.75
59.28 54.79
60.14 54.85
60.94 54.93
61.69 55.03
62.45 55.16
63.19 55.30
63.94 55.47
64.72 55.66
65.58 55.90
66.40 56.13
67.19 56.36
67.98 56.59
68.76 56.83
69.54 57.07
70.34 57.32
71.15 57.58
71.99 57.86
72.77 58.14
73.54 58.43
74.28 58.73
75.05 59.06
75.80 59.41
76.57 59.78
77.36 60.19
78.21 60.65
79.02 61.10
79.81 61.55
80.58 62.00
81.36 62.47
82.12 62.95
82.89 63.44
83.68 63.95
84.49 64.49
85.29 65.03
86.08 65.56
86.87 66.10
87.66 66.62

88.45 67.16
89.24 67.69
90.04 68.23
90.85 68.78
91.63 69.32
92.41 69.87
93.17 70.42
93.95 71.00
94.73 71.58
95.51 72.18
96.30 72.80
97.12 73.45
97.91 74.10
98.70 74.74
99.47 75.39
100.25 76.06
101.12 76.82
102.10 77.68
102.56 78.10
102.56 80.67

Fattore di sicurezza (FS) 1.4129 - N.9 -- X Y Lambda= 0.3462
49.90 58.20
54.32 56.36
56.30 55.61
57.55 55.23
58.53 55.04
59.56 54.98
60.43 55.03
61.43 55.19
62.55 55.47
64.00 55.92
65.29 56.33
66.48 56.73
67.63 57.13
68.75 57.54
69.86 57.97
70.99 58.42
72.14 58.90
73.34 59.41
74.50 59.92
75.64 60.43
76.77 60.95
77.90 61.48
79.03 62.02
80.18 62.57
81.34 63.15
82.55 63.76
83.70 64.36
84.82 64.97
85.92 65.60
87.05 66.26
88.16 66.93
89.30 67.65
90.48 68.42
91.74 69.26
92.89 70.07
94.00 70.90
95.07 71.75
96.19 72.69
97.39 73.77
98.78 75.07
100.77 77.03
101.67 77.94
101.67 80.52

Fattore di sicurezza (FS) 1.4134 - N.10 -- X Y Lambda= 0.3539
50.91 58.16
54.66 56.77
56.33 56.20
57.39 55.93
58.20 55.81
59.07 55.80

59.80	55.88
60.64	56.06
61.57	56.35
62.78	56.78
63.88	57.19
64.90	57.57
65.89	57.95
66.85	58.32
67.81	58.69
68.77	59.08
69.74	59.47
70.73	59.88
71.70	60.29
72.66	60.70
73.62	61.12
74.58	61.54
75.54	61.97
76.51	62.41
77.49	62.86
78.51	63.34
79.47	63.81
80.42	64.29
81.35	64.78
82.30	65.30
83.24	65.82
84.19	66.38
85.16	66.97
86.18	67.60
87.16	68.23
88.13	68.85
89.08	69.48
90.04	70.12
90.99	70.77
91.94	71.43
92.91	72.11
93.90	72.82
94.88	73.53
95.84	74.23
96.81	74.94
97.77	75.65
98.85	76.46
100.05	77.36
100.50	77.70
100.50	80.32

---------- ANALISI DEFICIT DI RESISTENZA ----------
DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *
Analisi Deficit in riferimento a FS(progetto) = 1.100

Sup N.	FS	FTR(kN/m)	FTA(kN/m)	Bilancio(kN/m)	ESITO
1	1.401	5055.4	3607.7	1087.0	Surplus
2	1.402	4220.4	3010.7	908.6	Surplus
3	1.403	5148.1	3670.1	1111.0	Surplus
4	1.407	4448.6	3161.6	970.8	Surplus
5	1.408	4892.5	3474.2	1070.9	Surplus
6	1.409	4443.4	3153.6	974.5	Surplus
7	1.410	4732.9	3357.7	1039.4	Surplus
8	1.413	5185.9	3670.7	1148.1	Surplus
9	1.413	4891.7	3462.3	1083.2	Surplus
10	1.413	4067.9	2878.2	901.9	Surplus

Esito analisi: SURPLUS di RESISTENZA!

Valore minimo di SURPLUS di RESISTENZA (kN/m): 901.9

Note: FTR --> Forza totale Resistente lungo la superficie
di scivolamento
FTA --> Forza totale Agente lungo la superficie
di scivolamento

IMPORTANTE! : Il Deficit o il Surplus di resistenza viene espresso in kN
per metro di LARGHEZZA rispetto al fronte della scarpata

TABELLA PARAMETRI CONCI DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	alpha (°)	W (kN/m)	ru (-)	U (kPa)	phi' (°)	(c',Cu) (kPa)
49.079	0.460	-31.37	1.23	0.00	0.00	26.00	19.50
49.538	0.460	-31.37	3.70	0.00	0.00	26.00	19.50
49.998	0.460	-31.37	6.16	0.00	0.00	26.00	19.50
50.457	0.460	-31.37	8.62	0.00	0.00	26.00	19.50
50.917	0.083	-31.37	1.82	0.00	0.00	26.00	19.50
51.000	0.460	-31.37	11.83	0.00	0.00	26.00	19.50
51.460	0.460	-31.37	14.90	0.00	0.00	26.00	19.50
51.919	0.460	-31.37	17.97	0.00	0.00	26.00	19.50
52.379	0.121	-31.37	5.26	0.00	0.00	26.00	19.50
52.500	0.460	-31.37	22.25	0.00	0.00	26.00	19.50
52.960	0.103	-31.37	5.51	0.00	0.00	26.00	19.50
53.062	0.460	-29.82	26.90	0.00	0.00	26.00	19.50
53.522	0.460	-29.82	30.61	0.00	0.00	26.00	19.50
53.981	0.460	-29.82	34.32	0.00	0.00	26.00	19.50
54.441	0.059	-29.82	4.67	0.00	0.00	26.00	19.50
54.500	0.306	-29.82	25.51	0.00	0.00	26.00	19.50
54.806	0.460	-25.49	42.13	0.00	0.00	26.00	19.50
55.266	0.460	-25.49	46.58	0.00	0.00	26.00	19.50
55.725	0.152	-25.49	16.42	0.00	0.00	26.00	19.50
55.878	0.460	-18.43	52.20	0.00	0.00	26.00	19.50
56.337	0.336	-18.43	40.55	0.00	0.00	26.00	19.50
56.673	0.460	-8.62	58.44	0.00	0.00	26.00	19.50
57.132	0.368	-8.62	48.93	0.00	0.00	26.00	19.50
57.500	0.049	-8.62	6.65	0.00	0.00	26.00	19.50
57.549	0.460	-0.45	64.97	0.00	0.00	26.00	19.50
58.008	0.238	-0.45	35.21	0.00	0.00	26.00	19.50
58.246	0.460	7.91	70.92	0.00	0.00	26.00	19.50
58.706	0.378	7.91	61.03	0.00	0.00	26.00	19.50
59.084	0.460	13.70	77.07	0.00	0.00	26.00	19.50
59.544	0.456	13.70	79.57	0.00	0.00	26.00	19.50
60.000	0.055	13.70	9.78	0.00	0.00	26.00	19.50
60.055	0.460	17.04	81.88	0.00	0.00	26.00	19.50
60.515	0.460	17.04	82.25	0.00	0.00	26.00	19.50
60.974	0.412	17.04	74.04	0.00	0.00	26.00	19.50
61.386	0.460	17.59	82.93	0.00	0.00	26.00	19.50
61.846	0.460	17.59	83.25	0.00	0.00	26.00	19.50
62.305	0.195	17.59	35.39	0.00	0.00	26.00	19.50
62.500	0.054	17.59	9.76	0.00	0.00	26.00	19.50
62.554	0.460	18.26	83.81	0.00	0.00	26.00	19.50
63.013	0.460	18.26	84.23	0.00	0.00	26.00	19.50
63.473	0.147	18.26	26.98	0.00	0.00	26.00	19.50
63.619	0.460	18.96	84.74	0.00	0.00	26.00	19.50
64.079	0.460	18.96	85.10	0.00	0.00	26.00	19.50
64.539	0.095	18.96	17.72	0.00	0.00	26.00	19.50
64.634	0.460	19.71	85.50	0.00	0.00	26.00	19.50
65.094	0.460	19.71	85.79	0.00	0.00	26.00	19.50
65.553	0.073	19.71	13.62	0.00	0.00	26.00	19.50
65.626	0.460	20.38	86.10	0.00	0.00	26.00	19.50
66.086	0.460	20.38	86.33	0.00	0.00	26.00	19.50
66.545	0.058	20.38	11.00	0.00	0.00	26.00	19.50
66.604	0.460	21.05	86.56	0.00	0.00	26.00	19.50
67.063	0.460	21.05	86.74	0.00	0.00	26.00	19.50
67.523	0.070	21.05	13.22	0.00	0.00	26.00	19.50
67.593	0.460	21.69	86.92	0.00	0.00	26.00	19.50
68.052	0.460	21.69	87.04	0.00	0.00	26.00	19.50
68.512	0.084	21.69	15.90	0.00	0.00	26.00	19.50
68.596	0.460	22.30	87.15	0.00	0.00	26.00	19.50
69.055	0.445	22.30	84.41	0.00	0.00	26.00	19.50
69.500	0.134	22.30	25.50	0.00	0.00	26.00	19.50
69.634	0.460	22.54	87.63	0.00	0.00	26.00	19.50
70.094	0.460	22.54	88.11	0.00	0.00	26.00	19.50
70.553	0.100	22.54	19.15	0.00	0.00	26.00	19.50
70.653	0.460	22.79	88.67	0.00	0.00	26.00	19.50
71.112	0.460	22.79	89.12	0.00	0.00	26.00	19.50
71.572	0.086	22.79	16.76	0.00	0.00	26.00	19.50
71.658	0.460	23.05	89.65	0.00	0.00	26.00	19.50
72.118	0.460	23.05	90.08	0.00	0.00	26.00	19.50
72.577	0.080	23.05	15.78	0.00	0.00	26.00	19.50
72.658	0.460	23.30	90.57	0.00	0.00	26.00	19.50
73.117	0.460	23.30	90.97	0.00	0.00	26.00	19.50

73.577	0.078	23.30	15.55	0.00	0.00	26.00	19.50
73.655	0.460	23.56	91.44	0.00	0.00	26.00	19.50
74.115	0.460	23.56	91.82	0.00	0.00	26.00	19.50
74.574	0.082	23.56	16.38	0.00	0.00	26.00	19.50
74.656	0.460	23.81	92.26	0.00	0.00	26.00	19.50
75.115	0.460	23.81	92.62	0.00	0.00	26.00	19.50
75.575	0.089	23.81	17.99	0.00	0.00	26.00	19.50
75.664	0.336	24.06	67.97	0.00	0.00	26.00	19.50
76.000	0.460	24.06	92.92	0.00	0.00	26.00	19.50
76.460	0.229	24.06	46.23	0.00	0.00	26.00	19.50
76.689	0.460	24.29	92.30	0.00	0.00	26.00	19.50
77.149	0.460	24.29	91.88	0.00	0.00	26.00	19.50
77.608	0.130	24.29	25.98	0.00	0.00	26.00	19.50
77.738	0.460	25.15	91.30	0.00	0.00	26.00	19.50
78.198	0.460	25.15	90.79	0.00	0.00	26.00	19.50
78.657	0.080	25.15	15.80	0.00	0.00	26.00	19.50
78.738	0.262	26.05	51.52	0.00	0.00	26.00	19.50
79.000	0.460	26.05	90.31	0.00	0.00	26.00	19.50
79.460	0.261	26.05	51.46	0.00	0.00	26.00	19.50
79.721	0.460	26.98	90.87	0.00	0.00	26.00	19.50
80.180	0.460	26.98	91.17	0.00	0.00	26.00	19.50
80.640	0.048	26.98	9.44	0.00	0.00	26.00	19.50
80.687	0.460	27.88	91.45	0.00	0.00	26.00	19.50
81.147	0.460	27.88	91.66	0.00	0.00	26.00	19.50
81.606	0.069	27.88	13.85	0.00	0.00	26.00	19.50
81.676	0.460	28.78	91.85	0.00	0.00	26.00	19.50
82.135	0.460	28.78	91.98	0.00	0.00	26.00	19.50
82.595	0.052	28.78	10.46	0.00	0.00	26.00	19.50
82.647	0.353	29.67	70.71	0.00	0.00	26.00	19.50
83.000	0.460	29.67	91.93	0.00	0.00	26.00	19.50
83.460	0.179	29.67	35.63	0.00	0.00	26.00	19.50
83.638	0.460	30.50	91.47	0.00	0.00	26.00	19.50
84.098	0.460	30.50	91.08	0.00	0.00	26.00	19.50
84.557	0.097	30.50	19.23	0.00	0.00	26.00	19.50
84.654	0.346	31.25	68.15	0.00	0.00	26.00	19.50
85.000	0.460	31.25	90.48	0.00	0.00	26.00	19.50
85.460	0.271	31.25	53.37	0.00	0.00	26.00	19.50
85.731	0.460	32.05	90.51	0.00	0.00	26.00	19.50
86.190	0.460	32.05	90.47	0.00	0.00	26.00	19.50
86.650	0.097	32.05	19.16	0.00	0.00	26.00	19.50
86.747	0.460	32.91	90.38	0.00	0.00	26.00	19.50
87.207	0.460	32.91	90.25	0.00	0.00	26.00	19.50
87.666	0.073	32.91	14.38	0.00	0.00	26.00	19.50
87.739	0.460	33.78	90.05	0.00	0.00	26.00	19.50
88.199	0.301	33.78	58.87	0.00	0.00	26.00	19.50
88.500	0.212	33.78	41.36	0.00	0.00	26.00	19.50
88.712	0.460	34.64	88.41	0.00	0.00	26.00	19.50
89.172	0.460	34.64	86.93	0.00	0.00	26.00	19.50
89.632	0.070	34.64	13.15	0.00	0.00	26.00	19.50
89.702	0.460	35.48	85.17	0.00	0.00	26.00	19.50
90.161	0.460	35.48	83.59	0.00	0.00	26.00	19.50
90.621	0.053	35.48	9.63	0.00	0.00	26.00	19.50
90.674	0.460	36.30	81.78	0.00	0.00	26.00	19.50
91.134	0.460	36.30	80.10	0.00	0.00	26.00	19.50
91.593	0.071	36.30	12.14	0.00	0.00	26.00	19.50
91.664	0.460	37.07	78.13	0.00	0.00	26.00	19.50
92.124	0.376	37.07	62.68	0.00	0.00	26.00	19.50
92.500	0.175	37.07	28.88	0.00	0.00	26.00	19.50
92.675	0.460	37.78	75.85	0.00	0.00	26.00	19.50
93.135	0.460	37.78	75.87	0.00	0.00	26.00	19.50
93.594	0.143	37.78	23.68	0.00	0.00	26.00	19.50
93.738	0.460	38.37	75.87	0.00	0.00	26.00	19.50
94.197	0.303	38.37	49.97	0.00	0.00	26.00	19.50
94.500	0.256	38.37	41.79	0.00	0.00	26.00	19.50
94.756	0.460	38.99	73.29	0.00	0.00	26.00	19.50
95.215	0.285	38.99	44.22	0.00	0.00	26.00	19.50
95.500	0.253	38.99	38.42	0.00	0.00	26.00	19.50
95.753	0.460	39.62	67.10	0.00	0.00	26.00	19.50
96.213	0.460	39.62	63.74	0.00	0.00	26.00	19.50
96.673	0.064	39.62	8.67	0.00	0.00	26.00	19.50
96.737	0.460	40.24	59.87	0.00	0.00	26.00	19.50
97.197	0.460	40.24	56.43	0.00	0.00	26.00	19.50
97.656	0.074	40.24	8.79	0.00	0.00	26.00	19.50
97.730	0.460	41.04	52.39	0.00	0.00	26.00	19.50
98.190	0.460	41.04	48.85	0.00	0.00	26.00	19.50

98.649	0.182	41.04	18.34	0.00	0.00	26.00	19.50
98.831	0.460	41.66	43.86	0.00	0.00	26.00	19.50
99.291	0.460	41.66	40.24	0.00	0.00	26.00	19.50
99.750	0.250	41.66	20.35	0.00	0.00	26.00	19.50
100.000	0.068	41.66	5.37	0.00	0.00	26.00	19.50
100.068	0.460	42.23	34.39	0.00	0.00	26.00	19.50
100.528	0.460	42.23	31.20	0.00	0.00	26.00	19.50
100.987	0.460	42.23	28.01	0.00	0.00	26.00	19.50

LEGENDA SIMBOLI
X(m) : Ascissa sinistra concio
dx(m) : Larghezza concio
alpha(°) : Angolo pendenza base concio
W(kN/m) : Forza peso concio
ru(-) : Coefficiente locale pressione interstiziale
U(kPa) : Pressione totale dei pori base concio
phi'(°) : Angolo di attrito efficace base concio
c'/Cu (kPa) : Coesione efficace o Resistenza al taglio in condizioni non drenate
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TABELLA DIAGRAMMA DELLE FORZE DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	ht (m)	yt (m)	yt' (--)	E(x) (kN/m)	T(x) (kN/m)	E' (kN)	rho(x) (--)	FS_qFEM (--)	FS_srmFEM (--)	
49.079	0.000	58.237	-0.465	0.0000000000E+000	0.0000000000E+000	8.2422919837E-001	0.047	14.186	11.937	
49.538	0.066	58.022	-0.465	1.1121415174E+000	2.2679086352E-003	4.0158150680E+000	0.047	14.186	11.937	
49.998	0.133	57.809	-0.500	3.6910031542E+000	4.4108492050E-002	9.3514599901E+000	0.047	8.075	6.665	
50.457	0.166	57.563	-0.470	9.7072256375E+000	2.8582784673E-001	1.3675843780E+001	0.047	7.044	5.172	
50.917	0.261	57.377	-0.397	1.6260701130E+001	8.7748665978E-001	1.4412517584E+001	0.047	7.620	4.519	
51.000	0.282	57.347	-0.417	1.7458534056E+001	1.0221262045E+000	1.5036060174E+001	0.048	7.784	4.421	
51.460	0.366	57.151	-0.391	2.5886079008E+001	2.7063914558E+000	2.2527863063E+001	0.094	9.496	3.821	
51.919	0.483	56.987	-0.345	3.8164271800E+001	5.7841169477E+000	3.5706283406E+001	0.154	11.878	3.388	
52.379	0.609	56.834	-0.326	5.8704324481E+001	1.0879247905E+001	3.8341622834E+001	0.221	13.816	3.044	
52.500	0.647	56.798	-0.299	6.3152607796E+001	1.1990400921E+001	3.9989023176E+001	0.230	14.201	2.983	
52.960	0.790	56.660	-0.297	8.7317419741E+001	1.8468822053E+001	5.8272993765E+001	0.279	14.713	2.750	
53.062	0.823	56.631	-0.269	9.3438048344E+001	2.0142502313E+001	6.1674036730E+001	0.290	14.663	2.703	
53.522	0.965	56.509	-0.254	1.2615376263E+002	2.9417625031E+001	8.0269206605E+001	0.340	13.456	2.513	
53.981	1.116	56.397	-0.217	1.6721482585E+002	4.1539891082E+001	9.6122578168E+001	0.391	10.926	2.349	
54.441	1.292	56.310	-0.187	2.1450164051E+002	5.6624602930E+001	1.2001954974E+002	0.442	8.299	2.215	
54.500	1.316	56.300	-0.142	2.2170972010E+002	5.9106933507E+001	1.2193644254E+002	0.450	7.916	2.198	
54.806	1.450	56.258	-0.114	2.5860625910E+002	7.2013525565E+001	1.2624105100E+002	0.483	6.350	2.119	
55.266	1.624	56.213	-0.074	3.2059487765E+002	9.5114490015E+001	1.3673175018E+002	0.537	4.715	2.013	
55.725	1.820	56.190	-0.038	3.8427870981E+002	1.2022404275E+002	1.3004276603E+002	0.584	3.688	1.926	
55.878	1.892	56.189	0.032	4.0365340897E+002	1.2829203620E+002	1.2750821433E+002	0.597	3.431	1.903	
56.337	2.065	56.209	0.068	4.6265779152E+002	1.5425768698E+002	1.2249335012E+002	0.640	2.827	1.841	
56.673	2.212	56.244	0.145	5.0232879747E+002	1.7301050058E+002	1.1550142877E+002	0.668	2.505	1.803	
57.132	2.362	56.325	0.203	5.5372090171E+002	1.9929897299E+002	1.0648307726E+002	0.708	2.181	1.757	
57.500	2.505	56.412	0.242	5.9128680683E+002	2.1981162872E+002	1.0215626604E+002	0.737	1.991	1.724	
57.549	2.526	56.425	0.297	5.9626948799E+002	2.2259070408E+002	1.0002528596E+002	0.741	1.968	1.720	
58.008	2.667	56.563	0.309	6.3303980906E+002	2.4480107954E+002	6.9405524146E+001	0.766	1.816	1.689	
58.246	2.747	56.641	0.362	6.4822853115E+002	2.5480971951E+002	6.2646820748E+001	0.777	1.758	1.675	
58.706	2.858	56.815	0.398	6.7588567706E+002	2.7416254197E+002	5.5863322441E+001	0.800	1.663	1.648	
59.084	2.964	56.974	0.446	6.9568077821E+002	2.8899212102E+002	4.7326676287E+001	0.817	1.605	1.627	
59.544	3.066	57.189	0.477	7.1465085287E+002	3.0460775338E+002	3.7355248102E+001	0.835	1.555	1.603	
60.000	3.177	57.411	0.485	7.2992396595E+002	3.1797343861E+002	2.9218984115E+001	0.848	1.518	1.581	
60.055	3.190	57.437	0.481	7.3150421619E+002	3.1939391447E+002	2.8500192754E+001	0.851	1.514	1.578	
60.515	3.271	57.659	0.471	7.4380501576E+002	3.3061270771E+002	2.3559811839E+001	0.869	1.485	1.557	
60.974	3.341	57.870	0.440	7.5315843541E+002	3.3927952479E+002	1.7915826688E+001	0.883	1.463	1.539	
61.386	3.387	58.042	0.409	7.5963857983E+002	3.4512755304E+002	1.4258043257E+001	0.892	1.447	1.525	
61.846	3.426	58.226	0.383	7.6543571049E+002	3.4987227509E+002	1.1458467530E+001	0.899	1.433	1.511	
62.305	3.448	58.394	0.360	7.7017025001E+002	3.5342787213E+002	9.3125237850E+000	0.903	1.421	1.501	
62.500	3.453	58.462	0.356	7.7190251668E+002	3.5465287726E+002	9.3731359883E+000	0.904	1.417	1.497	
62.554	3.457	58.483	0.376	7.7241242357E+002	3.5502442760E+002	9.4161641531E+000	0.904	1.416	1.496	
63.013	3.478	58.655	0.365	7.7638849338E+002	3.5788537394E+002	7.9630907816E+000	0.907	1.407	1.487	
63.473	3.489	58.818	0.363	7.7973143421E+002	3.6027959130E+002	6.9912065765E+000	0.909	1.399	1.480	
63.619	3.498	58.875	0.373	7.8074403313E+002	3.6104844514E+002	6.6834398673E+000	0.910	1.397	1.478	
64.079	3.509	59.044	0.373	7.8350257452E+002	3.6328189933E+002	5.6293197872E+000	0.912	1.391	1.472	
64.539	3.525	59.218	0.380	7.8591803560E+002	3.6553122555E+002	4.6514366225E+000	0.915	1.386	1.467	
64.634	3.529	59.255	0.397	7.8635000485E+002	3.6600779770E+002	4.4725732209E+000	0.915	1.385	1.466	
65.094	3.548	59.438	0.408	7.8828748961E+002	3.6833119836E+002	3.8512879451E+000	0.918	1.380	1.461	
65.553	3.575	59.630	0.419	7.8988978836E+002	3.7067514040E+002	2.9160848531E+000	0.922	1.374	1.456	
65.626	3.580	59.661	0.393	7.9009561577E+002	3.7104480447E+002	2.6721291580E+000	0.923	1.374	1.455	
66.086	3.587	59.839	0.389	7.9087849519E+002	3.7298607463E+002	1.2765213888E+000	0.926	1.369	1.450	

66.545	3.596	60.019	0.396	7.9126888804E+002	3.7478170169E+002	3.6905592547E-001	0.929	1.364	1.446
66.604	3.600	60.044	0.396	7.9128689783E+002	3.7501898948E+002	2.2890417382E-001	0.930	1.364	1.445
67.063	3.603	60.224	0.394	7.9110683504E+002	3.7656248490E+002	-7.6701962420E-001	0.933	1.359	1.441
67.523	3.608	60.406	0.404	7.9058191719E+002	3.7793922380E+002	-1.8794251273E+000	0.936	1.354	1.436
67.593	3.613	60.438	0.419	7.9044258323E+002	3.7814333970E+002	-2.0374589204E+000	0.937	1.354	1.435
68.052	3.620	60.628	0.414	7.8936796371E+002	3.7924026551E+002	-2.6710806000E+000	0.940	1.349	1.431
68.512	3.627	60.818	0.423	7.8798754814E+002	3.8008903386E+002	-3.8768967699E+000	0.943	1.344	1.426
68.596	3.634	60.858	0.443	7.8764904963E+002	3.8021878910E+002	-4.0512554774E+000	0.943	1.343	1.425
69.055	3.646	61.059	0.436	7.8574942538E+002	3.8070067722E+002	-4.3813820968E+000	0.946	1.338	1.421
69.500	3.658	61.252	0.451	7.8369410603E+002	3.8096071815E+002	-5.5169324107E+000	0.948	1.334	1.417
69.634	3.670	61.320	0.467	7.8291763625E+002	3.8100078256E+002	-5.7423604866E+000	0.948	1.332	1.415
70.094	3.689	61.530	0.459	7.8034918828E+002	3.8096438274E+002	-5.8163534933E+000	0.949	1.327	1.410
70.553	3.711	61.742	0.472	7.7757172796E+002	3.8077059941E+002	-6.9516805056E+000	0.949	1.322	1.406
70.653	3.721	61.794	0.475	7.7685986737E+002	3.8070307958E+002	-7.0626386207E+000	0.949	1.321	1.405
71.112	3.742	62.007	0.468	7.7379609704E+002	3.8030808649E+002	-6.8896400272E+000	0.949	1.317	1.400
71.572	3.765	62.224	0.480	7.7052748337E+002	3.7981261376E+002	-8.0839987352E+000	0.949	1.312	1.395
71.658	3.774	62.269	0.476	7.6981516787E+002	3.7969467051E+002	-8.1580643198E+000	0.949	1.311	1.394
72.118	3.793	62.484	0.469	7.6633099463E+002	3.7907911529E+002	-7.8039461880E+000	0.949	1.307	1.389
72.577	3.814	62.701	0.481	7.6264242971E+002	3.7835655694E+002	-9.0970942038E+000	0.948	1.303	1.384
72.658	3.823	62.743	0.485	7.6189705136E+002	3.7819653626E+002	-9.2043703179E+000	0.948	1.303	1.383
73.117	3.844	62.963	0.478	7.5787699121E+002	3.7725367101E+002	-8.9262800202E+000	0.948	1.299	1.378
73.577	3.866	63.182	0.484	7.5369275730E+002	3.7614629032E+002	-1.0000495701E+001	0.947	1.296	1.374
73.655	3.873	63.223	0.469	7.5289710508E+002	3.7591049687E+002	-1.0037851995E+001	0.947	1.295	1.373
74.115	3.884	63.435	0.457	7.4859502789E+002	3.7452702352E+002	-9.4664752463E+000	0.946	1.293	1.369
74.574	3.892	63.643	0.461	7.4419630851E+002	3.7292446494E+002	-1.0993386241E+001	0.944	1.290	1.365
74.656	3.898	63.684	0.460	7.4327668708E+002	3.7254753511E+002	-1.1097710423E+001	0.943	1.290	1.365
75.115	3.903	63.892	0.446	7.3856058003E+002	3.7048210689E+002	-1.0363326233E+001	0.941	1.288	1.362
75.575	3.902	64.094	0.450	7.3375157968E+002	3.6819690486E+002	-1.2145905690E+001	0.938	1.287	1.359
75.664	3.907	64.138	0.469	7.3264077393E+002	3.6763495891E+002	-1.2357944177E+001	0.937	1.286	1.358
76.000	3.912	64.293	0.452	7.2863411682E+002	3.6549548164E+002	-1.1983067735E+001	0.934	1.285	1.357
76.460	3.912	64.498	0.454	7.2309294412E+002	3.6239303808E+002	-1.2851080848E+001	0.932	1.284	1.355
76.689	3.917	64.606	0.445	7.2005419429E+002	3.6066748612E+002	-1.3049543752E+001	0.931	1.284	1.354
77.149	3.908	64.805	0.430	7.1423909541E+002	3.5731675834E+002	-1.3000598427E+001	0.929	1.282	1.352
77.608	3.898	65.002	0.425	7.0810512567E+002	3.5382989529E+002	-1.5083123029E+001	0.926	1.280	1.351
77.738	3.893	65.055	0.421	7.0607545239E+002	3.5270344618E+002	-1.5287316541E+001	0.925	1.280	1.350
78.198	3.871	65.250	0.423	6.9951671626E+002	3.4912709718E+002	-1.4871466254E+001	0.923	1.277	1.348
78.657	3.850	65.444	0.423	6.9240683769E+002	3.4532382476E+002	-1.7181953422E+001	0.921	1.275	1.345
78.738	3.846	65.478	0.432	6.9100395594E+002	3.4458412401E+002	-1.7056948249E+001	0.921	1.274	1.345
79.000	3.832	65.592	0.492	6.8689390442E+002	3.4246734888E+002	-1.5982171077E+001	0.920	1.272	1.343
79.460	3.848	65.833	0.524	6.7929949502E+002	3.3864313195E+002	-1.8630338749E+001	0.914	1.268	1.339
79.721	3.858	65.970	0.532	6.7412531302E+002	3.3608275088E+002	-1.9787735168E+001	0.911	1.265	1.336
80.180	3.870	66.216	0.536	6.6506242018E+002	3.3166752331E+002	-2.0503574307E+001	0.906	1.260	1.330
80.640	3.883	66.463	0.536	6.5528013311E+002	3.2693373912E+002	-2.2598061298E+001	0.900	1.254	1.324
80.687	3.884	66.488	0.547	6.5419995534E+002	3.2641260762E+002	-2.2660119147E+001	0.900	1.254	1.323
81.147	3.893	66.740	0.548	6.4411331188E+002	3.2155746943E+002	-2.2591342597E+001	0.894	1.248	1.317
81.606	3.902	66.992	0.548	6.3343587249E+002	3.1641306210E+002	-2.5350002648E+001	0.888	1.241	1.309
81.676	3.903	67.030	0.559	6.3165539178E+002	3.1555273480E+002	-2.5646152060E+001	0.887	1.240	1.308
82.135	3.908	67.288	0.546	6.1994013796E+002	3.0987741884E+002	-2.5032776764E+001	0.881	1.233	1.300
82.595	3.900	67.532	0.534	6.0864734573E+002	3.0436809667E+002	-2.6807022112E+001	0.875	1.227	1.293
82.647	3.901	67.562	0.517	6.0723363302E+002	3.0367076501E+002	-2.6822765020E+001	0.874	1.226	1.292
83.000	3.880	67.742	0.519	5.9833361361E+002	2.9926833680E+002	-2.5780267184E+001	0.869	1.221	1.285
83.460	3.859	67.983	0.536	5.8614684521E+002	2.9316030082E+002	-2.8386738164E+001	0.863	1.214	1.277
83.638	3.858	68.084	0.566	5.8094972666E+002	2.9051651952E+002	-2.9287964625E+001	0.860	1.211	1.273
84.098	3.848	68.345	0.562	5.6728260808E+002	2.8347503066E+002	-2.9751181933E+001	0.853	1.202	1.263
84.557	3.834	68.601	0.572	5.5360491509E+002	2.7633492007E+002	-3.3751990605E+001	0.845	1.194	1.253
84.654	3.839	68.663	0.605	5.5024029979E+002	2.7456109542E+002	-3.4094711224E+001	0.843	1.192	1.250
85.000	3.835	68.869	0.606	5.3907453823E+002	2.6863431463E+002	-3.2906007489E+001	0.836	1.186	1.241
85.460	3.838	69.151	0.627	5.2358974025E+002	2.6034963093E+002	-3.6082999622E+001	0.824	1.177	1.229
85.731	3.849	69.327	0.632	5.1343054609E+002	2.5489933571E+002	-3.6408048534E+001	0.815	1.171	1.221
86.190	3.848	69.613	0.621	4.9754303190E+002	2.4635082244E+002	-3.4735134031E+001	0.802	1.162	1.210
86.650	3.844	69.897	0.619	4.8150490034E+002	2.3770900971E+002	-3.6086489653E+001	0.789	1.154	1.198
86.747	3.844	69.957	0.598	4.7796754139E+002	2.3580156732E+002	-3.6141231803E+001	0.786	1.152	1.196
87.207	3.819	70.230	0.598	4.6178548843E+002	2.2707719486E+002	-3.5989690995E+001	0.772	1.144	1.186
87.666	3.799	70.507	0.608	4.4488881124E+002	2.1793970139E+002	-3.9377782392E+001	0.756	1.137	1.177
87.739	3.798	70.554	0.572	4.4197295068E+002	2.1635918872E+002	-3.9252846022E+001	0.753	1.136	1.176
88.199	3.749	70.812	0.547	4.2549378763E+002	2.0742458584E+002	-3.4981808142E+001	0.738	1.131	1.170
88.500	3.705	70.970	0.552	4.1513532419E+002	2.0179191245E+002	-3.7564999496E+001	0.728	1.128	1.166
88.712	3.689	71.096	0.558	4.0668136989E+002	1.9716506173E+002	-3.9007026572E+001	0.721	1.125	1.164
89.172	3.621	71.345	0.551	3.8953696910E+002	1.8774998585E+002	-3.8190237973E+001	0.708	1.122	1.159
89.632	3.560	71.602	0.563	3.7158008000E+002	1.7785766227E+002	-4.0897032850E+001	0.693	1.118	1.156
89.702	3.553	71.643	0.548	3.6868953459E+002	1.7626534213E+002	-4.0804053910E+001	0.690	1.117	1.155
90.161	3.475	71.892	0.541	3.5105509563E+002	1.6654440997E+002	-3.8150308149E+001	0.674	1.115	1.152
90.621	3.395	72.140	0.546	3.3362494488E+002	1.5696494977E+002	-4.1205389422E+001	0.658	1.112	1.149
90.674	3.389	72.172	0.567	3.3140013537E+002	1.5575013658E+002	-4.1274091855E+001	0.656	1.112	1.149
91.134	3.310	72.431	0.573	3.1366719455E+002	1.4609916920E+002	-3.8715987665E+001	0.638	1.109	1.145

