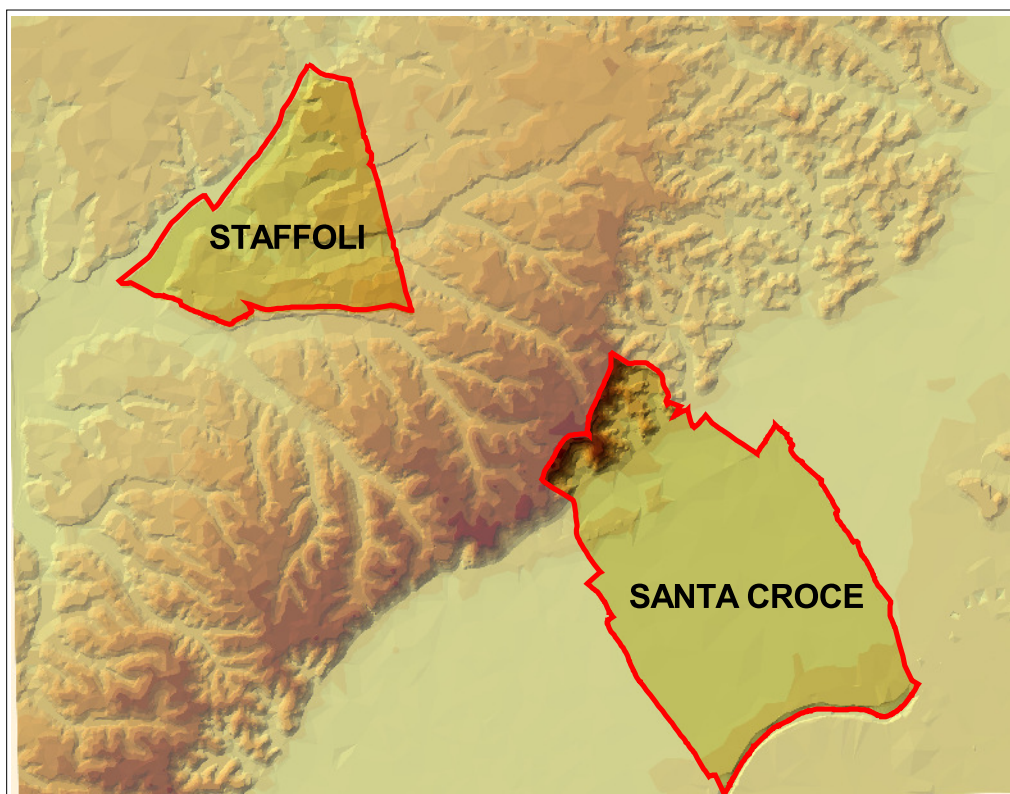




COMUNE DI SANTA CROCE S/A
PROVINCIA DI PISA



Variente al PIANO STRUTTURALE

GRUPPO DI LAVORO Geoprogetti <i>Studio Associato</i> Dr. Geol. Francesca Franchi Studio di Geologia Dr. Geol. Fabio Mezzetti	Q.C. 03 ALLEGATO 1	DATI DI BASE GEOGNOSTICI
	DATA: <u>MARZO 2009</u>	
	COMMITTENTE: <u>AMM.NE COM.LE DI SANTA CROCE SULL'ARNO</u>	

CPT Cone Penetration Test

Picchetto n. 2 /

Cantiere

POGGIOADORNO-S.CROCE

Committente

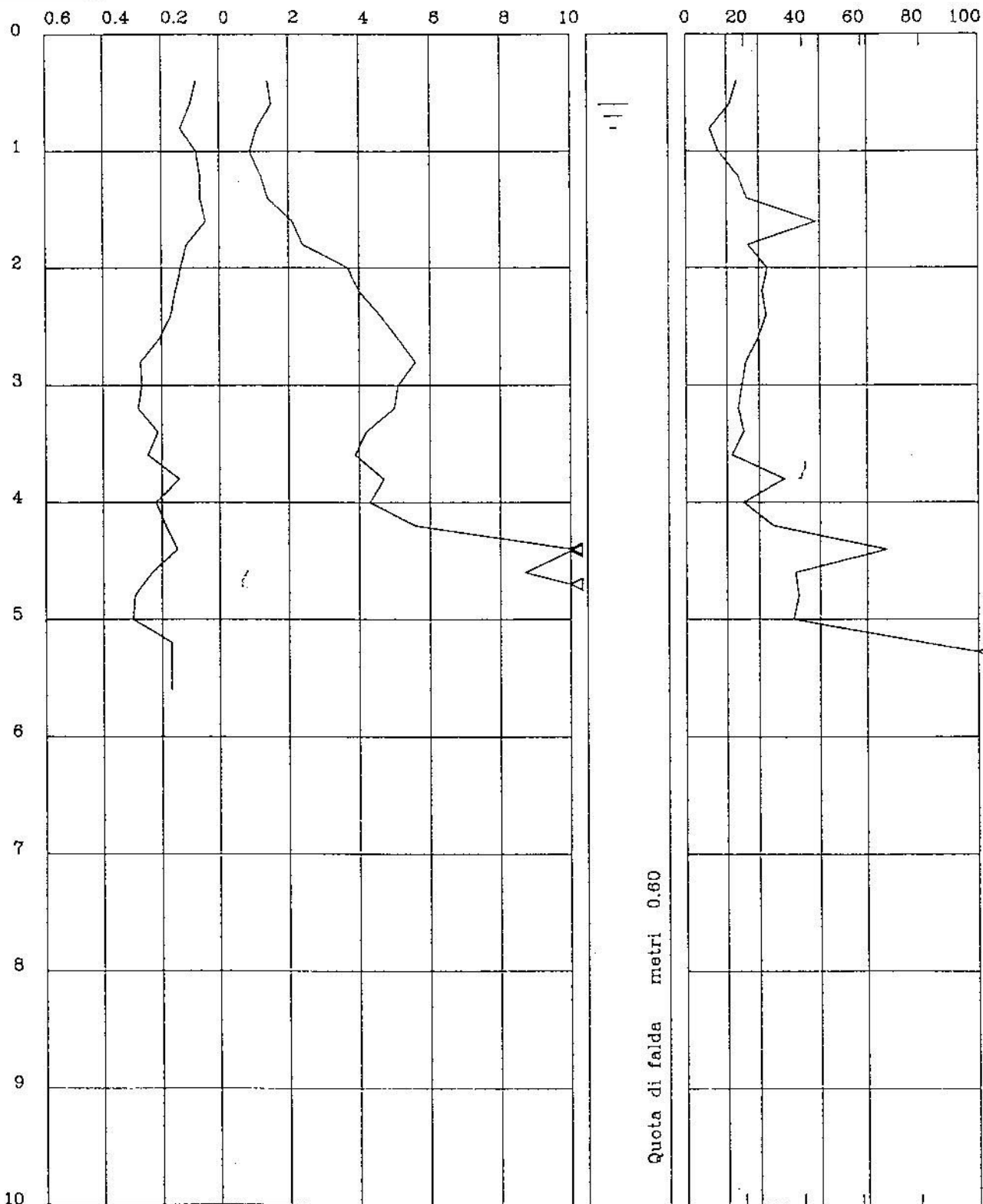
Certif.n. 82-96

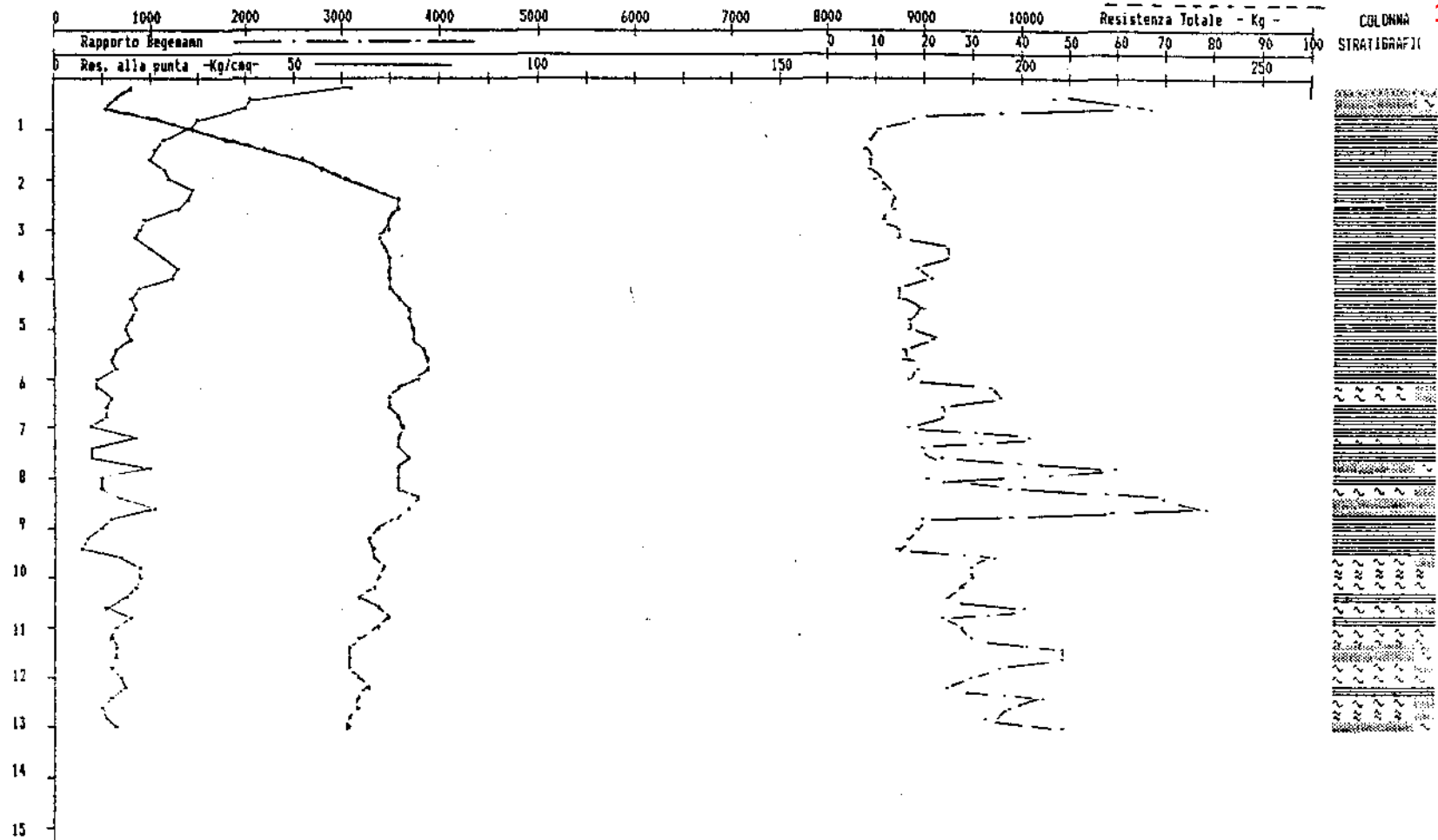
del 02/03/1996

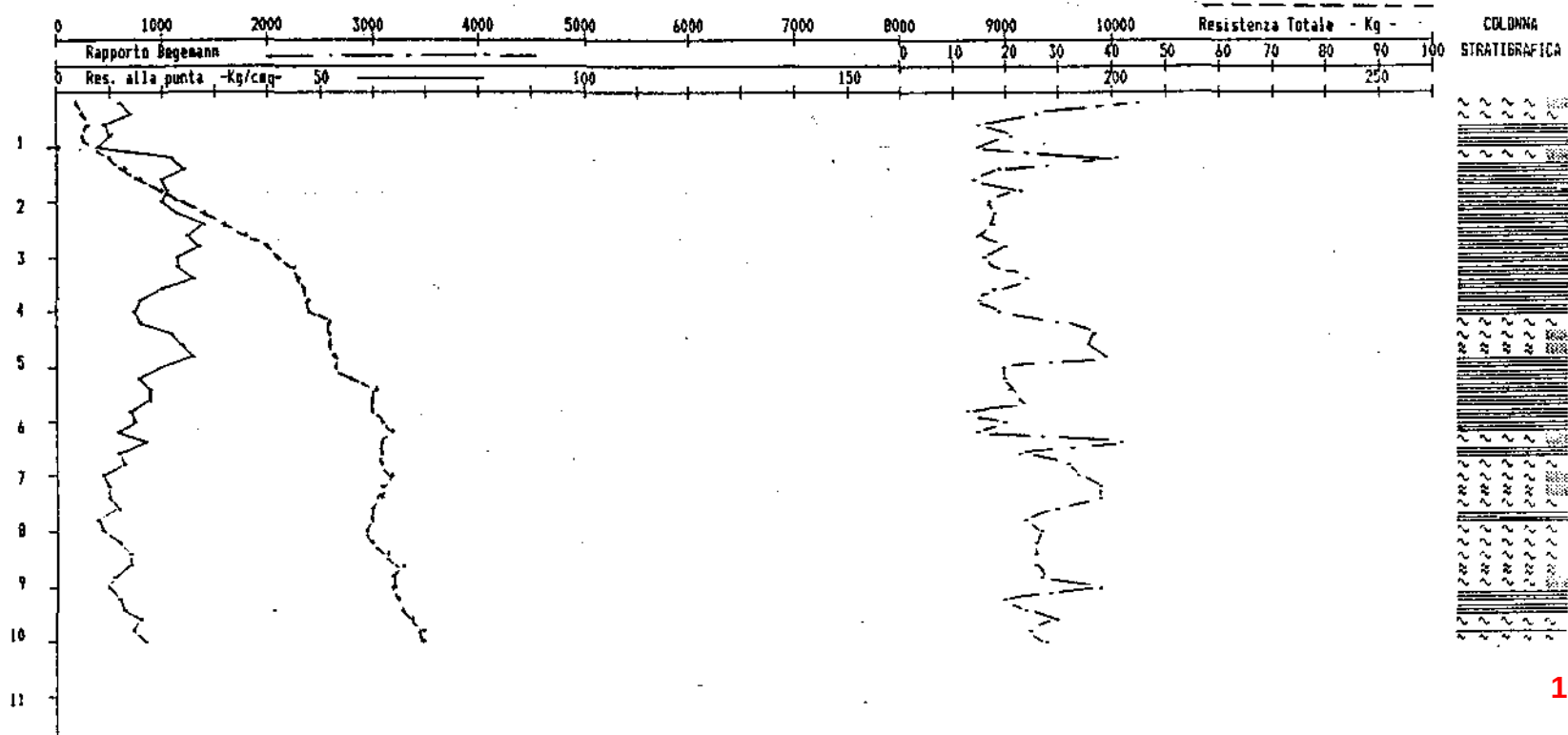
FS(MPa)

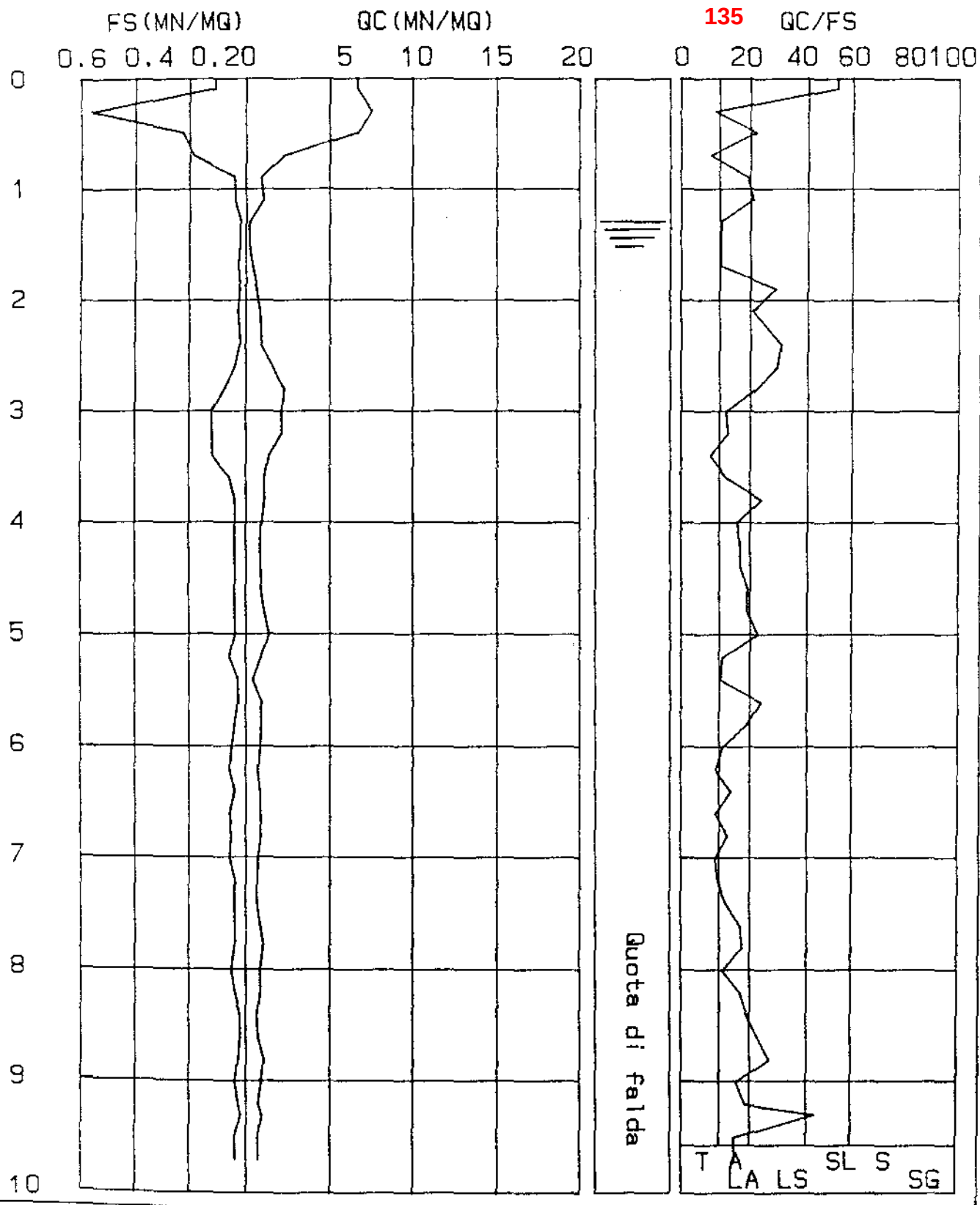
QC(MPa)

QC/FS (%)









FS (MN/MQ)

QC (MN/MQ)

QC/FS

136

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

1

2

3

4

5

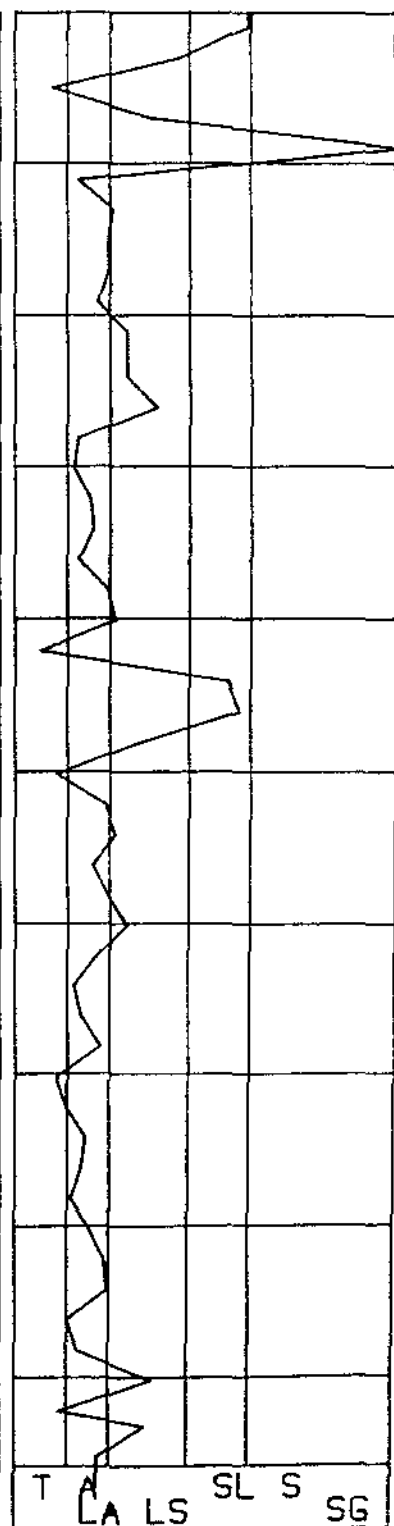
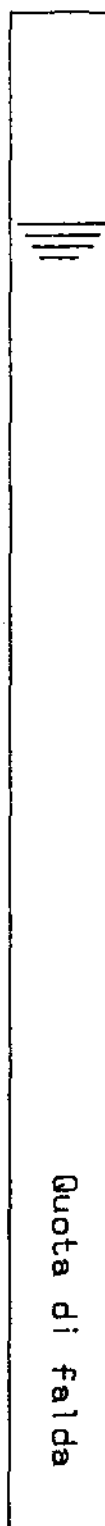
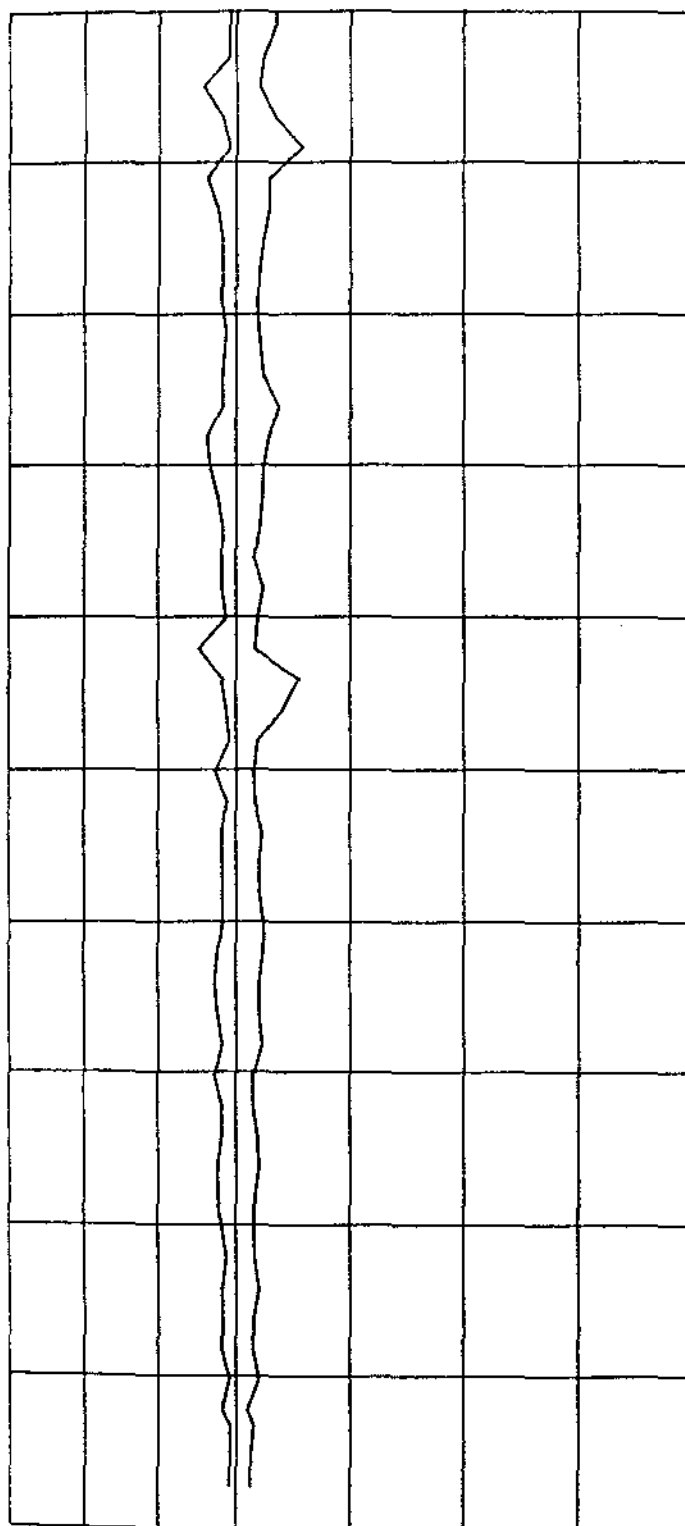
6

7

8

9

10



Quota di falda

T A LA LS SL S SG

	0.00	
LIMO	1.00	$0 < N < 17$
LIMO ARGILLOSO		$3 < N < 11$
	3.80	
SABBIA LIMOSA		$7 < N < 23$
	8.00	
ARGILLA COMPATTA	9.00	$17 < N < 31$

	0.00	
LIMO	1.00	$0 < N < 17$
LIMO ARGILLOSO		$3 < N < 11$
	3.00	
SABBIA LIMOSA		$7 < N < 23$
	8.00	
ARGILLA COMPATTA	9.00	$17 < N < 31$

PROVA PENETROMETRICA [C.P.T.] N. 1

Resistenza alla punta [Kg/cm²] —

0 0 10 20 30 40 50 60 70 80 90 100

Ar

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S

(

P
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O
F
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N
D
I
T
A'

i
n

m.1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0Resistenza laterale [Kg/cm²]

0 0.50 1.00 1.50 2.00 2.50

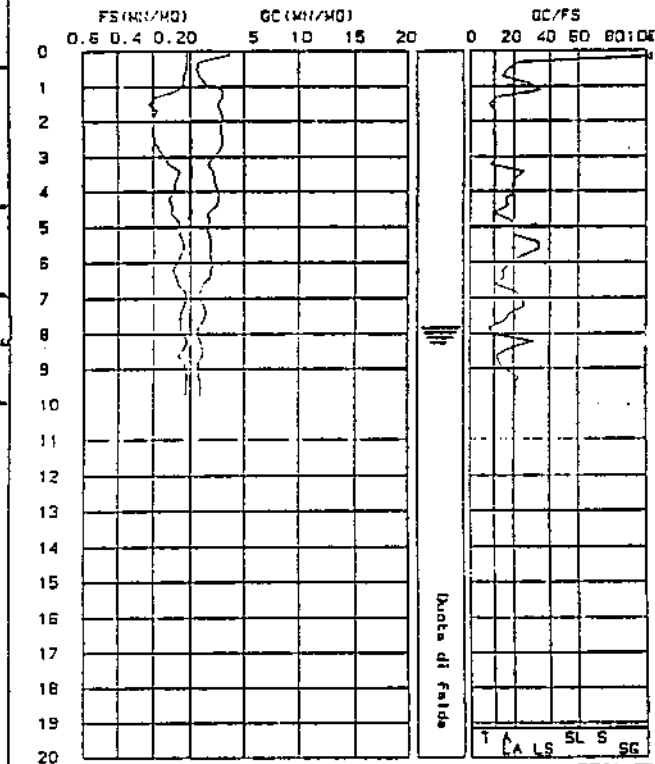
TOSCO TEST: n.c.

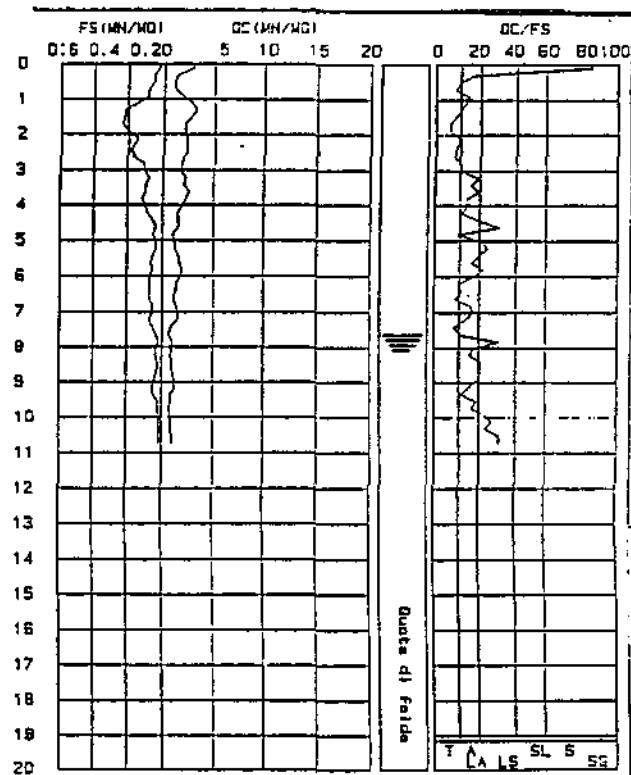
Dot. M. LOMBARDI

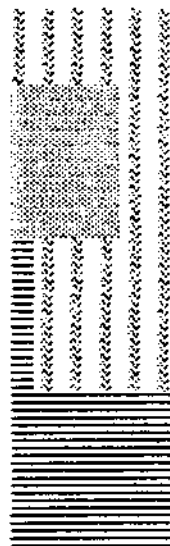
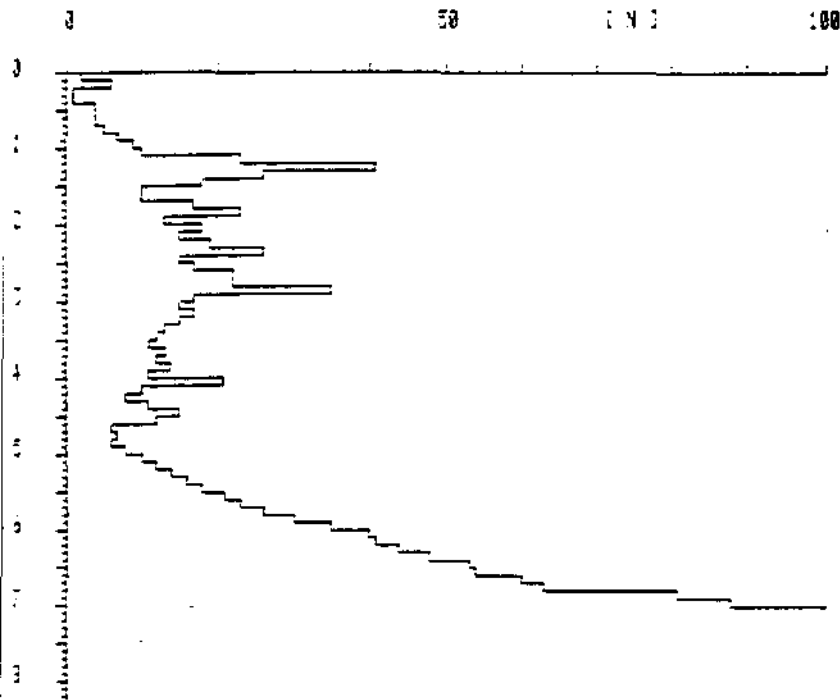
T.V.

Ag. debolmente
limosa

Ag.

Ag. con livellet
ti sabbiosi





FS (MN/MQ)

QC (MN/MQ)

149

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

1

2

3

4

5

6

7

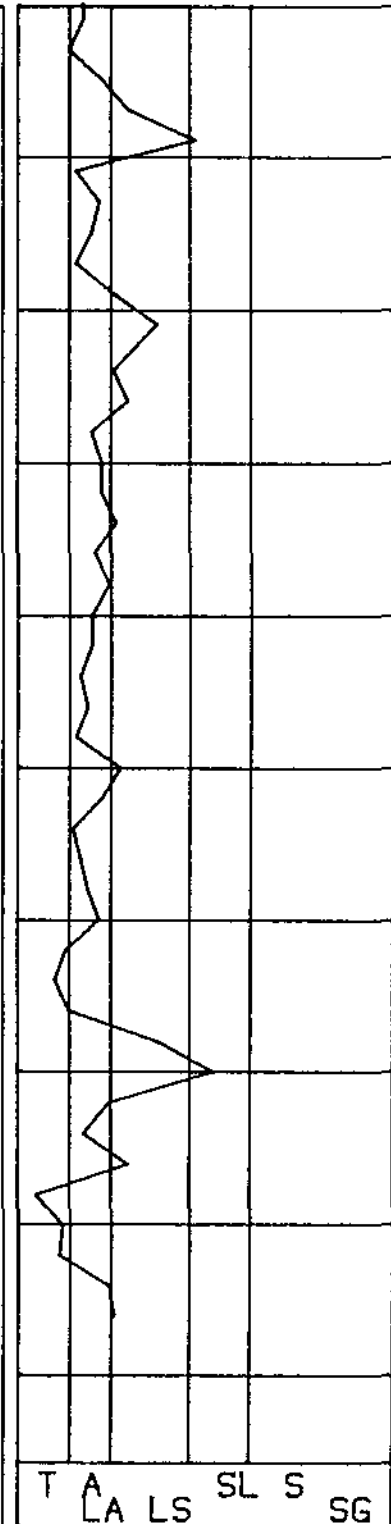
8

9

10



Quota di falda



T A LA LS SL S SG

FS (MN/MQ)

GC (MN/MQ)

150

GC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

1

2

3

4

5

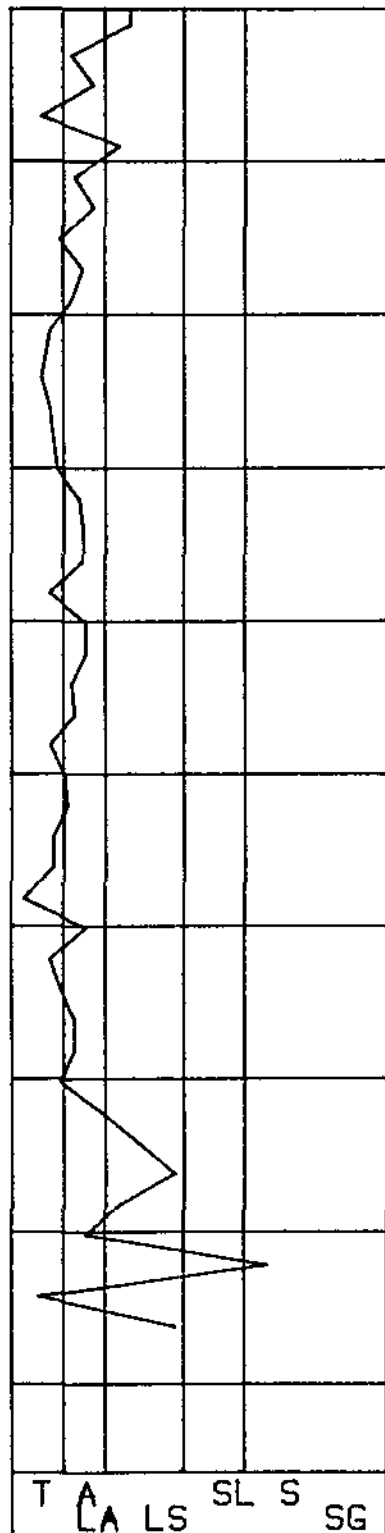
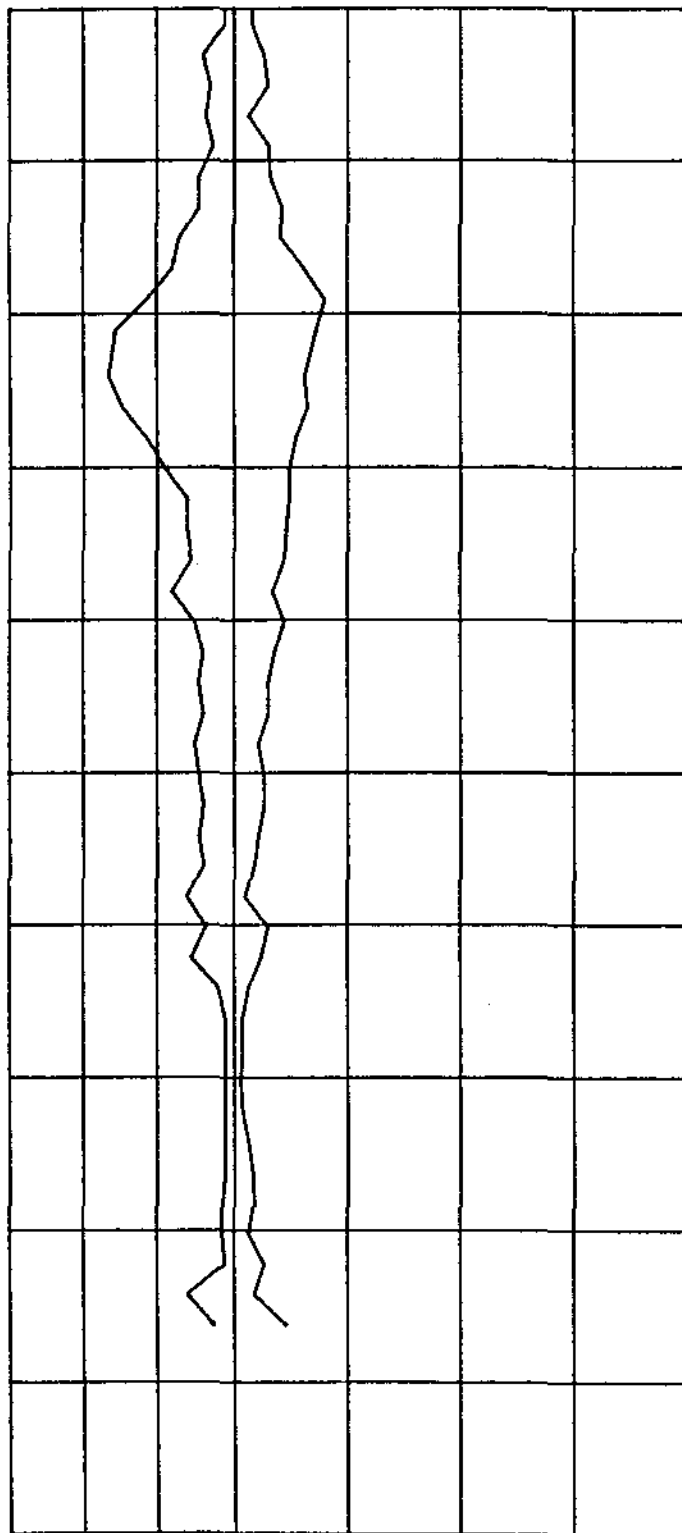
6

7

8

9

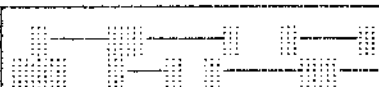
10



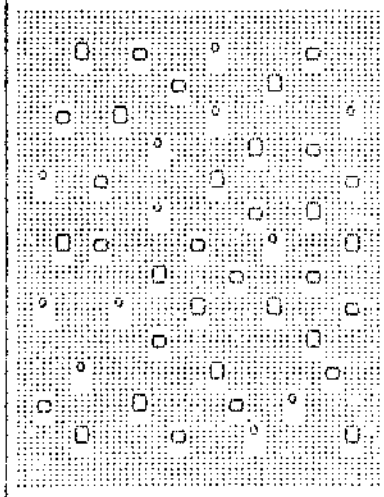
T A LA LS SL S SG

Piano di campagna

0,00



materiale arido
di riporto

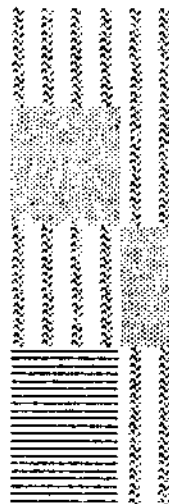
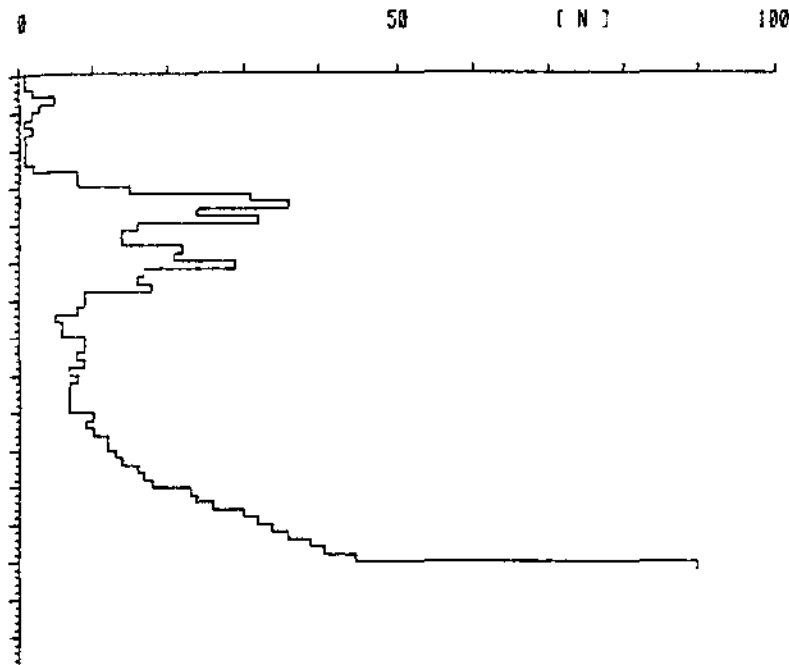


depositi
sabbiosi - ciottolosi

- 0,70

- 4,00

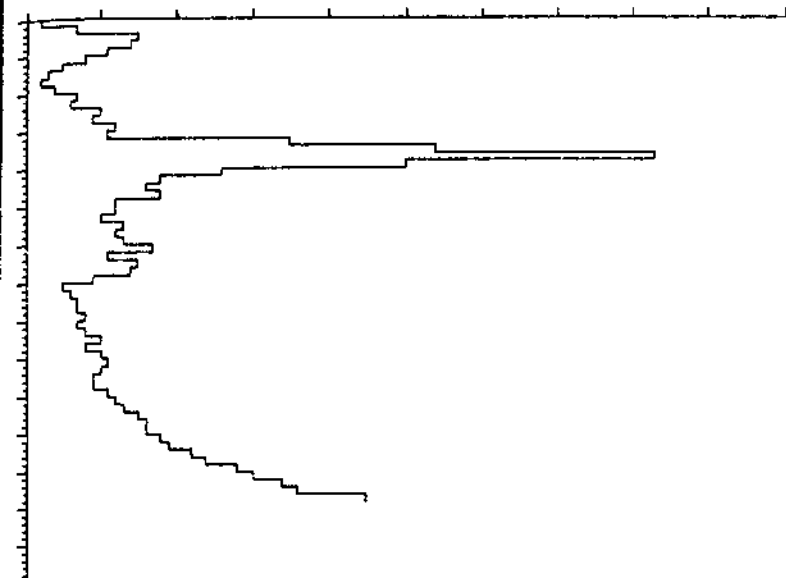
154

COLONNA
LITOLOGICA

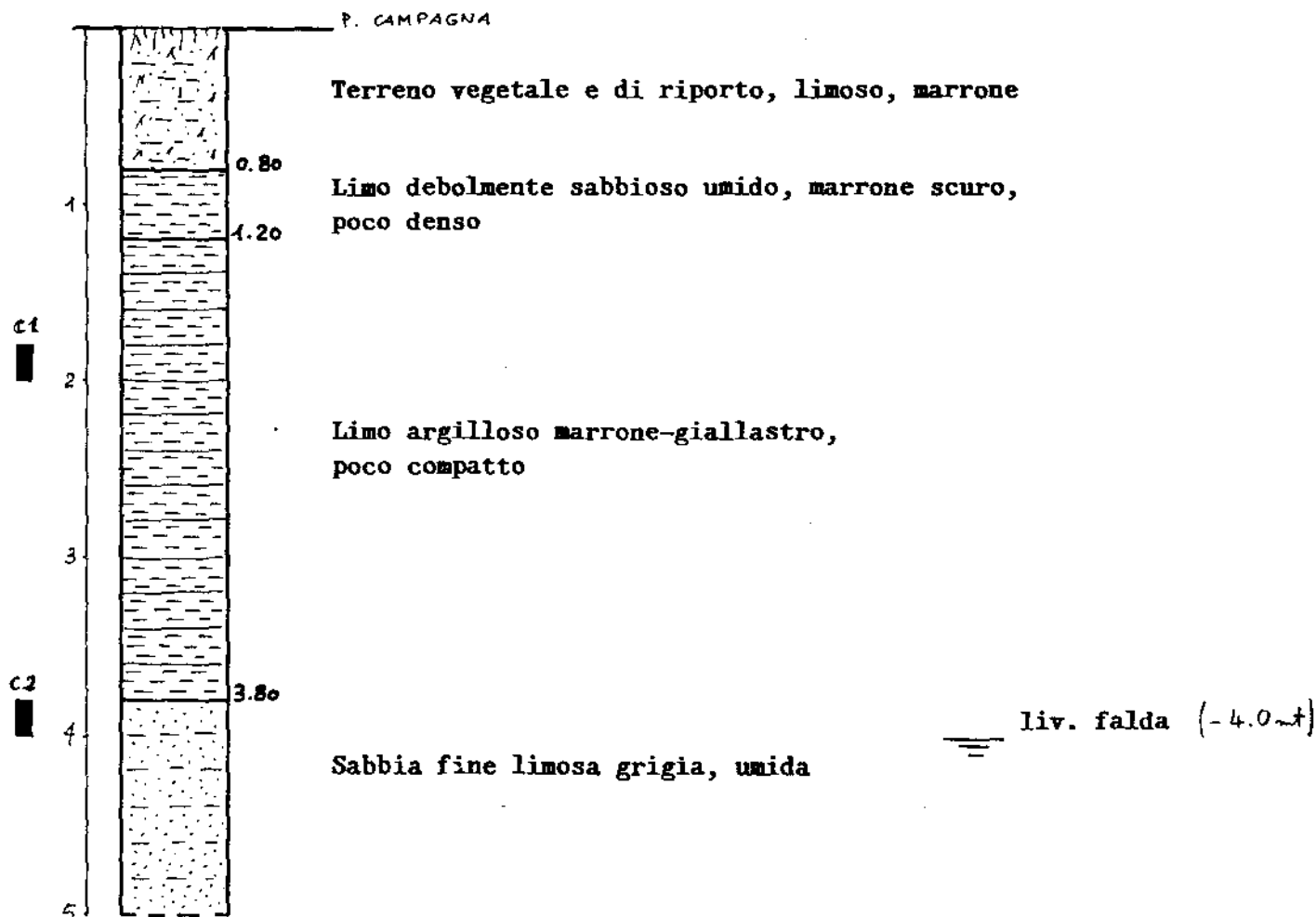
50

[N]

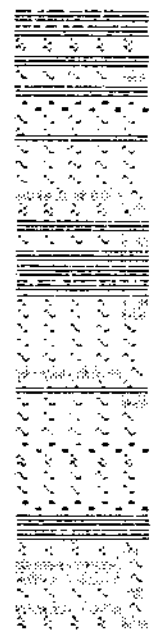
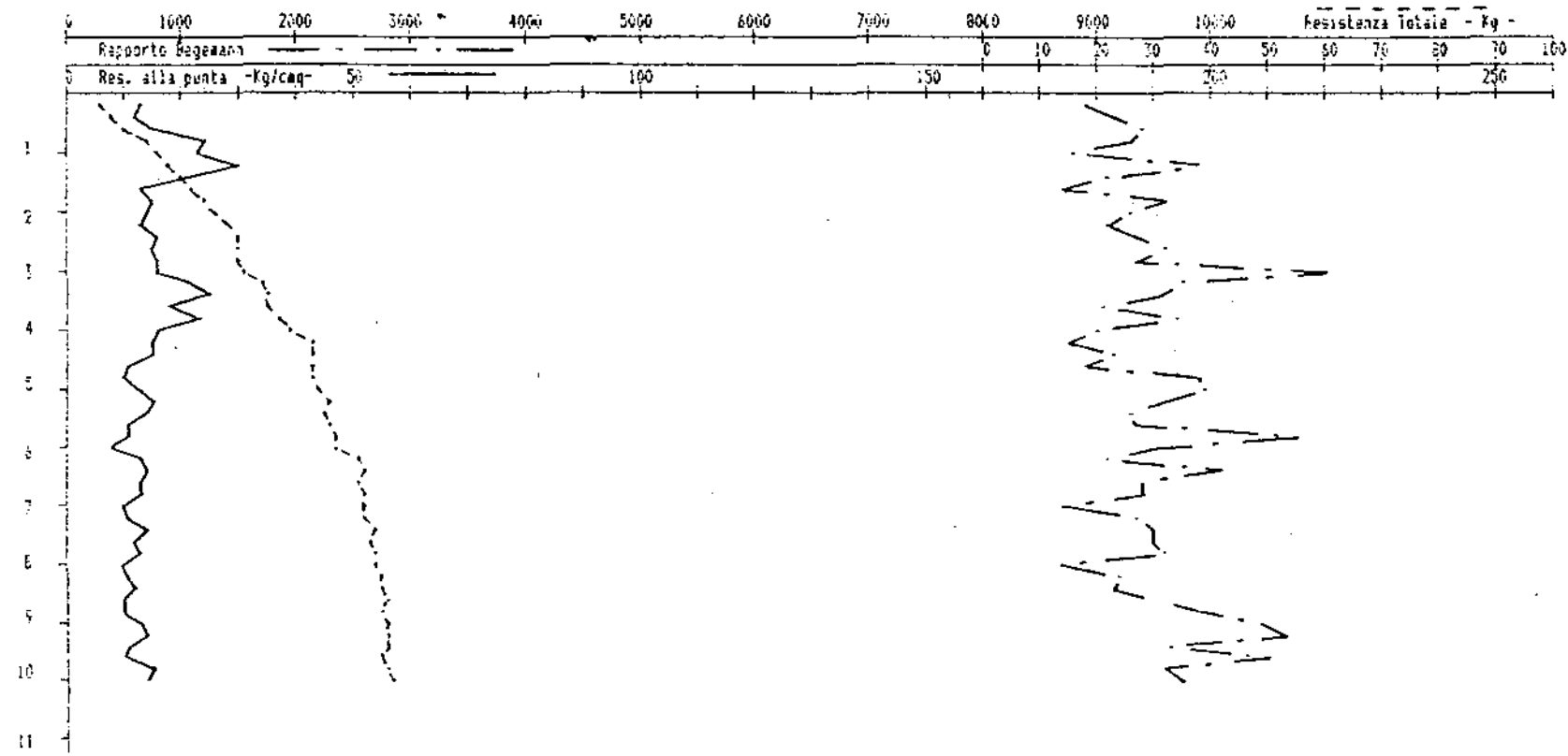
100

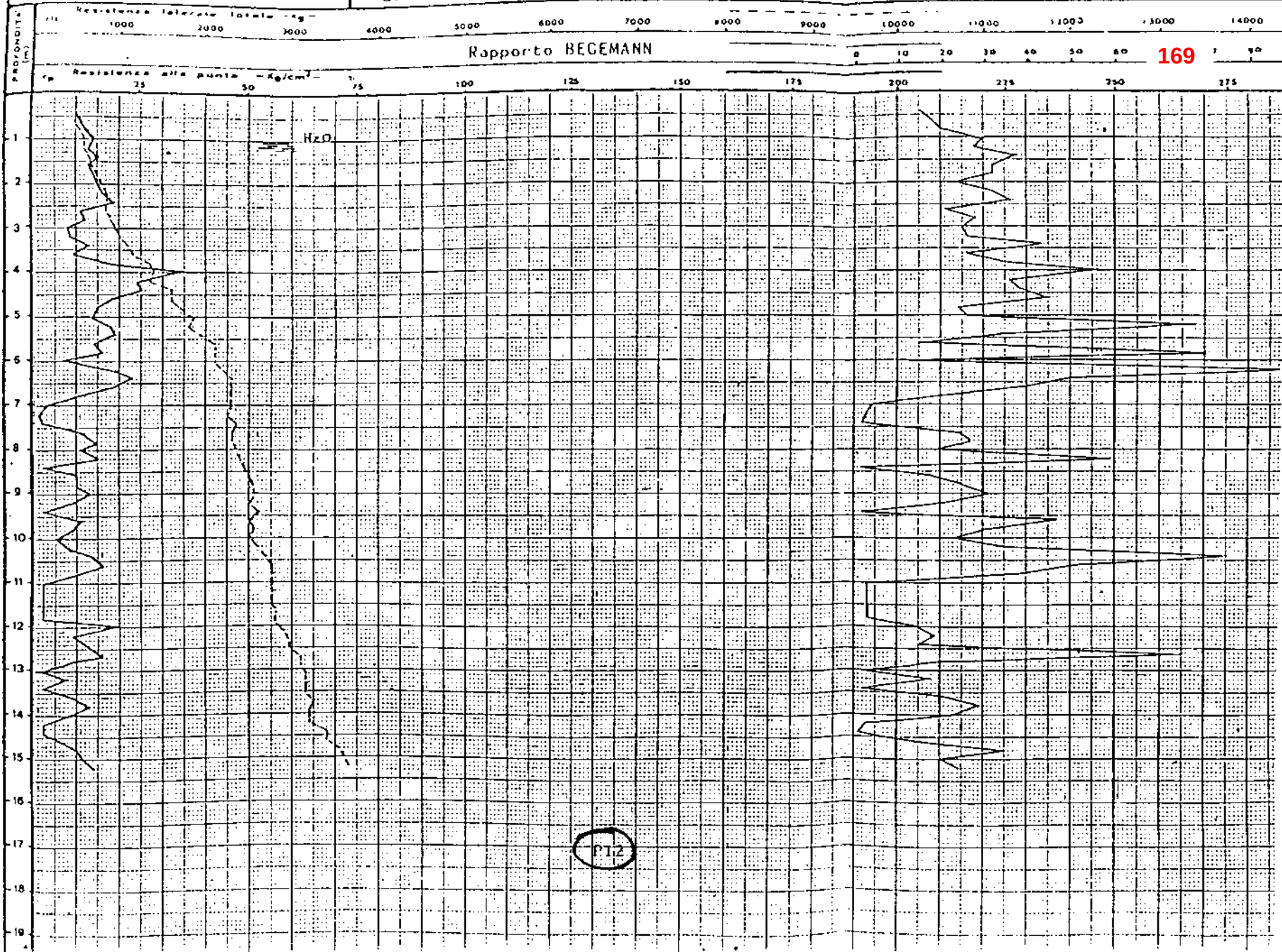


SAGGIO GEOGNOSTICO - COLONNA STRATIGRAFICA



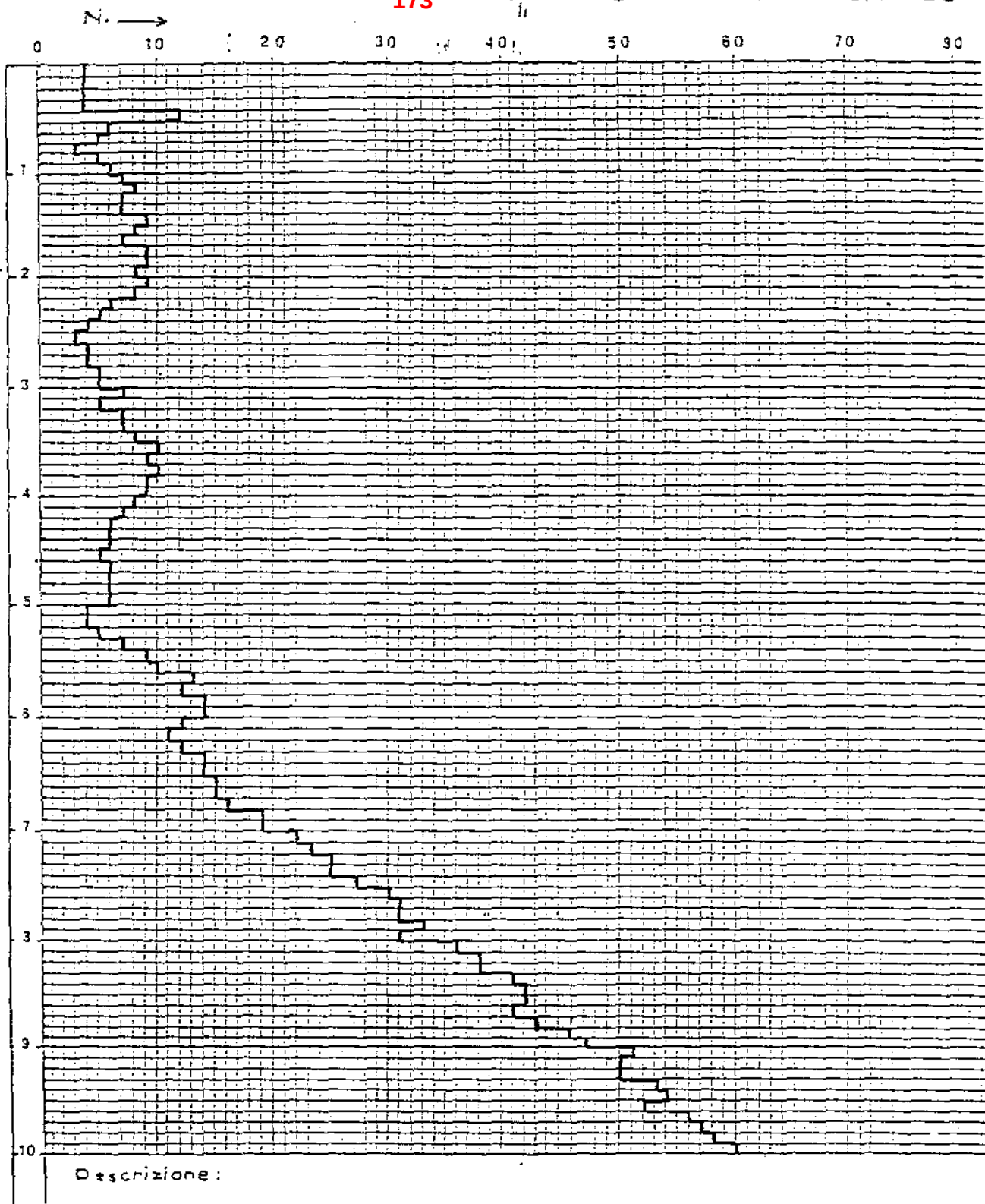
STRATIGRAFIA





173

DYNAMIC-PENETROMETER TEST

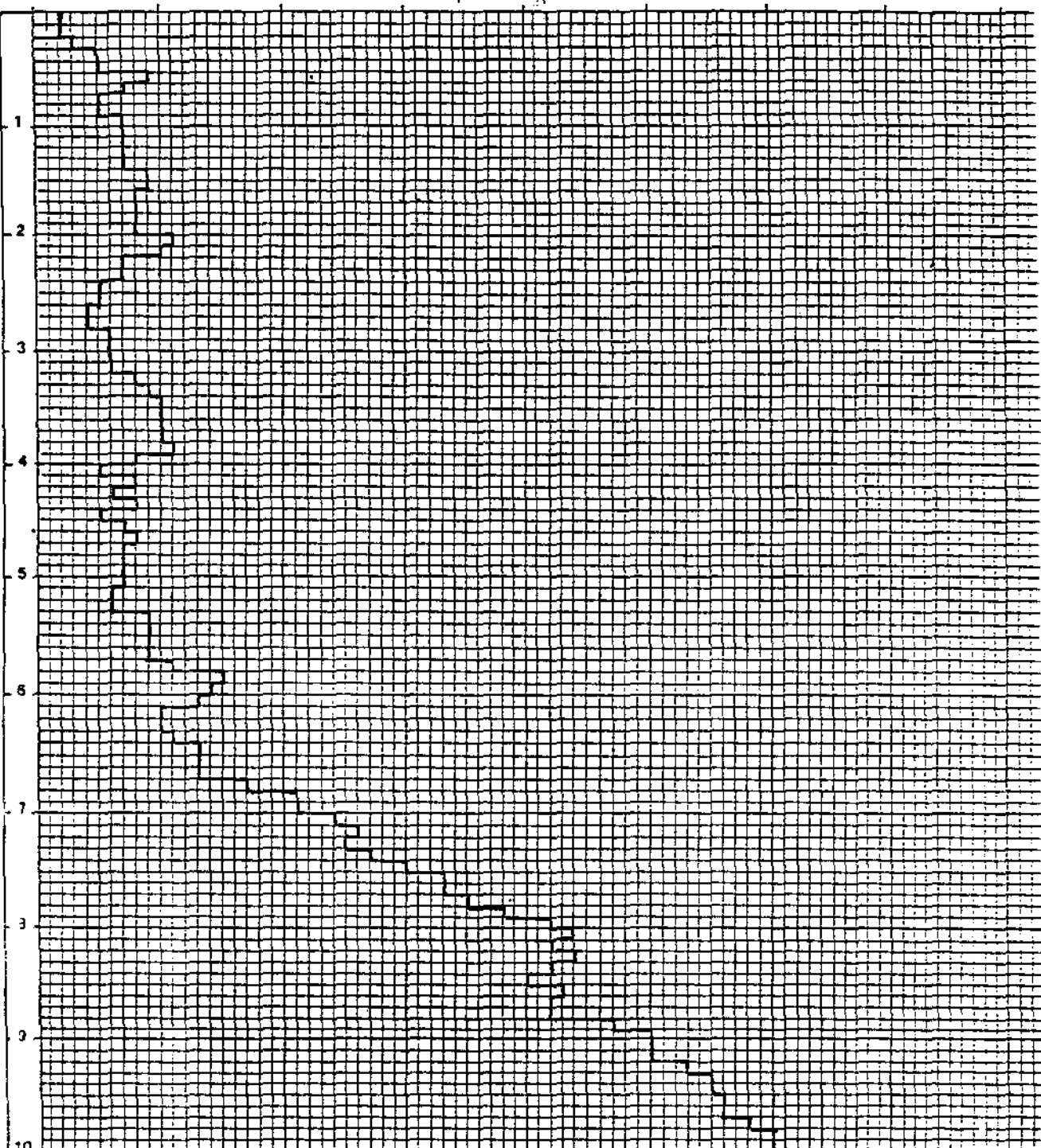


174

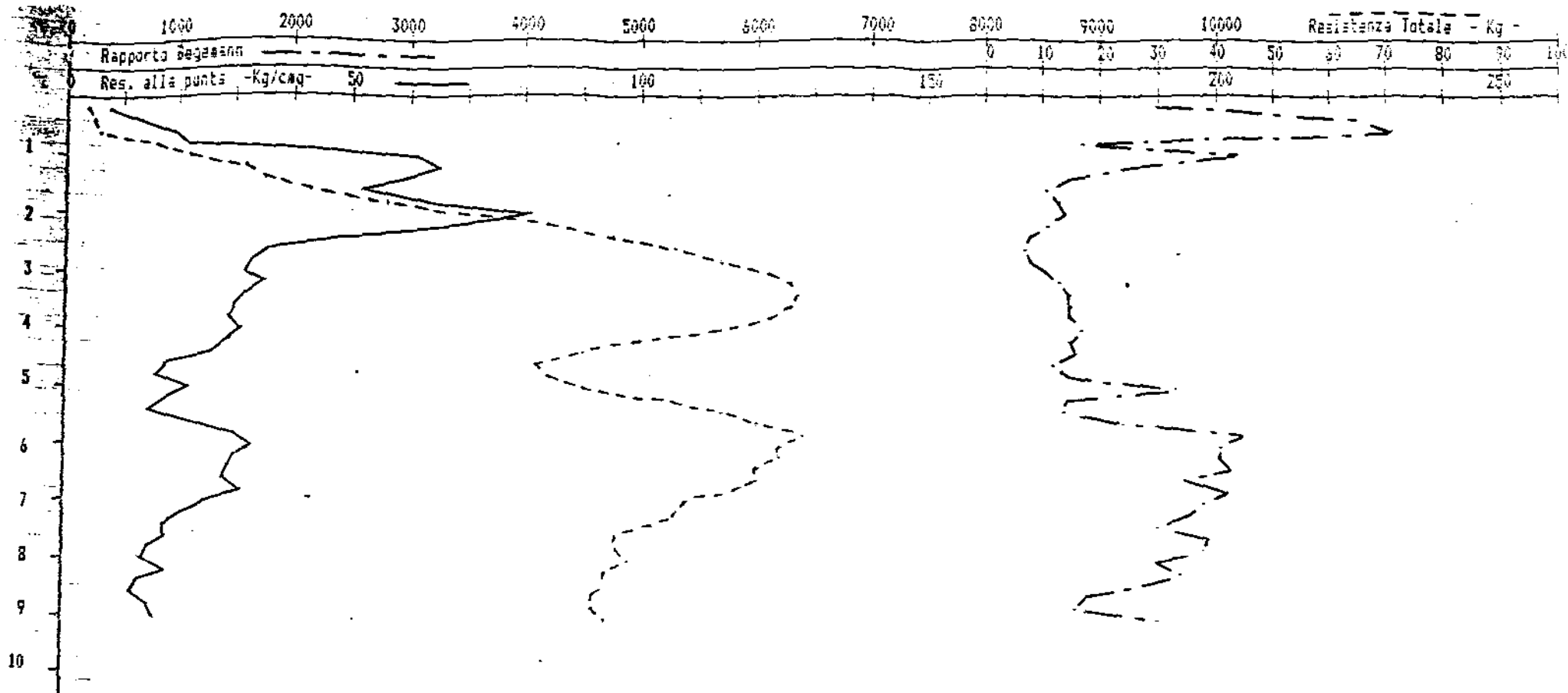
DYNAMIC-PENETROMETER TEST

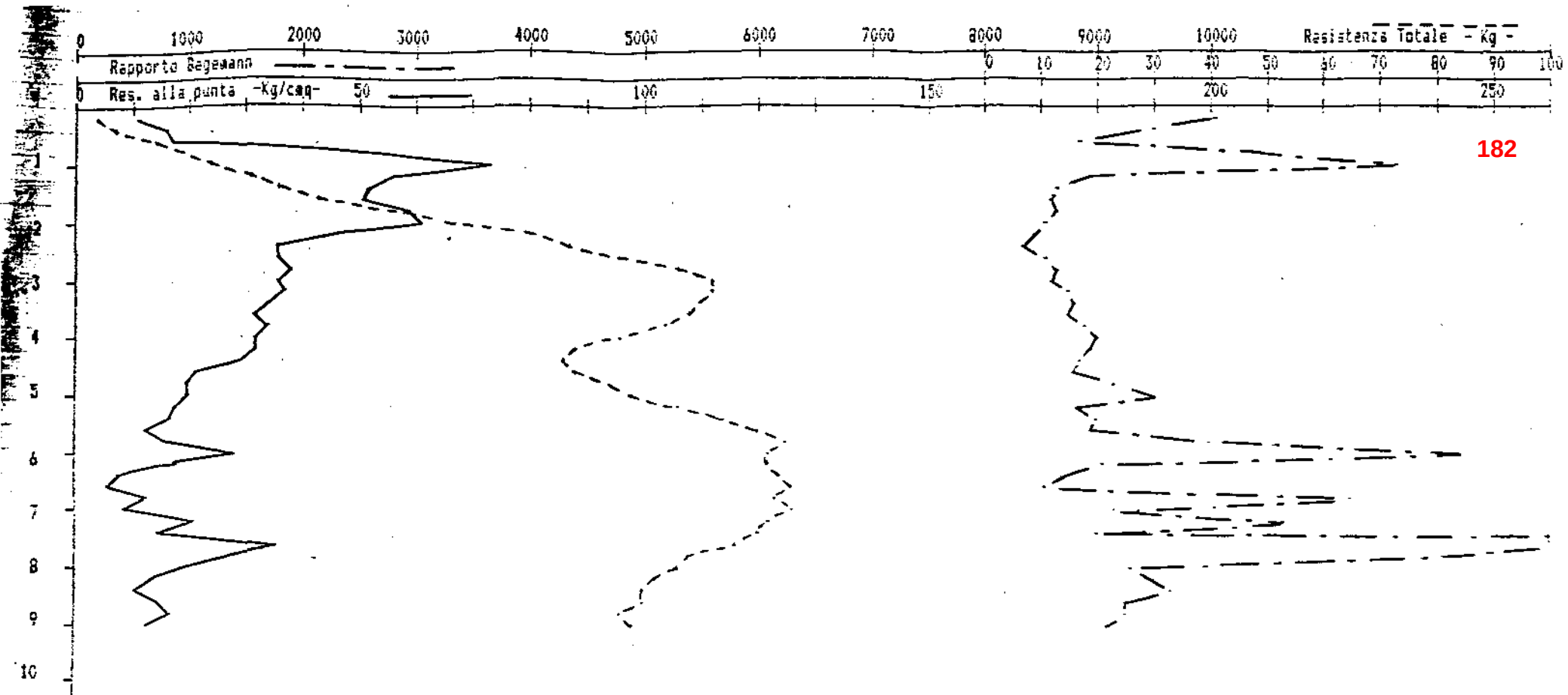
N. →

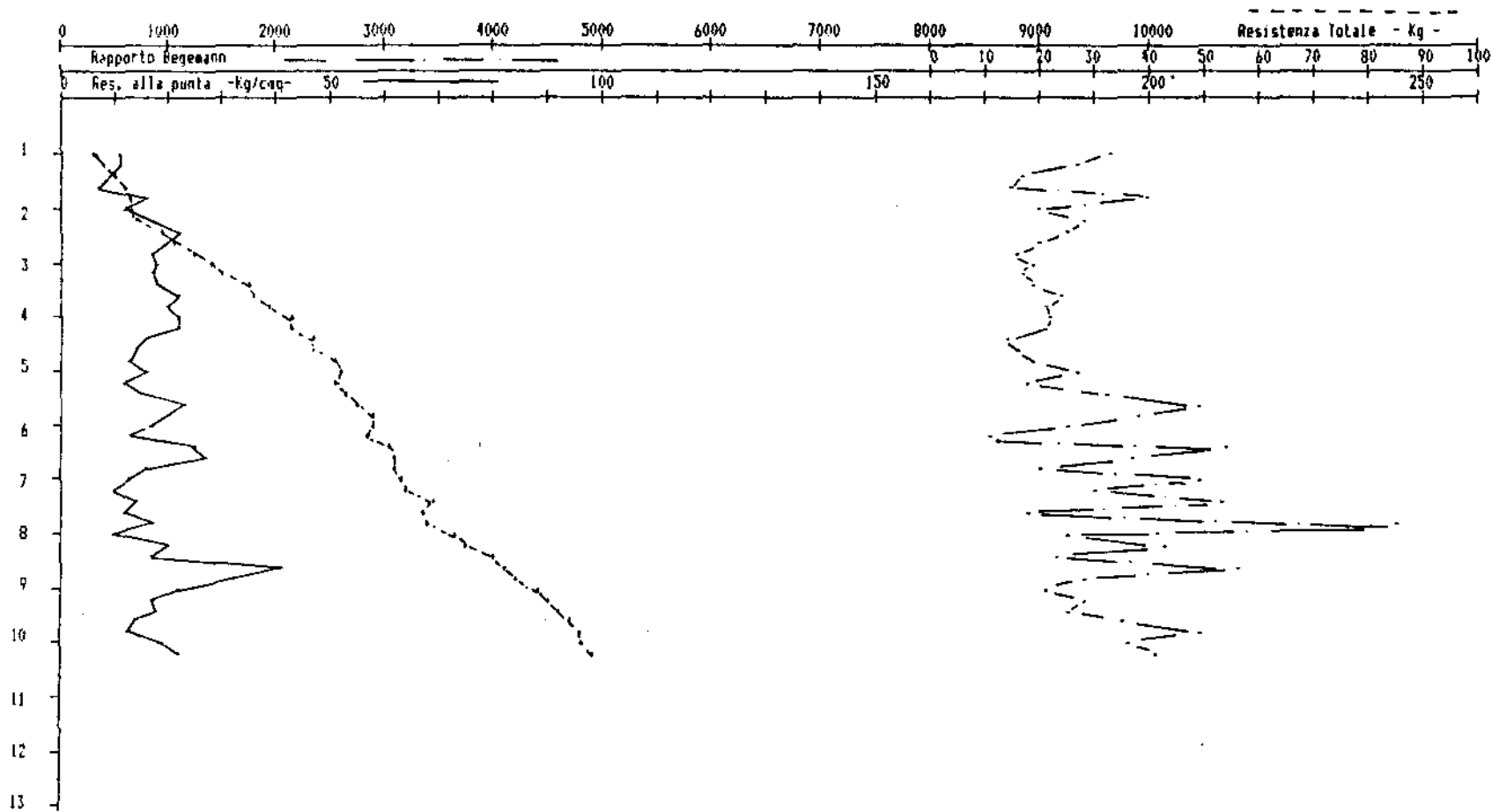
0 10 20 30 40 50 60 70 80



Descrizione:



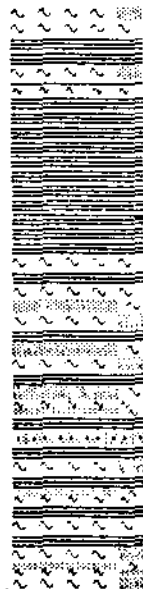


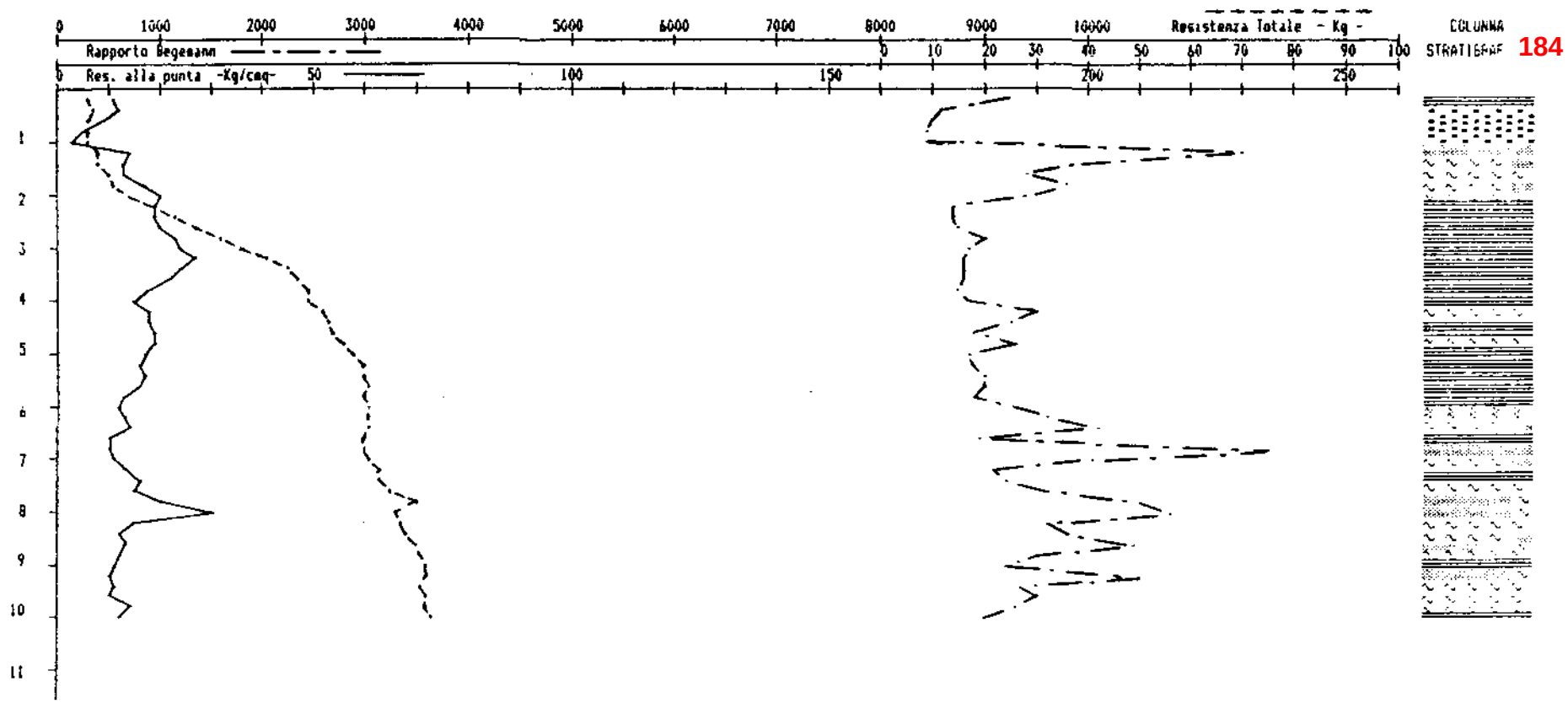


Resistenza Totale - Kg -

COLONNA
STRATIGRAFICA

183





FS (MN/MQ)

QC (MN/MQ)

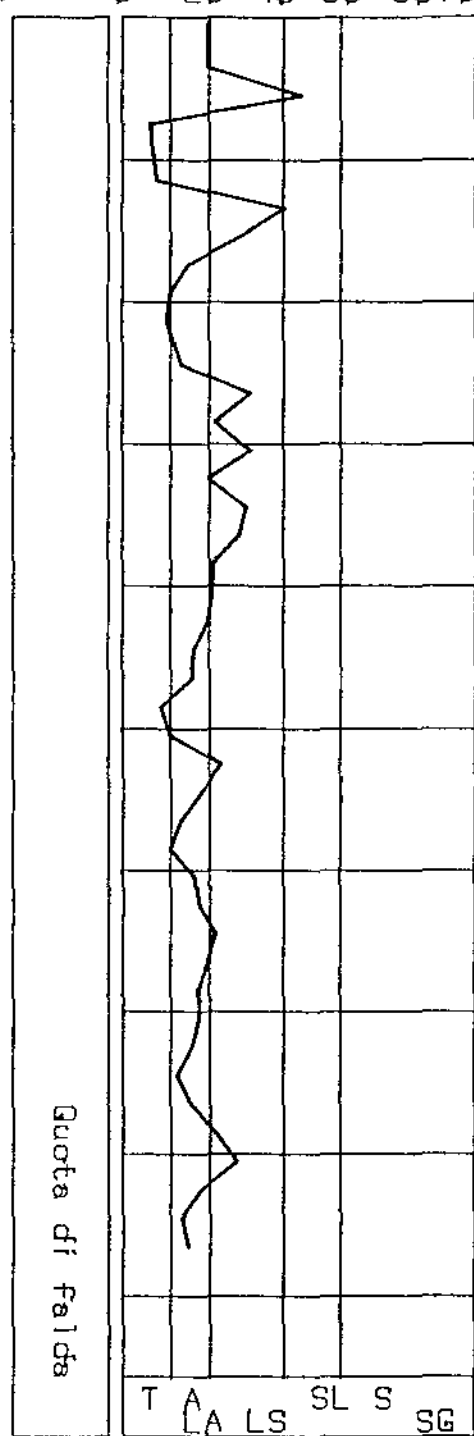
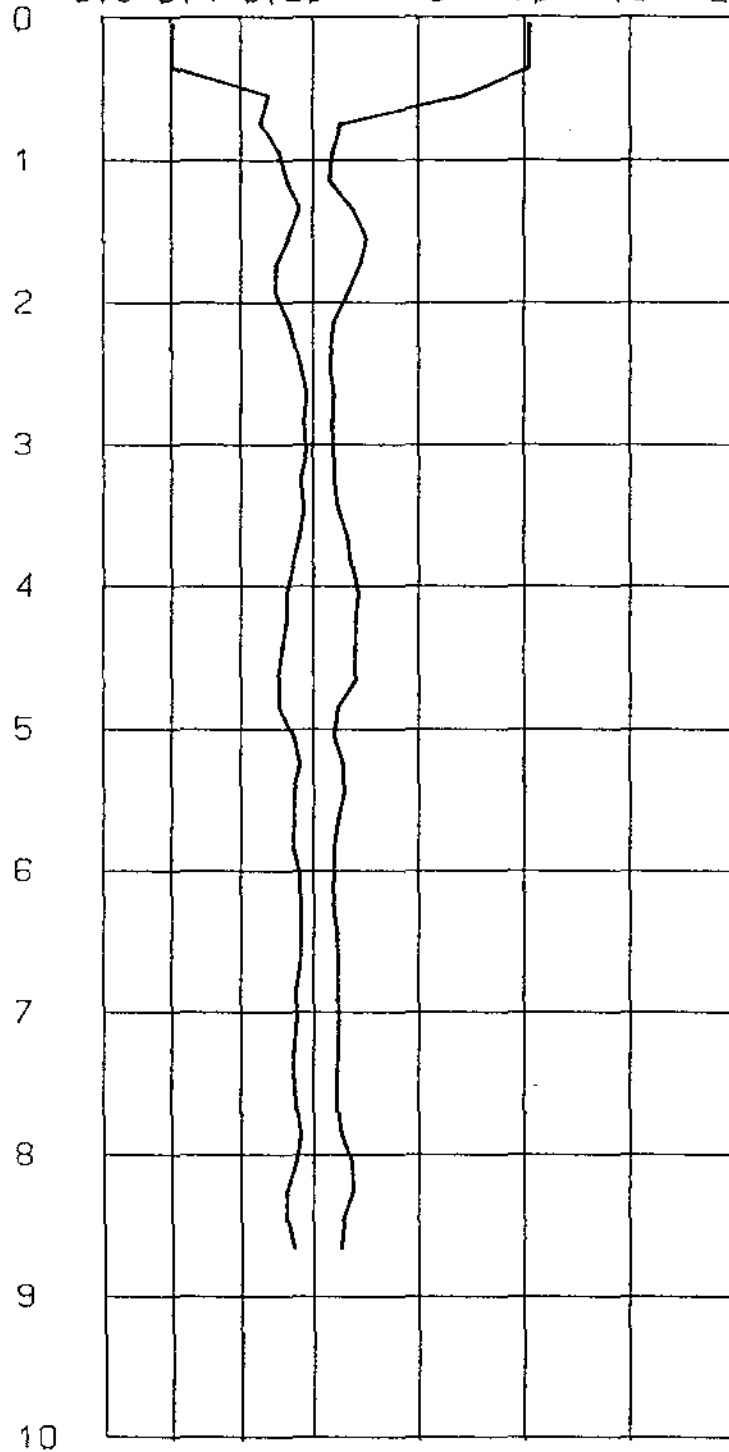
185