91.593	3.241	72.700	0.593	2.9581562010E+002	1.3649168218E+002	-4.1806393777E+001	0.620	1.107	1.142
91.664	3.235	72.746	0.594	2.9283514018E+002	1.3490597671E+002	-4.1577048742E+001	0.617	1.107	1.142
92.124	3.157	73.015	0.605	2.7577575138E+002	1.2593099499E+002	-3.8126589385E+001	0.599	1.105	1.139
92.500	3.109	73.251	0.643	2.6111417487E+002	1.1831173972E+002	-4.0347204640E+001	0.583	1.104	1.136
92.675	3.095	73.369	0.659	2.5393693479E+002	1.1460939537E+002	-4.0502382970E+001	0.571	1.104	1.135
93.135	3.039	73.670	0.652	2.3592041435E+002	1.0539917623E+002	-3.8927623998E+001	0.542	1.105	1.134
93.594	2.981	73.968	0.668	2.1815790101E+002	9.6383947519E+001	-4.2647826011E+001	0.512	1.106	1.133
93.738	2.974	74.072	0.662	2.1186287314E+002	9.3188537576E+001	-4.2674728729E+001	0.501	1.107	1.133
94.197	2.905	74.367	0.627	1.9404837820E+002	8.4195905689E+001	-3.7814811490E+001	0.468	1.112	1.136
94.500	2.849	74.551	0.638	1.8278581019E+002	7.8512970842E+001	-4.0007905002E+001	0.447	1.116	1.138
94.756	2.819	74.723	0.614	1.7195314597E+002	7.3030792167E+001	-4.0569184904E+001	0.429	1.121	1.142
95.215	2.714	74.990	0.566	1.5481117337E+002	6.4342811510E+001	-3.6199194638E+001	0.401	1.132	1.151
95.500	2.638	75.145	0.555	1.4469352475E+002	5.9200203023E+001	-3.6536598505E+001	0.382	1.139	1.157
95.753	2.577	75.289	0.530	1.3520518163E+002	5.4406701796E+001	-3.6264885037E+001	0.366	1.148	1.164
96.213	2.431	75.523	0.502	1.1952227235E+002	4.6541861918E+001	-3.3512515454E+001	0.336	1.165	1.180
96.673	2.277	75.750	0.497	1.0440326517E+002	3.9068026153E+001	-3.3941429501E+001	0.305	1.185	1.198
96.737	2.257	75.783	0.508	1.0220589045E+002	3.7997920553E+001	-3.3821448853E+001	0.300	1.188	1.201
97.197	2.101	76.016	0.506	8.7535105609E+001	3.1077067415E+001	-3.1212698237E+001	0.267	1.214	1.225
97.656	1.945	76.249	0.500	7.3517774666E+001	2.4685836750E+001	-2.6899645542E+001	0.232	1.244	1.254
97.730	1.916	76.283	0.471	7.1565097413E+001	2.3824844767E+001	-2.6226038975E+001	0.227	1.249	1.258
98.190	1.734	76.501	0.479	5.9774723345E+001	1.8828096325E+001	-2.6083129040E+001	0.197	1.283	1.290
98.649	1.557	76.723	0.487	4.7591654928E+001	1.3691681655E+001	-2.5604704376E+001	0.159	1.324	1.328
98.831	1.488	76.813	0.506	4.3003240390E+001	1.1869049311E+001	-2.4853543181E+001	0.144	1.345	1.347
99.291	1.314	77.048	0.509	3.2038252603E+001	7.8117415228E+000	-2.2146885108E+001	0.106	1.398	1.397
99.750	1.138	77.281	0.494	2.2647665892E+001	4.6931388441E+000	-1.7753007076E+001	0.073	1.458	1.449
100.000	1.033	77.398	0.484	1.8578006553E+001	3.4859958611E+000	-1.7373794991E+001	0.058	1.488	1.477
100.068	1.009	77.435	0.490	1.7373569812E+001	3.1474771249E+000	-1.6973255468E+001	0.053	1.494	1.482
100.528	0.814	77.657	0.675	1.1725595711E+001	2.0073595921E+000	-1.4447021616E+001	0.047	1.560	1.548
100.987	0.796	78.056	0.675	4.0950693207E+000	6.3399154972E-001	-1.2757459685E+001	0.047	1.678	1.662

LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
ht(m) : Altezza linea di thrust da nodo sinistro base concio
yt(m) : coordinata Y linea di trust
yt'(-) : gradiente pendenza locale linea di trust
E(x)(kN/m) : Forza Normale interconcio
T(x)(kN/m) : Forza Tangenziale interconcio
E' (kN) : derivata Forza normale interconcio
Rho(x) (-) : fattore mobilizzazione resistenza al taglio verticale interconcio ZhU et al.(2003)
FS_qFEM(x)(-) : fattore di sicurezza locale stimato (locale in X) by qFEM
FS_srmFEM(x)(-) : fattore di sicurezza locale stimato (locale in X) by SRM Procedure

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TABELLA SFORZI DI TAGLIO DISTRIBUITI LUNGO SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	dl (m)	alpha (°)	TauStress (kPa)	TauF (kN/m)	TauStrength (kPa)	TauS (kN/m)
49.079	0.460	0.538	-31.375	-1.100	-0.592	20.485	11.026
49.538	0.460	0.538	-31.375	-3.299	-1.775	22.530	12.127
49.998	0.460	0.538	-31.375	-5.498	-2.959	24.915	13.411
50.457	0.460	0.538	-31.375	-7.697	-4.143	27.621	14.867
50.917	0.083	0.097	-31.375	-8.995	-0.874	29.224	2.839
51.000	0.460	0.538	-31.375	-10.563	-5.686	32.502	17.495
51.460	0.460	0.538	-31.375	-13.302	-7.160	37.911	20.406
51.919	0.460	0.538	-31.375	-16.041	-8.634	44.648	24.032
52.379	0.121	0.142	-31.375	-17.773	-2.526	44.304	6.296
52.500	0.460	0.538	-31.375	-19.861	-10.690	50.998	27.450
52.960	0.103	0.120	-31.375	-21.974	-2.645	55.020	6.624
53.062	0.460	0.530	-29.820	-23.185	-12.281	61.182	32.408
53.522	0.460	0.530	-29.820	-26.382	-13.974	70.246	37.208
53.981	0.460	0.530	-29.820	-29.579	-15.668	79.553	42.139
54.441	0.059	0.068	-29.820	-31.383	-2.133	90.273	6.137
54.500	0.306	0.353	-29.820	-32.987	-11.644	91.853	32.423
54.806	0.460	0.509	-25.493	-32.102	-16.344	104.084	52.992
55.266	0.460	0.509	-25.493	-35.495	-18.072	112.138	57.092
55.725	0.152	0.169	-25.493	-37.755	-6.370	113.192	19.098
55.878	0.460	0.484	-18.427	-29.257	-14.172	118.692	57.493
56.337	0.336	0.354	-18.427	-31.115	-11.009	121.363	42.940
56.673	0.460	0.465	-8.621	-13.004	-6.045	119.712	55.643
57.132	0.368	0.372	-8.621	-13.615	-5.061	121.623	45.213
57.500	0.049	0.049	-8.621	-13.942	-0.688	123.957	6.116
57.549	0.460	0.460	-0.449	5.536	2.544	112.575	51.736
58.008	0.238	0.238	-0.449	5.803	1.379	112.806	26.805

58.246	0.460	0.464	7.910	28.151	13.061	104.968	48.702
58.706	0.378	0.382	7.910	29.417	11.240	107.425	41.045
59.084	0.460	0.473	13.697	46.022	21.769	100.516	47.545
59.544	0.456	0.470	13.697	47.834	22.475	102.873	48.335
60.000	0.055	0.057	13.697	48.760	2.763	103.929	5.888
60.055	0.460	0.481	17.044	57.584	27.679	99.088	47.628
60.515	0.460	0.481	17.044	57.844	27.804	99.146	47.656
60.974	0.412	0.431	17.044	58.090	25.028	99.233	42.755
61.386	0.460	0.482	17.594	59.698	28.781	98.686	47.577
61.846	0.460	0.482	17.594	59.931	28.893	98.891	47.676
62.305	0.195	0.204	17.594	60.097	12.281	99.053	20.241
62.500	0.054	0.056	17.594	60.167	3.386	99.170	5.581
62.554	0.460	0.484	18.258	61.992	30.000	98.618	47.724
63.013	0.460	0.484	18.258	62.299	30.148	98.985	47.901
63.473	0.147	0.155	18.258	62.501	9.657	99.243	15.335
63.619	0.460	0.486	18.963	64.422	31.305	98.670	47.947
64.079	0.460	0.486	18.963	64.692	31.436	99.001	48.108
64.539	0.095	0.101	18.963	64.855	6.545	99.202	10.012
64.634	0.460	0.488	19.713	66.825	32.622	98.494	48.082
65.094	0.460	0.488	19.713	67.052	32.733	98.763	48.213
65.553	0.073	0.077	19.713	67.184	5.199	98.919	7.654
65.626	0.460	0.490	20.385	68.906	33.782	98.263	48.174
66.086	0.460	0.490	20.385	69.093	33.874	98.486	48.284
66.545	0.058	0.062	20.385	69.199	4.318	98.603	6.153
66.604	0.460	0.492	21.052	70.857	34.892	97.919	48.217
67.063	0.460	0.492	21.052	71.002	34.963	98.095	48.304
67.523	0.070	0.075	21.052	71.085	5.329	98.191	7.361
67.593	0.460	0.495	21.693	72.632	35.923	97.509	48.227
68.052	0.460	0.495	21.693	72.733	35.973	97.650	48.296
68.512	0.084	0.090	21.693	72.793	6.570	97.732	8.821
68.596	0.460	0.497	22.297	74.203	36.856	97.077	48.218
69.055	0.445	0.481	22.297	74.259	35.697	97.171	46.710
69.500	0.134	0.145	22.297	74.349	10.782	97.286	14.108
69.634	0.460	0.498	22.542	75.164	37.399	97.296	48.412
70.094	0.460	0.498	22.542	75.570	37.602	97.744	48.635
70.553	0.100	0.108	22.542	75.817	8.175	98.020	10.569
70.653	0.460	0.498	22.794	76.622	38.195	97.978	48.841
71.112	0.460	0.498	22.794	77.012	38.389	98.396	49.049
71.572	0.086	0.093	22.794	77.243	7.220	98.658	9.222
71.658	0.460	0.499	23.048	78.039	38.975	98.573	49.230
72.118	0.460	0.499	23.048	78.412	39.161	98.972	49.429
72.577	0.080	0.087	23.048	78.631	6.861	99.232	8.658
72.658	0.460	0.500	23.303	79.417	39.738	99.138	49.606
73.117	0.460	0.500	23.303	79.773	39.917	99.529	49.802
73.577	0.078	0.085	23.303	79.981	6.824	99.796	8.515
73.655	0.460	0.501	23.559	80.755	40.486	99.682	49.975
74.115	0.460	0.501	23.559	81.094	40.656	100.066	50.168
74.574	0.082	0.089	23.559	81.293	7.252	100.379	8.954
74.656	0.460	0.502	23.810	82.049	41.214	100.250	50.357
75.115	0.460	0.502	23.810	82.369	41.375	100.616	50.541
75.575	0.089	0.097	23.810	82.561	8.037	100.949	9.828
75.664	0.336	0.368	24.057	83.256	30.625	100.800	37.078
76.000	0.460	0.503	24.057	83.187	41.866	100.777	50.718
76.460	0.229	0.251	24.057	82.917	20.829	100.604	25.273
76.689	0.460	0.504	24.295	83.161	41.931	100.030	50.436
77.149	0.460	0.504	24.295	82.779	41.738	99.700	50.270
77.608	0.130	0.143	24.295	82.534	11.800	99.592	14.239
77.738	0.460	0.508	25.149	84.073	42.682	98.227	49.868
78.198	0.460	0.508	25.149	83.611	42.448	97.869	49.686
78.657	0.080	0.089	25.149	83.339	7.389	97.749	8.666
78.738	0.262	0.292	26.052	84.971	24.804	96.349	28.125
79.000	0.460	0.512	26.052	84.994	43.477	96.409	49.316
79.460	0.261	0.290	26.052	85.277	24.773	96.897	28.149
79.721	0.460	0.516	26.978	87.321	45.029	95.982	49.495
80.180	0.460	0.516	26.978	87.605	45.176	96.350	49.685
80.640	0.048	0.053	26.978	87.762	4.679	96.604	5.151
80.687	0.460	0.520	27.884	89.567	46.568	95.535	49.671
81.147	0.460	0.520	27.884	89.772	46.674	95.829	49.824
81.606	0.069	0.078	27.884	89.889	7.054	96.166	7.546
81.676	0.460	0.524	28.785	91.568	48.014	95.126	49.879
82.135	0.460	0.524	28.785	91.689	48.077	95.144	49.889
82.595	0.052	0.060	28.785	91.757	5.469	95.492	5.692
82.647	0.353	0.406	29.668	93.268	37.890	94.219	38.276
83.000	0.460	0.529	29.668	93.129	49.255	94.304	49.876
83.460	0.179	0.205	29.668	92.917	19.090	94.497	19.414

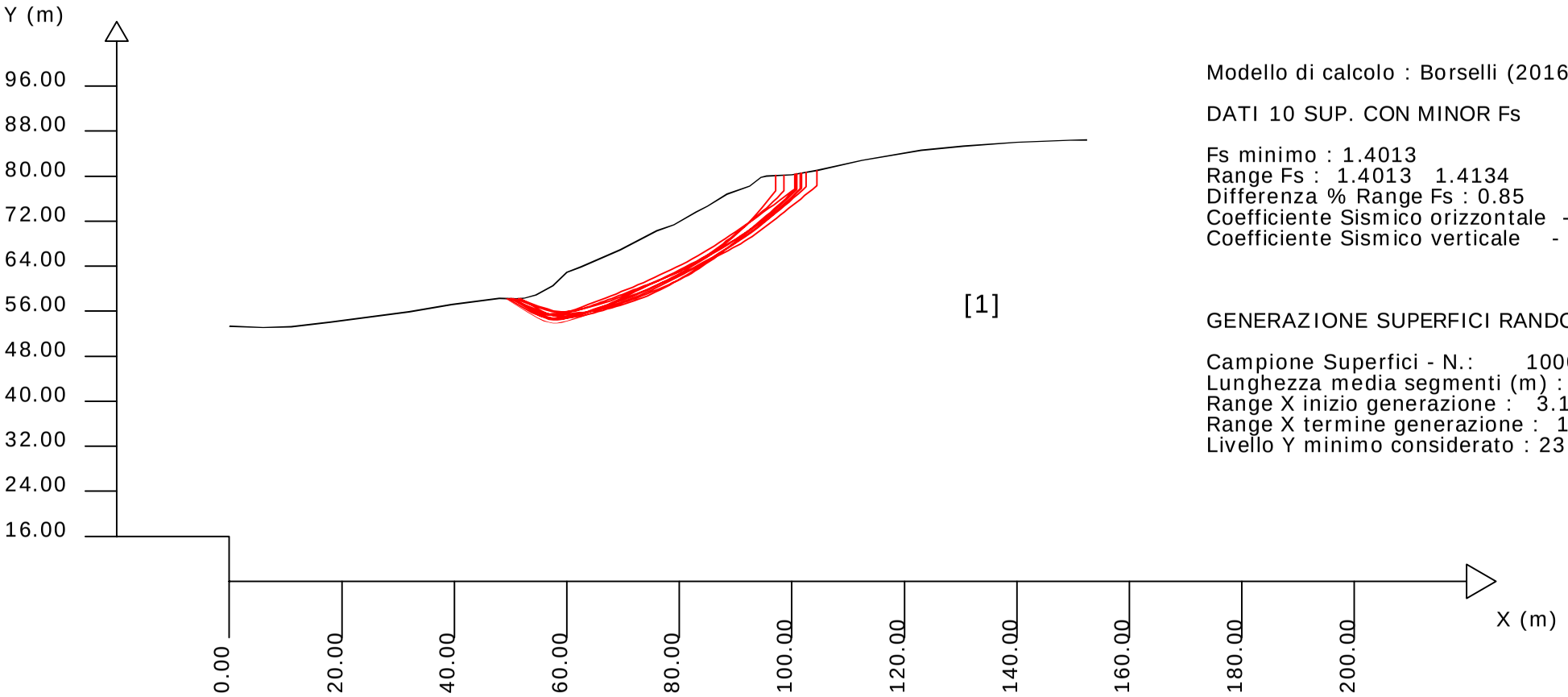
83.638	0.460	0.533	30.498	93.980	50.124	93.417	49.824
84.098	0.460	0.533	30.498	93.585	49.913	93.176	49.695
84.557	0.097	0.113	30.498	93.345	10.536	93.675	10.573
84.654	0.346	0.404	31.250	94.243	38.093	92.344	37.325
85.000	0.460	0.538	31.250	94.085	50.576	92.462	49.703
85.460	0.271	0.317	31.250	94.122	29.833	93.042	29.491
85.731	0.460	0.542	32.052	95.239	51.640	91.683	49.712
86.190	0.460	0.542	32.052	95.198	51.618	91.711	49.727
86.650	0.097	0.115	32.052	95.174	10.931	91.915	10.557
86.747	0.460	0.547	32.907	96.218	52.669	90.661	49.627
87.207	0.460	0.547	32.907	96.080	52.593	90.833	49.721
87.666	0.073	0.087	32.907	96.000	8.379	91.277	7.966
87.739	0.460	0.553	33.782	96.925	53.591	89.490	49.480
88.199	0.301	0.362	33.782	96.725	35.035	89.130	32.284
88.500	0.212	0.256	33.782	96.300	24.615	89.804	22.954
88.712	0.460	0.559	34.642	96.091	53.675	87.611	48.938
89.172	0.460	0.559	34.642	94.477	52.774	86.917	48.550
89.632	0.070	0.085	34.642	93.547	7.982	86.698	7.398
89.702	0.460	0.564	35.481	93.368	52.693	84.597	47.743
90.161	0.460	0.564	35.481	91.637	51.716	83.419	47.078
90.621	0.053	0.066	35.481	90.671	5.957	83.451	5.482
90.674	0.460	0.570	36.301	90.336	51.512	81.313	46.367
91.134	0.460	0.570	36.301	88.487	50.458	80.165	45.713
91.593	0.071	0.088	36.301	87.421	7.650	80.078	7.008
91.664	0.460	0.576	37.073	86.857	50.028	77.509	44.644
92.124	0.376	0.472	37.073	85.073	40.136	76.722	36.197
92.500	0.175	0.219	37.073	84.292	18.495	76.594	16.806
92.675	0.460	0.581	37.778	84.764	49.285	75.451	43.870
93.135	0.460	0.581	37.778	84.788	49.299	75.306	43.785
93.594	0.143	0.181	37.778	84.804	15.387	76.311	13.846
93.738	0.460	0.586	38.371	85.110	49.889	74.628	43.744
94.197	0.303	0.386	38.371	85.063	32.858	74.295	28.698
94.500	0.256	0.326	38.371	84.314	27.484	74.902	24.416
94.756	0.460	0.591	38.991	82.525	48.794	72.089	42.624
95.215	0.285	0.367	38.991	80.319	29.438	70.548	25.857
95.500	0.253	0.326	38.991	78.457	25.579	69.866	22.778
95.753	0.460	0.597	39.620	75.791	45.218	66.937	39.935
96.213	0.460	0.597	39.620	71.998	42.955	64.565	38.520
96.673	0.064	0.084	39.620	69.836	5.844	63.541	5.317
96.737	0.460	0.602	40.241	67.811	40.825	61.178	36.832
97.197	0.460	0.602	40.241	63.918	38.481	58.668	35.321
97.656	0.074	0.097	40.241	61.657	5.993	56.546	5.496
97.730	0.460	0.609	41.036	59.503	36.252	54.369	33.124
98.190	0.460	0.609	41.036	55.480	33.802	52.444	31.952
98.649	0.182	0.241	41.036	52.673	12.691	50.535	12.176
98.831	0.460	0.615	41.660	49.903	30.696	48.137	29.610
99.291	0.460	0.615	41.660	45.778	28.159	45.214	27.812
99.750	0.250	0.334	41.660	42.595	14.238	42.799	14.306
100.000	0.068	0.091	41.660	41.211	3.760	42.165	3.847
100.068	0.460	0.621	42.234	39.176	24.316	39.725	24.656
100.528	0.460	0.621	42.234	35.537	22.057	38.164	23.687
100.987	0.460	0.621	42.234	31.899	19.799	35.692	22.154

LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
dx(m) : Larghezza concio
dl(m) : lunghezza base concio
alpha(°) : Angolo pendenza base concio
TauStress(kPa) : Sforzo di taglio su base concio
TauF (kN/m) : Forza di taglio su base concio
TauStrength(kPa) : Resistenza al taglio su base concio
TauS (kN/m) : Forza resistente al taglio su base concio

SSAP 5.0 (2020) - Slope Stability Analysis Program
Software by Dr.Geol. L.Borselli - www.lorenzo-borselli.eu
SSAP/DXF generator rel. 2.0 (2020)

Data : 26/11/2021
Localita' :
Descrizione :
[n] = N. strato o lente



Modello di calcolo : Borselli (2016)

DATI 10 SUP. CON MINOR Fs

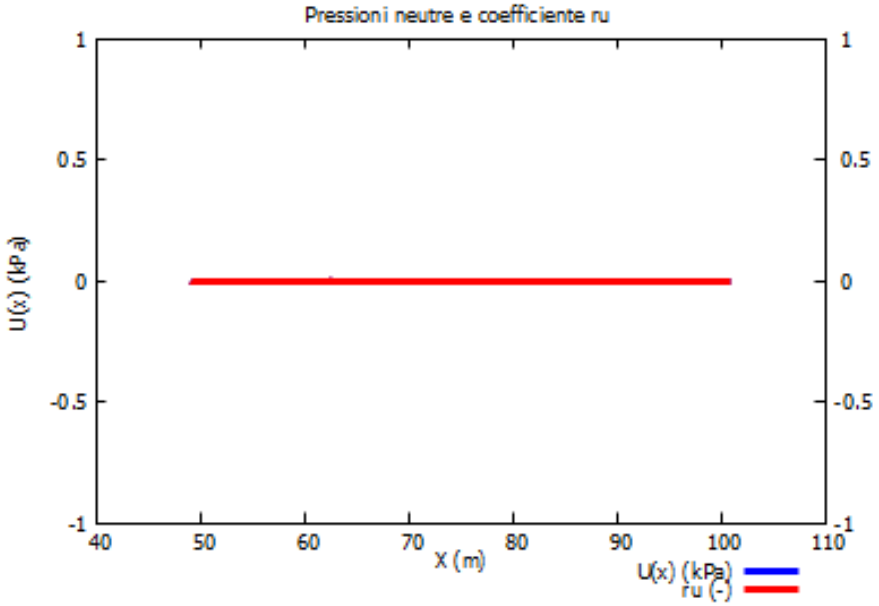
Fs minimo : 1.4013
Range Fs : 1.4013 1.4134
Differenza % Range Fs : 0.85
Coefficiente Sismico orizzontale - Kh: 0.0470
Coefficiente Sismico verticale - Kv: 0.0235