QC/FS

0,6 0,4 0,20

5 10 15 20

0 20 40 60 80 100



Quota di falda

T A LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

186

QC/FS

0,6 0,4 0,20

5 10 15 20

0 20 40 60 80 100

0

1

2

3

4

5

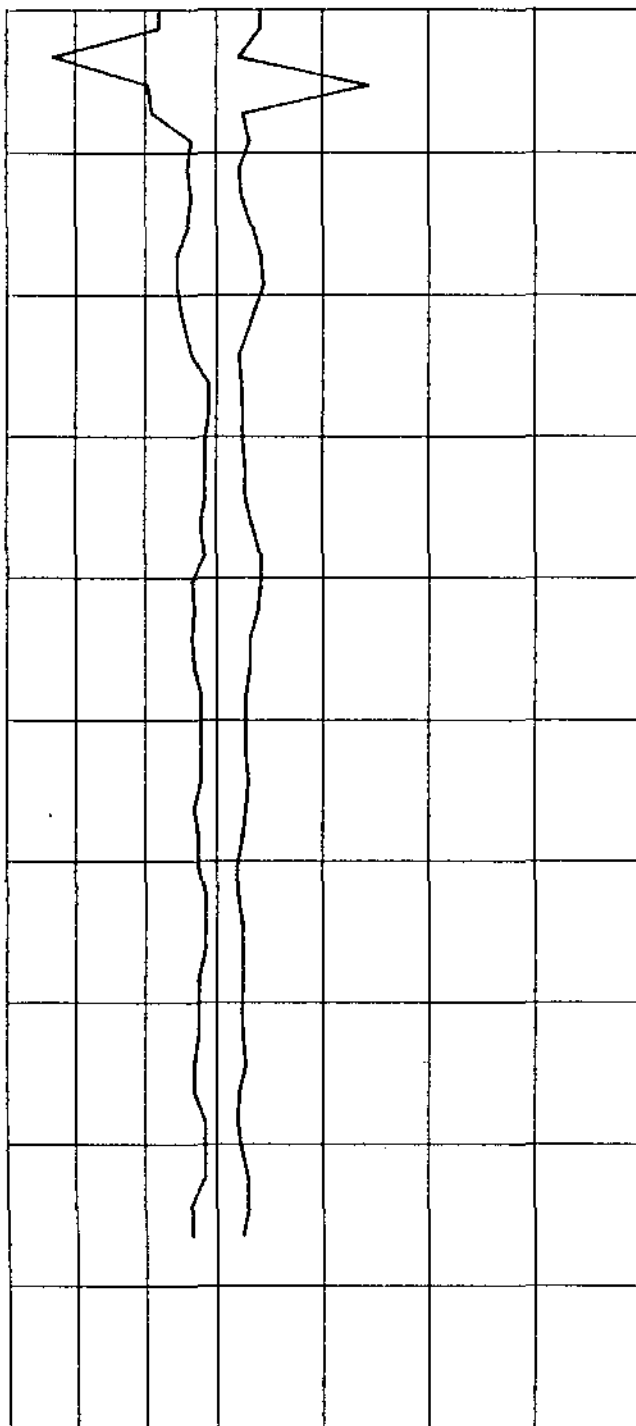
6

7

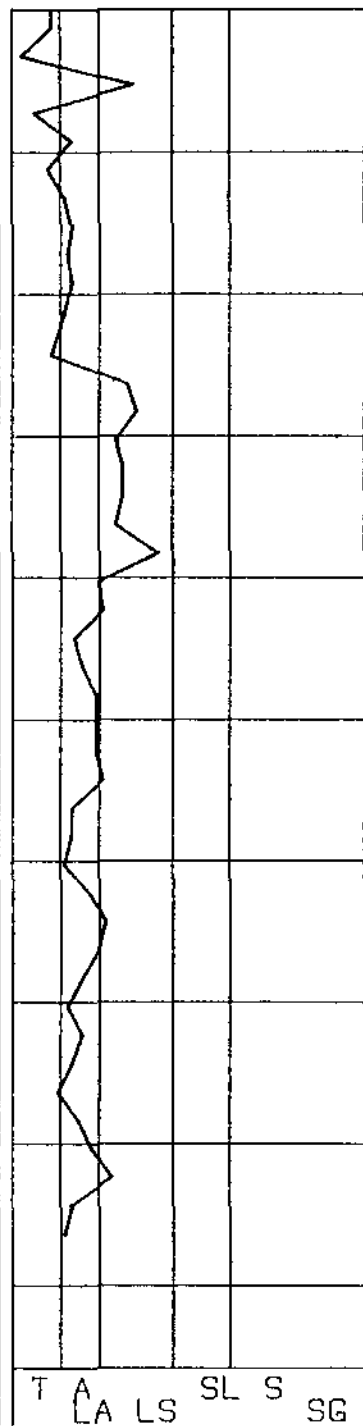
8

9

10



Quota di falda



T A LA LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

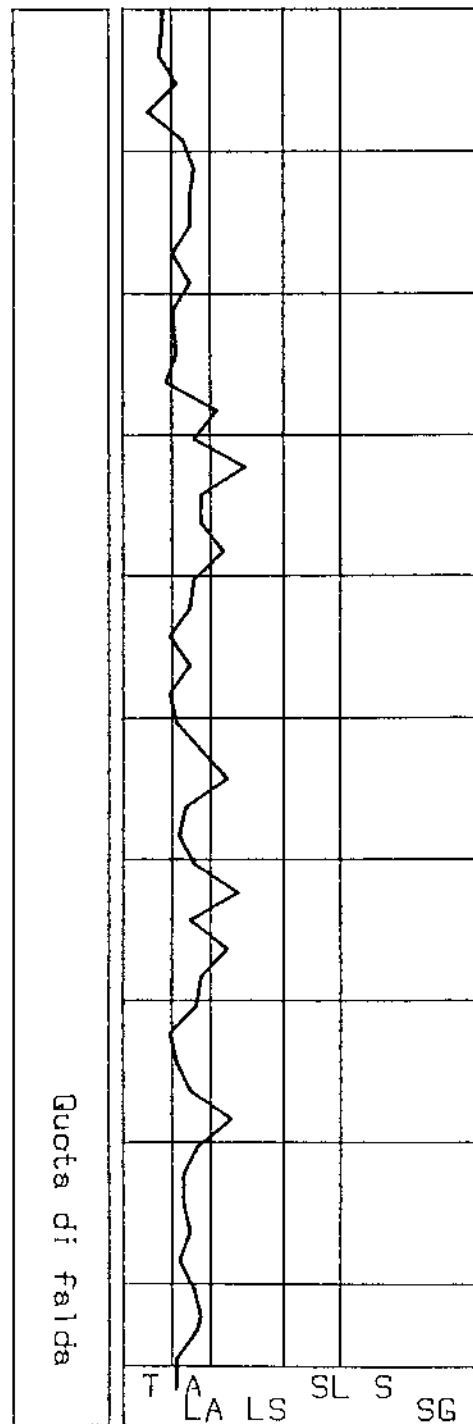
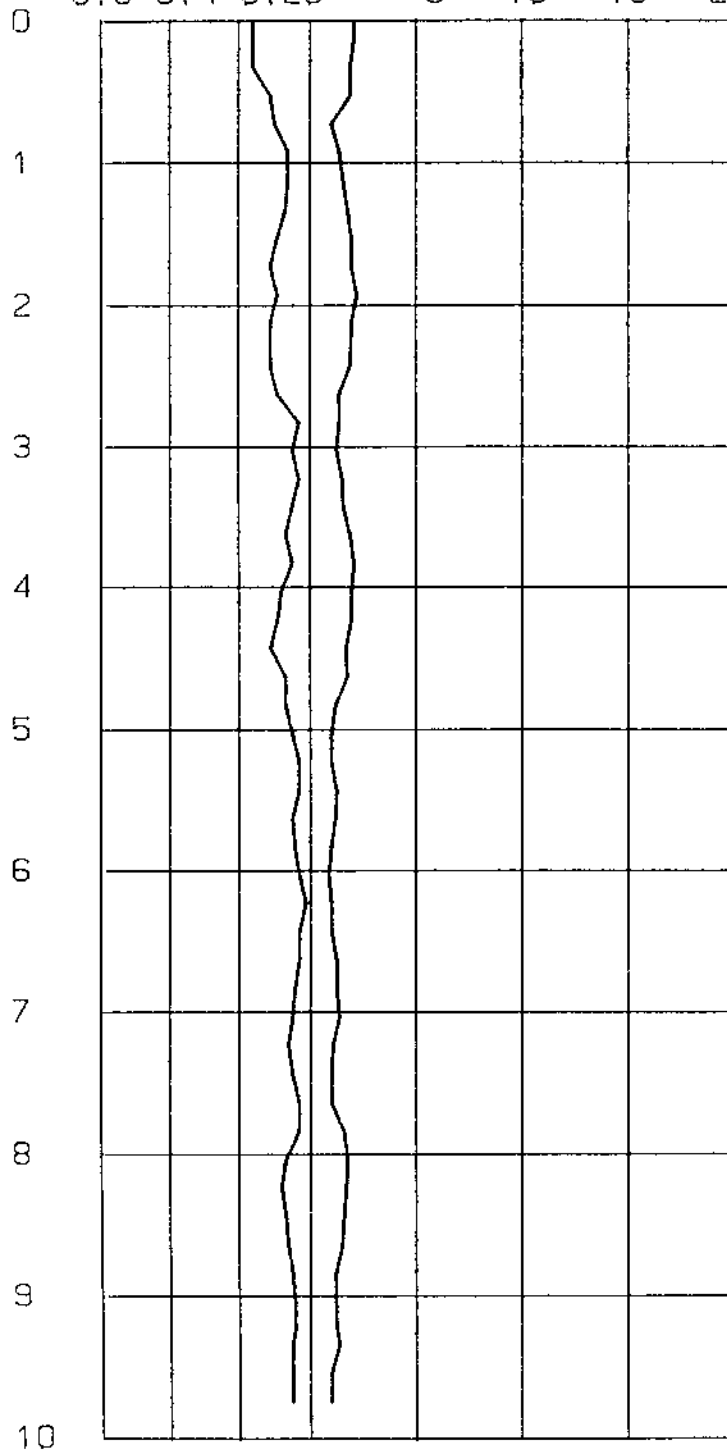
187

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100



FS (MN/MQ)

QC (MN/MQ)

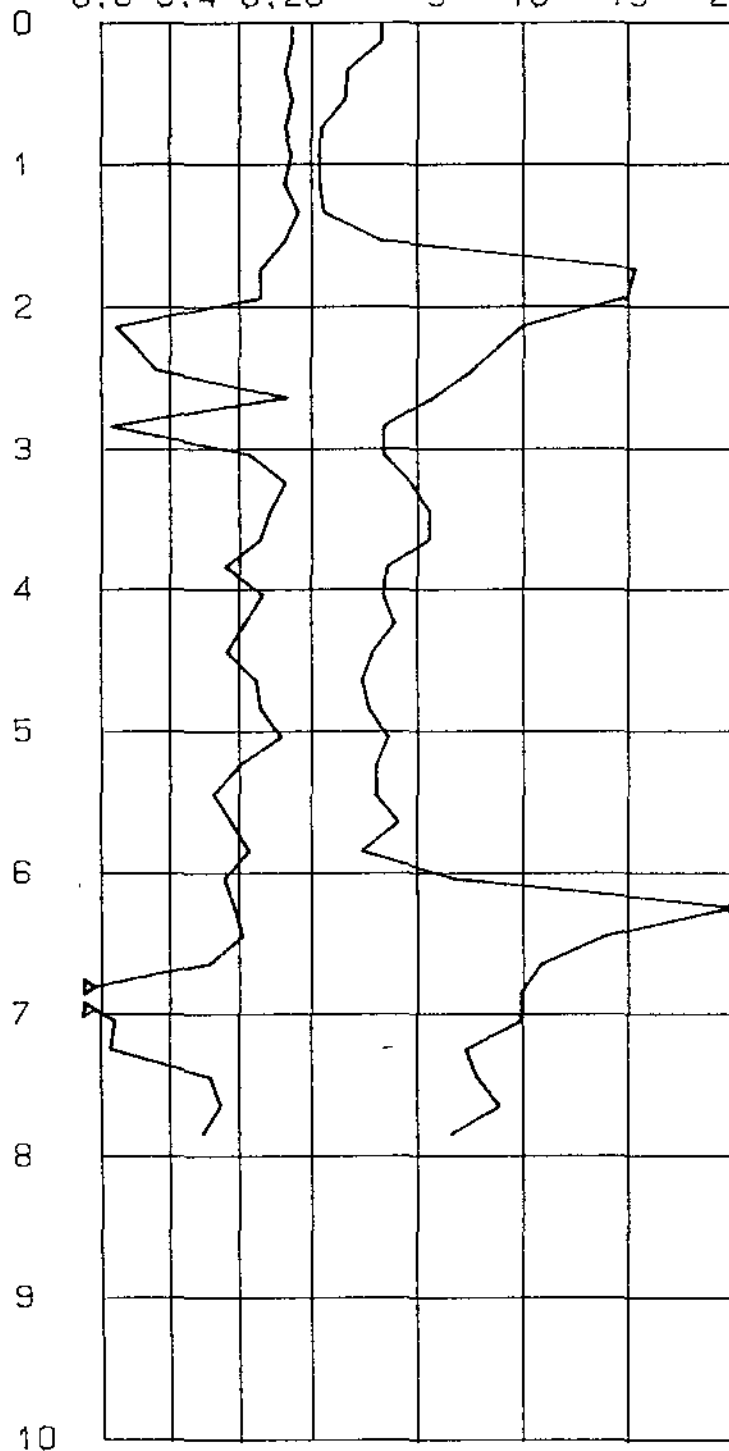
189

QC/FS

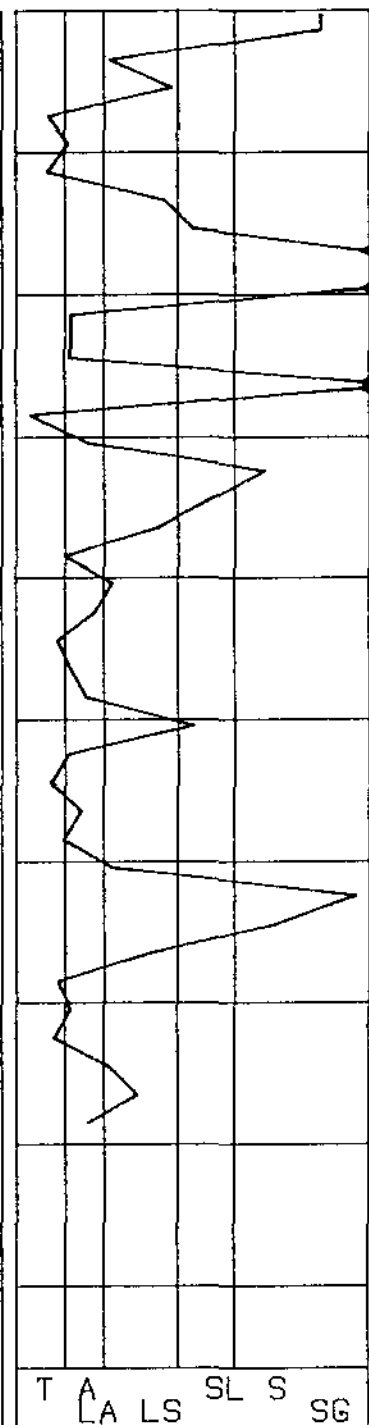
0,6 0,4 0,20

5 10 15 20

0 20 40 60 80 100



Quota di falda



T A LA LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

QC/FS

190

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

1

2

3

4

5

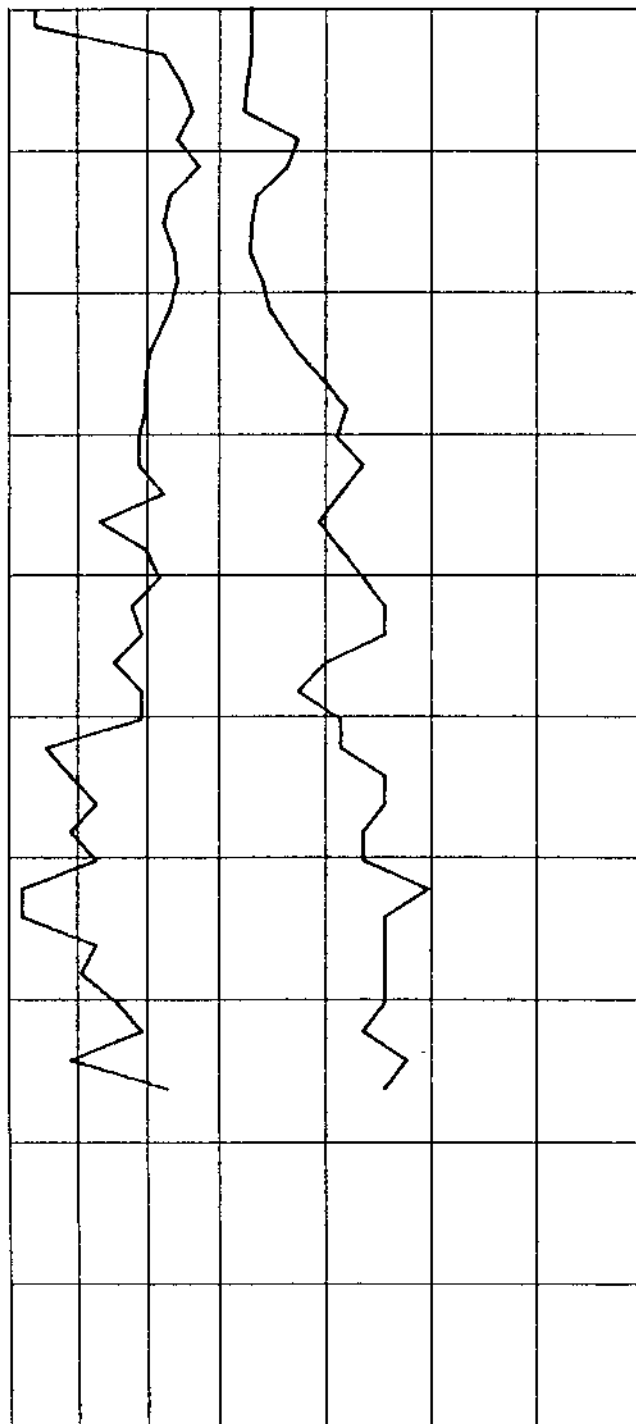
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7

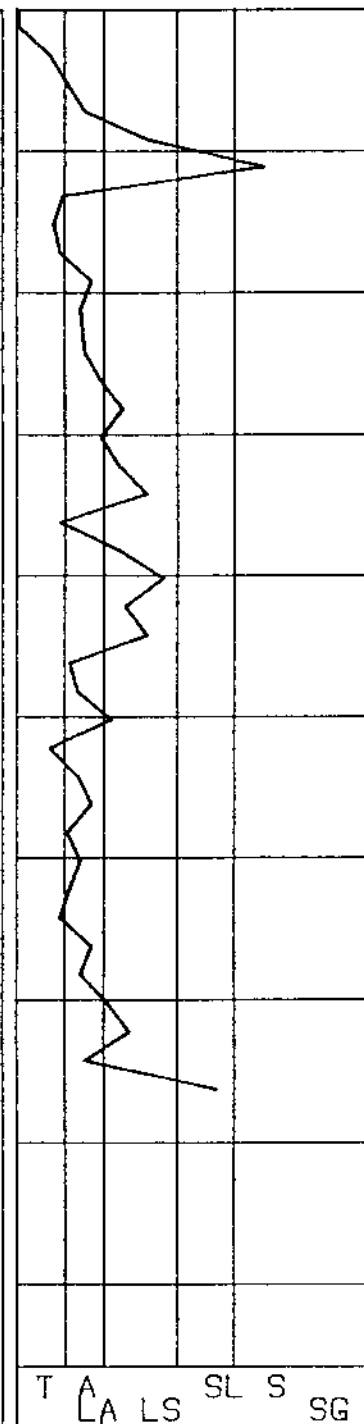
8

9

10



Quota di falda



T A LA LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

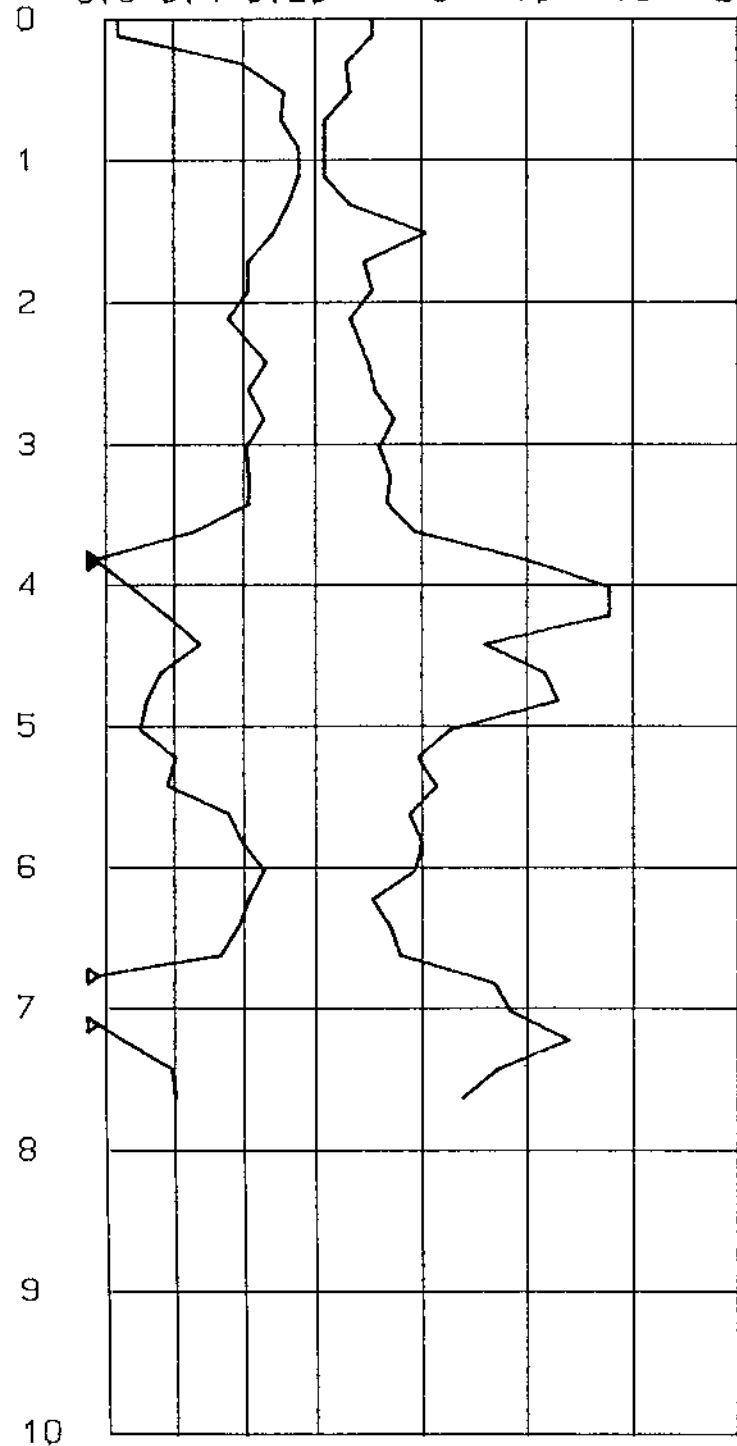
191

QC/FS

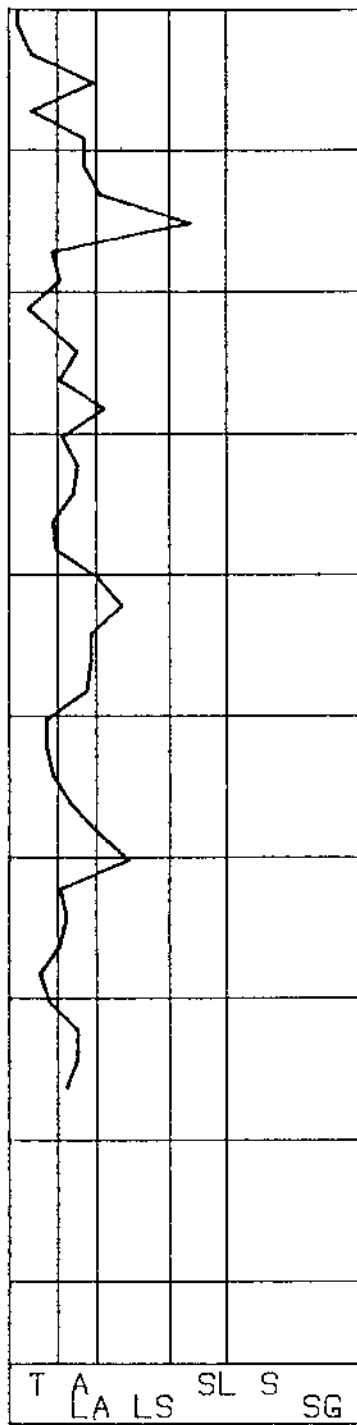
0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100



Quota di falda



T A LA LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

192

QC/FS

0,6 0,4 0,20

5 10 15 20

0 20 40 60 80 100

0

1

2

3

4

5

6

7

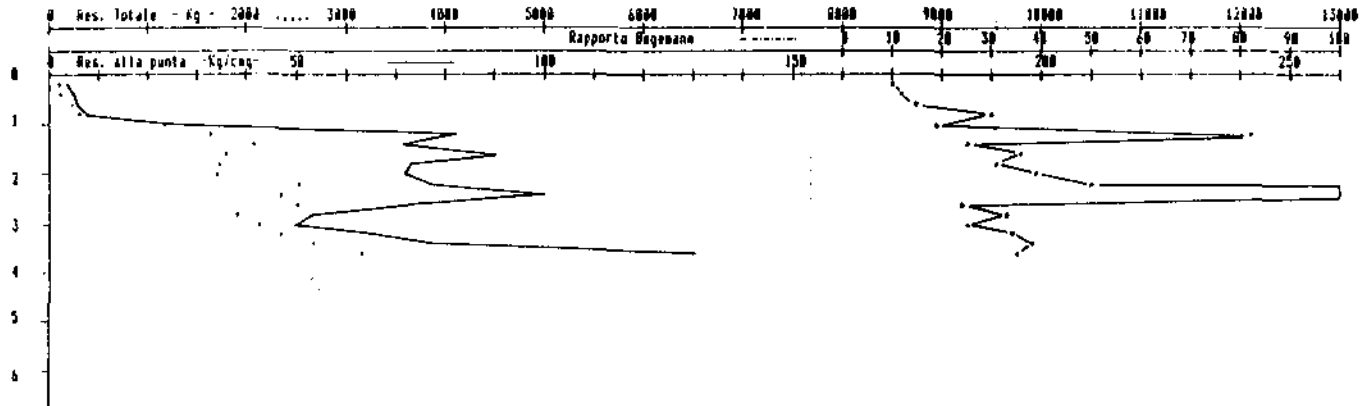
8

9

10

Quota di falda

T A LA LS SL S SG

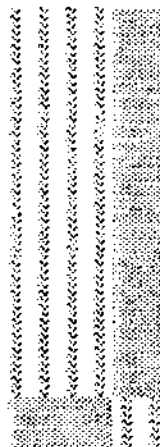
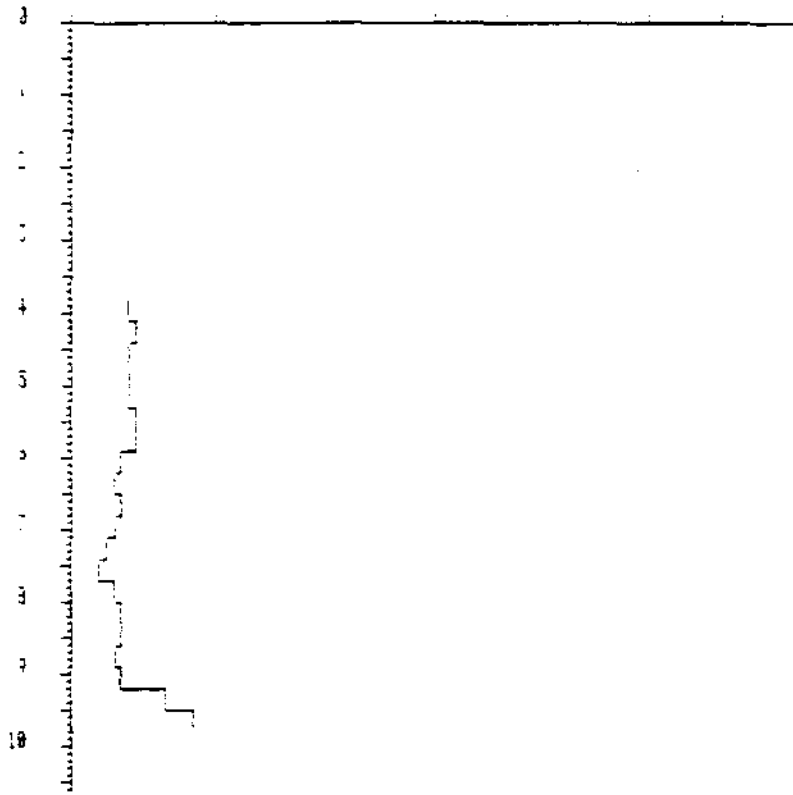


3

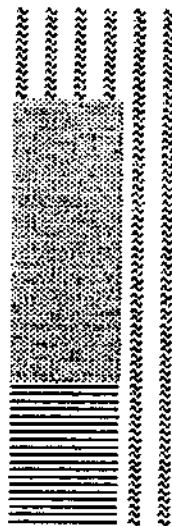
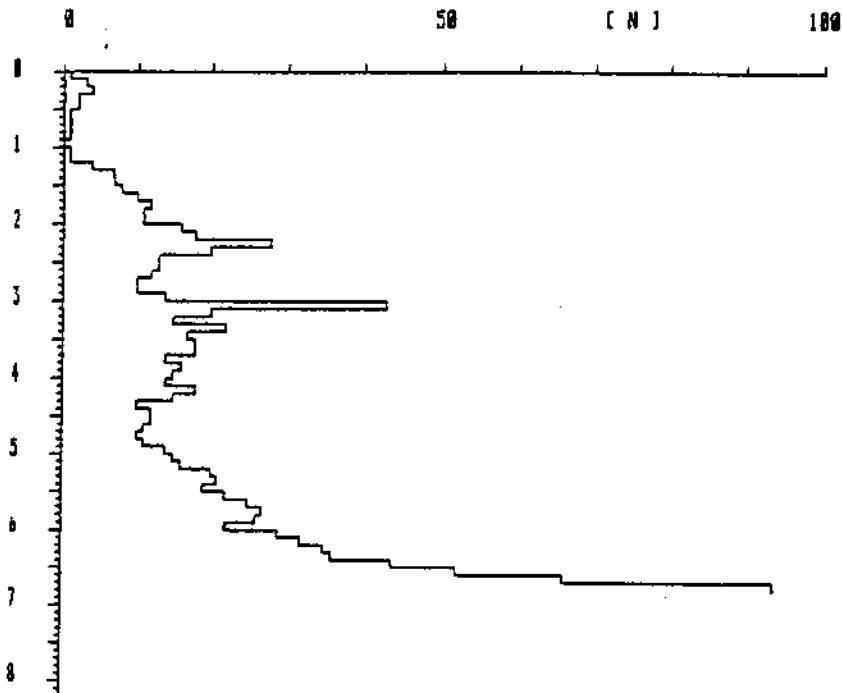
33

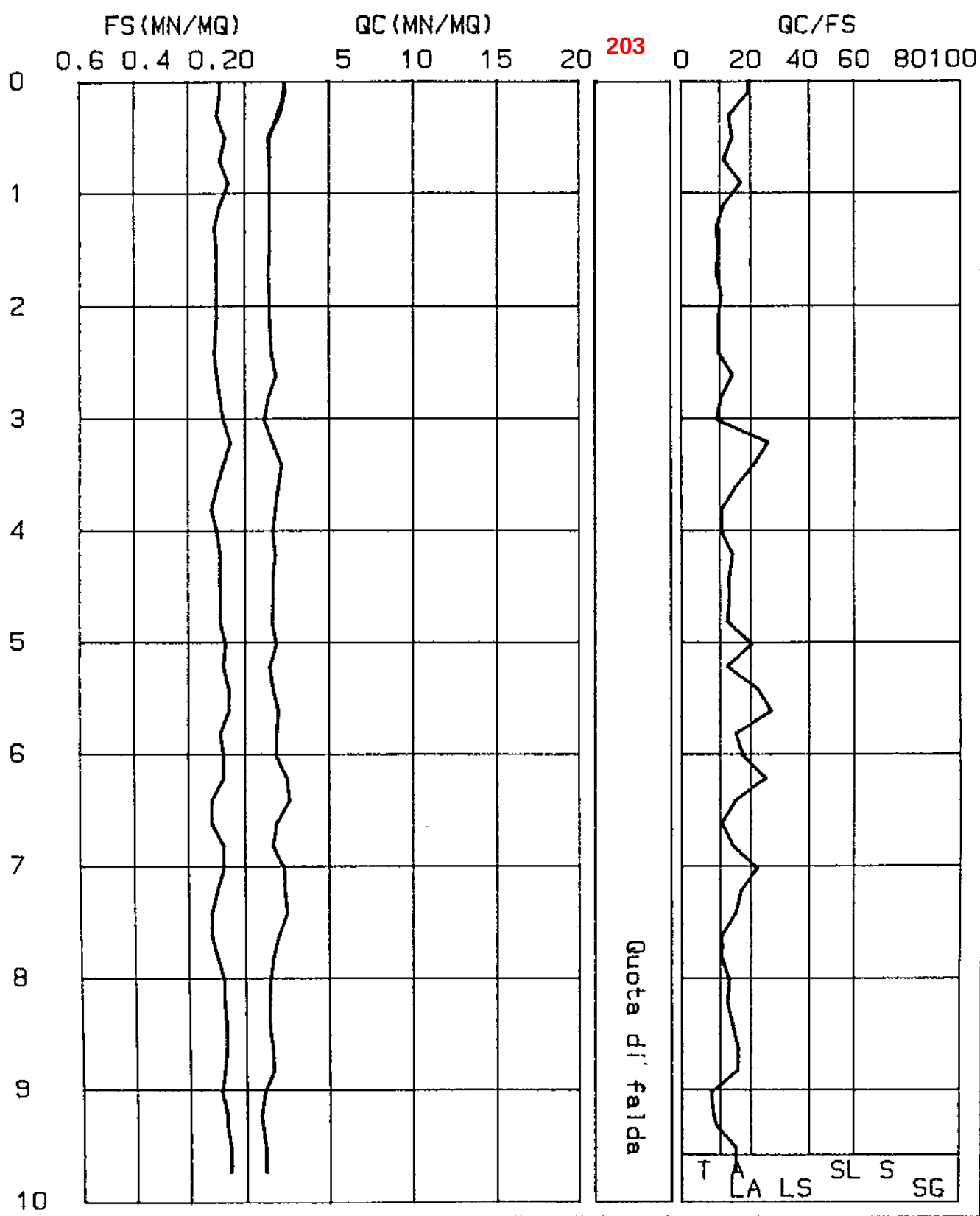
144

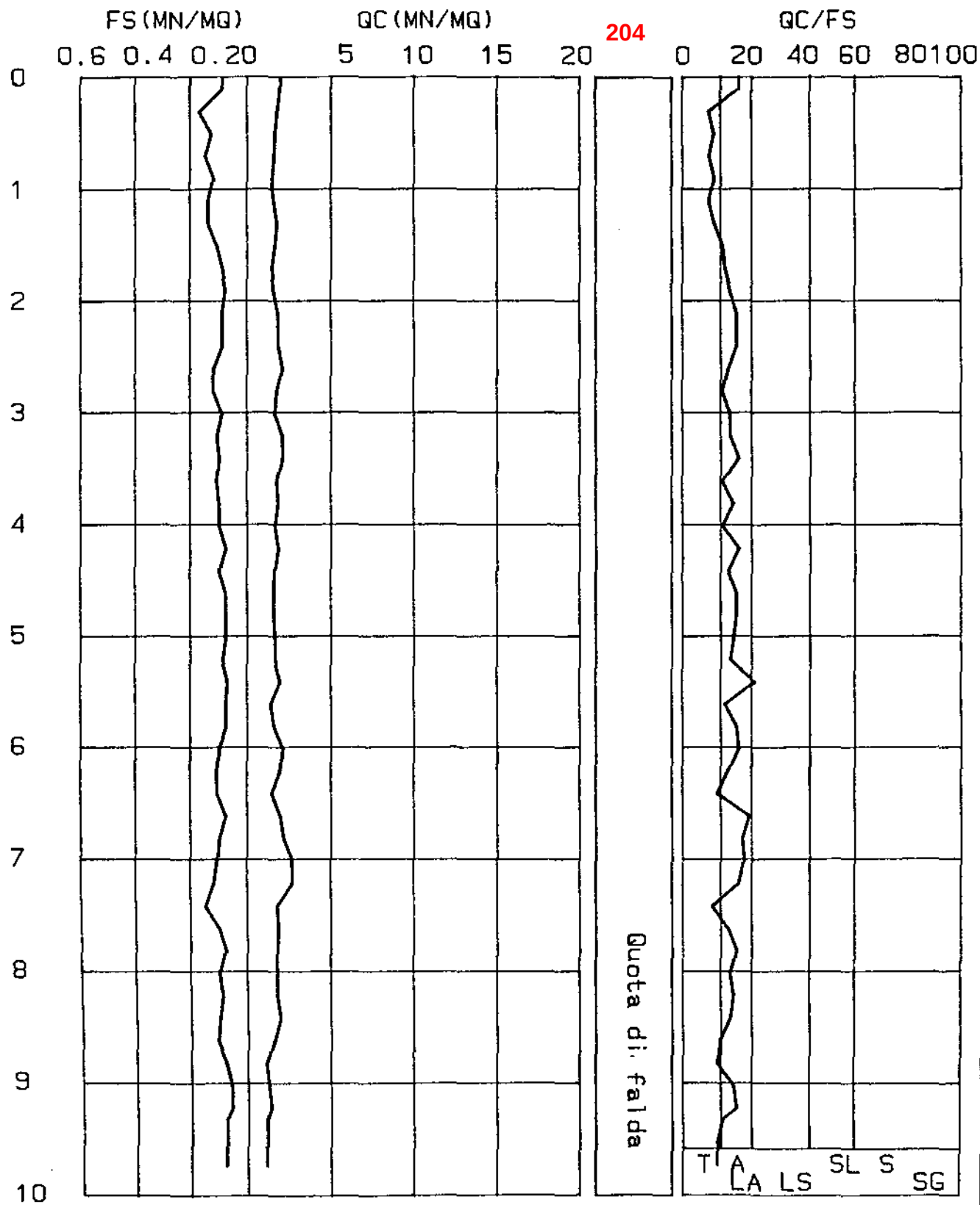
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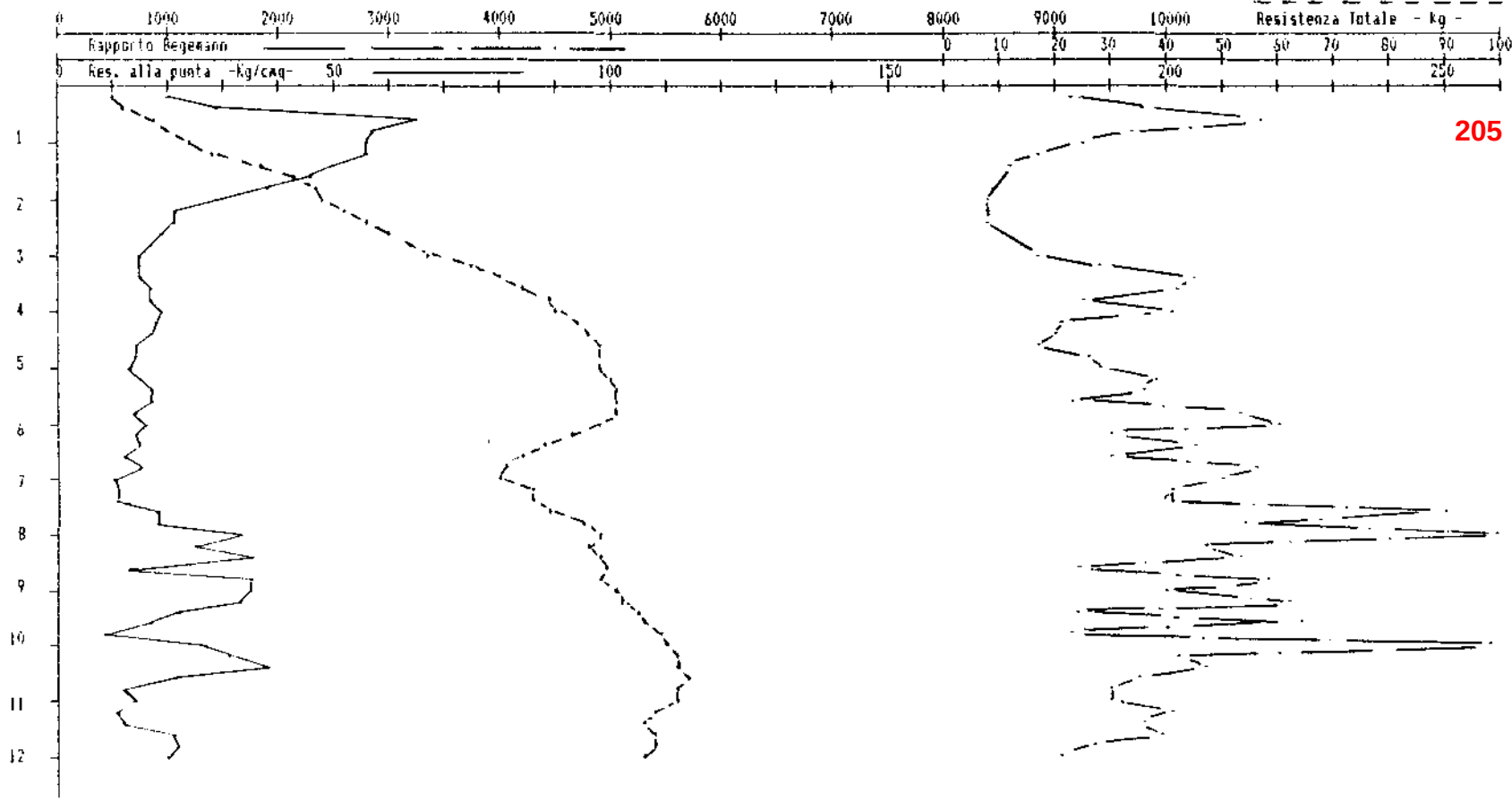


202

COLONNA
LITOLOGICA



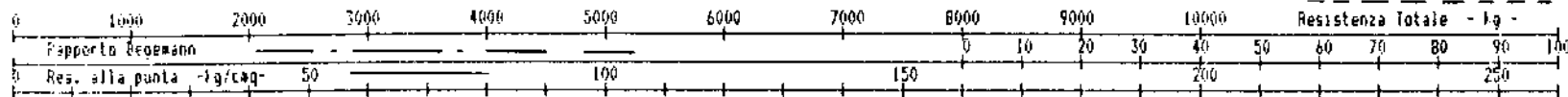




205

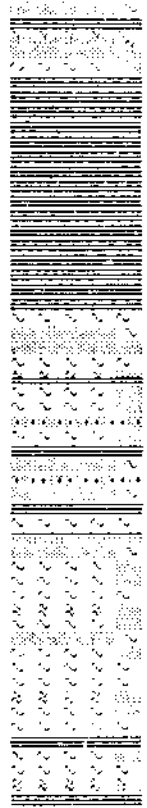
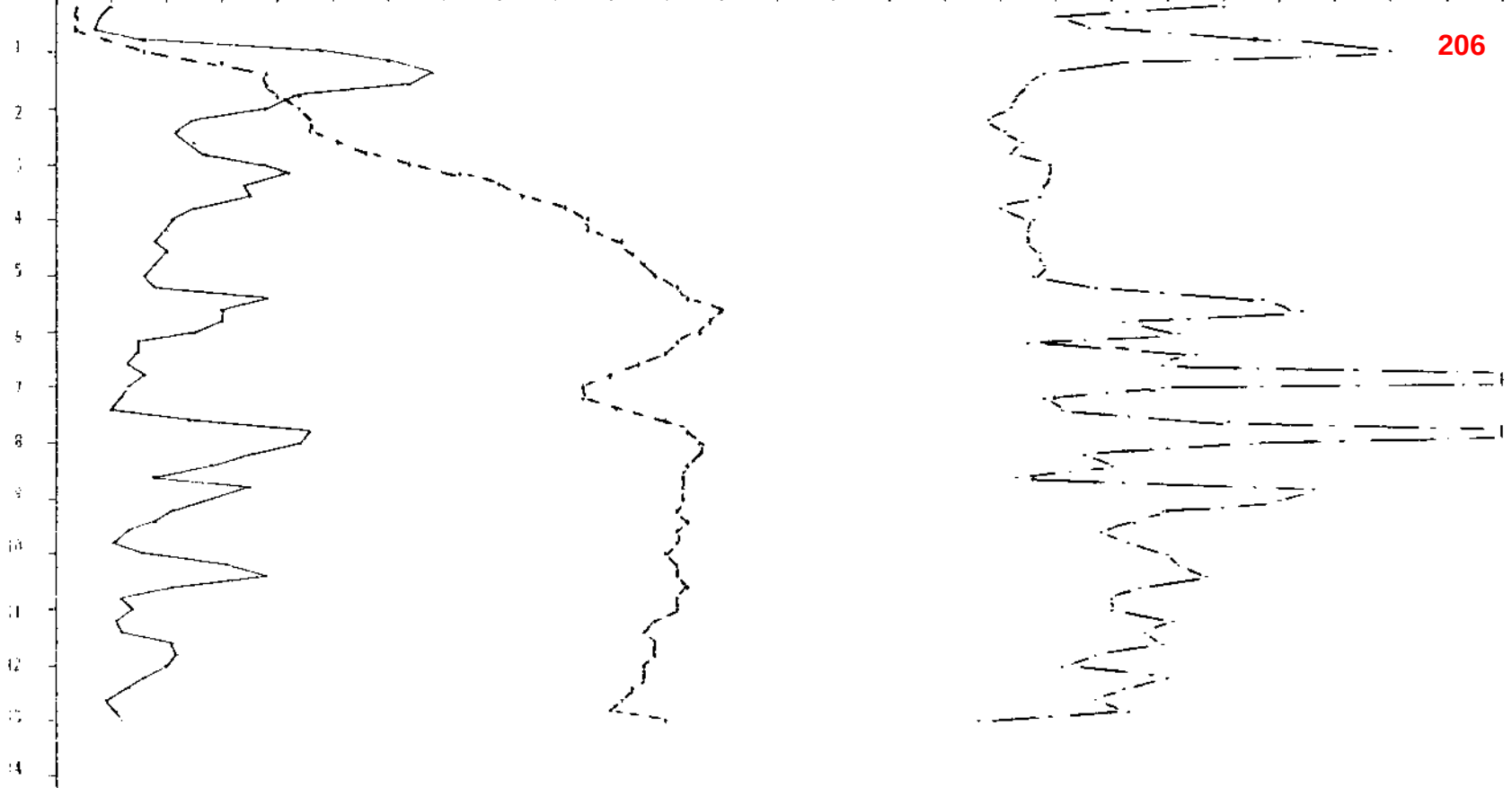
COLONNA
STRATIGRAFICA





ECOLOGIA
STRATIGRAFICA

206




DATA SOIL s.a.s.

- PROVE PENETROMETRICHE
- SONDAGGI
- GEOFISICA



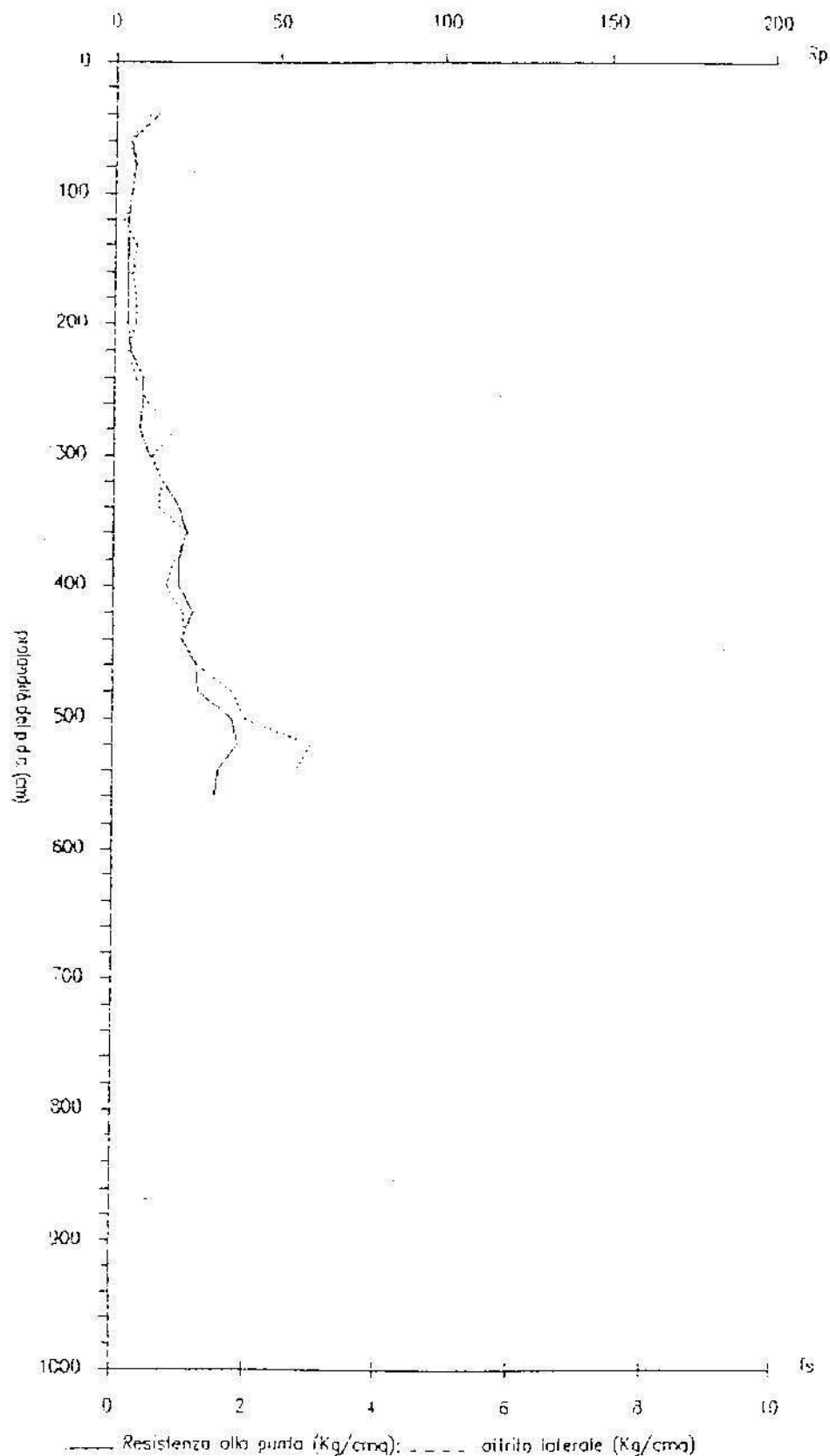
committente:

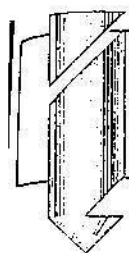
E. CROCE

data: 12.04.1992

località: POGGIO ACORNO -

CPT n. 1




DATA SOIL s.r.l.

- PROVE PENETROMETRICHE
- SONDAGGI
- GEOFISICA



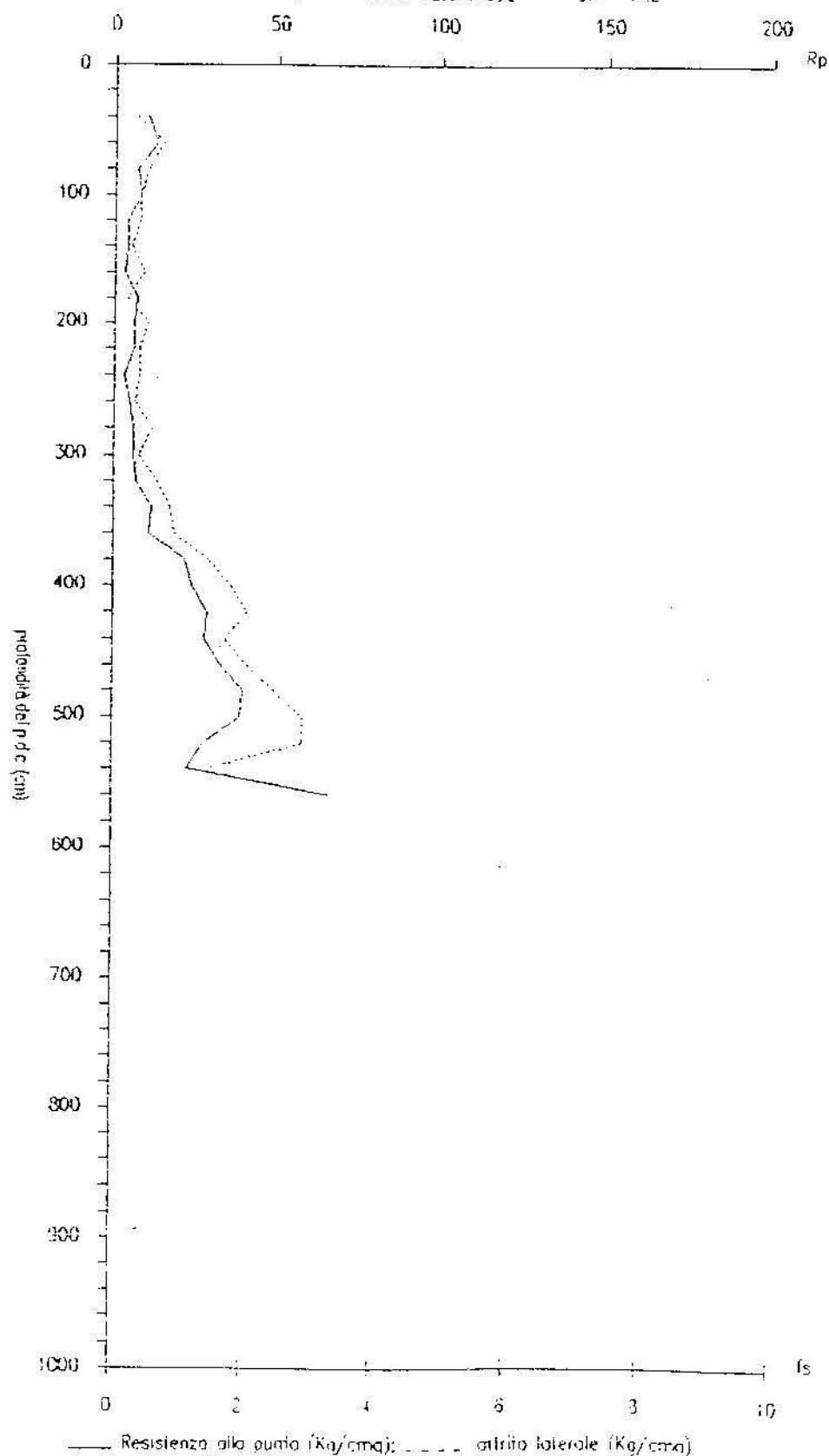
committente:

S. CROCE

data: 12.04.1992

località: POGGIO ADORNO -

CPT n. 2



DATA SOIL s.d.s.

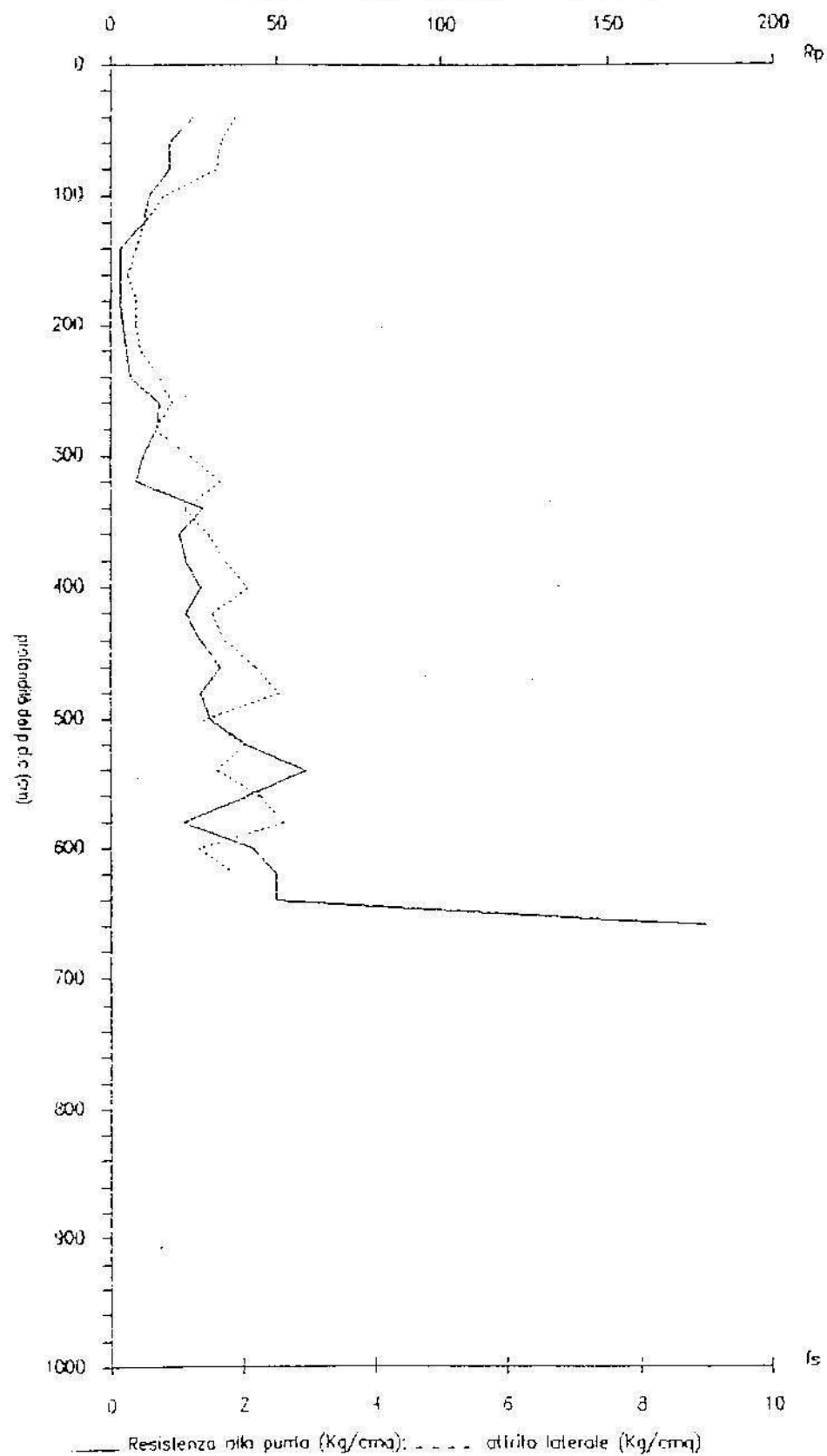
- PROVE PENETROMETRICHE
- SONDAGGI
- GEOFISICA

compartimento:
S.C.P.O.C.E.

località: POGGIO AGRANO -

data: 12.04.1992

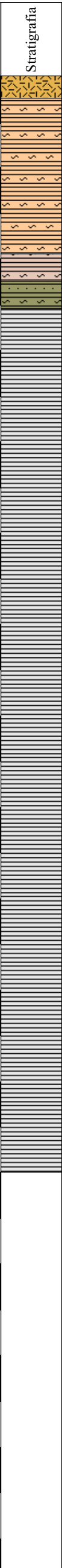
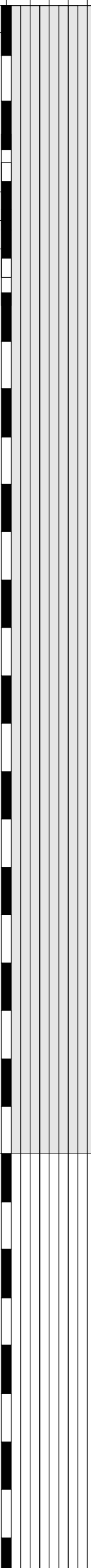
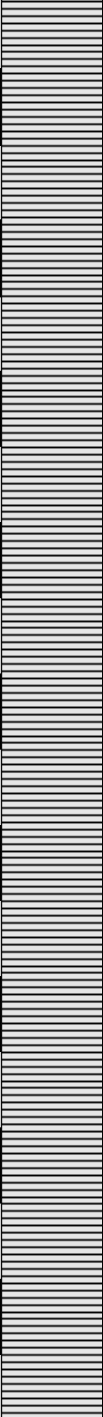
CPT n°:3



SONDAGGIO N° 1

ALL.4 LOG DI PERFORAZIONE

Committente		Data	19/10/2005	Quota p.c. (m s.l.m.)	
Cantiere	S. Croce sull'Arno (PI)	Lavoro	Progetto nuovo fabbricato industriale	Metod. operativa	rotaz. a carotaggio continuo

Ø foro (mm)	S.P.T.		Camp. (*)	Prof. camp. (m)	Piezom.		Spessore strati (m)	Prof. (m)	Scala rif.		Falda acquifera	Descrizione dei terreni attraversati	Carotaggio % recupero			
	Prof. (m)	Nº colpi			Tipo	Prof. (m)										
127					cieco	2,0	0,5	0,5	1			Terreno di riporto a prevalenza limo-argilloso di colore marrone				
							3,3					2				Limo argilloso di colore marrone avana con rare variegature rossastre e nerastre con rari clasti calcarei di dimensioni massime fino al centimetro e rari frustoli vegetali nerastri
							0,7	4			Argille debolmente limose di colore da marrone a grigio					
								0,6			5				Limi argilloso-sabbiosi di colore grigio-verdastro	
							18,9	6			Argille grigie plastiche con rari inclusi calcarei di dimensioni massime fino al centimetro, con intercalazioni limose e/o sabbiose fini e rari livelli di argilla organica					
								7								
								8								
								9								
								10								
								11								
								12								
								13								
								14								
								15								
								16								
								17								
								18								
								19								
								20								
								21								
								22								
								23								
							24,0	24			Argille grigie plastiche con rari inclusi calcarei di dimensioni massime fino al centimetro, con intercalazioni limose e/o sabbiose fini e rari livelli di argilla organica					
								25								
								26								
								27								
								28								
								29								
								30								
								31								
								32								
								33								

(*) 1,2,3, ... S = Shelby D = Denison
O = Osterberg M = Mazier a = altro
R = camp. rimaneggiato
P.P. = Penetrometro tascabile
Tor. = Scissometro tascabile
S.P.T. = Standard Penetration Test
V.T. = Vane Test (kg/cmq) max-residuo
R.O.D. = Rock Quality Designation

Riporto

Terreno vegetale

Argilla

Limo
Sabbia
Ghiaia, ciottoli

NOTE: foro adattato a piezom.:
da p.c. a - 2 m = cieco;
da - 2 m a - 20 m = fessurato

MISURA FALDA ACOUIFERA

data	liv. acqua
21/10/05	- 2,30 m
30/11/05	- 1,50 m


GEOSERVIZI S.N.C.

di Cosco e Spadaro

Via U. Foscolo 14 - 56017 Ghezzano (PI)

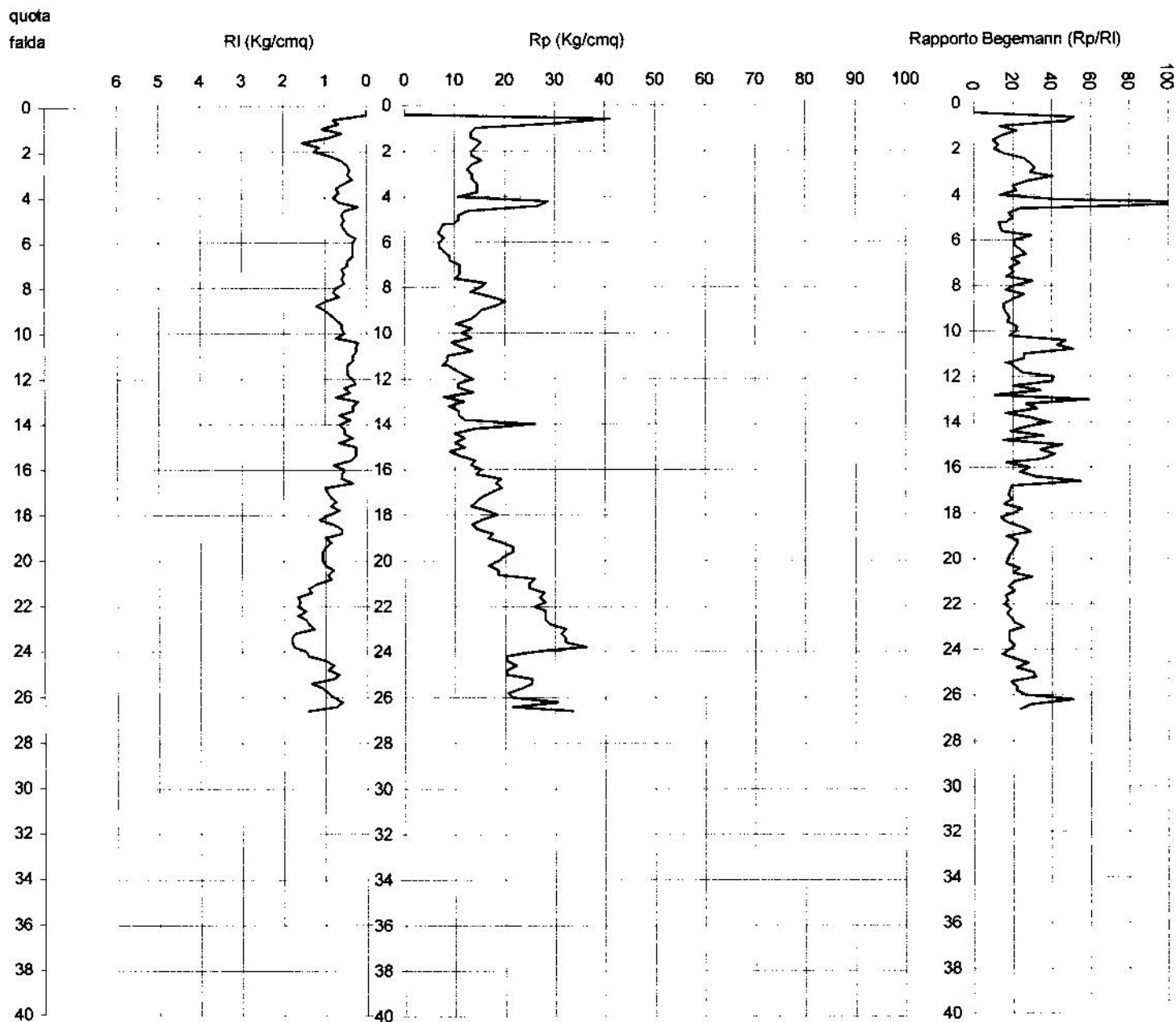
tel e fax 050-878470 cell. 339-1344492

Prova numero	1
Committente	DOTT. MEZZETTI
Località	S. CROCE
Cantiere	
Data	21/10/05

Certificato n. 364-05

Profondità massima (m): 26,6

Quota falda (m dal p.c.): 2,7



PENETROMETRO STATICO: TG 73 200 KN PAGANI


GEOSERVIZI S.N.C.

di Cosco e Spadaro

Via U. Foscolo 14 - 56017 Ghezzano (PI)

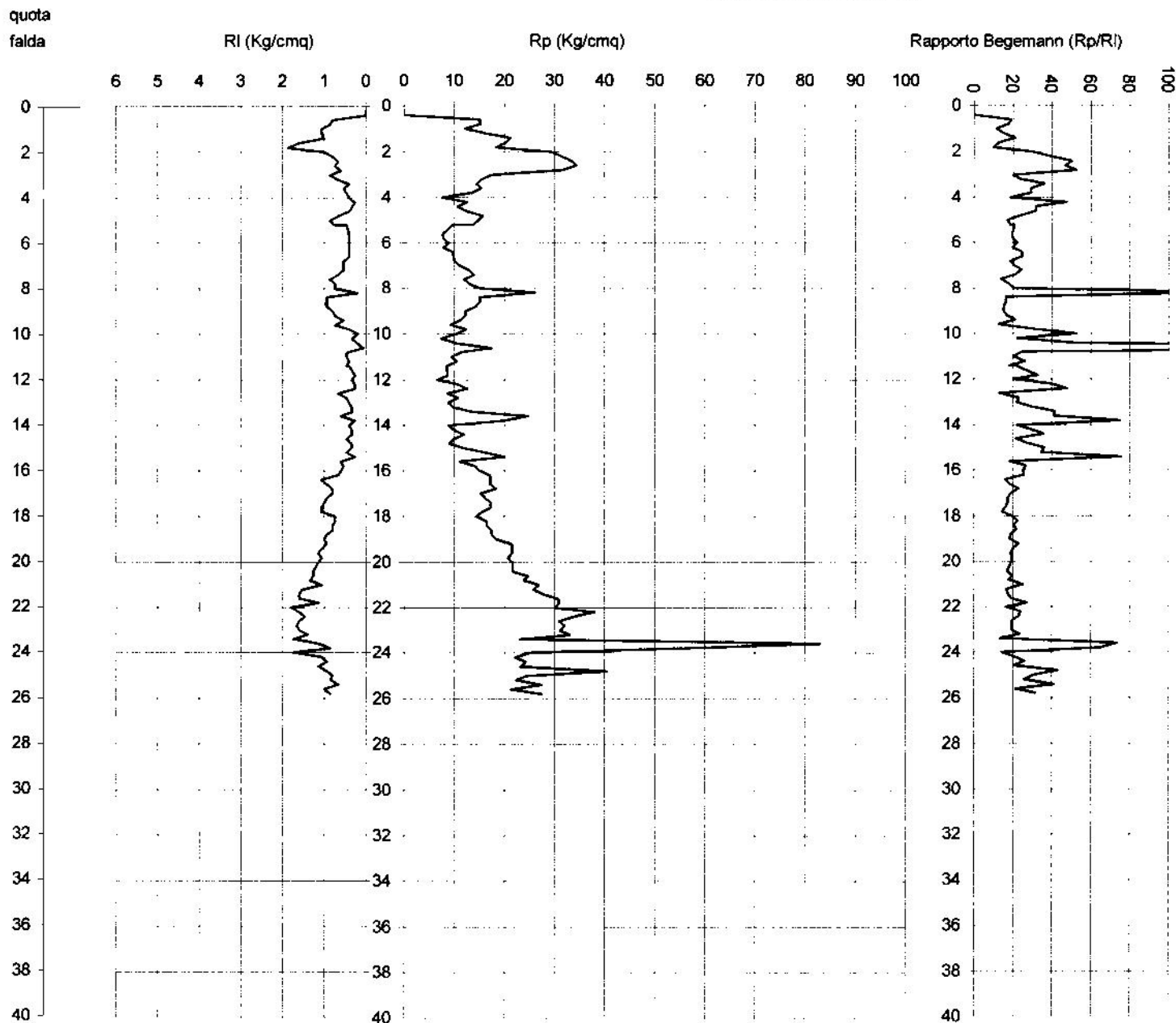
tel e fax 060-878470 cell. 339-1344492

Prova numero	2
Committente	DOTT. MEZZETTI
Località	S. CROCE
Cantiere	
Data	21/10/05

Certificato n. 365-05

Profondità massima (m): 25,8

Quota falda (m dal p.c.): 3,8


PENETROMETRO STATICO: TG 73 200 KN PAGANI


GEOSERVIZI S.N.C.

di Cosco e Spadaro

Via U. Foscolo 14 - 56017 Ghezzano (PI)

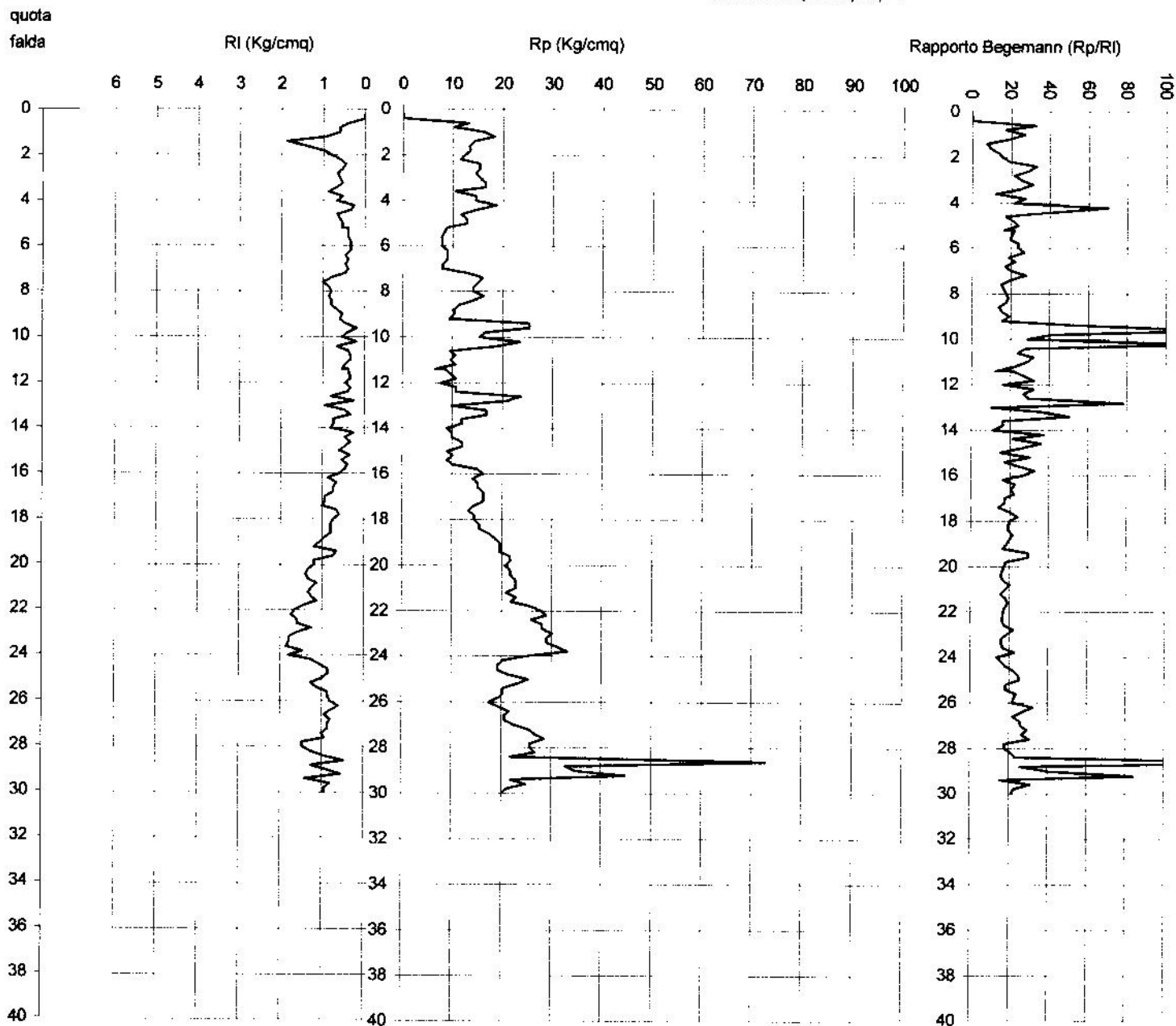
tel e fax 050-878470 cell. 339-1344492

Prova numero	3
Committente	DOTT. MEZZETTI
Località	S. CROCE
Cantiere	
Data	21/10/05

Certificato n. 366-05

Profondità massima (m): 30

Quota falda (m dal p.c.): 3



PENETROMETRO STATICO: TG 73 200 KN PAGANI


GEOSERVIZI S.N.C.

di Cosco e Spadaro

Via U. Foscolo 14 - 56017 Ghezzano (PI)

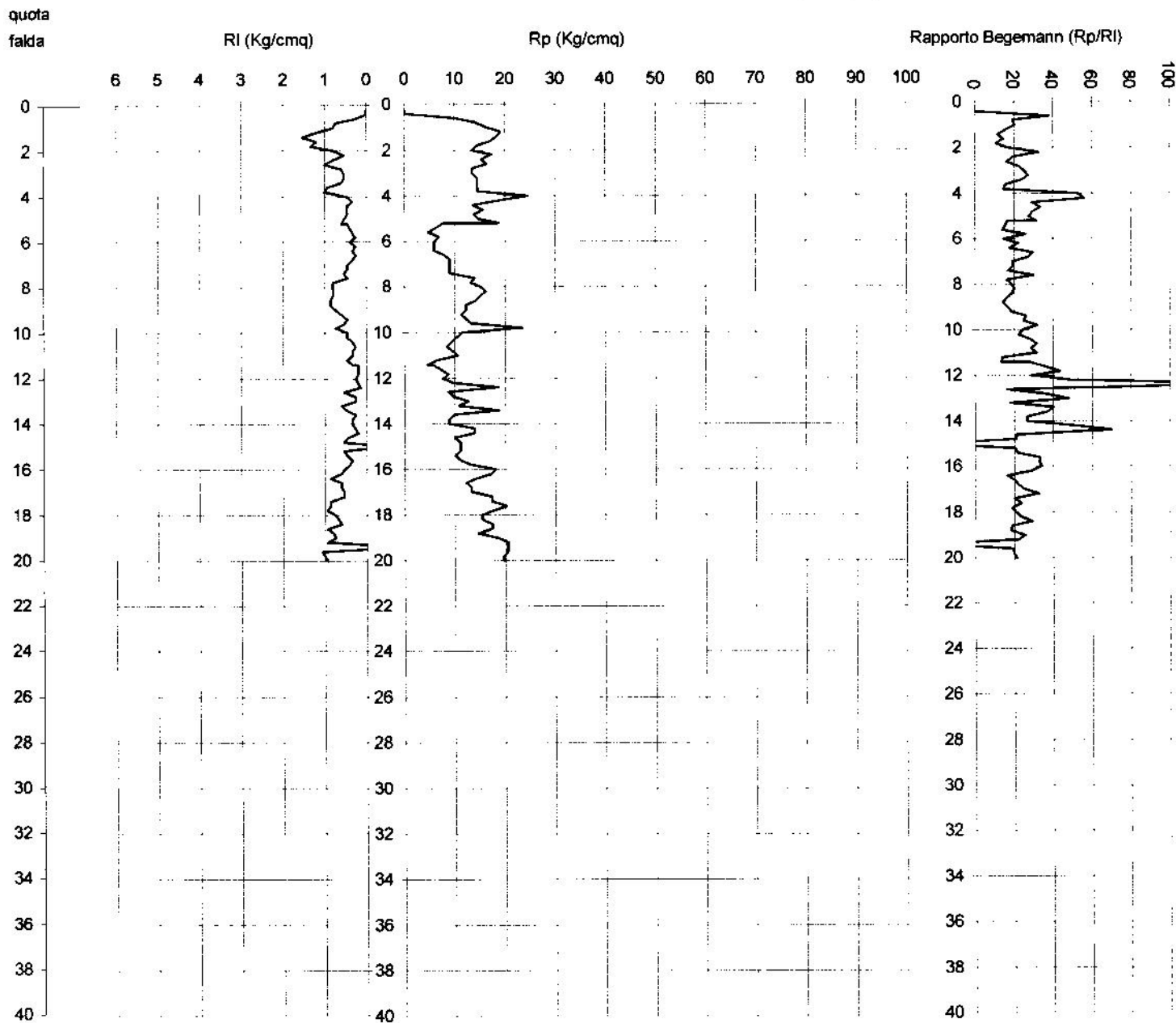
tel e fax 050-878470 cell. 339-1344492

Prova numero	4
Committente	DOTT. MEZZETTI
Località	S. CROCE
Cantiere	
Data	24/10/05

Certificato n. 367-05

Profondità massima (m): 20

Quota falda (m dal p.c.): 2,4



PENETROMETRO STATICO: TG 73 200 KN PAGANI

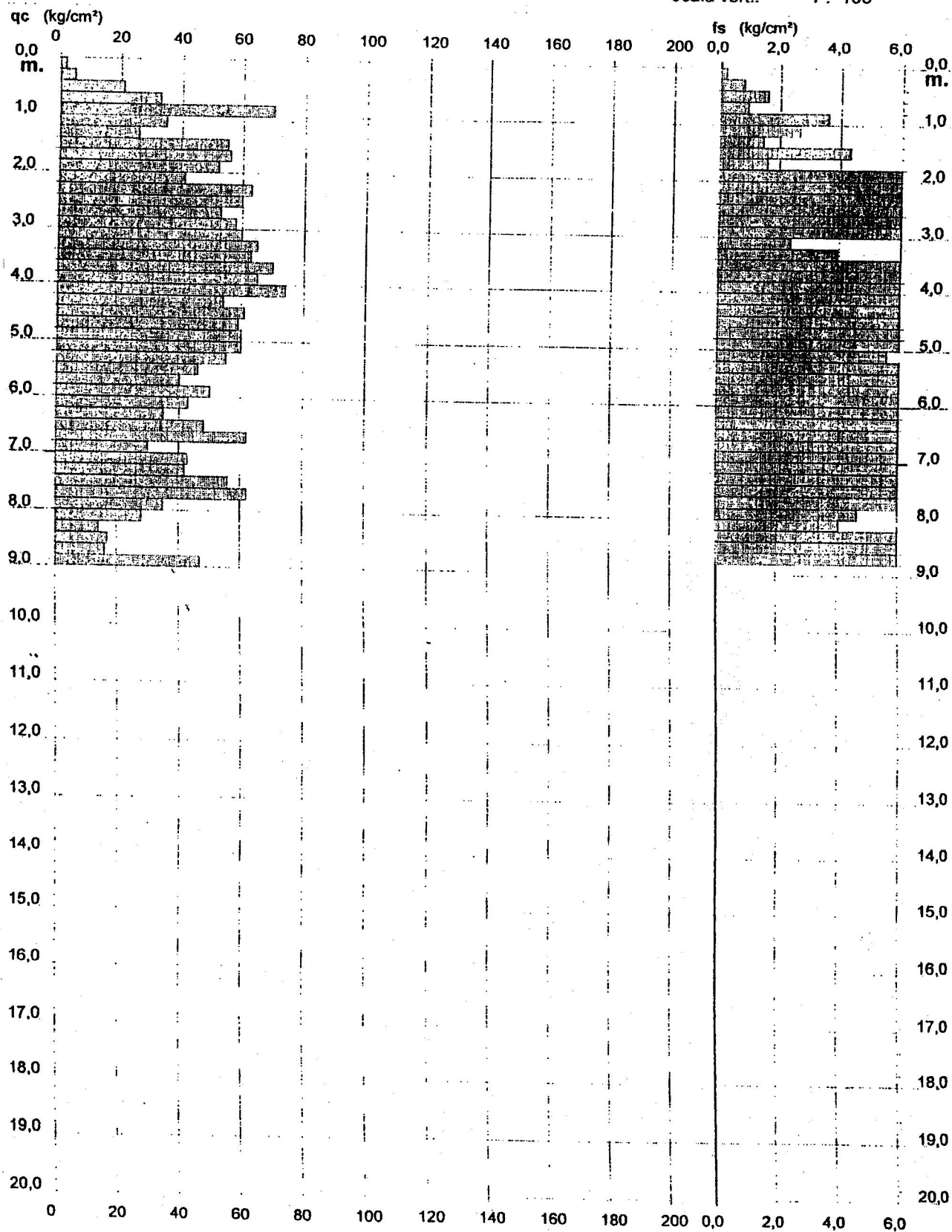
PROVA PENETROMETRICA STATICA DIAGRAMMA DI RESISTENZA

CPT 4

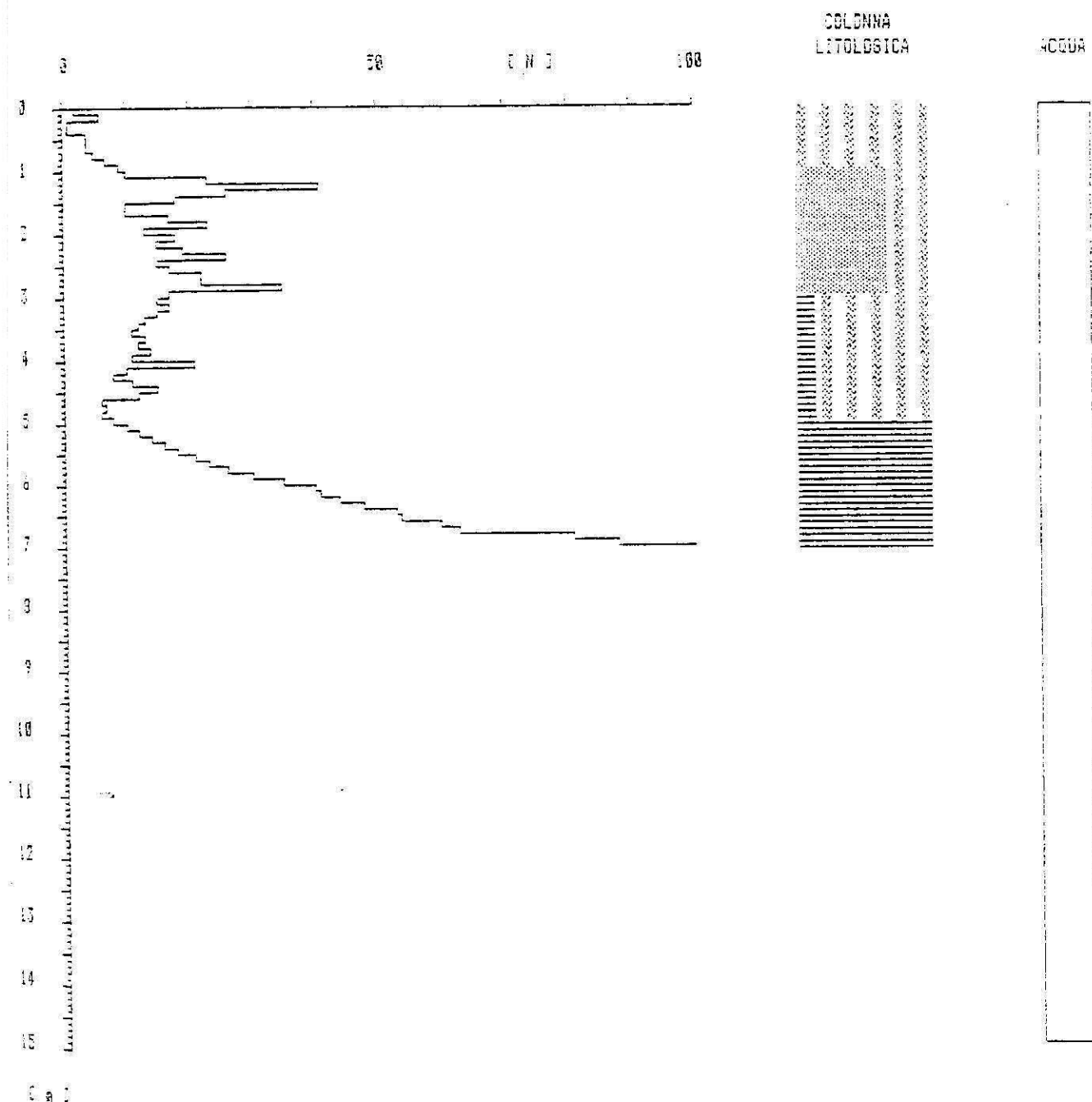
2.01PG05-077

- committente : STUDIO SINTESI snc
- lavoro :
- località : S. Croce sull'Arno
- note :

- data : 26/06/2003
- quota inizio : Piano Campagna
- prof. falda :
- scala vert.: 1 : 100



MAPPO-GEO s.n.c.
di BENEDETTI M. & C.