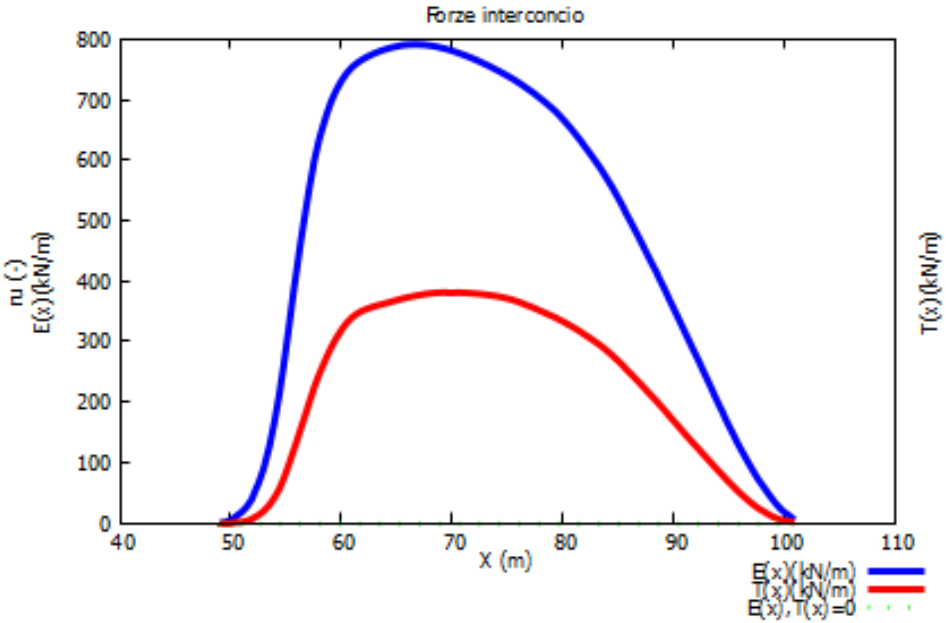
GENERAZIONE SUPERFICI RANDOM

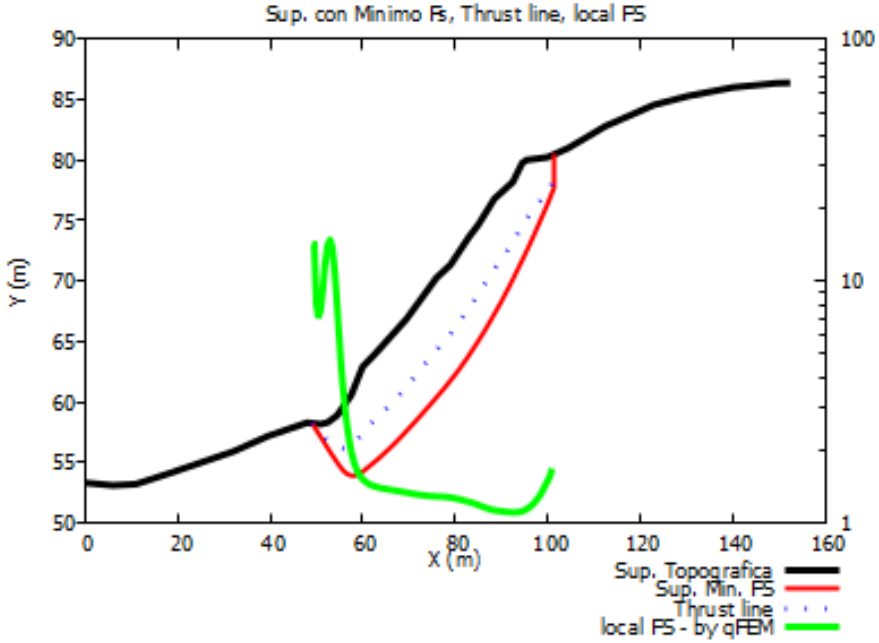
Campione Superfici - N.: 10000
Lunghezza media segmenti (m) : 6.1
Range X inizio generazione : 3.1 - 140.3
Range X termine generazione : 18.3 - 149.5
Livello Y minimo considerato : 23.1

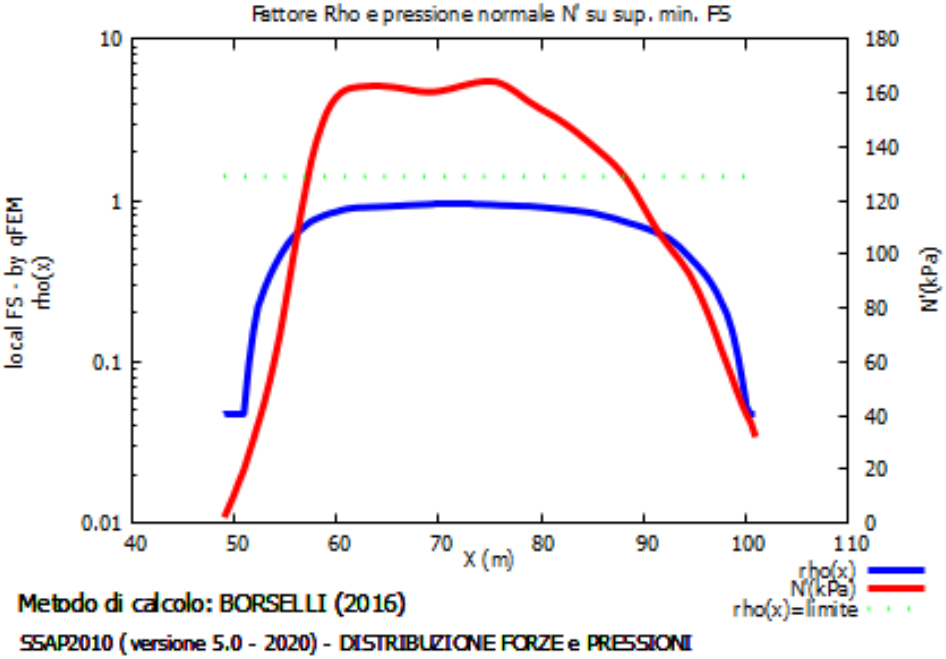
Parametri Geotecnici degli strati # ----------

N.	phi`	C`	Cu	Gamm	GammSat	sgci	GSI	mi	D
..	deg	kPa	kPa	kN/m3	kN/m3	MPa	..	..	..
1	26.00	19.50	0	20.00	22.00	0	0	0	0





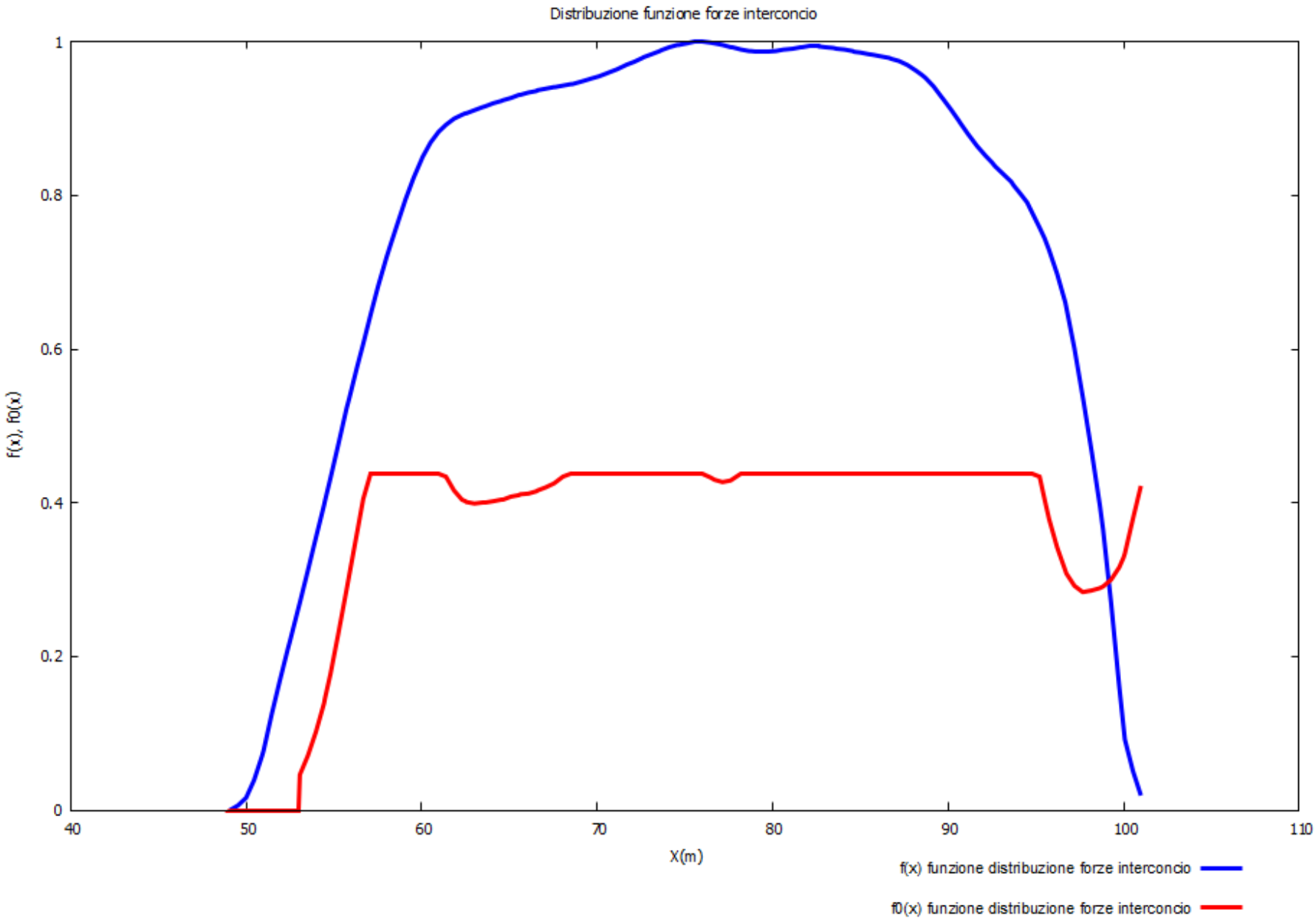


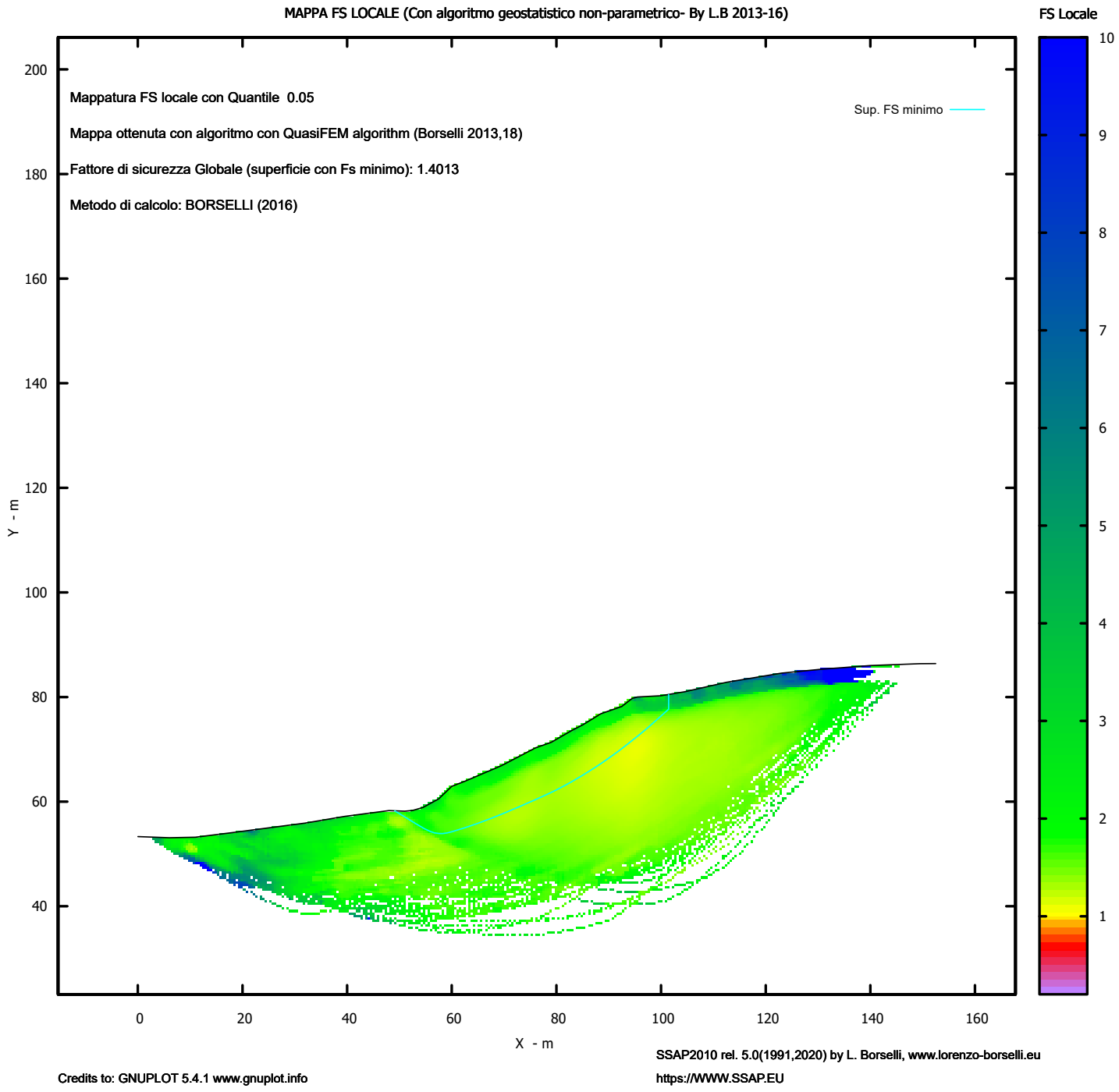


Metodo di calcolo: BORSELLI (2016)

SSAP2010 (versione 5.0 - 2020) - DISTRIBUZIONE FORZE e PRESSIONI

26/11/21 12:33





Credits to: GNUPLOT 5.4.1 www.gnuplot.info

SSAP2010 rel. 5.0(1991,2020) by L. Borselli, www.lorenzo-borselli.eu

https://WWW.SSAP.EU

SEZIONE DI VERIFICA N. 1

CALCOLO IN CONDIZIONI NON DRENATE

Report elaborazioni

SSAP 5.0 - Slope Stability Analysis Program (1991,2020)
WWW.SSAP.EU
Build No. 11719
BY
Dr. Geol. LORENZO BORSELLI *,**
*UASLP, San Luis Potosi, Mexico
e-mail: lborselli@gmail.com
CV e WEB page personale: WWW.LORENZO-BORSELLI.EU
** Gia' Ricercatore CNR-IRPI fino a Luglio 2011

Ultima Revisione struttura tabelle del report: 12 settembre 2020

File report: C:\SSAP\POMARICO\VERIFICA 1\NON DRENATA\MORG\MORG.txt
Data: 26/11/2021
Localita' :
Descrizione:
Modello pendio: NON DRENATA.mod

---------- PARAMETRI DEL MODELLO DEL PENDIO ----------

__ PARAMETRI GEOMETRICI - Coordinate X Y (in m) __

SUP T.		SUP 2		SUP 3		SUP 4	
X	Y	X	Y	X	Y	X	Y
0.00	53.31	-	-	-	-	-	-
6.00	53.10	-	-	-	-	-	-
11.00	53.20	-	-	-	-	-	-
18.00	54.07	-	-	-	-	-	-
32.00	55.90	-	-	-	-	-	-
39.50	57.17	-	-	-	-	-	-
48.00	58.28	-	-	-	-	-	-
51.00	58.16	-	-	-	-	-	-
52.50	58.31	-	-	-	-	-	-
54.50	58.88	-	-	-	-	-	-
57.50	60.54	-	-	-	-	-	-
60.00	62.91	-	-	-	-	-	-
62.50	63.89	-	-	-	-	-	-
69.50	66.87	-	-	-	-	-	-
76.00	70.28	-	-	-	-	-	-
79.00	71.34	-	-	-	-	-	-
83.00	73.65	-	-	-	-	-	-
85.00	74.65	-	-	-	-	-	-
88.50	76.81	-	-	-	-	-	-
92.50	78.20	-	-	-	-	-	-
94.50	79.76	-	-	-	-	-	-
95.50	80.01	-	-	-	-	-	-
100.00	80.24	-	-	-	-	-	-
104.50	81.00	-	-	-	-	-	-
112.50	82.81	-	-	-	-	-	-
123.00	84.57	-	-	-	-	-	-
130.50	85.31	-	-	-	-	-	-
140.00	86.01	-	-	-	-	-	-
149.50	86.37	-	-	-	-	-	-
152.51	86.40	-	-	-	-	-	-

ASSENZA DI FALDA

------- PARAMETRI GEOMECCANICI -------

	fi`	C`	Cu	Gamm	Gamm_sat	STR_IDX	sgci	GSI	mi	D
STRATO 1	0.00	0.00	100.00	20.00	22.00	19.086	0.00	0.00	0.00	0.00

LEGENDA: fi`_____ Angolo di attrito interno efficace(in gradi)
C` _____ Coesione efficace (in Kpa)
Cu _____ Resistenza al taglio Non drenata (in Kpa)
Gamm _____ Peso di volume terreno fuori falda (in KN/m^3)
Gamm_sat __ Peso di volume terreno immerso (in KN/m^3)
STR_IDX ___ Indice di resistenza (usato in solo in 'SNIFF SEARCH) (adimensionale)
---- SOLO Per AMMASSI ROCCIOSI FRATTURATI - Parametri Criterio di Rottura di Hoek (2002)-
sigci _____ Resistenza Compressione Uniassiale Roccia Intatta (in MPa)

GSI _____ Geological Strenght Index ammasso(adimensionale)
mi _____ Indice litologico ammasso(adimensionale)
D _____ Fattore di disturbo ammasso(adimensionale)
Fattore di riduzione NTC2018: gammaPHI=1.25 e gammaC=1.25 - DISATTIVATO (solo per ROCCE)
Uso CRITERIO DI ROTTURA Hoek et al.(2002,2006) - non-lineare - Generalizzato, secondo Lei et al.(2016)

---------- INFORMAZIONI GENERAZIONE SUPERFICI RANDOM ----------
*** PARAMETRI PER LA GENERAZIONE DELLE SUPERFICI
METODO DI RICERCA: CONVEX RANDOM - Chen (1992)
FILTRAGGIO SUPERFICI : ATTIVATO
COORDINATE X1,X2,Y OSTACOLO : 0.00 0.00 0.00
LUNGHEZZA MEDIA SEGMENTI (m): 6.1 (+/-) 50%
INTERVALLO ASCISSE RANDOM STARTING POINT (Xmin .. Xmax): 3.05 140.31
LIVELLO MINIMO CONSIDERATO (Ymin): 58.00
INTERVALLO ASCISSE AMMESSO PER LA TERMINAZIONE (Xmin .. Xmax): 18.30 149.46

*** TOTALE SUPERFICI GENERATE : 10000

---------- INFORMAZIONI PARAMETRI DI CALCOLO ----------
METODO DI CALCOLO : MORGENSTERN - PRICE (Morgenstern & Price, 1965)
METODO DI ESPLORAZIONE CAMPO VALORI (lambda0,Fs0) ADOTTATO : A (rapido)
COEFFICIENTE SISMICO UTILIZZATO Kh : 0.0470
COEFFICIENTE SISMICO UTILIZZATO Kv (assunto Positivo): 0.0235
COEFFICIENTE c=Kv/Kh UTILIZZATO : 0.5000
FORZA ORIZZONTALE ADDIZIONALE IN TESTA (kN/m): 0.00
FORZA ORIZZONTALE ADDIZIONALE ALLA BASE (kN/m): 0.00

N.B. Le forze orizzontali addizionali in testa e alla base sono poste uguali a 0
durante le tutte le verifiche globali.
I valori >0 impostati dall'utente sono utilizzati solo in caso di verifica singola

---------- RISULTATO FINALE ELABORAZIONI ----------
---
* DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *

Fattore di sicurezza (FS) 1.4104 - Min. - X Y Lambda= 0.3144
55.37 59.36
62.78 58.99
66.58 58.82
69.26 58.72
71.66 58.65
73.82 58.61
75.97 58.59
78.16 58.59
80.40 58.60
82.74 58.63
84.91 58.70
87.01 58.83
89.05 59.00
91.17 59.24
93.23 59.52
95.37 59.87
97.60 60.28
100.07 60.80
102.28 61.32
104.40 61.88
106.43 62.48
108.54 63.18
110.59 63.93
112.73 64.78
115.01 65.76
117.57 66.92
119.77 68.02
121.85 69.18
123.80 70.39
125.89 71.82
128.09 73.50
130.67 75.64
131.99 76.81
131.99 85.42

Fattore di sicurezza (FS) 1.4196 - N.2 -- X Y Lambda= 0.2631
59.59 62.53

63.35	60.45
65.10	59.54
66.26	59.01
67.20	58.66
68.14	58.40
68.97	58.23
69.88	58.13
70.84	58.08
72.03	58.08
73.14	58.09
74.19	58.09
75.23	58.09
76.24	58.09
77.25	58.10
78.26	58.10
79.27	58.10
80.27	58.10
81.28	58.10
82.29	58.11
83.30	58.11
84.31	58.11
85.32	58.11
86.33	58.12
87.35	58.12
88.35	58.12
89.36	58.12
90.37	58.13
91.37	58.14
92.38	58.15
93.38	58.17
94.39	58.19
95.41	58.21
96.43	58.23
97.44	58.25
98.44	58.28
99.44	58.32
100.45	58.36
101.46	58.40
102.50	58.45
103.56	58.50
104.69	58.56
105.67	58.65
106.62	58.77
107.53	58.93
108.50	59.14
109.41	59.39
110.38	59.68
111.40	60.04
112.57	60.49
113.62	60.92
114.62	61.35
115.59	61.80
116.58	62.28
117.53	62.78
118.51	63.31
119.50	63.88
120.56	64.52
121.61	65.14
122.63	65.75
123.65	66.36
124.66	66.97
125.68	67.58
126.71	68.19
127.75	68.81
128.81	69.45
129.81	70.07
130.78	70.72
131.73	71.38
132.72	72.10
133.67	72.84
134.66	73.63
135.66	74.47
136.74	75.40
137.78	76.31
138.45	76.92

138.45 85.90

Fattore di sicurezza (FS) 1.4218 - N.3 -- X Y Lambda= 0.3143

55.22 59.28
62.89 58.94
66.78 58.79
69.52 58.72
71.95 58.69
74.16 58.70
76.33 58.73
78.55 58.79
80.81 58.88
83.19 59.01
85.44 59.15
87.63 59.33
89.79 59.54
91.98 59.79
94.15 60.07
96.38 60.40
98.70 60.78
101.20 61.22
103.44 61.68
105.58 62.19
107.63 62.76
109.79 63.45
111.87 64.18
114.05 65.04
116.36 66.03
119.00 67.23
121.28 68.37
123.43 69.55
125.46 70.78
127.62 72.21
129.89 73.88
132.55 75.99
133.22 76.56
133.22 85.51

Fattore di sicurezza (FS) 1.4252 - N.4 -- X Y Lambda= 0.3252

54.65 58.96
61.92 58.67
65.61 58.55
68.21 58.49
70.51 58.48
72.60 58.50
74.66 58.55
76.76 58.62
78.90 58.73
81.14 58.86
83.28 59.02
85.37 59.20
87.43 59.40
89.51 59.63
91.59 59.89
93.71 60.19
95.90 60.52
98.25 60.90
100.36 61.31
102.39 61.76
104.35 62.26
106.41 62.86
108.40 63.52
110.49 64.28
112.73 65.16
115.30 66.24
117.43 67.25
119.42 68.34
121.27 69.49
123.29 70.92
125.37 72.60
127.85 74.81
129.79 76.67
129.79 85.24

Fattore di sicurezza (FS) 1.4295 - N.5 -- X Y Lambda= 0.3445

55.30	59.32
62.34	58.87
65.95	58.65
68.50	58.52
70.78	58.42
72.82	58.36
74.88	58.31
76.99	58.28
79.18	58.26
81.53	58.27
83.56	58.34
85.49	58.50
87.32	58.74
89.29	59.10
91.13	59.53
93.10	60.09
95.19	60.78
97.62	61.67
99.79	62.51
101.84	63.38
103.80	64.26
105.82	65.24
107.76	66.25
109.76	67.35
111.82	68.55
114.05	69.90
116.18	71.22
118.25	72.52
120.30	73.83
122.34	75.17
122.97	75.59
122.97	84.57

Fattore di sicurezza (FS) 1.4313 - N.6 -- X Y Lambda= 0.3006

57.39	60.48
65.22	59.78
69.18	59.45
71.96	59.26
74.43	59.13
76.67	59.05
78.89	59.00
81.16	58.98
83.51	59.00
86.01	59.04
88.29	59.14
90.49	59.29
92.61	59.51
94.82	59.79
96.95	60.13
99.17	60.55
101.49	61.06
104.07	61.68
106.40	62.30
108.62	62.95
110.76	63.65
112.98	64.44
115.12	65.27
117.35	66.20
119.68	67.25
122.27	68.47
124.59	69.64
126.80	70.84
128.92	72.08
131.13	73.46
133.50	75.08
136.24	77.05
136.24	85.73

Fattore di sicurezza (FS) 1.4474 - N.7 -- X Y Lambda= 0.3047

59.28	62.23

63.01 60.36
64.75 59.54
65.89 59.08
66.82 58.77
67.75 58.56
68.57 58.44
69.47 58.38
70.44 58.37
71.61 58.43
72.72 58.48
73.76 58.54
74.78 58.59
75.78 58.65
76.78 58.70
77.78 58.76
78.79 58.82
79.80 58.88
80.80 58.95
81.80 59.02
82.79 59.10
83.78 59.18
84.77 59.27
85.77 59.36
86.79 59.47
87.83 59.57
88.83 59.69
89.82 59.82
90.79 59.95
91.78 60.10
92.75 60.26
93.74 60.44
94.75 60.63
95.80 60.83
96.81 61.04
97.81 61.26
98.79 61.48
99.78 61.71
100.76 61.95
101.75 62.20
102.74 62.46
103.76 62.74
104.77 63.02
105.78 63.29
106.79 63.56
107.78 63.83
108.81 64.11
109.85 64.39
110.93 64.69
112.06 64.99
113.02 65.30
113.94 65.65
114.80 66.05
115.75 66.54
116.63 67.06
117.56 67.68
118.55 68.39
119.68 69.27
120.75 70.10
121.78 70.92
122.79 71.72
123.78 72.52
124.78 73.33
125.77 74.15
126.78 74.99
127.79 75.84
128.41 76.36
128.41 85.10

Fattore di sicurezza (FS) 1.4490 - N.8 -- X Y Lambda= 0.3343
56.72 60.11
64.51 59.40
68.36 59.11
71.02 58.97
73.34 58.92

75.50 58.95
77.57 59.03
79.72 59.18
81.95 59.40
84.40 59.69
86.68 59.99
88.88 60.32
91.03 60.67
93.21 61.07
95.37 61.50
97.58 61.97
99.88 62.50
102.36 63.11
104.58 63.71
106.70 64.38
108.74 65.09
110.89 65.92
112.93 66.80
115.06 67.79
117.27 68.91
119.73 70.22
122.03 71.48
124.25 72.74
126.43 74.01
128.61 75.32
130.50 76.50
130.50 85.31

Fattore di sicurezza (FS) 1.4536 - N.9 -- X Y Lambda= 0.3104
58.03 61.04
65.71 59.95
69.51 59.46
72.14 59.19
74.42 59.02
76.55 58.95
78.61 58.93
80.74 58.97
82.96 59.08
85.42 59.25
87.66 59.45
89.81 59.69
91.88 59.98
94.02 60.32
96.11 60.72
98.27 61.18
100.56 61.72
103.09 62.37
105.29 63.01
107.38 63.71
109.36 64.48
111.46 65.39
113.43 66.35
115.50 67.44
117.65 68.68
120.05 70.15
122.35 71.58
124.59 72.97
126.79 74.35
128.97 75.71
130.29 76.55
130.29 85.29

Fattore di sicurezza (FS) 1.4544 - N.10 -- X Y Lambda= 0.3197
56.43 59.95
63.60 59.46
67.28 59.23
69.88 59.08
72.20 58.97
74.28 58.90
76.37 58.84
78.49 58.79
80.69 58.77
82.99 58.75

85.08	58.80
87.09	58.91
89.03	59.07
91.07	59.32
93.03	59.62
95.10	60.01
97.30	60.49
99.82	61.10
101.96	61.71
103.96	62.38
105.84	63.11
107.85	64.01
109.73	64.95
111.71	66.06
113.78	67.33
116.14	68.87
118.37	70.34
120.52	71.78
122.62	73.21
124.71	74.65
126.63	76.00
126.63	84.93

---------- ANALISI DEFICIT DI RESISTENZA ----------
DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *
Analisi Deficit in riferimento a FS(progetto) = 1.100

Sup N.	FS	FTR(kN/m)	FTA(kN/m)	Bilancio(kN/m)	ESITO
1	1.410	8499.9	6026.7	1870.6	Surplus
2	1.420	9140.3	6438.8	2057.6	Surplus
3	1.422	8564.7	6023.9	1938.4	Surplus
4	1.425	8334.5	5847.9	1901.8	Surplus
5	1.430	7607.2	5321.6	1753.5	Surplus
6	1.431	8671.9	6058.7	2007.4	Surplus
7	1.447	7852.5	5425.4	1884.6	Surplus
8	1.449	8036.9	5546.7	1935.6	Surplus
9	1.454	8029.3	5523.5	1953.4	Surplus
10	1.454	7906.2	5436.1	1926.5	Surplus

Esito analisi: SURPLUS di RESISTENZA!

Valore minimo di SURPLUS di RESISTENZA (kN/m): 1753.5

Note: FTR --> Forza totale Resistente lungo la superficie
di scivolamento
FTA --> Forza totale Agente lungo la superficie
di scivolamento

IMPORTANTE! : Il Deficit o il Surplus di resistenza viene espresso in kN
per metro di LARGHEZZA rispetto al fronte della scarpata

TABELLA PARAMETRI CONCI DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	alpha (°)	W (kN/m)	ru (-)	U (kPa)	phi' (°)	(c',Cu) (kPa)
55.368	0.661	-2.84	2.69	0.00	0.00	0.00	100.00
56.029	0.661	-2.84	8.08	0.00	0.00	0.00	100.00
56.690	0.661	-2.84	13.47	0.00	0.00	0.00	100.00
57.350	0.150	-2.84	3.79	0.00	0.00	0.00	100.00
57.500	0.661	-2.84	21.84	0.00	0.00	0.00	100.00
58.161	0.661	-2.84	30.75	0.00	0.00	0.00	100.00
58.821	0.661	-2.84	39.66	0.00	0.00	0.00	100.00
59.482	0.518	-2.84	37.33	0.00	0.00	0.00	100.00
60.000	0.661	-2.84	53.08	0.00	0.00	0.00	100.00
60.661	0.661	-2.84	57.03	0.00	0.00	0.00	100.00
61.321	0.661	-2.84	60.97	0.00	0.00	0.00	100.00
61.982	0.518	-2.84	50.55	0.00	0.00	0.00	100.00
62.500	0.279	-2.84	28.29	0.00	0.00	0.00	100.00
62.779	0.661	-2.59	69.94	0.00	0.00	0.00	100.00
63.440	0.661	-2.59	74.14	0.00	0.00	0.00	100.00
64.101	0.661	-2.59	78.35	0.00	0.00	0.00	100.00
64.761	0.661	-2.59	82.56	0.00	0.00	0.00	100.00

65.422	0.661	-2.59	86.77	0.00	0.00	0.00	100.00
66.083	0.495	-2.59	67.73	0.00	0.00	0.00	100.00
66.577	0.661	-2.13	94.09	0.00	0.00	0.00	100.00
67.238	0.661	-2.13	98.23	0.00	0.00	0.00	100.00
67.899	0.661	-2.13	102.37	0.00	0.00	0.00	100.00
68.560	0.661	-2.13	106.50	0.00	0.00	0.00	100.00
69.220	0.044	-2.13	7.21	0.00	0.00	0.00	100.00
69.264	0.236	-1.65	39.13	0.00	0.00	0.00	100.00
69.500	0.661	-1.65	112.77	0.00	0.00	0.00	100.00
70.161	0.661	-1.65	117.71	0.00	0.00	0.00	100.00
70.821	0.661	-1.65	122.66	0.00	0.00	0.00	100.00
71.482	0.181	-1.65	34.54	0.00	0.00	0.00	100.00
71.663	0.661	-1.05	128.92	0.00	0.00	0.00	100.00
72.324	0.661	-1.05	133.77	0.00	0.00	0.00	100.00
72.985	0.661	-1.05	138.62	0.00	0.00	0.00	100.00
73.646	0.172	-1.05	36.97	0.00	0.00	0.00	100.00
73.818	0.661	-0.58	144.70	0.00	0.00	0.00	100.00
74.479	0.661	-0.58	149.48	0.00	0.00	0.00	100.00
75.139	0.661	-0.58	154.26	0.00	0.00	0.00	100.00
75.800	0.171	-0.58	40.74	0.00	0.00	0.00	100.00
75.971	0.029	-0.12	6.89	0.00	0.00	0.00	100.00
76.000	0.661	-0.12	159.68	0.00	0.00	0.00	100.00
76.661	0.661	-0.12	162.85	0.00	0.00	0.00	100.00
77.321	0.661	-0.12	166.03	0.00	0.00	0.00	100.00
77.982	0.175	-0.12	44.38	0.00	0.00	0.00	100.00
78.157	0.661	0.32	170.01	0.00	0.00	0.00	100.00
78.817	0.183	0.32	47.57	0.00	0.00	0.00	100.00
79.000	0.661	0.32	174.98	0.00	0.00	0.00	100.00
79.661	0.661	0.32	180.09	0.00	0.00	0.00	100.00
80.321	0.078	0.32	21.52	0.00	0.00	0.00	100.00
80.399	0.661	0.74	185.77	0.00	0.00	0.00	100.00
81.060	0.661	0.74	190.81	0.00	0.00	0.00	100.00
81.721	0.661	0.74	195.85	0.00	0.00	0.00	100.00
82.381	0.362	0.74	109.49	0.00	0.00	0.00	100.00
82.743	0.257	1.98	78.51	0.00	0.00	0.00	100.00
83.000	0.661	1.98	205.11	0.00	0.00	0.00	100.00
83.661	0.661	1.98	209.26	0.00	0.00	0.00	100.00
84.321	0.585	1.98	188.76	0.00	0.00	0.00	100.00
84.906	0.094	3.37	30.51	0.00	0.00	0.00	100.00
85.000	0.661	3.37	218.08	0.00	0.00	0.00	100.00
85.661	0.661	3.37	223.07	0.00	0.00	0.00	100.00
86.321	0.661	3.37	228.06	0.00	0.00	0.00	100.00
86.982	0.028	3.37	9.71	0.00	0.00	0.00	100.00
87.010	0.661	4.85	233.14	0.00	0.00	0.00	100.00
87.671	0.661	4.85	237.90	0.00	0.00	0.00	100.00
88.331	0.169	4.85	61.51	0.00	0.00	0.00	100.00
88.500	0.552	4.85	202.65	0.00	0.00	0.00	100.00
89.052	0.661	6.31	244.51	0.00	0.00	0.00	100.00
89.713	0.661	6.31	246.62	0.00	0.00	0.00	100.00
90.374	0.661	6.31	248.74	0.00	0.00	0.00	100.00
91.034	0.140	6.31	53.09	0.00	0.00	0.00	100.00
91.175	0.661	7.80	251.19	0.00	0.00	0.00	100.00
91.835	0.661	7.80	253.07	0.00	0.00	0.00	100.00
92.496	0.004	7.80	1.55	0.00	0.00	0.00	100.00
92.500	0.661	7.80	256.90	0.00	0.00	0.00	100.00
93.161	0.073	7.80	28.56	0.00	0.00	0.00	100.00
93.233	0.661	9.26	263.16	0.00	0.00	0.00	100.00
93.894	0.606	9.26	246.25	0.00	0.00	0.00	100.00
94.500	0.661	9.26	271.36	0.00	0.00	0.00	100.00
95.161	0.209	9.26	86.12	0.00	0.00	0.00	100.00
95.370	0.130	10.61	53.54	0.00	0.00	0.00	100.00
95.500	0.661	10.61	271.50	0.00	0.00	0.00	100.00
96.161	0.661	10.61	270.28	0.00	0.00	0.00	100.00
96.821	0.661	10.61	269.06	0.00	0.00	0.00	100.00
97.482	0.120	10.61	48.89	0.00	0.00	0.00	100.00
97.602	0.661	11.76	267.53	0.00	0.00	0.00	100.00
98.263	0.661	11.76	266.13	0.00	0.00	0.00	100.00
98.924	0.661	11.76	264.72	0.00	0.00	0.00	100.00
99.585	0.415	11.76	165.75	0.00	0.00	0.00	100.00
100.000	0.068	11.76	27.16	0.00	0.00	0.00	100.00
100.068	0.661	13.19	262.81	0.00	0.00	0.00	100.00
100.729	0.661	13.19	262.23	0.00	0.00	0.00	100.00
101.390	0.661	13.19	261.64	0.00	0.00	0.00	100.00
102.050	0.228	13.19	90.29	0.00	0.00	0.00	100.00
102.279	0.661	14.83	260.72	0.00	0.00	0.00	100.00

102.939	0.661	14.83	259.86	0.00	0.00	0.00	100.00
103.600	0.661	14.83	259.00	0.00	0.00	0.00	100.00
104.261	0.134	14.83	52.57	0.00	0.00	0.00	100.00
104.395	0.105	16.59	41.03	0.00	0.00	0.00	100.00
104.500	0.661	16.59	257.90	0.00	0.00	0.00	100.00
105.161	0.661	16.59	257.26	0.00	0.00	0.00	100.00
105.821	0.605	16.59	234.84	0.00	0.00	0.00	100.00
106.426	0.661	18.33	255.88	0.00	0.00	0.00	100.00
107.087	0.661	18.33	254.94	0.00	0.00	0.00	100.00
107.747	0.661	18.33	254.00	0.00	0.00	0.00	100.00
108.408	0.133	18.33	51.11	0.00	0.00	0.00	100.00
108.541	0.661	20.05	252.73	0.00	0.00	0.00	100.00
109.202	0.661	20.05	251.49	0.00	0.00	0.00	100.00
109.863	0.661	20.05	250.25	0.00	0.00	0.00	100.00
110.523	0.065	20.05	24.69	0.00	0.00	0.00	100.00
110.589	0.661	21.71	248.74	0.00	0.00	0.00	100.00
111.249	0.661	21.71	247.20	0.00	0.00	0.00	100.00
111.910	0.590	21.71	219.42	0.00	0.00	0.00	100.00
112.500	0.233	21.71	86.44	0.00	0.00	0.00	100.00
112.733	0.661	23.20	243.16	0.00	0.00	0.00	100.00
113.394	0.661	23.20	240.83	0.00	0.00	0.00	100.00
114.055	0.661	23.20	238.50	0.00	0.00	0.00	100.00
114.715	0.290	23.20	104.10	0.00	0.00	0.00	100.00
115.006	0.661	24.43	235.03	0.00	0.00	0.00	100.00
115.667	0.661	24.43	232.47	0.00	0.00	0.00	100.00
116.327	0.661	24.43	229.91	0.00	0.00	0.00	100.00
116.988	0.584	24.43	201.25	0.00	0.00	0.00	100.00
117.572	0.661	26.55	224.88	0.00	0.00	0.00	100.00
118.233	0.661	26.55	221.91	0.00	0.00	0.00	100.00
118.894	0.661	26.55	218.94	0.00	0.00	0.00	100.00
119.555	0.216	26.55	70.82	0.00	0.00	0.00	100.00
119.770	0.661	29.09	214.76	0.00	0.00	0.00	100.00
120.431	0.661	29.09	211.28	0.00	0.00	0.00	100.00
121.092	0.661	29.09	207.81	0.00	0.00	0.00	100.00
121.752	0.095	29.09	29.49	0.00	0.00	0.00	100.00
121.847	0.661	31.80	203.55	0.00	0.00	0.00	100.00
122.508	0.492	31.80	149.07	0.00	0.00	0.00	100.00
123.000	0.661	31.80	196.19	0.00	0.00	0.00	100.00
123.661	0.141	31.80	41.15	0.00	0.00	0.00	100.00
123.801	0.661	34.36	190.26	0.00	0.00	0.00	100.00
124.462	0.661	34.36	185.03	0.00	0.00	0.00	100.00
125.123	0.661	34.36	179.80	0.00	0.00	0.00	100.00
125.783	0.111	34.36	29.80	0.00	0.00	0.00	100.00
125.895	0.661	37.41	173.33	0.00	0.00	0.00	100.00
126.555	0.661	37.41	167.38	0.00	0.00	0.00	100.00
127.216	0.661	37.41	161.43	0.00	0.00	0.00	100.00
127.877	0.213	37.41	50.77	0.00	0.00	0.00	100.00
128.090	0.661	39.70	153.27	0.00	0.00	0.00	100.00
128.751	0.661	39.70	146.73	0.00	0.00	0.00	100.00
129.411	0.661	39.70	140.20	0.00	0.00	0.00	100.00
130.072	0.428	39.70	87.35	0.00	0.00	0.00	100.00
130.500	0.166	39.70	33.11	0.00	0.00	0.00	100.00
130.666	0.661	41.54	127.37	0.00	0.00	0.00	100.00
131.327	0.661	41.54	120.11	0.00	0.00	0.00	100.00

LEGENDA SIMBOLI
X(m) : Ascissa sinistra concio
dx(m) : Larghezza concio
alpha(°) : Angolo pendenza base concio
W(kN/m) : Forza peso concio
ru(-) : Coefficiente locale pressione interstiziale
U(kPa) : Pressione totale dei pori base concio
phi'(°) : Angolo di attrito efficace base concio
c'/Cu (kPa) : Coesione efficace o Resistenza al taglio in condizioni non drenate
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TABELLA DIAGRAMMA DELLE FORZE DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X	ht	yt	yt'	E(x)	T(x)	E'	rho(x)	FS_qFEM	FS_srmFEM	
(m)	(m)	(m)	(--)	(kN/m)	(kN/m)	(kN)	(--)	(--)	(--)	
55.368	0.000	59.361	0.114	0.0000000000E+000	0.0000000000E+000	6.3732707437E+002	0.047	50.000	5.018	
56.029	0.100	59.428	0.114	2.9953761452E+002	5.2141644259E-001	2.6941113833E+002	0.047	50.000	5.018	
56.690	0.216	59.511	0.125	3.5599589196E+002	2.5513681801E+000	7.2989938478E+001	0.047	36.031	2.236	

57.350	0.330	59.593	0.129	3.9598543925E+002	5.1816896628E+000	5.7536335255E+001	0.061	23.844	1.646
57.500	0.360	59.615	0.185	4.0448626469E+002	5.9942814459E+000	5.8808302634E+001	0.066	22.539	1.570
58.161	0.521	59.743	0.189	4.4902998700E+002	1.1077867209E+001	6.7800373048E+001	0.080	19.117	1.315
58.821	0.675	59.865	0.183	4.9407667445E+002	1.7008137024E+001	7.3381335763E+001	0.092	18.597	1.186
59.482	0.828	59.985	0.169	5.4599499832E+002	2.4568191853E+001	7.5585980407E+001	0.106	20.240	1.113
60.000	0.932	60.064	0.149	5.8392639773E+002	3.0329499113E+001	7.2291194051E+001	0.113	21.870	1.085
60.661	1.062	60.161	0.144	6.3089097178E+002	3.7270722113E+001	7.1573464794E+001	0.129	22.977	1.040
61.321	1.189	60.254	0.139	6.7850251510E+002	4.4698102142E+001	7.2839080280E+001	0.145	24.345	1.018
61.982	1.312	60.345	0.128	7.2713945472E+002	5.2688726617E+001	7.0299872991E+001	0.160	25.369	1.013
62.500	1.398	60.405	0.116	7.6220333356E+002	5.8726630141E+001	6.9121510700E+001	0.170	25.049	1.024
62.779	1.444	60.437	0.112	7.8172015912E+002	6.2187529879E+001	6.9294104306E+001	0.175	24.311	1.032
63.440	1.547	60.510	0.110	8.2657485606E+002	7.0378614477E+001	6.8783266083E+001	0.186	21.327	1.060
64.101	1.650	60.583	0.114	8.7260934919E+002	7.9135594570E+001	7.1139453495E+001	0.198	17.811	1.095
64.761	1.757	60.661	0.127	9.2057747732E+002	8.8708300023E+001	7.7476498359E+001	0.210	14.494	1.139
65.422	1.878	60.752	0.137	9.7498564777E+002	1.0015867732E+002	8.0754080315E+001	0.226	11.470	1.198
66.083	1.997	60.841	0.136	1.0272847242E+003	1.1152021250E+002	7.8134754665E+001	0.239	9.389	1.262
66.577	2.088	60.909	0.140	1.0655612993E+003	1.2007382832E+002	7.7231617937E+001	0.249	8.228	1.314
67.238	2.206	61.003	0.138	1.1164668165E+003	1.3181698584E+002	7.3151026172E+001	0.261	7.080	1.387
67.899	2.320	61.092	0.133	1.1622219830E+003	1.4281363504E+002	6.6814878416E+001	0.272	6.296	1.461
68.560	2.431	61.179	0.131	1.2047550083E+003	1.5337614740E+002	6.2555238480E+001	0.280	5.719	1.536
69.220	2.542	61.265	0.132	1.2448815495E+003	1.6376198735E+002	6.6186130151E+001	0.288	5.273	1.615
69.264	2.551	61.272	0.149	1.2477986652E+003	1.6455134032E+002	6.6216931398E+001	0.288	5.243	1.621
69.500	2.592	61.307	0.150	1.2630016632E+003	1.6870383713E+002	6.3945419314E+001	0.292	5.096	1.654
70.161	2.711	61.407	0.155	1.3043428144E+003	1.8034518683E+002	6.2689634849E+001	0.299	4.743	1.751
70.821	2.835	61.512	0.167	1.3458388192E+003	1.9255295165E+002	6.3710100691E+001	0.306	4.442	1.862
71.482	2.969	61.627	0.180	1.3885283988E+003	2.0583758873E+002	7.0338682776E+001	0.314	4.178	1.991
71.663	3.011	61.664	0.203	1.4015738096E+003	2.1007658245E+002	7.1643966219E+001	0.317	4.102	2.035
72.324	3.158	61.798	0.204	1.4482665754E+003	2.2561494486E+002	7.0226283224E+001	0.328	3.858	2.205
72.985	3.305	61.934	0.208	1.4943697811E+003	2.4141734760E+002	7.0109921266E+001	0.338	3.650	2.400
73.646	3.457	62.073	0.214	1.5409087880E+003	2.5776067375E+002	7.4007270393E+001	0.349	3.468	2.625
73.818	3.499	62.112	0.202	1.5538274073E+003	2.6234598594E+002	7.2677023589E+001	0.352	3.421	2.692
74.479	3.635	62.241	0.192	1.5961191751E+003	2.7771788412E+002	6.2711739298E+001	0.360	3.288	2.914
75.139	3.766	62.365	0.184	1.6366937718E+003	2.9272218986E+002	5.9934829399E+001	0.368	3.175	3.142
75.800	3.891	62.484	0.182	1.6753161719E+003	3.0718267230E+002	6.1500307984E+001	0.374	3.079	3.364
75.971	3.926	62.517	0.193	1.6859773275E+003	3.1124029360E+002	6.1980822318E+001	0.376	3.054	3.423
76.000	3.932	62.523	0.177	1.6877613447E+003	3.1191974572E+002	6.1727996236E+001	0.376	3.050	3.433
76.661	4.050	62.639	0.175	1.7254984511E+003	3.2642381714E+002	5.6126718609E+001	0.386	2.972	3.619
77.321	4.166	62.754	0.175	1.7619263603E+003	3.4070278118E+002	5.4881819379E+001	0.395	2.903	3.774
77.982	4.284	62.871	0.181	1.7980184752E+003	3.5520411483E+002	5.6696280290E+001	0.404	2.840	3.895
78.157	4.318	62.905	0.202	1.8080073637E+003	3.5933155259E+002	5.7200426835E+001	0.407	2.823	3.919
78.817	4.449	63.039	0.203	1.8456936894E+003	3.7549768252E+002	5.4451592312E+001	0.417	2.759	3.944
79.000	4.485	63.076	0.212	1.8555127157E+003	3.7979936776E+002	5.4086974866E+001	0.420	2.742	3.942
79.661	4.624	63.218	0.226	1.8920871186E+003	3.9636248940E+002	5.6192829868E+001	0.426	2.680	3.884
80.321	4.776	63.374	0.241	1.9297650897E+003	4.1413866092E+002	6.4788966565E+001	0.433	2.615	3.767
80.399	4.798	63.397	0.258	1.9348724911E+003	4.1664207487E+002	6.4576169592E+001	0.434	2.606	3.745
81.060	4.957	63.565	0.255	1.9712149355E+003	4.3516568589E+002	5.3214401405E+001	0.441	2.536	3.536
81.721	5.118	63.734	0.262	2.0051892137E+003	4.5331764709E+002	5.1082202501E+001	0.447	2.465	3.306
82.381	5.286	63.910	0.282	2.0387142020E+003	4.7192829276E+002	5.3270671265E+001	0.454	2.392	3.072
82.743	5.393	64.022	0.293	2.0585072066E+003	4.8336540116E+002	4.9691431081E+001	0.458	2.345	2.927
83.000	5.454	64.092	0.286	2.0703581282E+003	4.9040572570E+002	4.6471857971E+001	0.461	2.316	2.838
83.661	5.623	64.284	0.296	2.1015711519E+003	5.0949217302E+002	4.5567772346E+001	0.469	2.235	2.610
84.321	5.800	64.483	0.303	2.1305707083E+003	5.2824868760E+002	4.2465566555E+001	0.477	2.153	2.401
84.906	5.957	64.661	0.304	2.1546741087E+003	5.4438843571E+002	4.0460752088E+001	0.483	2.079	2.238
85.000	5.980	64.690	0.286	2.1584504792E+003	5.4693712922E+002	3.9525414744E+001	0.484	2.068	2.215
85.661	6.129	64.877	0.285	2.1807560341E+003	5.6281151212E+002	3.2584811678E+001	0.487	1.994	2.069
86.321	6.279	65.067	0.298	2.2015075673E+003	5.7825098268E+002	3.0871762600E+001	0.489	1.921	1.939
86.982	6.445	65.271	0.309	2.2215495244E+003	5.9410017177E+002	2.9691406104E+001	0.492	1.843	1.818
87.010	6.452	65.280	0.300	2.2223748109E+003	5.9476465882E+002	2.9510285754E+001	0.492	1.840	1.813
87.671	6.593	65.477	0.299	2.2394552886E+003	6.0932517601E+002	2.3781650533E+001	0.493	1.765	1.711
88.331	6.734	65.674	0.293	2.2537995320E+003	6.2293931405E+002	1.9058675968E+001	0.495	1.692	1.620
88.500	6.766	65.721	0.314	2.2569007696E+003	6.2607073340E+002	1.8633359517E+001	0.495	1.675	1.600
89.052	6.900	65.901	0.321	2.2676453840E+003	6.3773738855E+002	1.7962345188E+001	0.500	1.609	1.527
89.713	7.035	66.110	0.303	2.2783306222E+003	6.5059965485E+002	1.3700807782E+001	0.505	1.539	1.452
90.374	7.154	66.301	0.300	2.2857494287E+003	6.6134609707E+002	9.6020234548E+000	0.509	1.478	1.391
91.034	7.286	66.506	0.312	2.2910185939E+003	6.7150431666E+002	5.6335821310E+000	0.513	1.419	1.336
91.175	7.315	66.551	0.316	2.2917392284E+003	6.7347715249E+002	4.8567768047E+000	0.513	1.407	1.326
91.835	7.433	66.760	0.287	2.2940783210E+003	6.8221835609E+002	1.7540722394E+000	0.516	1.353	1.279
92.496	7.513	66.929	0.257	2.2940570335E+003	6.8890159980E+002	-1.6414627482E+000	0.517	1.310	1.243
92.500	7.513	66.930	0.320	2.2940503606E+003	6.8893654637E+002	-1.6619562630E+000	0.517	1.310	1.243
93.161	7.634	67.142	0.316	2.2918017729E+003	6.9445507347E+002	-5.9480471452E+000	0.510	1.269	1.212
93.233	7.644	67.162	0.274	2.2913499258E+003	6.9489351969E+002	-6.3717414817E+000	0.509	1.265	1.209
93.894	7.717	67.343	0.270	2.2862723826E+003	6.9838358598E+002	-8.8700428770E+000	0.501	1.231	1.185
94.500	7.780	67.504	0.258	2.2802379085E+003	7.0066946190E+002	-1.1019341172E+001	0.493	1.202	1.166
95.161	7.837	67.669	0.247	2.2721923028E+003	7.0207503919E+002	-1.3524019871E+001	0.493	1.174	1.148
95.370	7.852	67.718	0.243	2.2692726746E+003	7.0220430049E+002	-1.6424380349E+001	0.492	1.165	1.143

95.500	7.861	67.752	0.233	2.2669372876E+003	7.0208450999E+002	-1.8080534588E+001	0.492	1.159	1.140
96.161	7.889	67.903	0.220	2.2545913726E+003	7.0057449275E+002	-1.9796072552E+001	0.493	1.135	1.128
96.821	7.904	68.042	0.200	2.2407790502E+003	6.9769846360E+002	-2.1717764936E+001	0.493	1.113	1.118
97.482	7.906	68.167	0.187	2.2258938394E+003	6.9359383898E+002	-2.3504792341E+001	0.493	1.094	1.111
97.602	7.904	68.188	0.164	2.2230430673E+003	6.9267510388E+002	-2.3906689671E+001	0.493	1.091	1.110
98.263	7.874	68.295	0.157	2.2064349281E+003	6.8665526574E+002	-2.5682633214E+001	0.491	1.075	1.106
98.924	7.836	68.396	0.152	2.1891064158E+003	6.7978310095E+002	-2.7011859443E+001	0.489	1.061	1.105
99.585	7.800	68.497	0.158	2.1707418567E+003	6.7221168215E+002	-3.1792603708E+001	0.486	1.048	1.105
100.000	7.783	68.566	0.170	2.1564888120E+003	6.6632308812E+002	-3.5104572853E+001	0.483	1.039	1.105
100.068	7.782	68.579	0.190	2.1540857343E+003	6.6533136721E+002	-3.5030437596E+001	0.482	1.037	1.105
100.729	7.752	68.704	0.187	2.1322550407E+003	6.5631704486E+002	-3.3802960615E+001	0.477	1.023	1.106
101.390	7.719	68.826	0.189	2.1094190023E+003	6.4705871380E+002	-3.5539845989E+001	0.471	1.010	1.107
102.050	7.692	68.954	0.194	2.0852932140E+003	6.3751427278E+002	-3.6834310965E+001	0.465	0.996	1.108
102.279	7.683	68.999	0.192	2.0768576178E+003	6.3423864000E+002	-3.6886549229E+001	0.463	0.991	1.109
102.939	7.635	69.125	0.196	2.0525974497E+003	6.2509822795E+002	-3.7862107263E+001	0.458	0.978	1.109
103.600	7.593	69.258	0.213	2.0268271895E+003	6.1558249902E+002	-4.1759308237E+001	0.453	0.964	1.109
104.261	7.566	69.407	0.224	1.9974173176E+003	6.0484337243E+002	-4.3796208854E+001	0.446	0.951	1.109
104.395	7.560	69.436	0.219	1.9915520467E+003	6.0271972683E+002	-4.3914793973E+001	0.445	0.948	1.108
104.500	7.552	69.459	0.225	1.9869218538E+003	6.0104670858E+002	-4.4385594774E+001	0.444	0.946	1.108
105.161	7.505	69.609	0.232	1.9564975669E+003	5.9010377455E+002	-4.7606877304E+001	0.437	0.933	1.107
105.821	7.464	69.765	0.258	1.9240148305E+003	5.7842969846E+002	-5.4391652173E+001	0.429	0.921	1.105
106.426	7.453	69.935	0.283	1.8882406426E+003	5.6555861762E+002	-6.0311094073E+001	0.421	0.909	1.102
107.087	7.424	70.124	0.284	1.8475728770E+003	5.5095616188E+002	-6.1473019445E+001	0.411	0.896	1.100
107.747	7.391	70.310	0.293	1.8070111043E+003	5.3643113813E+002	-6.4703491506E+001	0.402	0.885	1.097
108.408	7.374	70.512	0.304	1.7620746407E+003	5.2047672920E+002	-6.7108274162E+001	0.392	0.874	1.094
108.541	7.370	70.551	0.307	1.7531581465E+003	5.1733394475E+002	-6.7510272252E+001	0.390	0.872	1.094
109.202	7.333	70.756	0.288	1.7066389789E+003	5.0107482468E+002	-6.6276615247E+001	0.379	0.861	1.092
109.863	7.267	70.932	0.269	1.6655812078E+003	4.8694733314E+002	-6.3410925572E+001	0.370	0.854	1.091
110.523	7.206	71.111	0.271	1.6228487201E+003	4.7241143603E+002	-6.4717130624E+001	0.361	0.847	1.090
110.589	7.199	71.128	0.276	1.6186177987E+003	4.7098553422E+002	-6.4969243521E+001	0.360	0.846	1.090
111.249	7.119	71.312	0.280	1.5740352772E+003	4.5599866822E+002	-6.8534605296E+001	0.351	0.840	1.090
111.910	7.043	71.498	0.285	1.5280571853E+003	4.4056706470E+002	-7.0648687403E+001	0.341	0.834	1.091
112.500	6.977	71.667	0.286	1.4858229973E+003	4.2636543091E+002	-7.1437282960E+001	0.332	0.830	1.092
112.733	6.950	71.734	0.293	1.4691635115E+003	4.2075050907E+002	-7.2288811281E+001	0.328	0.829	1.093
113.394	6.863	71.929	0.293	1.4196948595E+003	4.0396222585E+002	-7.4317339043E+001	0.318	0.825	1.094
114.055	6.771	72.120	0.295	1.3709616793E+003	3.8723684679E+002	-7.5205188906E+001	0.308	0.822	1.097
114.715	6.686	72.319	0.302	1.3203198356E+003	3.6965220190E+002	-7.7687135849E+001	0.297	0.819	1.099
115.006	6.650	72.408	0.319	1.2976244676E+003	3.6170583273E+002	-7.9444061814E+001	0.292	0.818	1.101
115.667	6.565	72.622	0.324	1.2431812130E+003	3.4242913413E+002	-8.2033854802E+001	0.279	0.816	1.104
116.327	6.479	72.836	0.329	1.1892261456E+003	3.2323164712E+002	-8.2668793657E+001	0.267	0.815	1.109
116.988	6.400	73.057	0.345	1.1339438923E+003	3.0361872350E+002	-8.6116342841E+001	0.253	0.813	1.114
117.572	6.343	73.266	0.352	1.0823482129E+003	2.8557253205E+002	-8.6631075619E+001	0.241	0.812	1.120
118.233	6.242	73.495	0.349	1.0263414487E+003	2.6632958936E+002	-8.5010766780E+001	0.227	0.811	1.127
118.894	6.145	73.728	0.362	9.7001624351E+002	2.4744832588E+002	-8.7038088444E+001	0.214	0.811	1.137
119.555	6.060	73.973	0.362	9.1133060646E+002	2.2842279221E+002	-8.1715565101E+001	0.200	0.811	1.148
119.770	6.024	74.045	0.341	8.9420916445E+002	2.2301494048E+002	-7.9794314233E+001	0.196	0.812	1.152
120.431	5.884	74.272	0.341	8.4068187674E+002	2.0657868254E+002	-8.0015463919E+001	0.185	0.814	1.166
121.092	5.739	74.496	0.350	7.8847791434E+002	1.9100422645E+002	-8.1277283506E+001	0.174	0.817	1.181
121.752	5.611	74.735	0.358	7.3328327691E+002	1.7498112863E+002	-7.6109629307E+001	0.162	0.823	1.200
121.847	5.589	74.766	0.349	7.2617993552E+002	1.7295366579E+002	-7.5706937487E+001	0.160	0.824	1.203
122.508	5.412	74.998	0.355	6.7310843507E+002	1.5792894912E+002	-8.0888843441E+001	0.149	0.831	1.225
123.000	5.284	75.175	0.365	6.3307391571E+002	1.4667577974E+002	-8.1874883431E+001	0.141	0.838	1.243
123.661	5.118	75.419	0.368	5.7847678891E+002	1.3139286231E+002	-8.1944749337E+001	0.129	0.850	1.270
123.801	5.082	75.470	0.382	5.6697667453E+002	1.2817754806E+002	-8.2365842883E+001	0.127	0.853	1.277
124.462	4.885	75.725	0.374	5.1079391190E+002	1.1244968408E+002	-8.2055896550E+001	0.114	0.868	1.310
125.123	4.673	75.965	0.364	4.5854922693E+002	9.7806812375E+001	-7.8689452363E+001	0.102	0.886	1.346
125.783	4.463	76.206	0.365	4.0681483384E+002	8.3326380082E+001	-7.7308560199E+001	0.090	0.907	1.386
125.895	4.428	76.247	0.410	3.9822069281E+002	8.0942184297E+001	-7.8365852024E+001	0.088	0.910	1.394
126.555	4.198	76.522	0.404	3.4164513021E+002	6.5477948122E+001	-8.1088075308E+001	0.073	0.939	1.446
127.216	3.950	76.780	0.393	2.9107210989E+002	5.2038430136E+001	-7.7753017794E+001	0.060	0.968	1.500
127.877	3.707	77.042	0.381	2.3890344294E+002	3.7865575493E+001	-6.7954671253E+001	0.047	1.002	1.560
128.090	3.615	77.113	0.371	2.2518688528E+002	3.4213465019E+001	-6.6169150371E+001	0.047	1.012	1.579
128.751	3.319	77.366	0.382	1.7785765412E+002	2.2066587860E+001	-6.8931356018E+001	0.047	1.055	1.651
129.411	3.023	77.617	0.399	1.3410201135E+002	1.2052227168E+001	-6.5824500356E+001	0.047	1.102	1.728
130.072	2.750	77.893	0.382	9.0878133299E+001	3.9493916932E+000	-5.0874117507E+001	0.047	1.159	1.818
130.500	2.535	78.033	0.336	7.3134174581E+001	1.7944672427E+000	-4.0398345288E+001	0.047	1.180	1.853
130.666	2.457	78.093	0.608	6.6497768960E+001	1.2419878159E+000	-4.3573992164E+001	0.047	1.185	1.863
131.327	2.314	78.536	0.608	2.8285476306E+001	1.7362039392E-001	-5.0324287547E+001	0.047	1.277	2.014

LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio

ht(m) : Altezza linea di thrust da nodo sinistro base concio

yt(m) : coordinata Y linea di trust

yt'(-) : gradiente pendenza locale linea di trust

E(x)(kN/m) : Forza Normale interconcio
T(x)(kN/m) : Forza Tangenziale interconcio
E' (kN) : derivata Forza normale interconcio
Rho(x) (-) : fattore mobilizzazione resistenza al taglio verticale interconcio ZhU et al.(2003)
FS_qFEM(x)(-) : fattore di sicurezza locale stimato (locale in X) by qFEM
FS_srmFEM(x)(-) : fattore di sicurezza locale stimato (locale in X) by SRM Procedure

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TABELLA SFORZI DI TAGLIO DISTRIBUITI LUNGO SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	dl (m)	alpha (°)	TauStress (kPa)	TauF (kN/m)	TauStrength (kPa)	TauS (kN/m)
55.368	0.661	0.662	-2.836	-0.010	-0.007	100.055	66.187
56.029	0.661	0.662	-2.836	-0.031	-0.021	100.214	66.292
56.690	0.661	0.662	-2.836	-0.052	-0.034	100.278	66.334
57.350	0.150	0.150	-2.836	-0.064	-0.010	100.379	15.026
57.500	0.661	0.662	-2.836	-0.084	-0.056	100.536	66.505
58.161	0.661	0.662	-2.836	-0.118	-0.078	100.626	66.564
58.821	0.661	0.662	-2.836	-0.152	-0.101	100.798	66.678
59.482	0.518	0.519	-2.836	-0.183	-0.095	100.775	52.258
60.000	0.661	0.662	-2.836	-0.204	-0.135	100.732	66.635
60.661	0.661	0.662	-2.836	-0.219	-0.145	100.784	66.669
61.321	0.661	0.662	-2.836	-0.234	-0.155	100.843	66.708
61.982	0.518	0.519	-2.836	-0.248	-0.129	100.813	52.277
62.500	0.279	0.280	-2.836	-0.257	-0.072	100.864	28.202
62.779	0.661	0.661	-2.590	0.187	0.124	100.789	66.659
63.440	0.661	0.661	-2.590	0.199	0.131	100.844	66.695
64.101	0.661	0.661	-2.590	0.210	0.139	100.922	66.747
64.761	0.661	0.661	-2.590	0.221	0.146	101.103	66.866
65.422	0.661	0.661	-2.590	0.232	0.154	101.095	66.861
66.083	0.495	0.495	-2.590	0.242	0.120	101.101	50.069
66.577	0.661	0.661	-2.134	1.385	0.915	100.933	66.732
67.238	0.661	0.661	-2.134	1.445	0.956	100.874	66.693
67.899	0.661	0.661	-2.134	1.506	0.996	100.839	66.670
68.560	0.661	0.661	-2.134	1.567	1.036	100.825	66.661
69.220	0.044	0.044	-2.134	1.600	0.070	100.945	4.428
69.264	0.236	0.236	-1.651	3.011	0.711	100.715	23.773
69.500	0.661	0.661	-1.651	3.099	2.048	100.716	66.570
70.161	0.661	0.661	-1.651	3.235	2.138	100.751	66.593
70.821	0.661	0.661	-1.651	3.371	2.228	100.817	66.637
71.482	0.181	0.181	-1.651	3.457	0.627	100.949	18.321
71.663	0.661	0.661	-1.049	5.598	3.699	100.607	66.481
72.324	0.661	0.661	-1.049	5.808	3.838	100.617	66.488
72.985	0.661	0.661	-1.049	6.019	3.977	100.638	66.502
73.646	0.172	0.172	-1.049	6.152	1.061	100.686	17.360
73.818	0.661	0.661	-0.583	8.066	5.329	100.334	66.293
74.479	0.661	0.661	-0.583	8.332	5.505	100.326	66.288
75.139	0.661	0.661	-0.583	8.598	5.681	100.314	66.280
75.800	0.171	0.171	-0.583	8.766	1.500	100.340	17.175
75.971	0.029	0.029	-0.124	10.723	0.309	100.072	2.883
76.000	0.661	0.661	-0.124	10.838	7.160	100.067	66.114
76.661	0.661	0.661	-0.124	11.053	7.303	100.066	66.113
77.321	0.661	0.661	-0.124	11.269	7.445	100.067	66.114
77.982	0.175	0.175	-0.124	11.405	1.990	100.072	17.463
78.157	0.661	0.661	0.323	13.544	8.949	99.806	65.942
78.817	0.183	0.183	0.323	13.702	2.504	99.813	18.239
79.000	0.661	0.661	0.323	13.940	9.210	99.801	65.939
79.661	0.661	0.661	0.323	14.347	9.479	99.786	65.929
80.321	0.078	0.078	0.323	14.574	1.133	99.744	7.754
80.399	0.661	0.661	0.741	16.851	11.134	99.488	65.737
81.060	0.661	0.661	0.741	17.309	11.437	99.499	65.743
81.721	0.661	0.661	0.741	17.766	11.739	99.486	65.735
82.381	0.362	0.362	0.741	18.120	6.563	99.424	36.008
82.743	0.257	0.257	1.981	24.923	6.401	98.664	25.339
83.000	0.661	0.661	1.981	25.296	16.723	98.593	65.178
83.661	0.661	0.661	1.981	25.809	17.062	98.617	65.195
84.321	0.585	0.585	1.981	26.292	15.390	98.656	57.749
84.906	0.094	0.094	3.369	34.379	3.224	97.747	9.166
85.000	0.661	0.662	3.369	34.822	23.046	98.012	64.868
85.661	0.661	0.662	3.369	35.618	23.574	98.067	64.904
86.321	0.661	0.662	3.369	36.415	24.101	98.015	64.870
86.982	0.028	0.028	3.369	36.830	1.026	98.024	2.732
87.010	0.661	0.663	4.849	46.187	30.625	97.382	64.571
87.671	0.661	0.663	4.849	47.129	31.250	97.552	64.684

88.331	0.169	0.169	4.849	47.720	8.080	97.795	16.559
88.500	0.552	0.554	4.849	48.035	26.620	97.490	54.027
89.052	0.661	0.665	6.311	57.618	38.300	97.000	64.478
89.713	0.661	0.665	6.311	58.117	38.631	97.494	64.806
90.374	0.661	0.665	6.311	58.616	38.963	97.631	64.897
91.034	0.140	0.141	6.311	58.918	8.317	97.833	13.810
91.175	0.661	0.667	7.796	68.637	45.771	97.492	65.013
91.835	0.661	0.667	7.796	69.151	46.114	98.083	65.407
92.496	0.004	0.004	7.796	69.410	0.283	98.361	0.401
92.500	0.661	0.667	7.796	70.197	46.811	98.417	65.630
93.161	0.073	0.073	7.796	71.068	5.205	98.855	7.239
93.233	0.661	0.669	9.259	81.488	54.549	98.817	66.149
93.894	0.606	0.614	9.259	83.125	51.043	99.155	60.887
94.500	0.661	0.669	9.259	84.028	56.250	99.524	66.622
95.161	0.209	0.212	9.259	84.186	17.851	99.862	21.175
95.370	0.130	0.132	10.606	93.188	12.327	100.235	13.259
95.500	0.661	0.672	10.606	92.999	62.511	100.583	67.610
96.161	0.661	0.672	10.606	92.582	62.231	101.111	67.964
96.821	0.661	0.672	10.606	92.165	61.951	101.585	68.283
97.482	0.120	0.122	10.606	91.919	11.257	101.947	12.485
97.602	0.661	0.675	11.764	99.061	66.853	102.565	69.218
98.263	0.661	0.675	11.764	98.541	66.502	102.928	69.463
98.924	0.661	0.675	11.764	98.021	66.151	103.226	69.664
99.585	0.415	0.424	11.764	97.598	41.419	103.990	44.132
100.000	0.068	0.070	11.764	97.428	6.787	104.093	7.251
100.068	0.661	0.679	13.189	106.085	71.988	104.275	70.760
100.729	0.661	0.679	13.189	105.849	71.828	104.390	70.838
101.390	0.661	0.679	13.189	105.613	71.668	104.526	70.930
102.050	0.228	0.235	13.189	105.454	24.731	104.495	24.506
102.279	0.661	0.683	14.833	114.988	78.590	104.829	71.647
102.939	0.661	0.683	14.833	114.610	78.332	105.027	71.783
103.600	0.661	0.683	14.833	114.231	78.074	105.673	72.224
104.261	0.134	0.139	14.833	114.004	15.847	105.516	14.667
104.395	0.105	0.110	16.594	123.880	13.565	106.154	11.624
104.500	0.661	0.689	16.594	123.682	85.267	106.393	73.348
105.161	0.661	0.689	16.594	123.375	85.055	106.821	73.642
105.821	0.605	0.631	16.594	123.081	77.642	108.218	68.267
106.426	0.661	0.696	18.325	131.996	91.868	109.304	76.074
107.087	0.661	0.696	18.325	131.512	91.531	109.254	76.040
107.747	0.661	0.696	18.325	131.028	91.194	110.165	76.674
108.408	0.133	0.140	18.325	130.738	18.349	109.930	15.428
108.541	0.661	0.703	20.052	139.068	97.810	111.179	78.195
109.202	0.661	0.703	20.052	138.386	97.330	109.714	77.164
109.863	0.661	0.703	20.052	137.704	96.851	109.994	77.362
110.523	0.065	0.070	20.052	137.329	9.557	109.909	7.649
110.589	0.661	0.711	21.714	144.676	102.887	110.997	78.936
111.249	0.661	0.711	21.714	143.782	102.252	111.323	79.168
111.910	0.590	0.635	21.714	142.936	90.761	111.671	70.908
112.500	0.233	0.251	21.714	142.326	35.757	111.662	28.053
112.733	0.661	0.719	23.202	147.887	106.306	112.977	81.212
113.394	0.661	0.719	23.202	146.468	105.286	112.929	81.177
114.055	0.661	0.719	23.202	145.050	104.266	113.593	81.654
114.715	0.290	0.316	23.202	144.028	45.512	113.973	36.015
115.006	0.661	0.726	24.426	147.794	107.245	115.493	83.806
115.667	0.661	0.726	24.426	146.184	106.077	115.430	83.760
116.327	0.661	0.726	24.426	144.574	104.909	115.763	84.003
116.988	0.584	0.642	24.426	143.057	91.832	116.396	74.717
117.572	0.661	0.739	26.548	148.888	109.964	116.424	85.987
118.233	0.661	0.739	26.548	146.924	108.513	116.115	85.759
118.894	0.661	0.739	26.548	144.960	107.063	116.238	85.850
119.555	0.216	0.241	26.548	143.657	34.631	114.141	27.516
119.770	0.661	0.756	29.087	149.755	113.221	114.906	86.873
120.431	0.661	0.756	29.087	147.333	111.390	114.124	86.283
121.092	0.661	0.756	29.087	144.912	109.559	114.531	86.590
121.752	0.095	0.108	29.087	143.527	15.546	112.834	12.222
121.847	0.661	0.777	31.804	148.450	115.408	114.365	88.910
122.508	0.492	0.579	31.804	145.877	84.517	114.437	66.302
123.000	0.661	0.777	31.804	143.079	111.232	114.612	89.102
123.661	0.141	0.165	31.804	141.018	23.329	114.447	18.933
123.801	0.661	0.800	34.356	143.382	114.751	115.642	92.550
124.462	0.661	0.800	34.356	139.443	111.598	114.563	91.686
125.123	0.661	0.800	34.356	135.504	108.446	114.401	91.557
125.783	0.111	0.135	34.356	133.203	17.976	114.062	15.393
125.895	0.661	0.832	37.406	134.373	111.763	115.929	96.423
126.555	0.661	0.832	37.406	129.759	107.926	113.844	94.688

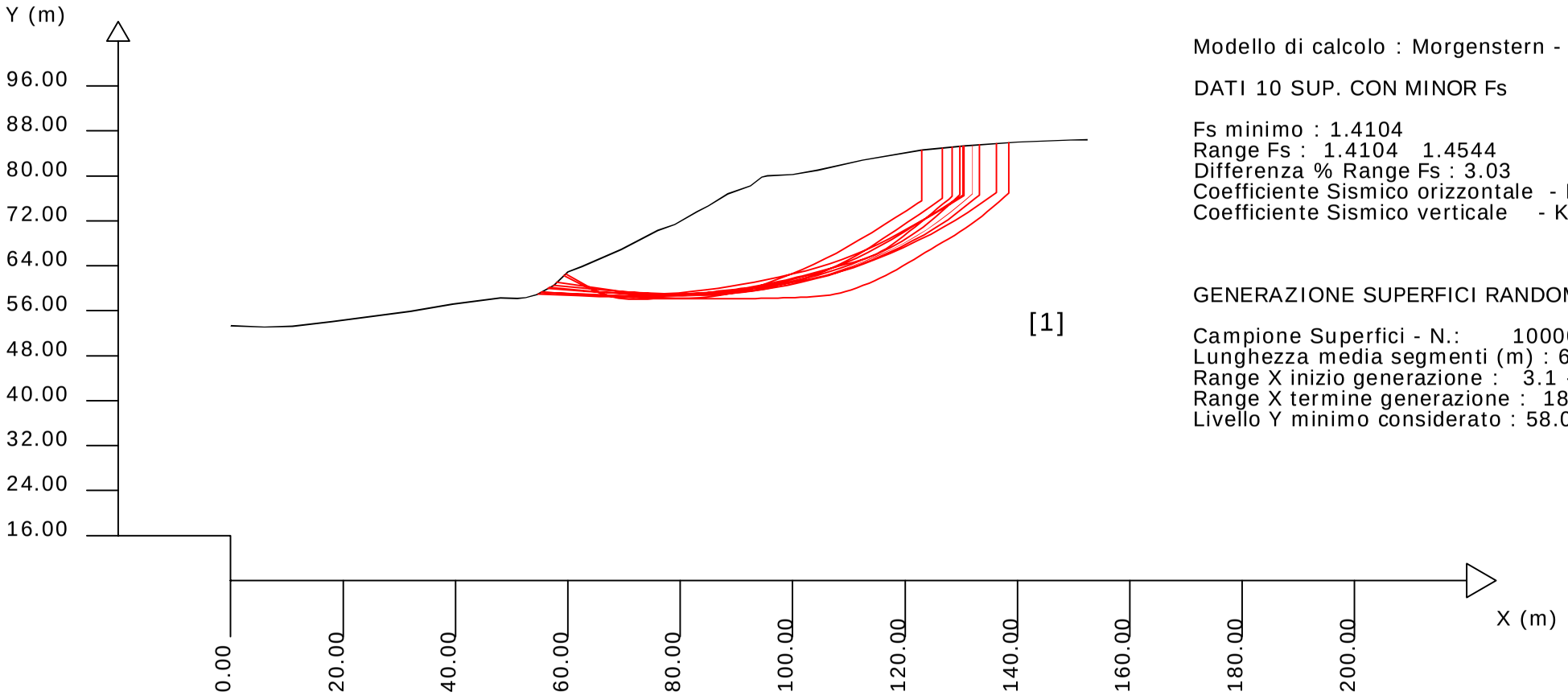
127.216	0.661	0.832	37.406	125.145	104.088	114.599	95.317
127.877	0.213	0.268	37.406	122.095	32.734	111.671	29.939
128.090	0.661	0.859	39.696	120.462	103.437	112.743	96.809
128.751	0.661	0.859	39.696	115.325	99.026	110.506	94.888
129.411	0.661	0.859	39.696	110.189	94.615	108.501	93.166
130.072	0.428	0.556	39.696	105.956	58.952	103.489	57.580
130.500	0.166	0.216	39.696	103.625	22.349	102.308	22.065
130.666	0.661	0.883	41.537	100.762	88.938	101.132	89.265
131.327	0.661	0.883	41.537	95.020	83.870	100.184	88.428

LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
dx(m) : Larghezza concio
dl(m) : lunghezza base concio
alpha(°) : Angolo pendenza base concio
TauStress(kPa) : Sforzo di taglio su base concio
TauF (kN/m) : Forza di taglio su base concio
TauStrength(kPa) : Resistenza al taglio su base concio
TauS (kN/m) : Forza resistente al taglio su base concio

SSAP 5.0 (2020) - Slope Stability Analysis Program
Software by Dr.Geol. L.Borselli - www.lorenzo-borselli.eu
SSAP/DXF generator rel. 2.0 (2020)

Data : 26/11/2021
Localita' :
Descrizione :
[n] = N. strato o lente



Modello di calcolo : Morgenstern - Price (1965)

DATI 10 SUP. CON MINOR Fs

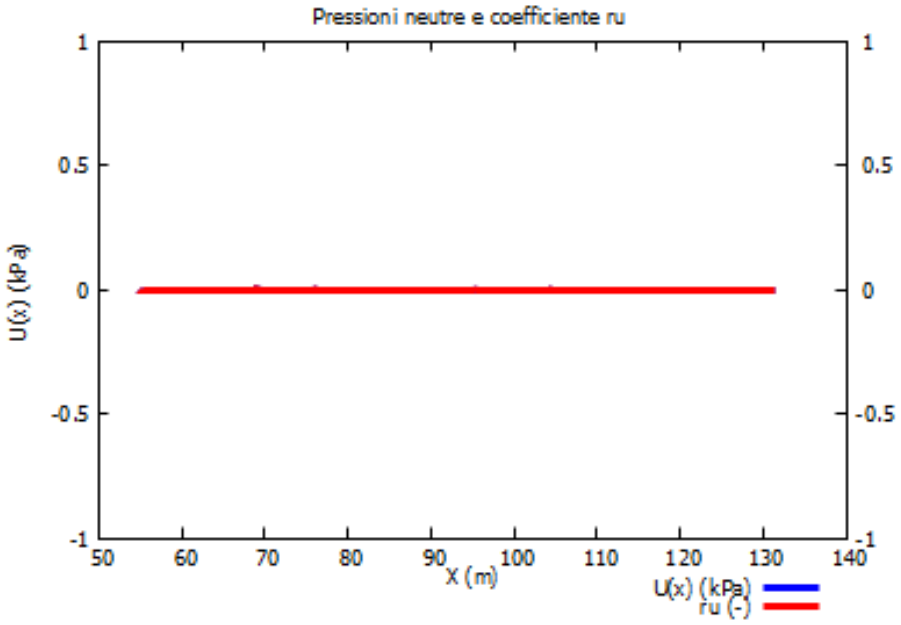
Fs minimo : 1.4104
Range Fs : 1.4104 1.4544
Differenza % Range Fs : 3.03
Coefficiente Sismico orizzontale - Kh: 0.0470
Coefficiente Sismico verticale - Kv: 0.0235

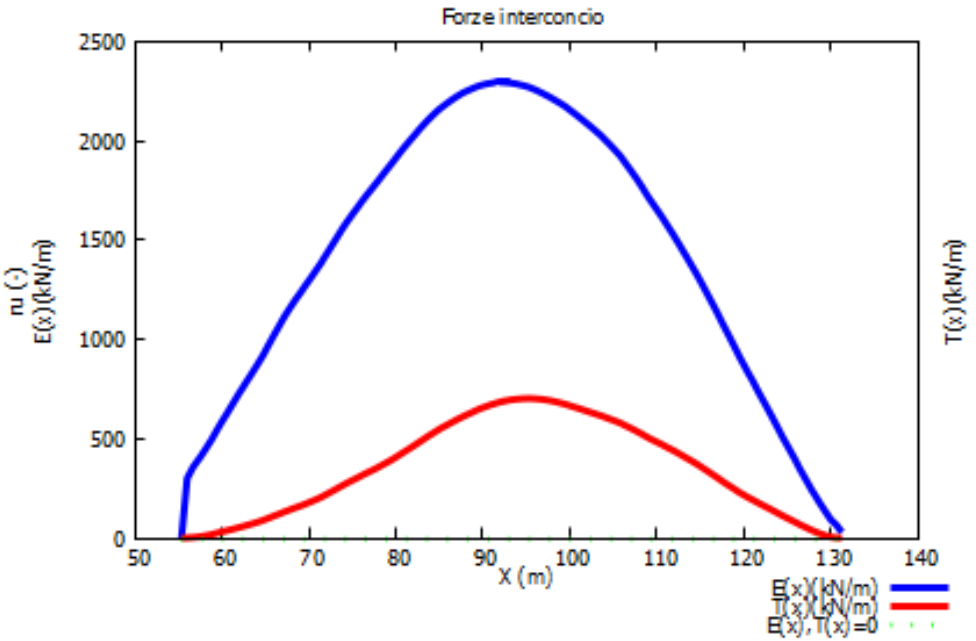
GENERAZIONE SUPERFICI RANDOM

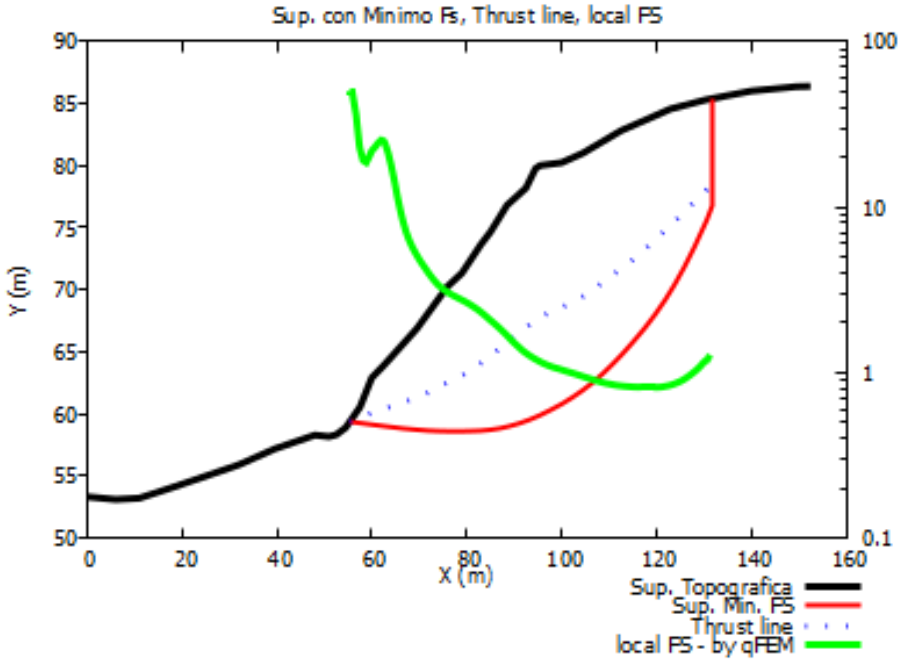
Campione Superfici - N.: 10000
Lunghezza media segmenti (m) : 6.1
Range X inizio generazione : 3.1 - 140.3
Range X termine generazione : 18.3 - 149.5
Livello Y minimo considerato : 58.0

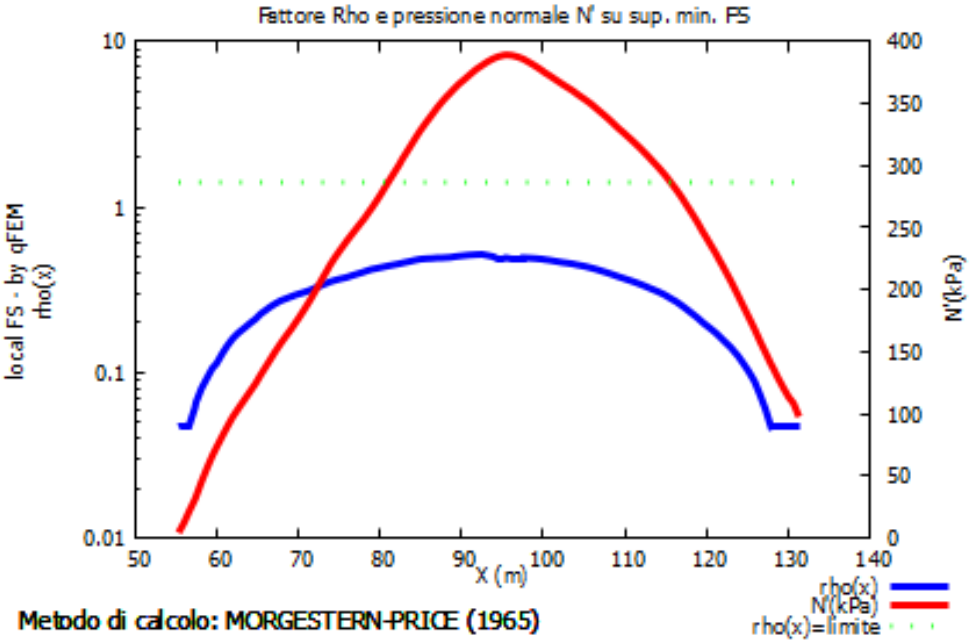
Parametri Geotecnici degli strati # ----------