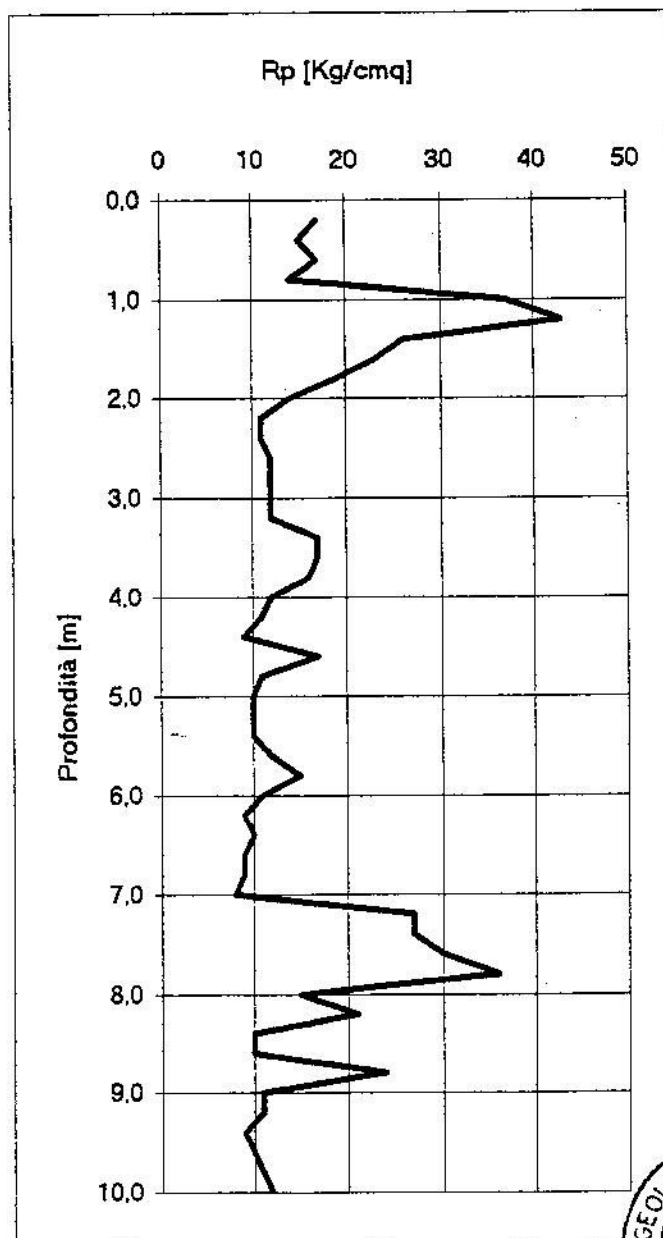


PROVA PENETROMETRICA STATICA: Penetrometro Statico 20 t

Studio LITHOS geologia professionale
Via della Costituente 17- 56024 Ponte a Egola (PI)
tel./fax 0571/485277
e-mail: studiolithos@libero.it

PROVA N° 17

Committente:
Cantiere: Via 11 Febbraio
Località S.Croce s/A
Comune: S.Croce S/A
Data: 13/07/01

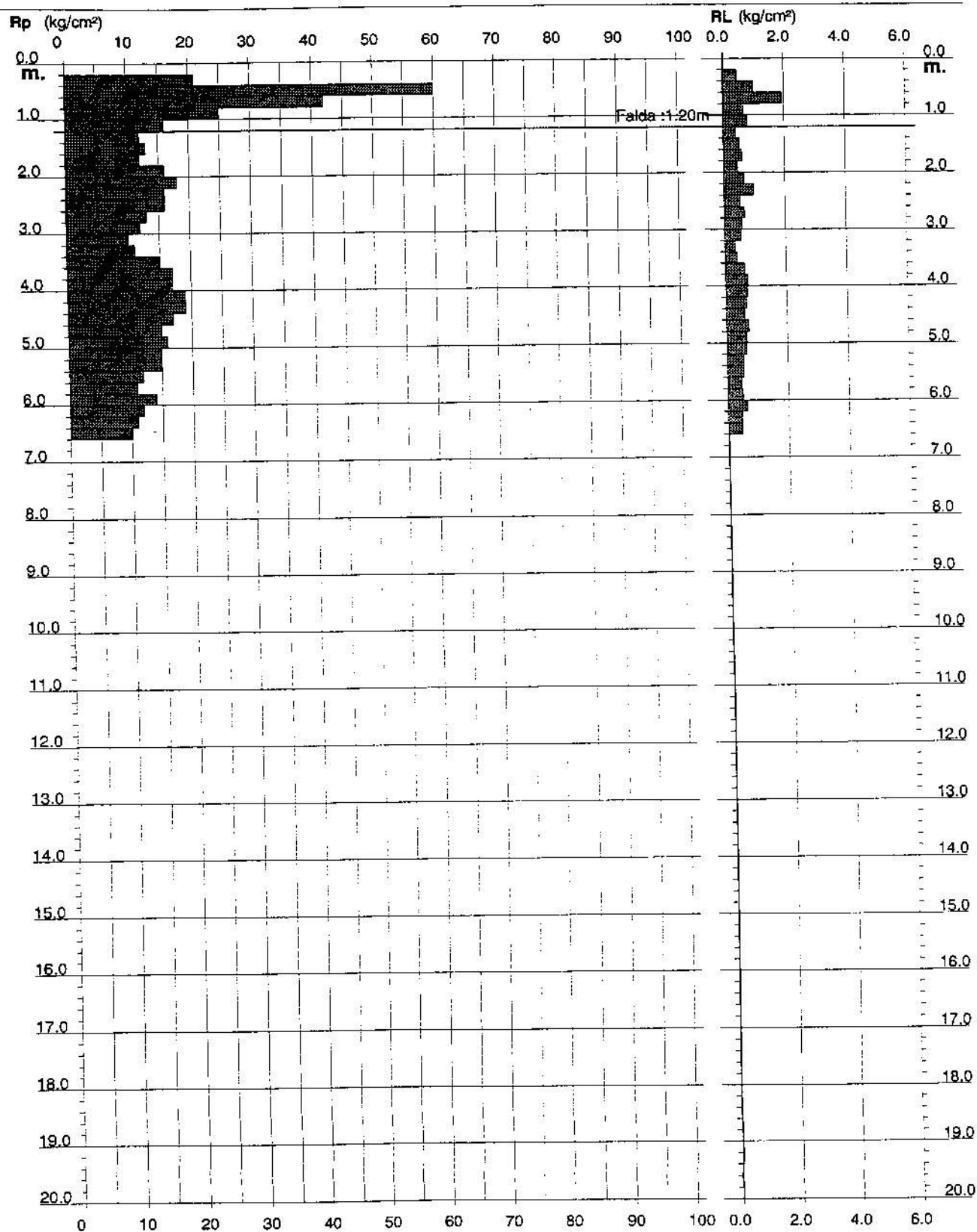


**PROVA PENETROMETRICA STATICA
DIAGRAMMA DI RESISTENZA****CPT P22**

2.010496-56

- committente :
- lavoro : Indagini geognostiche
- località : Santa Croce sull'Arno - Pisa

- data : 30/12/1899
- quota inizio : Piano Campagna
- prof. falda : 1.20 m da quota inizio
- scala vert.: 1 : 100



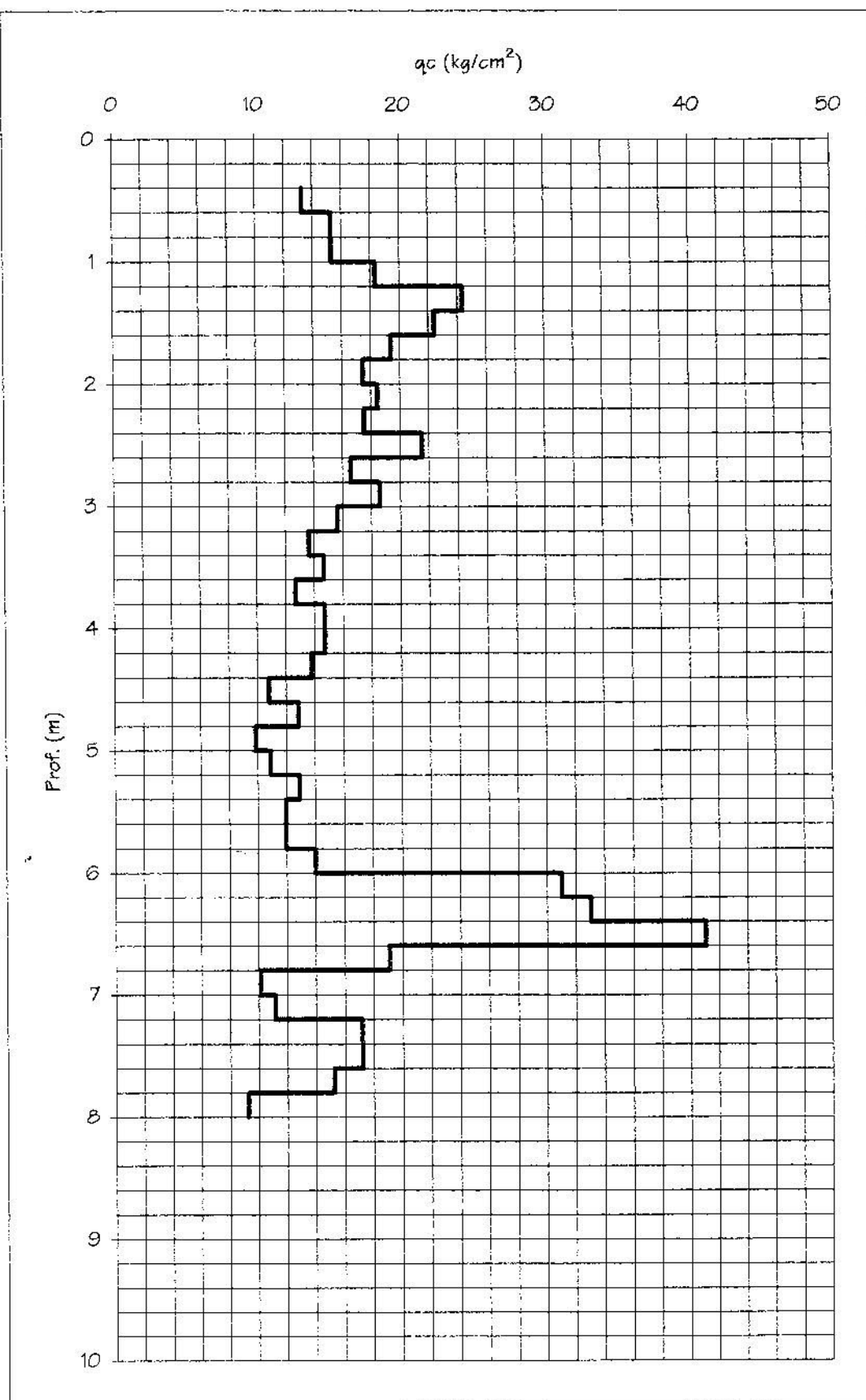
Comm.te

Località S. Croce sull'Arno (PI)

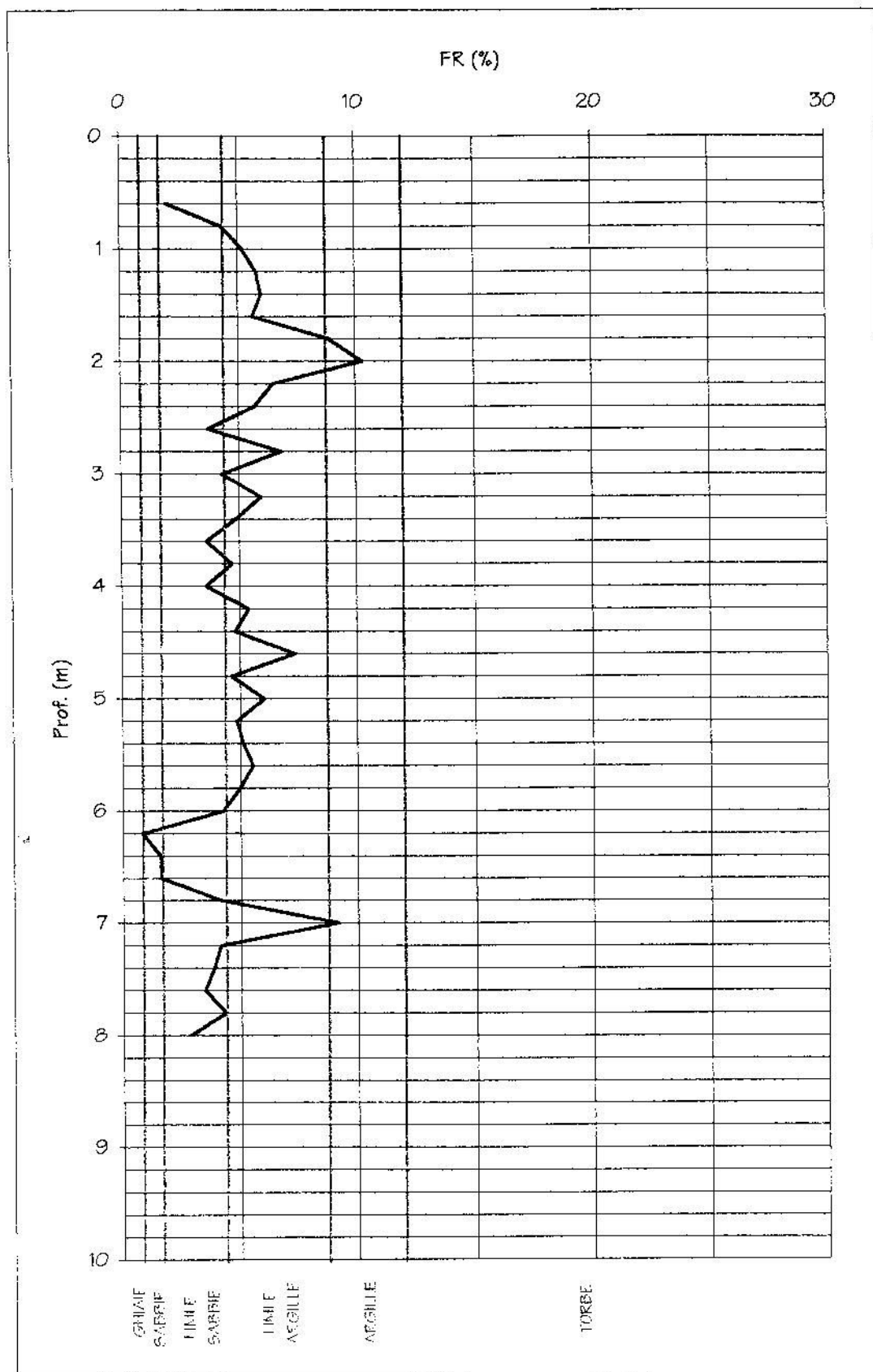
Quota p.c. -

Data 06/03/2000

Prova n° 25

Prof. H₂O n.r.

Comm.te	Data 06/03/2000
Località S. Croce sull'Arno (PI)	Prova n° 15
Quota p.c. -	Prof. H ₂ O n.r.



CPT Cone Penetration Test

Picchetto n. 27 /

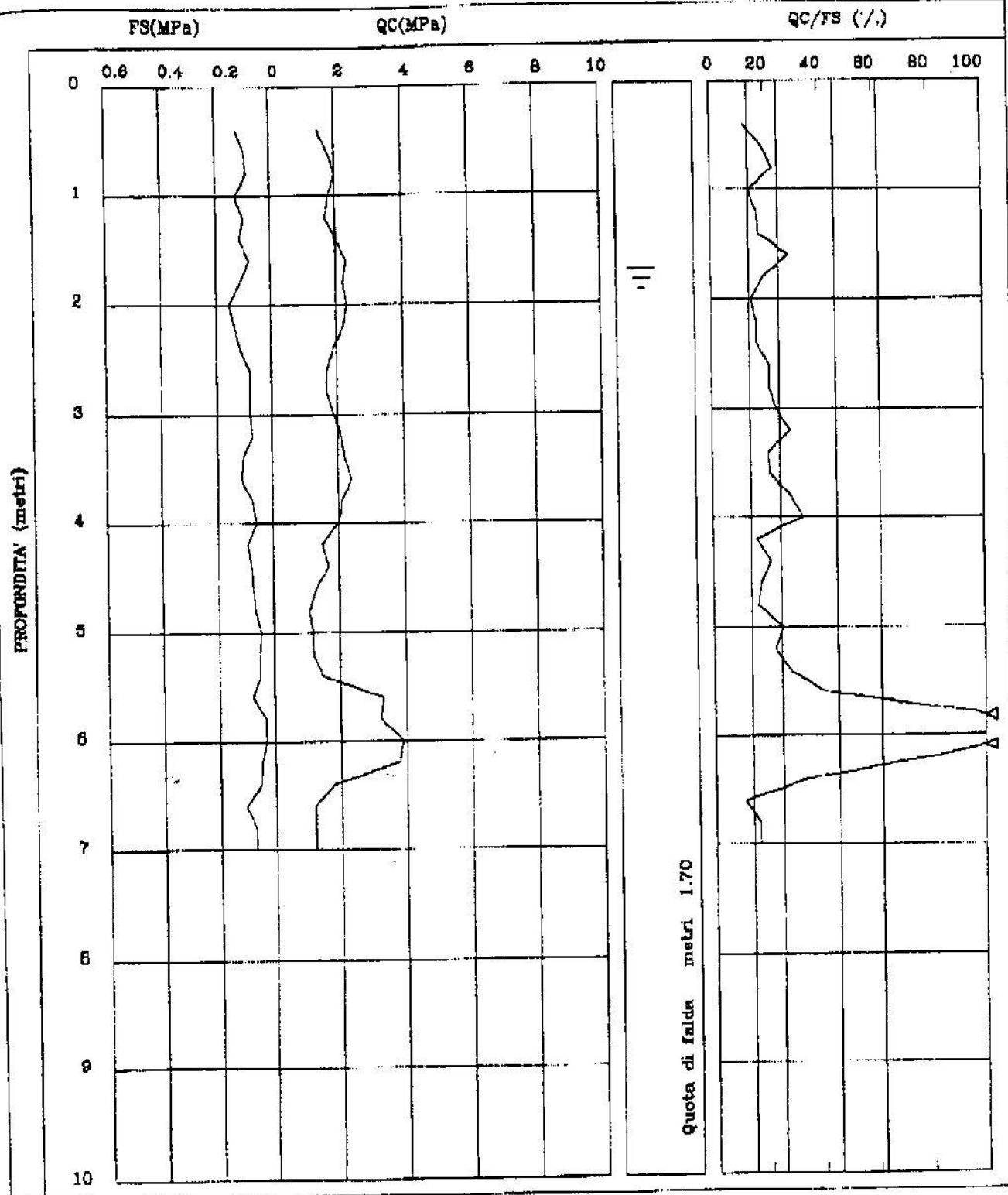
Cantiere

S. CROCE

Committente DOTT. PECETTI

Certif.n. 134-03

del 25/03/2003



SERVIZI S.d.r.
 Piazza San Felice, 6
 SA

Prova penetrometrica numero: 28
 Committente: DOTT. PROFETI
 Localita': S. CROCE
 Cantiere:
 Data: 31/05/91

quota falda: 1.70 m dal p.c.

letture di campagna			valori derivati			parametri geotecnici stimati						
PROFONDITA' [metri]	Rp [Kg/cmq]	Rat [Kg/cmq]	Rat-Rp [Kg/cmq]	RI [Kg/cmq]	Rp/RI	δ [Kg/dmc]	σ_{ov} [Kg/cmq]	ψ [gradi]	D_R [%]	c_u [Kg/cmq]	s_v [cmq/t]	Colonna Stratig.
0.2						1,80	,04	-	-	-	-	
0.4						1,80	,07	-	-	-	-	
0.6	18	29	11	,7	25	1,90	,11	-	-	,72	19,5	=====
0.8	22	36	14	,9	24	2	,15	-	-	,87	18,2	=====
1.0	20	43	23	1,5	13	2	,19	-	-	,79	20	=====
1.2	22	43	21	1,4	16	2	,23	-	-	,87	18,2	=====
1.4	28	46	18	1,2	23	2	,27	-	-	1,11	14,3	=====
1.6	21	44	23	1,5	14	2	,31	-	-	,83	19,0	=====
1.8	21	44	23	1,5	14	2	,33	-	-	,83	19,0	=====
2.0	21	43	22	1,5	14	2	,35	-	-	,83	19,0	=====
2.2	21	41	20	1,3	16	2	,37	-	-	,83	19,0	=====
2.4	21	42	21	1,4	15	2	,39	-	-	,82	19,0	=====
2.6	24	45	21	1,4	17	2	,41	-	-	,94	16,7	=====
2.8	26	45	19	1,3	21	2	,43	-	-	1,02	15,4	=====
3.0	26	46	20	1,3	20	2	,45	-	-	1,02	15,4	=====
3.2	19	39	20	1,3	14	1,90	,47	-	-	,74	19,7	=====
3.4	18	33	15	1	18	1,90	,49	-	-	,70	19,5	=====
3.6	11	24	13	,9	13	1,70	,50	-	-	,42	33,7	=====
3.8	8	17	9	,6	13	1,60	,51	-	-	,30	42,2	=====
4.0	6	12	6	,4	15	1,60	,52	-	-	,22	51,8	=====
4.2	7	11	4	,3	26	1,80	,54	-	-	,26	29,7	=====
4.4	9	13	4	,3	34	1,80	,56	-	-	,34	24,9	=====
4.6	25	27	2	,1	188	1,80	,57	32	33	-	13,3	=====
4.8	36	49	13	,9	42	1,80	,59	29	-	-	9,3	=====
5.0	41	51	10	,7	62	1,80	,60	35	49	-	8,1	=====
5.2	38	46	8	,5	71	1,80	,62	34	46	-	8,8	=====
5.4	29	38	9	,6	48	1,80	,64	33	36	-	11,5	=====
5.6	8	20	12	,8	10	1,60	,65	-	-	,29	42,2	=====
5.8	7	13	6	,4	18	1,80	,66	-	-	,25	29,7	=====
6.0	7	12	5	,3	21	1,80	,68	-	-	,25	29,7	=====
6.2	6	10	4	,3	23	1,80	,70	-	-	,21	33,4	=====
6.4	7	13	6	,4	18	1,80	,71	-	-	,25	29,7	=====
6.6	9	14	5	,3	27	1,80	,73	-	-	,33	24,9	=====
6.8	10	18	8	,5	19	1,90	,75	-	-	,37	23,4	=====
7.0	7	13	6	,4	18	1,80	,76	-	-	,25	29,7	=====
7.2	8	14	6	,4	20	1,80	,78	-	-	,29	27,0	=====
7.4	9	15	6	,4	23	1,80	,79	-	-	,33	24,9	=====
7.6	9	14	5	,3	27	1,80	,81	-	-	,33	24,9	=====
7.8	12	16	4	,3	45	1,80	,83	-	-	,45	19,8	=====
8.0	17	20	3	,2	85	1,60	,84	28	12	-	16,7	=====

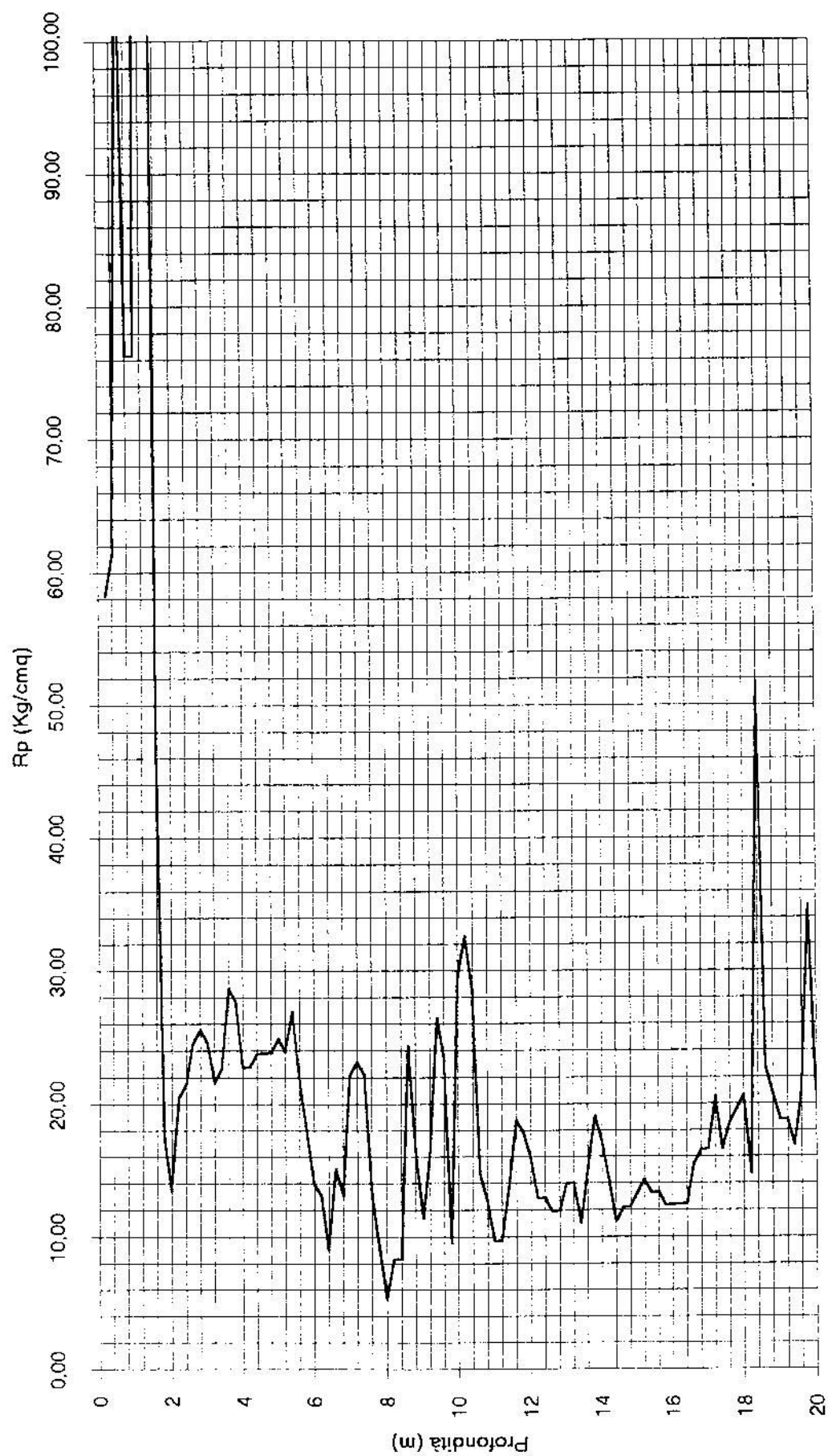
Prova penetrometrica numero: 28
 Committente: DOTT. PROFETI
 Localita': S. CROCE
 Cantiere:
 Data: 31/05/91

letture di campagna

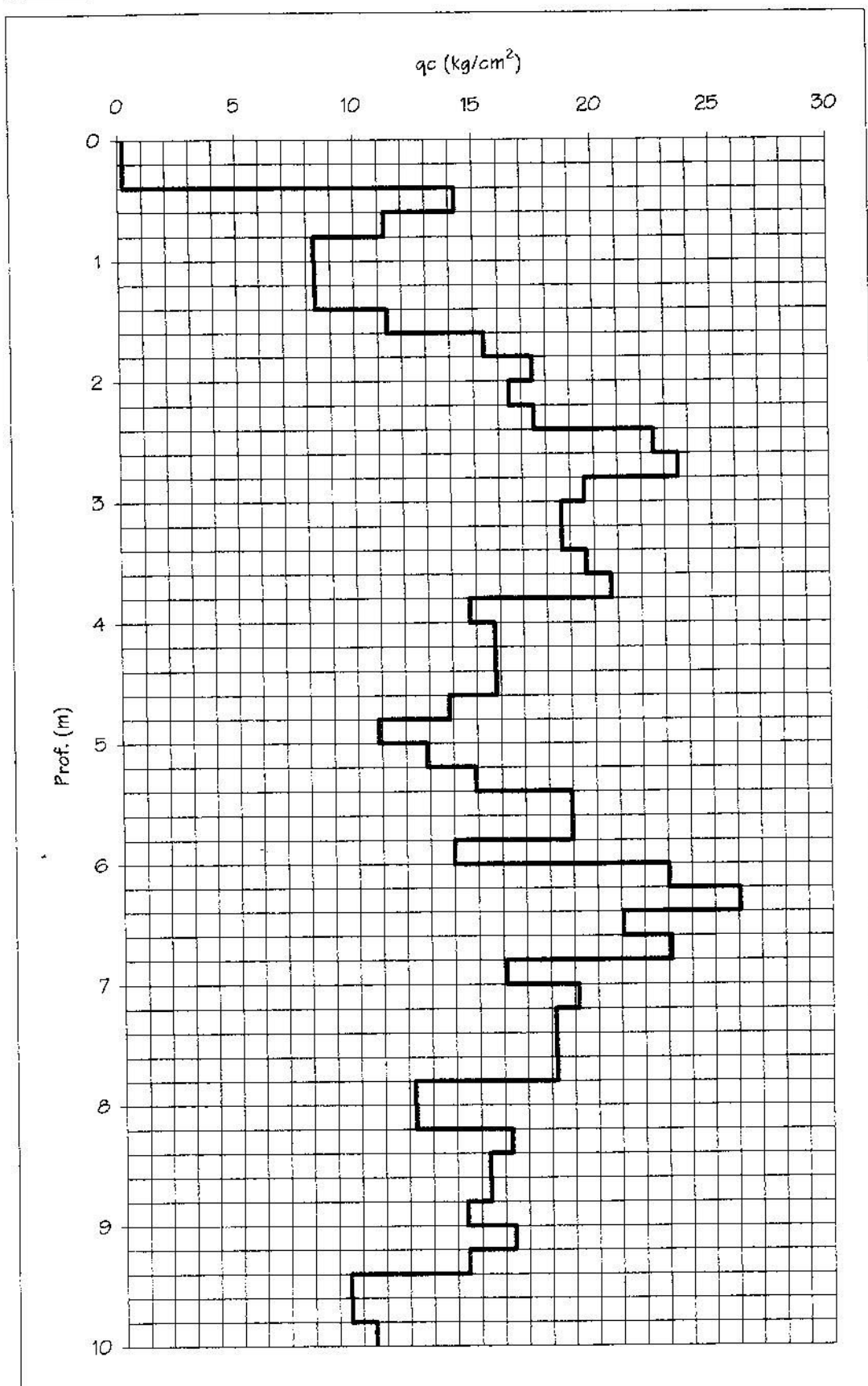
valori derivati

parametri geotecnici stimati

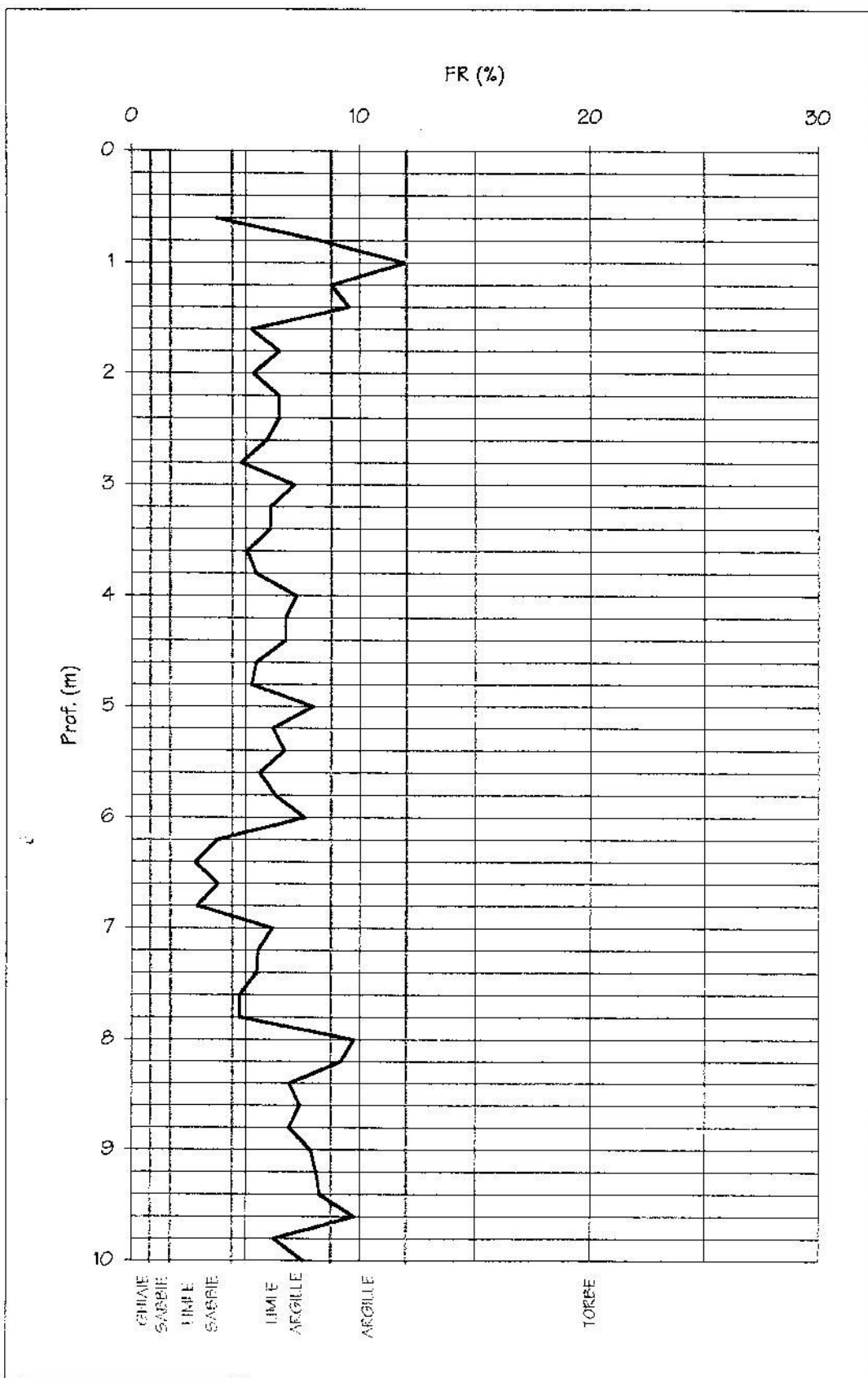
PROFONDITA' [metri]	Kp [Kg/cmq]	Rat [Kg/cmq]	Rat-Kp [Kg/cmq]	Rl [Kg/cmq]	Kp/Rl	δ [Kg/dmc]	σ_{ov} [Kg/cmq]	θ [gradi]	D_r [%]	c_v [Kg/cmq]	m_v [cmq/t]	Colonna Stratig.
8.2	26	35	9	,6	43	1,80	,86	28	-	-	12,8	
8.4	27	37	10	,7	41	1,80	,87	28	-	-	12,3	
8.6	38	51	13	,9	44	1,80	,89	30	-	-	8,8	
8.8	90	103	13	,9	104	1,90	,91	37	67	-	3,7	
9.0	65	86	21	1,4	46	1,80	,92	31	-	-	5,1	
9.2	78	95	17	1,1	69	1,80	,94	36	62	-	4,3	
9.4	90	110	20	1,3	68	1,90	,96	37	66	-	3,7	
9.6	76	105	29	1,9	39	1,80	,97	32	-	-	4,4	
9.8	55	78	23	1,5	36	1,80	,99	31	-	-	6,1	
10.0	85	116	31	2,1	41	1,80	1,00	32	-	-	3,9	



Comm.te	Data 9/9/1998
Località S. Croce sull'Arno (PI)	Prova n° 39
Quota p.c. -	Prof. H ₂ O -



Comm.te	Data 9/9/1998
Località S. Croce sull'Arno (PI)	Prova n° 39
Quota p.c. -	Prof. H ₂ O -



CPT Cone Penetration Test

Picchetto n. 1 /

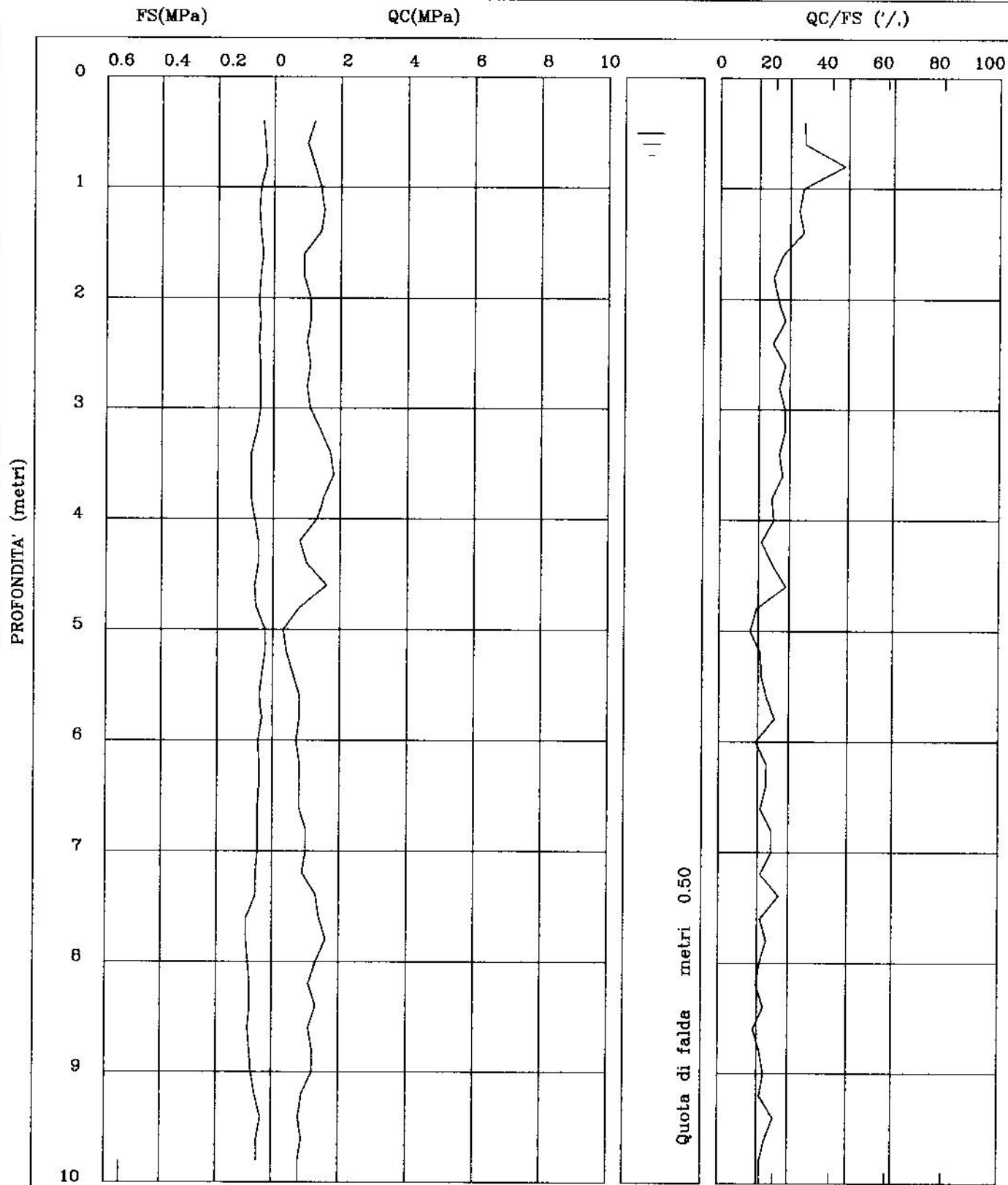
Cantiere

S. CROCE

Committente DOTT. MEZZETTI

Certif.n. 328-02

del 07/12/2002



CPT Cone Penetration Test

Picchetto n. 2 /

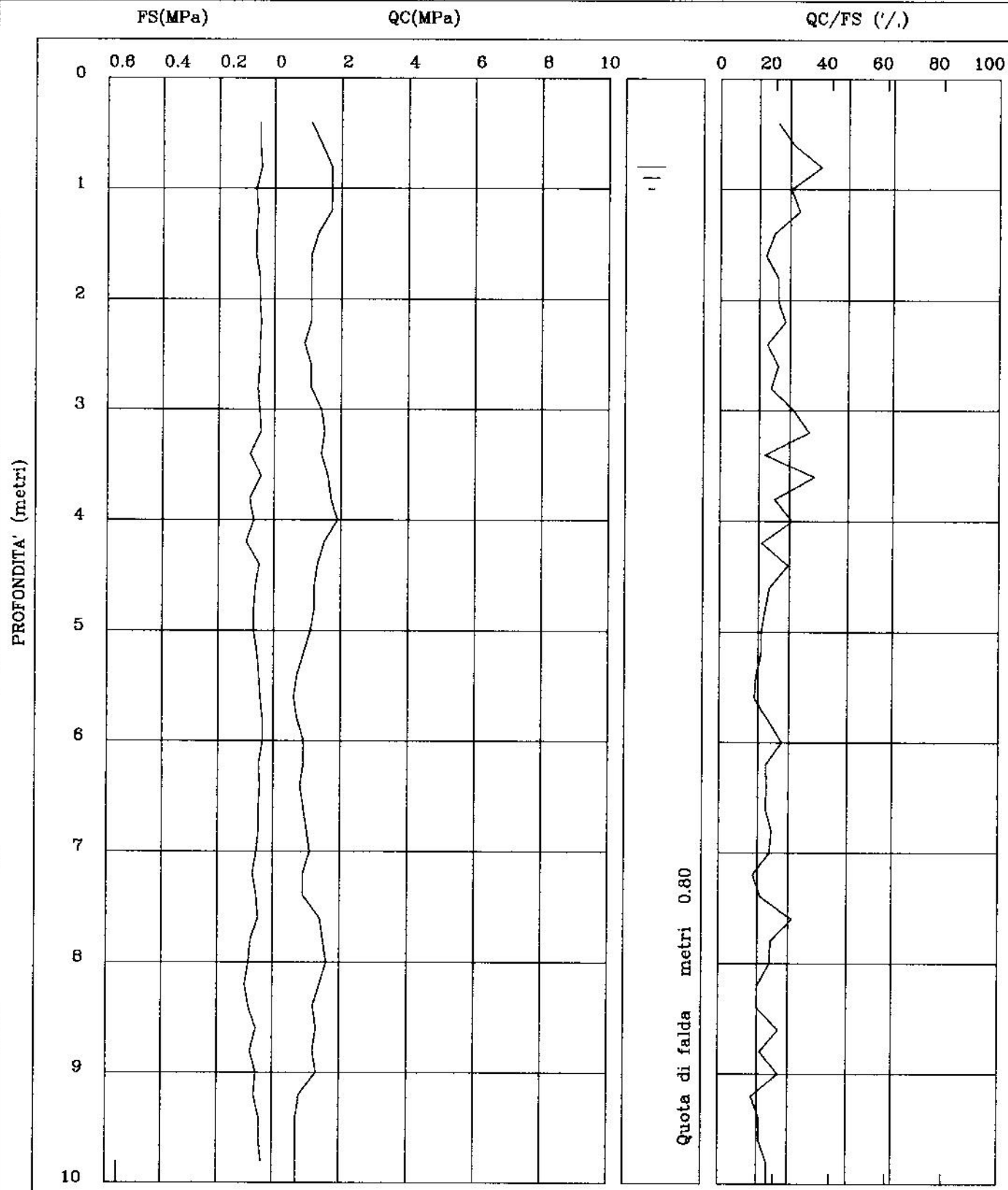
Cantiere

S. CROCE

Committente DOTT. MEZZETTI

Certif.n. 329-02

del 07/12/2002




GEOSERVIZI S.N.C.

di Cosco e Spadaro

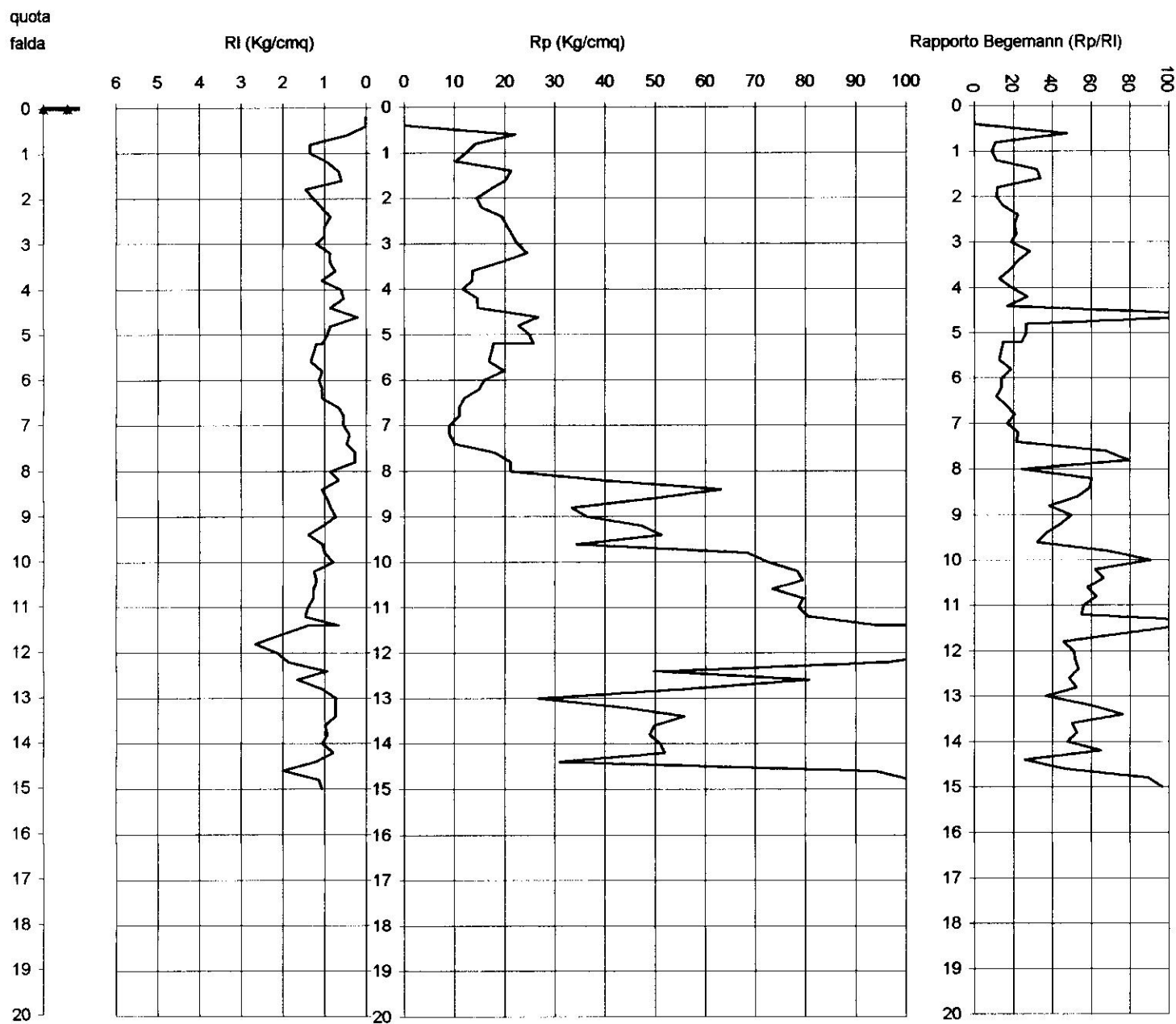
 Via U. Foscolo 14 - 56017 Ghezzano (PI)
 tel e fax 050-878470 cell. 339-1344492

Prova numero	1
Committente	DOTT. MEZZETTI
Località	S.CROCE SULL'ARNO
Cantiere	ECOESPANSO
Data	20/4/07

Certificato n. 138-2007

Profondità massima (m): 15

Quota falda (m dal p.c.):



PENETROMETRO STATICO: TG 73 200 KN PAGANI


GEOSERVIZI S.N.C.

di Cosco e Spadaro

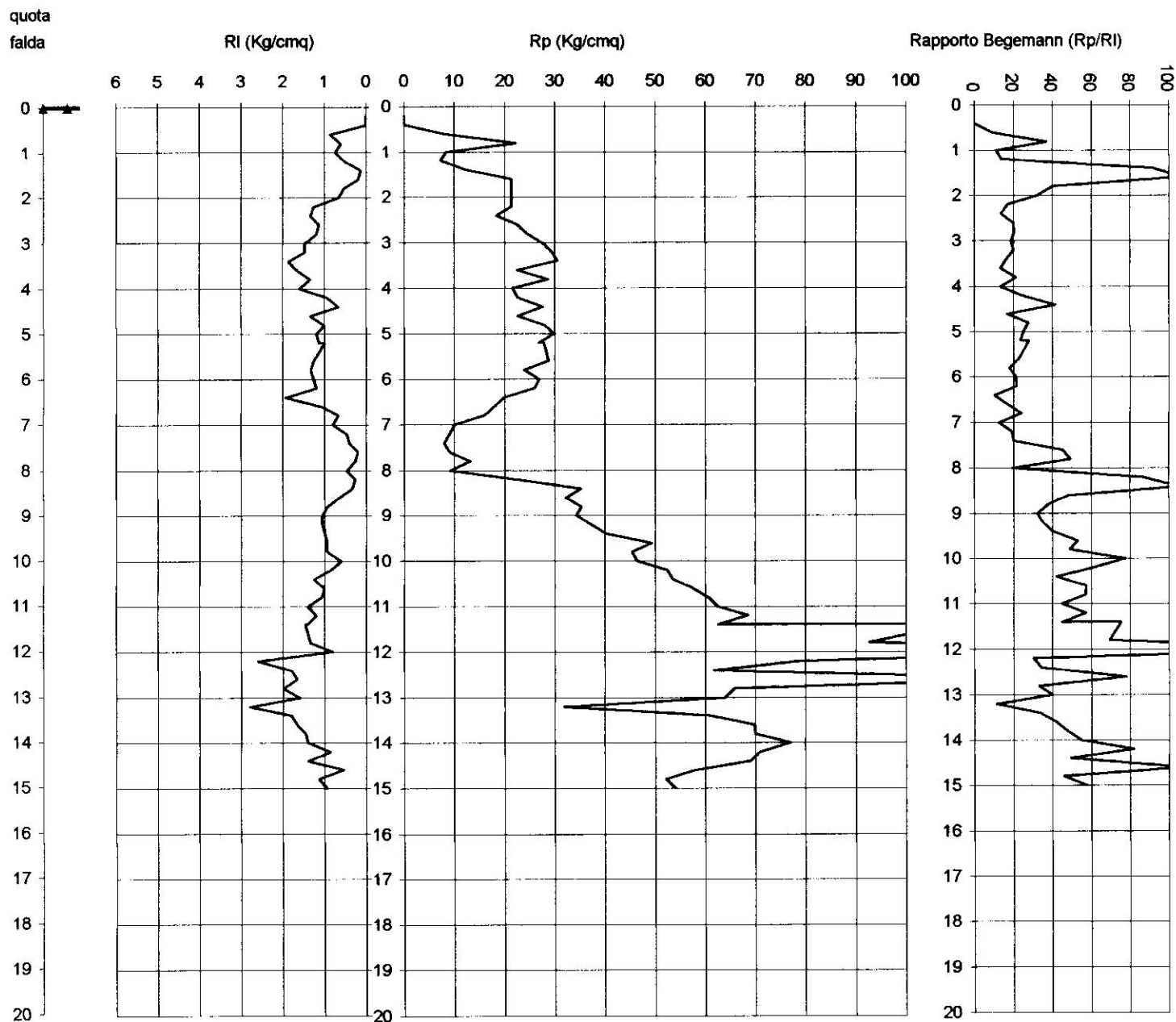
 Via U. Foscolo 14 - 56017 Ghezzano (PI)
 tel e fax 050-878470 cell. 339-1344492

Prova numero	2
Committente	DOTT. MEZZETTI
Località	S.CROCE SULL'ARNO
Cantiere	ECOESPANSO
Data	20/4/07

Certificato n. 139-2007

Profondità massima (m): 15

Quota falda (m dal p.c.):



PENETROMETRO STATICO: TG 73 200 KN PAGANI

CPT Cone Penetration Test

Picchetto n. 1 /

Cantiere

S. CROCE

Committente DOTT. MEZZETTI

Certif.n. 142-03

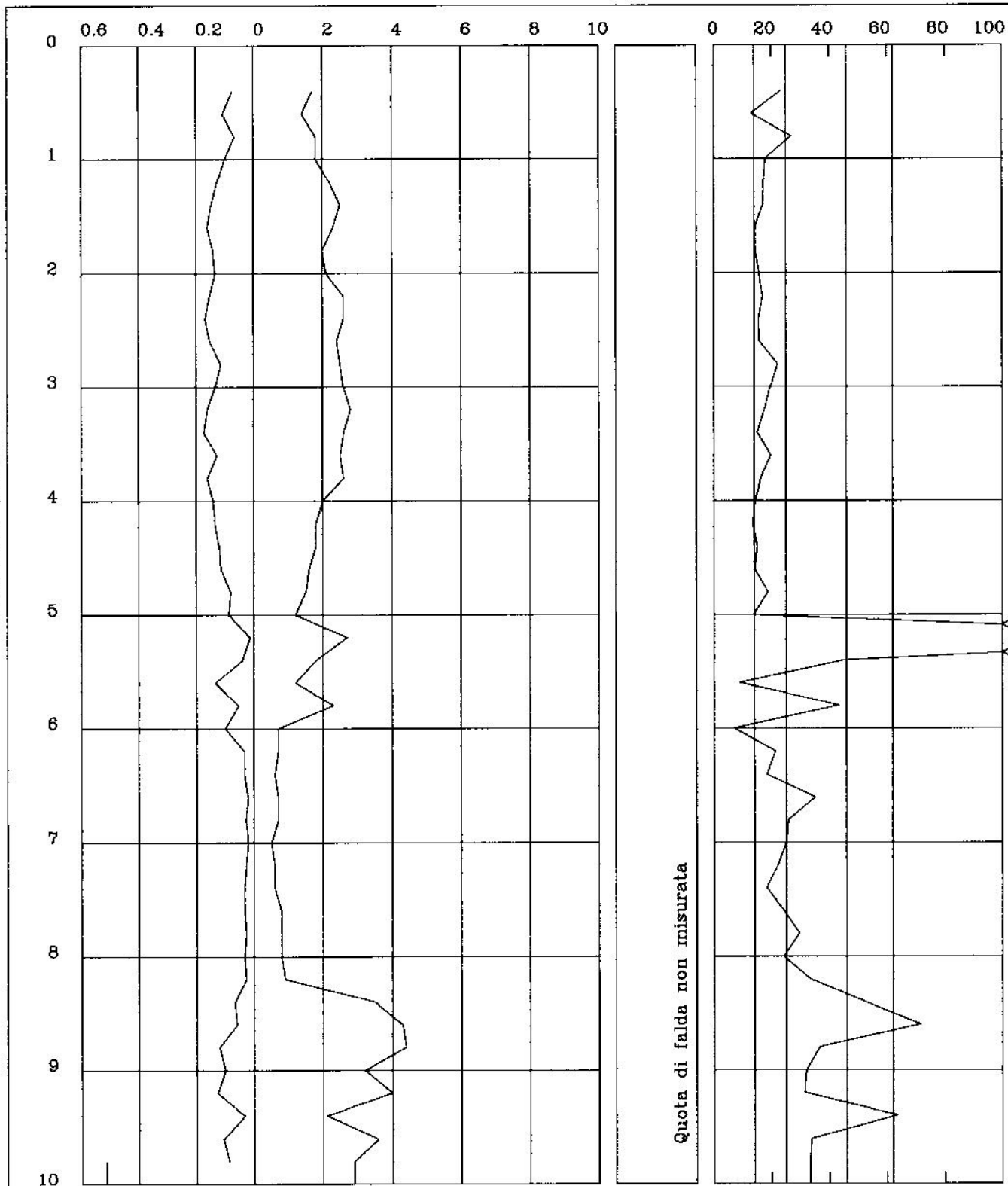
del 30/03/2003

FS(MPa)

QC(MPa)

QC/FS (./.)

PROFONDITA' (metri)



CPT Cone Penetration Test

Picchetto n. 2 /

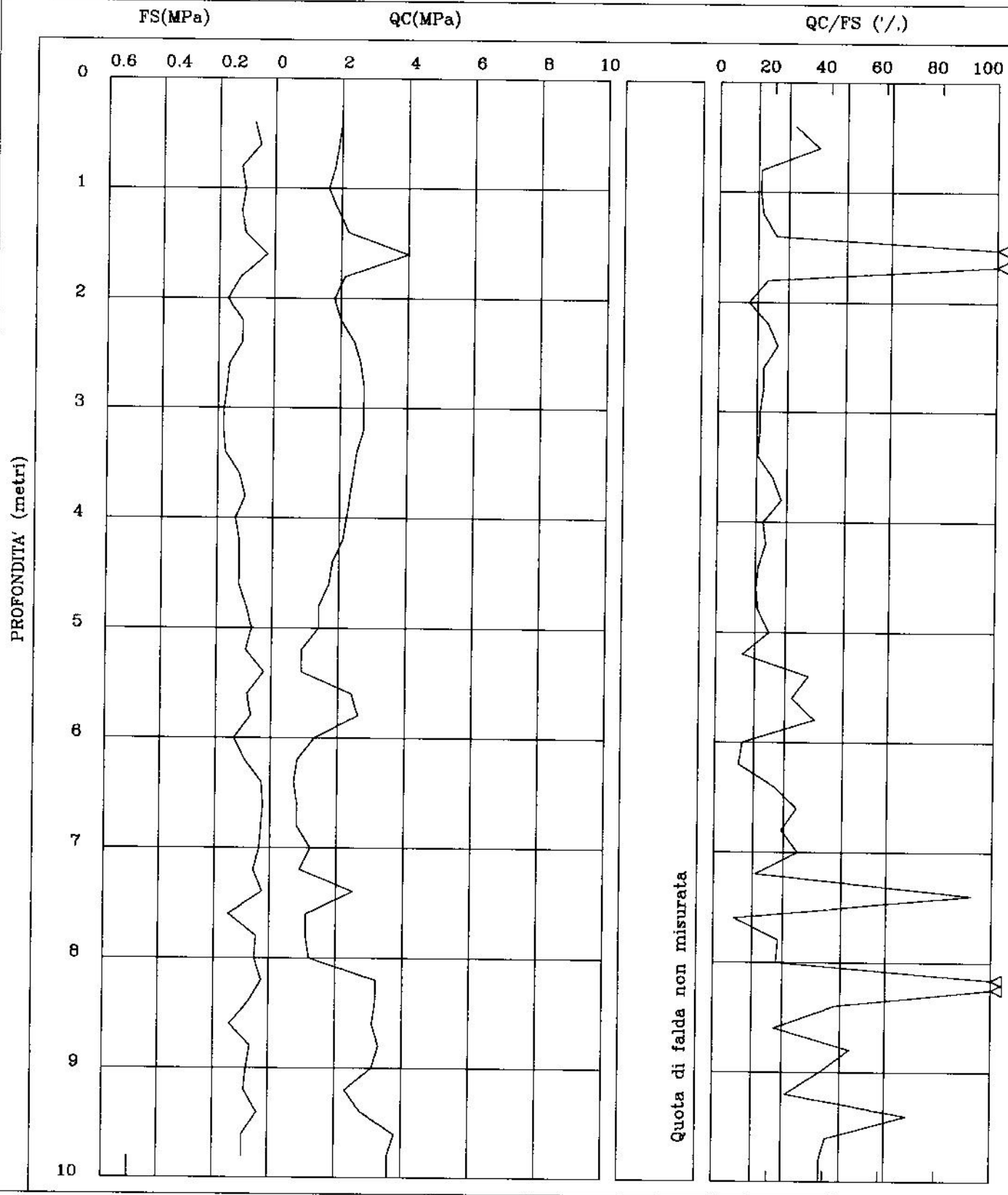
Cantiere

S. CROCE

Committente DOTT. MEZZETTI

Certif.n. 143-03

del 30/03/2003



CPT Cone Penetration Test

Picchetto n. 1 /

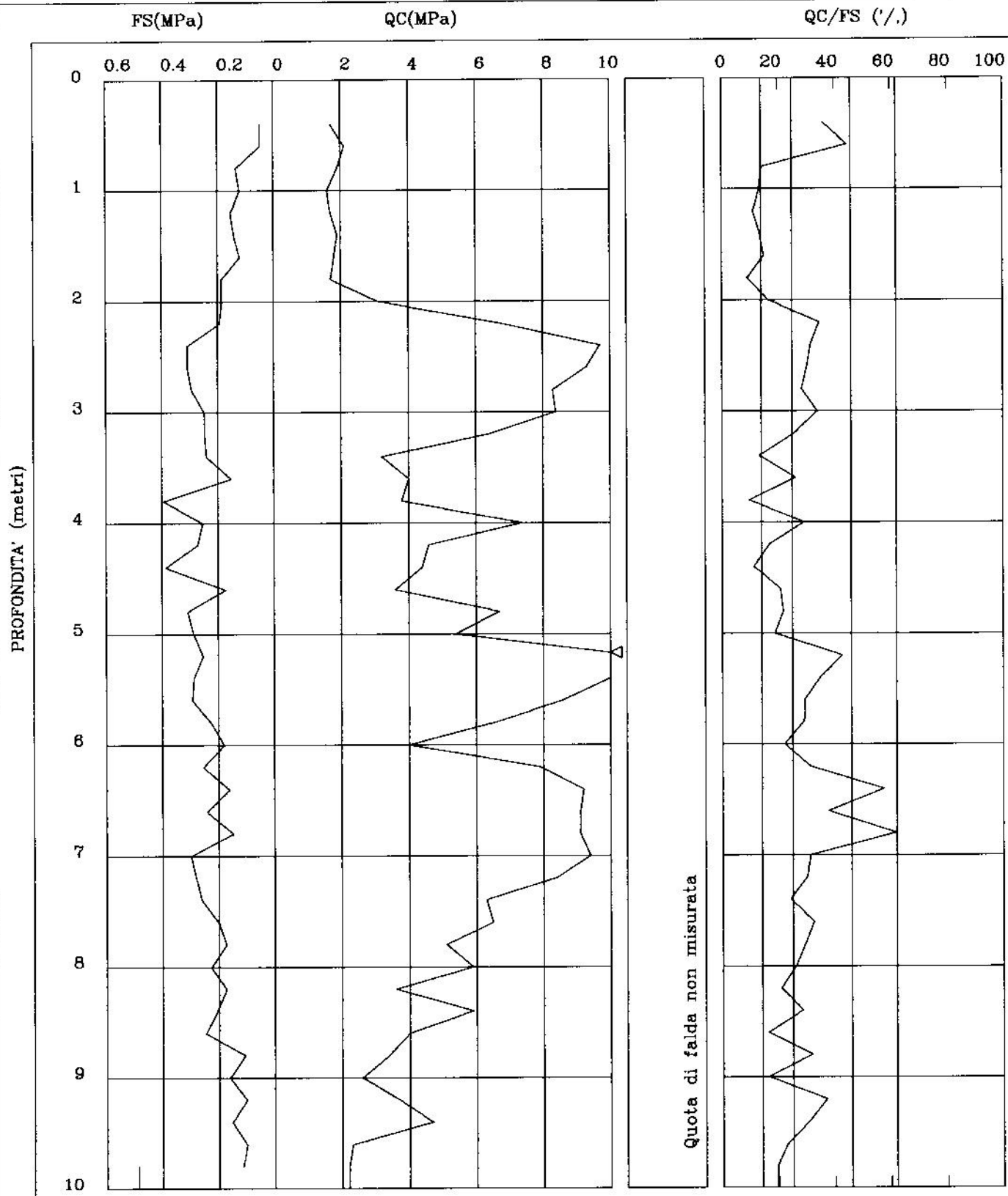
Cantiere

S. CROCE

Committente DOTT. MEZZETTI

Certif.n. 137-03

del 25/03/1903



CPT Cone Penetration Test

Picchetto n. 1 /

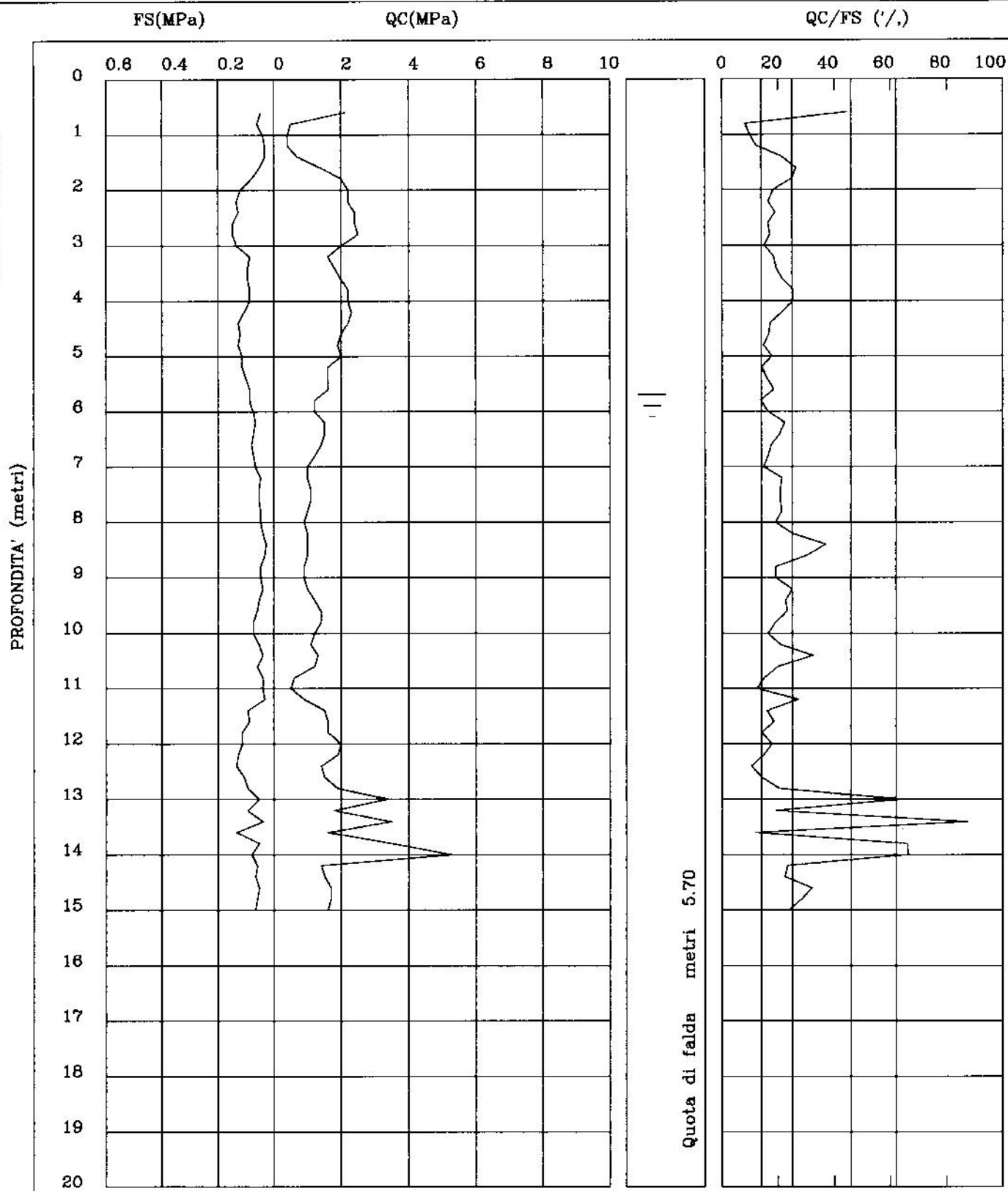
Cantiere

S. CROCE

Committente DOTT. MEZZETTI

Certif.n. 17-05

del 30/01/2005



CPT Cone Penetration Test

Picchetto n. 2 /

Cantiere

S. CROCE

Committente DOTT. MEZZETTI

Certif.n. 18-05

del 30/01/2005

FS(MPa)

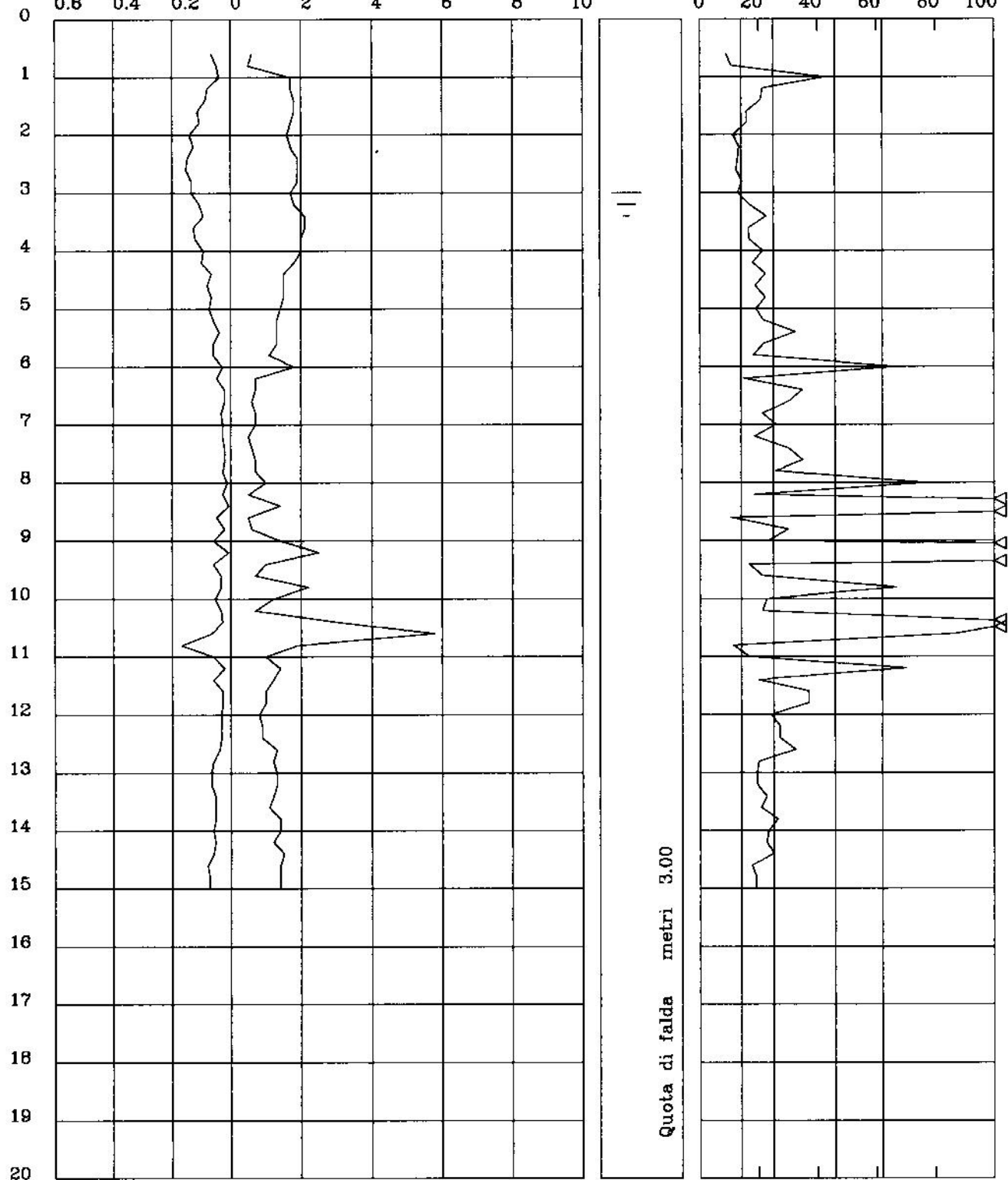
QC(MPa)

QC/FS (%)

0.6 0.4 0.2 0 2 4 6 8 10

0 20 40 60 80 100

PROFONDITA' (metri)



Quota di falda metri 3.00

CPT Cone Penetration Test

Picchetto n. 1 /

Cantiere

S.CROCE SULL'ARNO

Committente DOTT. MEZZETTI

Certif.n. 146-04

del 29/04/2004

FS(MPa)

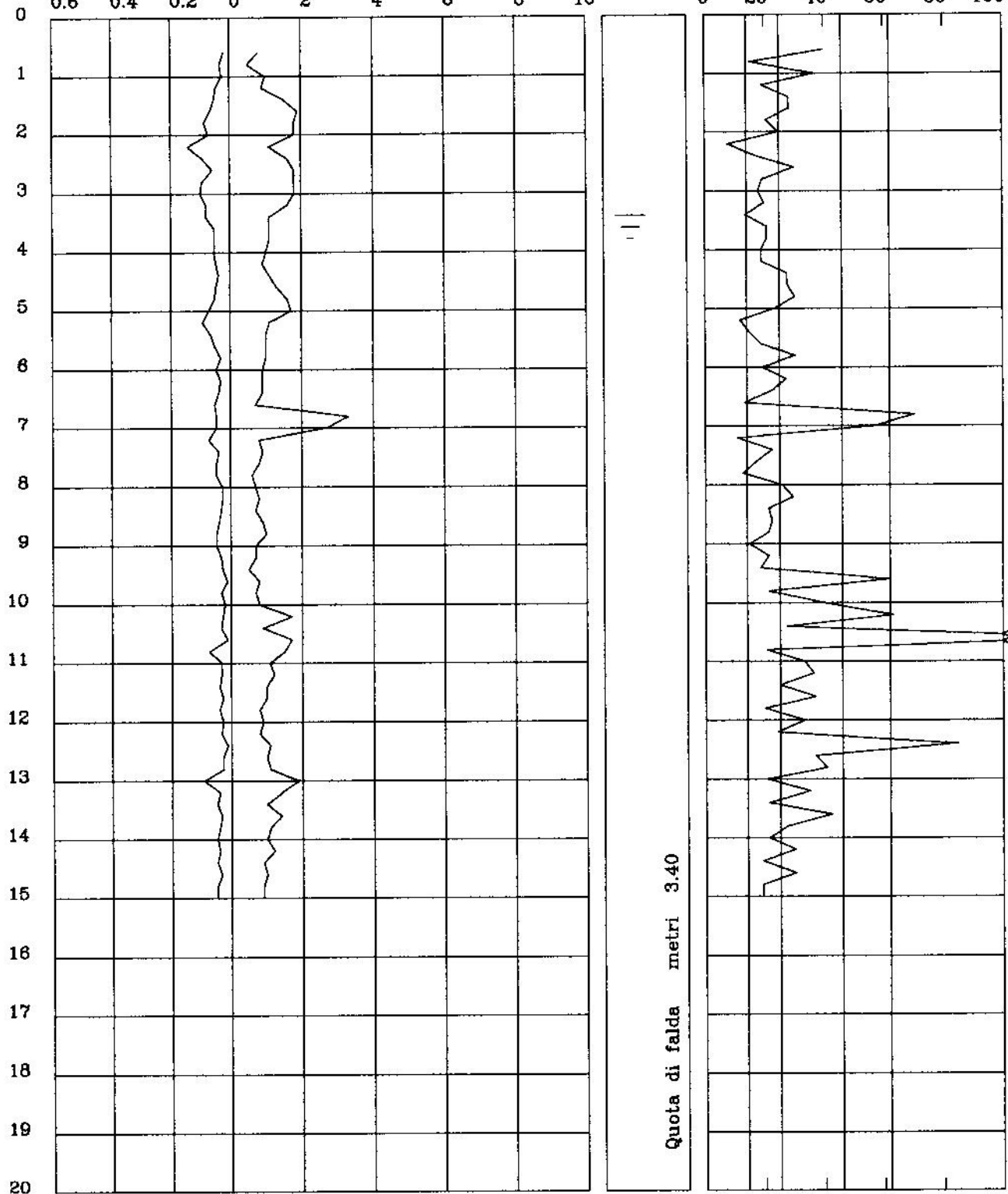
QC(MPa)

QC/FS (%)

0.6 0.4 0.2 0 2 4 6 8 10

0 20 40 60 80 100

PROFONDITA' (metri)



Quota di falda metri 3.40

CPT Cone Penetration Test

Picchetto n. 2 /

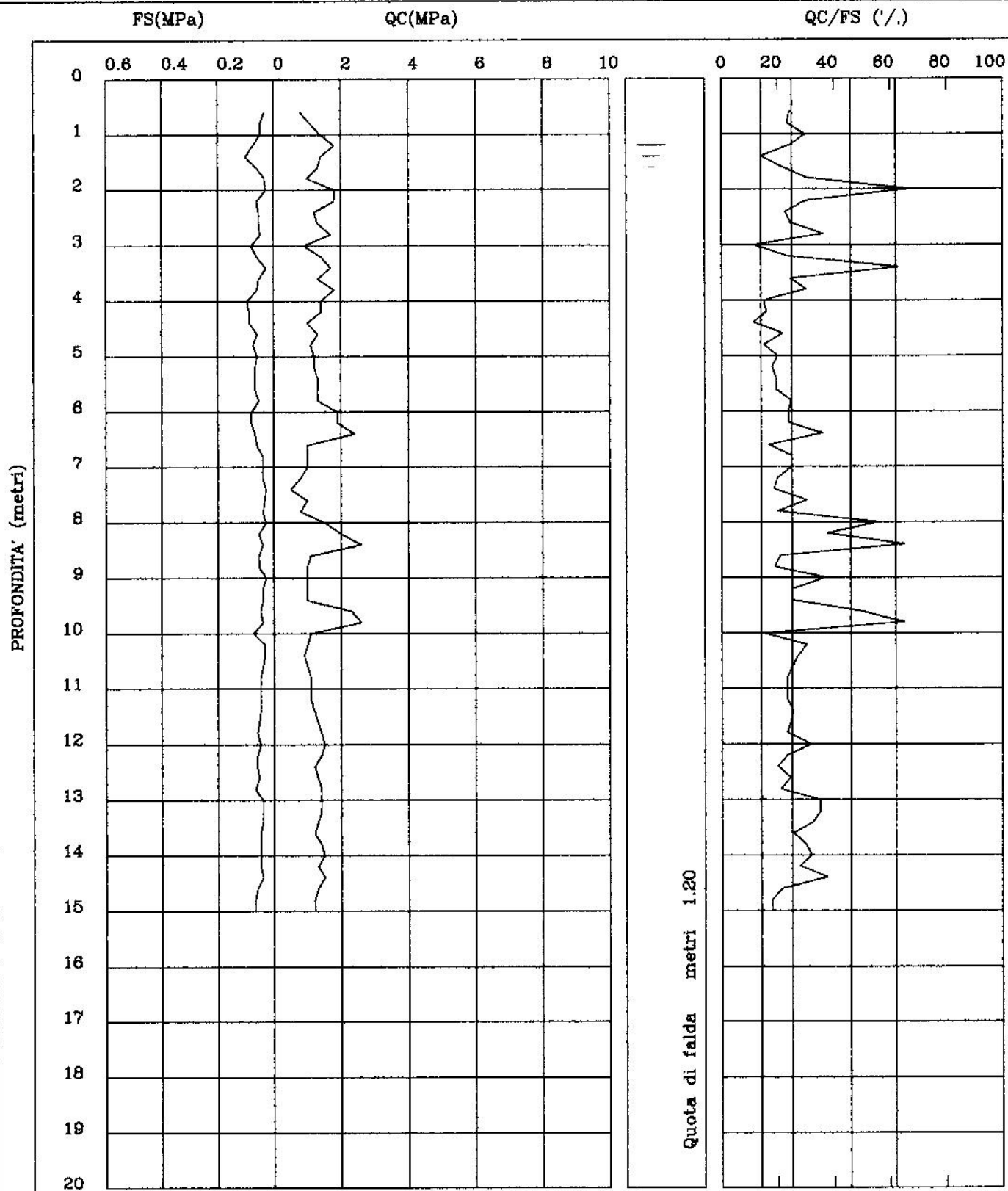
Cantiere

S. CROCE SULL'ARNO

Committente DOTT. MEZZETTI

Certif.n. 147-04

del 29/04/2004




GEOSERVIZI S.N.C.

di Cosco e Spadaro

Via U. Foscolo 14 - 56017 Ghezzano (PI)

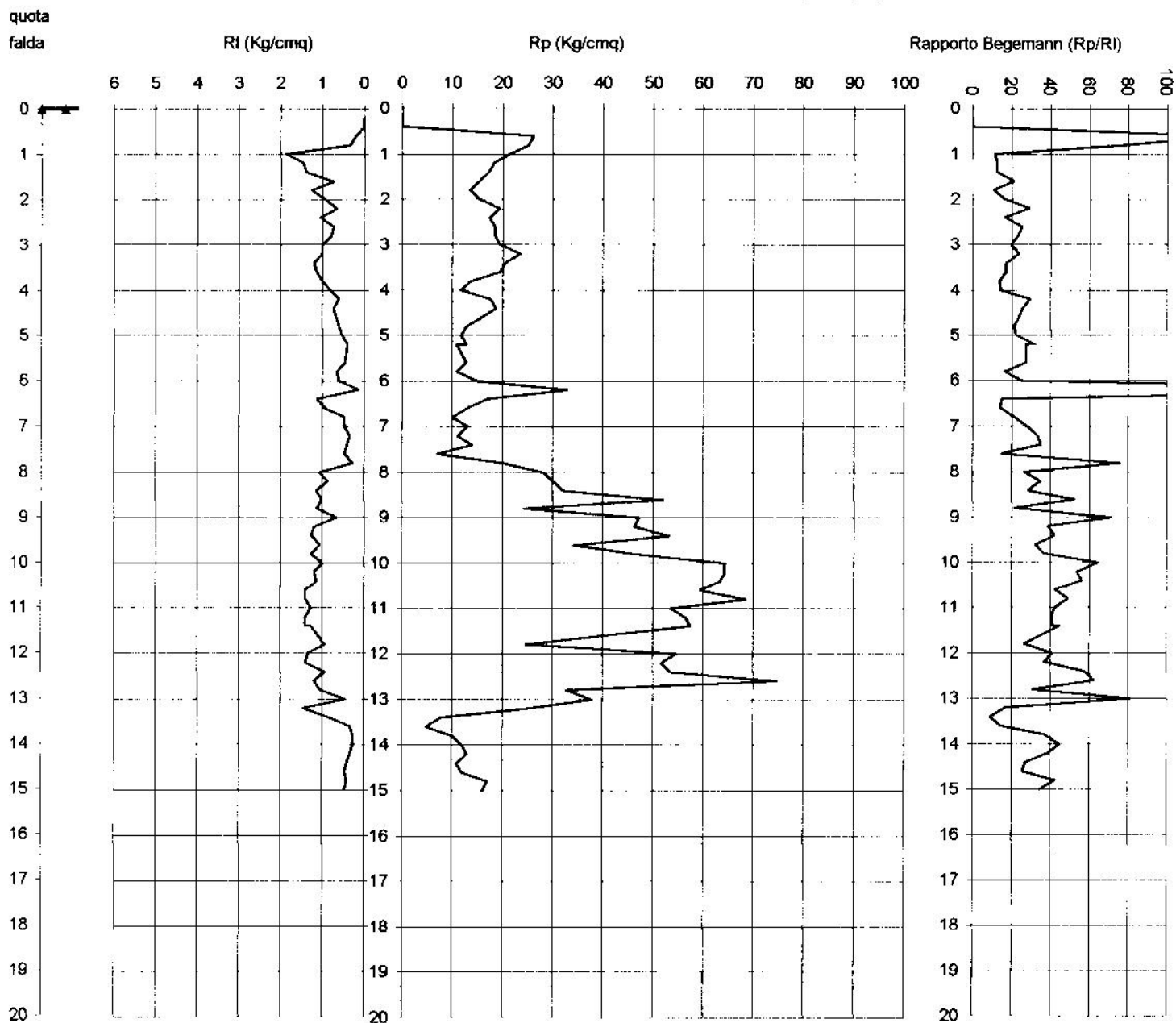
tel e fax 050-878470 cell. 339-1344492

Prova numero	1
Committente	DOTT. MEZZETTI
Località	S.CROCE SULL'ARNO
Cantiere	
Data	20/4/07

Certificato n. 140-2007

Profondità massima (m): 15

Quota falda (m dal p.c.):



PENETROMETRO STATICO: TG 73 200 KN PAGANI


GEOSERVIZI S.N.C.

di Cosco e Spadaro

Via U. Foscolo 14 - 56017 Ghezzano (PI)

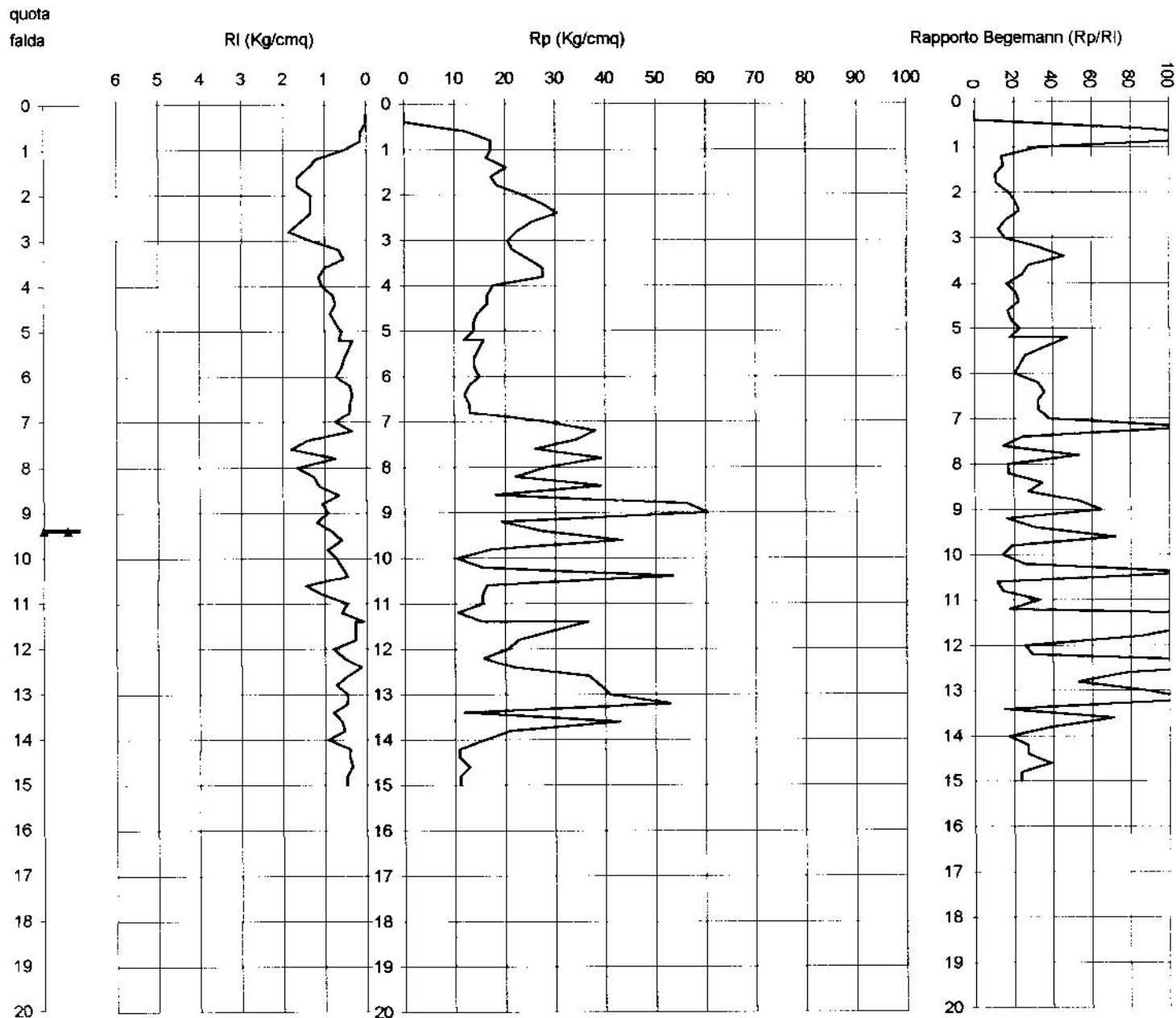
tel e fax 050-878470 cell. 339-1344492

Prova numero	2
Committente	DOTT. MEZZETTI
Località	S. CROCE SULL'ARNO
Cantiere	
Data	20/4/07

Certificato n. 141-2007

Profondità massima (m): 15

Quota falda (m dal p.c.): 9,4



PENETROMETRO STATICO: TG 73 200 KN PAGANI

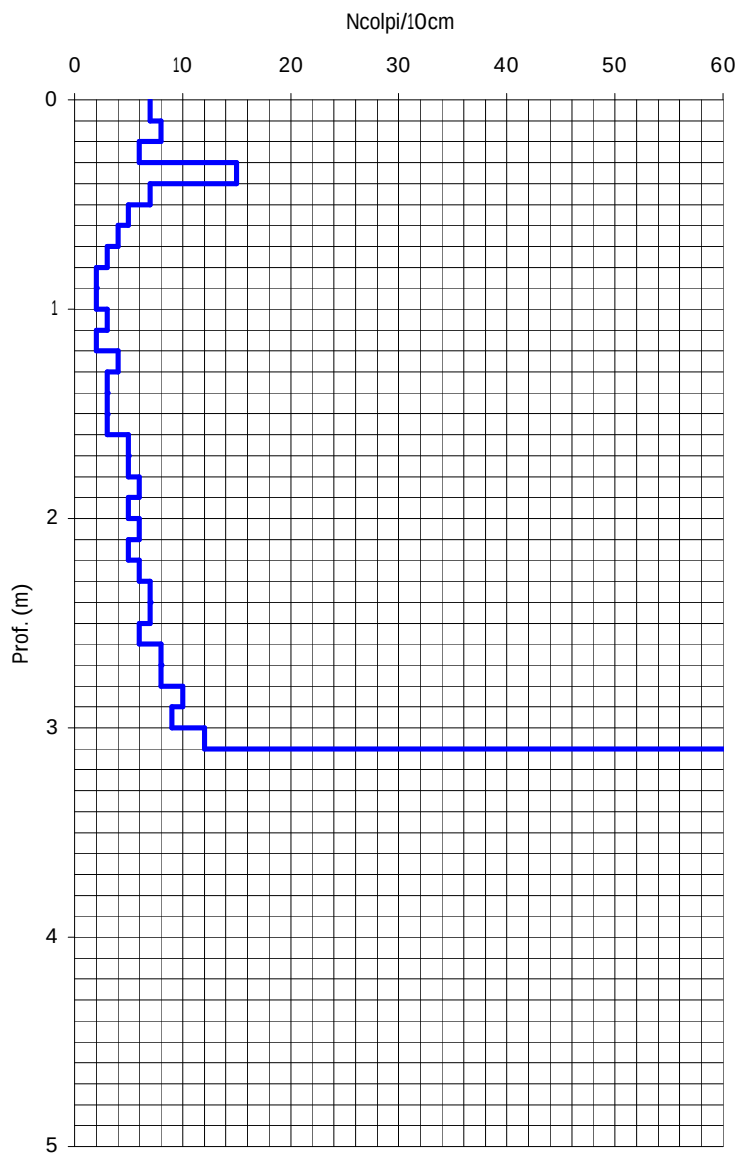
Comm.te -

Data 3/2/2000

Località S. Croce sull'Arno (PI), Via di Poggio Adorno

Prova n. 1

Prof. (m)	Ncolpi (Kg/cm ²)	Rd (Kg/cm ²)
0,0		
0,1	7	27
0,2	8	31
0,3	6	24
0,4	15	59
0,5	7	27
0,6	5	20
0,7	4	16
0,8	3	12
0,9	2	8
1,0	2	8
1,1	3	11
1,2	2	7
1,3	4	15
1,4	3	11
1,5	3	11
1,6	3	11
1,7	5	18
1,8	5	18
1,9	6	22
2,0	5	18
2,1	6	21
2,2	5	17
2,3	6	21
2,4	7	24
2,5	7	24
2,6	6	21
2,7	8	28
2,8	8	28
2,9	10	35
3,0	9	31
3,1	12	40
3,2	100	330



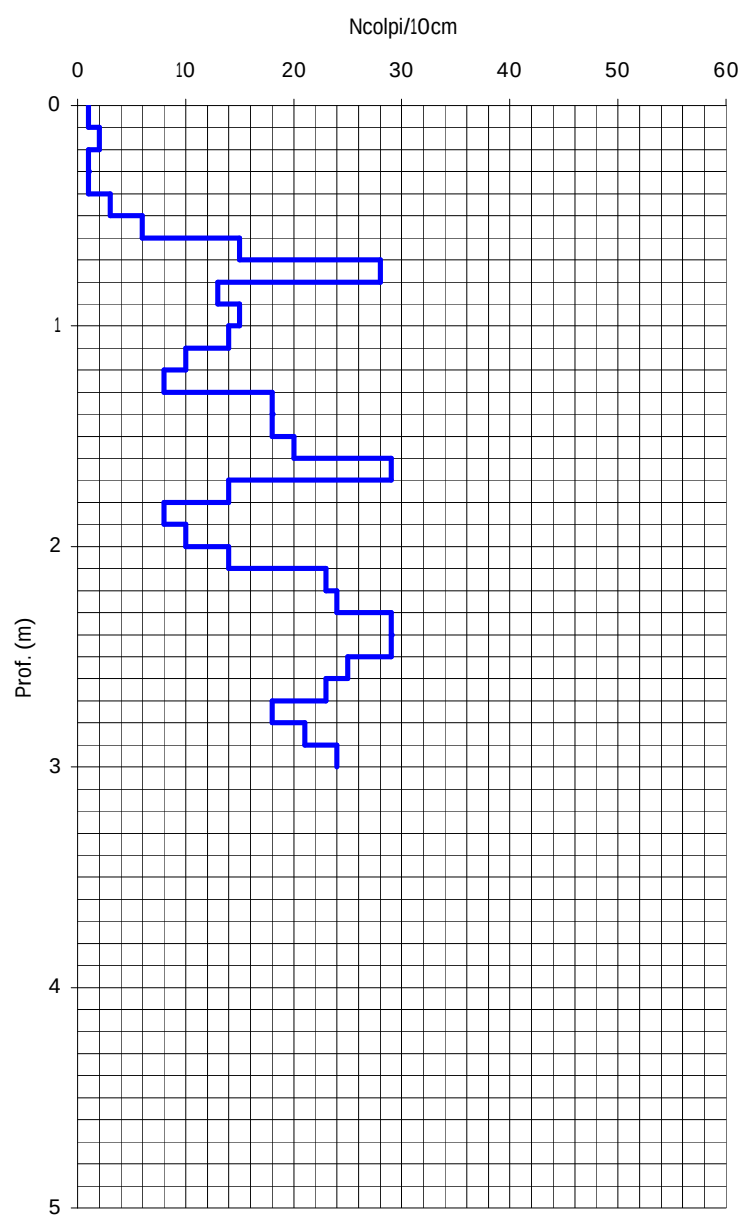
Comm.te -

Data 3/2/2000

Località S. Croce sull'Arno (PI), Via di Poggio Adorno

Prova n. 2

Prof.	Ncolpi	Rd
(m)	(Kg/cm ²)	(Kg/cm ²)
0,0		
0,1	1	4
0,2	2	8
0,3	1	4
0,4	1	4
0,5	3	12
0,6	6	24
0,7	15	59
0,8	28	110
0,9	13	51
1,0	15	59
1,1	14	52
1,2	10	37
1,3	8	30
1,4	18	66
1,5	18	66
1,6	20	74
1,7	29	107
1,8	14	52
1,9	8	30
2,0	10	37
2,1	14	49
2,2	23	80
2,3	24	84
2,4	29	101
2,5	29	101
2,6	25	87
2,7	23	80
2,8	18	63
2,9	21	73
3,0	24	84



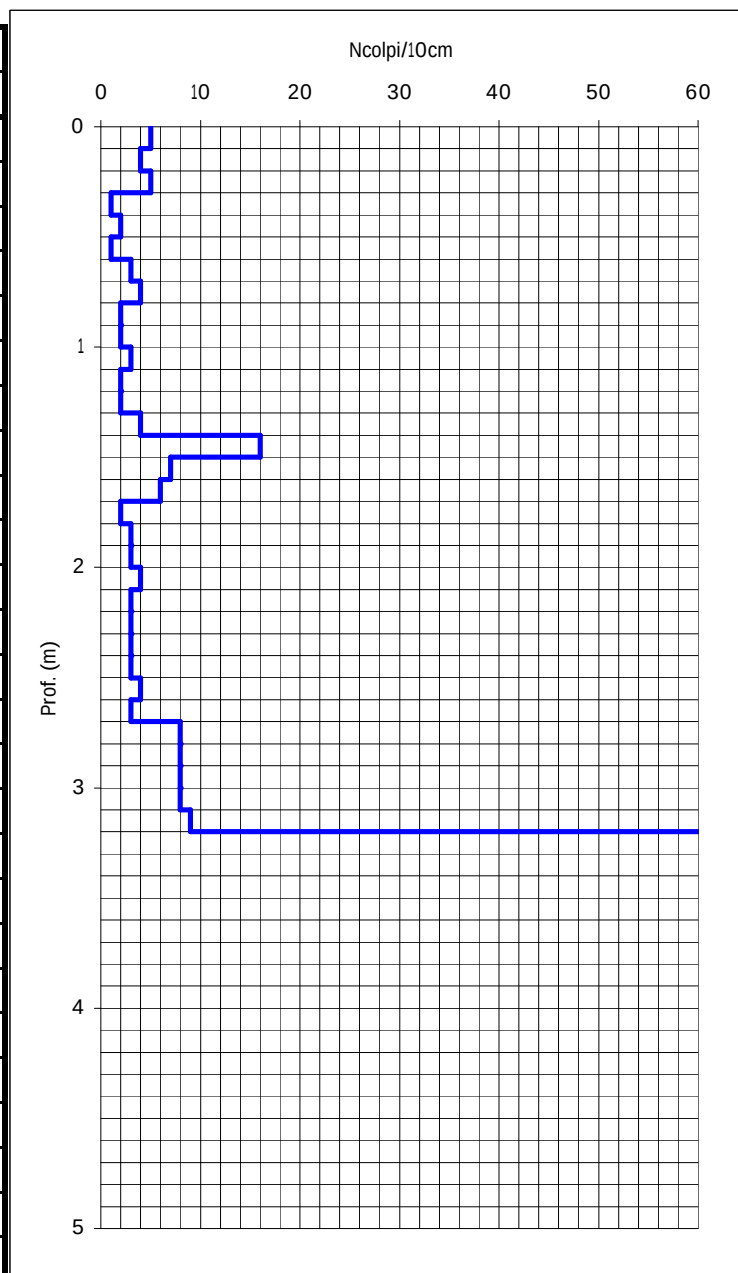
Comm.te -

Data 3/2/2000

Località S. Croce sull'Arno (PI), Via di Poggio Adorn

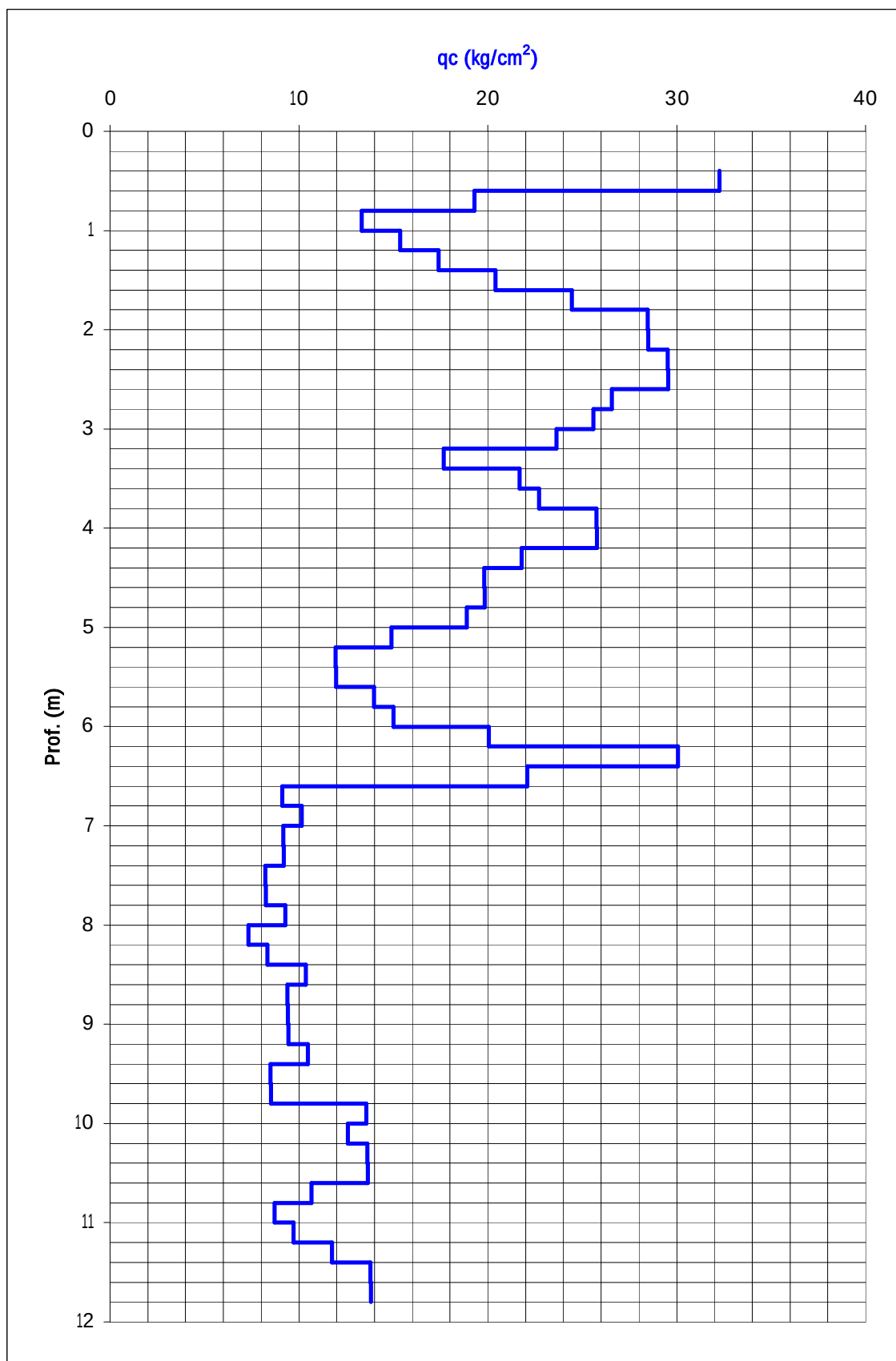
Prova n. 3

Prof. (m)	Ncolpi (Kg/cm ²)	Rd (Kg/cm ²)
0,0		
0,1	5	20
0,2	4	16
0,3	5	20
0,4	1	4
0,5	2	8
0,6	1	4
0,7	3	12
0,8	4	16
0,9	2	8
1,0	2	8
1,1	3	11
1,2	2	7
1,3	2	7
1,4	4	15
1,5	16	59
1,6	7	26
1,7	6	22
1,8	2	7
1,9	3	11
2,0	3	11
2,1	4	14
2,2	3	10
2,3	3	10
2,4	3	10
2,5	3	10
2,6	4	14
2,7	3	10
2,8	8	28
2,9	8	28
3,0	8	28
3,1	8	26
3,2	9	30
3,3	100	330

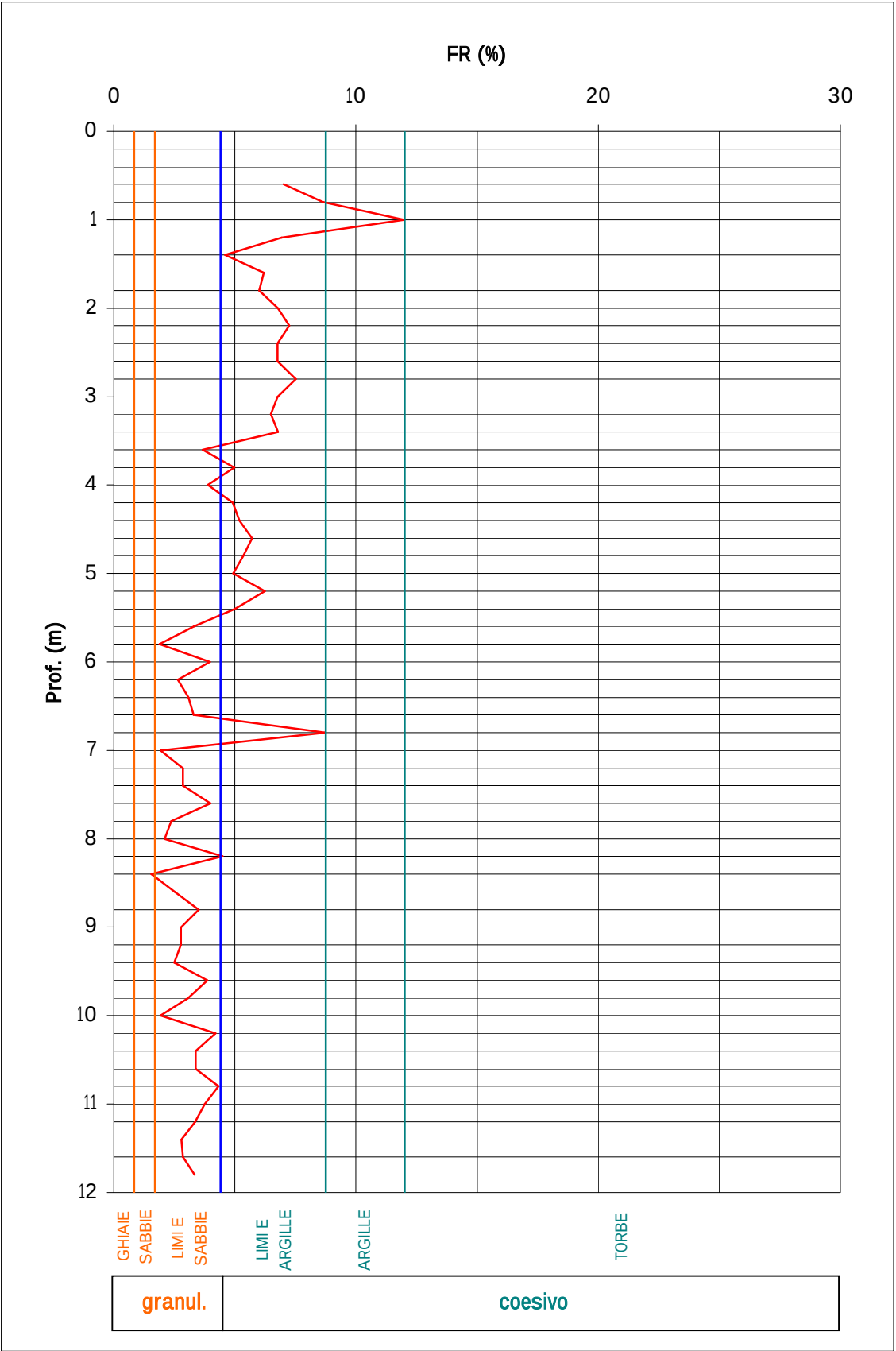


Comm.te Bertini & Boldrini snc
Località S. Croce sull'Arno (PI), Via di Pelle
Quota p.c. -

Data 08/06/2007
Prova n° 1
Prof. H₂O

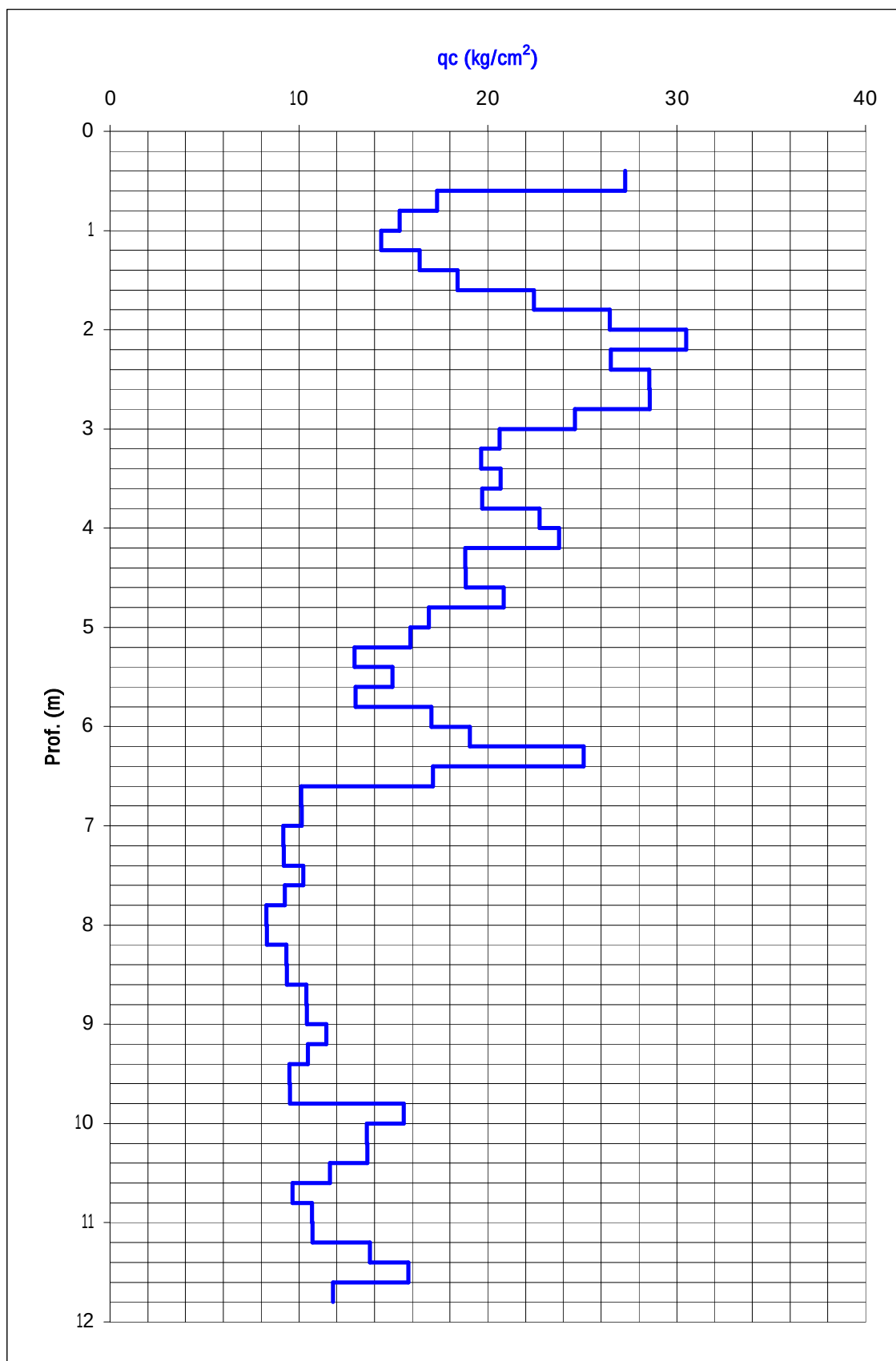


Comm.te Bertini & Boldrini snc	Data 08/06/2007
Località S. Croce sull'Arno (PI), Via di Pelle	Prova n° 1
Quota p.c. -	Prof. H ₂ O



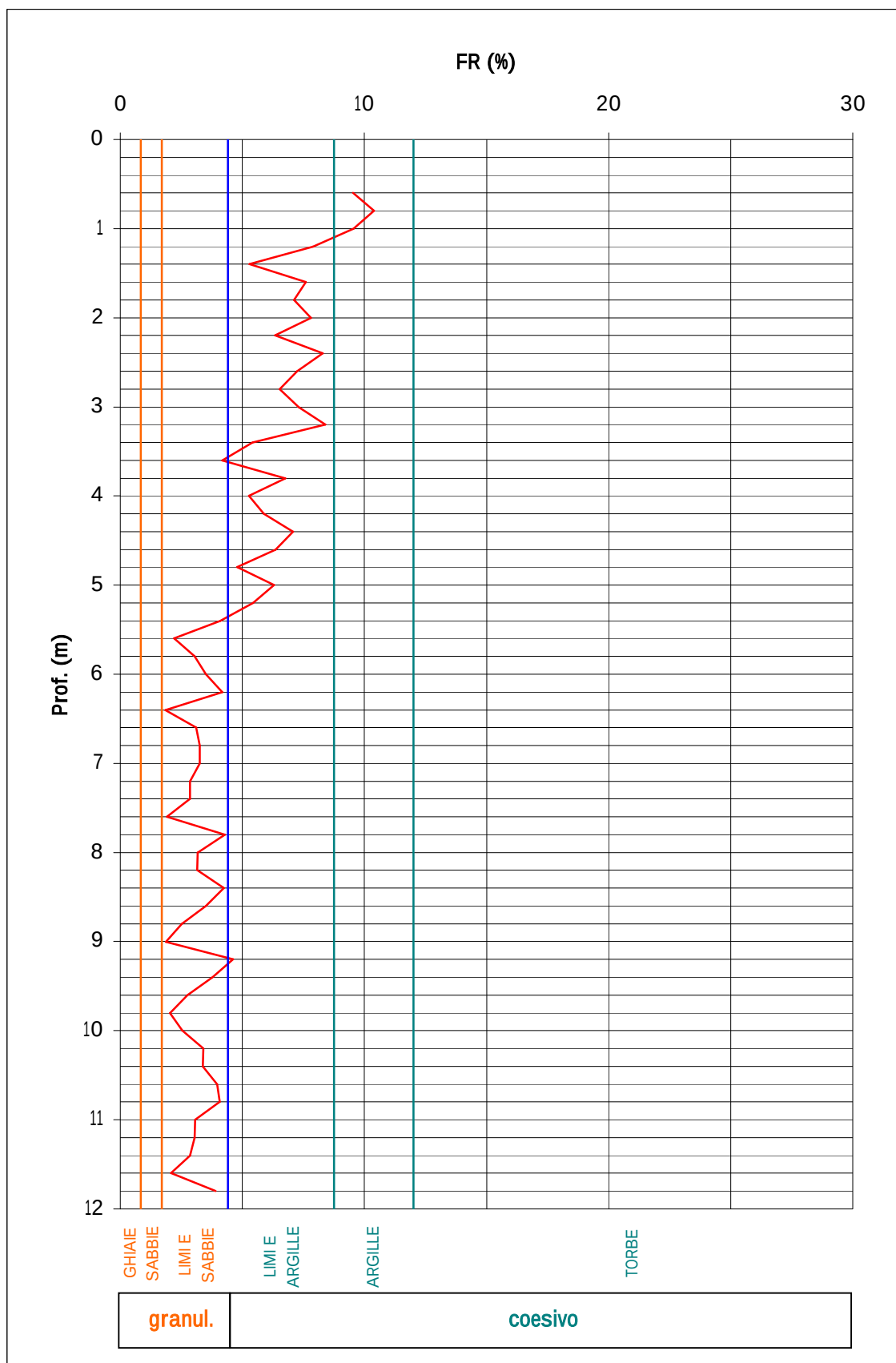
Comm.te Bertini & Boldrini snc
Località S. Croce sull'Arno (PI), Via di Pelle
Quota p.c. -

Data 08/06/2007
Prova n° 2
Prof. H₂O



Comm.te Bertini & Boldrini snc
Località S. Croce sull'Arno (PI), Via di Pelle
Quota p.c. -

Data 08/06/2007
Prova n° 2
Prof. H₂O



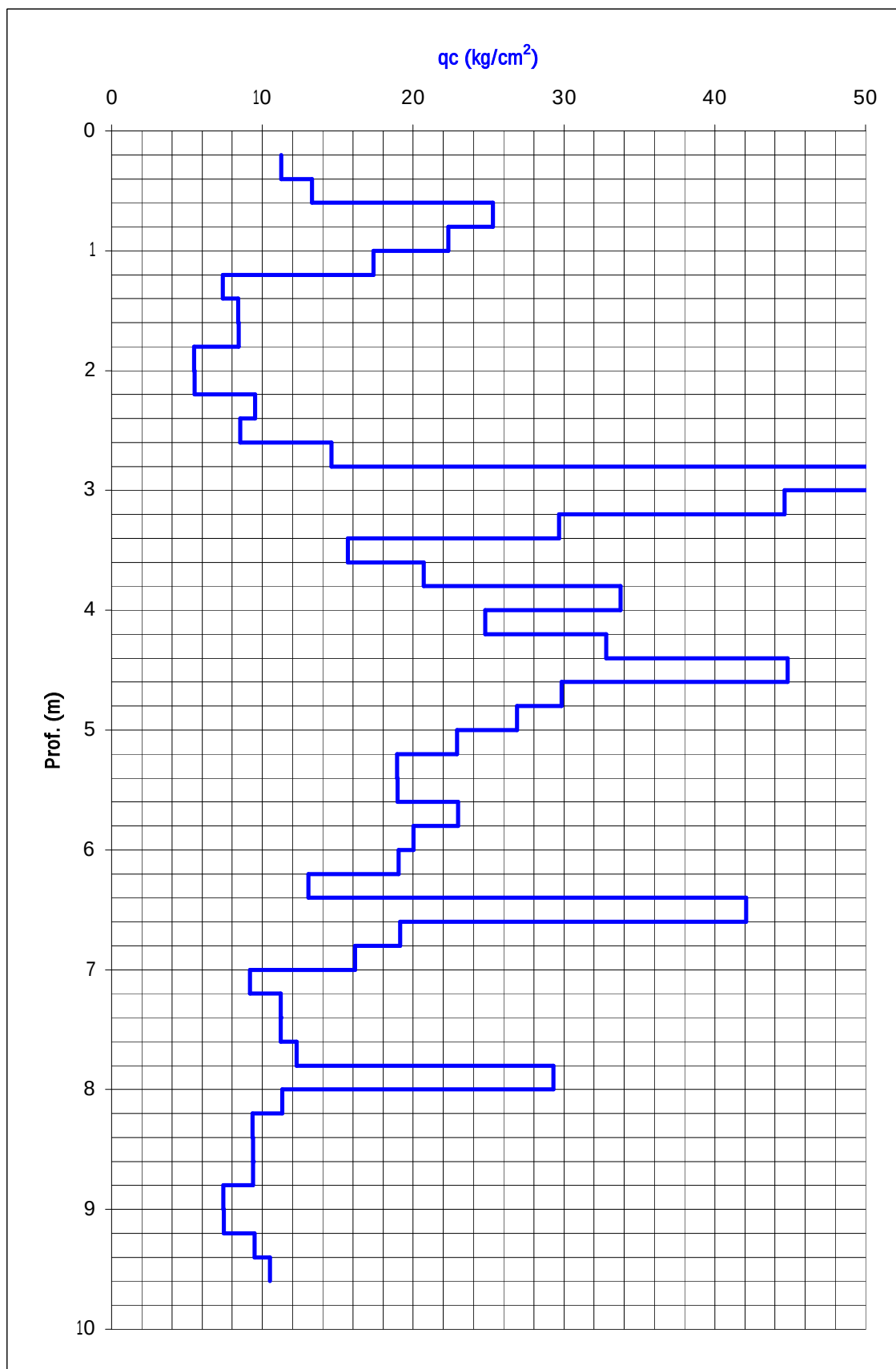
Comm.te Consorzio Aquarno SpA

Data 27/03/2007

Località S. Croce sull'Arno (PI)

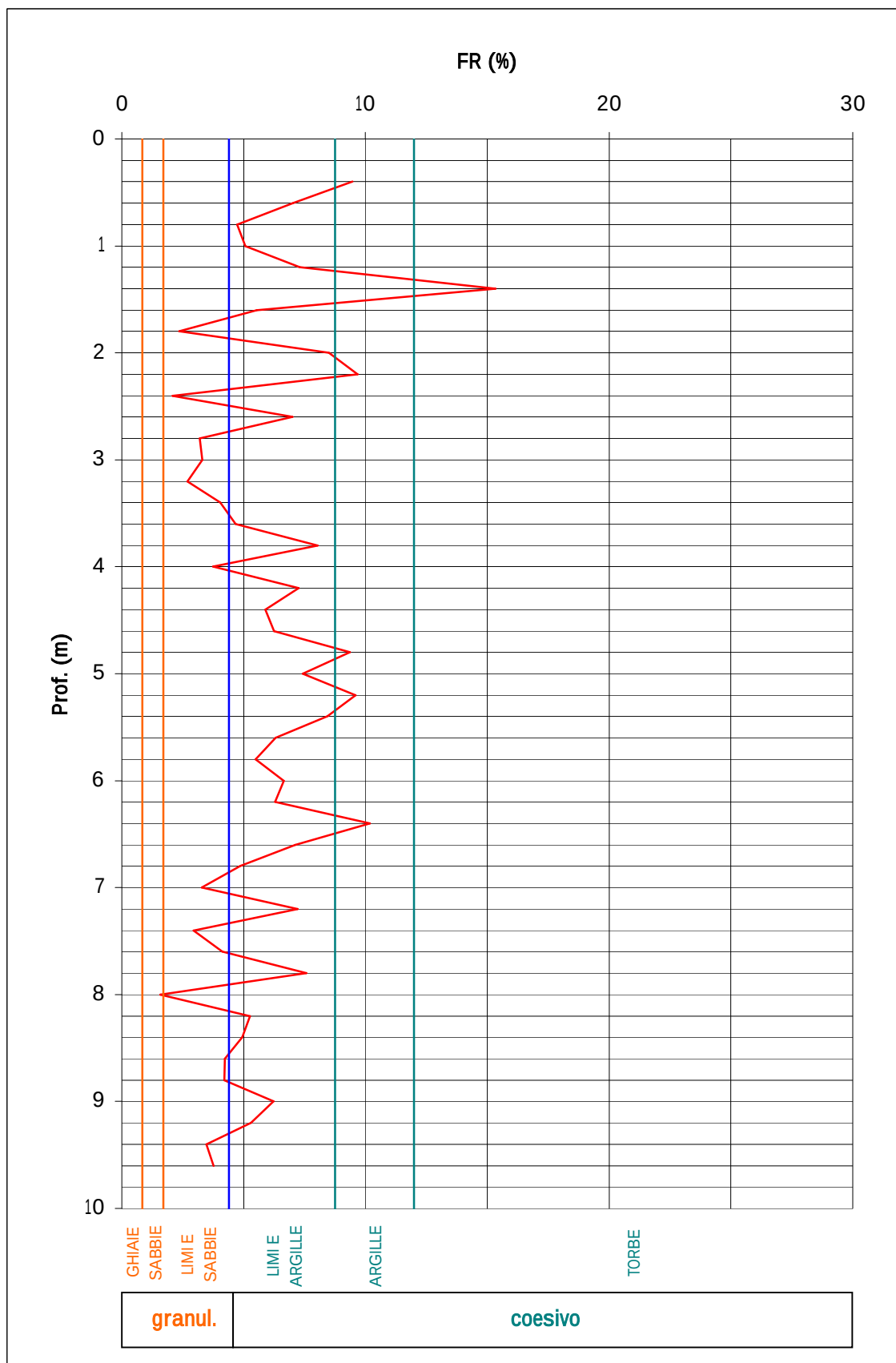
Prova n° 1

Quota p.c. -

Prof. H₂O

Comm.te Consorzio Aquarno SpA
Località S. Croce sull'Arno (PI)
Quota p.c. -

Data 27/03/2007
Prova n° 1
Prof. H₂O



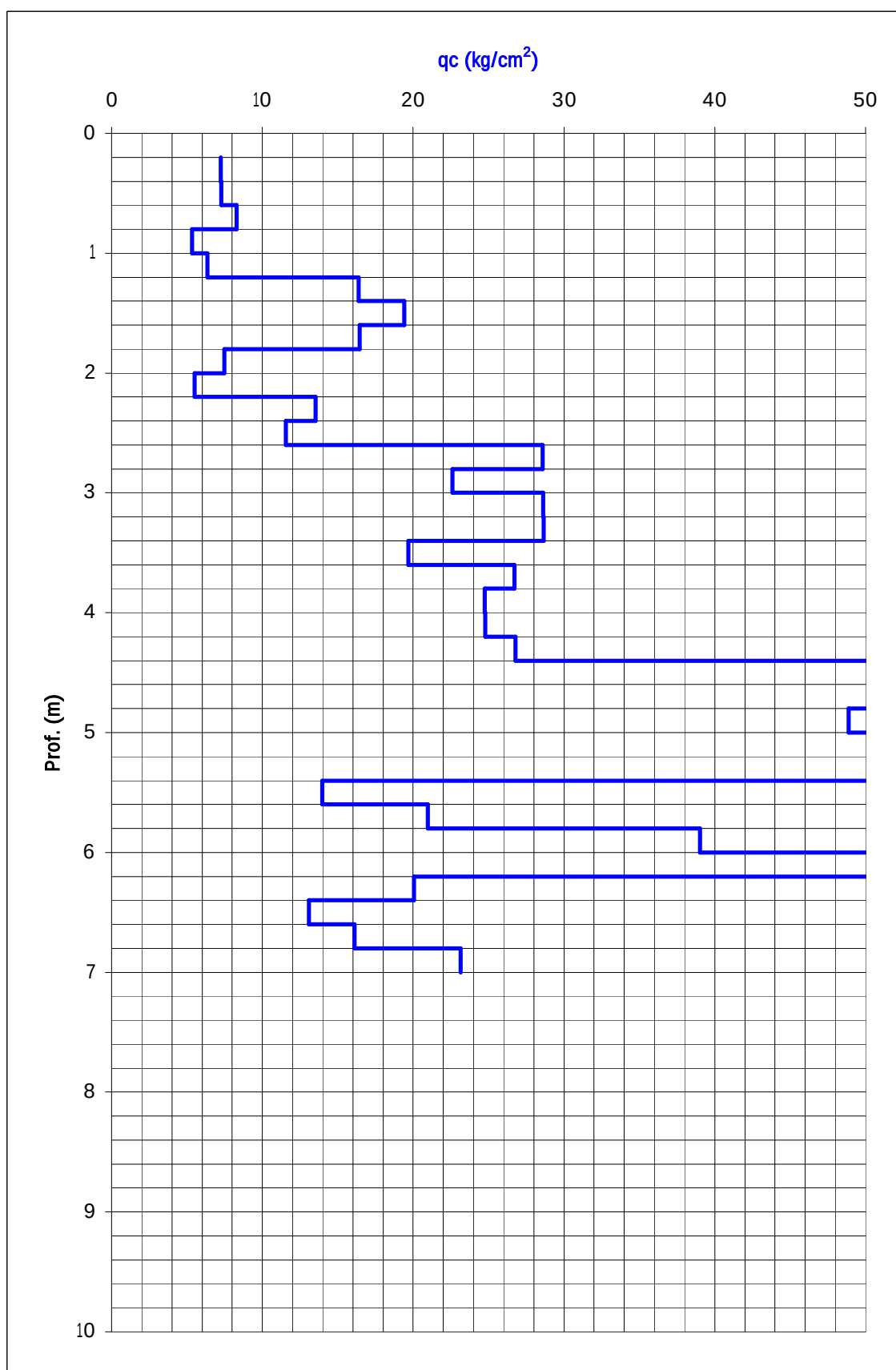
Comm.te Consorzio Aquarno SpA

Data 27/03/2007

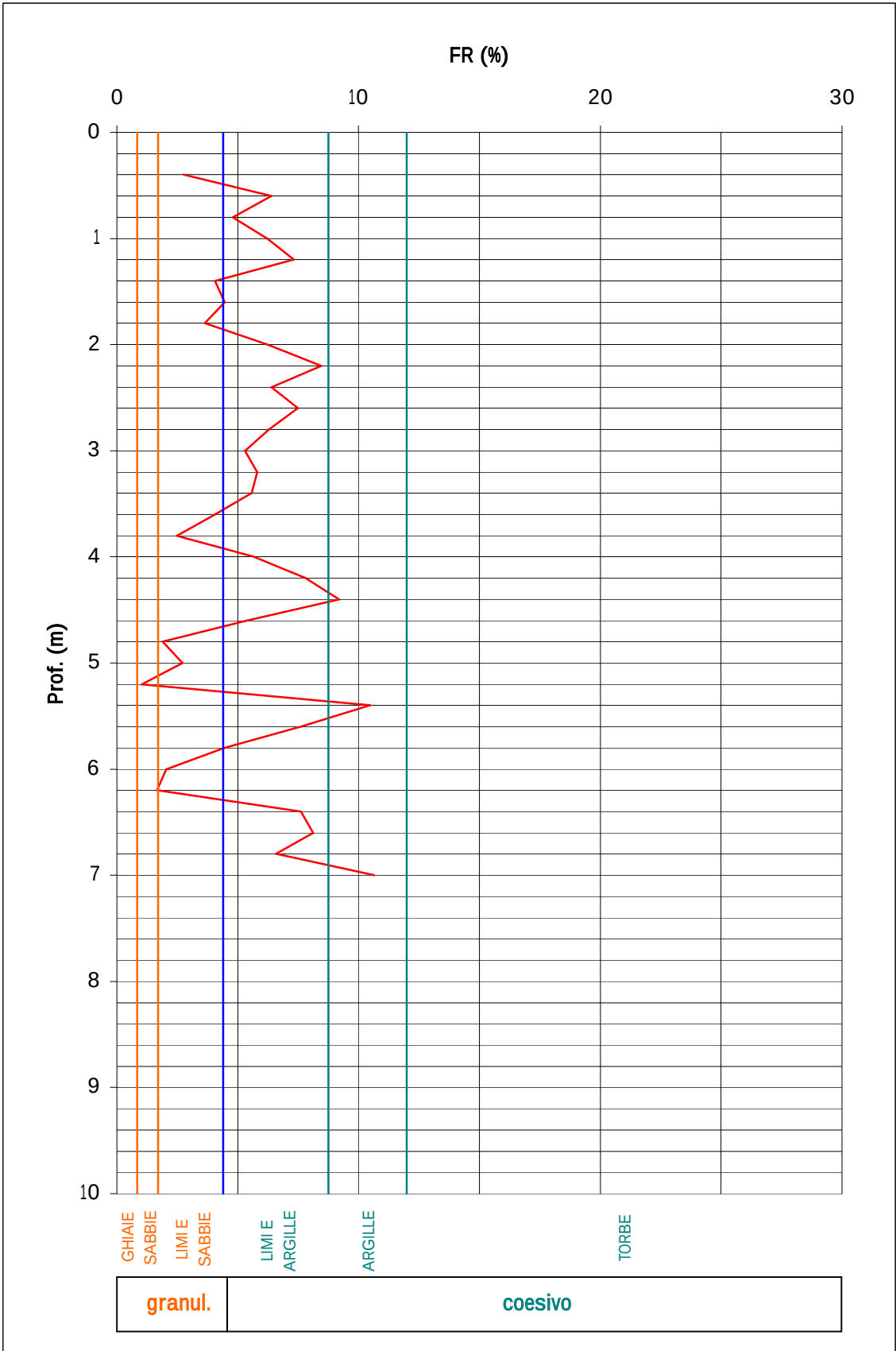
Località S. Croce sull'Arno (PI)

Prova n° 2

Quota p.c. -

Prof. H₂O

Comm.te	Consorzio Aquarno SpA	Data	27/03/2007
Località	S. Croce sull'Arno (PI)	Prova n°	2
Quota p.c.	-	Prof. H ₂ O	



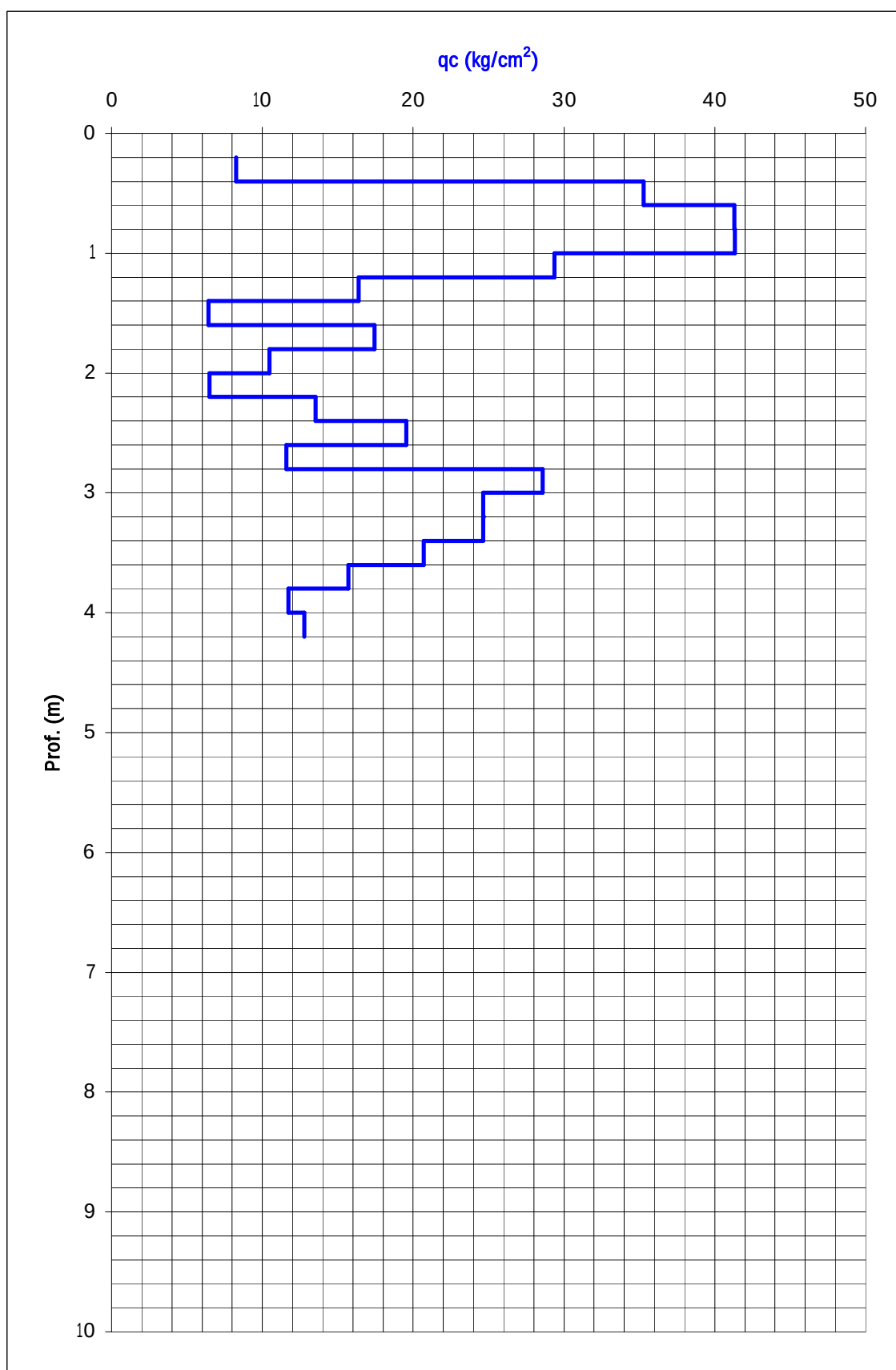
Comm.te Consorzio Aquarno SpA

Data 27/03/2007

Località S. Croce sull'Arno (PI)

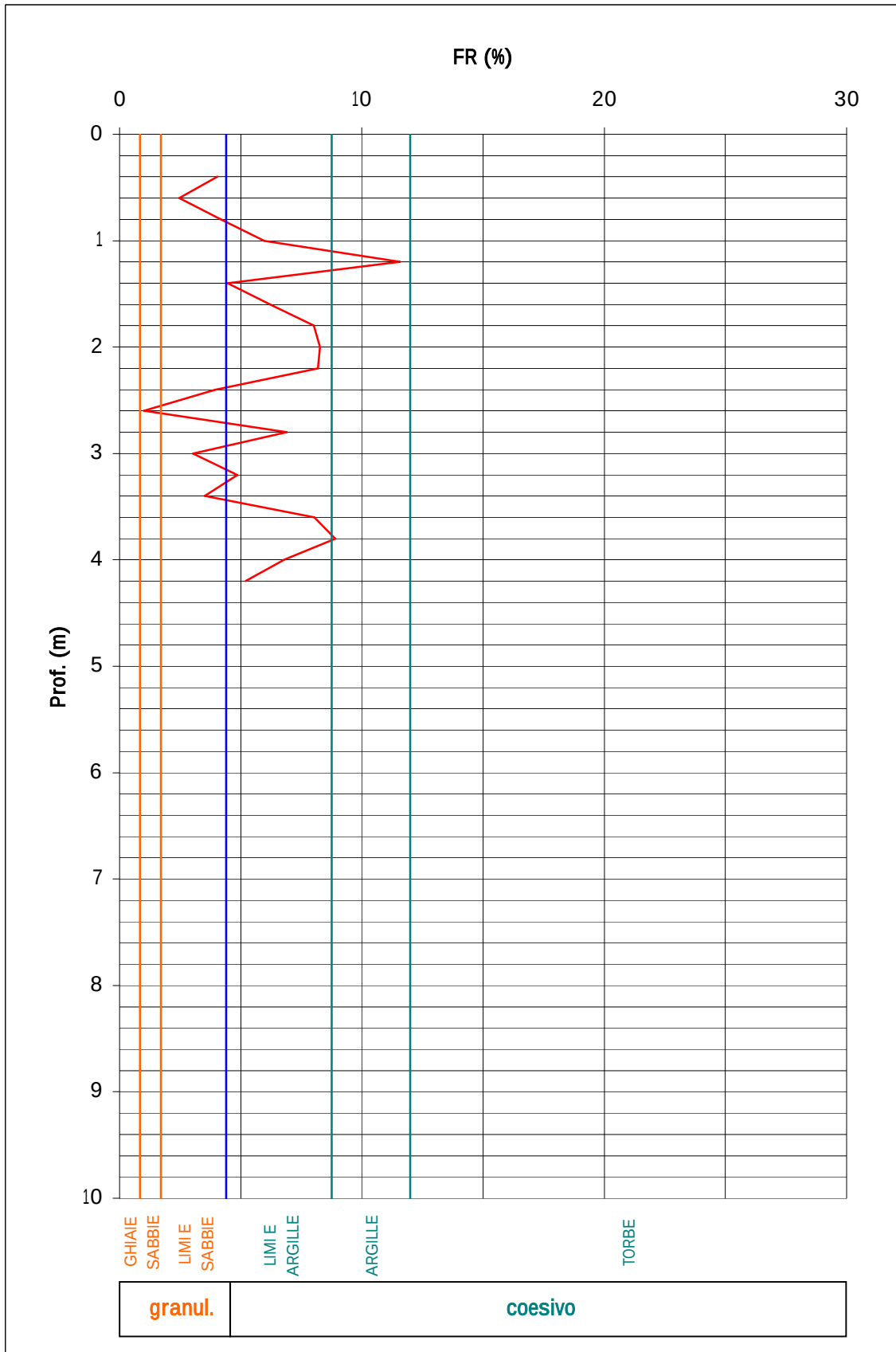
Prova n° 3

Quota p.c. -

Prof. H₂O

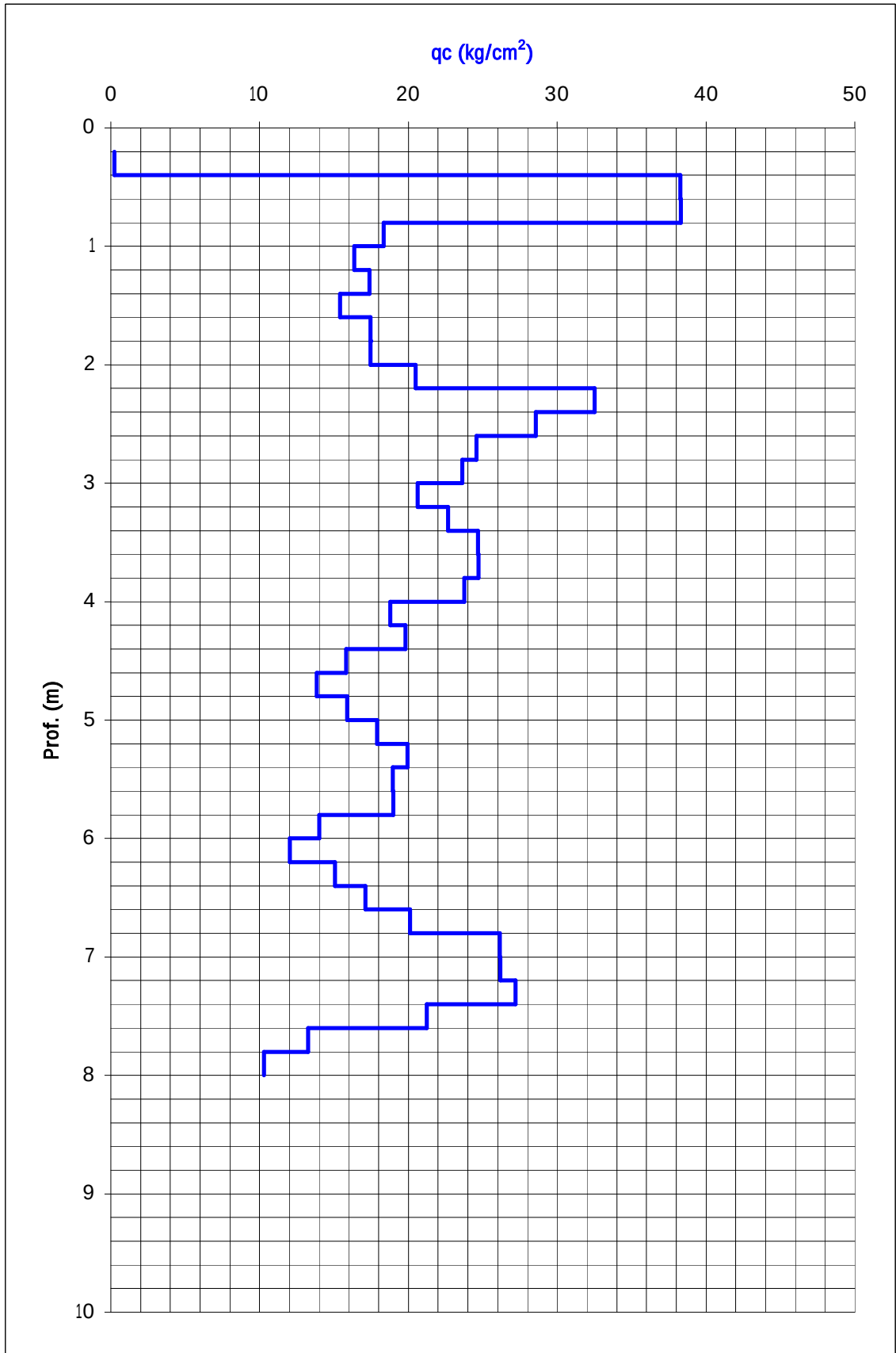
Comm.te Consorzio Aquarno SpA
Località S. Croce sull'Arno (PI)
Quota p.c. -

Data 27/03/2007
Prova n° 3
Prof. H₂O

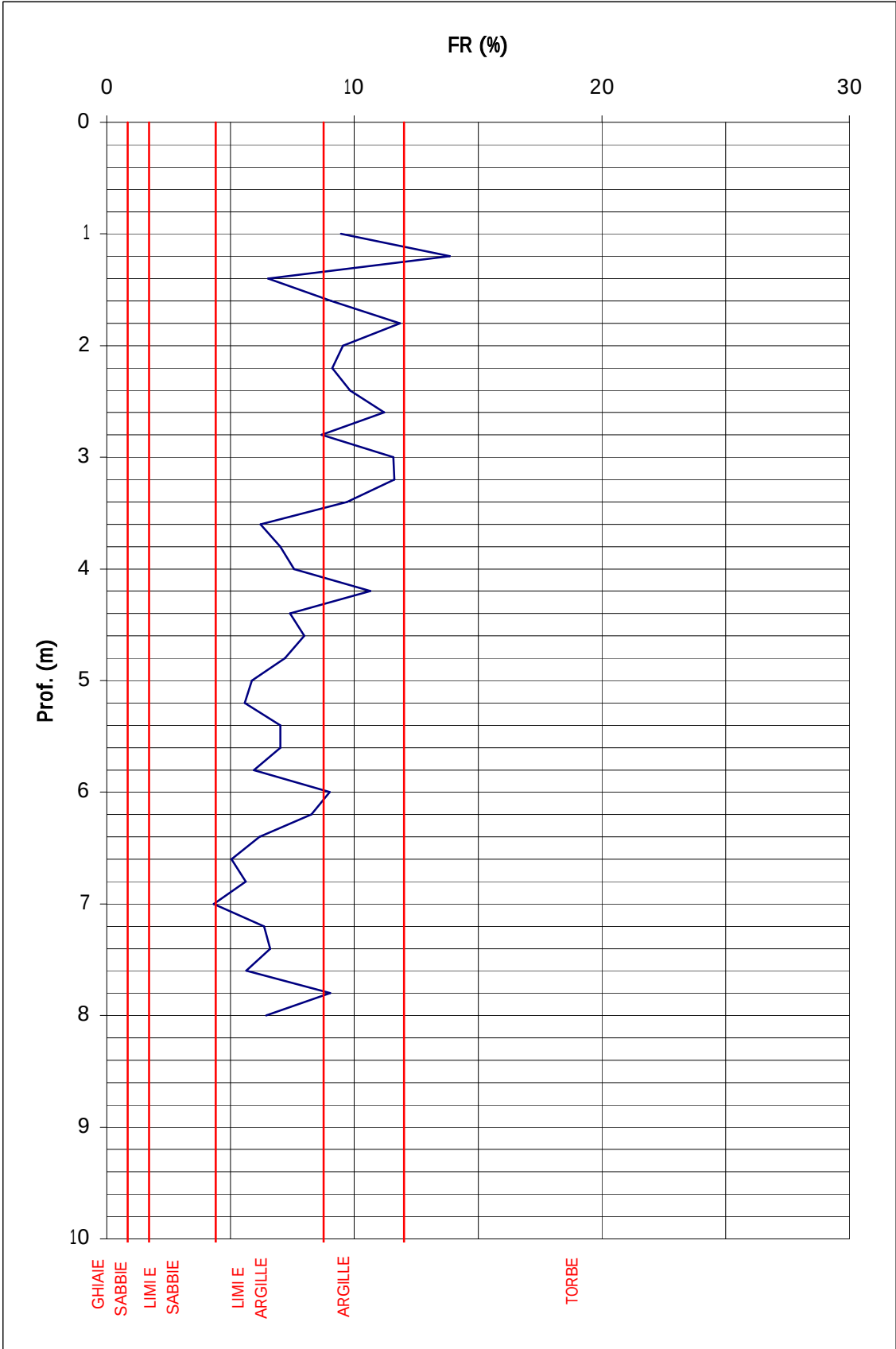


Comm.te Bagagli Roberto e altri
Località S. Croce sull'Arno (PI)
Quota p.c. -

Data 13/7/2004
Prova n° 1
Prof. H₂O n.r.