N.	phi`	C`	Cu	Gamm	GammSat	sgci	GSI	mi	D
..	deg	kPa	kPa	kN/m3	kN/m3	MPa	..	..	..
1	0	0	100.00	20.00	22.00	0	0	0	0





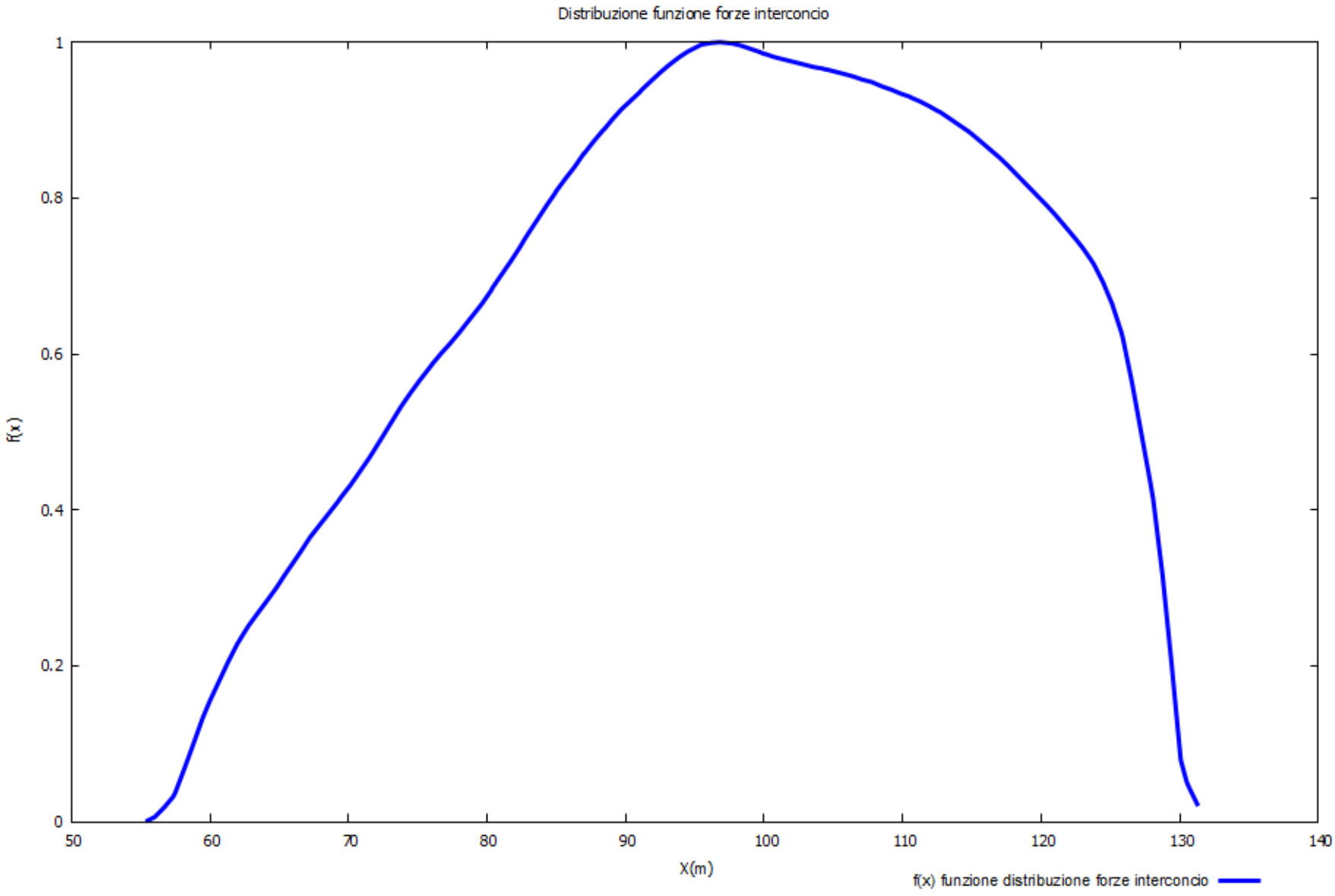


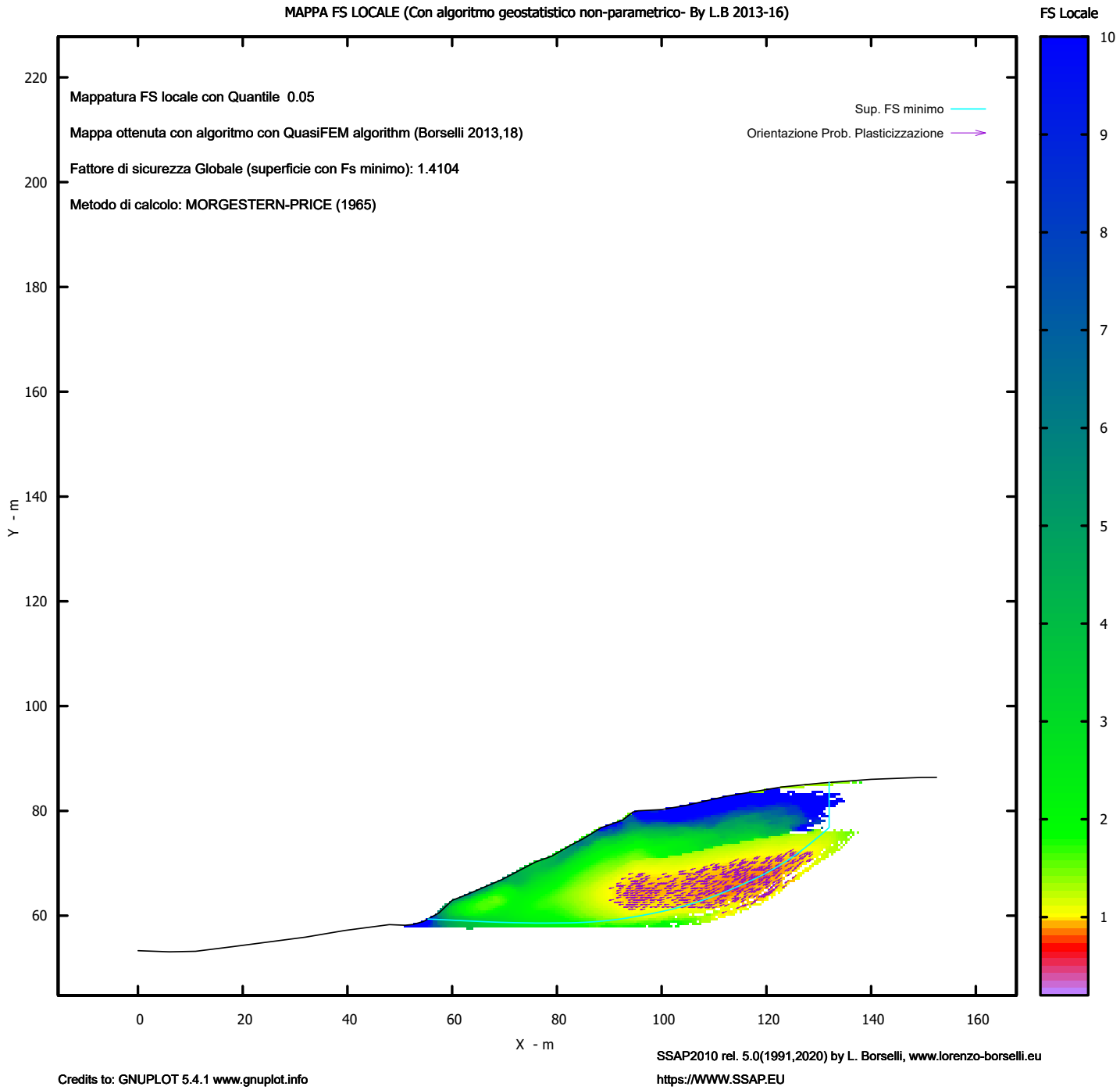


Metodo di calcolo: MORGESTERN-PRICE (1965)

SSAP2010 (versione 5.0 - 2020) - DISTRIBUZIONE FORZE e PRESSIONI

26/11/21 12:41


Distribuzione funzione forze interconcio
f(x)
X(m)
0
0.2
0.4
0.6
0.8
1
50
60
70
80
90
100
110
120
130
140
f(x) funzione distribuzione forze interconcio



Credits to: GNUPLOT 5.4.1 www.gnuplot.info

SSAP2010 rel. 5.0(1991,2020) by L. Borselli, www.lorenzo-borselli.eu

https://WWW.SSAP.EU

Report elaborazioni

SSAP 5.0 - Slope Stability Analysis Program (1991,2020)
WWW.SSAP.EU
Build No. 11719
BY
Dr. Geol. LORENZO BORSELLI *,**
*UASLP, San Luis Potosi, Mexico
e-mail: lborselli@gmail.com
CV e WEB page personale: WWW.LORENZO-BORSELLI.EU
** Gia' Ricercatore CNR-IRPI fino a Luglio 2011

Ultima Revisione struttura tabelle del report: 12 settembre 2020

File report: C:\SSAP\POMARICO\VERIFICA 1\NON DRENATA\BERSELLI\BERSELLI.txt
Data: 26/11/2021
Localita' :
Descrizione:
Modello pendio: NON DRENATA.mod

---------- PARAMETRI DEL MODELLO DEL PENDIO ----------

__ PARAMETRI GEOMETRICI - Coordinate X Y (in m) __

SUP T.		SUP 2		SUP 3		SUP 4	
X	Y	X	Y	X	Y	X	Y
0.00	53.31	-	-	-	-	-	-
6.00	53.10	-	-	-	-	-	-
11.00	53.20	-	-	-	-	-	-
18.00	54.07	-	-	-	-	-	-
32.00	55.90	-	-	-	-	-	-
39.50	57.17	-	-	-	-	-	-
48.00	58.28	-	-	-	-	-	-
51.00	58.16	-	-	-	-	-	-
52.50	58.31	-	-	-	-	-	-
54.50	58.88	-	-	-	-	-	-
57.50	60.54	-	-	-	-	-	-
60.00	62.91	-	-	-	-	-	-
62.50	63.89	-	-	-	-	-	-
69.50	66.87	-	-	-	-	-	-
76.00	70.28	-	-	-	-	-	-
79.00	71.34	-	-	-	-	-	-
83.00	73.65	-	-	-	-	-	-
85.00	74.65	-	-	-	-	-	-
88.50	76.81	-	-	-	-	-	-
92.50	78.20	-	-	-	-	-	-
94.50	79.76	-	-	-	-	-	-
95.50	80.01	-	-	-	-	-	-
100.00	80.24	-	-	-	-	-	-
104.50	81.00	-	-	-	-	-	-
112.50	82.81	-	-	-	-	-	-
123.00	84.57	-	-	-	-	-	-
130.50	85.31	-	-	-	-	-	-
140.00	86.01	-	-	-	-	-	-
149.50	86.37	-	-	-	-	-	-
152.51	86.40	-	-	-	-	-	-

ASSENZA DI FALDA

------- PARAMETRI GEOMECCANICI -------

	fi`	C`	Cu	Gamm	Gamm_sat	STR_IDX	sgci	GSI	mi	D
STRATO 1	0.00	0.00	100.00	20.00	22.00	19.086	0.00	0.00	0.00	0.00

LEGENDA: fi`_____ Angolo di attrito interno efficace(in gradi)
C` _____ Coesione efficace (in Kpa)
Cu _____ Resistenza al taglio Non drenata (in Kpa)
Gamm _____ Peso di volume terreno fuori falda (in KN/m^3)
Gamm_sat __ Peso di volume terreno immerso (in KN/m^3)
STR_IDX ___ Indice di resistenza (usato in solo in 'SNIFF SEARCH) (adimensionale)
---- SOLO Per AMMASSI ROCCIOSI FRATTURATI - Parametri Criterio di Rottura di Hoek (2002)-
sigci _____ Resistenza Compressione Uniassiale Roccia Intatta (in MPa)

GSI _____ Geological Strenght Index ammasso(adimensionale)
mi _____ Indice litologico ammasso(adimensionale)
D _____ Fattore di disturbo ammasso(adimensionale)
Fattore di riduzione NTC2018: gammaPHI=1.25 e gammaC=1.25 - DISATTIVATO (solo per ROCCE)
Uso CRITERIO DI ROTTURA Hoek et al.(2002,2006) - non-lineare - Generalizzato, secondo Lei et al.(2016)

---------- INFORMAZIONI GENERAZIONE SUPERFICI RANDOM ----------
*** PARAMETRI PER LA GENERAZIONE DELLE SUPERFICI
METODO DI RICERCA: CONVEX RANDOM - Chen (1992)
FILTRAGGIO SUPERFICI : ATTIVATO
COORDINATE X1,X2,Y OSTACOLO : 0.00 0.00 0.00
LUNGHEZZA MEDIA SEGMENTI (m): 6.1 (+/-) 50%
INTERVALLO ASCISSE RANDOM STARTING POINT (Xmin .. Xmax): 3.05 140.31
LIVELLO MINIMO CONSIDERATO (Ymin): 58.00
INTERVALLO ASCISSE AMMESSO PER LA TERMINAZIONE (Xmin .. Xmax): 18.30 149.46

*** TOTALE SUPERFICI GENERATE : 10000

---------- INFORMAZIONI PARAMETRI DI CALCOLO ----------
METODO DI CALCOLO : BORSELLI (Borselli, 2016)
METODO DI ESPLORAZIONE CAMPO VALORI (lambda0,Fs0) ADOTTATO : A (rapido)
COEFFICIENTE SISMICO UTILIZZATO Kh : 0.0470
COEFFICIENTE SISMICO UTILIZZATO Kv (assunto Positivo): 0.0235
COEFFICIENTE c=Kv/Kh UTILIZZATO : 0.5000
FORZA ORIZZONTALE ADDIZIONALE IN TESTA (kN/m): 0.00
FORZA ORIZZONTALE ADDIZIONALE ALLA BASE (kN/m): 0.00

N.B. Le forze orizzontali addizionali in testa e alla base sono poste uguali a 0
durante le tutte le verifiche globali.
I valori >0 impostati dall'utente sono utilizzati solo in caso di verifica singola

---------- RISULTATO FINALE ELABORAZIONI ----------
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* DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *

Fattore di sicurezza (FS) 1.4559 - Min. - X Y Lambda= 0.2084
62.37 63.84
66.60 61.46
68.55 60.41
69.84 59.81
70.87 59.42
71.92 59.14
72.83 58.97
73.84 58.87
74.92 58.84
76.25 58.87
77.50 58.90
78.69 58.93
79.85 58.96
80.97 58.98
82.11 59.01
83.24 59.04
84.38 59.07
85.51 59.09
86.64 59.13
87.76 59.16
88.87 59.21
89.99 59.25
91.12 59.31
92.26 59.37
93.43 59.43
94.63 59.51
95.75 59.60
96.84 59.72
97.90 59.86
99.00 60.03
100.07 60.23
101.18 60.46
102.32 60.73
103.57 61.05
104.73 61.36
105.84 61.69
106.92 62.03
108.03 62.41

109.10	62.80
110.20	63.23
111.32	63.68
112.51	64.19
113.67	64.69
114.80	65.18
115.93	65.68
117.06	66.17
118.20	66.68
119.35	67.20
120.54	67.74
121.79	68.31
122.89	68.86
123.95	69.45
124.97	70.07
126.05	70.80
127.08	71.55
128.14	72.39
129.25	73.32
130.48	74.41
131.68	75.47
132.83	76.49
132.83	85.48

Fattore di sicurezza (FS) 1.4566 - N.2 -- X Y Lambda= 0.2014

66.30	65.51
70.46	62.26
72.37	60.85
73.59	60.04
74.56	59.51
75.56	59.11
76.40	58.87
77.35	58.70
78.40	58.61
79.76	58.58
80.99	58.56
82.14	58.55
83.25	58.54
84.34	58.55
85.42	58.56
86.51	58.58
87.61	58.60
88.73	58.64
89.83	58.67
90.92	58.72
92.00	58.77
93.09	58.83
94.18	58.90
95.29	58.98
96.44	59.06
97.64	59.16
98.72	59.28
99.76	59.43
100.76	59.61
101.82	59.84
102.83	60.10
103.87	60.41
104.96	60.77
106.18	61.21
107.32	61.63
108.42	62.05
109.50	62.48
110.58	62.92
111.65	63.38
112.74	63.85
113.84	64.35
114.99	64.89
116.10	65.42
117.18	65.95
118.25	66.49
119.33	67.05
120.40	67.63
121.49	68.22
122.61	68.85

123.78 69.53
124.88 70.19
125.95 70.86
127.00 71.54
128.08 72.27
129.12 73.01
130.19 73.80
131.29 74.63
132.44 75.54
133.56 76.43
134.17 76.92
134.17 85.58

Fattore di sicurezza (FS) 1.4587 - N.3 -- X Y Lambda= 0.2222
60.64 63.16
64.31 61.30
66.05 60.47
67.20 59.98
68.16 59.64
69.11 59.38
69.96 59.21
70.88 59.08
71.85 59.01
73.01 58.97
74.10 58.93
75.13 58.91
76.14 58.89
77.13 58.88
78.12 58.88
79.11 58.88
80.10 58.88
81.11 58.90
82.12 58.91
83.13 58.92
84.13 58.93
85.13 58.95
86.15 58.96
87.18 58.97
88.25 58.99
89.36 59.00
90.33 59.05
91.26 59.14
92.15 59.26
93.10 59.45
93.99 59.66
94.93 59.93
95.90 60.25
97.01 60.66
98.07 61.06
99.11 61.44
100.13 61.82
101.12 62.18
102.13 62.56
103.13 62.93
104.13 63.30
105.13 63.67
106.13 64.04
107.13 64.41
108.12 64.79
109.12 65.17
110.12 65.56
111.14 65.95
112.17 66.35
113.22 66.77
114.21 67.18
115.18 67.61
116.13 68.05
117.11 68.54
118.06 69.04
119.04 69.58
120.06 70.16
121.15 70.82
122.17 71.45
123.16 72.09

124.12	72.74
125.11	73.43
126.07	74.12
127.05	74.85
128.05	75.62
128.66	76.10
128.66	85.13

Fattore di sicurezza (FS) 1.4630 - N.4 -- X Y Lambda= 0.2177

60.54	63.12
64.82	61.09
66.83	60.20
68.17	59.68
69.27	59.33
70.36	59.08
71.34	58.93
72.40	58.84
73.53	58.81
74.89	58.84
76.15	58.88
77.35	58.92
78.51	58.97
79.66	59.03
80.81	59.10
81.96	59.17
83.13	59.26
84.34	59.36
85.50	59.47
86.65	59.58
87.79	59.71
88.94	59.84
90.08	59.99
91.23	60.14
92.38	60.31
93.57	60.50
94.75	60.68
95.91	60.87
97.07	61.06
98.22	61.25
99.38	61.45
100.56	61.66
101.75	61.87
102.98	62.09
104.13	62.32
105.25	62.57
106.35	62.84
107.49	63.14
108.60	63.47
109.75	63.83
110.95	64.23
112.27	64.70
113.44	65.15
114.56	65.63
115.63	66.13
116.76	66.70
117.83	67.29
118.94	67.94
120.08	68.66
121.32	69.48
122.53	70.28
123.72	71.07
124.90	71.84
126.05	72.61
127.22	73.38
128.40	74.15
129.58	74.94
130.78	75.73
131.93	76.51
131.93	85.42

Fattore di sicurezza (FS) 1.4680 - N.5 -- X Y Lambda= 0.2086

59.53	62.46
66.71	60.71

70.22 59.91
72.64 59.44
74.72 59.11
76.68 58.88
78.55 58.74
80.51 58.65
82.58 58.63
84.91 58.67
87.00 58.75
88.99 58.89
90.89 59.07
92.86 59.32
94.76 59.61
96.74 59.98
98.82 60.42
101.13 60.97
103.20 61.51
105.17 62.09
107.06 62.72
109.03 63.43
110.93 64.19
112.92 65.06
115.04 66.04
117.42 67.22
119.47 68.33
121.41 69.48
123.24 70.69
125.19 72.10
127.24 73.75
129.64 75.85
130.26 76.42
130.26 85.29

Fattore di sicurezza (FS) 1.4694 - N.6 -- X Y Lambda= 0.2449
60.54 63.12
64.33 60.86
66.07 59.87
67.22 59.30
68.14 58.93
69.08 58.65
69.89 58.48
70.80 58.38
71.78 58.34
73.02 58.35
74.13 58.37
75.17 58.41
76.16 58.46
77.16 58.52
78.14 58.60
79.14 58.70
80.18 58.81
81.28 58.94
82.29 59.08
83.27 59.24
84.23 59.42
85.21 59.63
86.16 59.85
87.14 60.11
88.14 60.39
89.20 60.71
90.24 61.03
91.26 61.34
92.28 61.66
93.28 61.97
94.29 62.28
95.30 62.60
96.31 62.92
97.32 63.24
98.33 63.56
99.33 63.88
100.34 64.20
101.34 64.53
102.35 64.86
103.36 65.19

104.37 65.53
105.39 65.87
106.40 66.21
107.40 66.55
108.40 66.90
109.40 67.25
110.40 67.61
111.41 67.98
112.42 68.36
113.46 68.75
114.47 69.13
115.47 69.53
116.46 69.93
117.46 70.34
118.46 70.76
119.47 71.20
120.51 71.66
121.61 72.15
122.61 72.63
123.58 73.13
124.52 73.65
125.50 74.23
126.45 74.81
127.42 75.46
128.43 76.16
128.43 85.11

Fattore di sicurezza (FS) 1.4737 - N.7 -- X Y Lambda= 0.2238
65.07 64.98
68.81 62.23
70.53 61.03
71.65 60.33
72.55 59.87
73.46 59.51
74.25 59.28
75.13 59.12
76.12 59.02
77.38 58.96
78.48 58.94
79.48 58.94
80.43 58.96
81.40 59.02
82.33 59.09
83.28 59.20
84.25 59.33
85.31 59.50
86.34 59.66
87.35 59.82
88.35 59.98
89.34 60.13
90.34 60.29
91.33 60.45
92.35 60.61
93.36 60.77
94.34 60.94
95.32 61.12
96.28 61.31
97.26 61.52
98.22 61.73
99.20 61.96
100.20 62.21
101.25 62.49
102.25 62.76
103.23 63.04
104.20 63.33
105.18 63.63
106.15 63.94
107.13 64.26
108.13 64.61
109.16 64.97
110.16 65.34
111.15 65.71
112.12 66.08
113.11 66.47

114.08 66.86
115.07 67.26
116.08 67.69
117.12 68.13
118.11 68.57
119.09 69.02
120.05 69.47
121.03 69.96
121.99 70.45
122.98 70.97
123.98 71.51
125.04 72.10
126.04 72.68
127.02 73.27
127.98 73.86
128.95 74.49
129.91 75.13
130.88 75.80
131.87 76.51
131.87 85.41

Fattore di sicurezza (FS) 1.4740 - N.8 -- X Y Lambda= 0.2174
59.47 62.41
66.49 60.65
69.92 59.85
72.28 59.38
74.30 59.05
76.22 58.82
78.05 58.68
79.98 58.59
82.04 58.57
84.40 58.61
86.42 58.71
88.32 58.88
90.10 59.12
92.00 59.46
93.77 59.87
95.65 60.38
97.63 61.00
99.90 61.79
101.97 62.55
103.95 63.31
105.87 64.09
107.81 64.92
109.72 65.78
111.69 66.70
113.74 67.70
115.96 68.83
117.94 69.91
119.84 71.03
121.66 72.19
123.58 73.51
125.63 75.04
126.84 76.01
126.84 84.95

Fattore di sicurezza (FS) 1.4787 - N.9 -- X Y Lambda= 0.2233
64.37 64.69
67.99 62.14
69.66 61.02
70.76 60.36
71.65 59.91
72.54 59.57
73.32 59.34
74.18 59.16
75.12 59.05
76.29 58.97
77.35 58.90
78.35 58.85
79.32 58.81
80.28 58.77
81.23 58.75
82.21 58.73

83.21 58.72
84.26 58.72
85.22 58.75
86.15 58.80
87.04 58.87
87.98 58.98
88.88 59.11
89.82 59.27
90.80 59.47
91.89 59.72
92.88 59.97
93.83 60.22
94.75 60.50
95.70 60.80
96.61 61.12
97.54 61.47
98.50 61.84
99.51 62.27
100.51 62.68
101.49 63.09
102.46 63.50
103.42 63.90
104.39 64.31
105.35 64.72
106.33 65.13
107.29 65.54
108.26 65.95
109.22 66.36
110.17 66.78
111.13 67.21
112.09 67.64
113.05 68.07
114.01 68.51
114.98 68.95
115.95 69.40
116.92 69.85
117.89 70.30
118.85 70.74
119.82 71.19
120.81 71.64
121.81 72.11
122.84 72.58
123.79 73.05
124.71 73.54
125.61 74.05
126.55 74.62
127.45 75.20
128.38 75.83
128.97 76.26
128.97 85.16

Fattore di sicurezza (FS) 1.4874 - N.10 -- X Y Lambda= 0.1868
61.12 63.35
67.55 61.21
70.65 60.23
72.77 59.65
74.57 59.23
76.30 58.94
77.91 58.73
79.59 58.59
81.36 58.51
83.35 58.49
85.25 58.48
87.07 58.49
88.86 58.50
90.64 58.53
92.43 58.56
94.24 58.61
96.10 58.67
98.04 58.75
99.81 58.86
101.53 59.02
103.20 59.22
104.94 59.49

106.63	59.80
108.41	60.18
110.29	60.63
112.44	61.20
114.24	61.75
115.94	62.37
117.52	63.04
119.23	63.87
120.82	64.75
122.52	65.78
124.31	66.97
126.39	68.44
128.27	69.83
130.08	71.20
131.82	72.58
133.58	74.02
135.51	75.68
136.82	76.85
136.82	85.78

---------- ANALISI DEFICIT DI RESISTENZA ----------
DATI RELATIVI ALLE 10 SUPERFICI GENERATE CON MINOR Fs *
Analisi Deficit in riferimento a FS(progetto) = 1.100

Sup N.	FS	FTR(kN/m)	FTA(kN/m)	Bilancio(kN/m)	ESITO
1	1.456	8099.2	5563.0	1979.9	Surplus
2	1.457	8080.1	5547.3	1978.0	Surplus
3	1.459	7777.1	5331.4	1912.5	Surplus
4	1.463	8046.2	5499.7	1996.5	Surplus
5	1.468	8044.1	5479.6	2016.5	Surplus
6	1.469	7614.9	5182.4	1914.3	Surplus
7	1.474	7677.0	5209.3	1946.8	Surplus
8	1.474	7672.3	5205.2	1946.5	Surplus
9	1.479	7523.5	5088.0	1926.6	Surplus
10	1.487	8758.2	5888.2	2281.2	Surplus

Esito analisi: SURPLUS di RESISTENZA!

Valore minimo di SURPLUS di RESISTENZA (kN/m): 1912.5

Note: FTR --> Forza totale Resistente lungo la superficie
di scivolamento
FTA --> Forza totale Agente lungo la superficie
di scivolamento

IMPORTANTE! : Il Deficit o il Surplus di resistenza viene espresso in kN
per metro di LARGHEZZA rispetto al fronte della scarpata

TABELLA PARAMETRI CONCI DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	alpha (°)	W (kN/m)	ru (-)	U (kPa)	phi' (°)	(c',Cu) (kPa)
62.370	0.130	-29.41	0.16	0.00	0.00	0.00	100.00
62.500	0.623	-29.41	5.51	0.00	0.00	0.00	100.00
63.123	0.623	-29.41	13.36	0.00	0.00	0.00	100.00
63.745	0.623	-29.41	21.21	0.00	0.00	0.00	100.00
64.368	0.623	-29.41	29.07	0.00	0.00	0.00	100.00
64.991	0.623	-29.41	36.92	0.00	0.00	0.00	100.00
65.613	0.623	-29.41	44.77	0.00	0.00	0.00	100.00
66.236	0.362	-29.41	29.64	0.00	0.00	0.00	100.00
66.598	0.623	-28.10	57.07	0.00	0.00	0.00	100.00
67.221	0.623	-28.10	64.69	0.00	0.00	0.00	100.00
67.843	0.623	-28.10	72.31	0.00	0.00	0.00	100.00
68.466	0.087	-28.10	10.73	0.00	0.00	0.00	100.00
68.553	0.623	-24.99	80.72	0.00	0.00	0.00	100.00
69.176	0.324	-24.99	44.82	0.00	0.00	0.00	100.00
69.500	0.335	-24.99	48.46	0.00	0.00	0.00	100.00
69.835	0.623	-20.73	95.76	0.00	0.00	0.00	100.00
70.458	0.414	-20.73	67.68	0.00	0.00	0.00	100.00
70.872	0.623	-15.10	107.26	0.00	0.00	0.00	100.00
71.495	0.427	-15.10	77.27	0.00	0.00	0.00	100.00
71.922	0.623	-10.54	117.57	0.00	0.00	0.00	100.00

72.545	0.290	-10.54	56.69	0.00	0.00	0.00	100.00
72.835	0.623	-5.67	125.49	0.00	0.00	0.00	100.00
73.457	0.382	-5.67	79.45	0.00	0.00	0.00	100.00
73.839	0.623	-1.61	133.20	0.00	0.00	0.00	100.00
74.462	0.457	-1.61	100.59	0.00	0.00	0.00	100.00
74.919	0.623	1.38	140.60	0.00	0.00	0.00	100.00
75.542	0.458	1.38	105.98	0.00	0.00	0.00	100.00
76.000	0.253	1.38	59.37	0.00	0.00	0.00	100.00
76.253	0.623	1.38	147.87	0.00	0.00	0.00	100.00
76.876	0.623	1.38	150.49	0.00	0.00	0.00	100.00
77.498	0.005	1.38	1.21	0.00	0.00	0.00	100.00
77.503	0.623	1.38	153.12	0.00	0.00	0.00	100.00
78.126	0.563	1.38	140.67	0.00	0.00	0.00	100.00
78.689	0.311	1.38	78.63	0.00	0.00	0.00	100.00
79.000	0.623	1.38	160.29	0.00	0.00	0.00	100.00
79.623	0.227	1.38	59.55	0.00	0.00	0.00	100.00
79.850	0.623	1.38	166.28	0.00	0.00	0.00	100.00
80.472	0.502	1.38	137.32	0.00	0.00	0.00	100.00
80.975	0.623	1.39	174.22	0.00	0.00	0.00	100.00
81.597	0.511	1.39	146.24	0.00	0.00	0.00	100.00
82.108	0.623	1.39	182.21	0.00	0.00	0.00	100.00
82.731	0.269	1.39	80.10	0.00	0.00	0.00	100.00
83.000	0.240	1.39	72.03	0.00	0.00	0.00	100.00
83.240	0.623	1.39	189.65	0.00	0.00	0.00	100.00
83.862	0.514	1.39	159.49	0.00	0.00	0.00	100.00
84.377	0.623	1.39	196.54	0.00	0.00	0.00	100.00
84.999	0.001	1.39	0.18	0.00	0.00	0.00	100.00
85.000	0.510	1.39	164.21	0.00	0.00	0.00	100.00
85.510	0.623	1.65	204.62	0.00	0.00	0.00	100.00
86.133	0.502	1.65	168.50	0.00	0.00	0.00	100.00
86.635	0.623	1.92	213.04	0.00	0.00	0.00	100.00
87.258	0.497	1.92	173.37	0.00	0.00	0.00	100.00
87.755	0.623	2.19	221.35	0.00	0.00	0.00	100.00
88.378	0.122	2.19	44.01	0.00	0.00	0.00	100.00
88.500	0.373	2.19	134.85	0.00	0.00	0.00	100.00
88.873	0.623	2.45	227.23	0.00	0.00	0.00	100.00
89.495	0.498	2.45	183.57	0.00	0.00	0.00	100.00
89.994	0.623	2.73	231.56	0.00	0.00	0.00	100.00
90.616	0.505	2.73	189.56	0.00	0.00	0.00	100.00
91.121	0.623	3.00	235.85	0.00	0.00	0.00	100.00
91.744	0.517	3.00	197.69	0.00	0.00	0.00	100.00
92.261	0.239	3.26	91.84	0.00	0.00	0.00	100.00
92.500	0.623	3.26	242.73	0.00	0.00	0.00	100.00
93.123	0.305	3.26	120.86	0.00	0.00	0.00	100.00
93.427	0.623	3.51	251.25	0.00	0.00	0.00	100.00
94.050	0.450	3.51	185.13	0.00	0.00	0.00	100.00
94.500	0.133	3.51	55.25	0.00	0.00	0.00	100.00
94.633	0.623	4.74	259.21	0.00	0.00	0.00	100.00
95.256	0.244	4.74	102.02	0.00	0.00	0.00	100.00
95.500	0.251	4.74	104.95	0.00	0.00	0.00	100.00
95.751	0.623	6.11	260.07	0.00	0.00	0.00	100.00
96.374	0.468	6.11	195.08	0.00	0.00	0.00	100.00
96.841	0.623	7.56	259.19	0.00	0.00	0.00	100.00
97.464	0.438	7.56	181.99	0.00	0.00	0.00	100.00
97.902	0.623	8.98	257.99	0.00	0.00	0.00	100.00
98.525	0.480	8.98	198.25	0.00	0.00	0.00	100.00
99.005	0.623	10.42	256.38	0.00	0.00	0.00	100.00
99.627	0.373	10.42	152.89	0.00	0.00	0.00	100.00
100.000	0.072	10.42	29.64	0.00	0.00	0.00	100.00
100.072	0.623	11.83	255.05	0.00	0.00	0.00	100.00
100.695	0.481	11.83	196.72	0.00	0.00	0.00	100.00
101.176	0.623	13.15	254.38	0.00	0.00	0.00	100.00
101.798	0.522	13.15	212.92	0.00	0.00	0.00	100.00
102.321	0.623	14.29	253.36	0.00	0.00	0.00	100.00
102.943	0.623	14.29	252.68	0.00	0.00	0.00	100.00
103.566	0.006	14.29	2.41	0.00	0.00	0.00	100.00
103.572	0.623	15.31	251.91	0.00	0.00	0.00	100.00
104.194	0.306	15.31	123.29	0.00	0.00	0.00	100.00
104.500	0.225	15.31	90.84	0.00	0.00	0.00	100.00
104.725	0.623	16.44	250.68	0.00	0.00	0.00	100.00
105.348	0.491	16.44	197.33	0.00	0.00	0.00	100.00
105.839	0.623	17.63	249.61	0.00	0.00	0.00	100.00
106.462	0.459	17.63	183.46	0.00	0.00	0.00	100.00
106.921	0.623	18.82	248.26	0.00	0.00	0.00	100.00
107.543	0.484	18.82	192.48	0.00	0.00	0.00	100.00