Comm.te Bagagli Roberto e altri	Data 13/7/2004
Località S. Croce sull'Arno (PI)	Prova n° 1
Quota p.c. -	Prof. H ₂ O n.r.



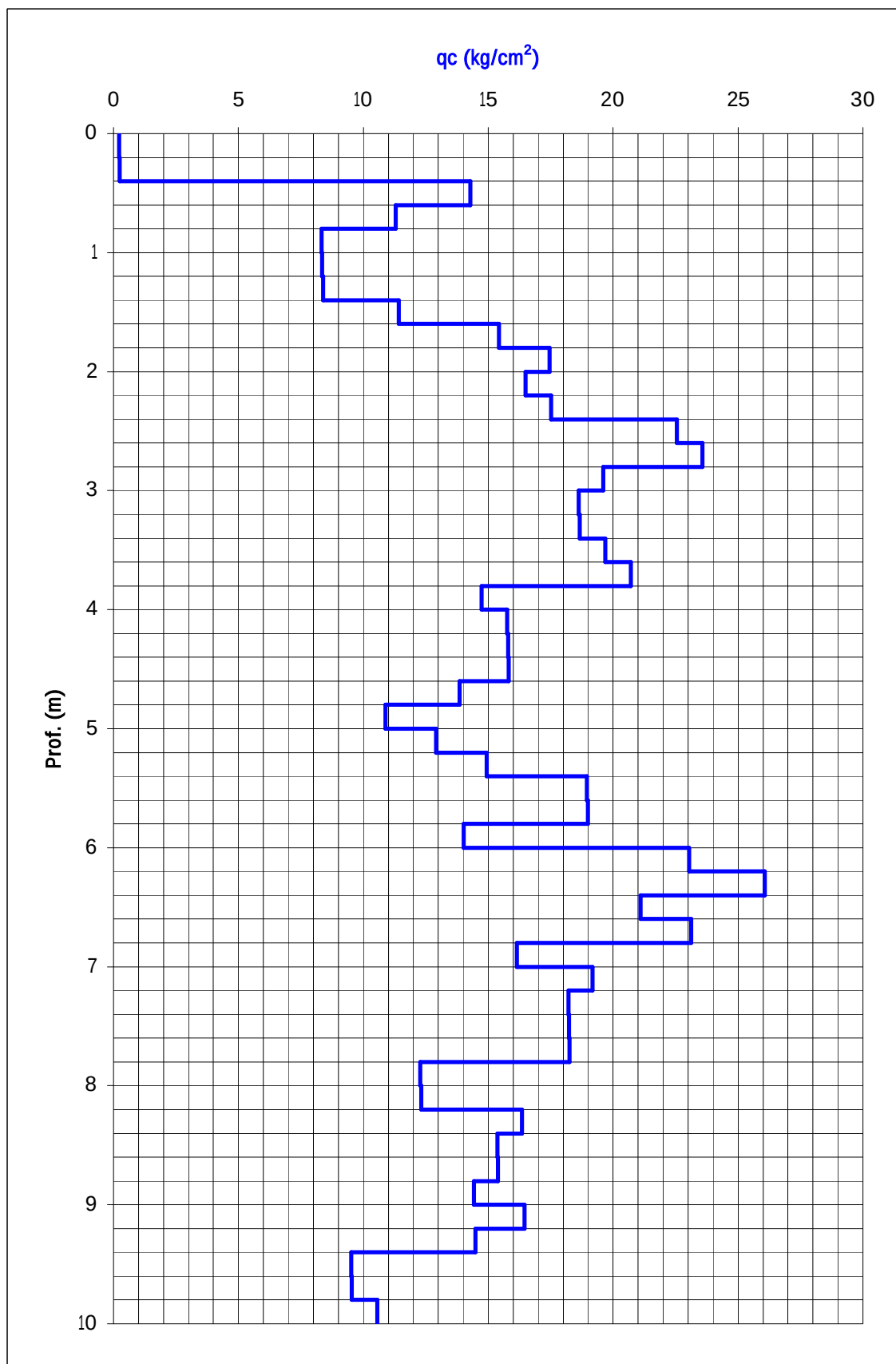
Comm.te Simoni Claudio, Barnini Susanna

Data 9/9/1998

Località S. Croce sull'Arno (PI)

Prova n° 1

Quota p.c. -

Prof. H₂O -

Comm.te Simoni Claudio, Barnini Susanna

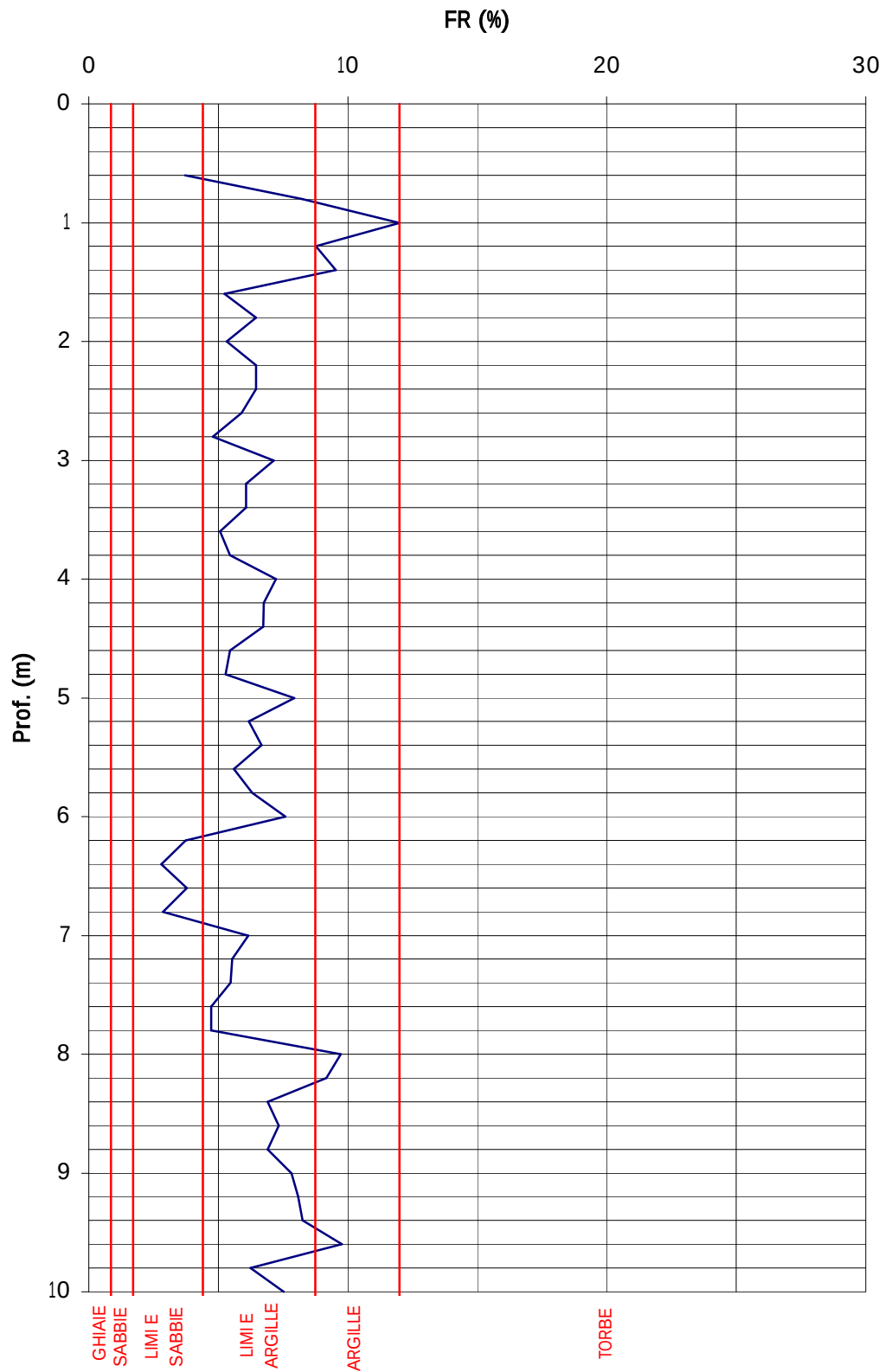
Data 9/9/1998

Località S. Croce sull'Arno (PI)

Prova n° 1

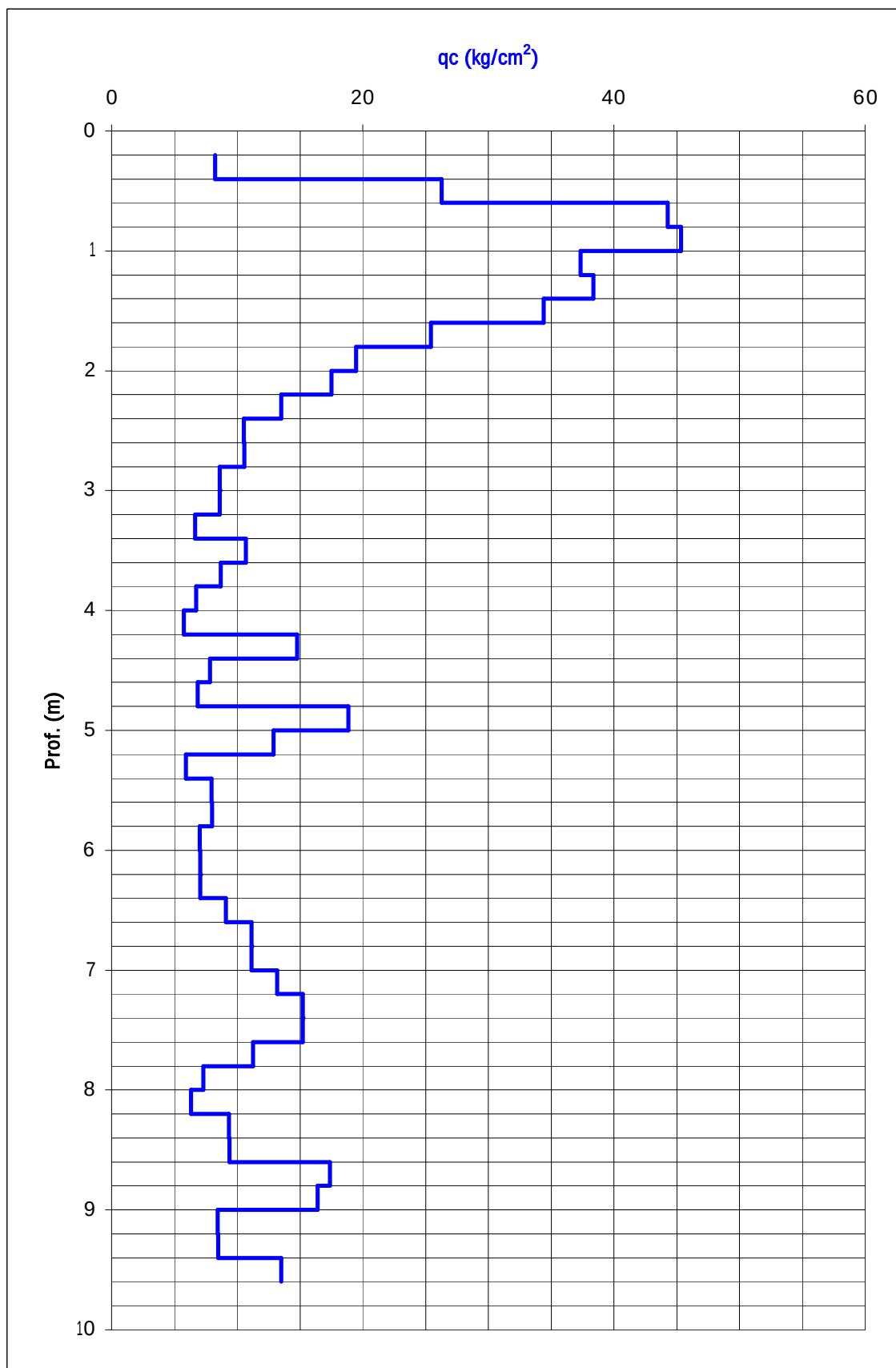
Quota p.c. -

Prof. H₂O -

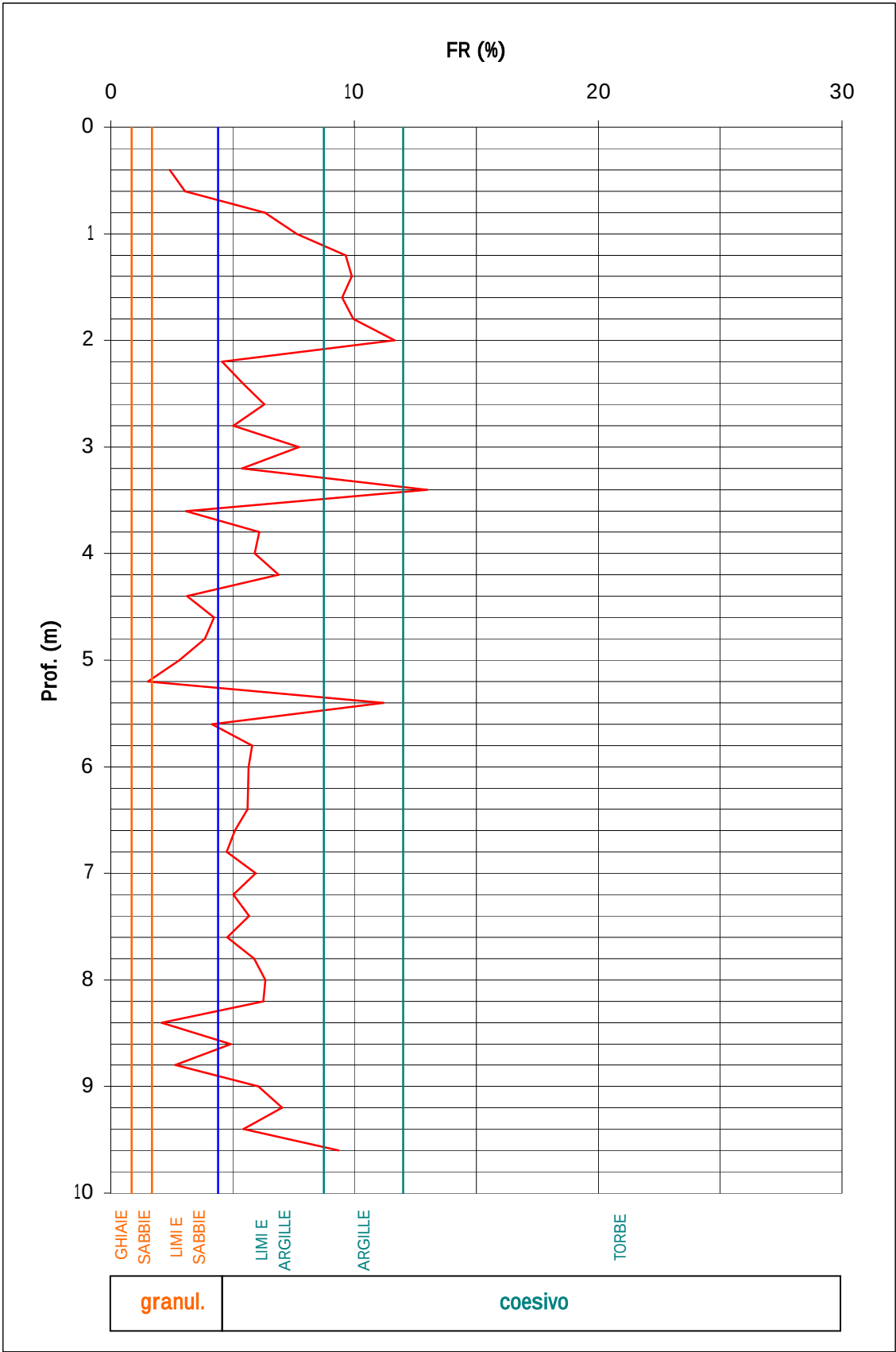


Comm.te Bellagamba Bibiana e Giovanni
Località S. Croce sull'Arno (PI), Via di Pelle
Quota p.c. -

Data 16/10/2007
Prova n° 1
Prof. H₂O

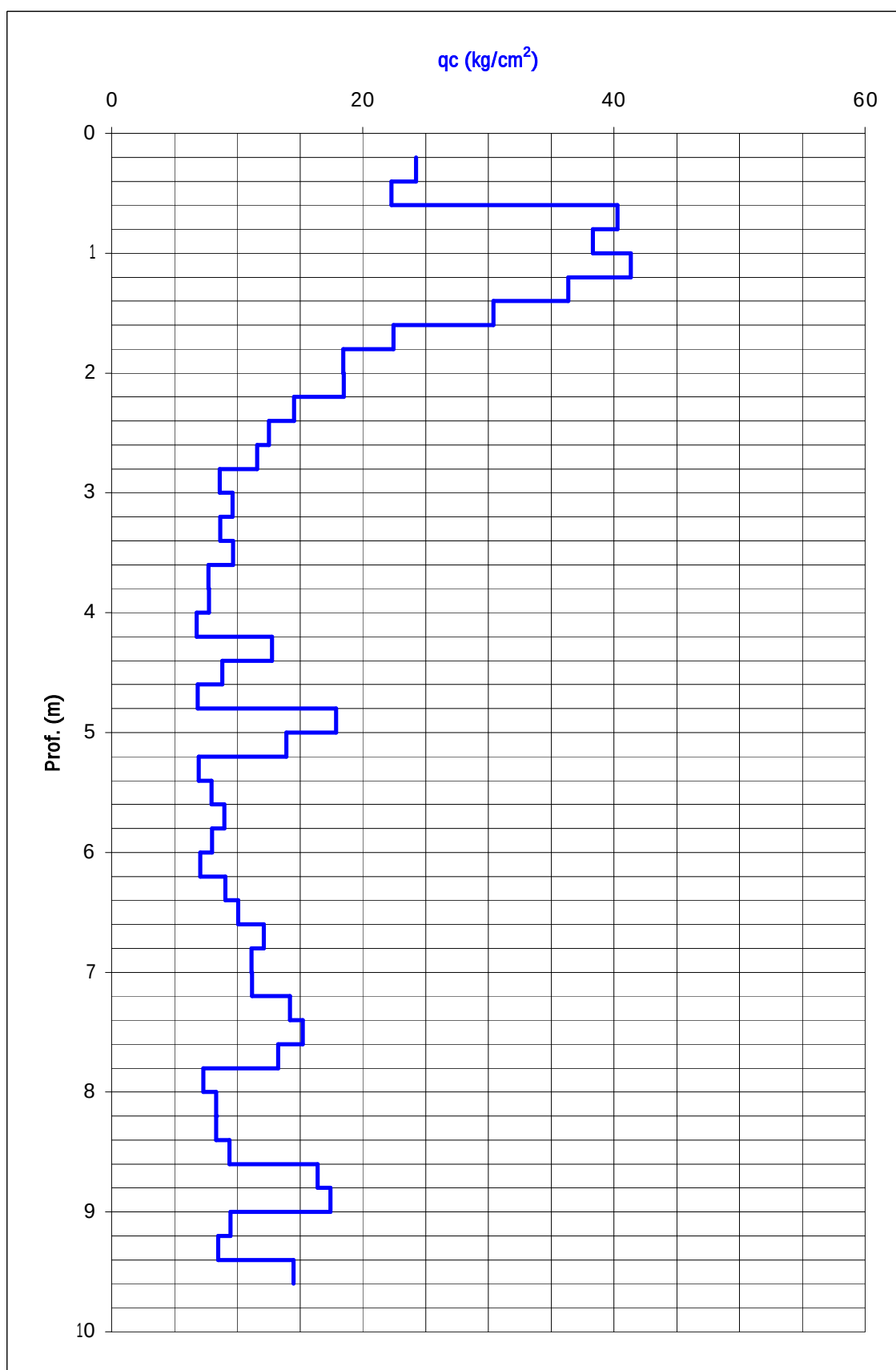


Comm.te	Bellagamba Bibiana e Giovanni	Data	16/10/2007
Località	S. Croce sull'Arno (PI), Via di Pelle	Prova n°	1
Quota p.c.	-	Prof. H ₂ O	



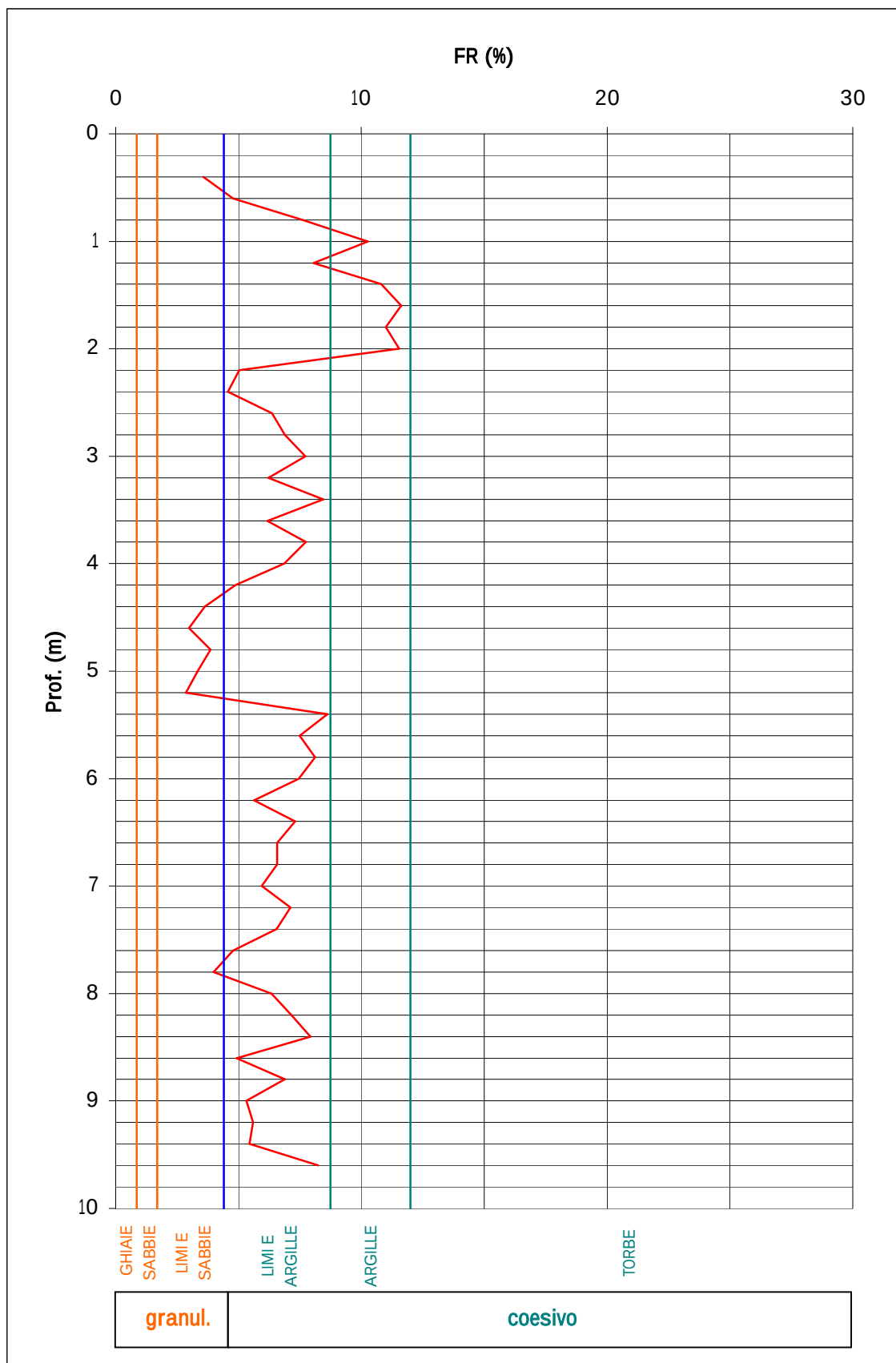
Comm.te Bellagamba Bibiana e Giovanni
Località S. Croce sull'Arno (PI), Via di Pelle
Quota p.c. -

Data 16/10/2007
Prova n° 2
Prof. H₂O



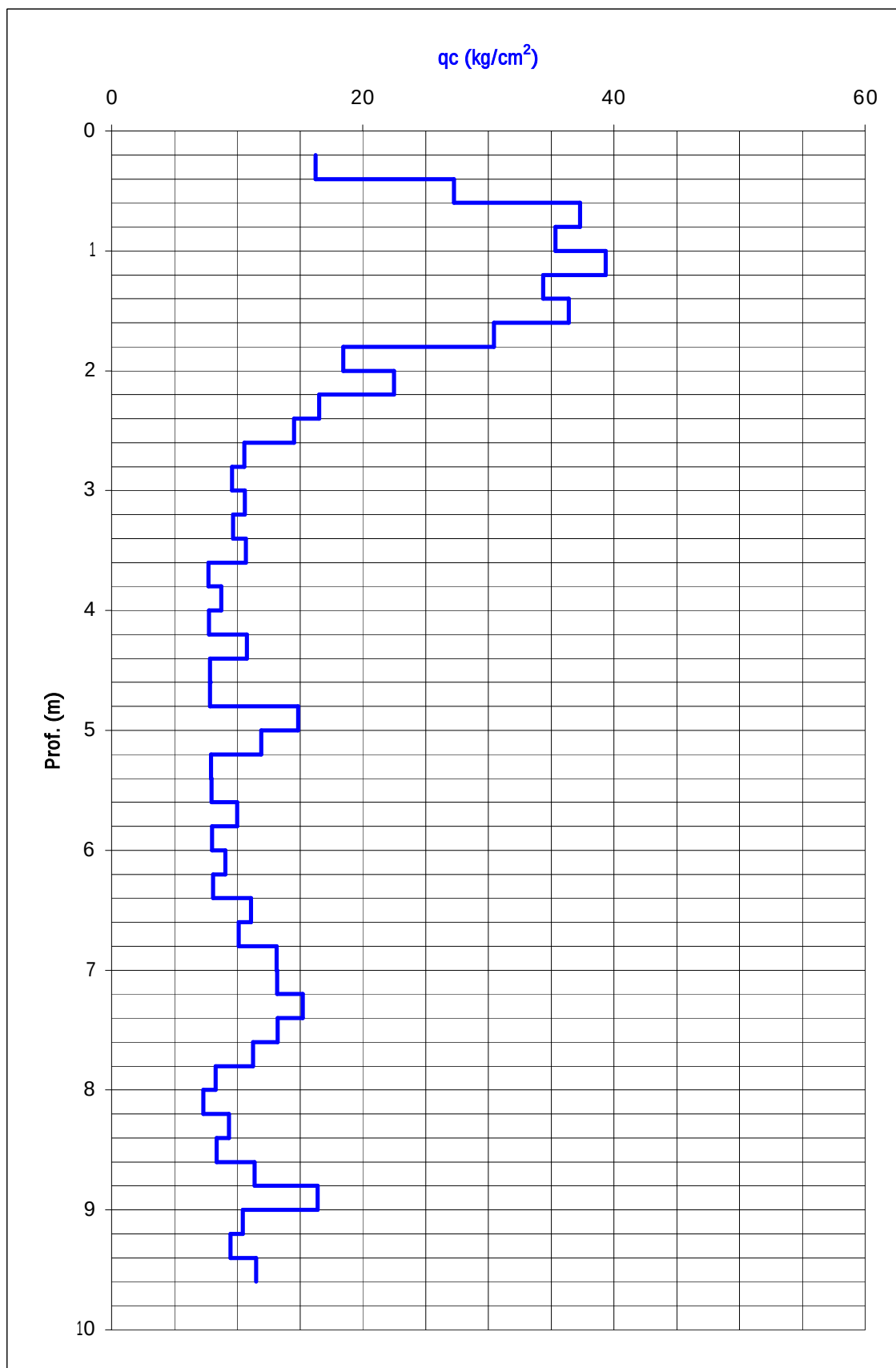
Comm.te Bellagamba Bibiana e Giovanni
Località S. Croce sull'Arno (PI), Via di Pelle
Quota p.c. -

Data 16/10/2007
Prova n° 2
Prof. H₂O

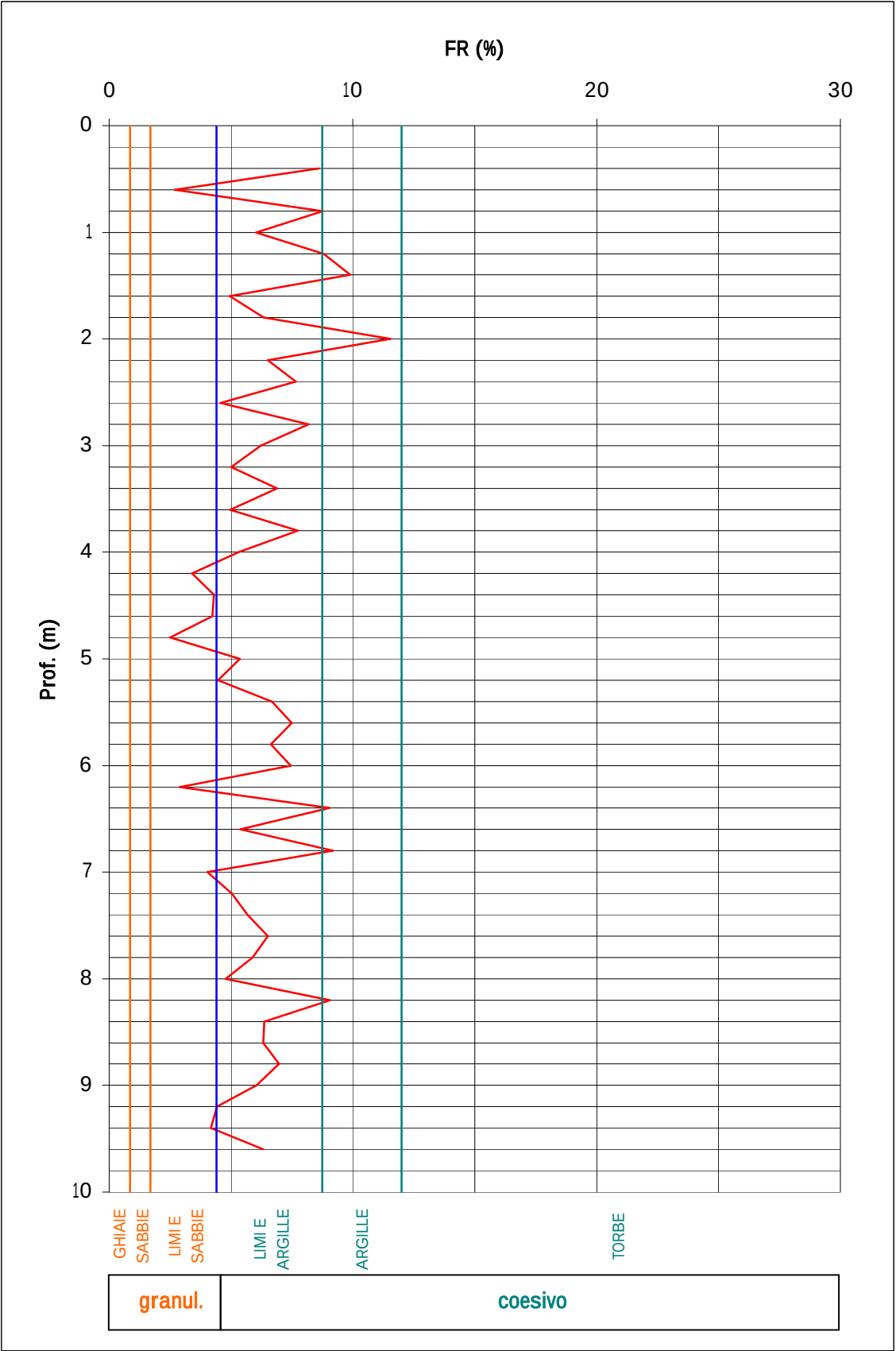


Comm.te Bellagamba Bibiana e Giovanni
Località S. Croce sull'Arno (PI), Via di Pelle
Quota p.c. -

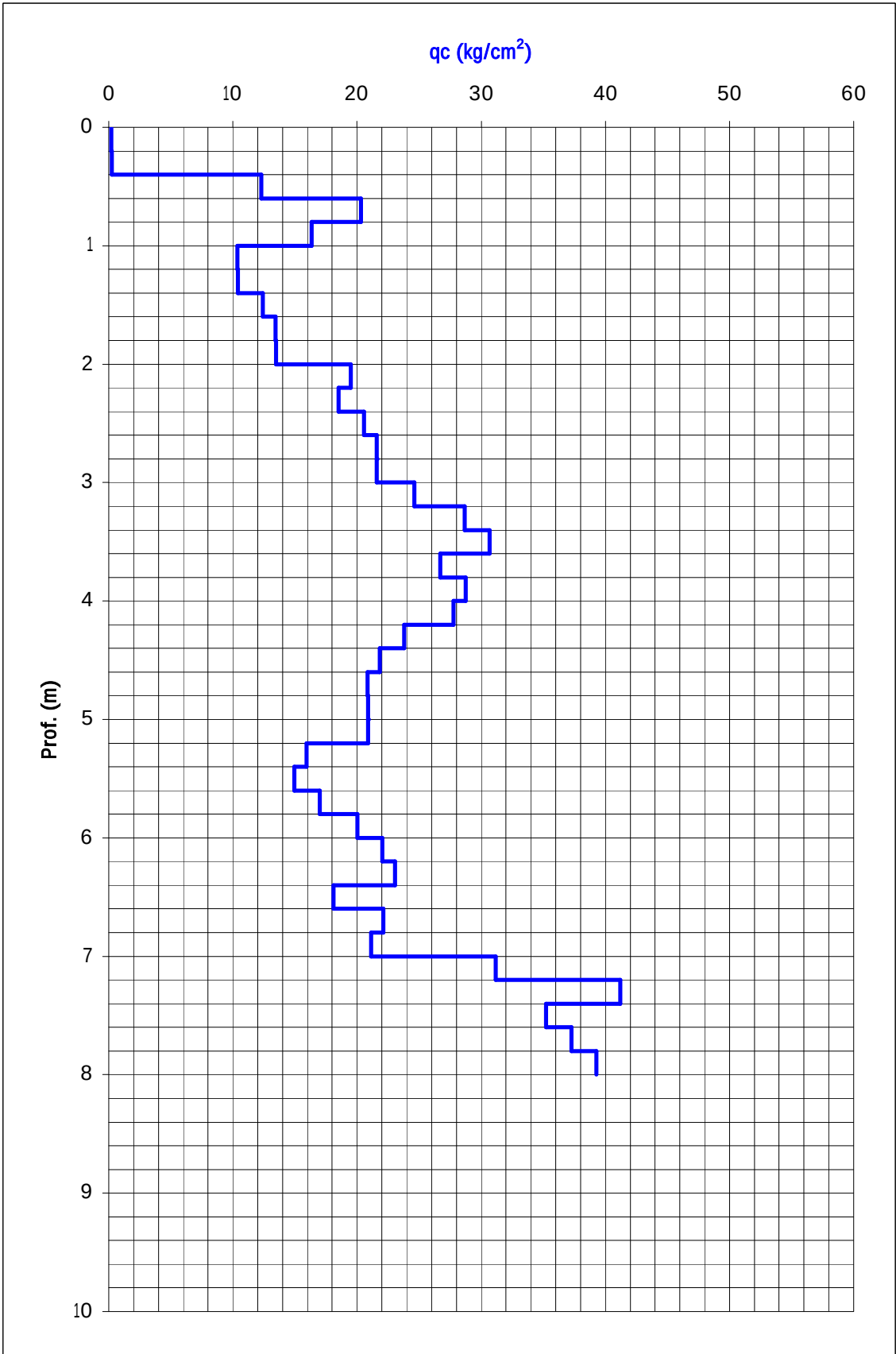
Data 16/10/2007
Prova n° 3
Prof. H₂O



Comm.te	Bellagamba Bibiana e Giovanni	Data	16/10/2007
Località	S. Croce sull'Arno (PI), Via di Pelle	Prova n°	3
Quota p.c.	-	Prof. H ₂ O	

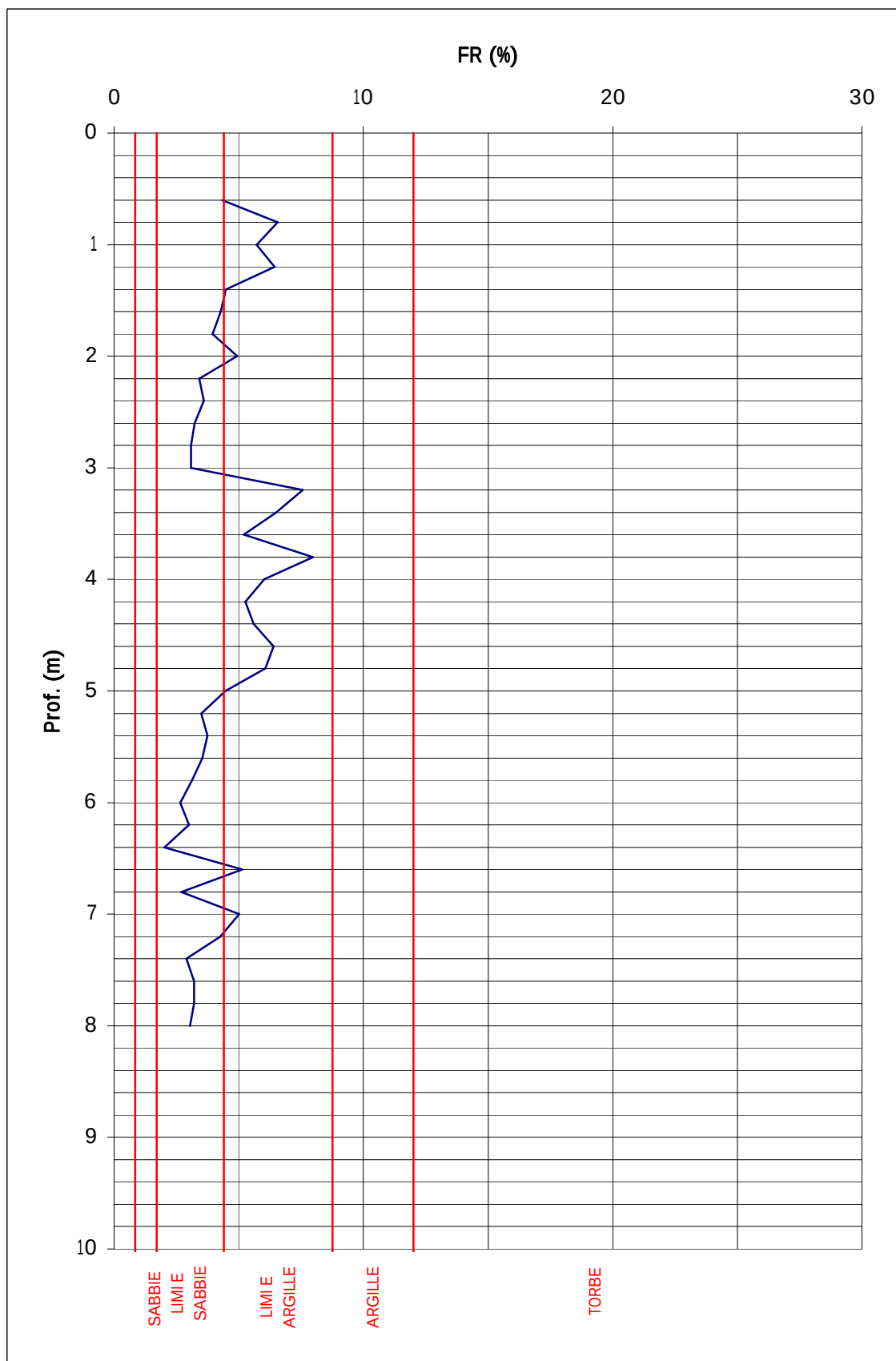


Comm.te Bertini Trasporti srl	Data 8/11/2002
Località S. Croce sull'Arno (PI)	Prova n° 1
Quota p.c. -	Prof. H₂O - 2,0 m



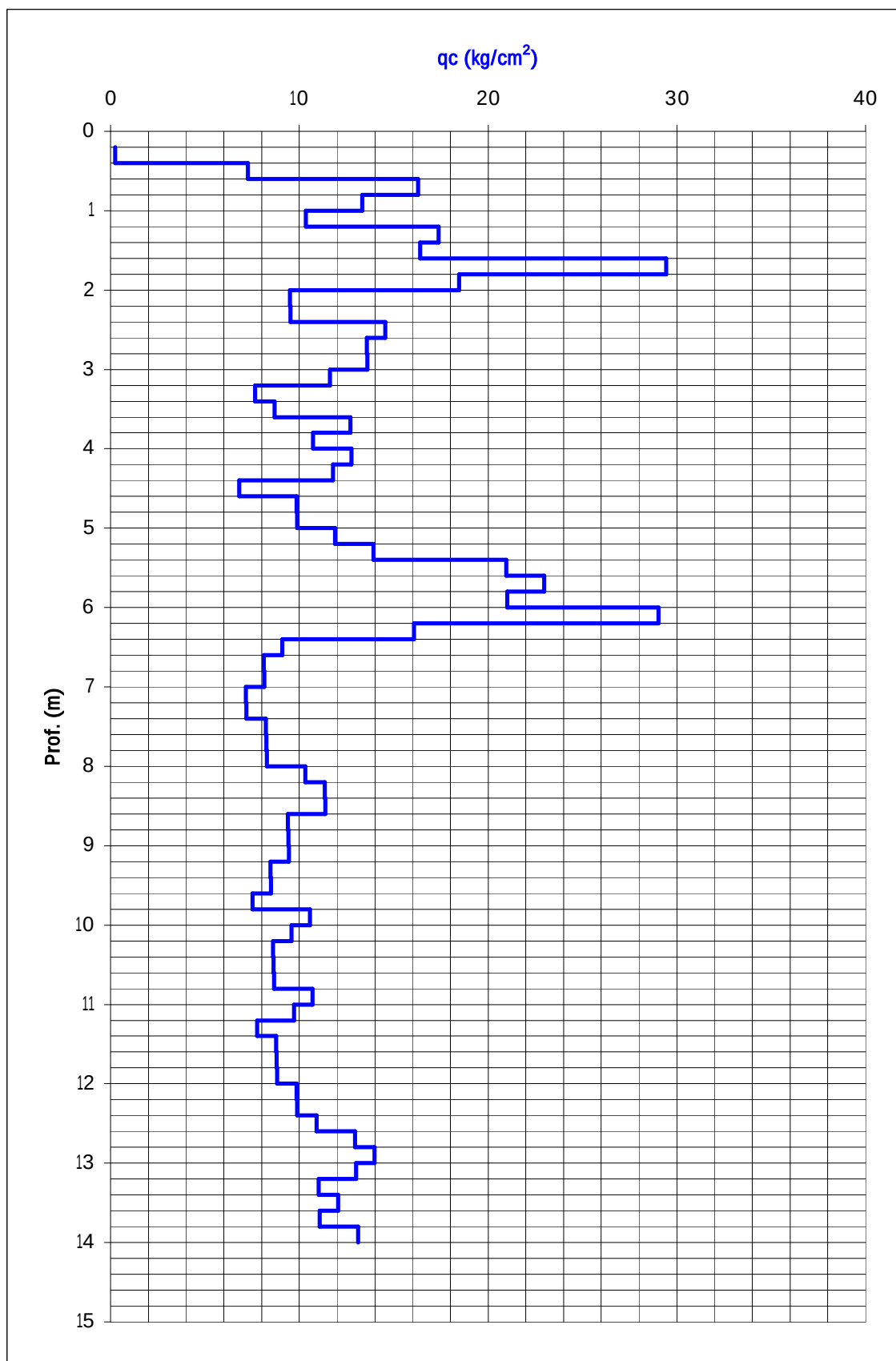
Comm.te Bertini Trasporti srl
Località S. Croce sull'Arno (PI)
Quota p.c. -

Data 8/11/2002
Prova n° 1
Prof. H₂O - 2,0 m

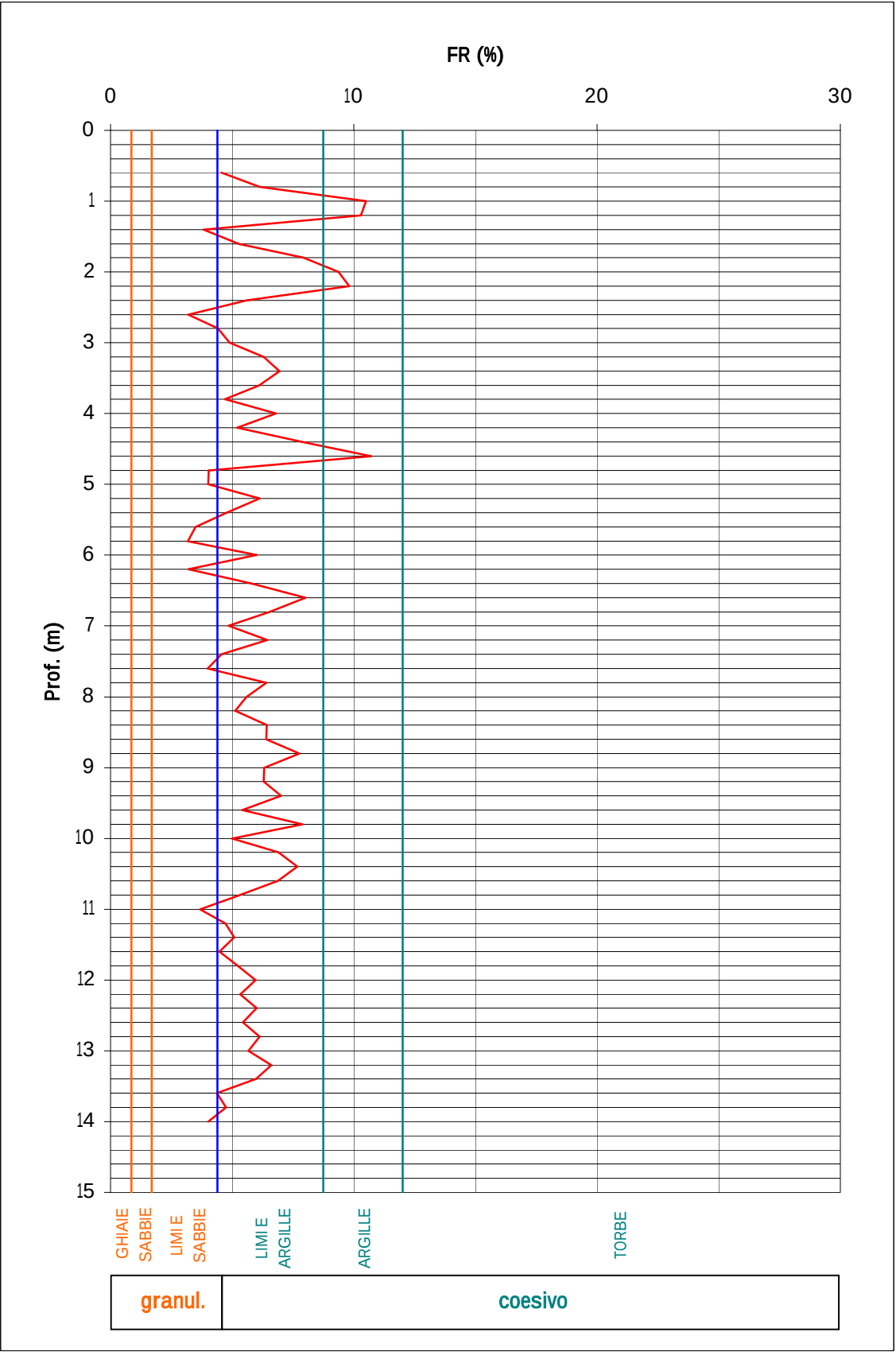


Comm.te Brotini Giampaolo & C. srl
Località S. Croce sull'Arno (PI), Via I Maggio
Quota p.c. -

Data 21/03/2008
Prova n° 1
Prof. H₂O

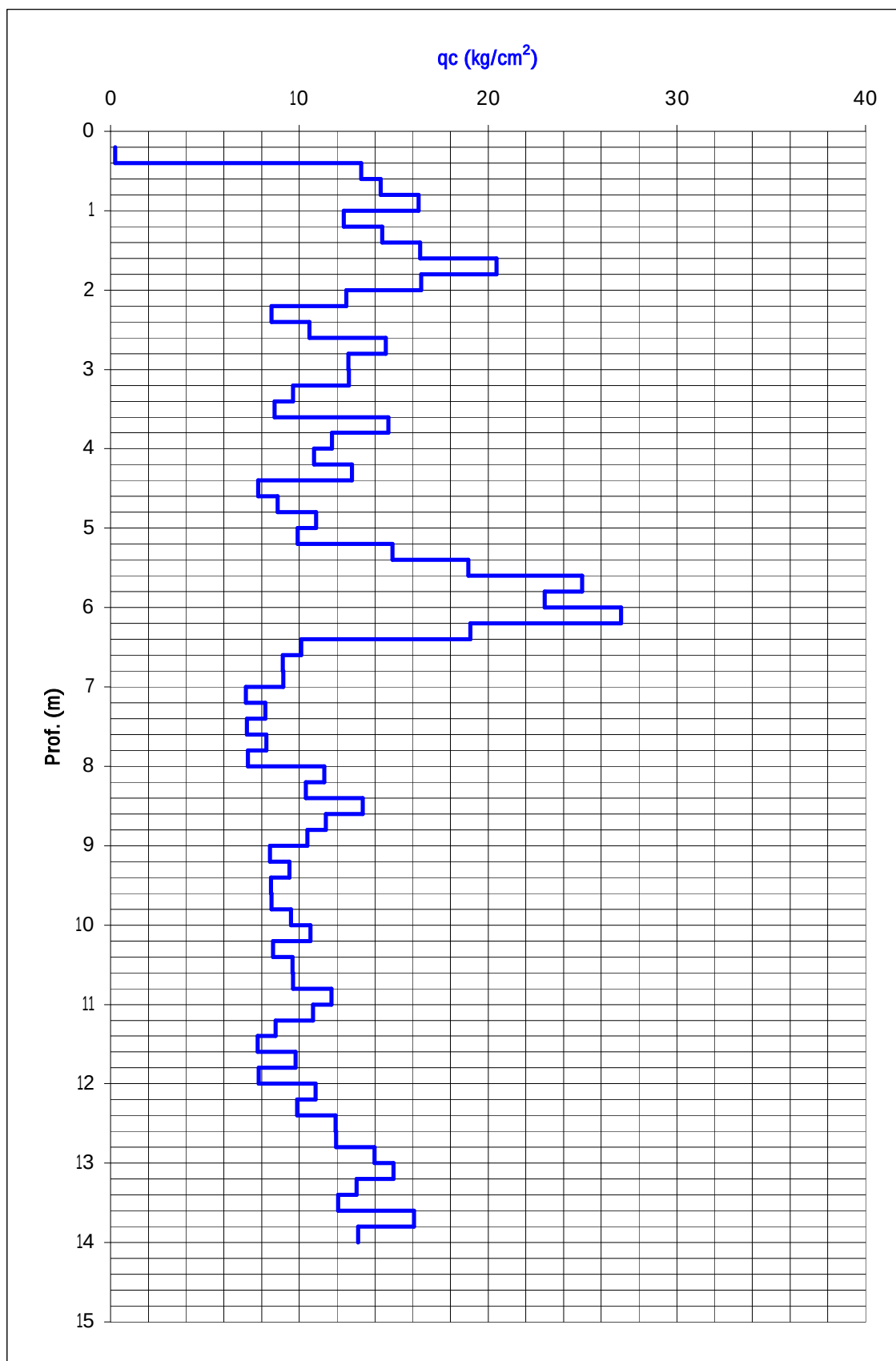


Comm.te Brotini Giampaolo & C. srl	Data 21/03/2008
Località S. Croce sull'Arno (PI), Via I Maggio	Prova n° 1
Quota p.c. -	Prof. H₂O



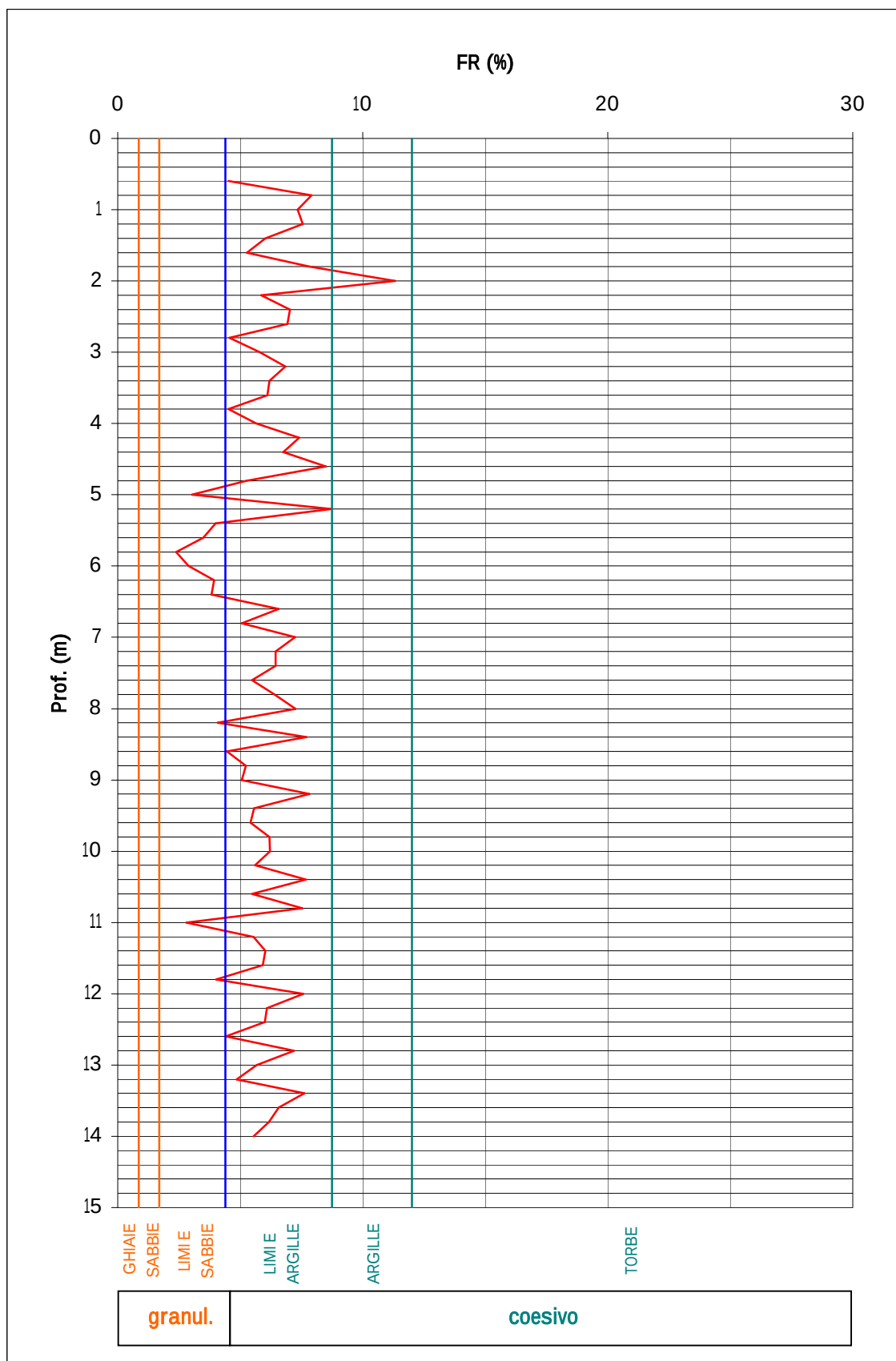
Comm.te Brotini Giampaolo & C. srl
Località S. Croce sull'Arno (PI), Via I Maggio
Quota p.c. -

Data 21/03/2008
Prova n° 2
Prof. H₂O



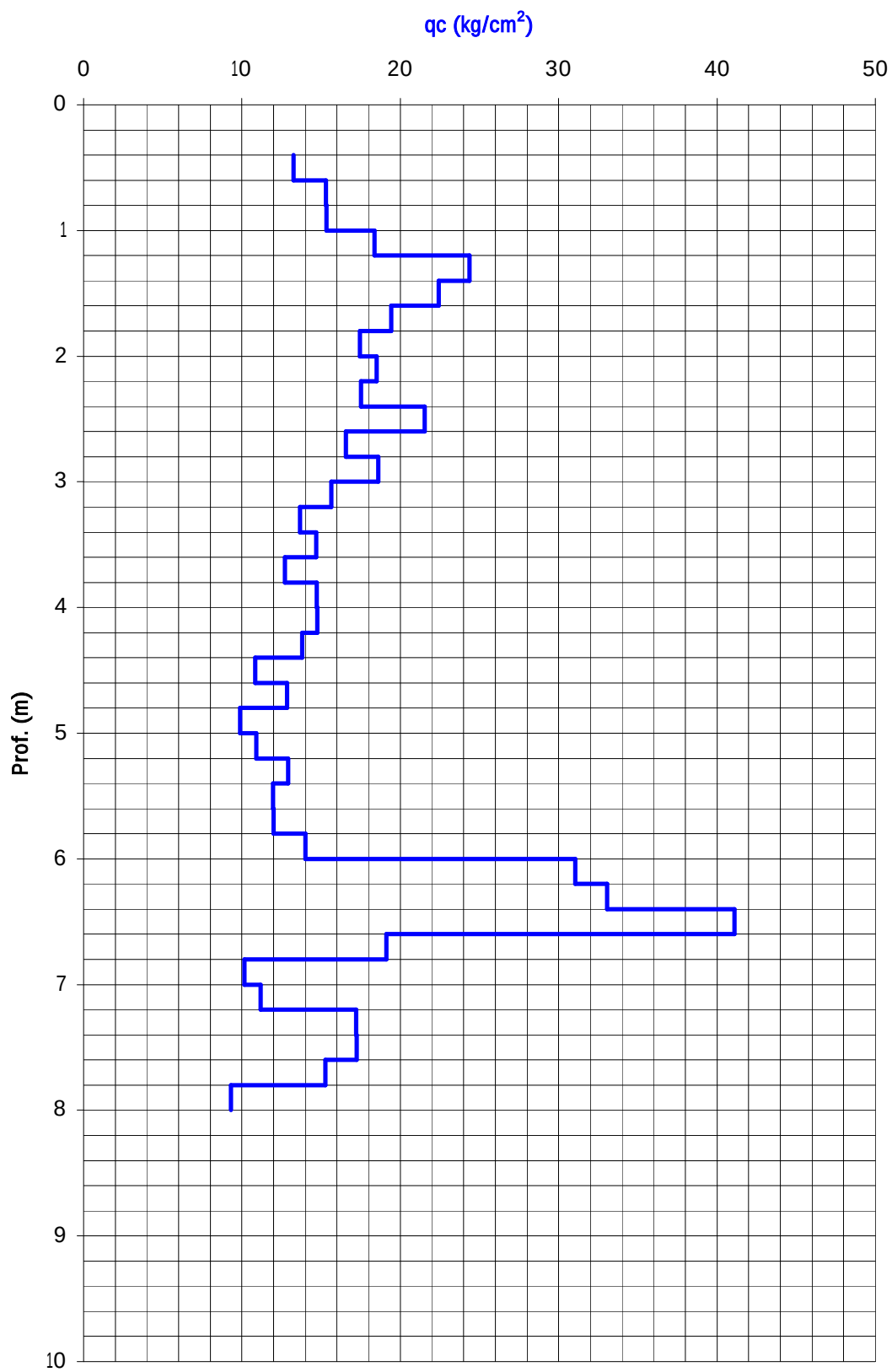
Comm.te Brotini Giampaolo & C. srl
Località S. Croce sull'Arno (PI), Via I Maggio
Quota p.c. -

Data 21/03/2008
Prova n° 2
Prof. H₂O

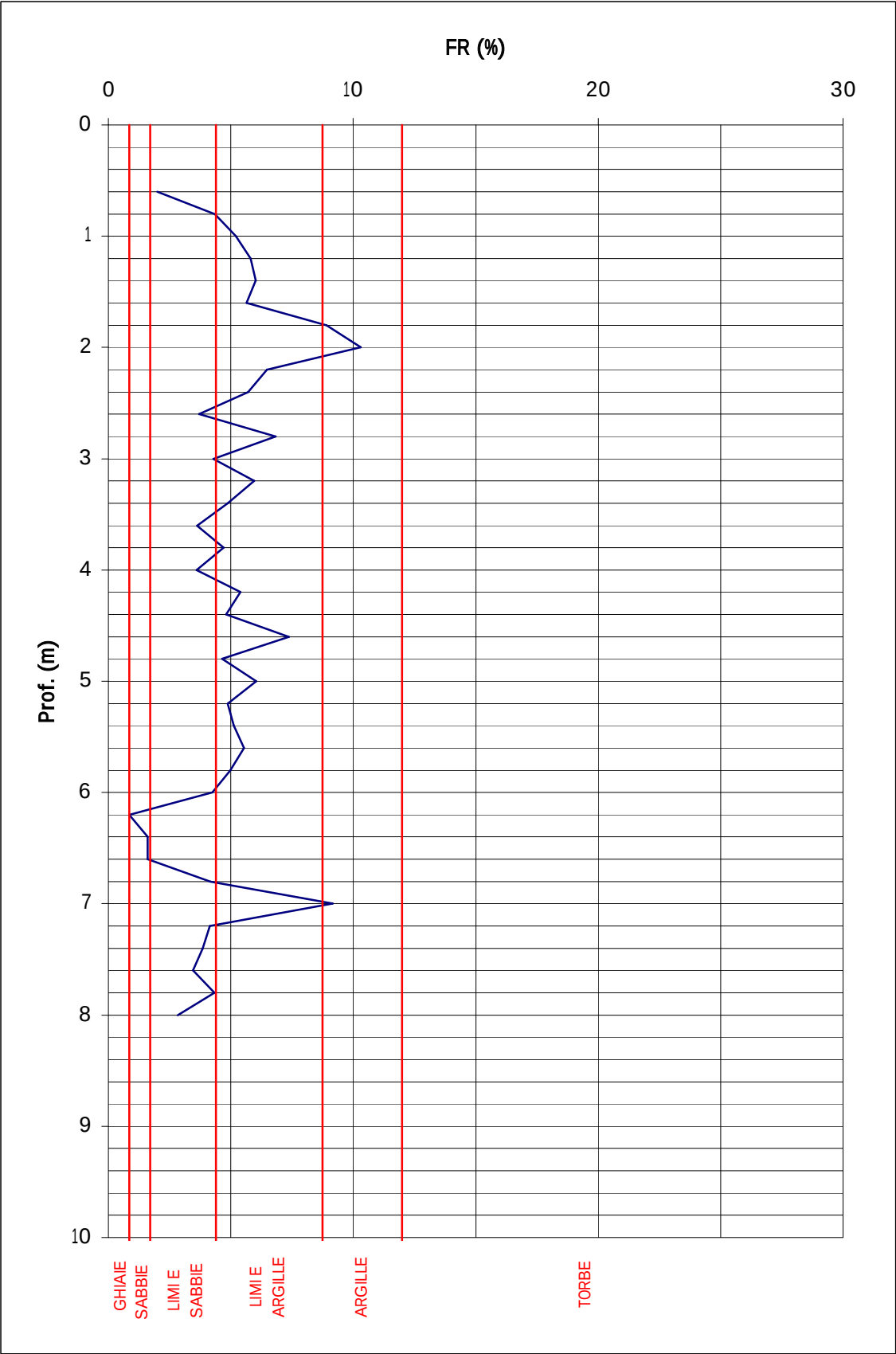


Comm.te Sigg. Chimenti
Località S. Croce sull'Arno (PI)
Quota p.c. -

Data 06/03/2000
Prova n° 1
Prof. H₂O n.r.

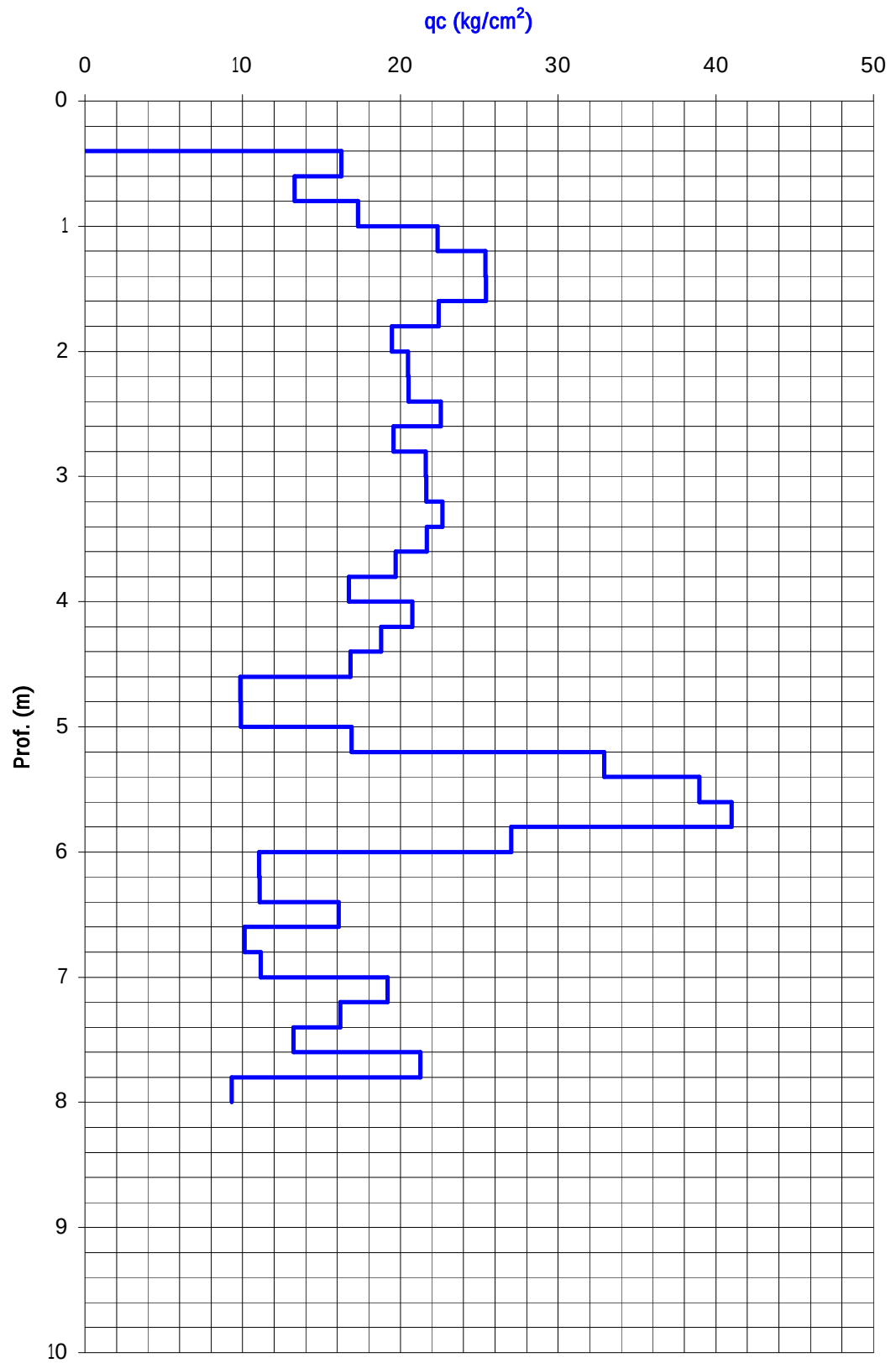


Comm.te Sigg. Chimenti	Data 06/03/2000
Località S. Croce sull'Arno (PI)	Prova n° 1
Quota p.c. -	Prof. H₂O n.r.



Comm.te Sigg. Chimenti
Località S. Croce sull'Arno (PI)
Quota p.c. -

Data 06/03/2000
Prova n° 2
Prof. H₂O n.r.



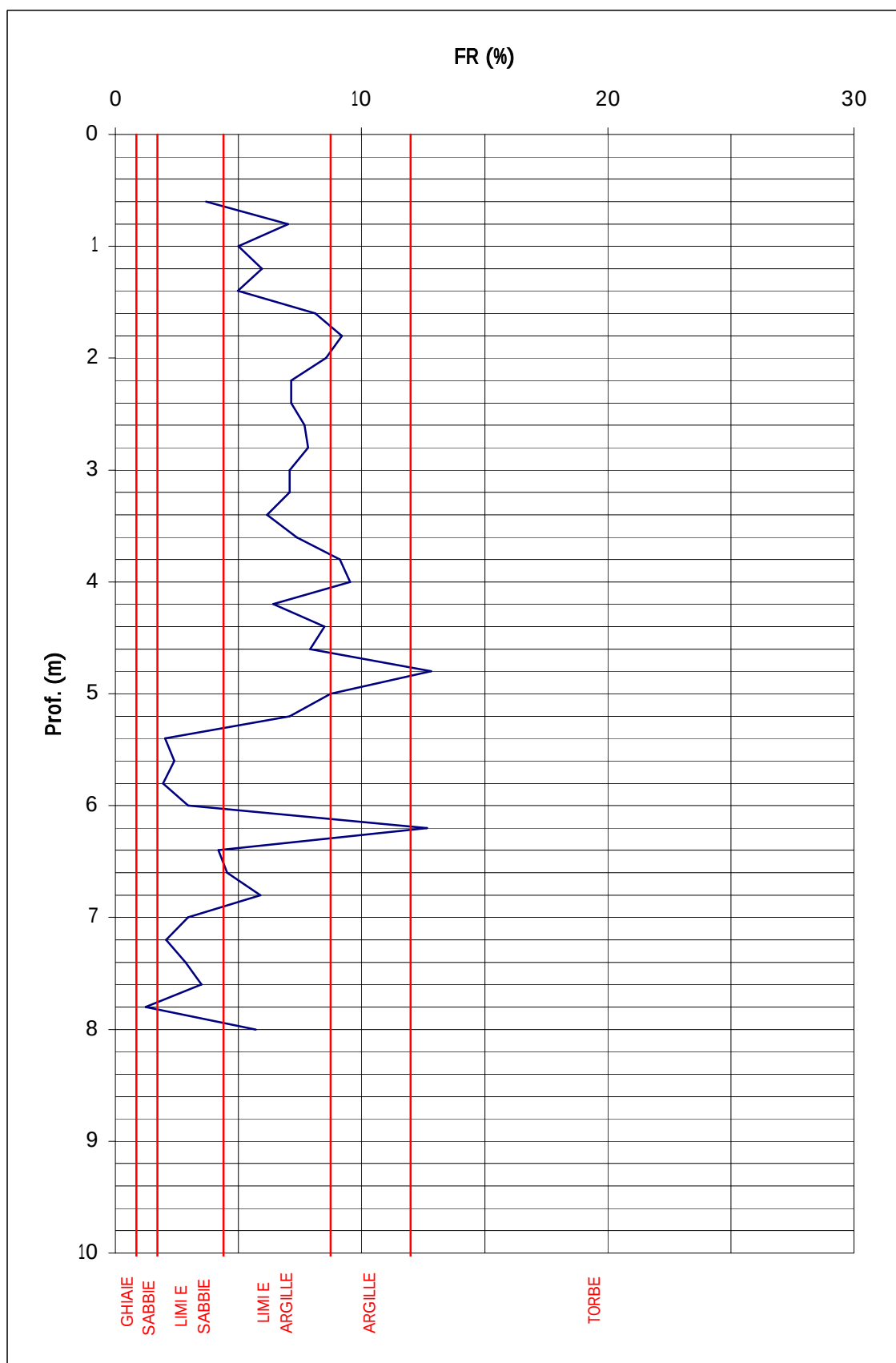
Comm.te Sigg. Chimenti

Data 06/03/2000

Località S. Croce sull'Arno (PI)

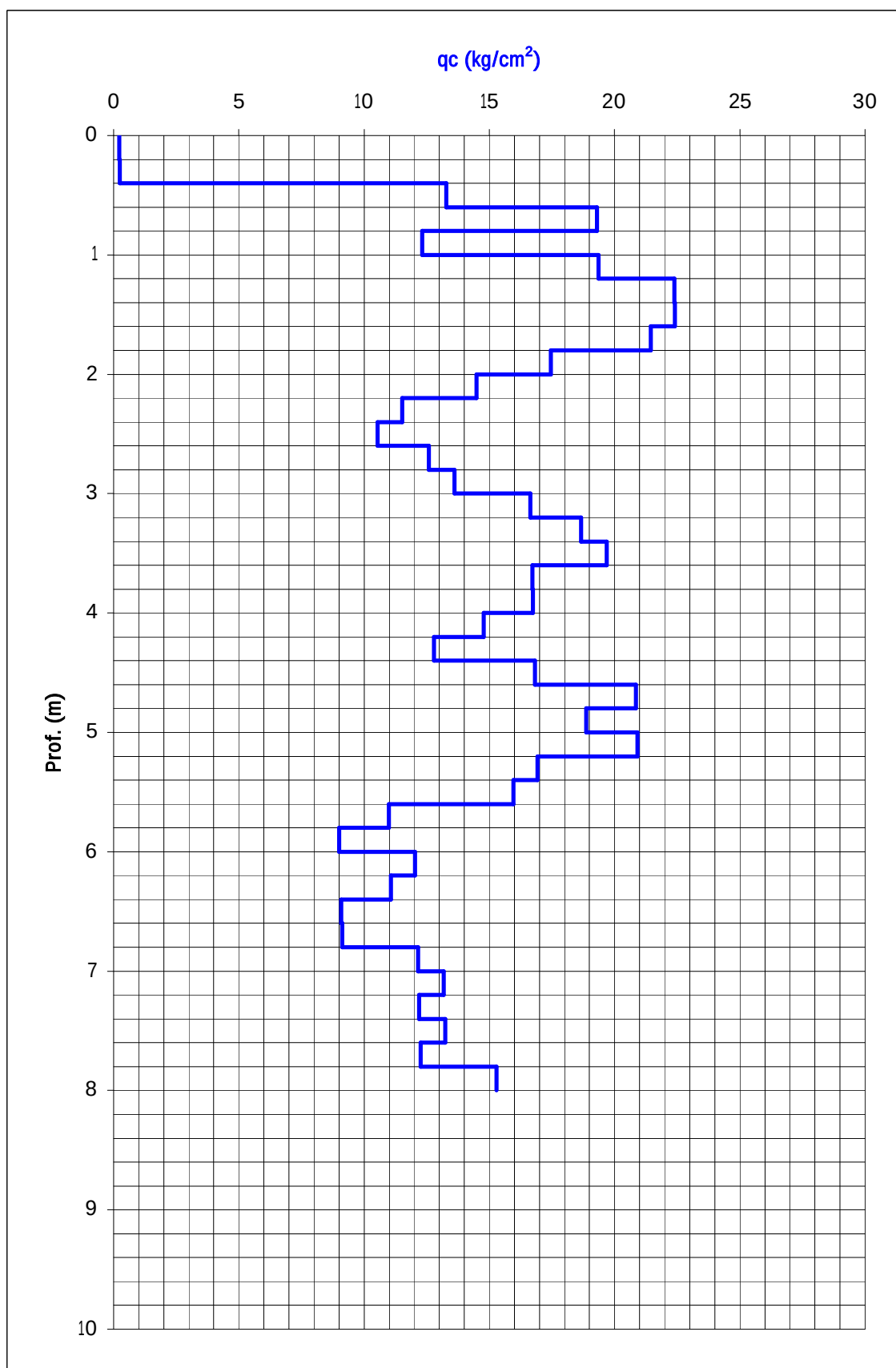
Prova n° 2

Quota p.c. -

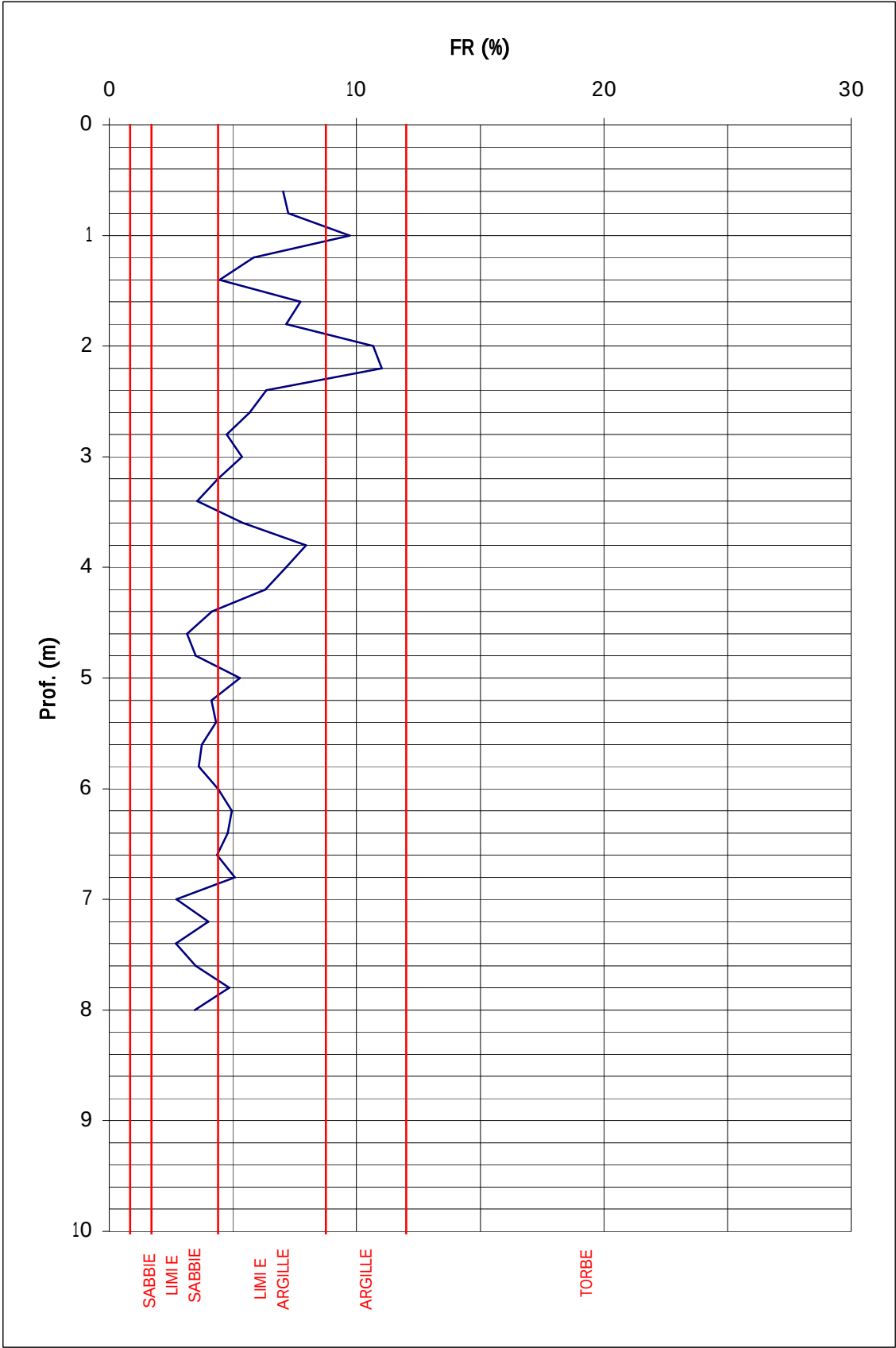
Prof. H₂O n.r.

Comm.te CODYECO SpA
Località S. Croce sull'Arno (PI)
Quota p.c. -

Data 8/11/2002
Prova n° 1
Prof. H₂O n.r.



Comm.te	CODYECO SpA	Data	8/11/2002
Località	S. Croce sull'Arno (PI)	Prova n°	1
Quota p.c.	-	Prof. H ₂ O	n.r.



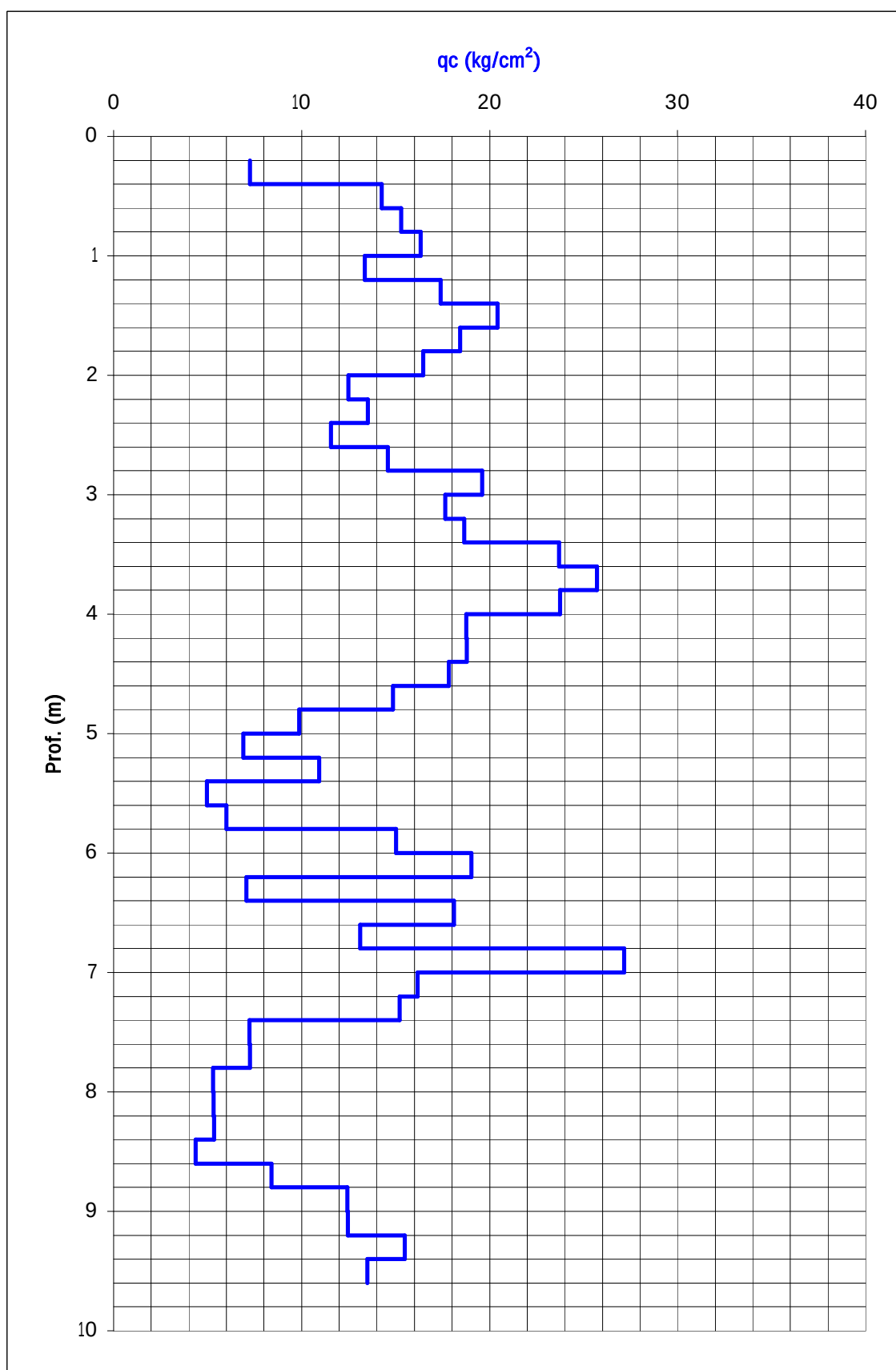
Comm.te Dermochimica SpA

Data 13/12/2005

Località S. Croce sull'Arno (PI)

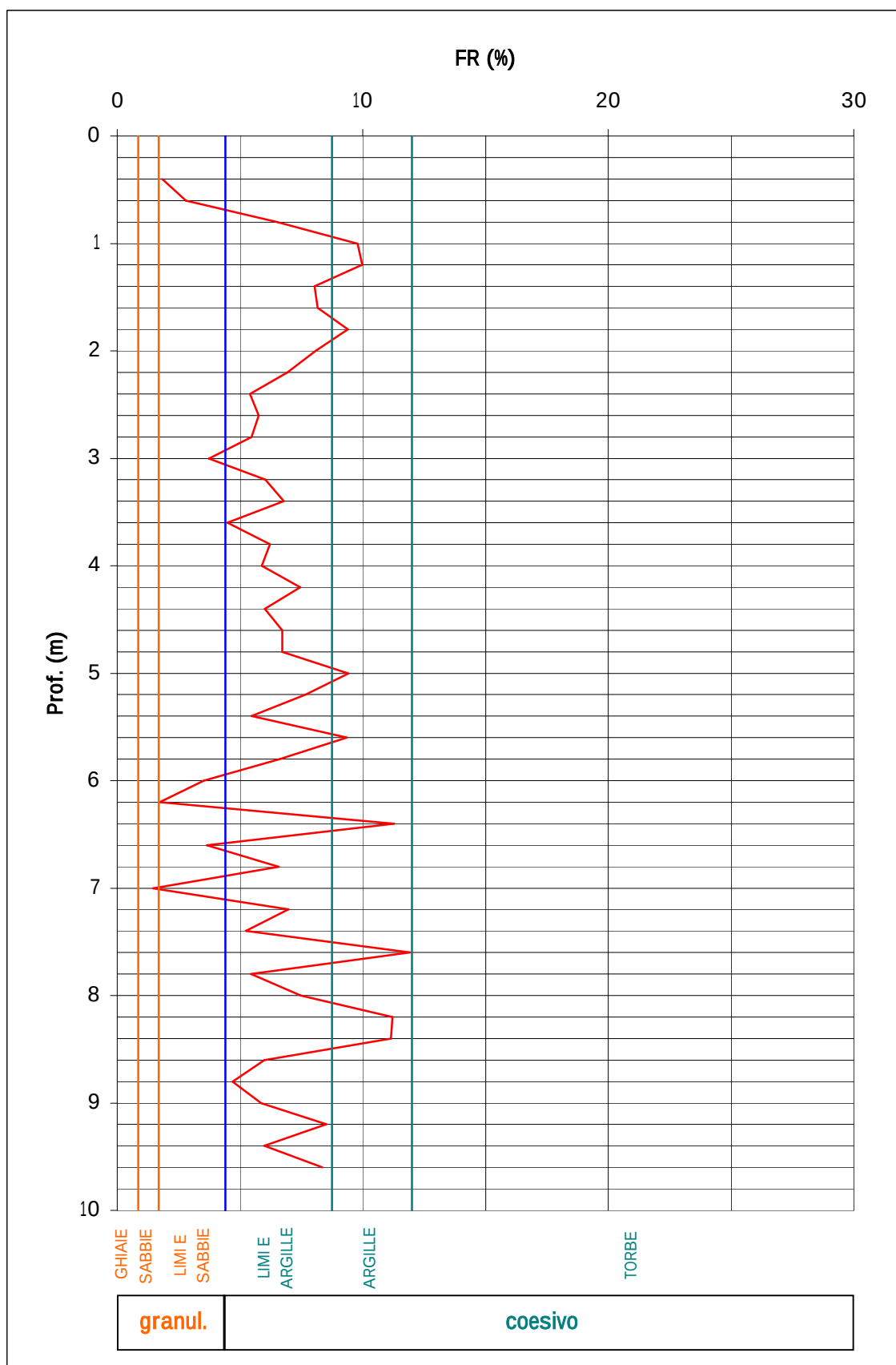
Prova n° 1

Quota p.c. -

Prof. H₂O

Comm.te Dermochimica SpA
Località S. Croce sull'Arno (PI)
Quota p.c. -

Data 13/12/2005
Prova n° 1
Prof. H₂O



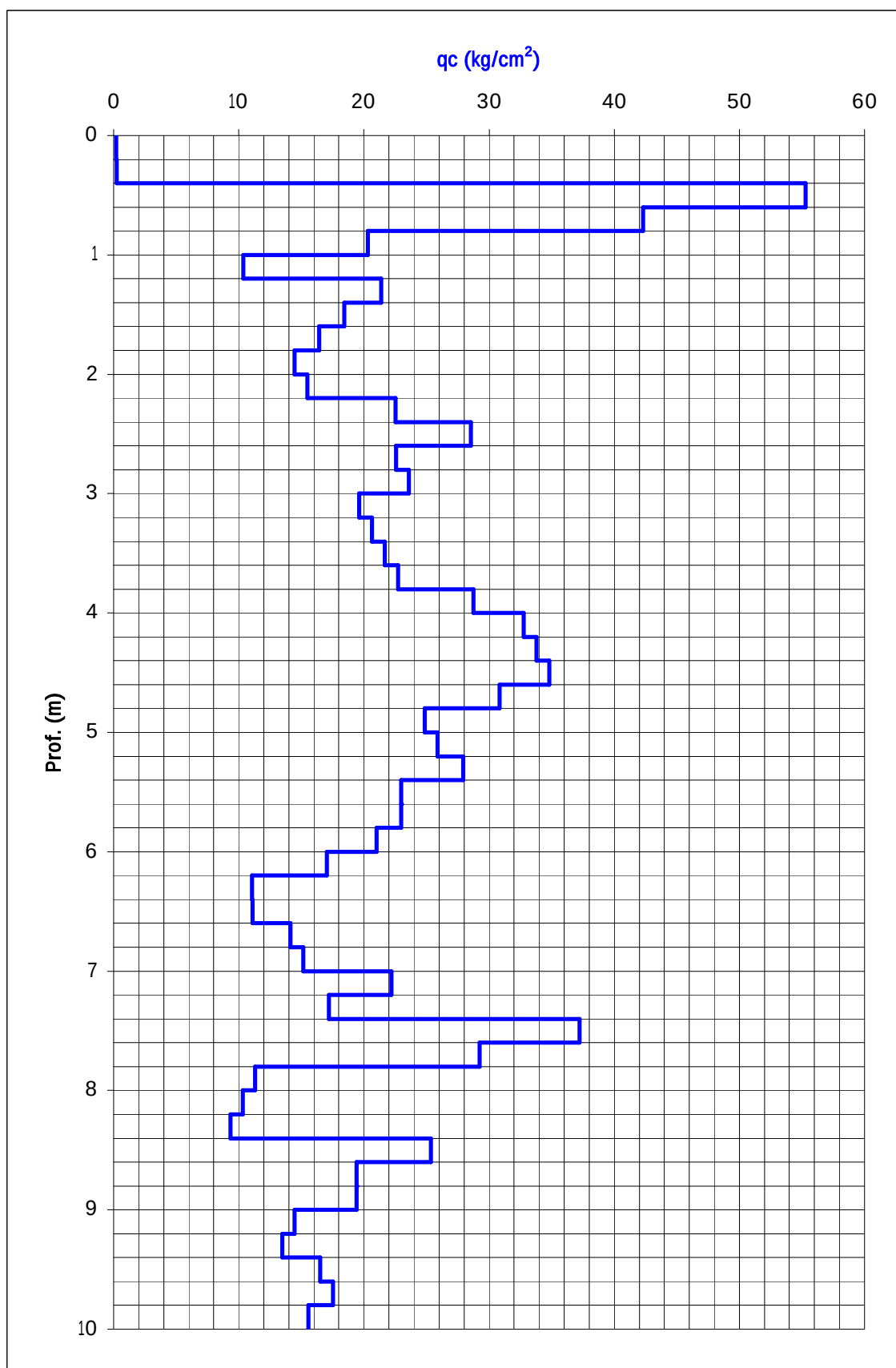
Comm.te Conceria F.lli Poggetti snc

Data 28/6/2002

Località S. Croce sull'Arno (PI)

Prova n° 1

Quota p.c. -

Prof. H₂O n.r.

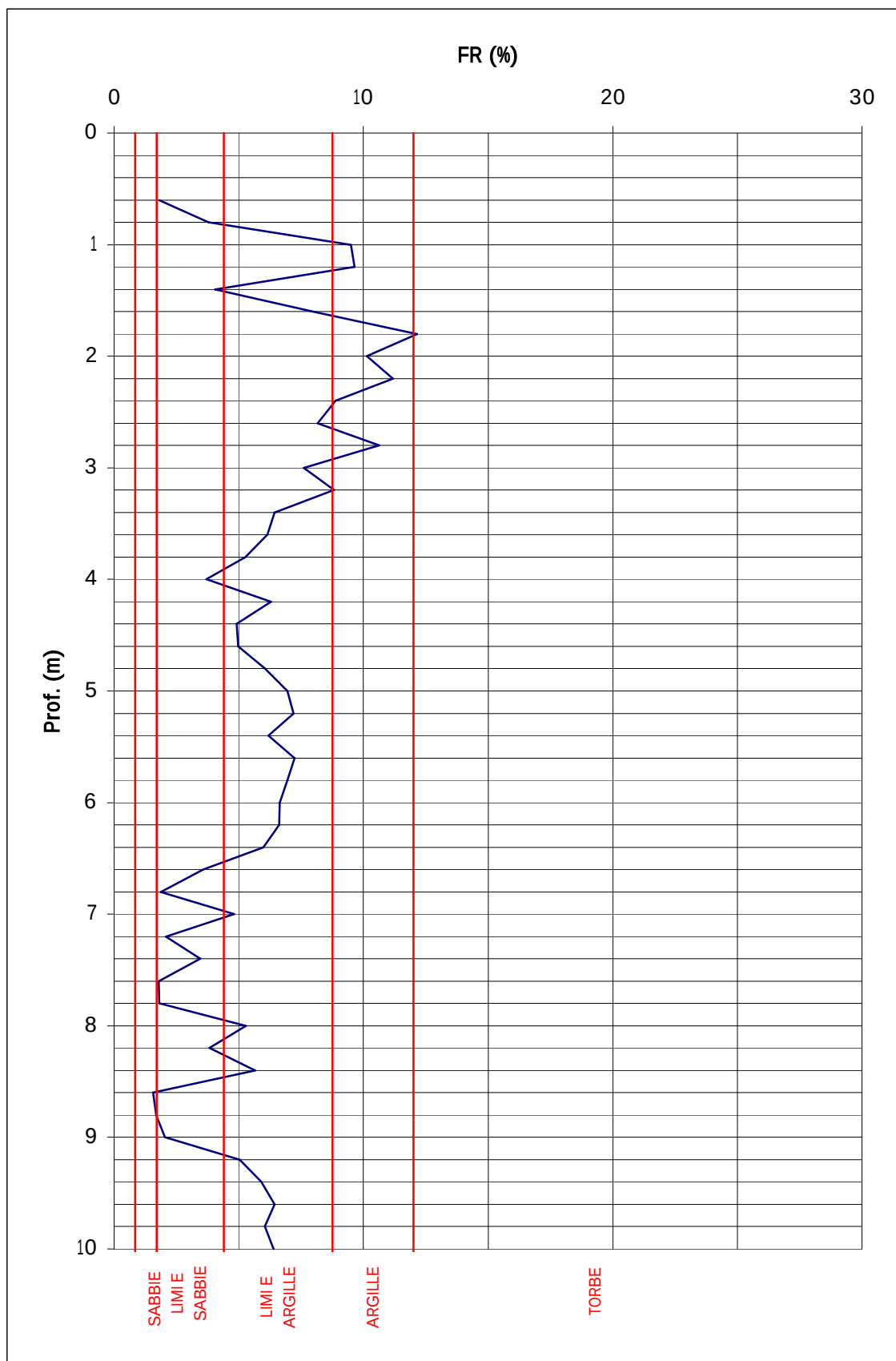
Comm.te Conceria F.lli Poggetti snc

Data 28/6/2002

Località S. Croce sull'Arno (PI)

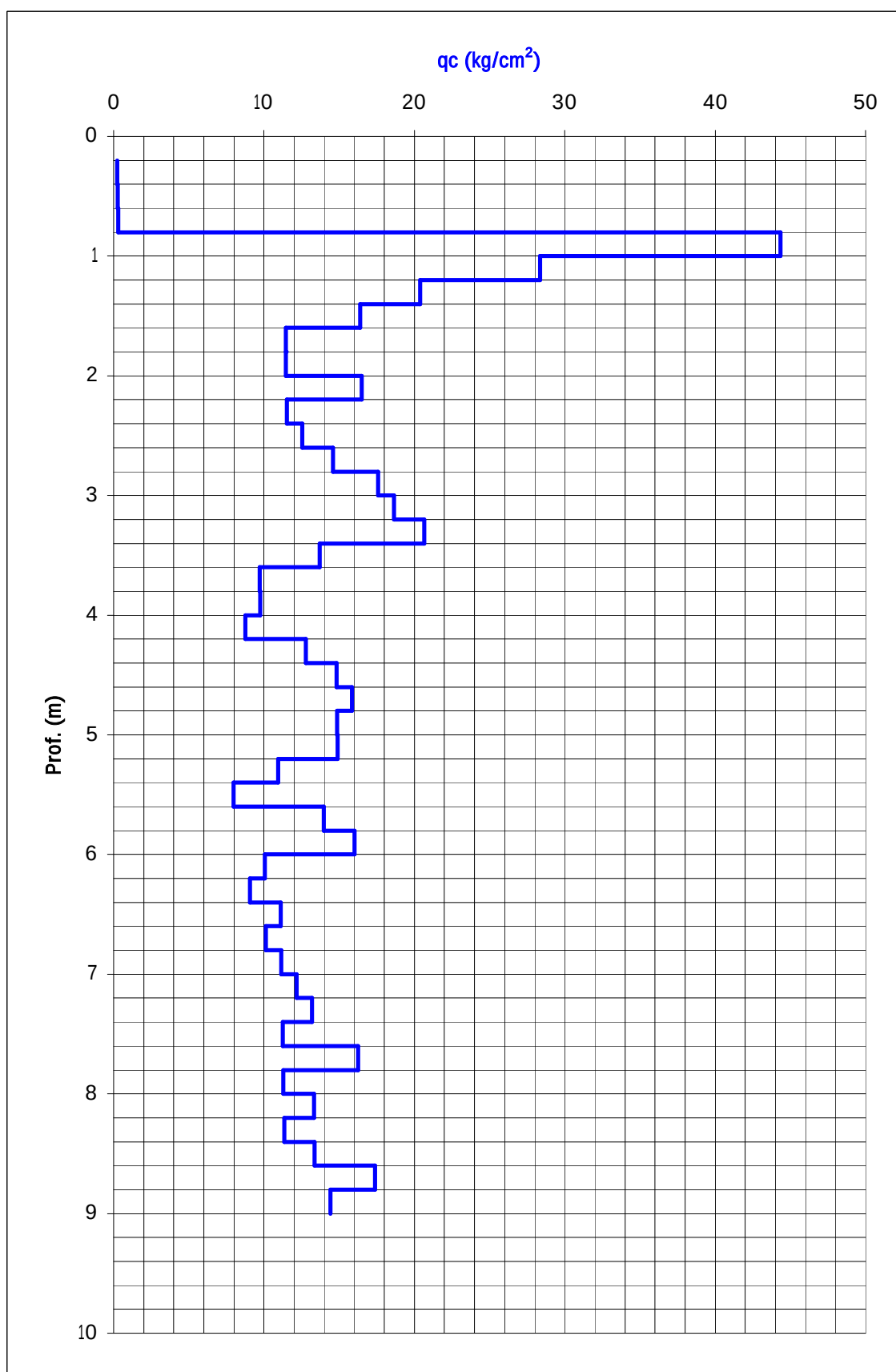
Prova n° 1

Quota p.c. -

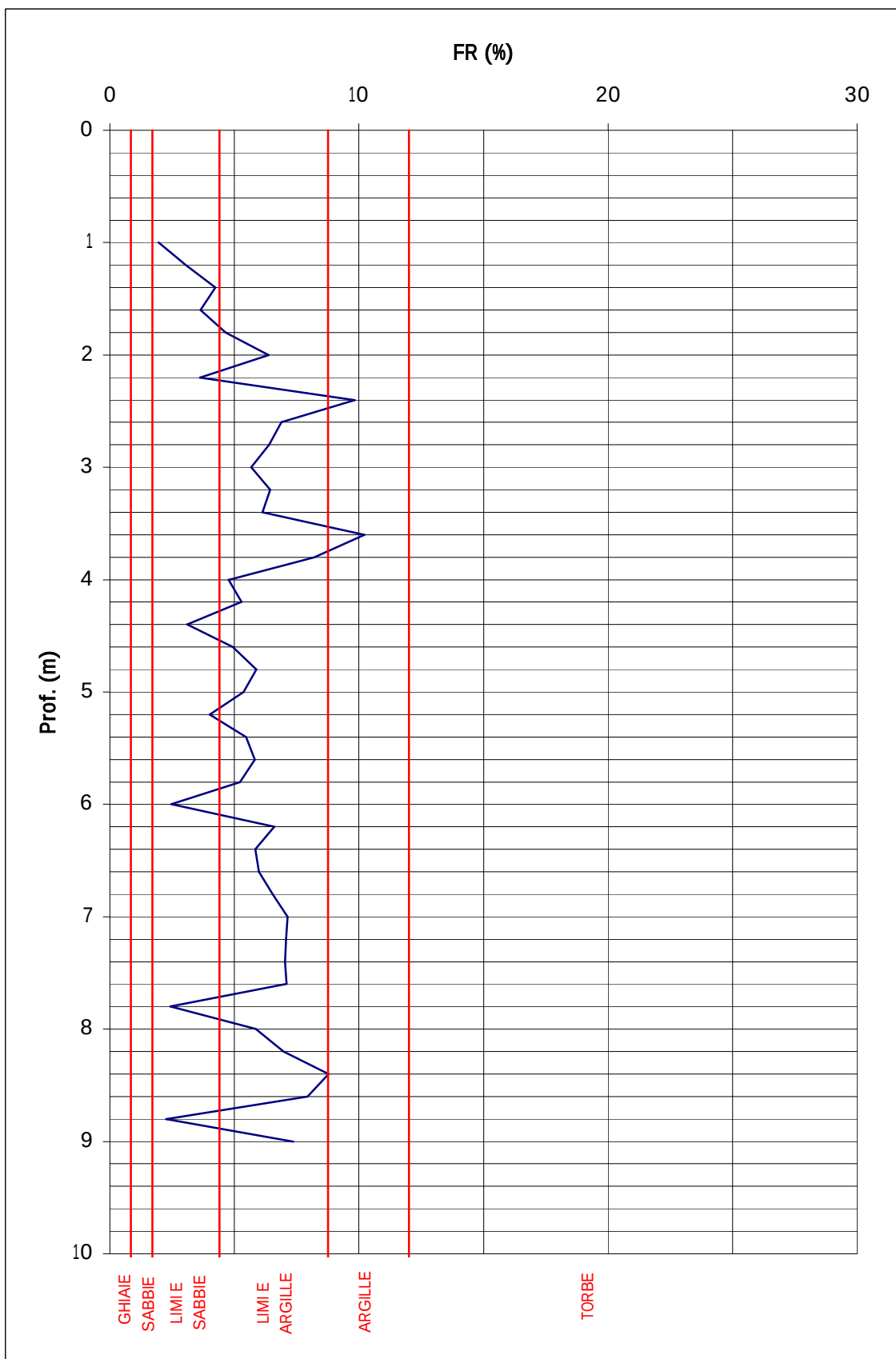
Prof. H₂O n.r.

Comm.te Fop Luciano
Località S. Croce sull'Arno (PI)
Quota p.c. -

Data 13/7/2004
Prova n° 1
Prof. H₂O -1,4 m

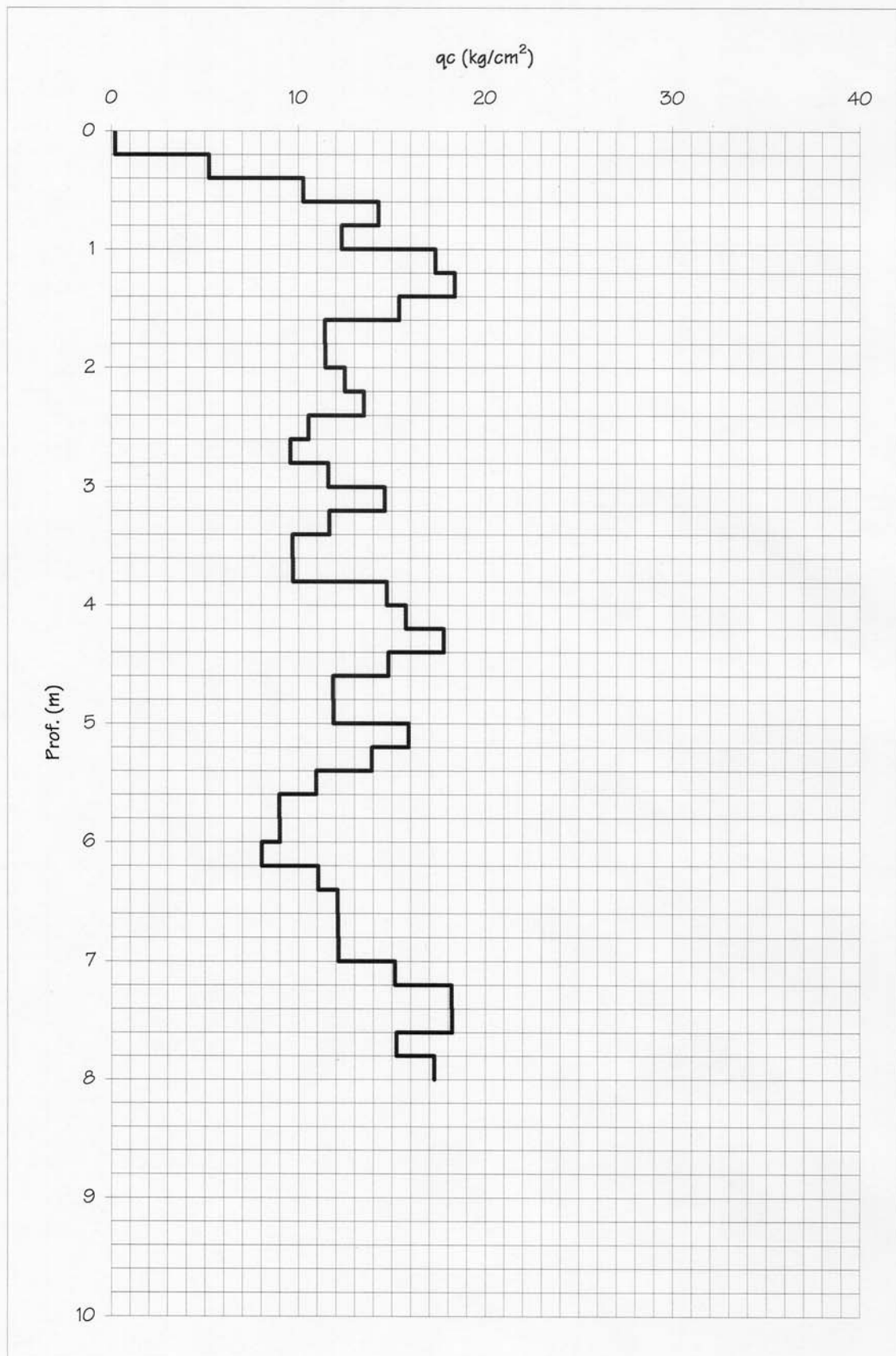


Comm.te Fop Luciano	Data 13/7/2004
Località S. Croce sull'Arno (PI)	Prova n° 1
Quota p.c. -	Prof. H ₂ O - 1,4 m



Comm.te IGRAMM INVESTIMENTI srl
Località S. Croce sull'Arno (PI), Via del Trebbio
Quota p.c. -

Data 20/2/2003
Prova n° 1
Prof. H₂O - 1,2 m da p.c.



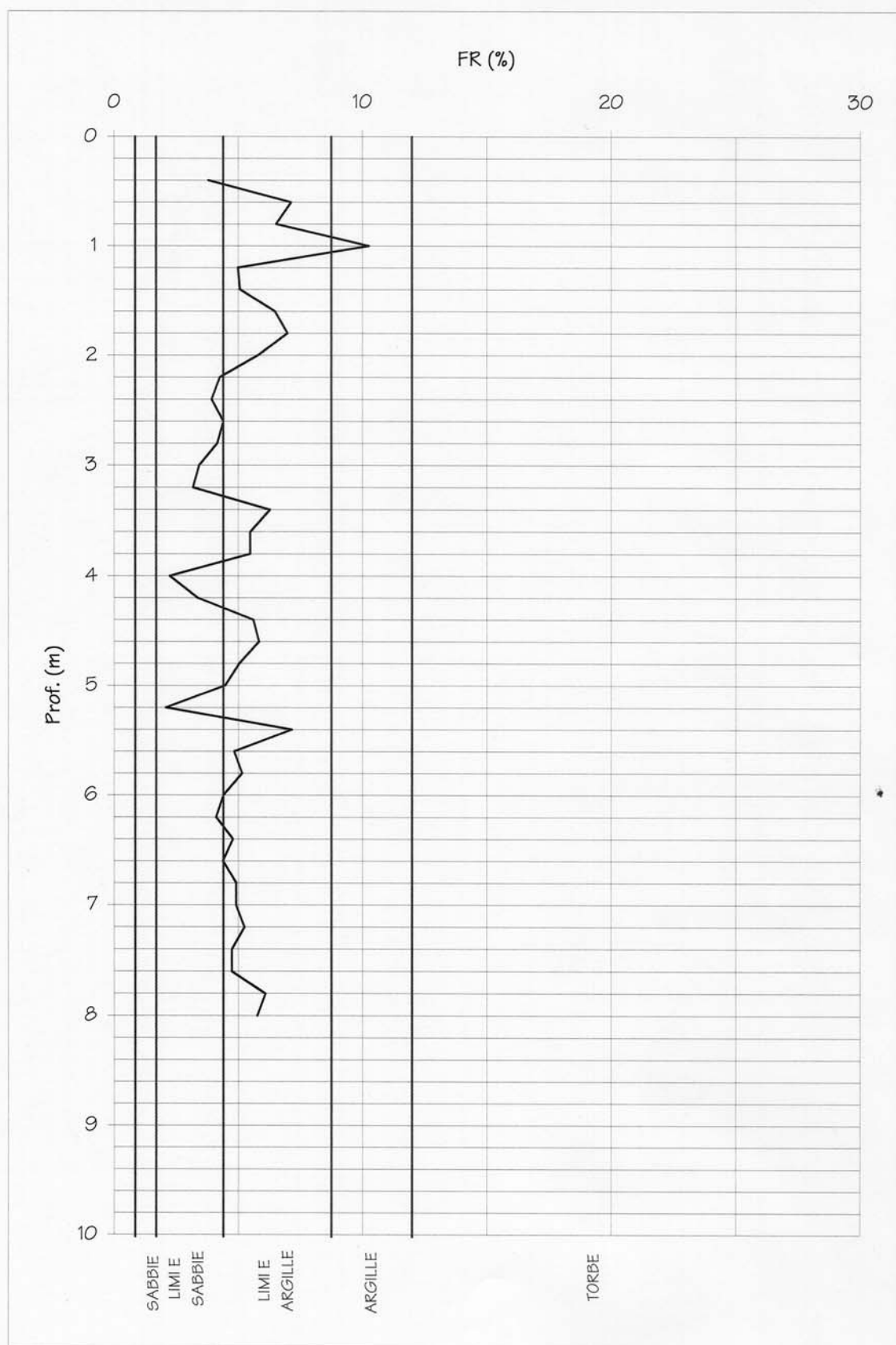
Comm.te IGRAMM INVESTIMENTI srl

Data 20/2/2003

Località S. Croce sull'Arno (PI), Via del Trebbio

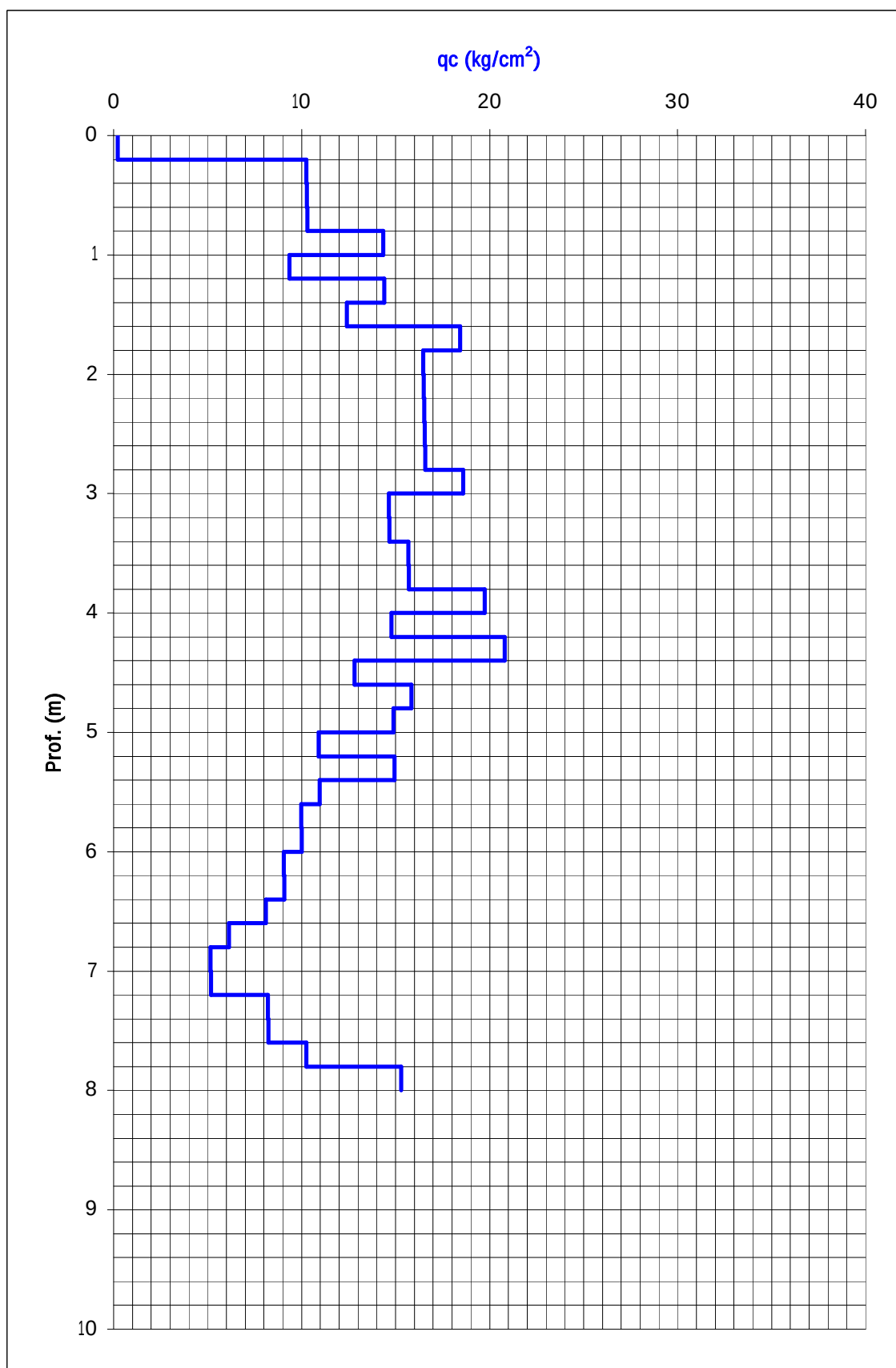
Prova n° 1

Quota p.c. -

Prof. H₂O - 1,2 m da p.c.

Comm.te IGRAMM INVESTIMENTI srl
Località S. Croce sull'Arno (PI), Via del Trebbio
Quota p.c. -

Data 20/2/2003
Prova n° 2
Prof. H₂O - 1,0 m da p.c.



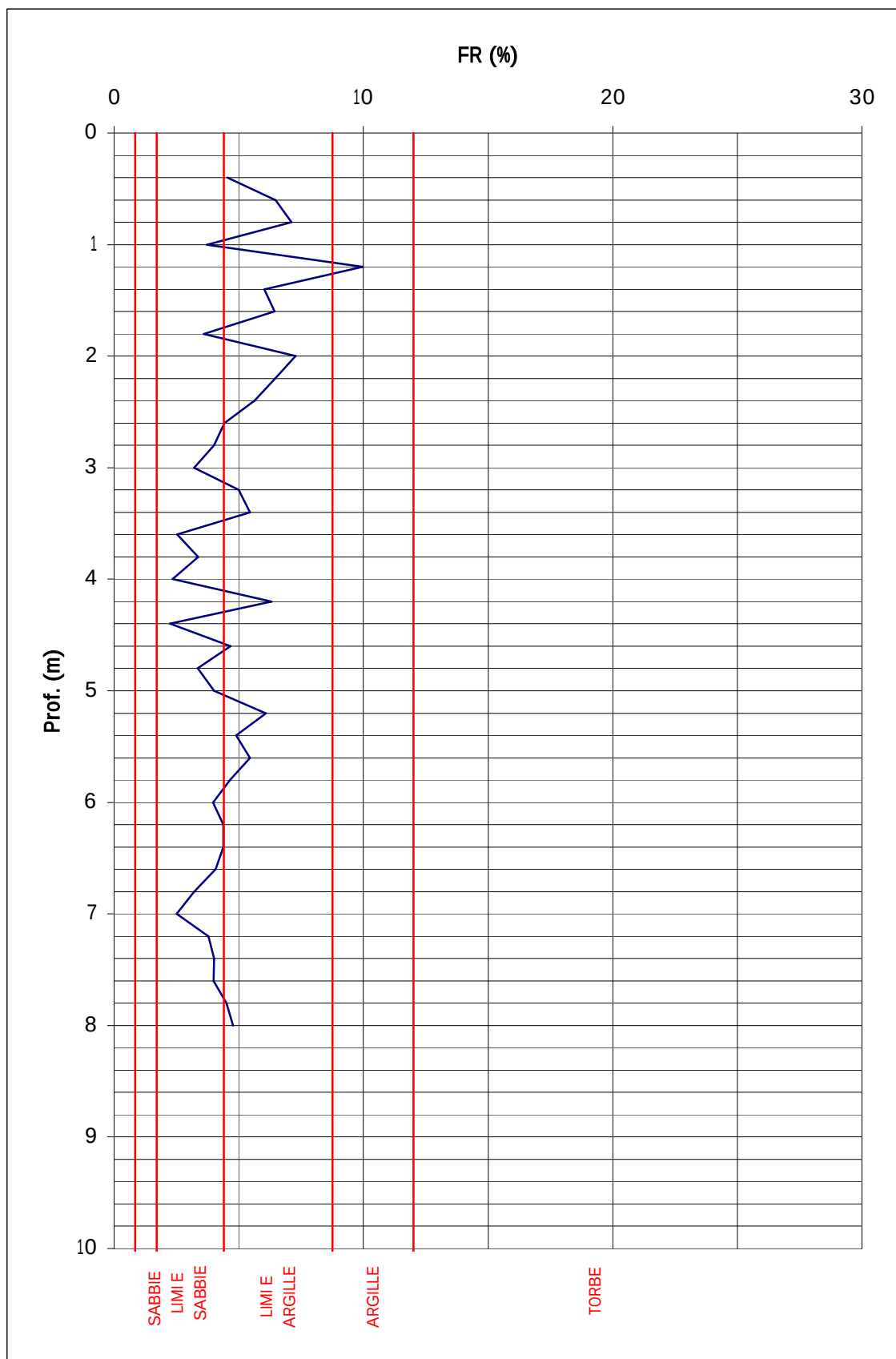
Comm.te IGRAMM INVESTIMENTI srl

Data 20/2/2003

Località S. Croce sull'Arno (PI), Via del Trebbio

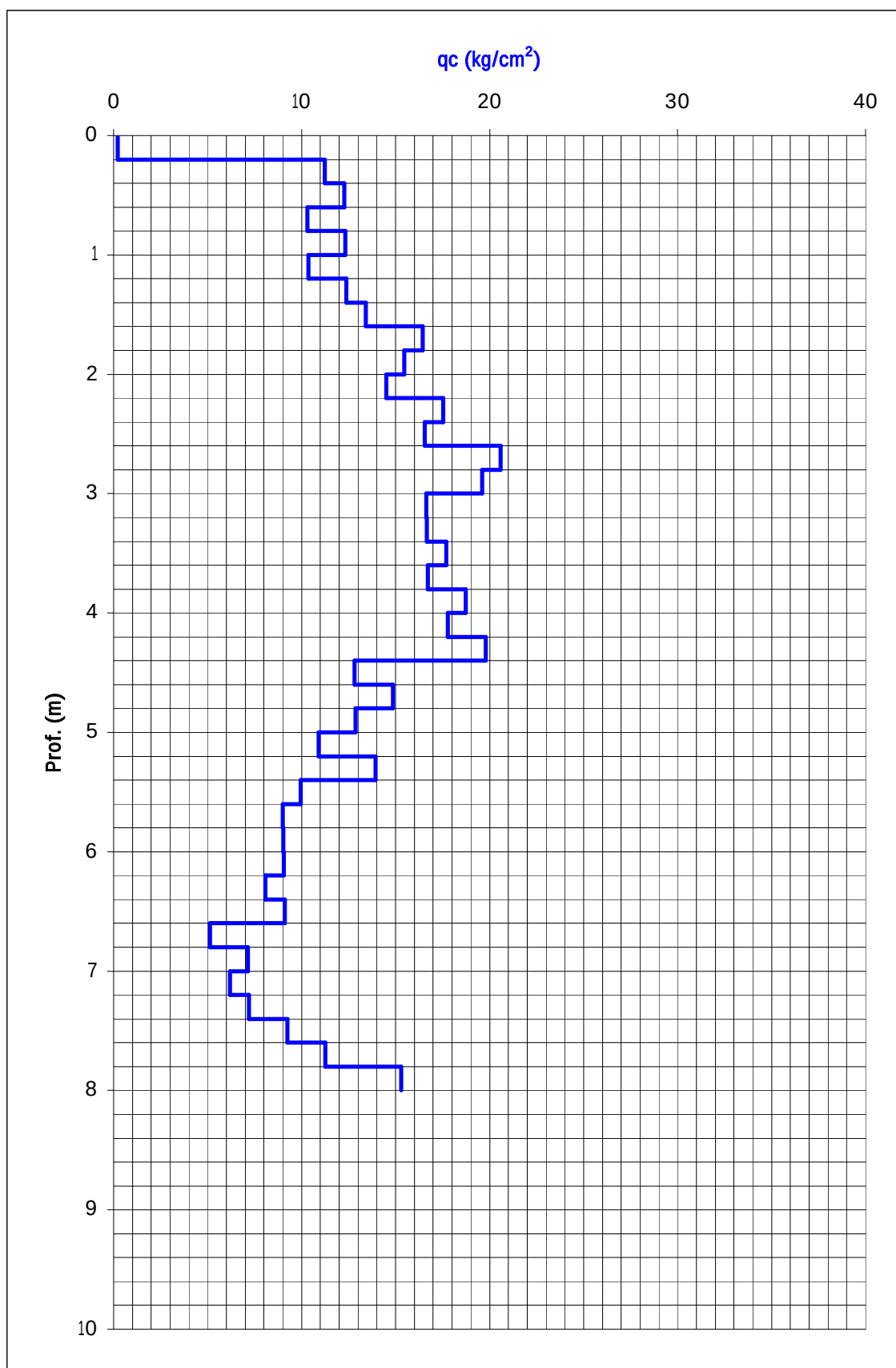
Prova n° 2

Quota p.c. -

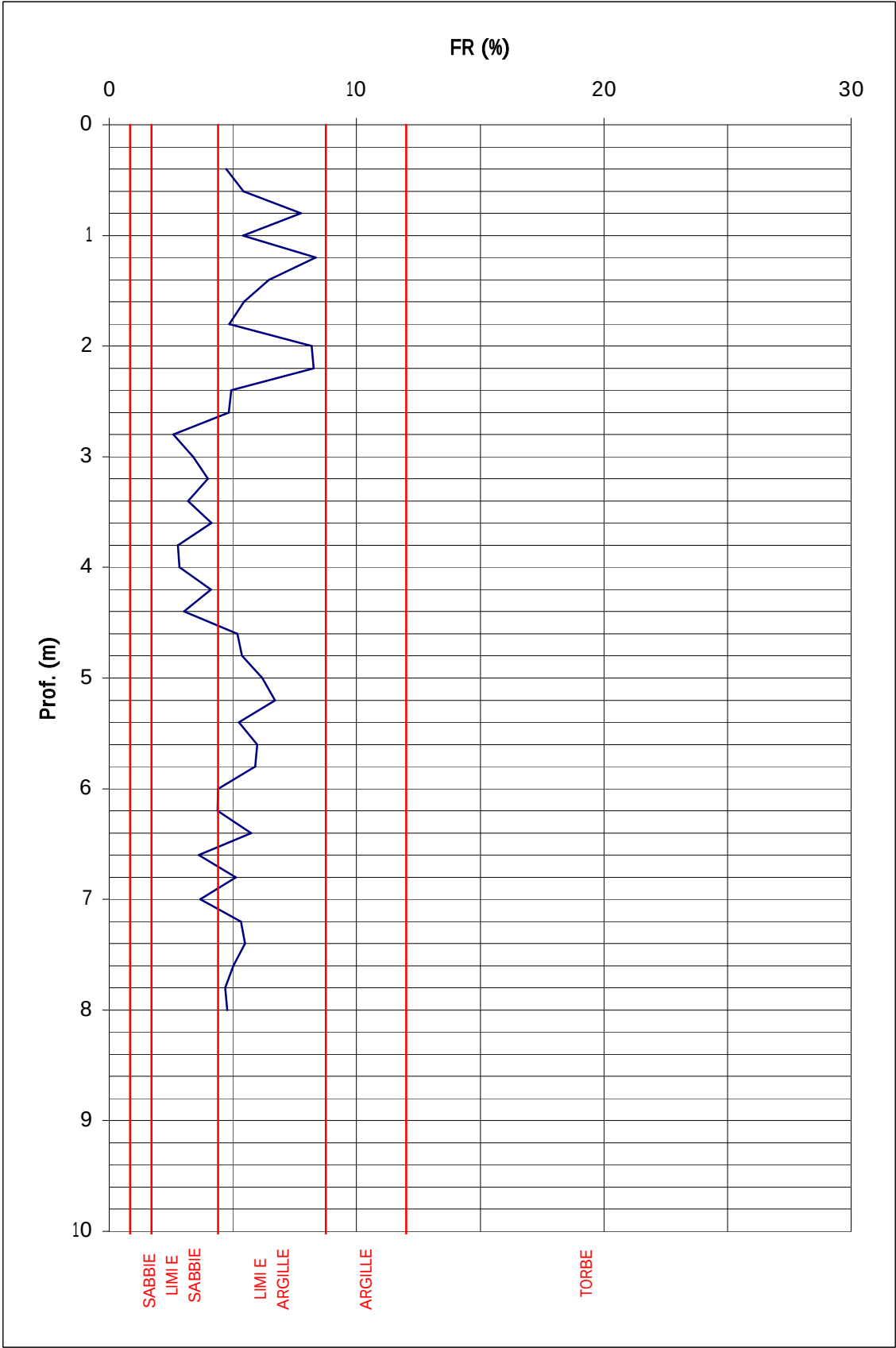
Prof. H₂O - 1,0 m da p.c.

Comm.te IGRAMM INVESTIMENTI srl
Località S. Croce sull'Arno (PI), Via del Trebbio
Quota p.c. -

Data 20/2/2003
Prova n° 3
Prof. H₂O - 1,4 m da p.c.

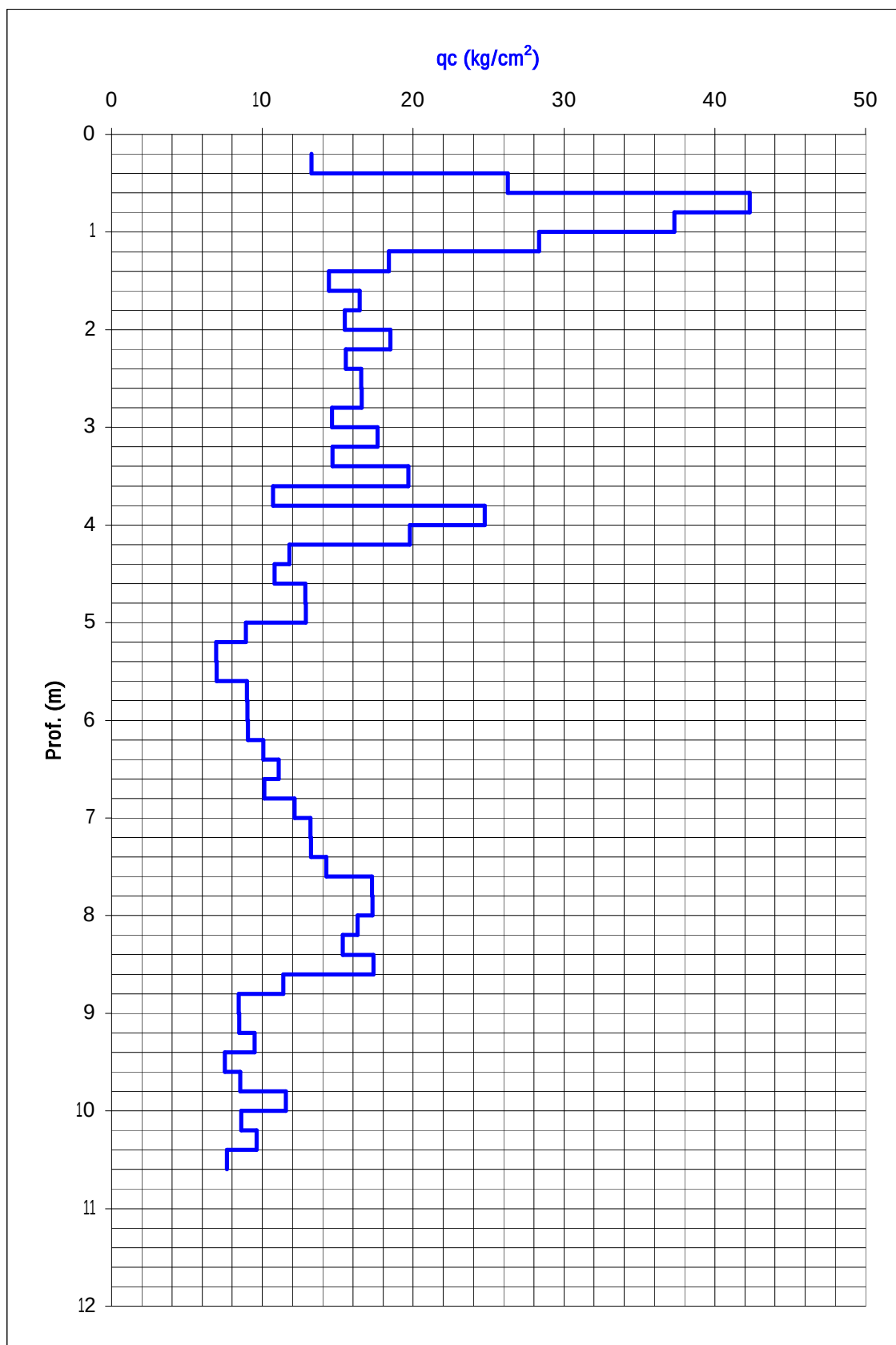


Comm.te IGRAMM INVESTIMENTI srl	Data 20/2/2003
Località S. Croce sull'Arno (PI), Via del Trebbio	Prova n° 3
Quota p.c. -	Prof. H₂O - 1,4 m da p.c.



Comm.te IMPRES srl
Località S. Croce sull'Arno (PI), Via del Bosco
Quota p.c. -

Data 2/11/2004
Prova n° 1
Prof. H₂O -



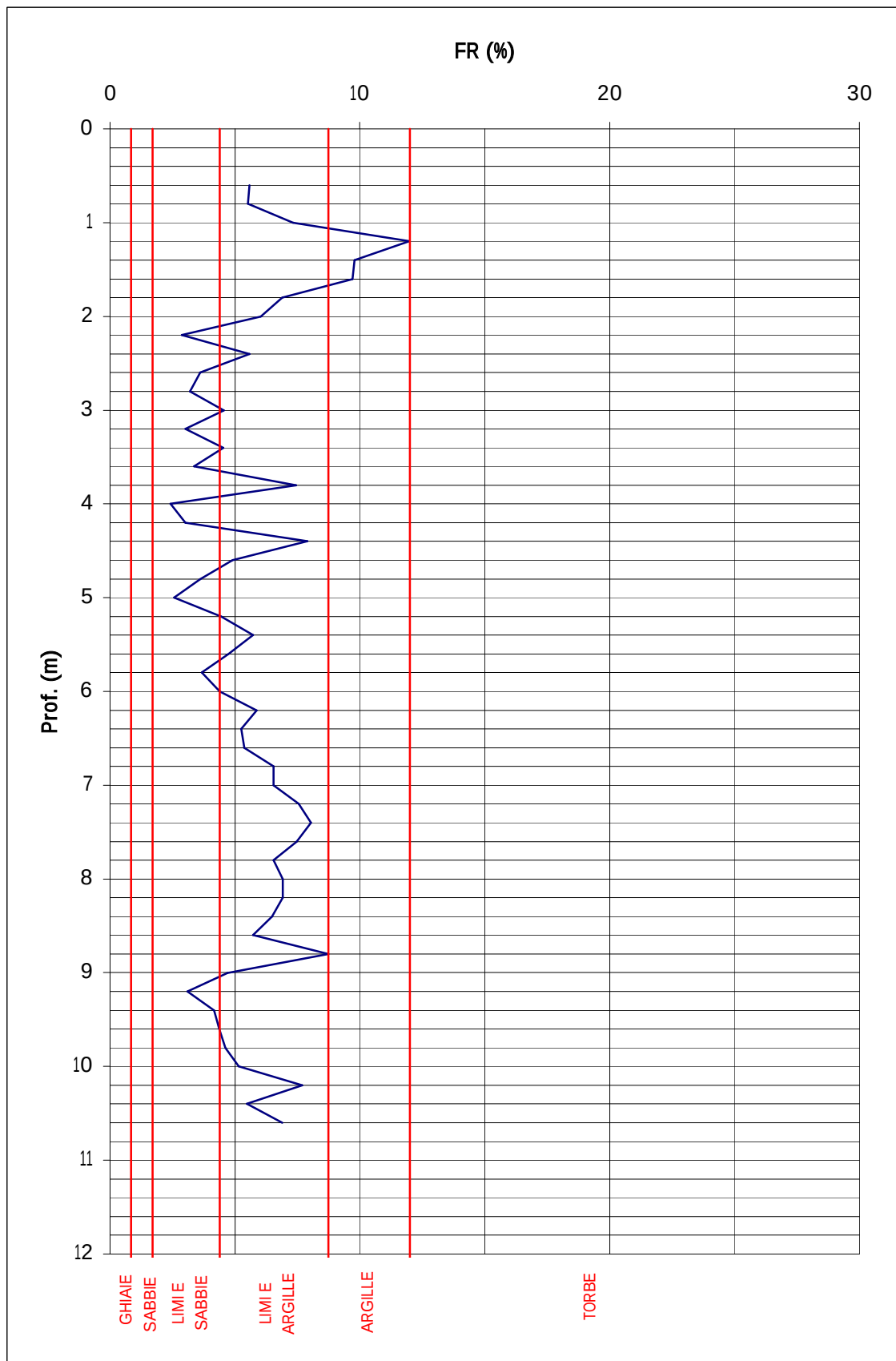
Comm.te IMPRES srl

Data 2/11/2004

Località S. Croce sull'Arno (PI), Via del Bosco

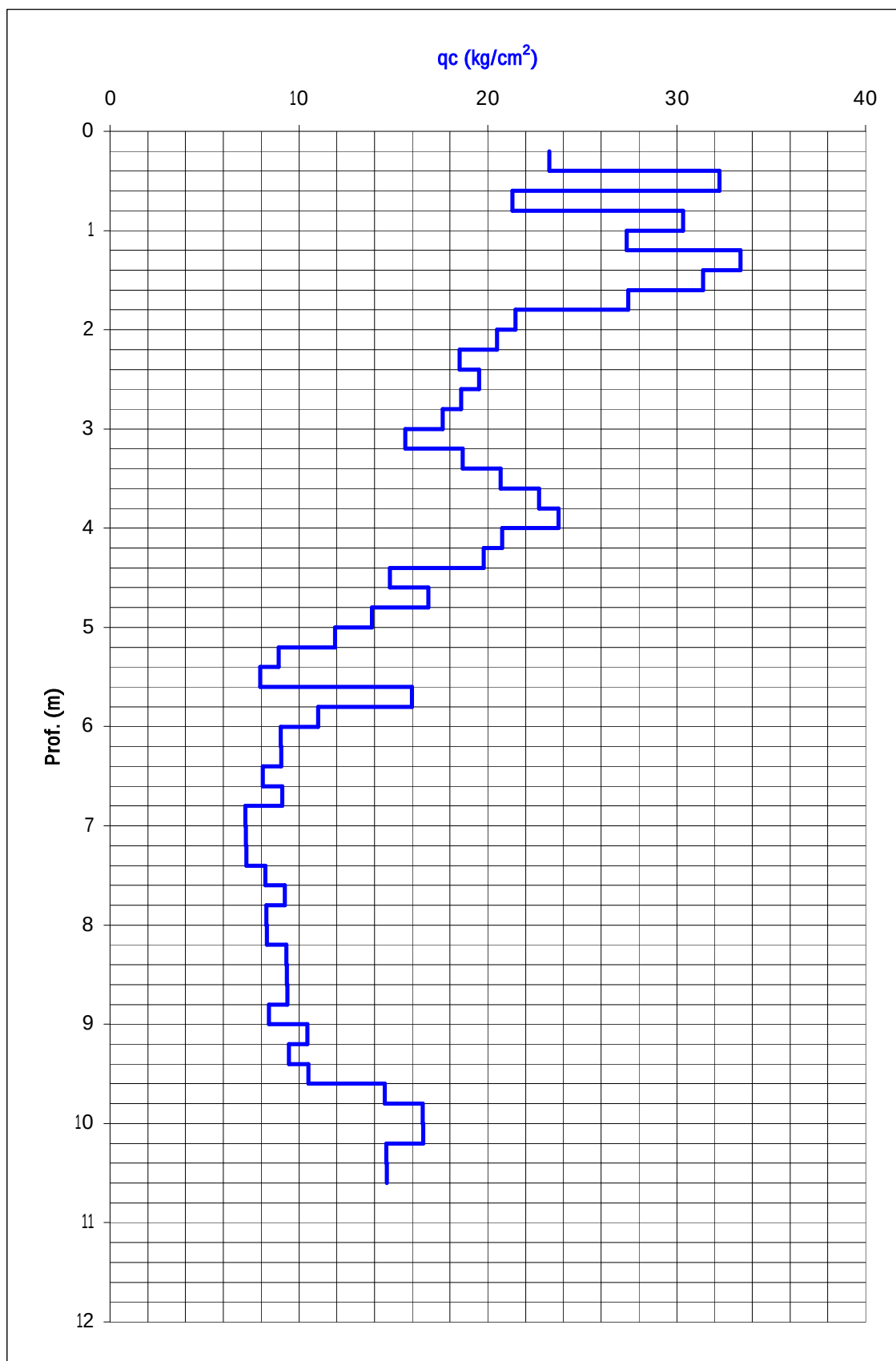
Prova n° 1

Quota p.c. -

Prof. H₂O -

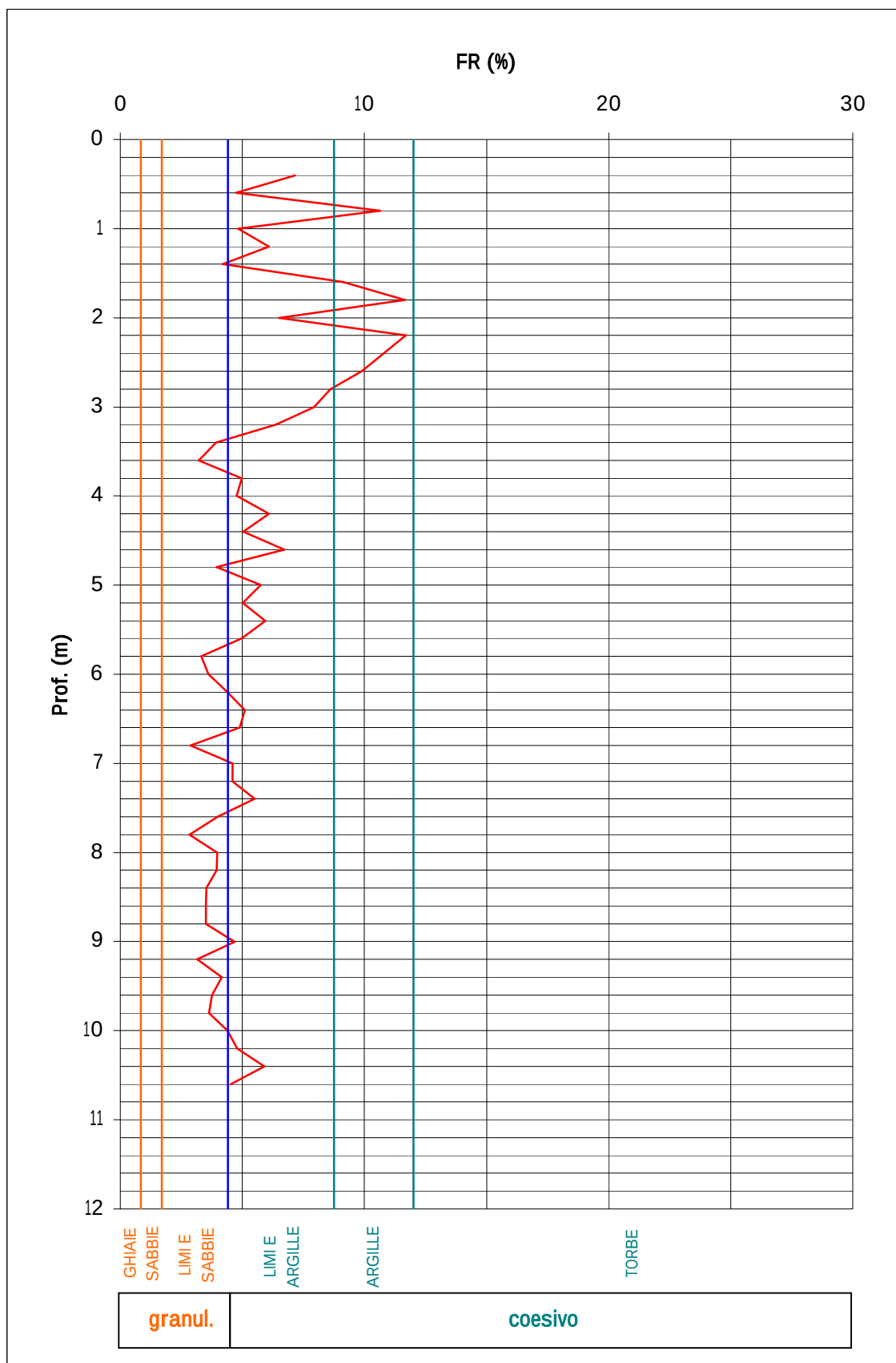
Comm.te Pacini Ablando
Località S. Croce sull'Arno (PI), Via Giotto
Quota p.c. -

Data 12/09/2006
Prova n° 1
Prof. H₂O



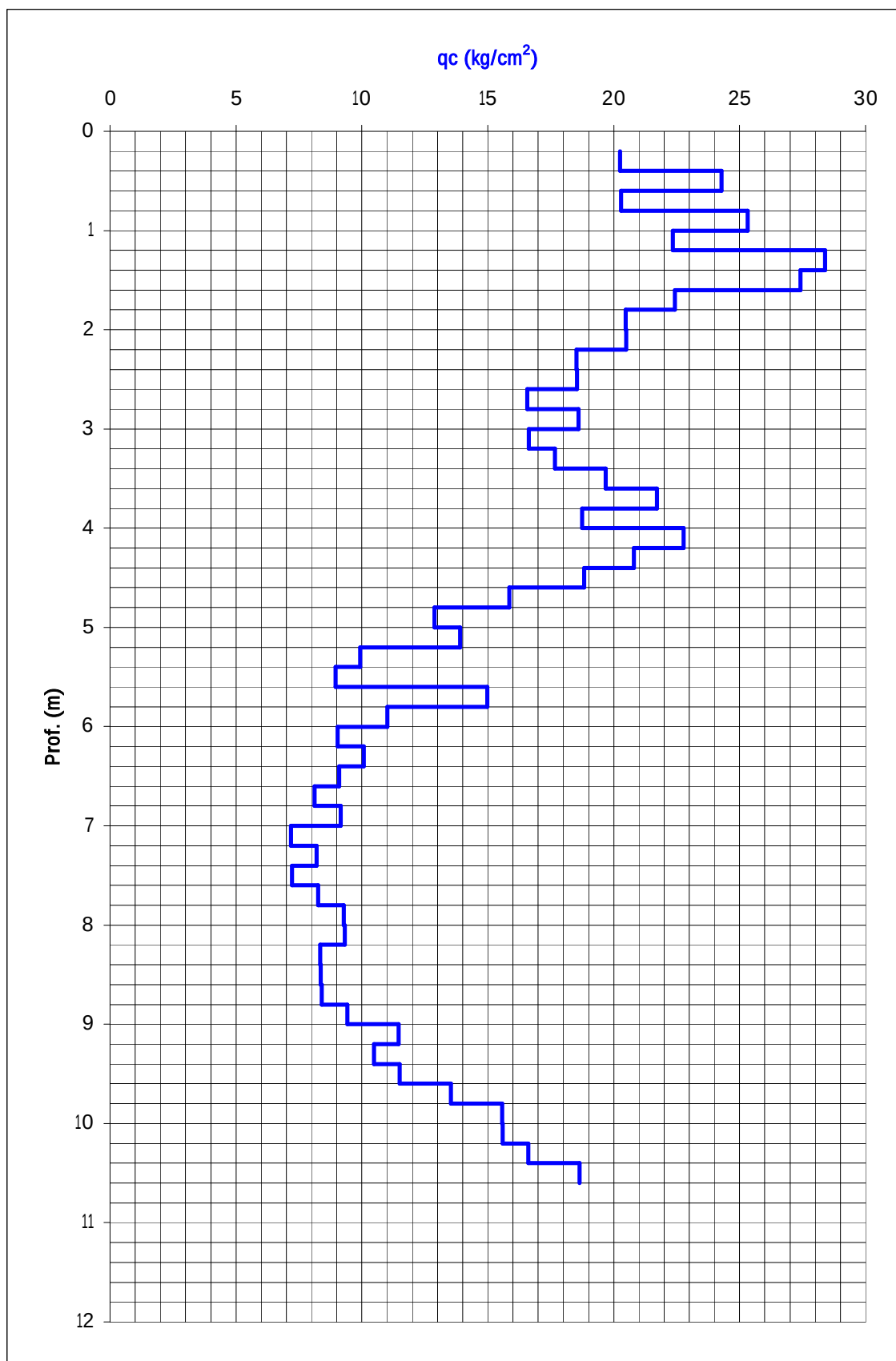
Comm.te Pacini Ablando
Località S. Croce sull'Arno (PI), Via Giotto
Quota p.c. -

Data 12/09/2006
Prova n° 1
Prof. H₂O



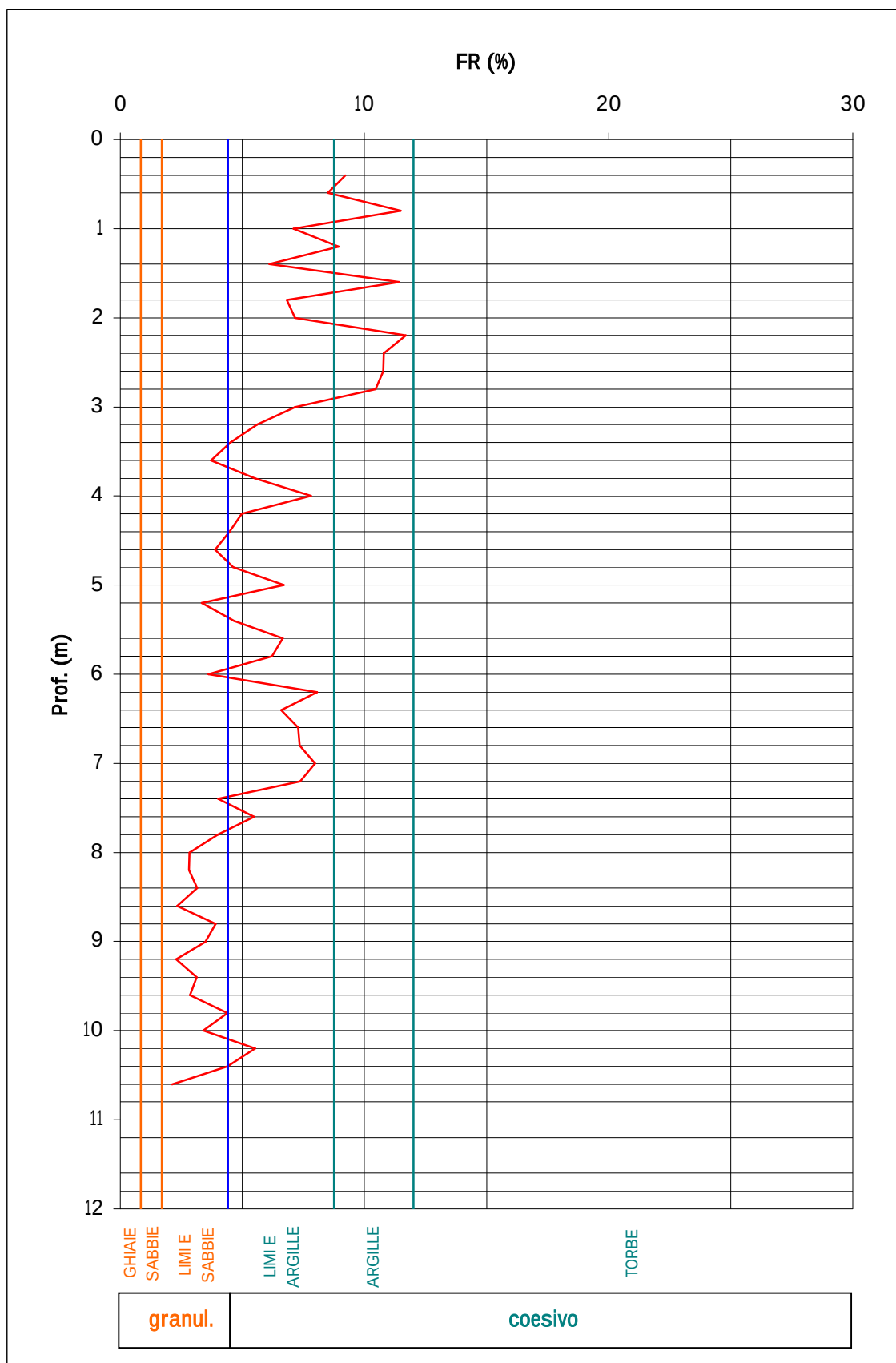
Comm.te Pacini Ablando
Località S. Croce sull'Arno (PI), Via Giotto
Quota p.c. -

Data 12/09/2006
Prova n° 1
Prof. H₂O



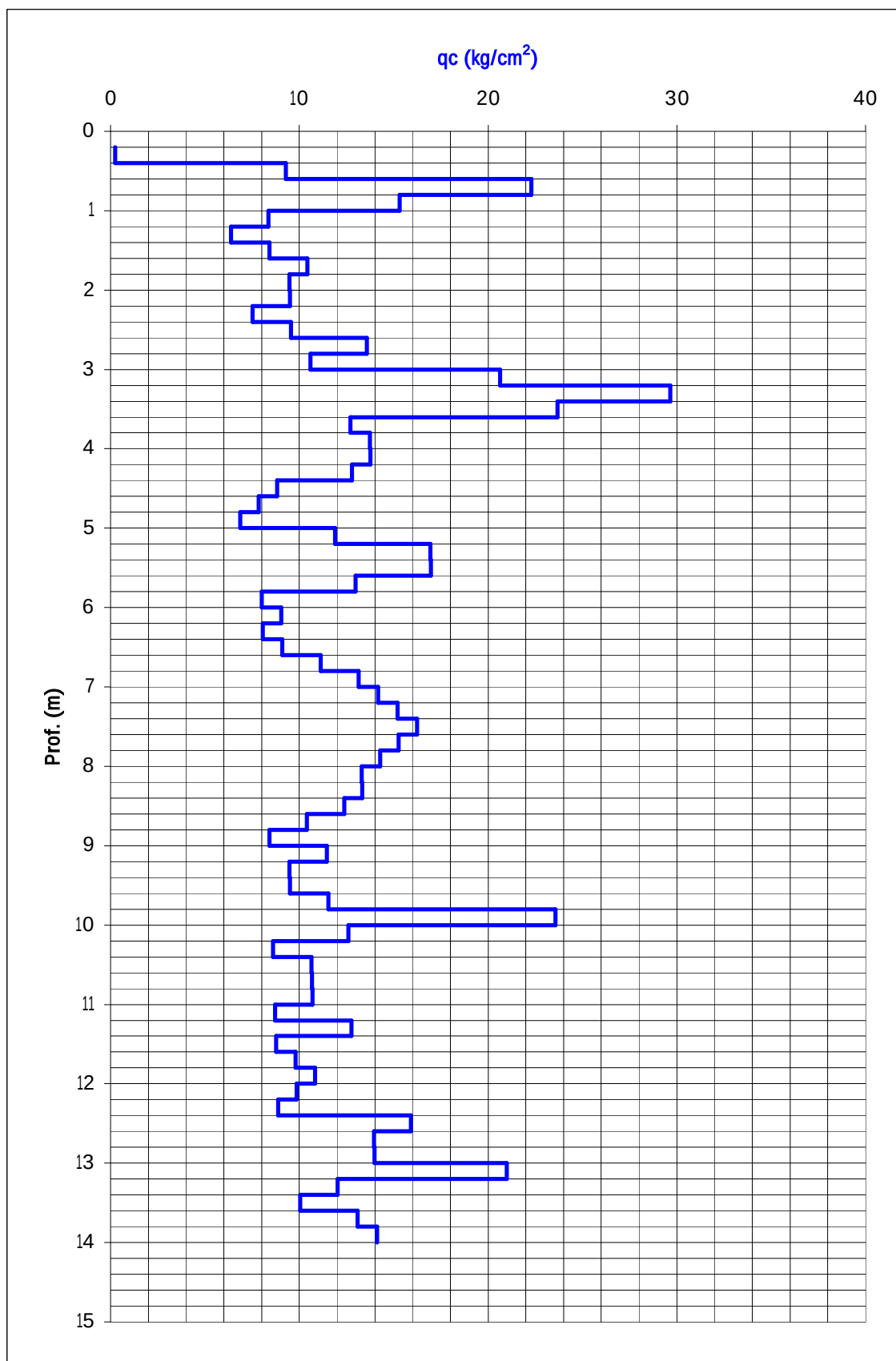
Comm.te Pacini Ablando
Località S. Croce sull'Arno (PI), Via Giotto
Quota p.c. -

Data 12/09/2006
Prova n° 1
Prof. H₂O



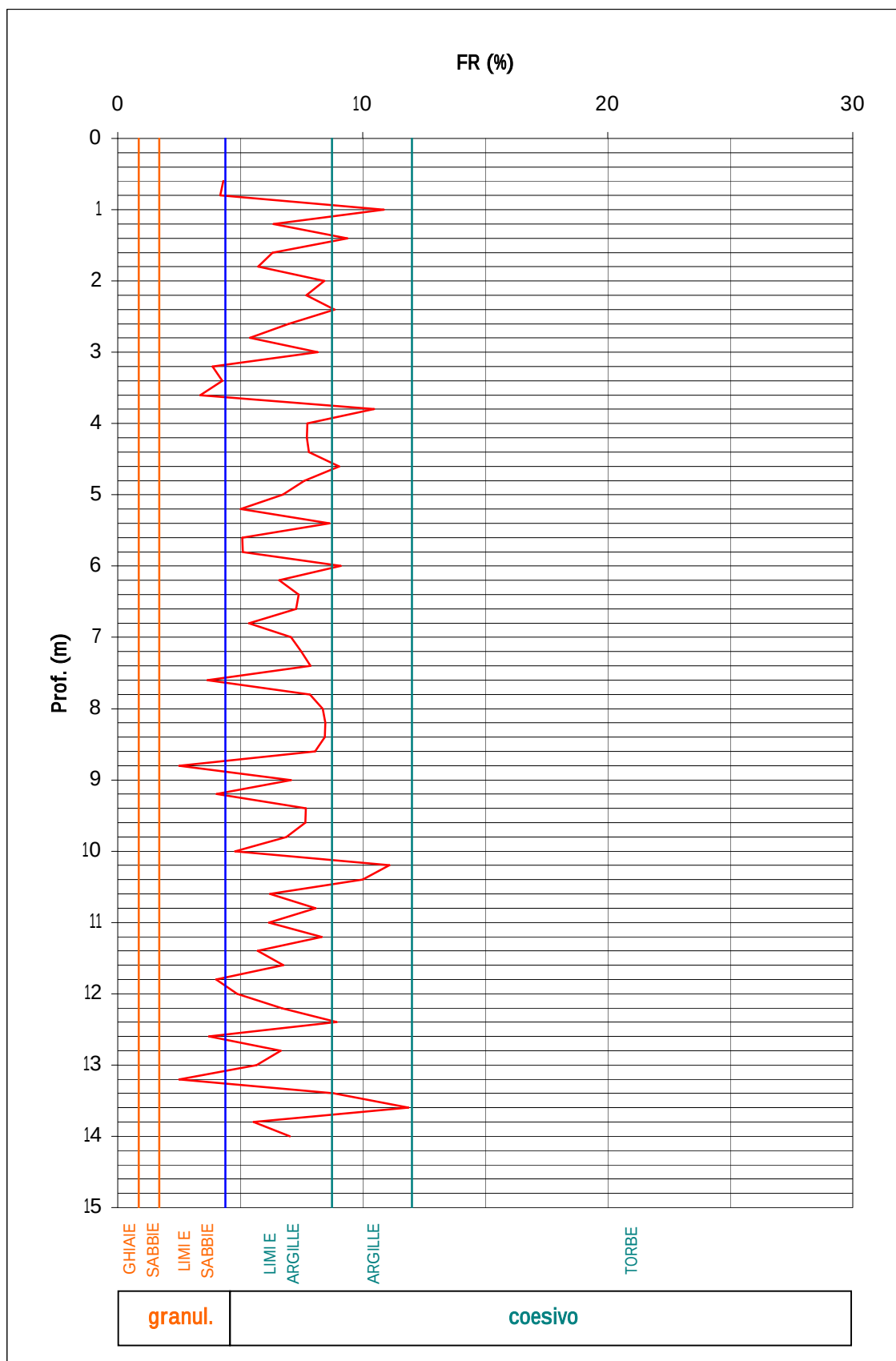
Comm.te Costruzioni Edili "La Fornace" srl
Località S. Croce sull'Arno (PI), Via I Maggio
Quota p.c. -