108.028	0.623	19.96	246.56	0.00	0.00	0.00	100.00
108.650	0.452	19.96	178.28	0.00	0.00	0.00	100.00
109.102	0.623	21.09	244.59	0.00	0.00	0.00	100.00
109.725	0.475	21.09	185.64	0.00	0.00	0.00	100.00
110.200	0.623	22.15	242.28	0.00	0.00	0.00	100.00
110.822	0.497	22.15	192.43	0.00	0.00	0.00	100.00
111.319	0.623	23.11	239.62	0.00	0.00	0.00	100.00
111.942	0.558	23.11	213.33	0.00	0.00	0.00	100.00
112.500	0.006	23.11	2.45	0.00	0.00	0.00	100.00
112.506	0.623	23.29	236.33	0.00	0.00	0.00	100.00
113.129	0.537	23.29	202.08	0.00	0.00	0.00	100.00
113.666	0.623	23.47	232.43	0.00	0.00	0.00	100.00
114.289	0.516	23.47	191.02	0.00	0.00	0.00	100.00
114.805	0.623	23.66	228.55	0.00	0.00	0.00	100.00
115.427	0.508	23.66	184.72	0.00	0.00	0.00	100.00
115.935	0.623	23.85	224.63	0.00	0.00	0.00	100.00
116.558	0.500	23.85	178.64	0.00	0.00	0.00	100.00
117.057	0.623	24.04	220.69	0.00	0.00	0.00	100.00
117.680	0.515	24.04	180.94	0.00	0.00	0.00	100.00
118.195	0.623	24.22	216.64	0.00	0.00	0.00	100.00
118.818	0.531	24.22	183.07	0.00	0.00	0.00	100.00
119.349	0.623	24.40	212.47	0.00	0.00	0.00	100.00
119.972	0.570	24.40	192.50	0.00	0.00	0.00	100.00
120.542	0.623	24.57	208.11	0.00	0.00	0.00	100.00
121.164	0.623	24.57	205.81	0.00	0.00	0.00	100.00
121.787	0.003	24.57	0.88	0.00	0.00	0.00	100.00
121.790	0.623	26.65	203.33	0.00	0.00	0.00	100.00
122.412	0.479	26.65	154.45	0.00	0.00	0.00	100.00
122.891	0.109	29.02	35.03	0.00	0.00	0.00	100.00
123.000	0.623	29.02	197.61	0.00	0.00	0.00	100.00
123.623	0.331	29.02	103.47	0.00	0.00	0.00	100.00
123.953	0.623	31.53	191.84	0.00	0.00	0.00	100.00
124.576	0.391	31.53	118.41	0.00	0.00	0.00	100.00
124.967	0.623	33.86	184.96	0.00	0.00	0.00	100.00
125.590	0.464	33.86	134.97	0.00	0.00	0.00	100.00
126.054	0.623	36.08	176.80	0.00	0.00	0.00	100.00
126.677	0.400	36.08	110.86	0.00	0.00	0.00	100.00
127.076	0.623	38.20	168.36	0.00	0.00	0.00	100.00
127.699	0.445	38.20	116.97	0.00	0.00	0.00	100.00
128.144	0.623	40.02	158.78	0.00	0.00	0.00	100.00
128.767	0.487	40.02	120.02	0.00	0.00	0.00	100.00
129.254	0.623	41.50	148.13	0.00	0.00	0.00	100.00
129.876	0.608	41.50	138.63	0.00	0.00	0.00	100.00
130.484	0.016	41.57	3.51	0.00	0.00	0.00	100.00
130.500	0.623	41.57	135.53	0.00	0.00	0.00	100.00
131.123	0.552	41.57	114.86	0.00	0.00	0.00	100.00
131.675	0.623	41.64	123.34	0.00	0.00	0.00	100.00
132.298	0.535	41.64	100.72	0.00	0.00	0.00	100.00

LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio
dx(m) : Larghezza concio
alpha(°) : Angolo pendenza base concio
W(kN/m) : Forza peso concio
ru(-) : Coefficiente locale pressione interstiziale
U(kPa) : Pressione totale dei pori base concio
phi'(°) : Angolo di attrito efficace base concio
c'/Cu (kPa) : Coesione efficace o Resistenza al taglio in condizioni non drenate

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TABELLA DIAGRAMMA DELLE FORZE DELLA SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	ht (m)	yt (m)	yt' (--)	E(x) (kN/m)	T(x) (kN/m)	E' (kN)	rho(x) (--)	FS_qFEM (--)	FS_srmFEM (--)			
62.370	0.000	63.839	-0.316	0.0000000000E+000	0.0000000000E+000	1.4724430753E+003				0.225	4.412	4.885
62.500	0.031	63.797	-0.316	1.6478776288E+002	1.9145211217E+000	1.0679288815E+003				0.225	4.412	4.885
63.123	0.186	63.601	-0.311	2.2530814148E+002	3.1718382820E+000	1.0181150364E+002				0.062	2.149	2.396
63.745	0.345	63.409	-0.301	2.9157644960E+002	5.5782070367E+000	1.1187594764E+002				0.060	1.381	1.554
64.368	0.514	63.227	-0.299	3.6463035921E+002	1.0625586853E+001	1.2958278576E+002				0.078	1.098	1.232
64.991	0.675	63.037	-0.288	4.5294948350E+002	1.9888633101E+001	1.4255590554E+002				0.112	1.002	1.110
65.613	0.858	62.869	-0.273	5.4215917867E+002	3.1357861772E+001	1.5418352366E+002				0.142	0.989	1.078
66.236	1.038	62.697	-0.260	6.4495849801E+002	4.6466401646E+001	1.5779300757E+002				0.177	1.028	1.089
66.598	1.157	62.613	-0.222	7.0054799929E+002	5.5258327276E+001	1.4896969149E+002				0.193	1.065	1.105

67.221	1.356	62.479	-0.202	7.8840432968E+002	6.9075231324E+001	1.3982269629E+002	0.211	1.116	1.119
67.843	1.570	62.361	-0.174	8.7467307753E+002	8.3672903190E+001	1.3443712102E+002	0.227	1.204	1.153
68.466	1.805	62.263	-0.156	9.5582260181E+002	9.8434540196E+001	1.3403734863E+002	0.240	1.332	1.203
68.553	1.839	62.250	-0.126	9.6755449122E+002	1.0069005407E+002	1.3402926098E+002	0.242	1.355	1.212
69.176	2.052	62.174	-0.115	1.0486630157E+003	1.1709626193E+002	1.2844847729E+002	0.258	1.557	1.283
69.500	2.172	62.142	-0.091	1.0899920708E+003	1.2597598567E+002	1.2969011586E+002	0.266	1.690	1.325
69.835	2.300	62.114	-0.067	1.1342022902E+003	1.3593221179E+002	1.3004308659E+002	0.274	1.860	1.375
70.458	2.499	62.078	-0.047	1.2129703939E+003	1.5454454083E+002	1.2603099460E+002	0.289	2.256	1.476
70.872	2.644	62.066	-0.010	1.2650469232E+003	1.6760230844E+002	1.2190914821E+002	0.299	2.602	1.553
71.495	2.814	62.067	0.016	1.3373905770E+003	1.8686075174E+002	1.1389443048E+002	0.314	3.224	1.677
71.922	2.944	62.082	0.056	1.3853943269E+003	2.0034753004E+002	1.1316376816E+002	0.324	3.726	1.771
72.545	3.104	62.126	0.078	1.4566201710E+003	2.2126369349E+002	1.1383889067E+002	0.341	4.503	1.935
72.835	3.186	62.154	0.115	1.4895620831E+003	2.3121746976E+002	1.0785334391E+002	0.349	4.824	2.020
73.457	3.324	62.231	0.132	1.5490593863E+003	2.5016776414E+002	9.1577429477E+001	0.363	5.089	2.195
73.839	3.418	62.287	0.155	1.5831144675E+003	2.6132873177E+002	8.3975078337E+001	0.370	5.057	2.307
74.462	3.535	62.386	0.168	1.6301630364E+003	2.7727713218E+002	7.3785482936E+001	0.380	4.772	2.484
74.919	3.630	62.468	0.178	1.6632995590E+003	2.8868409906E+002	6.8317956804E+001	0.386	4.520	2.623
75.542	3.725	62.578	0.184	1.7023068317E+003	3.0231405721E+002	6.2016932248E+001	0.393	4.185	2.806
76.000	3.802	62.666	0.189	1.7305057363E+003	3.1225560702E+002	5.8458595834E+001	0.398	3.970	2.949
76.253	3.843	62.713	0.187	1.7448719949E+003	3.1734550871E+002	5.5963553328E+001	0.402	3.870	3.025
76.876	3.944	62.830	0.182	1.7785172614E+003	3.2933883501E+002	5.0971402560E+001	0.410	3.682	3.214
77.498	4.040	62.940	0.177	1.8083480950E+003	3.4007879473E+002	4.7399309806E+001	0.416	3.574	3.387
77.503	4.041	62.941	0.187	1.8085839515E+003	3.4016427410E+002	4.7397905407E+001	0.416	3.573	3.389
78.126	4.142	63.058	0.188	1.8383044937E+003	3.5102259907E+002	4.6486339203E+001	0.422	3.492	3.559
78.689	4.234	63.163	0.200	1.8638376793E+003	3.6054507027E+002	4.8719101489E+001	0.427	3.433	3.695
79.000	4.296	63.233	0.229	1.8795654717E+003	3.6659196146E+002	5.0521204816E+001	0.430	3.399	3.762
79.623	4.425	63.377	0.237	1.9109568526E+003	3.7891003277E+002	5.2352159046E+001	0.433	3.333	3.869
79.850	4.477	63.434	0.251	1.9230055980E+003	3.8371798553E+002	5.2535277893E+001	0.434	3.309	3.899
80.472	4.619	63.591	0.258	1.9548236484E+003	3.9667914271E+002	5.1170350211E+001	0.437	3.247	3.934
80.975	4.740	63.724	0.277	1.9805510692E+003	4.0746497910E+002	5.2487866341E+001	0.440	3.200	3.900
81.597	4.904	63.903	0.281	2.0142065983E+003	4.2184101666E+002	5.1789476671E+001	0.444	3.141	3.793
82.108	5.031	64.043	0.268	2.0397199645E+003	4.3294453567E+002	4.8526568646E+001	0.446	3.098	3.669
82.731	5.180	64.207	0.263	2.0688678639E+003	4.4586275619E+002	4.5922279851E+001	0.449	3.050	3.486
83.000	5.243	64.277	0.258	2.0811219371E+003	4.5133736520E+002	4.4756507959E+001	0.450	3.030	3.405
83.240	5.299	64.338	0.254	2.0916877335E+003	4.5611199621E+002	4.3800409112E+001	0.451	3.013	3.324
83.862	5.442	64.496	0.255	2.1185407385E+003	4.6837686861E+002	4.2724767271E+001	0.454	2.969	3.112
84.377	5.562	64.628	0.268	2.1403437488E+003	4.7852609207E+002	4.2986567581E+001	0.456	2.933	2.937
84.999	5.718	64.800	0.276	2.1675571273E+003	4.9146946965E+002	4.0564577796E+001	0.460	2.884	2.720
85.000	5.719	64.800	0.274	2.1675800765E+003	4.9148048960E+002	4.0563109053E+001	0.460	2.884	2.720
85.510	5.846	64.940	0.282	2.1889177800E+003	5.0184507950E+002	4.2286526710E+001	0.460	2.844	2.559
86.133	6.008	65.120	0.290	2.2156085985E+003	5.1504549071E+002	4.2622749976E+001	0.462	2.791	2.374
86.635	6.140	65.266	0.297	2.2369238837E+003	5.2577999176E+002	4.2801606094E+001	0.463	2.746	2.239
87.258	6.307	65.454	0.288	2.2638640954E+003	5.3958158962E+002	4.0349184887E+001	0.465	2.689	2.083
87.755	6.425	65.589	0.272	2.2827602978E+003	5.4949043052E+002	3.8034917885E+001	0.465	2.645	1.983
88.378	6.571	65.759	0.273	2.3064541136E+003	5.6218967493E+002	3.7916791174E+001	0.466	2.589	1.867
88.500	6.599	65.792	0.263	2.3110876624E+003	5.6470916650E+002	3.7590400634E+001	0.467	2.578	1.845
88.873	6.682	65.889	0.269	2.3247572946E+003	5.7218983881E+002	3.7180559938E+001	0.470	2.544	1.783
89.495	6.827	66.060	0.263	2.3484323472E+003	5.8541110593E+002	3.5545130152E+001	0.476	2.485	1.684
89.994	6.929	66.184	0.263	2.3651551609E+003	5.9491327799E+002	3.4174506501E+001	0.479	2.442	1.618
90.616	7.070	66.355	0.276	2.3869102365E+003	6.0708508356E+002	3.4122549097E+001	0.484	2.388	1.539
91.121	7.186	66.494	0.293	2.4038080904E+003	6.1624661797E+002	3.3856470928E+001	0.487	2.345	1.483
91.744	7.344	66.685	0.300	2.4251932120E+003	6.2650346218E+002	3.2513917391E+001	0.490	2.287	1.417
92.261	7.468	66.836	0.290	2.4412227999E+003	6.3335669647E+002	2.9637253135E+001	0.492	2.240	1.371
92.500	7.523	66.905	0.281	2.4481520615E+003	6.3598882762E+002	2.8272963969E+001	0.492	2.219	1.352
93.123	7.661	67.079	0.269	2.4645586307E+003	6.4073121506E+002	2.3082523725E+001	0.484	2.163	1.310
93.427	7.720	67.154	0.245	2.4711041905E+003	6.4161778014E+002	2.1005071264E+001	0.479	2.136	1.295
94.050	7.833	67.305	0.233	2.4835735080E+003	6.4167960389E+002	1.8233691754E+001	0.469	2.078	1.266
94.500	7.903	67.404	0.214	2.4911959292E+003	6.4013103844E+002	1.5377849502E+001	0.460	2.033	1.249
94.633	7.922	67.430	0.195	2.4931818075E+003	6.3943082575E+002	1.4696222509E+001	0.459	2.020	1.245
95.256	7.991	67.551	0.190	2.5016922816E+003	6.3468748914E+002	1.2026068935E+001	0.453	1.951	1.227
95.500	8.015	67.595	0.173	2.5044718079E+003	6.3236403173E+002	1.0250405510E+001	0.451	1.924	1.221
95.751	8.035	67.637	0.172	2.5067528246E+003	6.2968351709E+002	8.4440158411E+000	0.449	1.894	1.215
96.374	8.078	67.746	0.170	2.5110174657E+003	6.2159969169E+002	4.7494484153E+000	0.444	1.811	1.203
96.841	8.104	67.822	0.150	2.5125013069E+003	6.1516812061E+002	1.1928457510E+000	0.440	1.749	1.196
97.464	8.109	67.910	0.137	2.5116034934E+003	6.0677323440E+002	-4.0481470064E+000	0.435	1.672	1.190
97.902	8.108	67.967	0.123	2.5090263750E+003	6.0146731193E+002	-7.5527085841E+000	0.432	1.621	1.187
98.525	8.083	68.040	0.117	2.5028451703E+003	5.9471512271E+002	-1.2382099244E+001	0.428	1.554	1.185
99.005	8.062	68.095	0.124	2.4959951677E+003	5.9049160691E+002	-1.6886712040E+001	0.427	1.507	1.184
99.627	8.029	68.177	0.131	2.4833697326E+003	5.8646458420E+002	-2.2552597379E+001	0.425	1.454	1.184
100.000	8.010	68.226	0.138	2.4744607924E+003	5.8469488235E+002	-2.6192444409E+001	0.425	1.426	1.184
100.072	8.009	68.238	0.192	2.4725350066E+003	5.8439044485E+002	-2.7202054928E+001	0.425	1.421	1.184
100.695	7.999	68.359	0.193	2.4525543739E+003	5.8205676278E+002	-3.3897848099E+001	0.424	1.378	1.184
101.176	7.991	68.452	0.193	2.4355849021E+003	5.8039680044E+002	-3.7003760199E+001	0.423	1.348	1.184
101.798	7.966	68.572	0.192	2.4111657414E+003	5.7813324474E+002	-4.0043038534E+001	0.422	1.312	1.184
102.321	7.944	68.671	0.197	2.3898966396E+003	5.7608517274E+002	-4.2408608122E+001	0.421	1.286	1.183

102.943	7.911	68.797	0.202	2.3622479484E+003	5.7315343367E+002	-4.4805217744E+001	0.420	1.257	1.182
103.566	7.877	68.922	0.201	2.3340994603E+003	5.6981918999E+002	-4.5042981427E+001	0.419	1.231	1.180
103.572	7.877	68.923	0.215	2.3338313533E+003	5.6978558272E+002	-4.5084799315E+001	0.419	1.231	1.180
104.194	7.841	69.058	0.213	2.3029330390E+003	5.6565512255E+002	-4.8940417272E+001	0.417	1.205	1.178
104.500	7.820	69.121	0.204	2.2880839135E+003	5.6346577444E+002	-4.7879242240E+001	0.416	1.195	1.177
104.725	7.804	69.166	0.215	2.2774158894E+003	5.6178701192E+002	-4.8893373327E+001	0.415	1.187	1.176
105.348	7.758	69.304	0.226	2.2443049819E+003	5.5618966628E+002	-5.5208770362E+001	0.412	1.165	1.173
105.839	7.727	69.418	0.246	2.2164039054E+003	5.5100853863E+002	-5.9651268113E+001	0.409	1.148	1.171
106.462	7.688	69.577	0.262	2.1770196766E+003	5.4307317379E+002	-6.5919204414E+001	0.404	1.125	1.166
106.921	7.667	69.701	0.284	2.1458733413E+003	5.3627812096E+002	-7.0774168673E+001	0.400	1.109	1.163
107.543	7.638	69.884	0.301	2.0993634840E+003	5.2544967012E+002	-7.7559334849E+001	0.393	1.086	1.158
108.028	7.623	70.034	0.322	2.0607199684E+003	5.1587313184E+002	-8.2772639710E+001	0.387	1.070	1.154
108.650	7.602	70.240	0.327	2.0067906917E+003	5.0149994539E+002	-8.6068342238E+001	0.378	1.050	1.150
109.102	7.584	70.386	0.314	1.9680699448E+003	4.9070028681E+002	-8.4610451859E+001	0.371	1.038	1.147
109.725	7.535	70.577	0.305	1.9162991099E+003	4.7580530848E+002	-8.2559304120E+001	0.362	1.025	1.143
110.200	7.495	70.720	0.301	1.8773158952E+003	4.6442810693E+002	-8.2620390219E+001	0.355	1.016	1.142
110.822	7.429	70.908	0.296	1.8254571374E+003	4.4920190776E+002	-8.2007618708E+001	0.345	1.008	1.140
111.319	7.371	71.052	0.290	1.7851907392E+003	4.3738824507E+002	-8.1421836638E+001	0.338	1.003	1.139
111.942	7.286	71.233	0.284	1.7341535181E+003	4.2251373024E+002	-8.0309695758E+001	0.328	0.998	1.139
112.500	7.203	71.388	0.277	1.6901786355E+003	4.0982503367E+002	-7.5779609919E+001	0.320	0.996	1.139
112.506	7.202	71.389	0.284	1.6896910594E+003	4.0968534330E+002	-7.5802766751E+001	0.320	0.996	1.139
113.129	7.111	71.566	0.284	1.6389796377E+003	3.9522305457E+002	-8.1422782485E+001	0.312	0.996	1.140
113.666	7.032	71.719	0.291	1.5952771445E+003	3.8286766741E+002	-8.3210791348E+001	0.304	0.996	1.142
114.289	6.947	71.904	0.297	1.5421611004E+003	3.6792343876E+002	-8.4914856015E+001	0.295	0.998	1.143
114.805	6.875	72.057	0.304	1.4985091739E+003	3.5567930103E+002	-8.6087798314E+001	0.287	1.000	1.145
115.427	6.796	72.250	0.310	1.4437815101E+003	3.4031245860E+002	-8.7465913103E+001	0.278	1.002	1.146
115.935	6.731	72.407	0.318	1.3995604320E+003	3.2785712240E+002	-8.8433592303E+001	0.270	1.005	1.148
116.558	6.657	72.609	0.319	1.3434911060E+003	3.1198477952E+002	-8.7359170657E+001	0.259	1.008	1.149
117.057	6.592	72.765	0.310	1.3009281487E+003	2.9987324580E+002	-8.4171158076E+001	0.251	1.010	1.150
117.680	6.507	72.957	0.316	1.2493181538E+003	2.8509790299E+002	-8.4328607969E+001	0.241	1.013	1.151
118.195	6.445	73.125	0.333	1.2052553978E+003	2.7242457290E+002	-8.6583130574E+001	0.232	1.015	1.152
118.818	6.376	73.336	0.340	1.1505450287E+003	2.5673615860E+002	-8.7408492246E+001	0.221	1.016	1.154
119.349	6.318	73.517	0.343	1.1043139707E+003	2.4358767451E+002	-8.7185721586E+001	0.212	1.016	1.157
119.972	6.251	73.732	0.333	1.0499048847E+003	2.2839463512E+002	-8.3698971033E+001	0.201	1.014	1.161
120.542	6.175	73.915	0.318	1.0041194650E+003	2.1588316231E+002	-7.9668972813E+001	0.191	1.012	1.165
121.164	6.087	74.112	0.305	9.5496099578E+002	2.0286907362E+002	-7.5995346233E+001	0.182	1.008	1.171
121.787	5.984	74.294	0.293	9.0948035442E+002	1.9124667241E+002	-7.7843107350E+001	0.173	1.003	1.179
121.790	5.984	74.295	0.293	9.0927174122E+002	1.9119465691E+002	-7.7843711579E+001	0.173	1.003	1.179
122.412	5.854	74.477	0.294	8.6370328514E+002	1.8003953225E+002	-7.3502702690E+001	0.165	0.998	1.189
122.891	5.755	74.618	0.297	8.2841372692E+002	1.7162705077E+002	-7.7424761626E+001	0.159	0.994	1.198
123.000	5.728	74.652	0.306	8.1986498880E+002	1.6960234663E+002	-7.8105969175E+001	0.158	0.994	1.201
123.623	5.573	74.842	0.308	7.7179206476E+002	1.5835895518E+002	-7.8426660119E+001	0.150	0.992	1.216
123.953	5.493	74.946	0.326	7.4564550351E+002	1.5228285377E+002	-8.1061007966E+001	0.146	0.991	1.226
124.576	5.318	75.153	0.340	6.9284334745E+002	1.3998020089E+002	-8.7448146803E+001	0.137	0.994	1.248
124.967	5.215	75.290	0.364	6.5798999102E+002	1.3180875498E+002	-9.1332567378E+001	0.131	0.997	1.264
125.590	5.029	75.522	0.384	5.9891860600E+002	1.1783840160E+002	-9.8625350051E+001	0.120	1.006	1.295
126.054	4.903	75.707	0.404	5.5182284841E+002	1.0659450322E+002	-1.0218103045E+002	0.110	1.016	1.323
126.677	4.703	75.961	0.412	4.8756853660E+002	9.1163481446E+001	-1.0363507531E+002	0.097	1.037	1.365
127.076	4.578	76.128	0.404	4.4602931735E+002	8.1239119217E+001	-1.0108253951E+002	0.088	1.054	1.396
127.699	4.335	76.374	0.394	3.8584018140E+002	6.7049836600E+001	-9.4076715945E+001	0.075	1.083	1.446
128.144	4.159	76.548	0.385	3.4479941229E+002	5.7601597053E+001	-9.0530994310E+001	0.066	1.105	1.483
128.767	3.873	76.785	0.379	2.8990735417E+002	4.5075909320E+001	-8.7951335278E+001	0.054	1.140	1.538
129.254	3.648	76.968	0.379	2.4717817152E+002	3.5307274468E+001	-8.6453970472E+001	0.049	1.171	1.586
129.876	3.334	77.206	0.375	1.9441124458E+002	2.4062660085E+001	-8.0092892314E+001	0.049	1.215	1.650
130.484	3.020	77.430	0.367	1.4847235025E+002	1.5321083919E+001	-5.6507631336E+001	0.049	1.260	1.713
130.500	3.011	77.434	0.369	1.4758974081E+002	1.5170310000E+001	-5.6165821143E+001	0.049	1.262	1.714
131.123	2.689	77.665	0.491	1.0888515651E+002	9.4891365243E+000	-7.2297123279E+001	0.049	1.309	1.779
131.675	2.546	78.012	0.625	6.3971336570E+001	4.9213278427E+000	-7.1072123682E+001	0.049	1.385	1.881
132.298	2.380	78.400	0.625	2.6889146613E+001	1.8713805060E+000	-5.4576266616E+001	0.049	1.470	1.993

LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio

ht(m) : Altezza linea di thrust da nodo sinistro base concio

yt(m) : coordinata Y linea di trust

yt'(-) : gradiente pendenza locale linea di trust

E(x)(kN/m) : Forza Normale interconcio

T(x)(kN/m) : Forza Tangenziale interconcio

E' (kN) : derivata Forza normale interconcio

Rho(x) (-) : fattore mobilizzazione resistenza al taglio verticale interconcio ZhU et al.(2003)

FS_qFEM(x)(-) : fattore di sicurezza locale stimato (locale in X) by qFEM

FS_srmFEM(x)(-) : fattore di sicurezza locale stimato (locale in X) by SRM Procedure

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TABELLA SFORZI DI TAGLIO DISTRIBUITI LUNGO SUPERFICIE INDIVIDUATA CON MINOR FS

X (m)	dx (m)	dl (m)	alpha (°)	TauStress (kPa)	TauF (kN/m)	TauStrength (kPa)	TauS (kN/m)
62.370	0.130	0.149	-29.414	-0.498	-0.074	109.191	16.262
62.500	0.623	0.715	-29.414	-3.468	-2.479	101.258	72.379
63.123	0.623	0.715	-29.414	-8.414	-6.014	102.407	73.201
63.745	0.623	0.715	-29.414	-13.360	-9.550	105.049	75.089
64.368	0.623	0.715	-29.414	-18.305	-13.085	109.266	78.104
64.991	0.623	0.715	-29.414	-23.251	-16.620	111.473	79.681
65.613	0.623	0.715	-29.414	-28.197	-20.155	115.113	82.283
66.236	0.362	0.416	-29.414	-32.108	-13.344	115.126	47.847
66.598	0.623	0.706	-28.102	-34.734	-24.518	113.424	80.064
67.221	0.623	0.706	-28.102	-39.369	-27.790	114.182	80.599
67.843	0.623	0.706	-28.102	-44.005	-31.062	114.342	80.712
68.466	0.087	0.099	-28.102	-46.647	-4.611	115.650	11.431
68.553	0.623	0.687	-24.992	-44.638	-30.666	114.690	78.791
69.176	0.324	0.358	-24.992	-47.614	-17.028	115.273	41.224
69.500	0.335	0.370	-24.992	-49.802	-18.411	116.567	43.091
69.835	0.623	0.666	-20.733	-44.596	-29.691	114.409	76.171
70.458	0.414	0.443	-20.733	-47.376	-20.983	115.195	51.022
70.872	0.623	0.645	-15.102	-35.785	-23.079	111.327	71.799
71.495	0.427	0.443	-15.102	-37.559	-16.626	111.557	49.382
71.922	0.623	0.633	-10.543	-25.386	-16.078	108.797	68.907
72.545	0.290	0.295	-10.543	-26.278	-7.752	108.988	32.152
72.835	0.623	0.626	-5.674	-10.450	-6.539	104.360	65.301
73.457	0.382	0.384	-5.674	-10.782	-4.140	104.185	40.000
73.839	0.623	0.623	-1.606	4.052	2.524	101.045	62.942
74.462	0.457	0.457	-1.606	4.168	1.906	101.018	46.200
74.919	0.623	0.623	1.379	16.038	9.989	99.233	61.807
75.542	0.458	0.458	1.379	16.431	7.530	99.240	45.476
76.000	0.253	0.253	1.379	16.659	4.219	99.296	25.145
76.253	0.623	0.623	1.380	16.874	10.510	99.325	61.864
76.876	0.623	0.623	1.380	17.172	10.696	99.395	61.908
77.498	0.005	0.005	1.380	17.323	0.086	99.398	0.495
77.503	0.623	0.623	1.382	17.479	10.887	99.388	61.903
78.126	0.563	0.563	1.382	17.763	10.002	99.406	55.971
78.689	0.311	0.311	1.383	17.979	5.593	99.317	30.895
79.000	0.623	0.623	1.383	18.304	11.401	99.305	61.852
79.623	0.227	0.227	1.383	18.647	4.236	99.256	22.546
79.850	0.623	0.623	1.385	18.996	11.832	99.268	61.829
80.472	0.502	0.502	1.385	19.449	9.771	99.245	49.857
80.975	0.623	0.623	1.386	19.910	12.401	99.187	61.778
81.597	0.511	0.511	1.386	20.367	10.409	99.235	50.718
82.108	0.623	0.623	1.388	20.831	12.975	99.269	61.829
82.731	0.269	0.269	1.388	21.191	5.704	99.283	26.724
83.000	0.240	0.240	1.388	21.382	5.129	99.298	23.819
83.240	0.623	0.623	1.389	21.689	13.509	99.305	61.852
83.862	0.514	0.514	1.389	22.083	11.361	99.304	51.087
84.377	0.623	0.623	1.391	22.486	14.005	99.266	61.827
84.999	0.001	0.001	1.391	22.702	0.013	99.312	0.056
85.000	0.510	0.510	1.391	22.923	11.702	99.282	50.681
85.510	0.623	0.623	1.652	24.904	15.514	99.110	61.738
86.133	0.502	0.503	1.652	25.418	12.775	99.103	49.810
86.635	0.623	0.623	1.917	27.504	17.136	98.921	61.629
87.258	0.497	0.497	1.917	28.042	13.945	99.029	49.245
87.755	0.623	0.623	2.185	30.229	18.836	98.869	61.607
88.378	0.122	0.122	2.185	30.604	3.745	98.857	12.098
88.500	0.373	0.373	2.185	30.766	11.475	98.887	36.882
88.873	0.623	0.623	2.453	32.722	20.393	98.678	61.500
89.495	0.498	0.499	2.453	33.035	16.475	98.813	49.279
89.994	0.623	0.623	2.727	35.112	21.888	98.648	61.494
90.616	0.505	0.506	2.727	35.438	17.917	98.745	49.923
91.121	0.623	0.624	2.996	37.528	23.399	98.748	61.571
91.744	0.517	0.518	2.996	37.869	19.612	98.993	51.269
92.261	0.239	0.239	3.261	39.849	9.533	99.089	23.706
92.500	0.623	0.624	3.261	40.400	25.196	99.370	61.975
93.123	0.305	0.305	3.261	41.111	12.546	99.759	30.443
93.427	0.623	0.624	3.512	43.569	27.180	99.991	62.378
94.050	0.450	0.451	3.512	44.421	20.027	100.306	45.223
94.500	0.133	0.133	3.512	44.806	5.977	100.468	13.401
94.633	0.623	0.625	4.742	53.729	33.570	100.914	63.051
95.256	0.244	0.245	4.742	53.920	13.213	101.141	24.783
95.500	0.251	0.252	4.742	53.964	13.592	101.281	25.511
95.751	0.623	0.626	6.107	63.591	39.822	101.999	63.874