Data 21/03/2008
Prova n° 1
Prof. H₂O



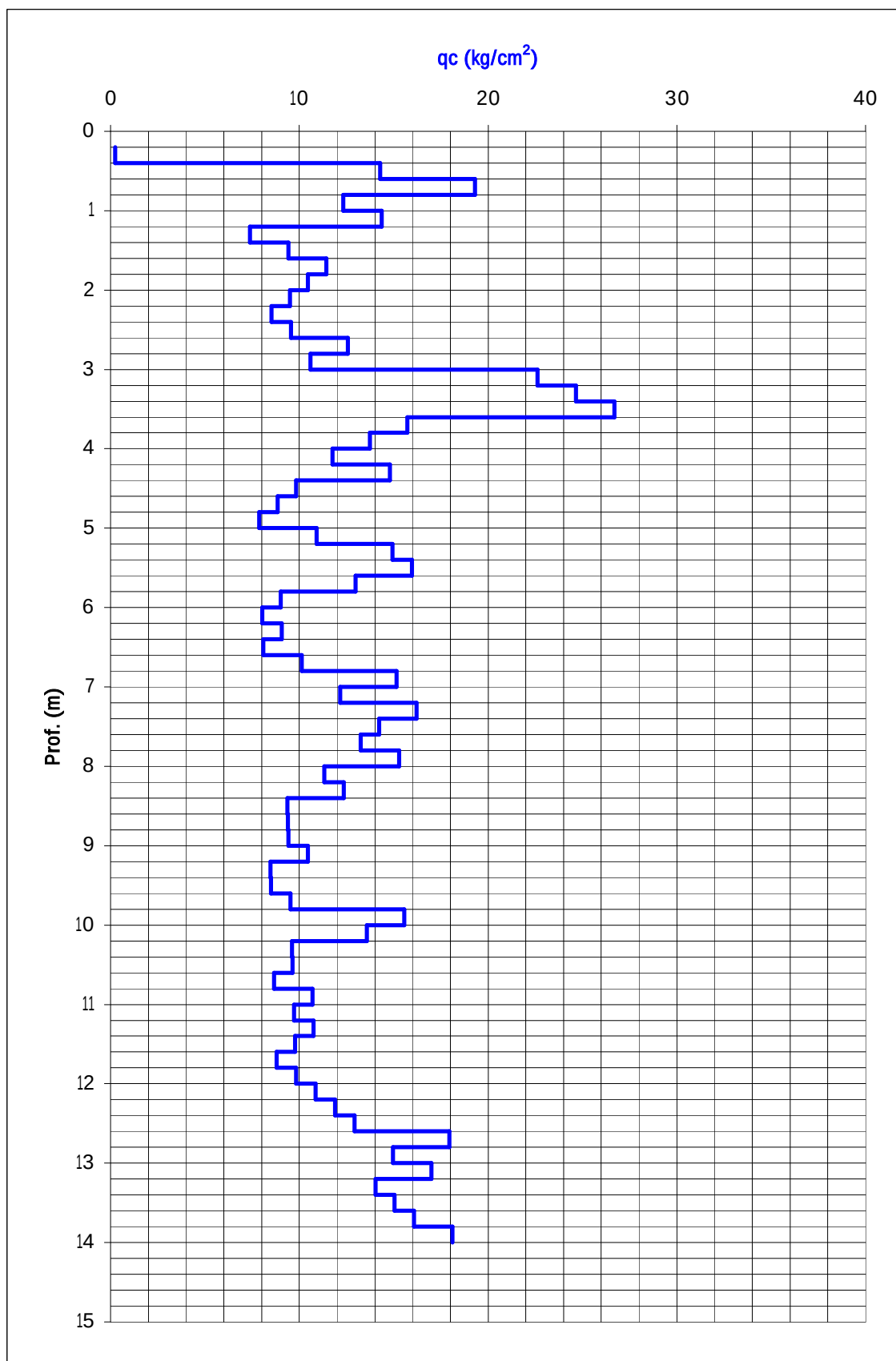
Comm.te Costruzioni Edili "La Fornace" srl
Località S. Croce sull'Arno (PI), Via I Maggio
Quota p.c. -

Data 21/03/2008
Prova n° 1
Prof. H₂O



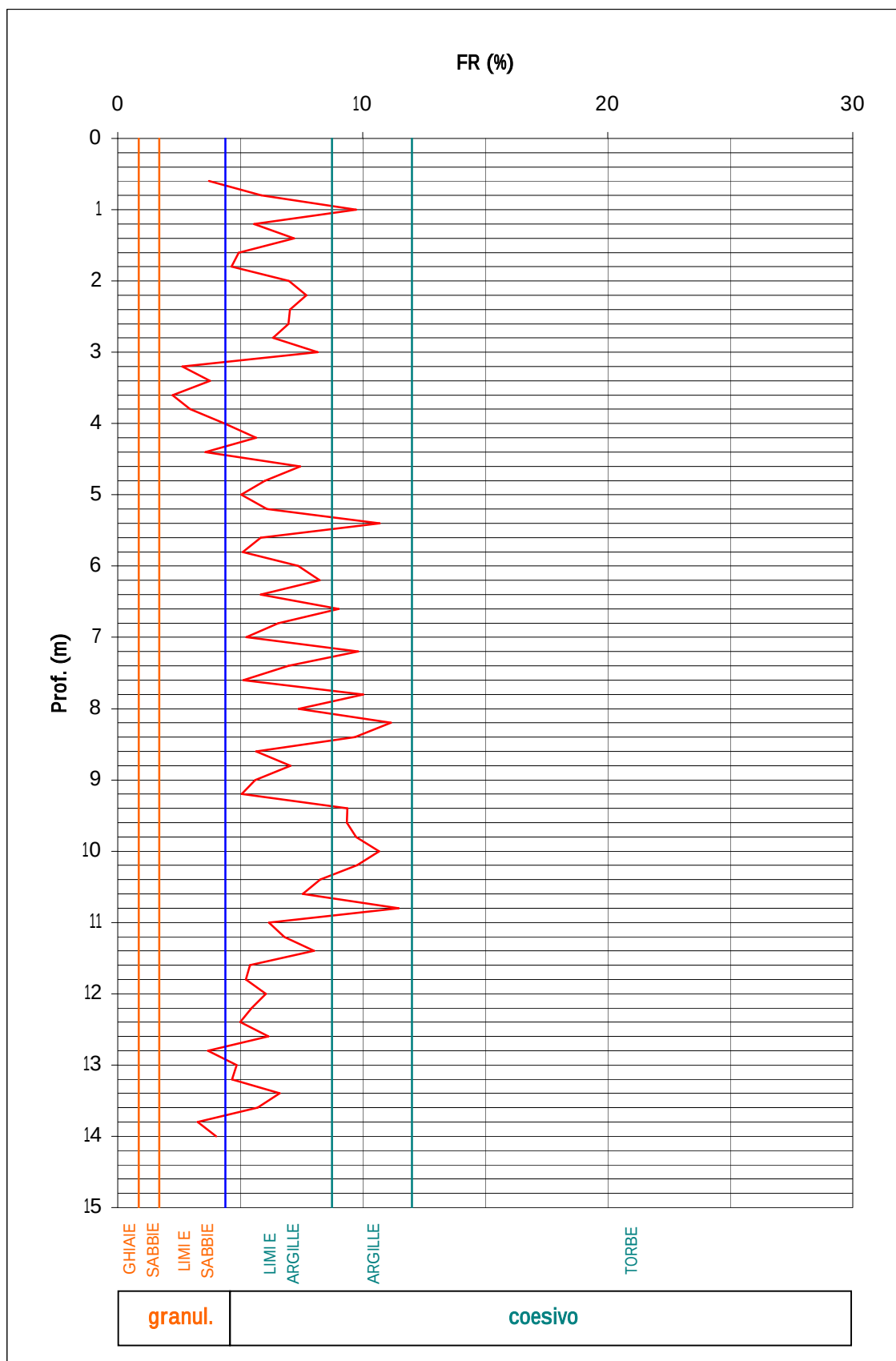
Comm.te Costruzioni Edili "La Fornace" srl
Località S. Croce sull'Arno (PI), Via I Maggio
Quota p.c. -

Data 21/03/2008
Prova n° 2
Prof. H₂O



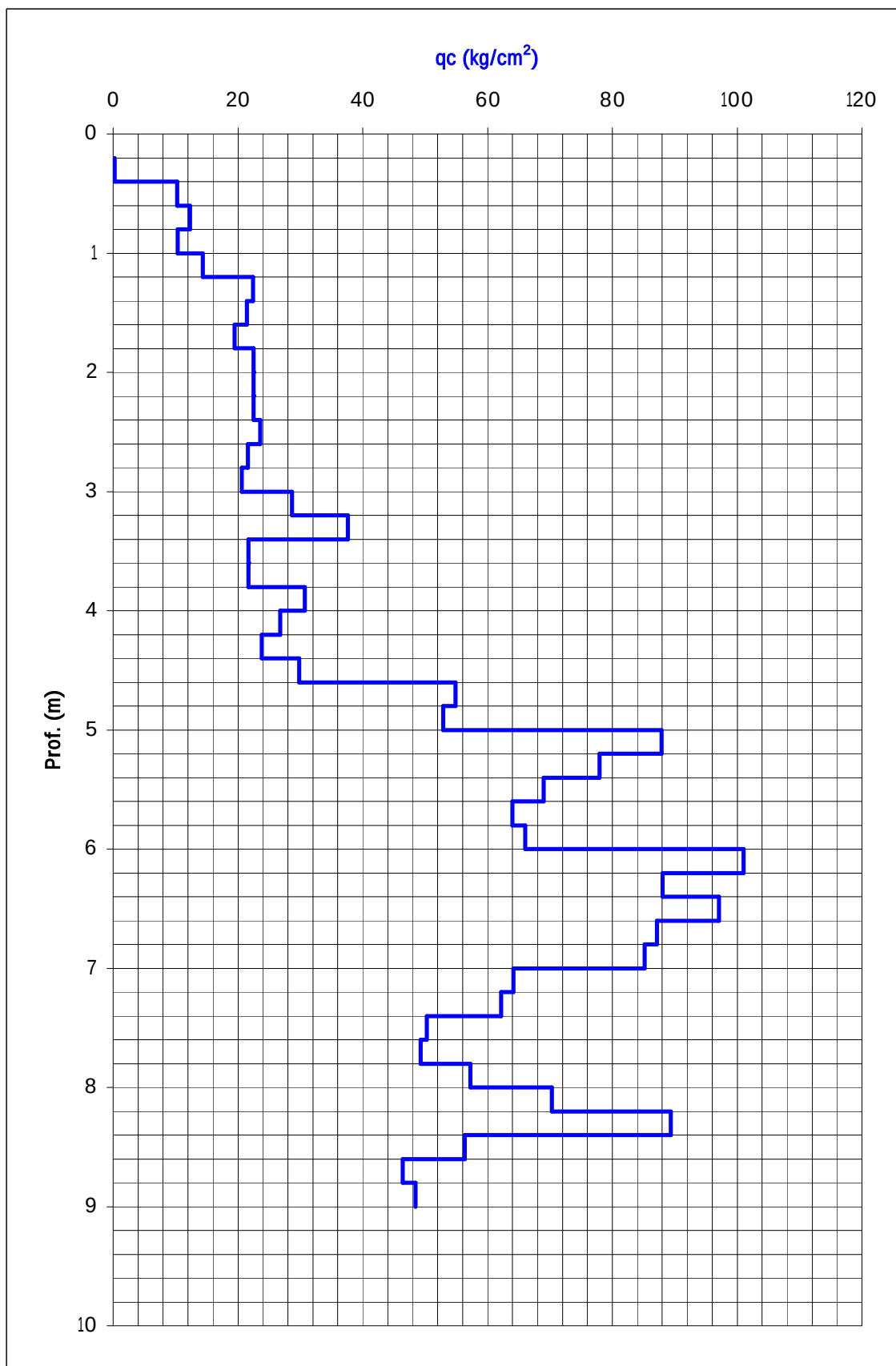
Comm.te Costruzioni Edili "La Fornace" srl
Località S. Croce sull'Arno (PI), Via I Maggio
Quota p.c. -

Data 21/03/2008
Prova n° 2
Prof. H₂O



Proprietà Tonini Antonietta
Località S. Croce sull'Arno (PI), Via Lungovalle
Quota p.c. -

Data 17/1/2005
Prova n° 1
Prof. H₂O n.r.



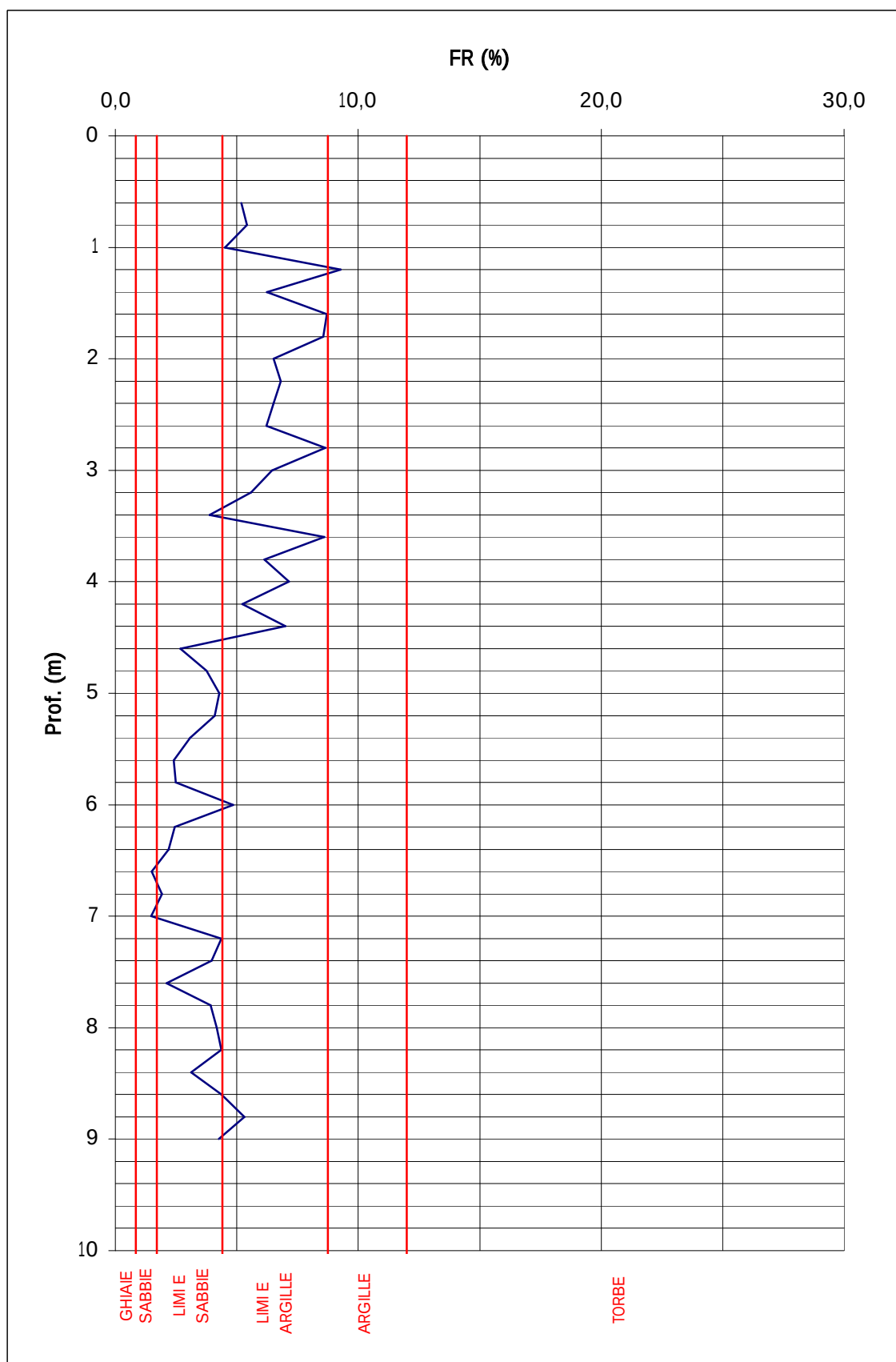
Proprietà Tonini Antonietta

Data 17/1/2005

Località S. Croce sull'Arno (PI), Via Lungovalle

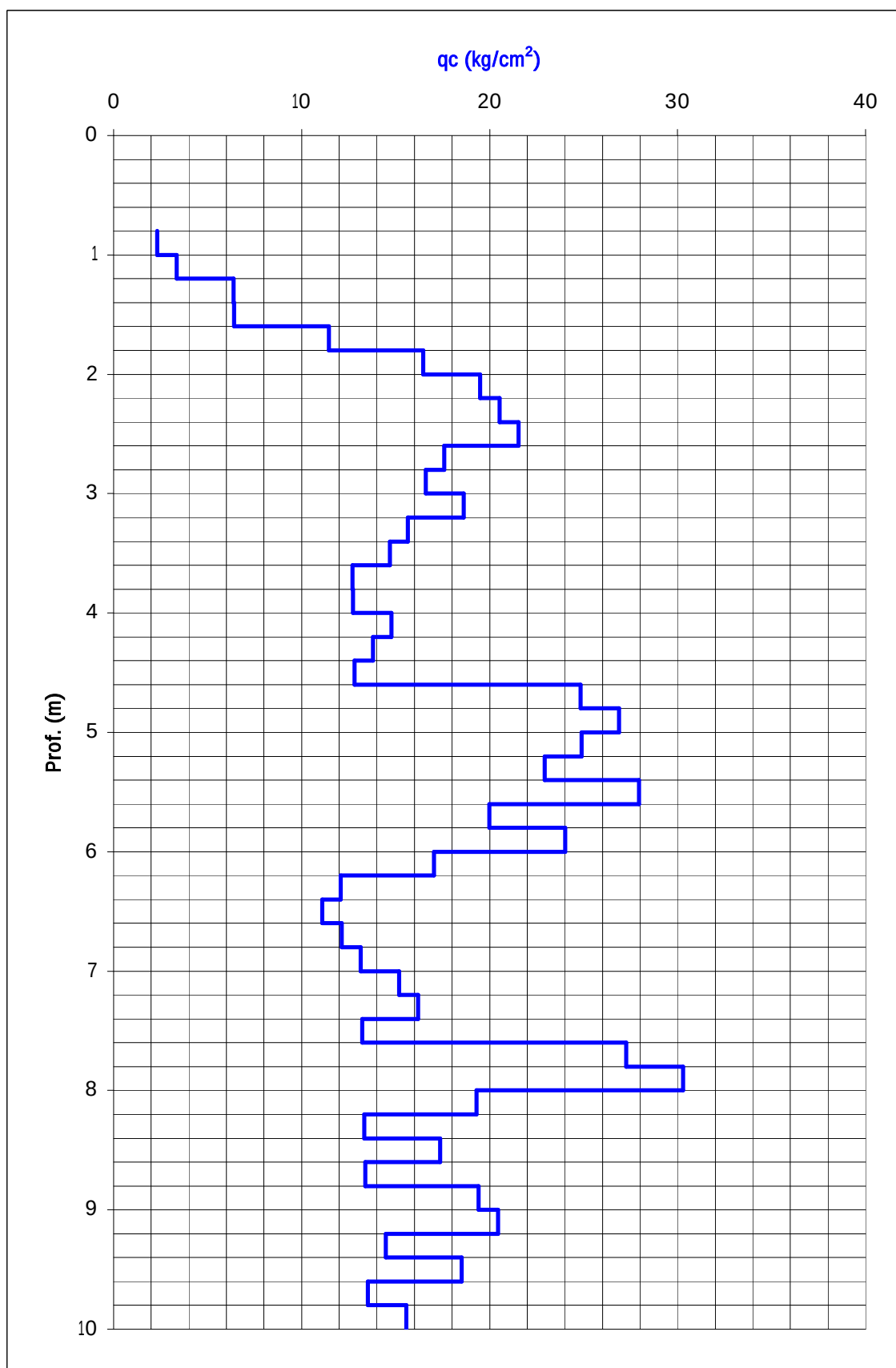
Prova n° 1

Quota p.c. -

Prof. H₂O n.r.

Comm.te Royal srl e altri
Località S. Croce sull'Arno (PI), Via XXV Luglio
Quota p.c. -

Data 11/2/2004
Prova n° 1
Prof. H₂O n.r.



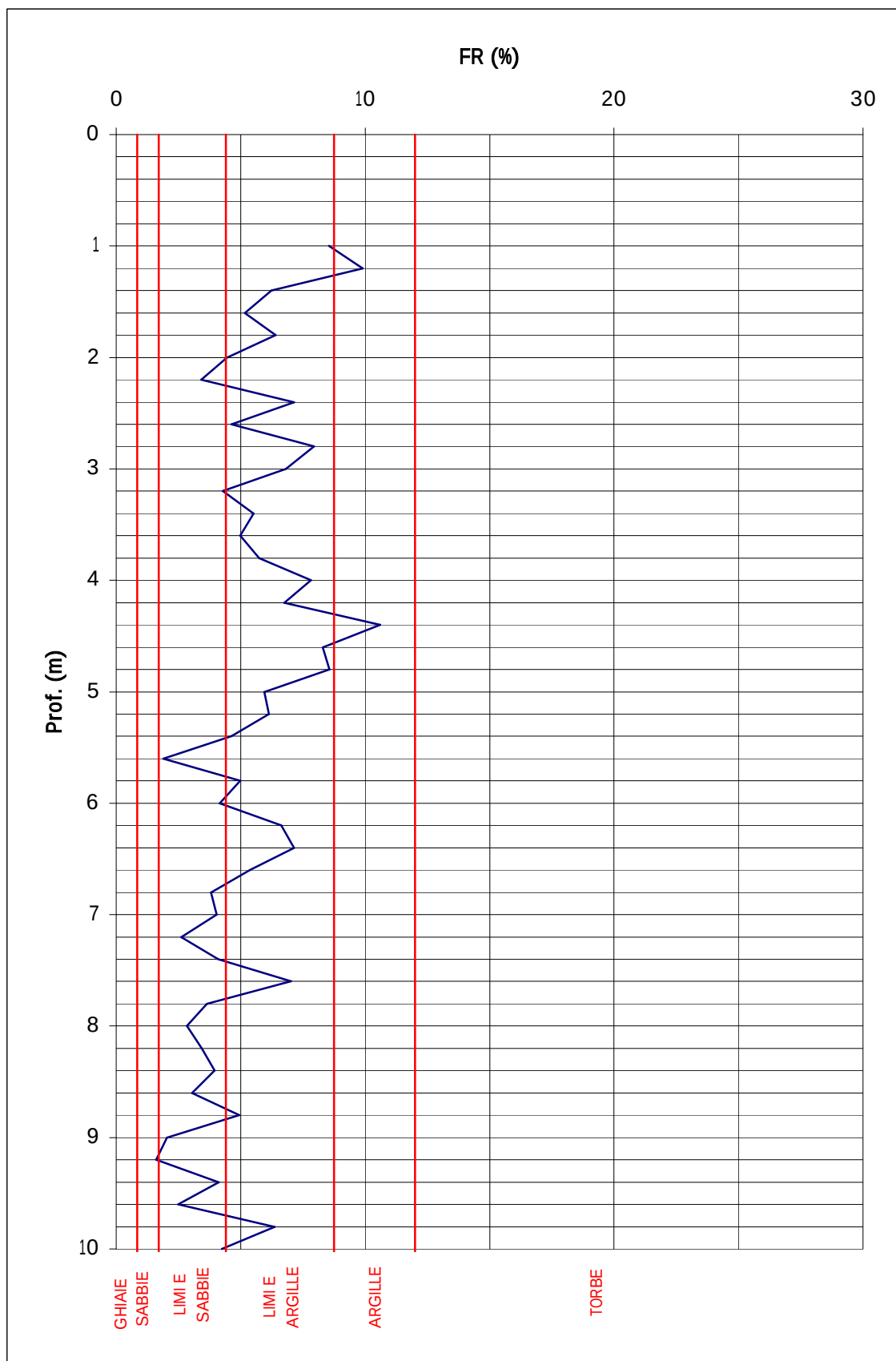
Comm.te Royal srl e altri

Data 11/2/2004

Località S. Croce sull'Arno (PI), Via XXV Luglio

Prova n° 1

Quota p.c. -

Prof. H₂O n.r.

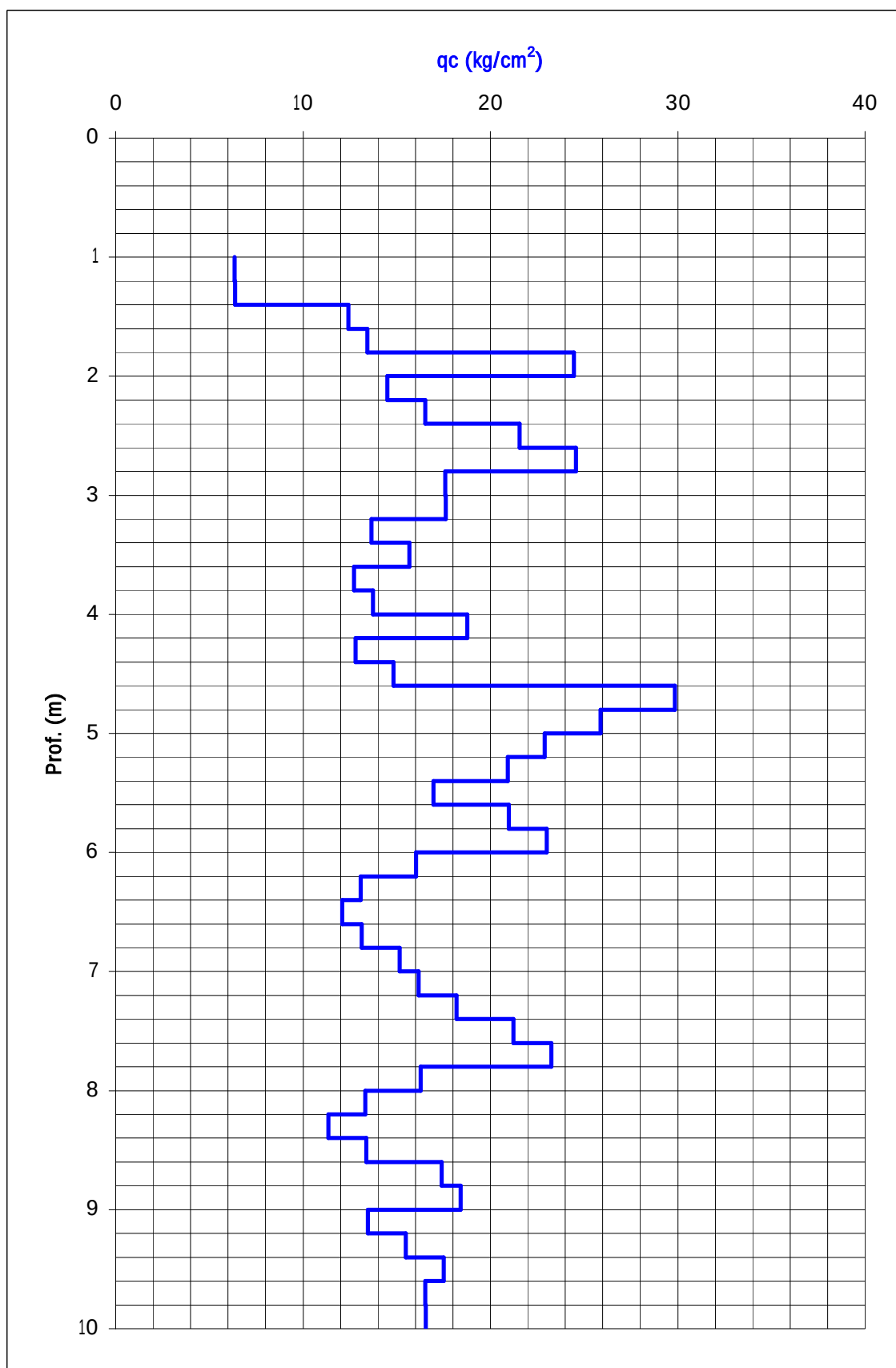
Comm.te Royal srl e altri

Data 11/2/2004

Località S. Croce sull'Arno (PI), Via XXV Luglio

Prova n° 2

Quota p.c. -

Prof. H₂O n.r.

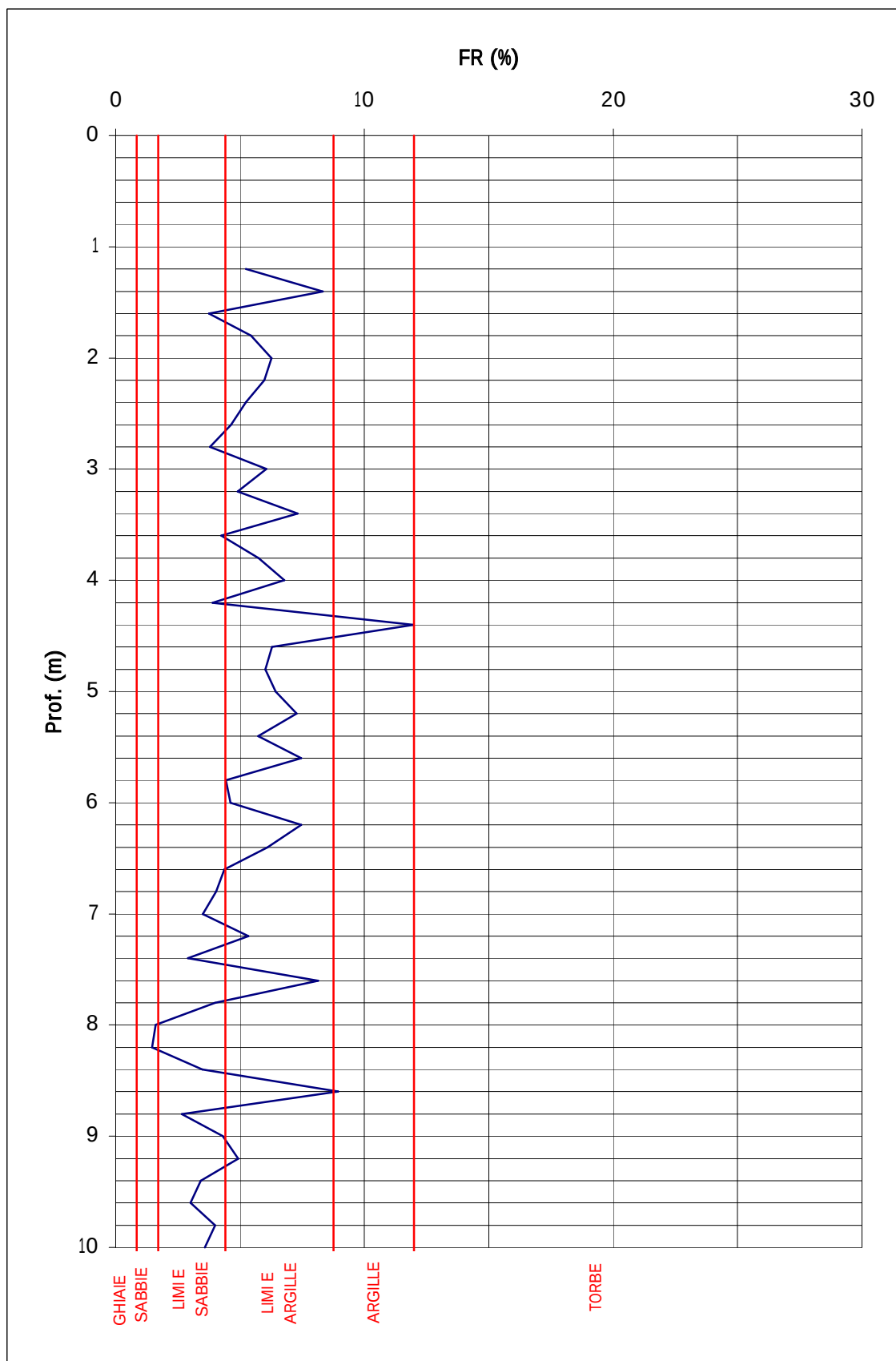
Comm.te Royal srl e altri

Data 11/2/2004

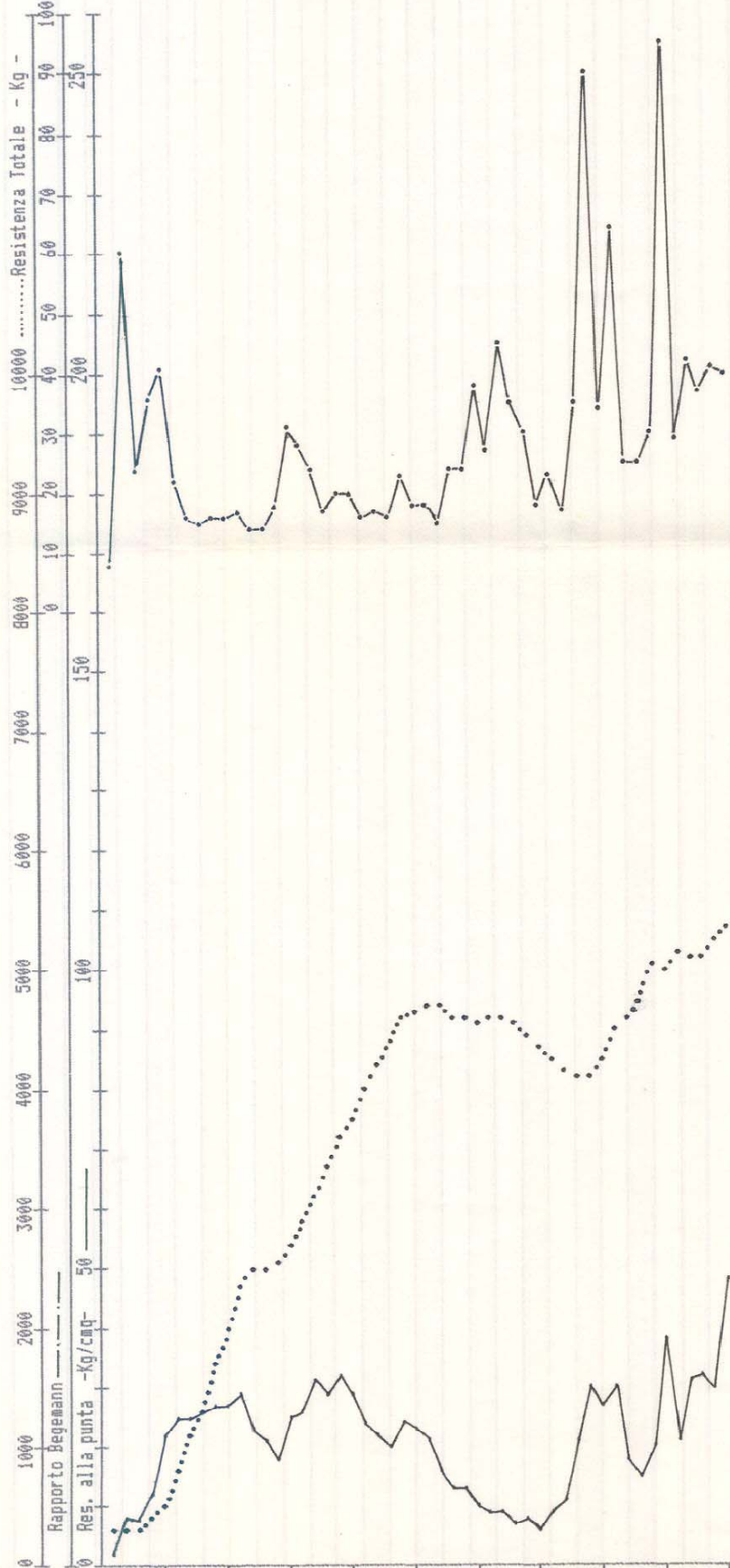
Località S. Croce sull'Arno (PI), Via XXV Luglio

Prova n° 2

Quota p.c. -

Prof. H₂O n.r.

COLONNA
STRATIGRAFICA



LOG PENETROMETRICO

LATO: PONTEDERA LOCALITÀ: S. CARLO DATA: 16/12/1991

APRESA: Geoprogetti

PROVA PENETROMETRICA - LOGS:

CONCATENAZIONE: SILVESTRI E. E. NICOLI C.

LOCALITÀ: S. CARLO DELL'ORO

CANTIERE: PER SAN NEDDIO

DATA: 18/07/1992

GEOPROGETTI

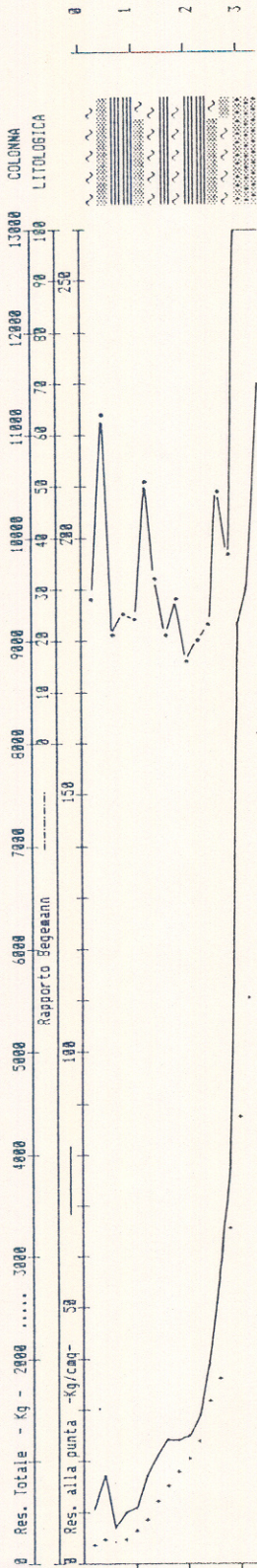
Piazza Martiri della Libertà, 45 - 56025 PONTEDERA (PISA)

Tel. 0567 / 54001

Profondità (m)	S. Car. Totale - Cg - 2000 (kg/cm²)	S. Car. alla punta - 10/200 (kg/cm²)
0	100	100
1	150	120
2	180	140
3	160	130
4	170	150
5	140	160
6	150	170
7	160	180
8	170	190
9	180	200
10	1200	210
11	150	220
12	1300	230
13	160	240
14	170	250
15	180	260

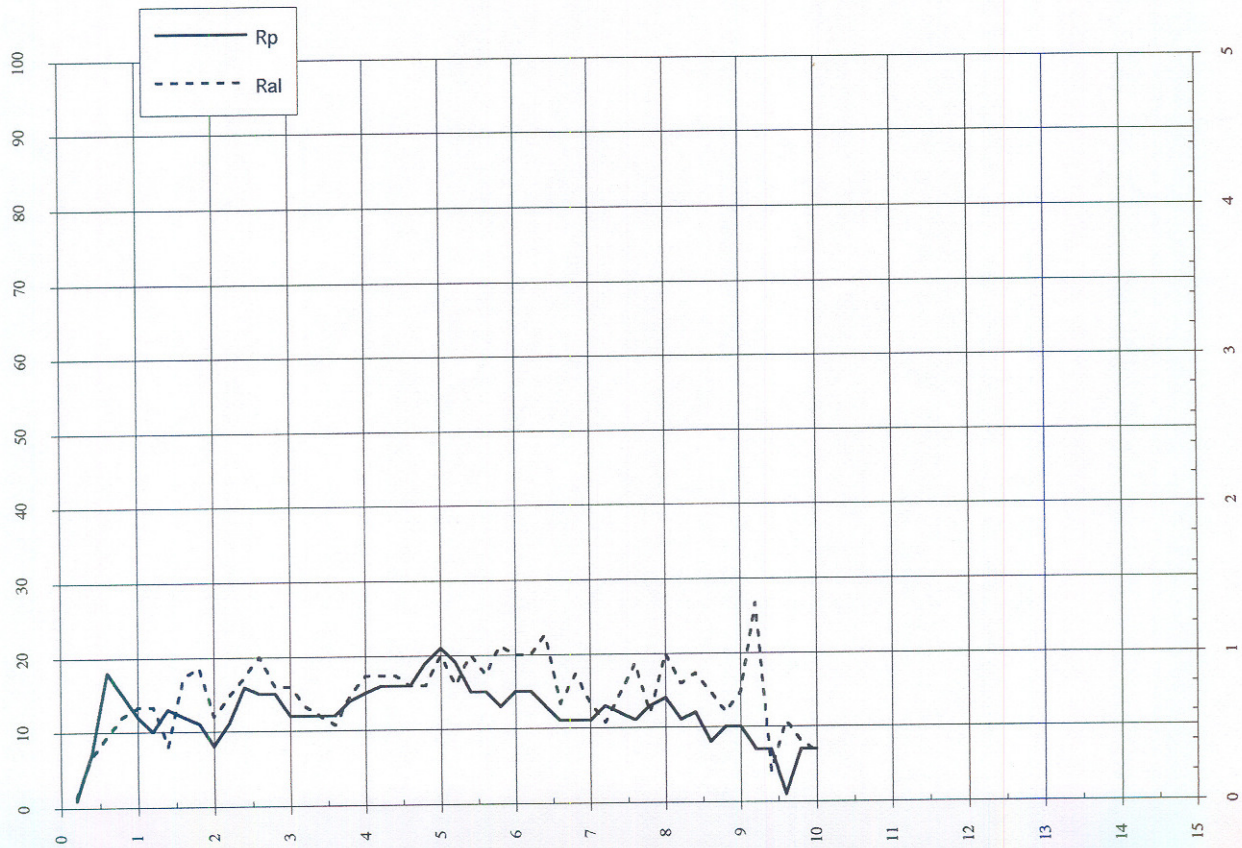
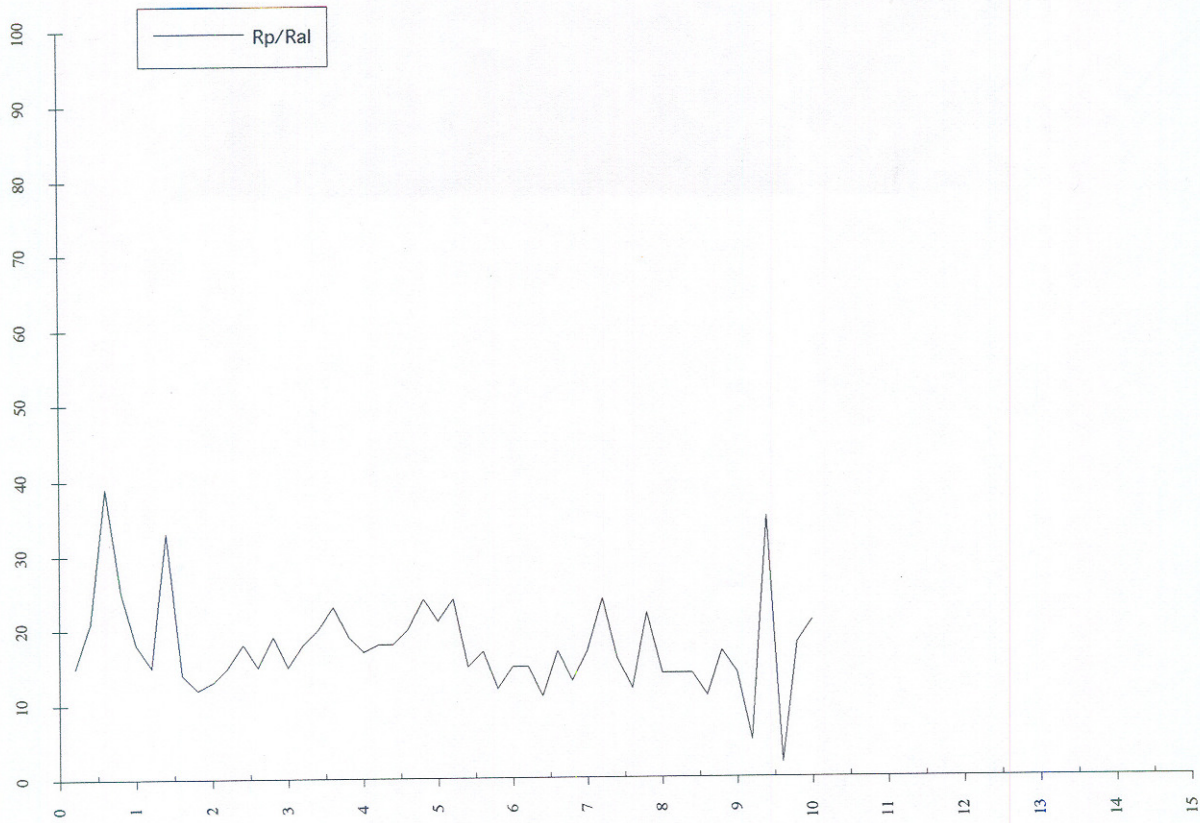
GEOPROGETTI

Prova penetrometrica numero : 1
Committente : DELLA MASSIORE FRANCESCO
Localita' : STAFFOLI
Cantiere : VIA MARCHETTI
Data : 04/05/1992



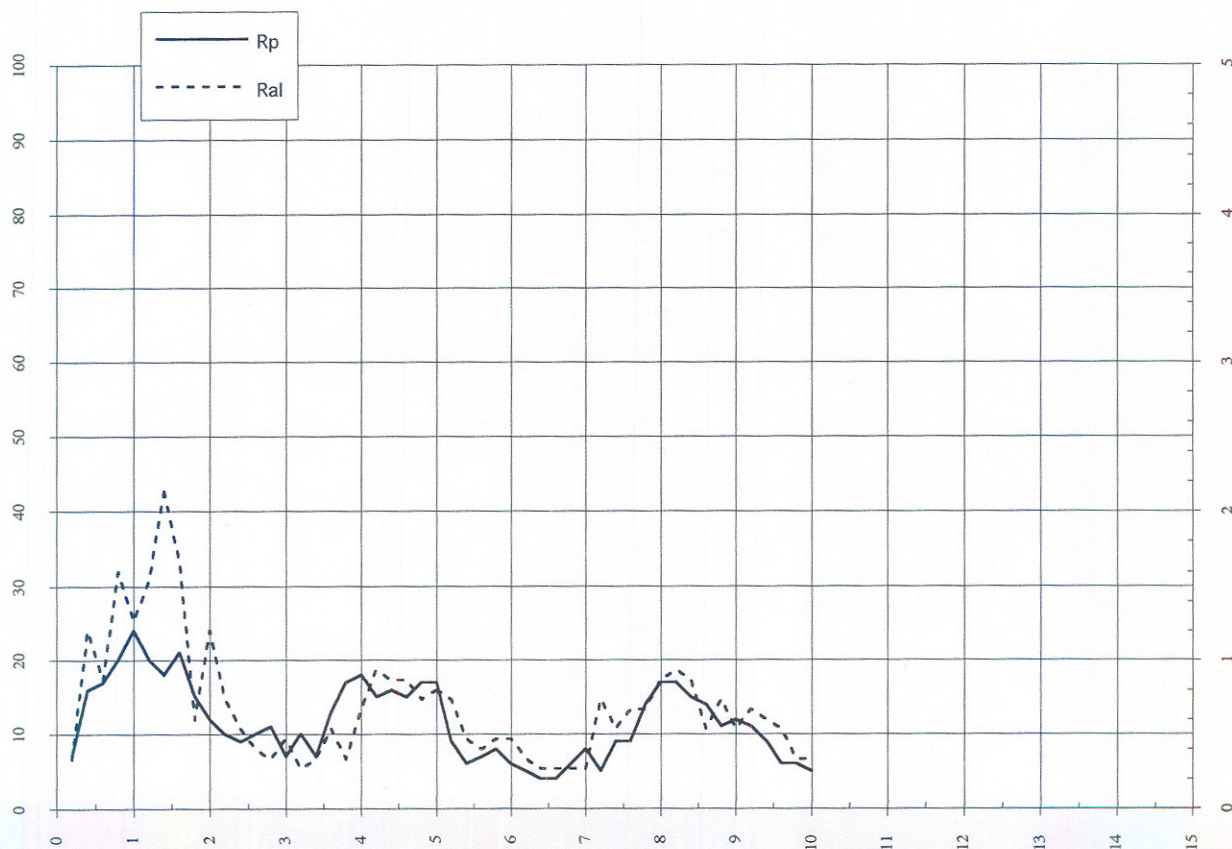
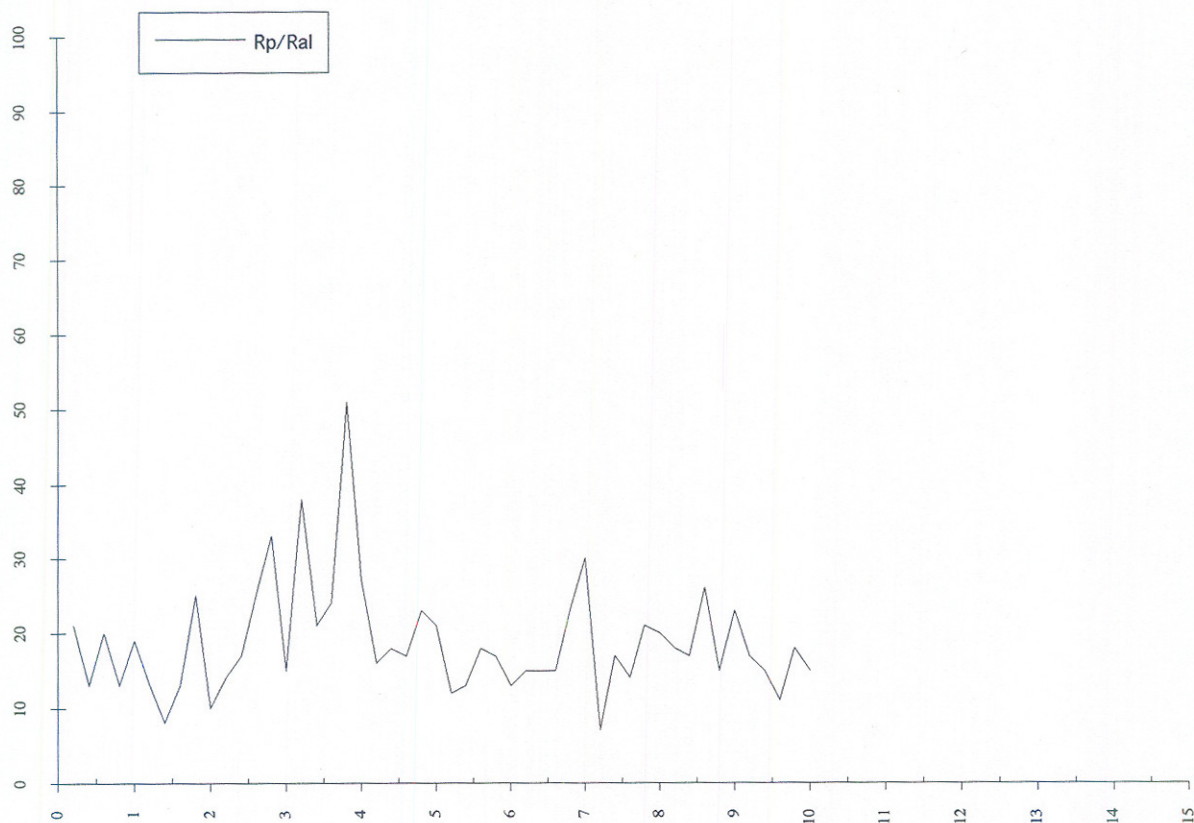
Committente: BROTTINI BRUNO
Località: S. CROCE SULL'ARNO

Prova penetrometrica n°: 1
Data: 26.07.1996



Committente: Immobiliare C.A.R. s.r.l.
Località: Santa Croce sull'Arno (PI)

Prova penetrometrica n°: 1
Data: 20.09.1996

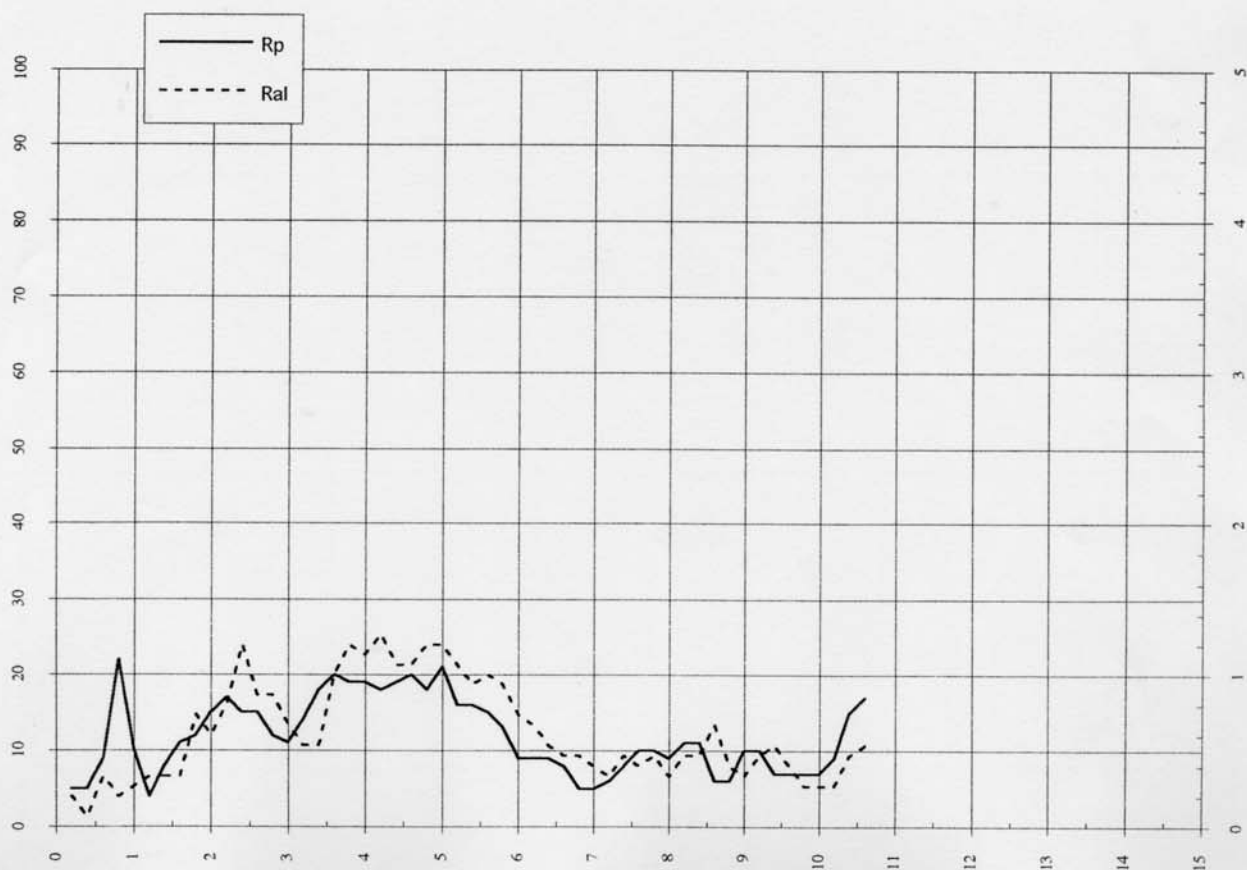
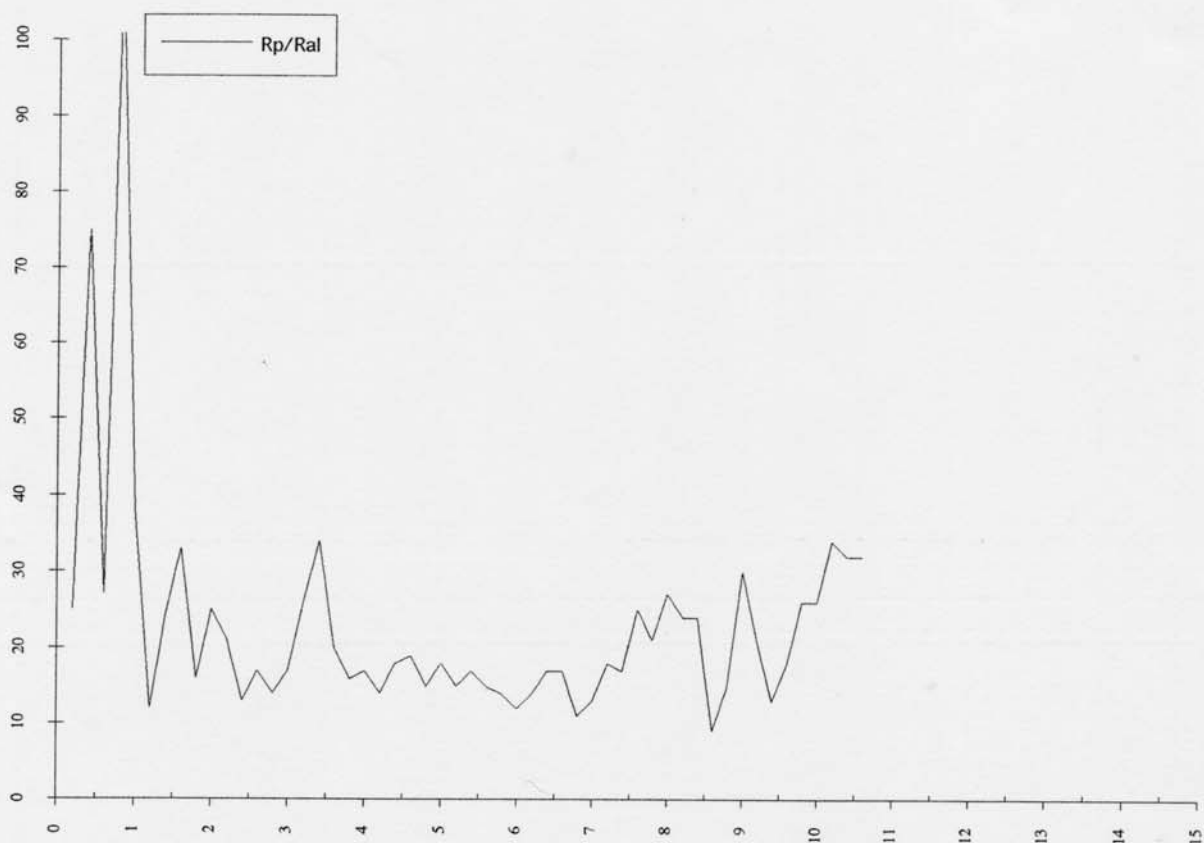


Committente: Squarcini Elvio e Diddi Lucia

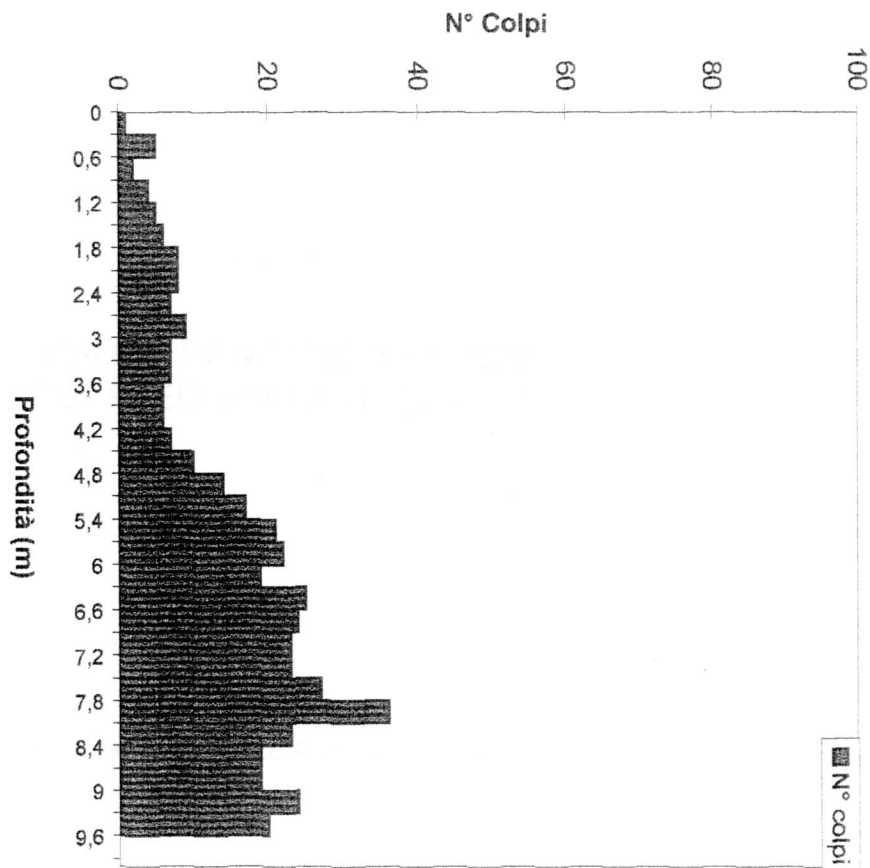
Prova penetrometrica n°: 1

Località: S. Croce sull'Arno

Data: 18.04.97



Profondità	N° colpi
0,0—0,3	1
0,3—0,6	5
0,6—0,9	2
0,9—1,2	4
1,2—1,5	5
1,5—1,8	6
1,8—2,1	8
2,1—2,4	8
2,4—2,7	7
2,7—3,0	9
3,0—3,3	7
3,3—3,6	7
3,6—3,9	6
3,9—4,2	6
4,2—4,5	7
4,5—4,8	10
4,8—5,1	14
5,1—5,4	17
5,4—5,7	21
5,7—6,0	22
6,0—6,3	19
6,3—6,6	25
6,6—6,9	24
6,9—7,2	23
7,2—7,5	23
7,5—7,8	27
7,8—8,1	36
8,1—8,4	23
8,4—8,7	19
8,7—9,0	19
9,0—9,3	24
9,3—9,6	20
9,6—9,9	0
9,9—10,2	0

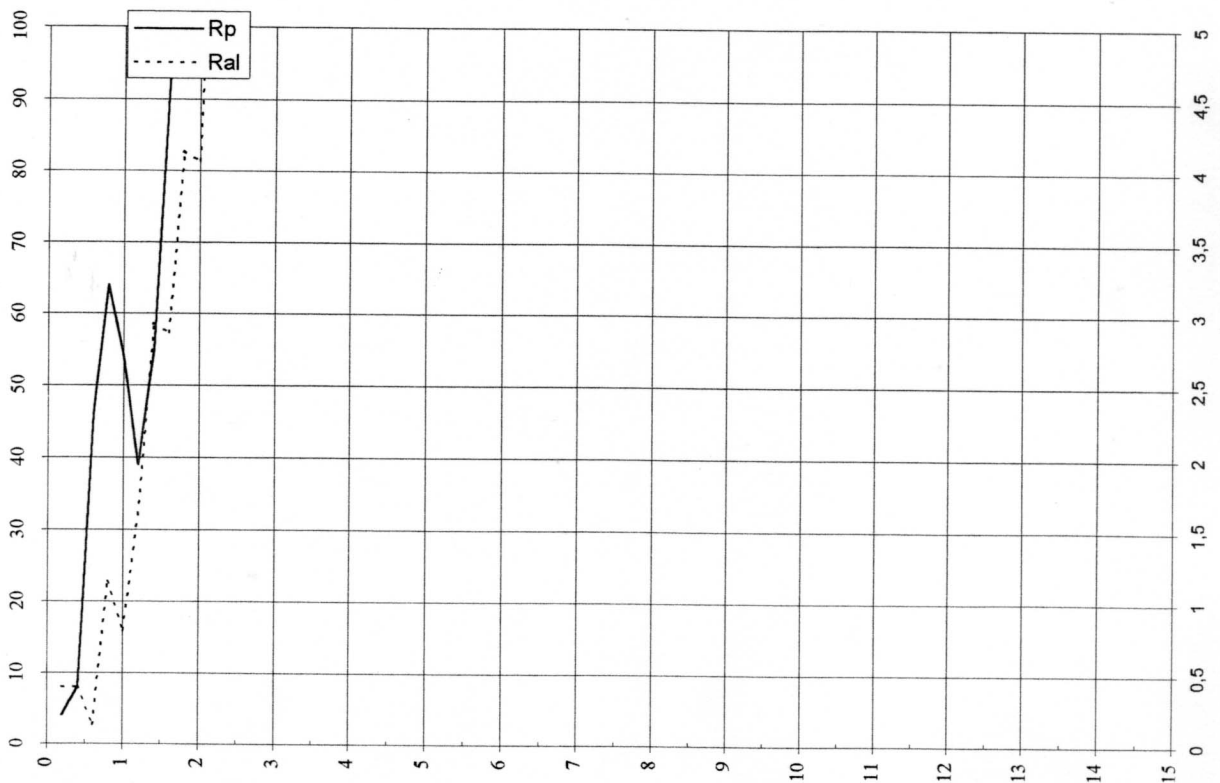
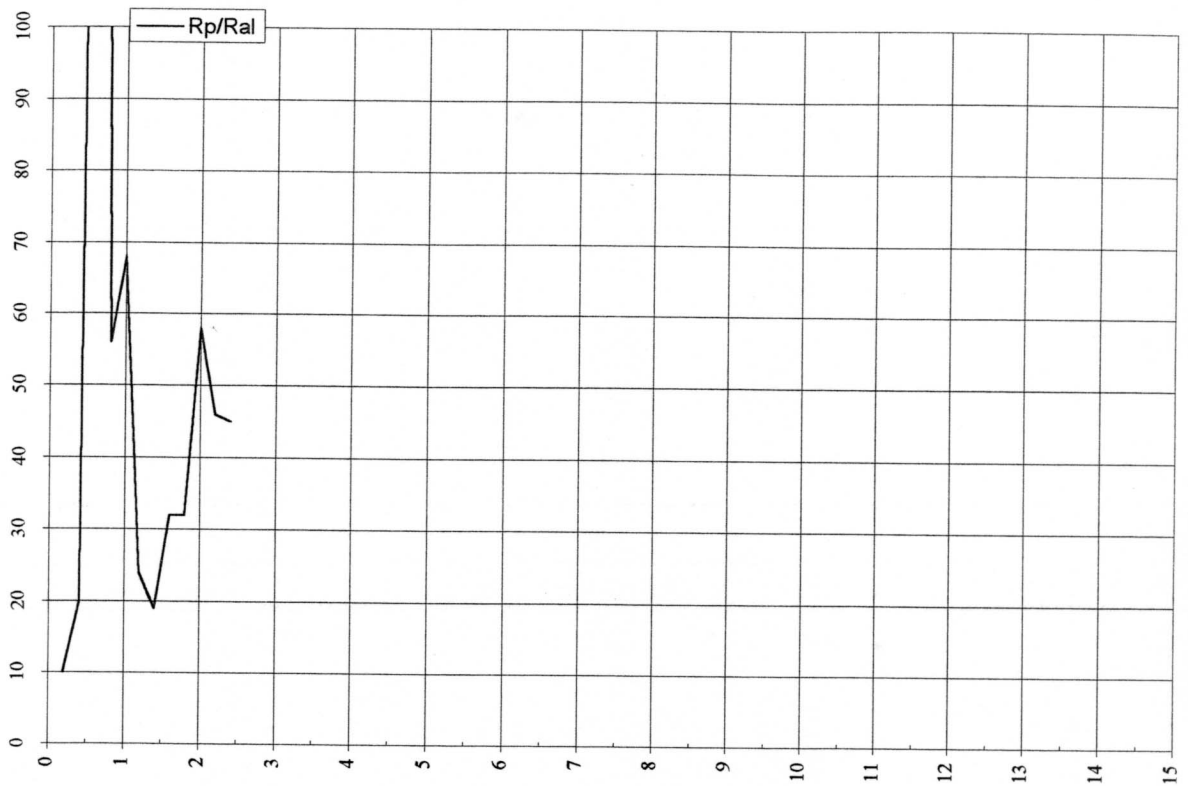


Committente: Perugi Paolo e Corrieri Giovanna

Località: Via C. Marx - Staffoli

Prova penetrometrica n°: 1

Data: 02 .09 .1998

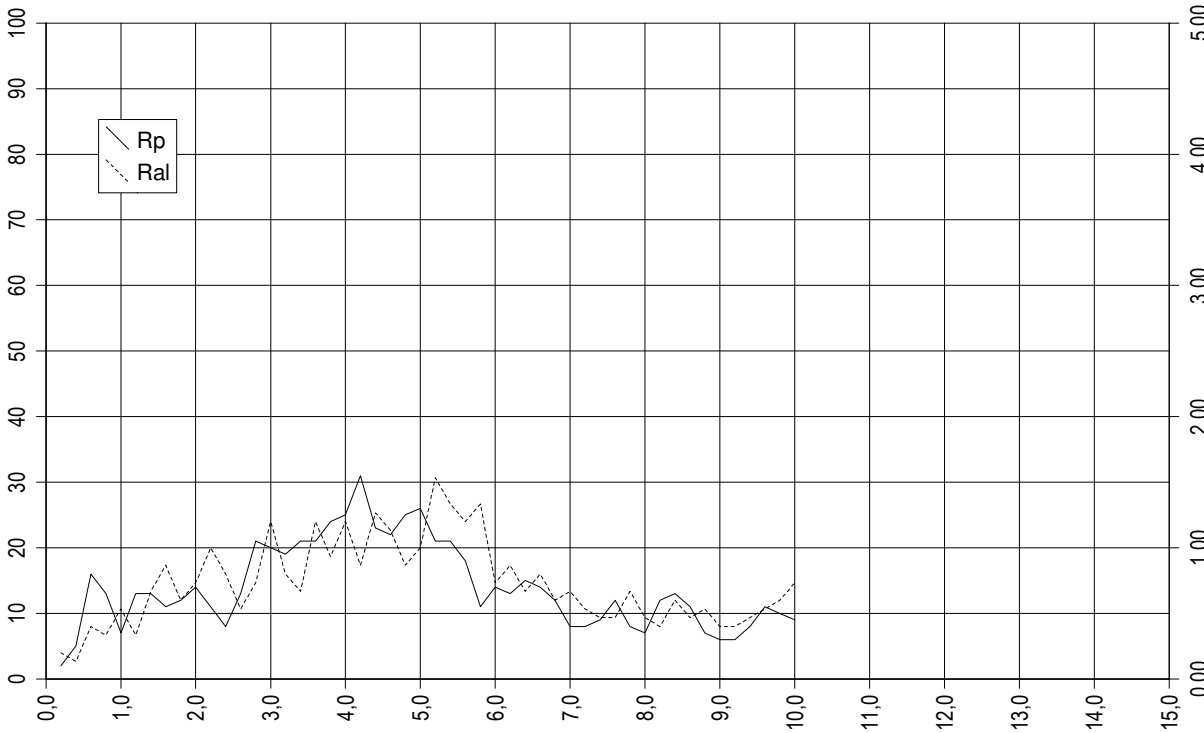
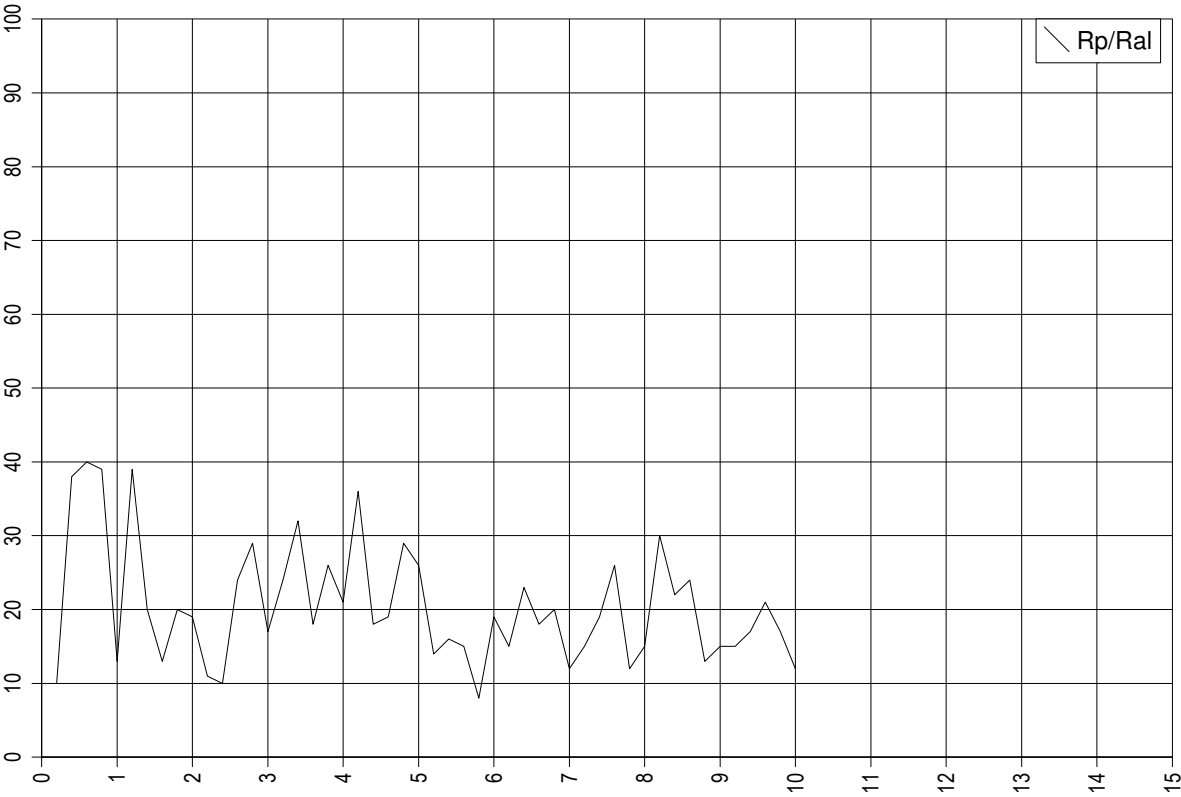


Committente: Ceccanti Gino

Prova penetrometrica n°: 1

Località: Viale Di Vittorio - S.Croce sull'Arno

Data: 06 .11 .1998

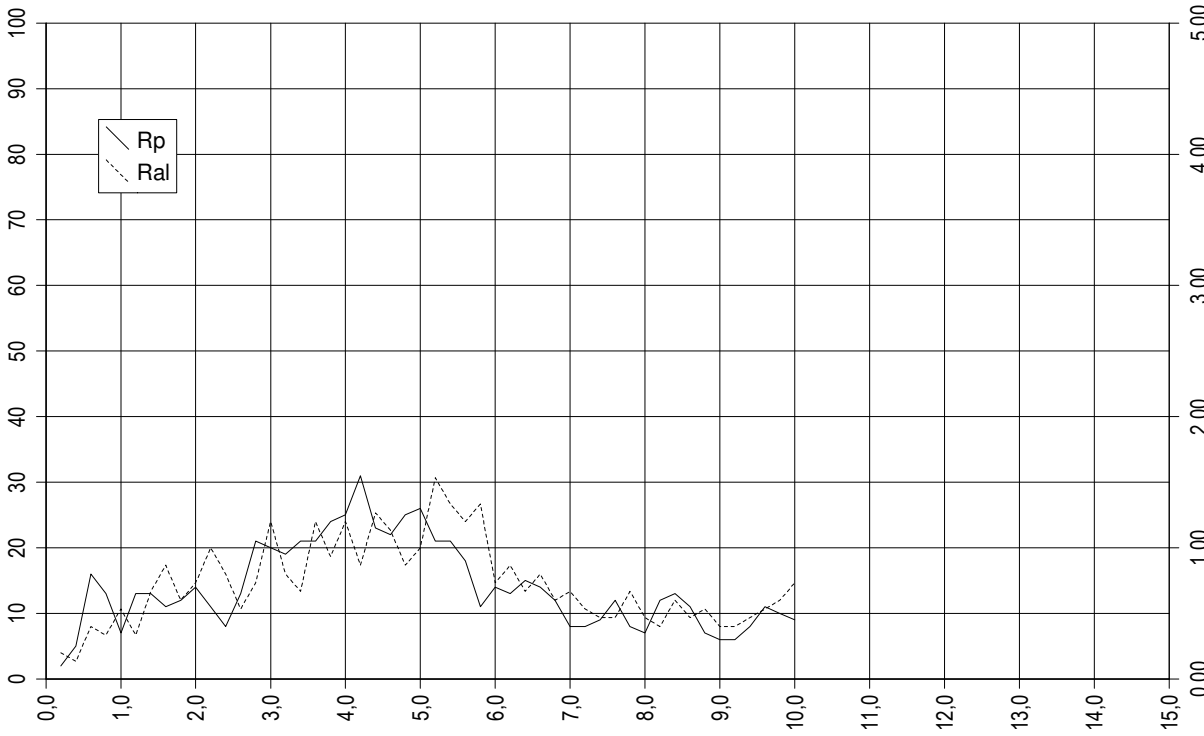
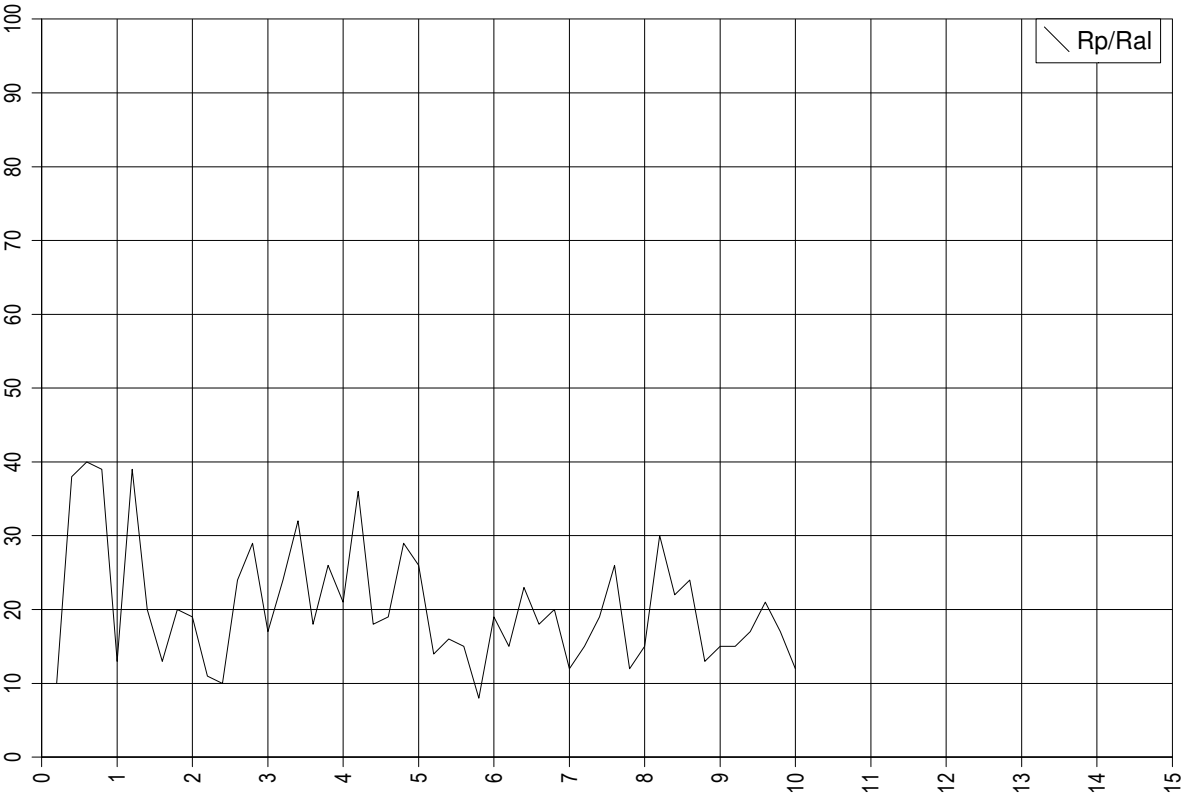


Committente: Ceccanti Gino

Prova penetrometrica n°: 1

Località: Viale Di Vittorio - S.Croce sull'Arno

Data: 06 .11 .1998



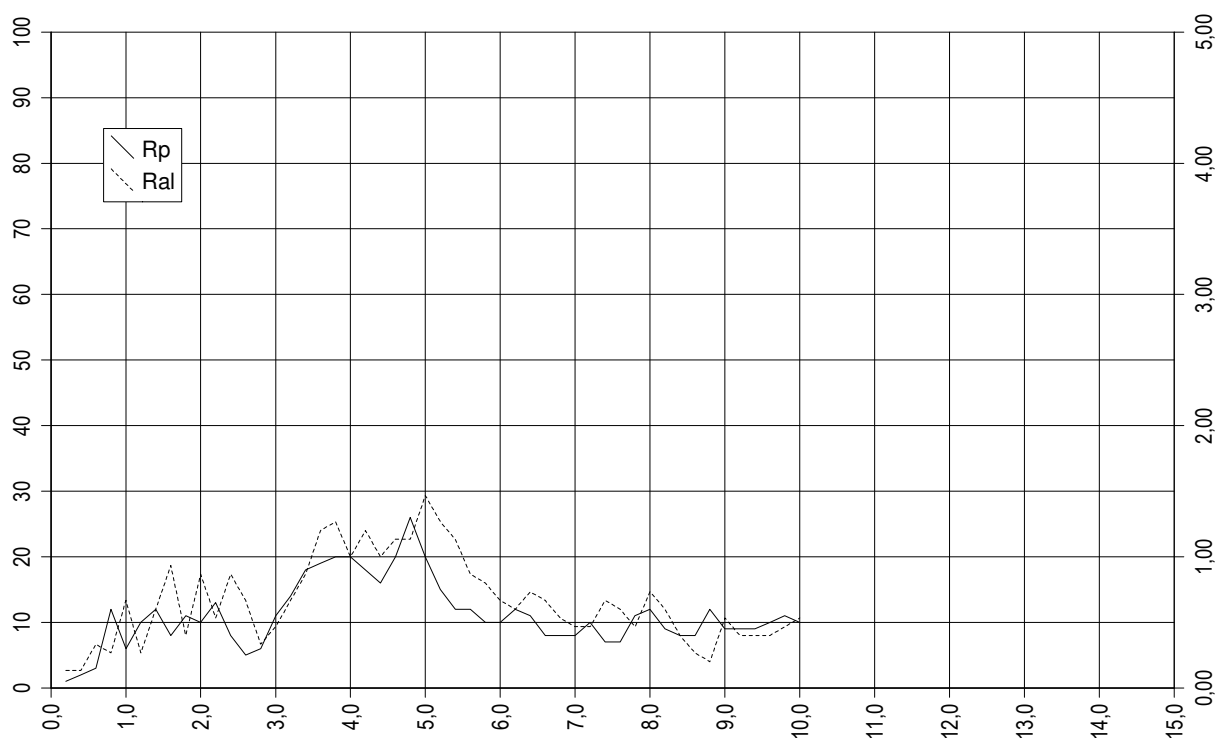
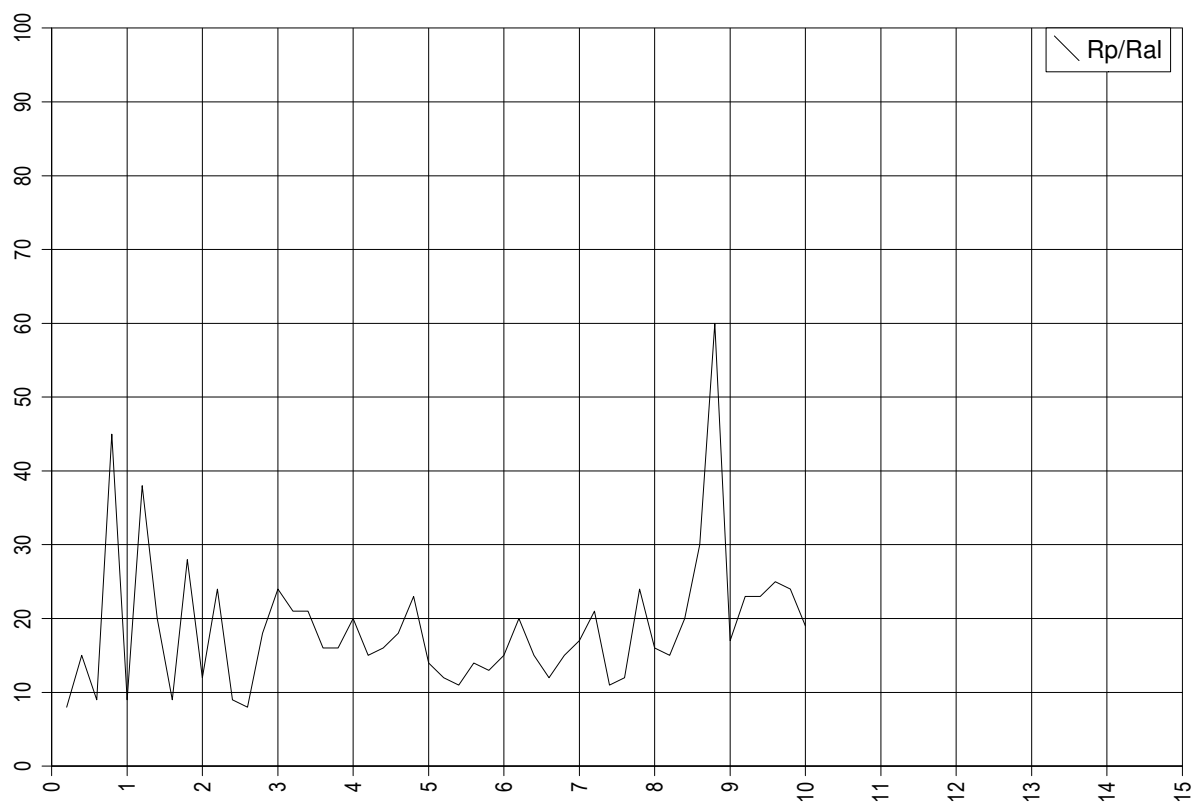
GEOPROGETTI

Committente: Immobiliare San Tommaso S.r.l.