96.374	0.468	0.470	6.107	63.496	29.871	102.118	48.040
96.841	0.623	0.628	7.555	73.482	46.155	102.558	64.419
97.464	0.438	0.442	7.555	73.326	32.408	102.298	45.213
97.902	0.623	0.630	8.979	82.874	52.243	102.434	64.573
98.525	0.480	0.486	8.979	82.633	40.146	101.975	49.544
99.005	0.623	0.633	10.415	91.930	58.200	101.674	64.369
99.627	0.373	0.379	10.415	91.628	34.706	101.230	38.343
100.000	0.072	0.074	10.415	91.512	6.728	101.090	7.432
100.072	0.623	0.636	11.835	100.664	64.041	101.095	64.316
100.695	0.481	0.491	11.835	100.551	49.395	101.009	49.619
101.176	0.623	0.639	13.145	108.684	69.494	101.172	64.691
101.798	0.522	0.536	13.145	108.482	58.166	101.265	54.296
102.321	0.623	0.643	14.287	115.263	74.061	101.639	65.307
102.943	0.623	0.643	14.287	114.954	73.862	101.864	65.451
103.566	0.006	0.006	14.287	114.798	0.705	101.966	0.626
103.572	0.623	0.646	15.307	120.707	77.925	102.459	66.144
104.194	0.306	0.317	15.307	120.410	38.139	102.657	32.515
104.500	0.225	0.234	15.307	120.280	28.100	102.762	24.007
104.725	0.623	0.649	16.442	126.699	82.255	103.553	67.228
105.348	0.491	0.512	16.442	126.452	64.750	104.170	53.340
105.839	0.623	0.653	17.633	132.838	86.791	105.356	68.836
106.462	0.459	0.481	17.633	132.502	63.790	106.225	51.139
106.921	0.623	0.658	18.815	138.507	91.112	107.729	70.866
107.543	0.484	0.512	18.815	138.056	70.640	108.788	55.664
108.028	0.623	0.662	19.957	143.476	95.045	110.782	73.387
108.650	0.452	0.481	19.957	142.930	68.724	111.161	53.449
109.102	0.623	0.667	21.091	147.956	98.741	111.693	74.541
109.725	0.475	0.509	21.091	147.281	74.942	111.714	56.844
110.200	0.623	0.672	22.152	151.571	101.899	112.433	75.587
110.822	0.497	0.537	22.152	150.764	80.932	112.081	60.167
111.319	0.623	0.677	23.112	154.233	104.416	112.557	76.201
111.942	0.558	0.607	23.112	153.262	92.963	111.955	67.908
112.500	0.006	0.007	23.112	152.796	1.069	111.407	0.780
112.506	0.623	0.678	23.290	152.889	103.644	112.281	76.115
113.129	0.537	0.584	23.290	151.632	88.625	112.169	65.560
113.666	0.623	0.679	23.473	151.144	102.603	112.767	76.551
114.289	0.516	0.563	23.473	149.885	84.323	112.621	63.359
114.805	0.623	0.680	23.659	149.385	101.552	113.207	76.958
115.427	0.508	0.554	23.659	148.111	82.080	113.131	62.695
115.935	0.623	0.681	23.846	147.584	100.473	113.723	77.421
116.558	0.500	0.546	23.846	146.295	79.903	113.052	61.747
117.057	0.623	0.682	24.037	145.745	99.367	112.852	76.941
117.680	0.515	0.564	24.037	144.412	81.469	113.322	63.930
118.195	0.623	0.683	24.222	143.777	98.167	113.725	77.648
118.818	0.531	0.583	24.222	142.400	82.957	113.482	66.110
119.349	0.623	0.684	24.403	141.686	96.878	113.366	77.514
119.972	0.570	0.626	24.403	140.236	87.773	112.024	70.115
120.542	0.623	0.685	24.572	139.390	95.436	111.508	76.346
121.164	0.623	0.685	24.572	137.850	94.382	110.277	75.503
121.787	0.003	0.003	24.572	137.077	0.404	110.690	0.326
121.790	0.623	0.697	26.645	143.151	99.726	110.455	76.948
122.412	0.479	0.535	26.645	141.501	75.755	110.260	59.030
122.891	0.109	0.125	29.021	147.576	18.434	111.448	13.921
123.000	0.623	0.712	29.021	146.039	103.990	111.152	79.148
123.623	0.331	0.378	29.021	143.991	54.448	111.350	42.105
123.953	0.623	0.731	31.531	147.851	108.008	112.822	82.419
124.576	0.391	0.459	31.531	145.287	66.668	113.558	52.109
124.967	0.623	0.750	33.859	147.059	110.269	115.113	86.315
125.590	0.464	0.559	33.859	143.906	80.467	116.311	65.037
126.054	0.623	0.770	36.076	143.855	110.826	117.172	90.269
126.677	0.400	0.495	36.076	140.516	69.495	117.204	57.965
127.076	0.623	0.792	38.201	139.251	110.336	116.124	92.011
127.699	0.445	0.566	38.201	135.378	76.659	115.023	65.133
128.144	0.623	0.813	40.017	132.609	107.815	114.423	93.029
128.767	0.487	0.636	40.017	128.235	81.495	114.390	72.697
129.254	0.623	0.831	41.497	124.332	103.362	113.048	93.981
129.876	0.608	0.812	41.497	119.157	96.736	110.387	89.616
130.484	0.016	0.021	41.569	116.555	2.455	106.916	2.252
130.500	0.623	0.832	41.569	113.780	94.694	106.594	88.714
131.123	0.552	0.738	41.569	108.667	80.248	105.975	78.260
131.675	0.623	0.833	41.643	103.565	86.293	103.541	86.273
132.298	0.535	0.715	41.643	98.515	70.468	102.531	73.341

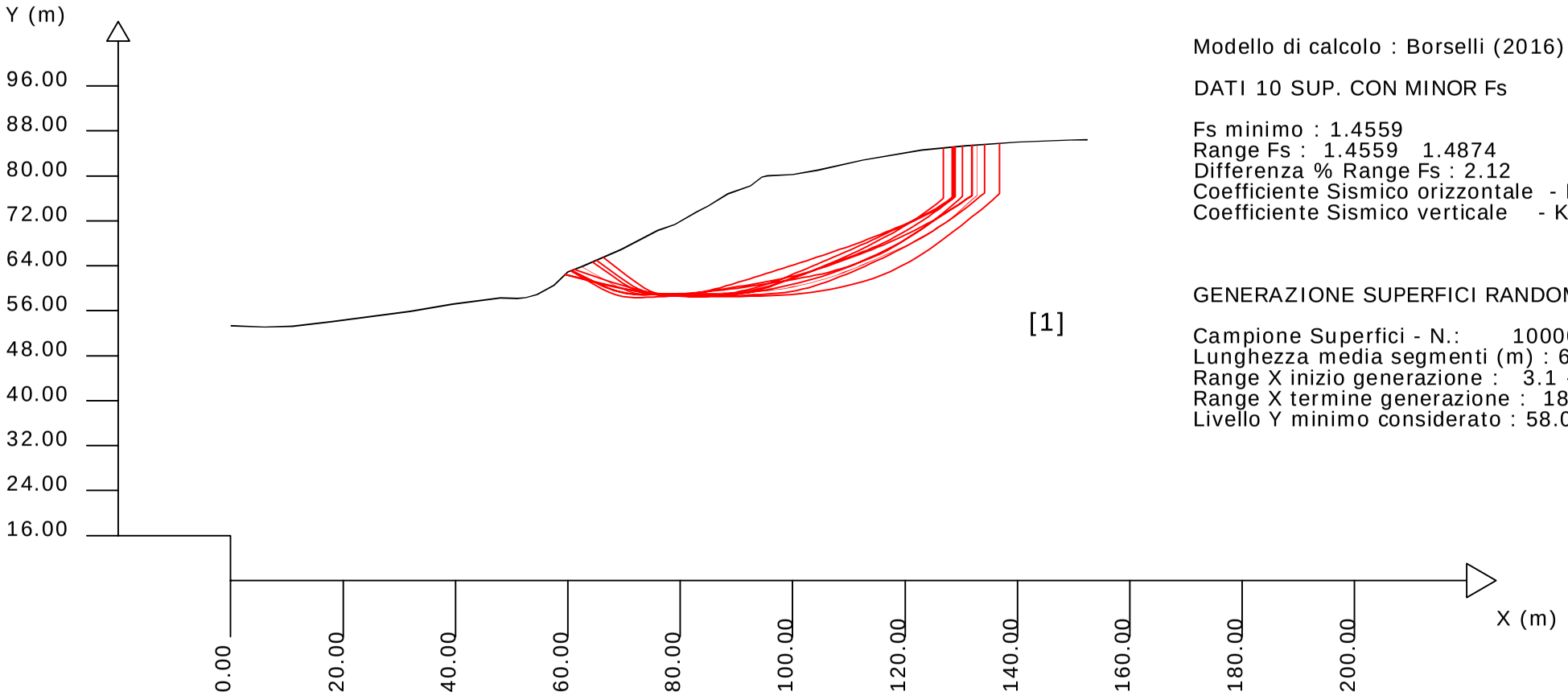
LEGENDA SIMBOLI

X(m) : Ascissa sinistra concio

dx(m) : Larghezza concio
dl(m) : lunghezza base concio
alpha(°) : Angolo pendenza base concio
TauStress(kPa) : Sforzo di taglio su base concio
TauF (kN/m) : Forza di taglio su base concio
TauStrength(kPa) : Resistenza al taglio su base concio
TauS (kN/m) : Forza resistente al taglio su base concio

SSAP 5.0 (2020) - Slope Stability Analysis Program
Software by Dr.Geol. L.Borselli - www.lorenzo-borselli.eu
SSAP/DXF generator rel. 2.0 (2020)

Data : 26/11/2021
Localita' :
Descrizione :
[n] = N. strato o lente



Modello di calcolo : Borselli (2016)

DATI 10 SUP. CON MINOR Fs

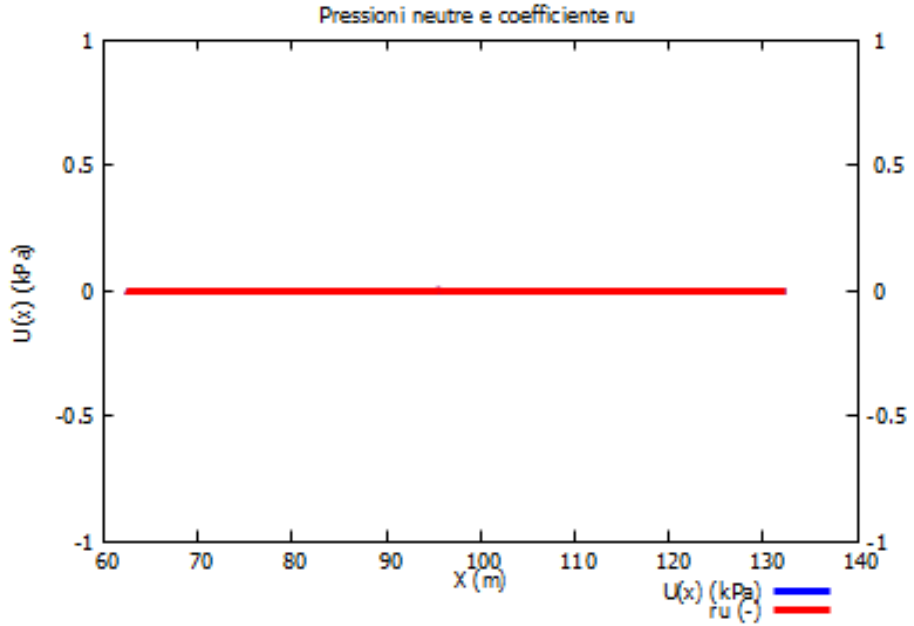
Fs minimo : 1.4559
Range Fs : 1.4559 1.4874
Differenza % Range Fs : 2.12
Coefficiente Sismico orizzontale - Kh: 0.0470
Coefficiente Sismico verticale - Kv: 0.0235

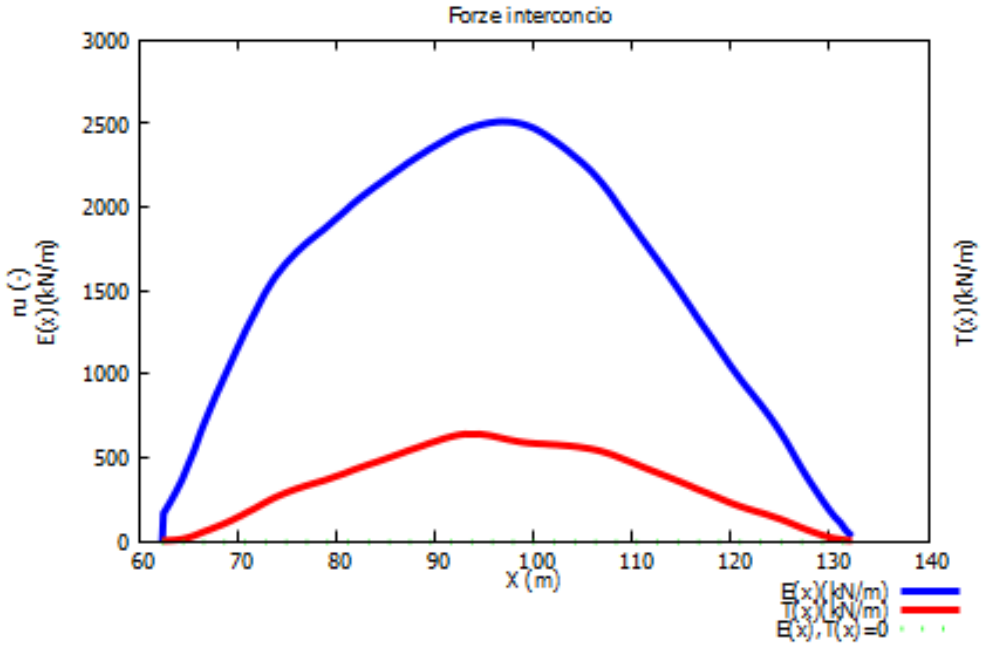
GENERAZIONE SUPERFICI RANDOM

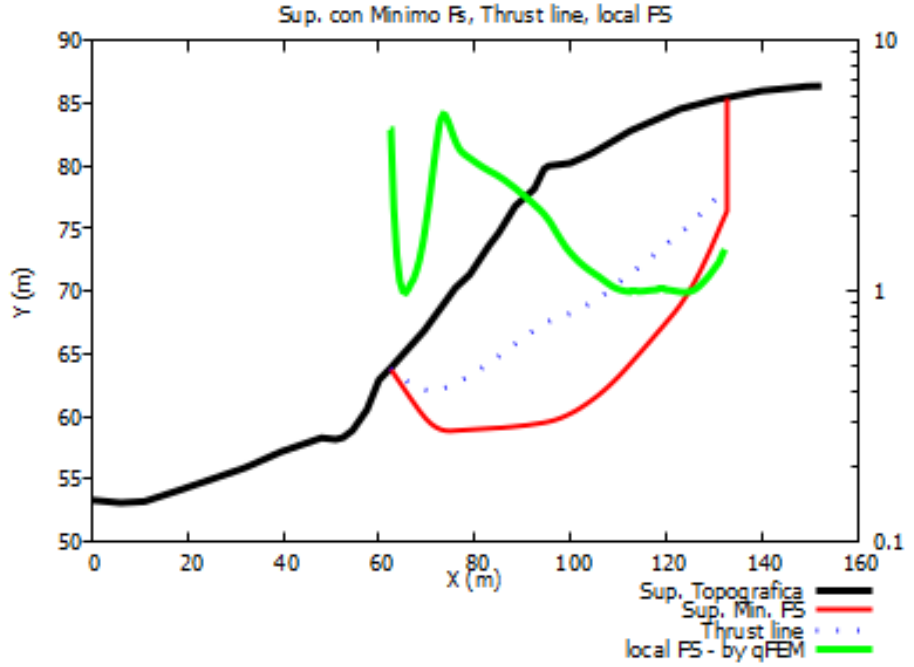
Campione Superfici - N.: 10000
Lunghezza media segmenti (m) : 6.1
Range X inizio generazione : 3.1 - 140.3
Range X termine generazione : 18.3 - 149.5
Livello Y minimo considerato : 58.0

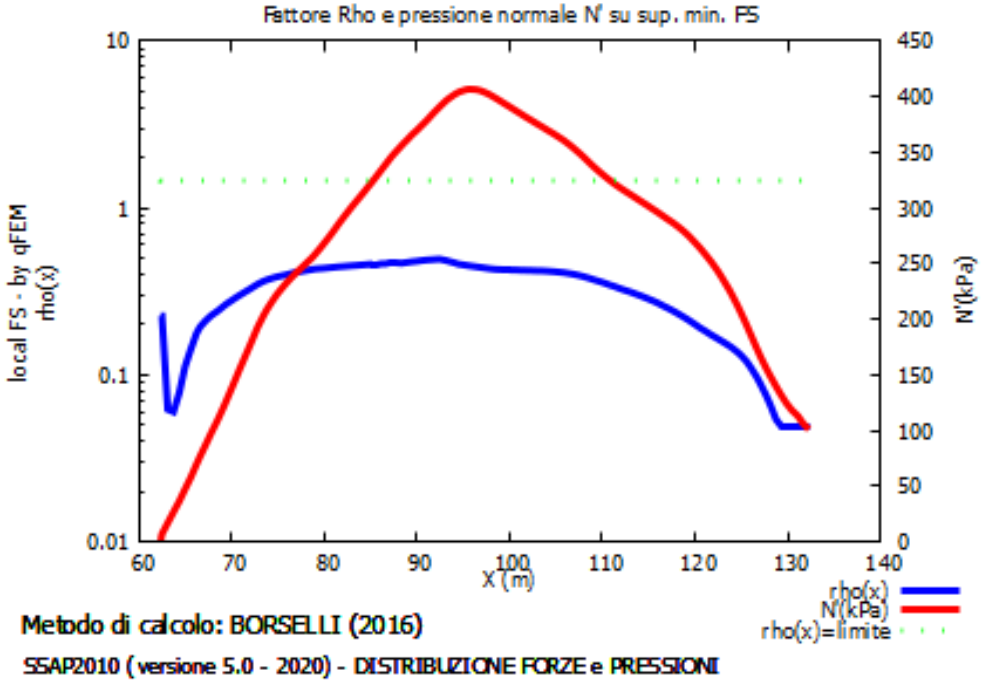
Parametri Geotecnici degli strati # ----------

N.	phi`	C`	Cu	Gamm	GammSat	sgci	GSI	mi	D
..	deg	kPa	kPa	kN/m3	kN/m3	MPa	..	..	..
1	0	0	100.00	20.00	22.00	0	0	0	0





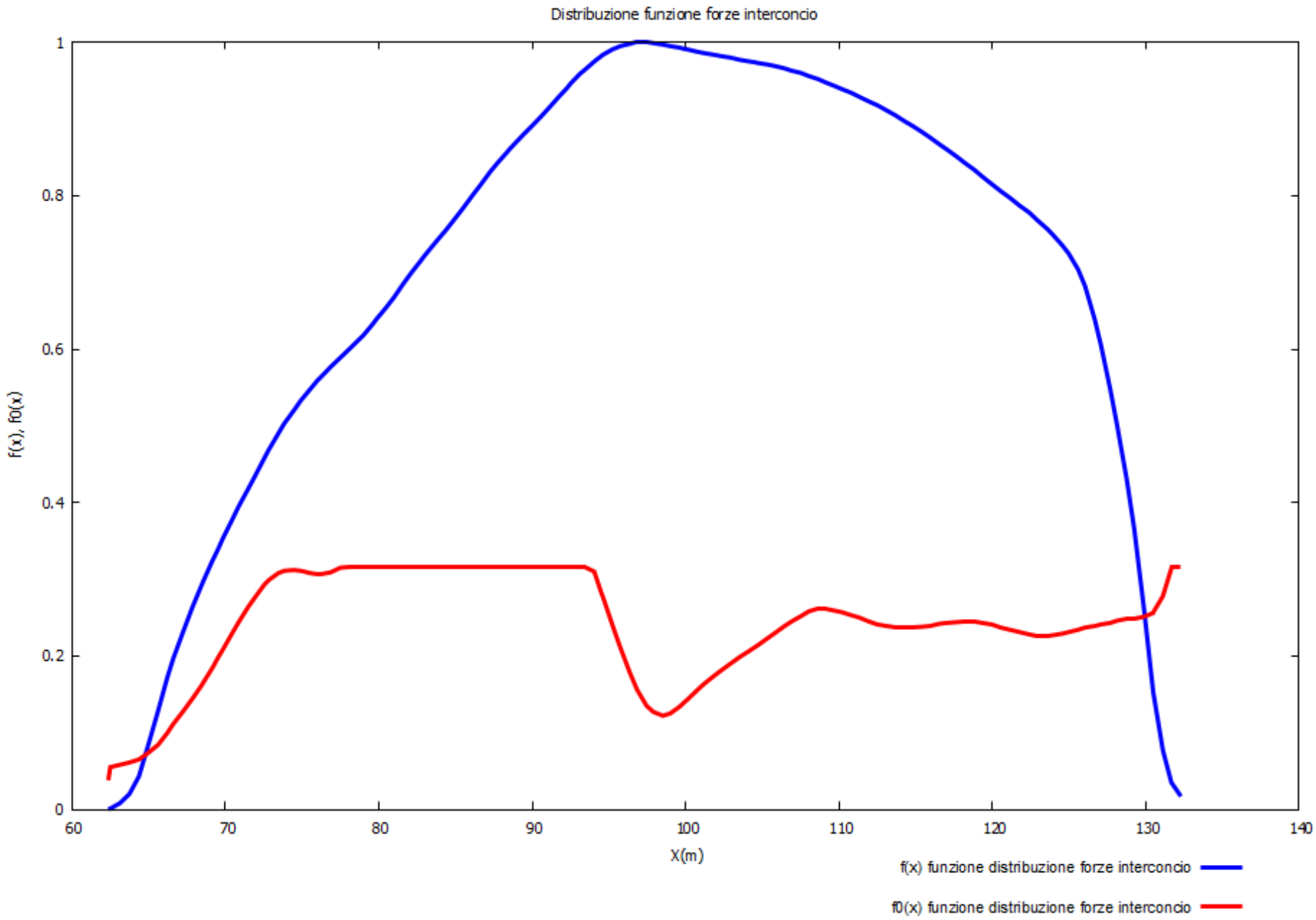


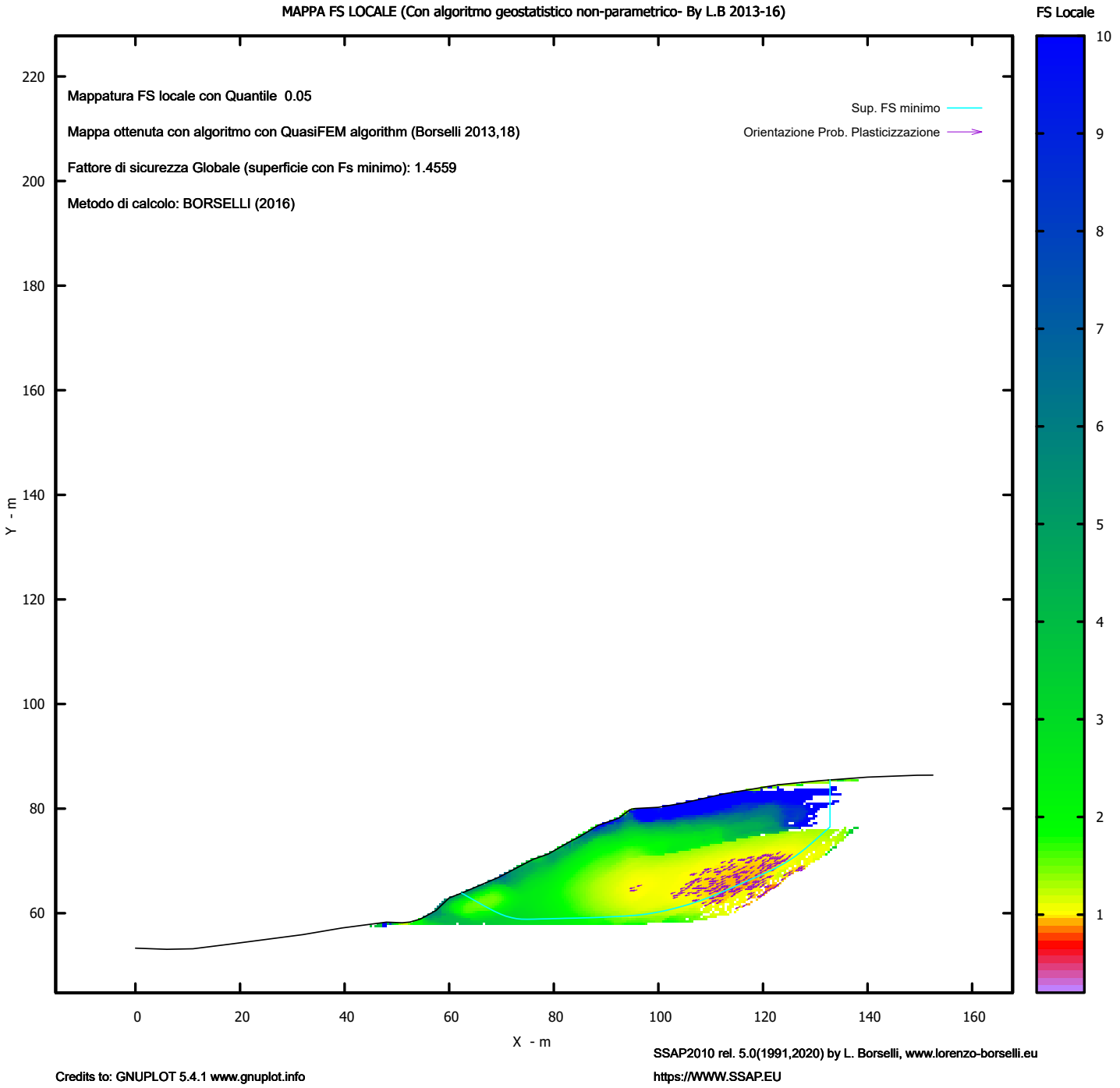


Metodo di calcolo: BORSELLI (2016)

SSAP2010 (versione 5.0 - 2020) - DISTRIBUZIONE FORZE e PRESSIONI

26/11/21 12:44


Distribuzione funzione forze interconcio
f(x), f0(x)
X(m)
0
0.2
0.4
0.6
0.8
1
60
70
80
90
100
110
120
130
140
f(x) funzione distribuzione forze interconcio
f0(x) funzione distribuzione forze interconcio


MAPPA FS LOCALE (Con algoritmo geostatistico non-parametrico- By L.B 2013-16)
FS Locale
Mappatura FS locale con Quantile 0.05
Mappa ottenuta con algoritmo con QuasiFEM algorithm (Borselli 2013,18)
Fattore di sicurezza Globale (superficie con Fs minimo): 1.4559
Metodo di calcolo: BORSELLI (2016)
Sup. FS minimo
Orientazione Prob. Plasticizzazione
Y - m
X - m
220
200
180
160
140
120
100
80
60
0
20
40
60
80
100
120
140
160
10
9
8
7
6
5
4
3
2
1
SSAP2010 rel. 5.0(1991,2020) by L. Borselli, www.lorenzo-borselli.eu
https://WWW.SSAP.EU
Credits to: GNUPLOT 5.4.1 www.gnuplot.info