Prova penetrometrica n°: 1

Località: Via del Trebbio S. Croce Sull'Arno

Data: 10 .05 .2000



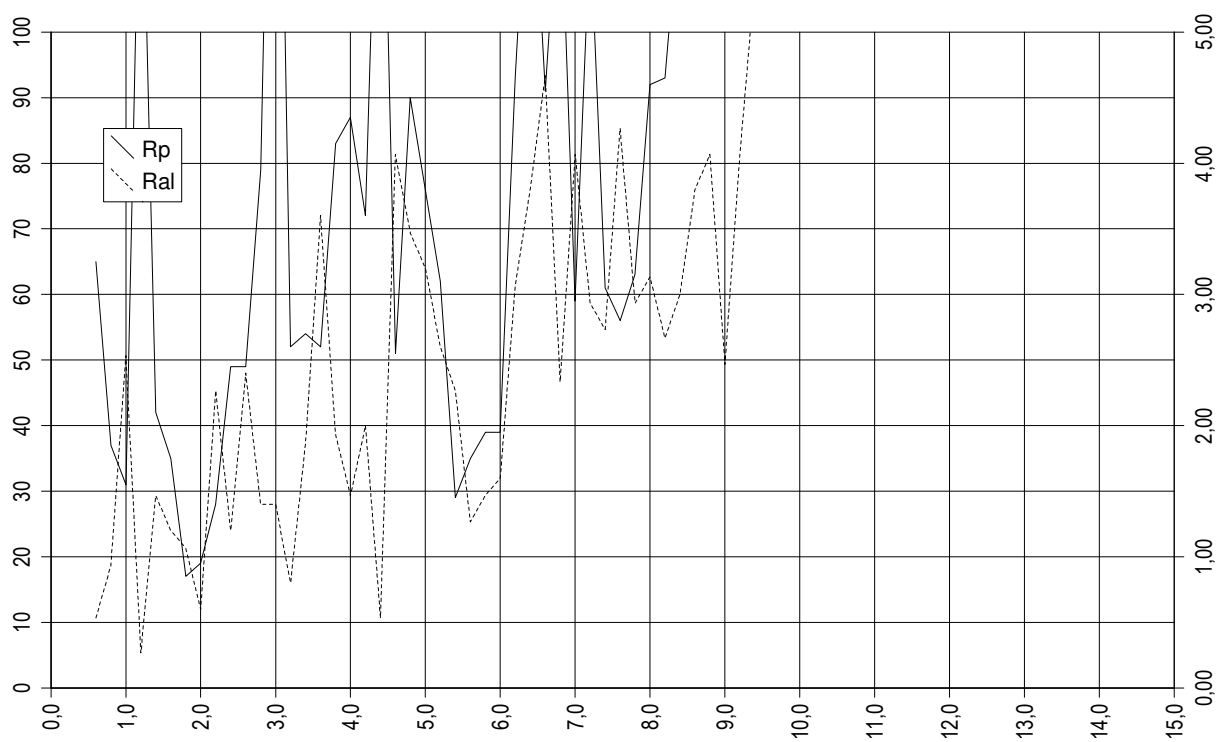
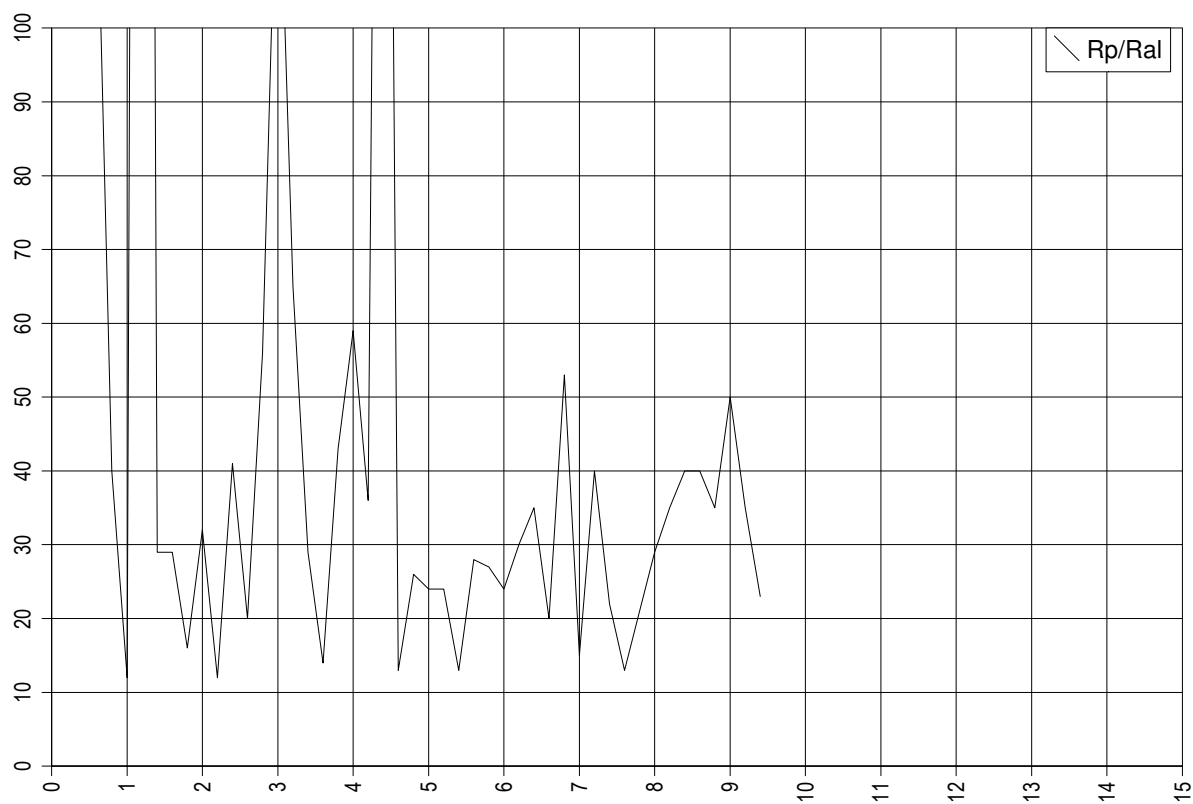
GEOPROGETTI

Committente: Bernardelli Dino - Toschi Eda

Località: Staffoli

Prova penetrometrica n°: 1

Data: 09 .08 .2000

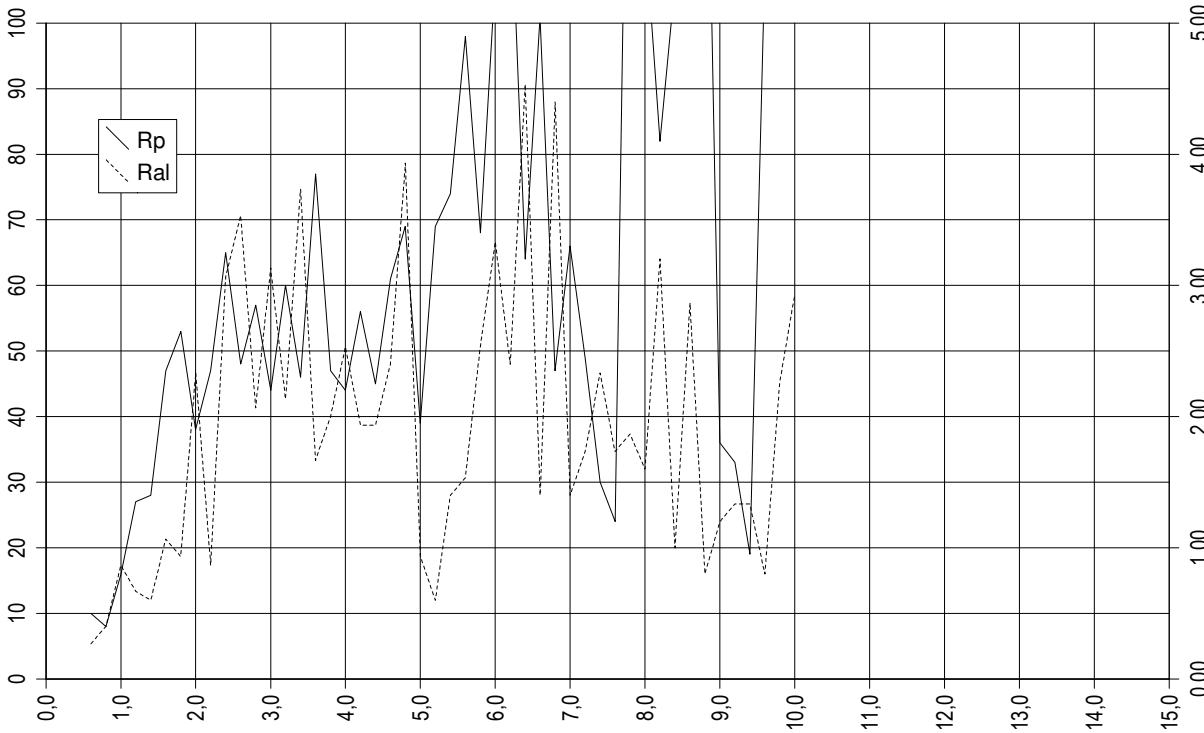
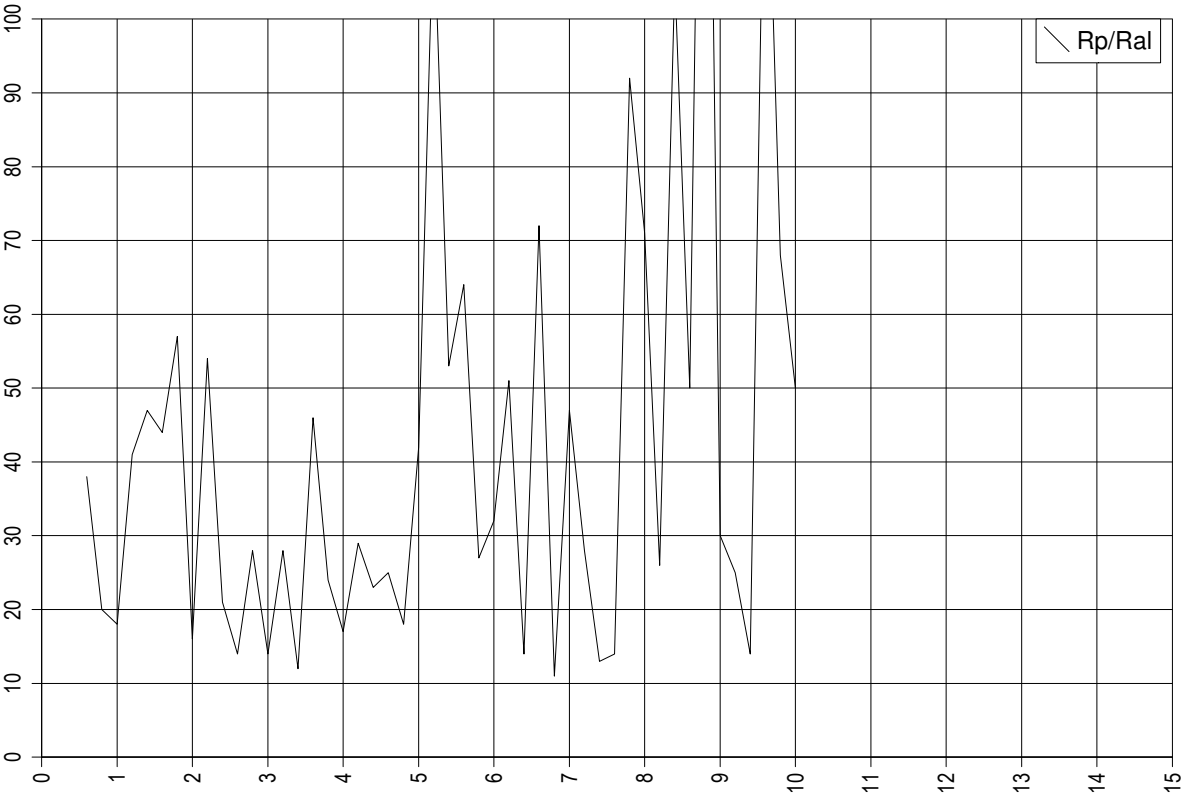


Committente: Bellagamba G., L. e L.

Prova penetrometrica n°: 1

Località: Via Vecchia Livornese - Staffoli

Data: 15 .03 .2001

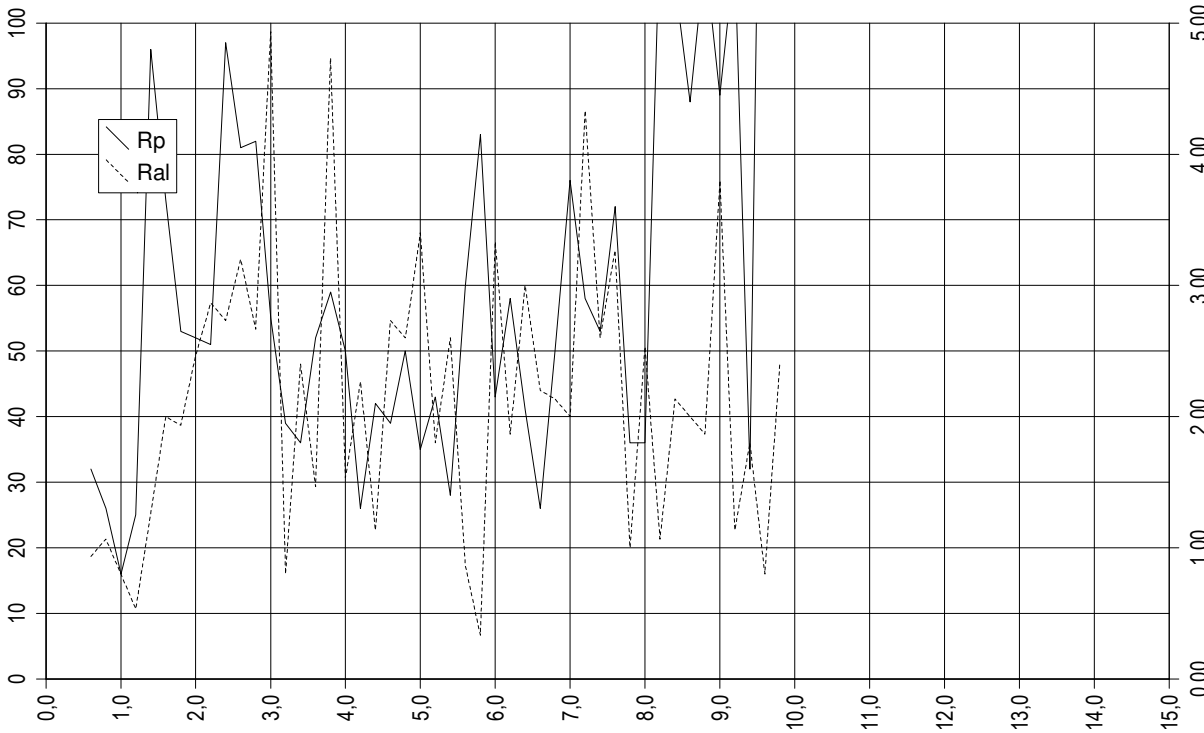
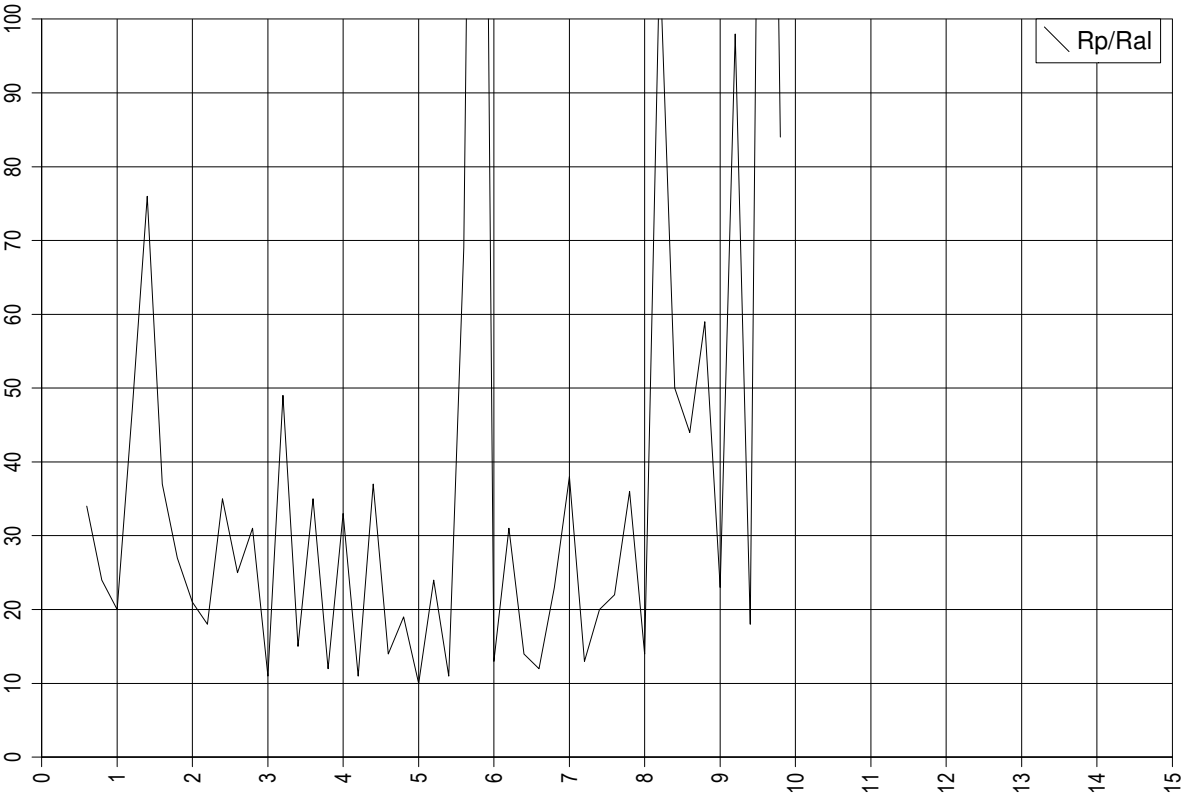


Committente: Pieracci Aldo

Prova penetrometrica n°: 1

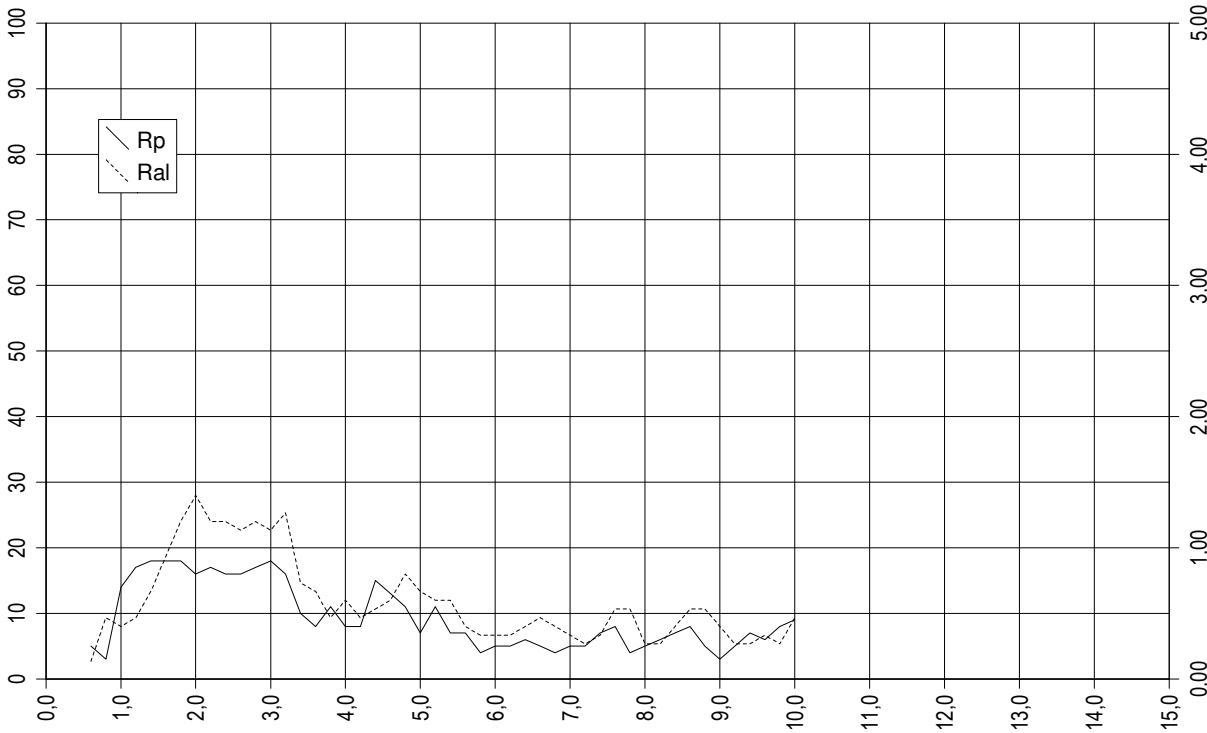
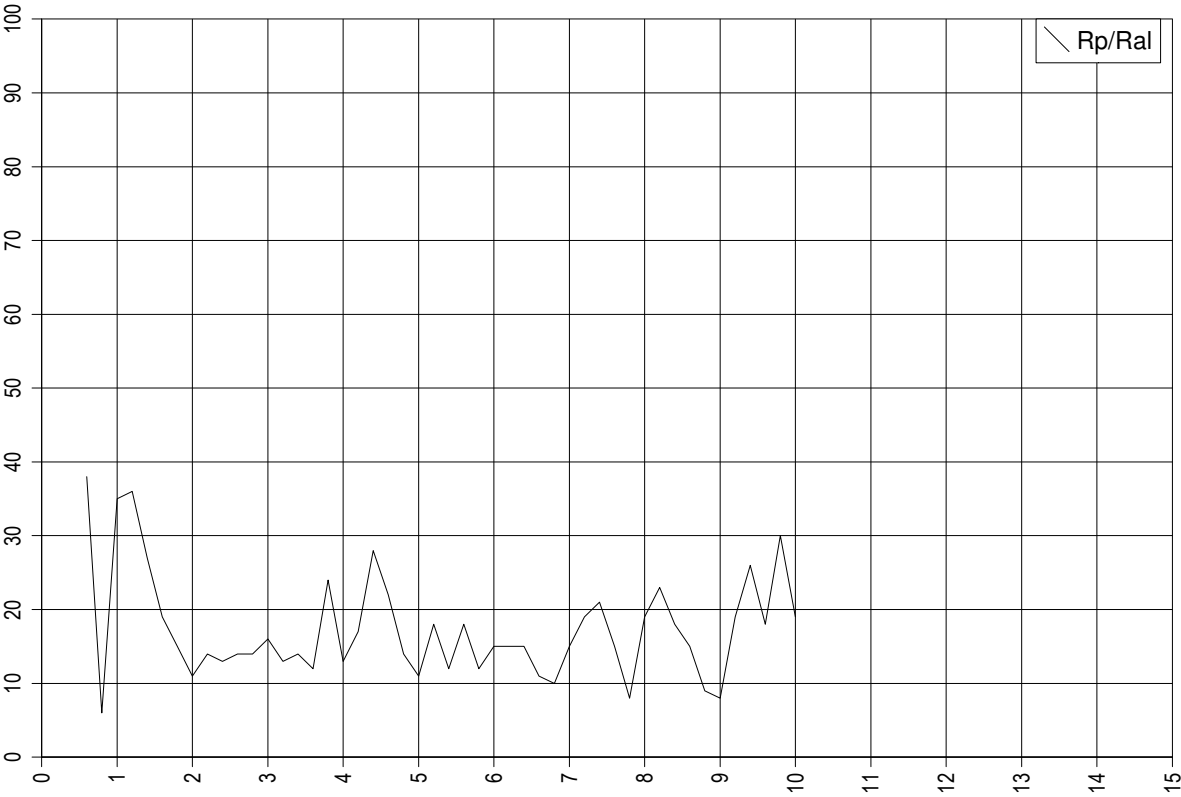
Località: via Villa Lami - Staffoli - S.Maria a Monte

Data: 14 .06 .2001



Committente: FAM.COV. sas
Località: S.Croce sull'Arno - PI

Prova penetrometrica n°: 1
Data: 19 .03 .2002

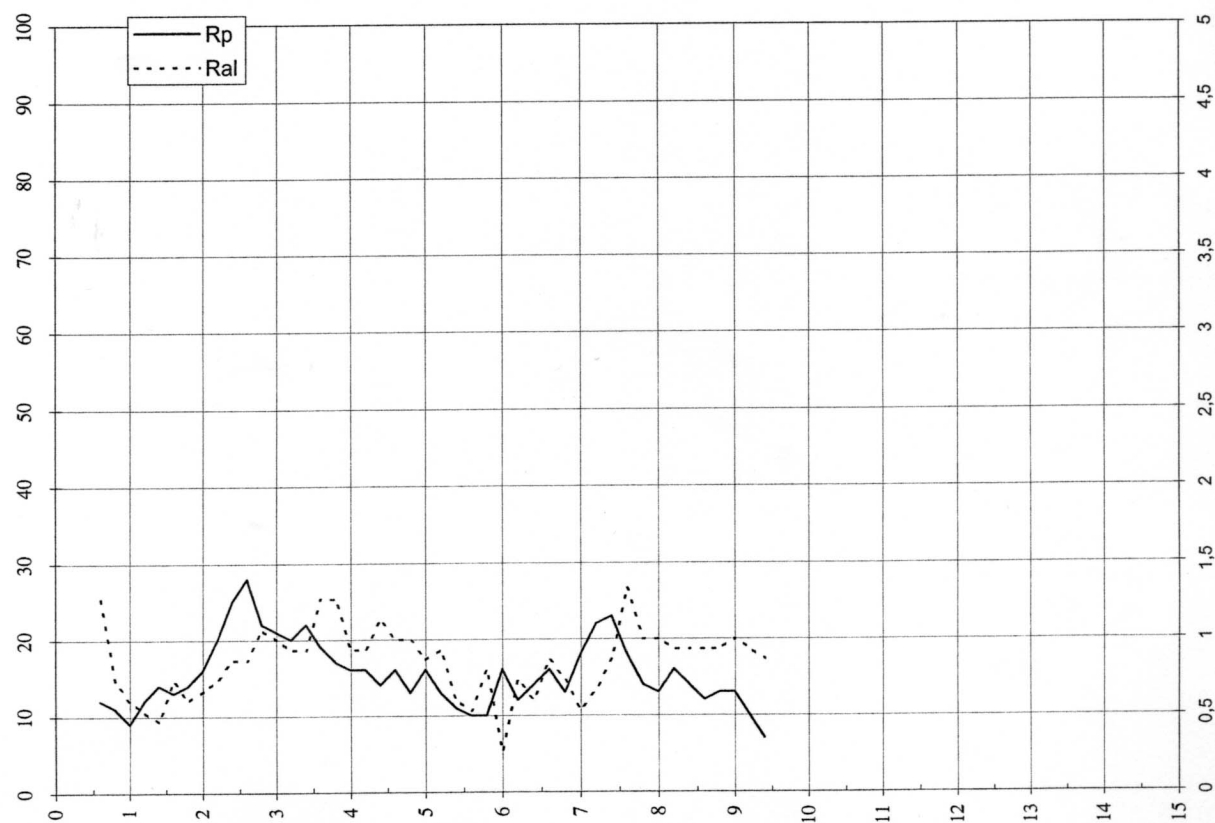
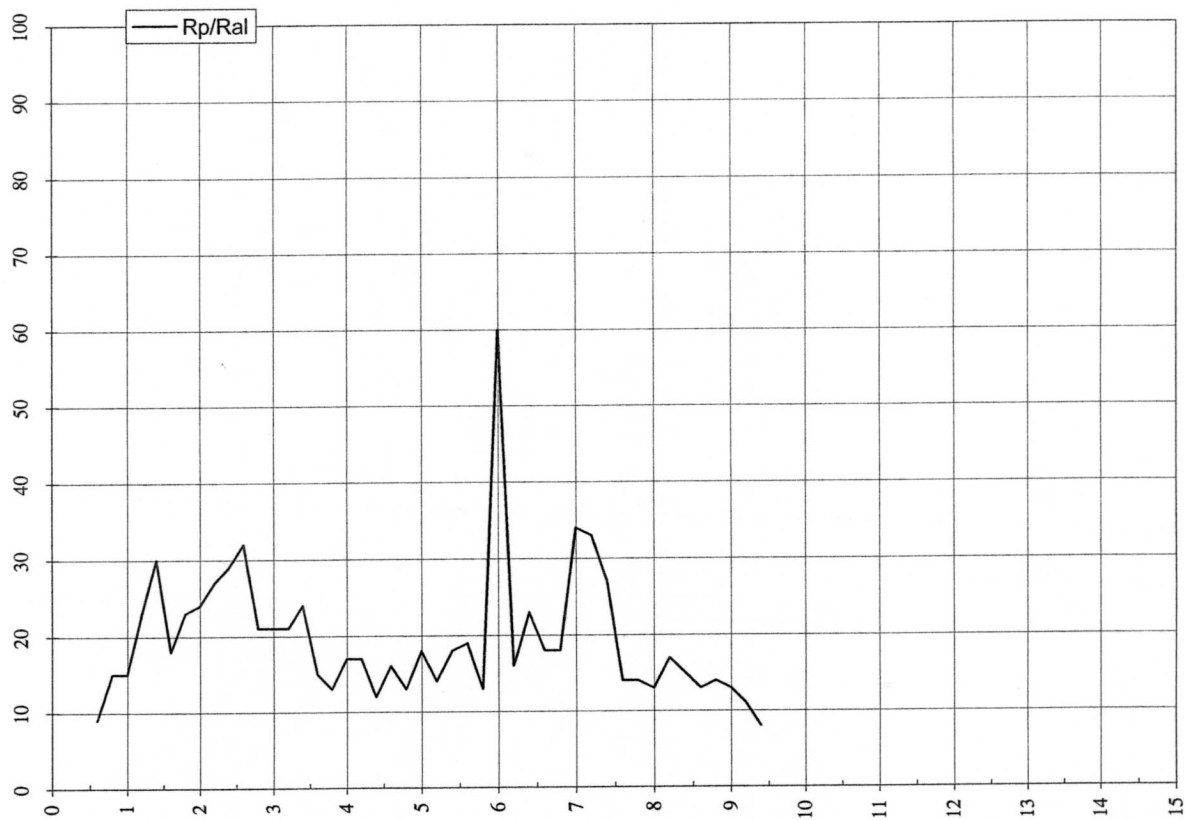


Committente: Mazzella Giampietro

Prova penetrometrica n°: PP1

Località: S.Croce Sull'Arno-Via Colombo 35

Data: 26,06,2003



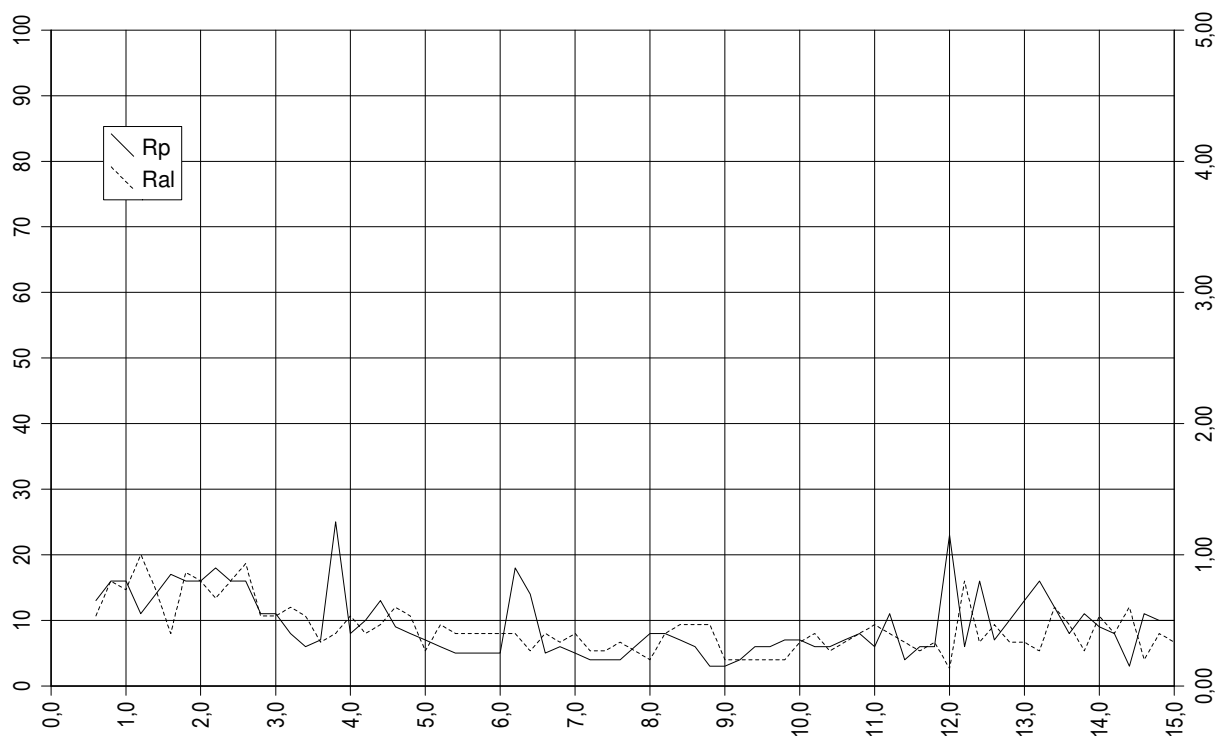
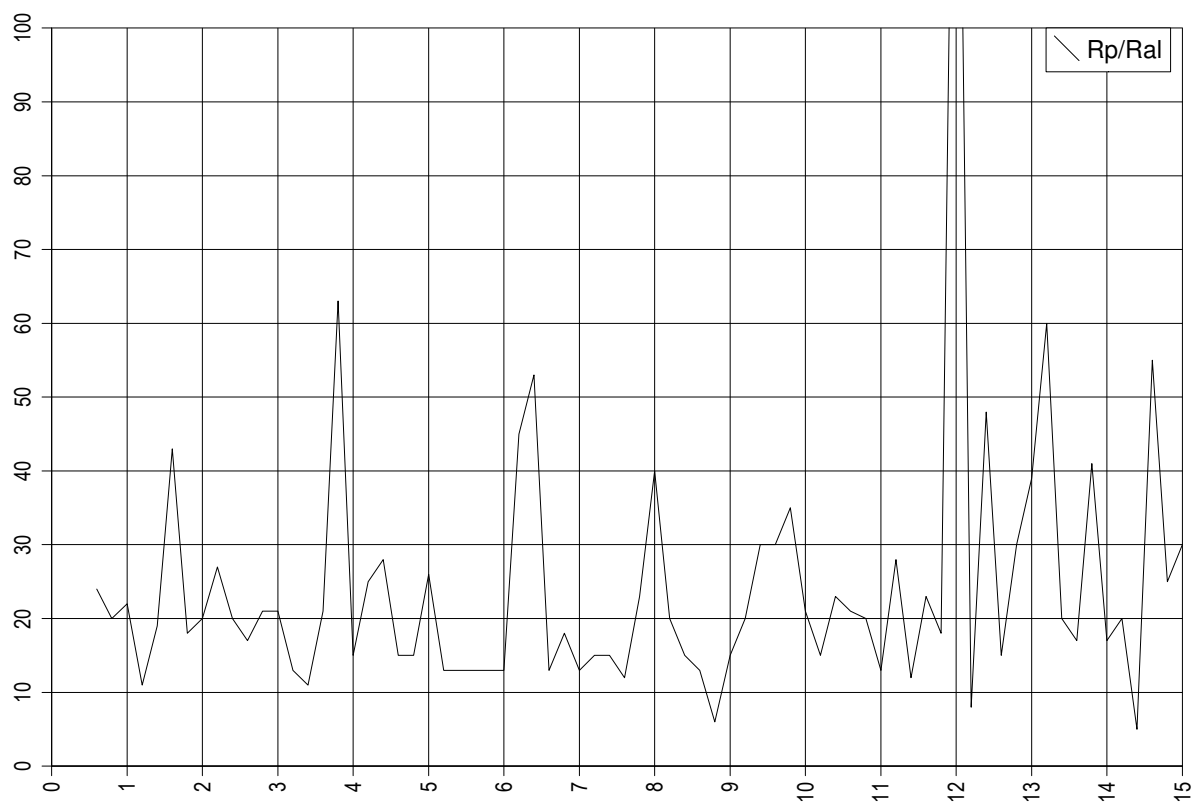
GEOPROGETTI

Committente: FEFCO srl

Prova penetrometrica n°: PP1

Località: S.Croce-Via Provinciale Francesca Nord

Data: 03,06,04



Committente: Pazzaglia-Della Maggiore Prova penetrometrica : Pd1

Località: Staffoli-Via delle Pinete

Data: 02, 07, 2004

Penetrometro dinamico Pagani da 73 N

Profondità (metri)	N° colpi (ogni 30 cm)	Nspt	Densità relativa	Yd (Kn/mc)
0,0—0,3	10	15,15	0,4-0,6	16-18
0,3—0,6	8	12,12	0,4-0,6	16-18
0,6—0,9	2	3,03	<0,2	14
0,9—1,2	2	3,03	<0,2	14
1,2—1,5	4	6,06	0,2-0,4	14-16
1,5—1,8	4	6,06	0,2-0,4	14-16
1,8—2,1	9	13,64	0,4-0,6	16-18
2,1—2,4	7	10,61	0,4-0,6	16-18
2,4—2,7	8	12,12	0,4-0,6	16-18
2,7—3,0	10	15,15	0,4-0,6	16-18
3,0—3,3	9	13,64	0,4-0,6	16-18
3,3—3,6	7	10,61	0,4-0,6	16-18
3,6—3,9	8	12,12	0,4-0,6	16-18
3,9—4,2	7	10,61	0,4-0,6	16-18
4,2—4,5	7	10,61	0,4-0,6	16-18
4,5—4,8	7	10,61	0,4-0,6	16-18
4,8—5,1	9	13,64	0,4-0,6	16-18
5,1—5,4	11	16,67	0,4-0,6	16-18
5,4—5,7	14	21,21	0,4-0,6	16-18
5,7—6,0	19	28,79	0,4-0,6	16-18
6,0—6,3	24	36,36	0,6-0,8	18-20
6,3—6,6	32	48,48	0,6-0,8	18-20
6,6—6,9	33	50	0,8	>20
6,9—7,2	28	42,42	0,6-0,8	18-20
7,2—7,5	38	57,58	0,8	>20
7,5—7,8	42	63,64	0,8	>20
7,8—8,1	34	51,52	0,8	>20

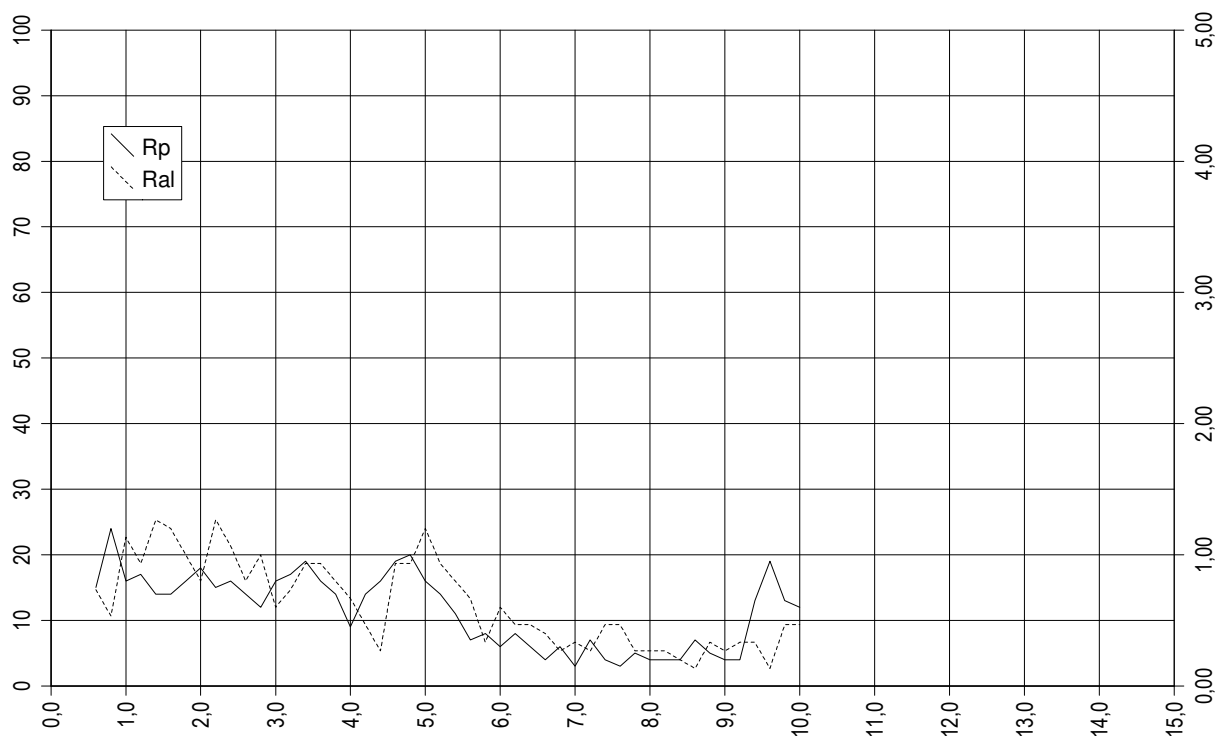
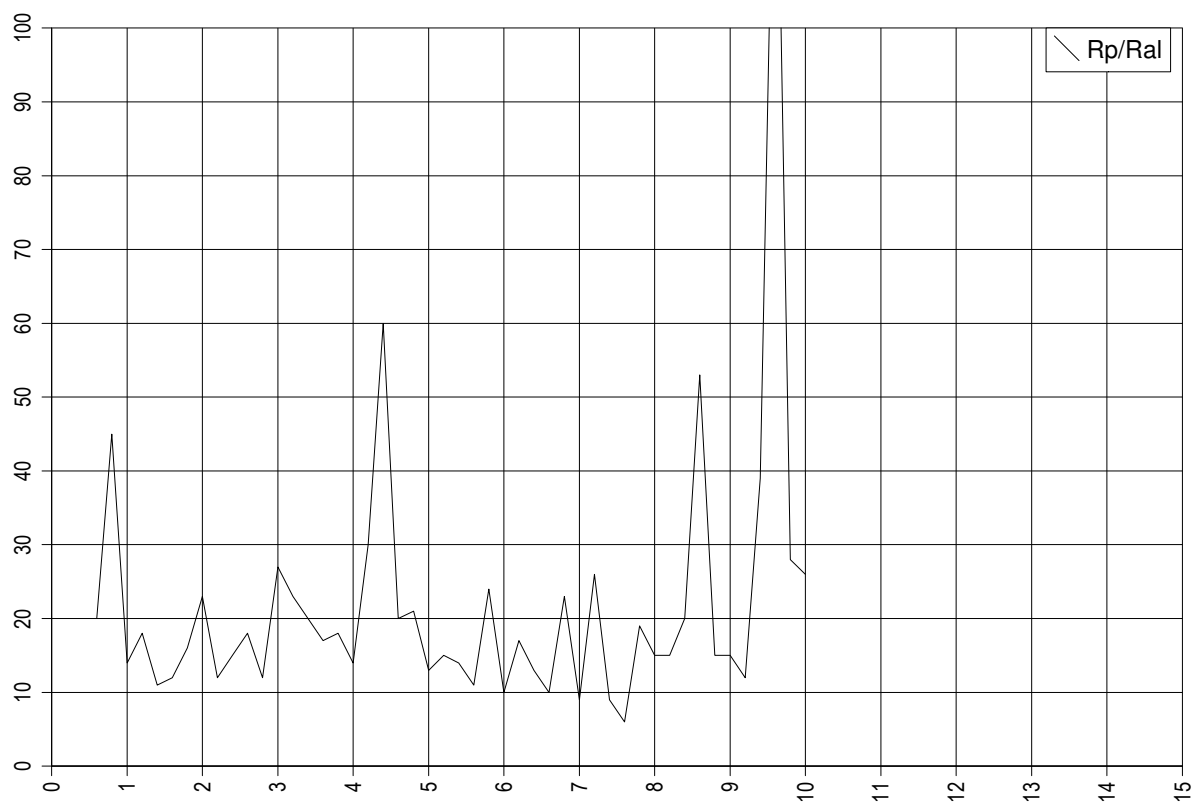
GEOPROGETTI

Committente: Asilo Infantile "E. de Amicis"

Prova penetrometrica n°: 1

Località: Via del Bosco - S. Croce sull'Arno

Data: 17 .09 .2004



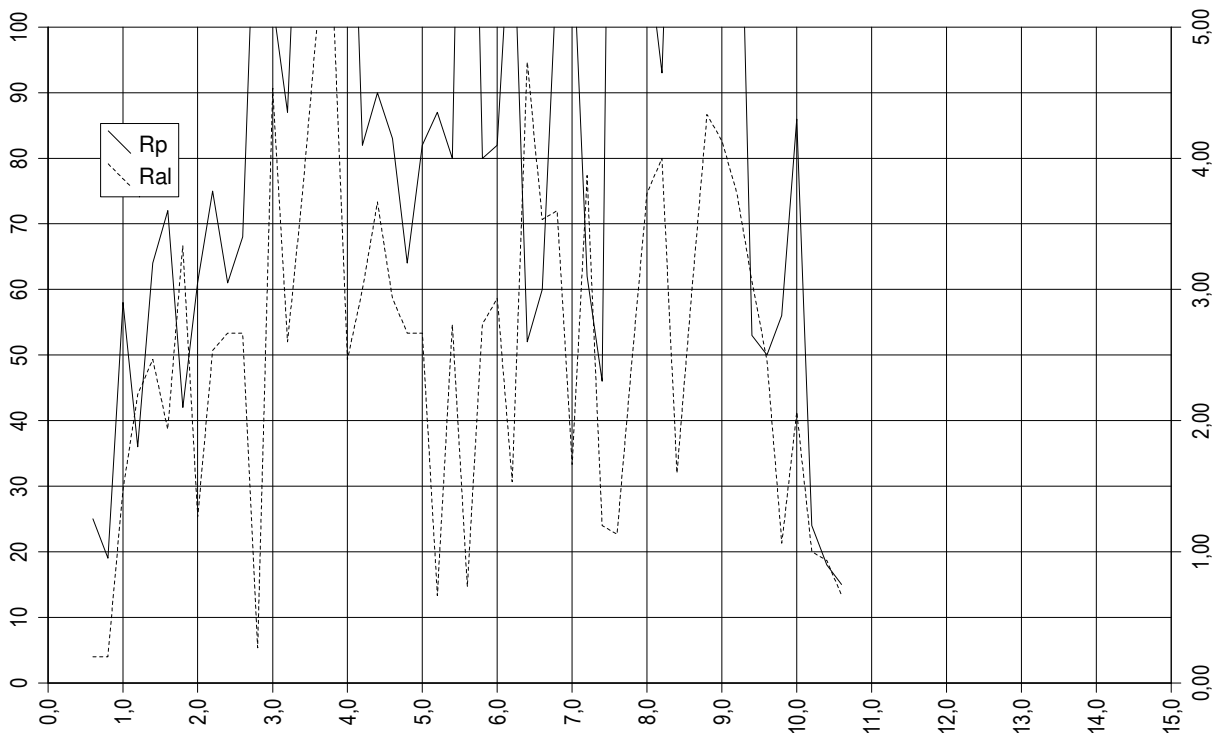
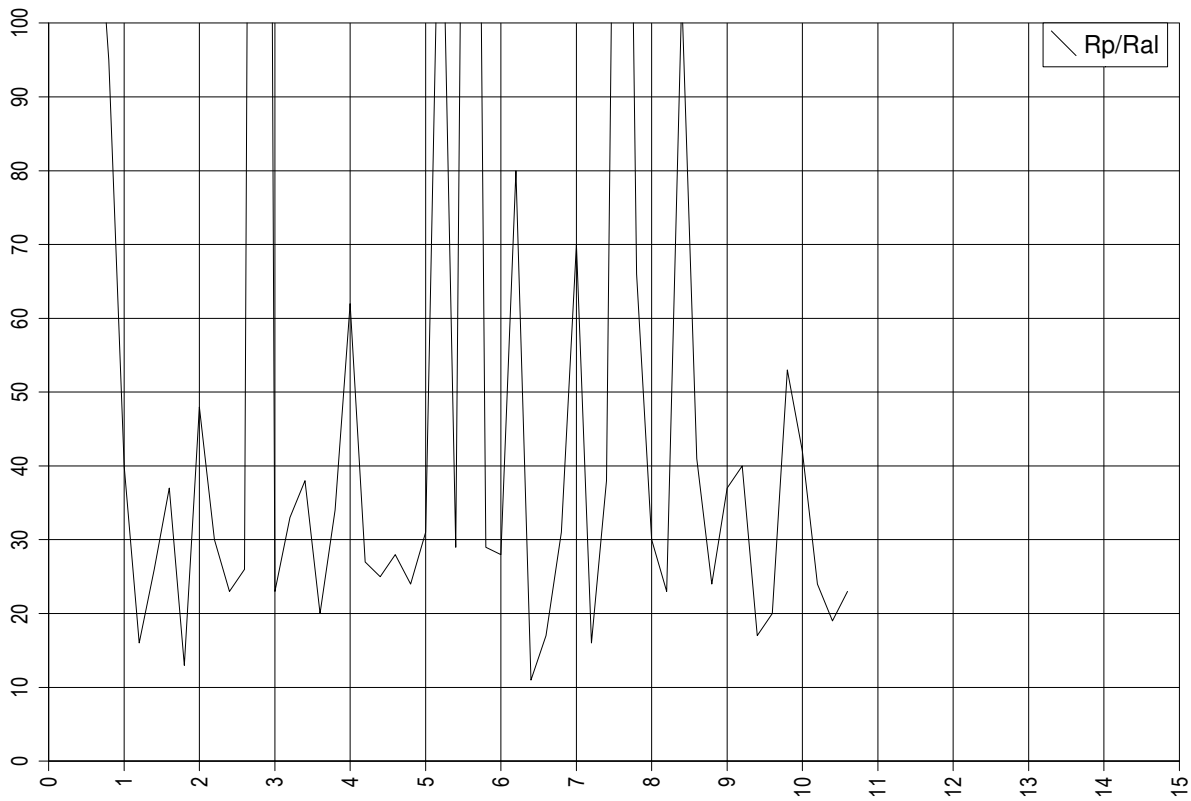
GEOPROGETTI

Committente: Fagnani ed altri

Prova penetrometrica n°: 1

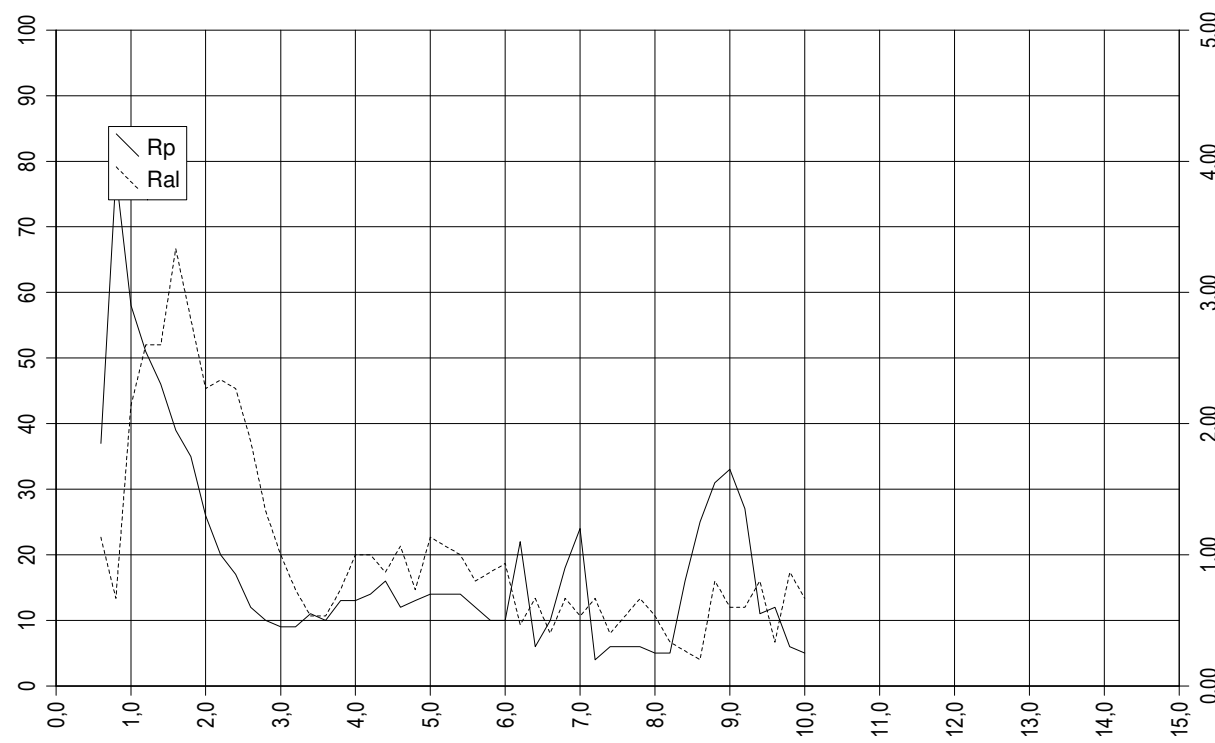
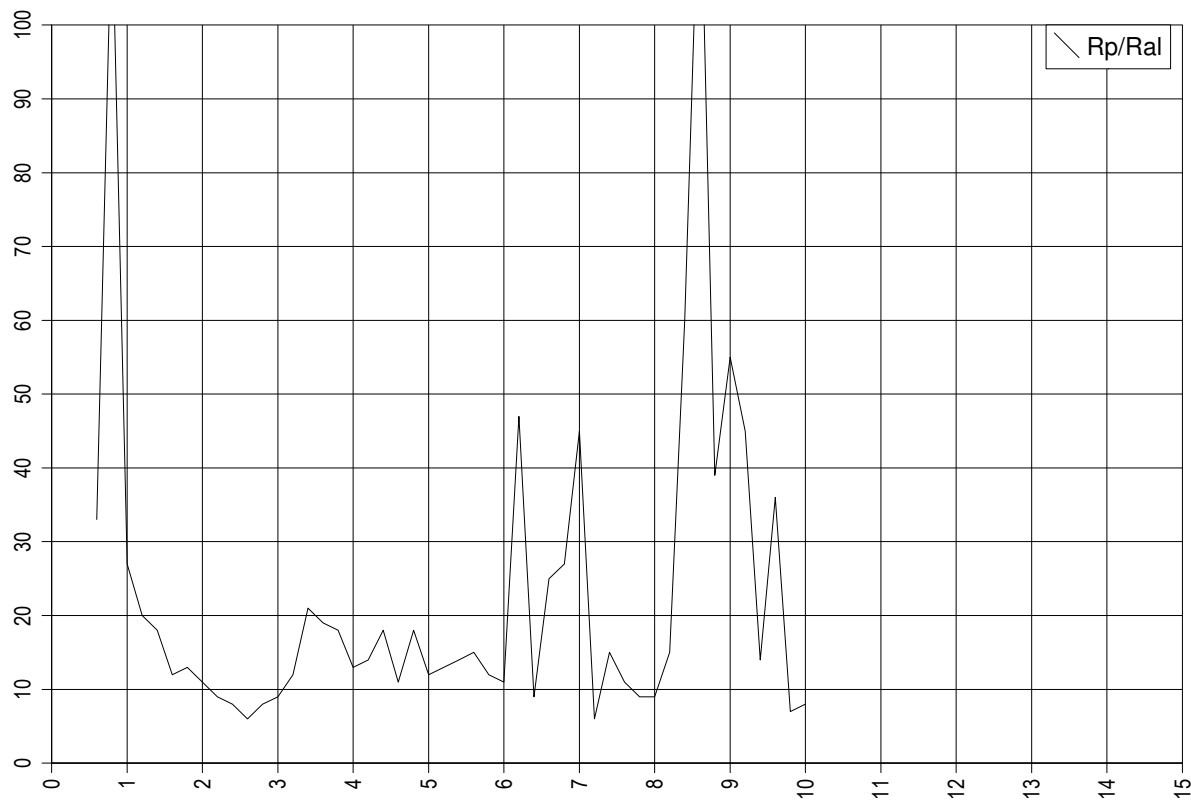
Località: Bechini-Staffoli (S.Croce S/A)

Data: 22 .12 .2004



Committente: Cambi Leda ed altri
Località: S.Croce sull'Arno

Prova penetrometrica n°: 1
Data: 19 .07 .2005



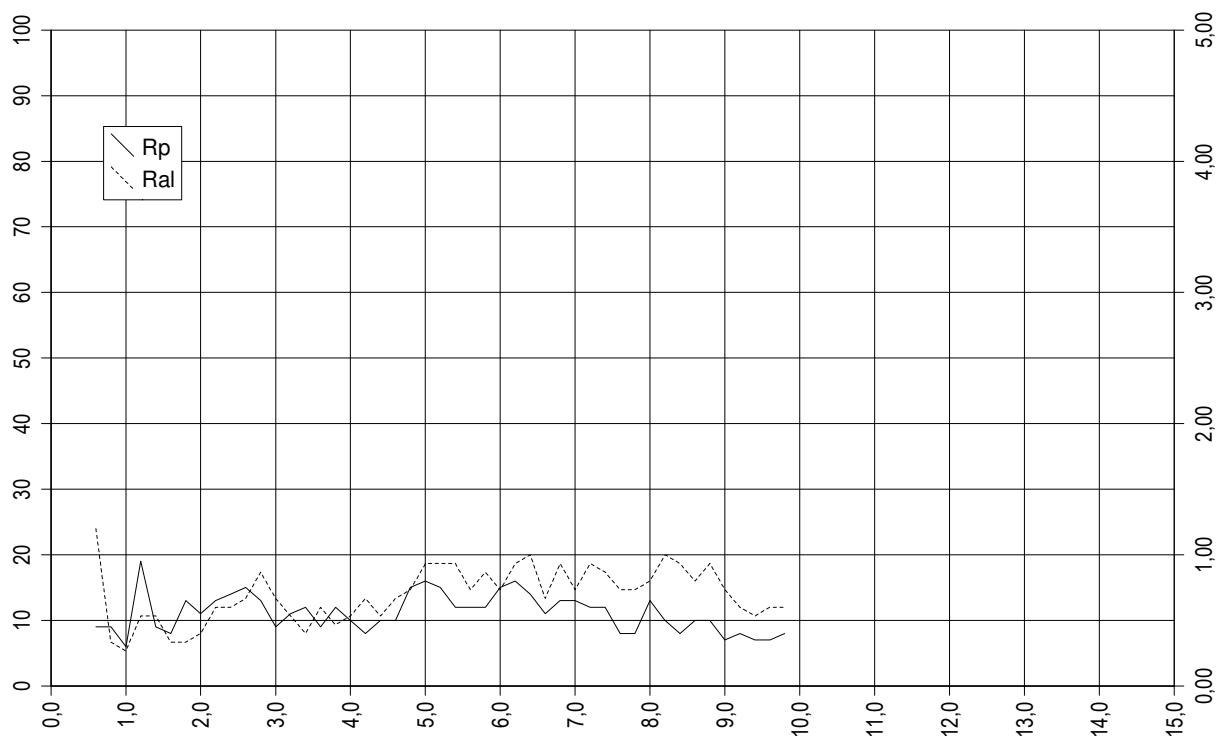
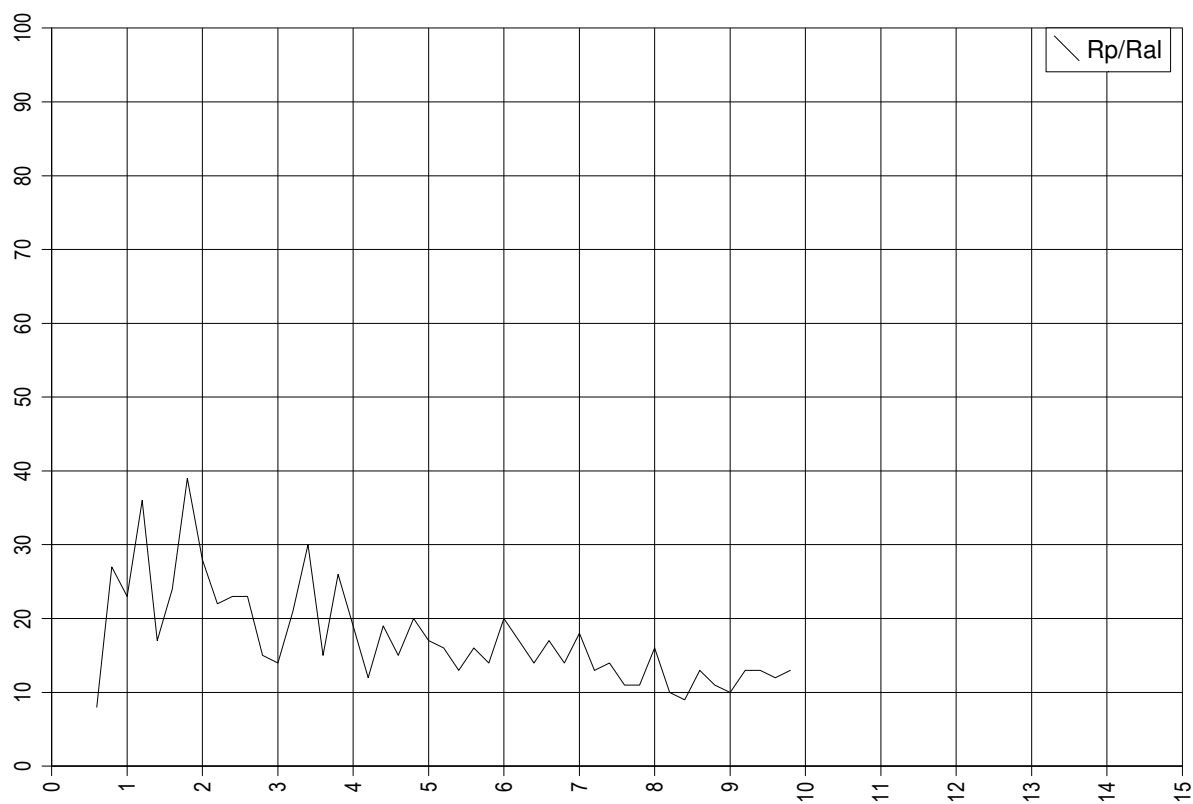
GEOPROGETTI

Committente: Immobiliare Tre Pi srl

Prova penetrometrica n°: 1

Località: Via Puccioni - Santa Croce sull'Arno

Data: 28, 07, 2005



GEOPROGETTI

Piazza Martiri della Libertà 45 - 56025 PONTEDERA (PISA)
Tel. 0587/54001 P. I.V.A. 00666390503

Prova geotecnica numero: 1
Comitente: IMMOBILIARE S.A.R.L.
Località: S. GIUSEPPE SULL'ARNO
Cantiere: VIA G. DA VERAZZANO
Data: 29/06/1988

lettura di campagna

valori derivati

PROFONDITA' [metri]	Rot [Kg]	Rat [Kg]	RI [Kg]	Rat-Rot [Kg]	Ral [Kg/cm]	Rp/Ral	Rt-Rot [Kg]	FI [gradi]	Dr [%]	Cu [Kg/cm]	mv [cmq/t]
.2	78	188	235	38	.2	35	165			.28	23.81
.4	128	212	388	92	.51	28	268			.48	19.13
.6	138	246	488	116	.77	17	358			.52	18.72
.8	169	329	688	168	1.86	16	511			.68	17.77
1	169	329	688	168	1.26	15	585			.78	17.41
1.2	195	384	788	189	1.38	14	563			.79	17.39
1.4	197	485	768	288	1.18	13	492			.63	17.97
1.6	158	335	658	177	1.43	31	485			.54	18.55
1.8	135	288	548	65	.63	28	318			.5	18.91
2	125	228	435	95	.56	22	283			.49	19.84
2.2	122	286	485	84	.47	33	235			.42	18.83
2.4	155	226	398	71	.52	28	242			.59	18.19
2.6	148	226	398	78	.67	28	291			.55	18.46
2.8	138	259	429	181	.66	28	257			.54	18.52
3	136	236	393	188	.5	34	288			.68	17.75
3.2	178	245	458	75	.68	27	385			.74	17.54
3.4	185	288	498	183	.8	25	366			.8	17.37
3.6	199	328	565	121	.89	21	364			.74	17.52
3.8	186	328	558	134	.9	18	385			.66	17.84
4	165	388	558	135	.8	21	353			.67	17.8
4.2	167	288	528	121	.87	19	318			.67	17.8
4.4	167	288	485	131	.84	24	226			.62	18.85
4.6	154	251	388	97	.54	14	244			.3	22.94
4.8	76	158	328	82	.32	16	215			.2	29
5	58	98	265	48	.24	33	141			.32	22.42
5.2	79	115	228	36	.34	16	191			.22	27.62
5.4	54	185	245	51	.25	19	286			.19	29.78
5.6	48	86	254	38	.18	38	262			.19	29.78
5.8	48	72	258	24	.16	27	216			.2	29
6	58	78	266	28	.18	34	228			.26	24.99
6.2	64	92	292	28	.24	24	268			.24	25.93
6.4	68	97	328	37	.28	36	258			.41	28.16
6.6	76	115	358	39	.46	21	426			.4	28.3
6.8	182	145	384	43	.61	28	426			.5	18.56
7	188	178	475	92	.57	28	498			.64	17.93
7.2	124	216	558	78	.83	18	611			.66	17.86
7.4	168	246	658	86	.93	17	556			.62	18.85
7.6	164	304	775	148	.81	16	748			.52	18.72
7.8	154	294	818	122							
8	138	252	878								

*** PROGRAMMA FL 16 ***

Elaborazione dati a cura di GEOPROGETTI
Stampa eseguita nella giornata del 29/06/1988

GEOPROGETTI

Piazza Martiri della Libertà, 45 - 56025 PONTEDERA (PISA)
 Tel. 0587 / 54801 P. I.A.A. 086657 858 3

Prova densitometrica numero :
 Cantante : IMMOBILIARE C.A.R.
 Località : S. CROCE SULL'ARNO
 Cantiere : VIA S. DA VERAZIANO
 Data : 27/06/1988

letture di campagna

valori derivati

PROFONDITA' [metri]	Rot [Kg]	Rat [Kg]	Rt [Kg]	Rat-Rot [Kg]	Ral [Kg/cm ²]	Ra/Ral	Rt-Rot [Kg]	Fl [gradi]	Dr [%]	Cu [Kg/cm ²]	av [cm ² /l]
8.2	126	259	935	113	.75	17	989			.5	18.27
8.4	115	258	998	115	.76	15	975			.46	19.17
8.6	149	249	1028	180	.66	22	971			.5	18.17
8.8	178	306	1148	156	.9	19	978			.68	17.75
9	135	269	1228	134	.89	15	1885			.54	18.33
9.2	113	228	1258	187	.71	16	1137			.45	19.48
9.4	72	155	1258	83	.55	13	1178			.29	23.47
9.6	76	122	1288	46	.3	25	1284			.3	22.84
9.8	97	136	1312	49	.32	27	1225			.35	21.46
10	86	126	1235	48	.26	32	1149			.34	21.57
10.2	89	161	1488	72	.48	19	1311			.36	21.26
10.4	185	143	1488	38	.25	41	1295			.42	19.95
10.6	91	156	1488	65	.43	21	1389			.36	21.86

LEGENDA : Rot = res. totale di punta Rat = res. lat. totale dal amiccato + res. totale di punta Rt = res. totale Ro = res. di punta
 Ra/Ral = rapporto Seguranza Fl = angolo di attrito Dr = coesione utile av = coeff. di compressibilità volumetrica
 Cu = coesione relativa

Elaborazione dati a cura di GEOPROGETTI

Piazza Martiri della Libertà, 45 - 56025 PONTEDERA (PISA) - Tel. 0587 / 54801

*** PROGRAMMA FL 10 ***

GEOPROGETTI

Piazza Martiri della Libertà' 45 - 56025 PONTEDERA (PI)
Tel. 0587 / 54001 P. I.V.A. 0086639 050 3

Prova penetrometrica n° : 2
Committente : PASQUINELLI ENRICO
Località : STAFFOLI-S. CRUCE S. ARNO
Cantiere : VIA PIERACCETTI
Data : 07/03/1989

valori derivati

PROFONDITÀ [metri]	Numero colpi	Tipo litologico	FI [gradi]	Dr [%]	Cu [Kg/cm²]	mv [cmq/t]
.1	1	L			.1	166.67
.2	4	L			.4	41.67
.3	3	L			.3	55.56
.4	2	L			.2	83.33
.5	3	L			.3	55.56
.6	2	L			.2	83.33
.7	2	L			.2	83.33
.8	2	L			.2	83.33
.9	4	L			.4	41.67
1	1	L			.1	166.67
1.1	3	L			.3	55.56
1.2	3	L			.3	55.56
1.3	2	L			.2	83.33
1.4	2	L			.2	83.33
1.5	3	L			.3	55.56
1.6	3	L			.3	55.56
1.7	2	L			.2	83.33
1.8	3	L			.3	55.56
1.9	2	L			.2	83.33
2	1	L			.1	166.67
2.1	2	L			.2	83.33
2.2	1	L			.1	166.67
2.3	1	L			.1	166.67
2.4	1	L			.1	166.67
2.5	2	L			.2	83.33
2.6	3	L			.3	55.56
2.7	2	L			.2	83.33
2.8	1	L			.1	166.67
2.9	2	L			.2	83.33
3	3	L			.3	55.56
3.1	3	L			.3	55.56
3.2	5	L			.5	33.33
3.3	9	L			.9	18.52
3.4	5	L			.5	33.33
3.5	2	L			.2	83.33
3.6	15	SI	31.74	45		11.11
3.7	10	SI	30	35		16.67
3.8	13	SI	30.8	40		12.82
3.9	9	SI	30	35		18.52
4	8	SI	29.24	28		20.83
4.1	17	SI	32.42	48		9.8
4.2	13	SI	30.8	40		12.82
4.3	16	SI	31.74	45		10.42
4.4	12	SI	30.8	40		13.89
4.5	21	SI	33.18	52		7.94
4.6	14	SI	31.74	45		11.9
4.7	15	SI	31.74	45		11.11
4.8	22	SI	33.94	55		7.58
4.9	22	SI	33.94	55		7.58
5	19	SI	33.18	52		8.77

S. T. A. Elaborazione Dati
Via Fogliatti 18 - 56033 CAPANNOLI (PI)

*** PROGRAMMA FL 10 ***

GEOPROGETTI

Piazza Martiri della Libertà 45 - 56025 PONTEDERA (PI)
Tel. 0587 / 54001 P. I.V.A. 0006639 050 3

Prova penetrometrica n° : 2
Committente : PASQUINELLI ENRICO
Località : STAFFOLI-S.CROCE S. ARNO
Cantiere : VIA PIERACCETTI
Data : 07/03/1989

valori derivati

PROFONDITÀ [metri]	Numero colpi	Tipo litologico	FI [gradi]	Dr [%]	Cu [Kg/cm²]	Nv [cmq/t]
5.1	17	SI	32.42	48		9.8
5.2	16	SI	31.74	45		10.42
5.3	9	SI	30	35		10.52
5.4	11	SI	30	35		15.15
5.5	12	SI	30.8	40		13.89
5.6	14	SI	31.74	45		11.9
5.7	17	SI	32.42	48		9.8
5.8	14	SI	31.74	45		11.9
5.9	14	SI	31.74	45		11.9
6	11	SI	30	35		15.15
6.1	13	SI	30.8	40		12.82
6.2	15	SI	31.74	45		11.11
6.3	14	SI	31.74	45		11.9
6.4	16	SI	31.74	45		10.42
6.5	18	SI	32.42	48		9.26
6.6	20	SI	33.18	52		8.33
6.7	28	SI	35.3	62		5.95
6.8	39	SI	38.64	75		4.27
6.9	89	Sa	42.73	92		1.87
7	105	Sa	42.73	92		1.59

S. I. A. Elaborazione Dati
Via Togliatti 18 - 56033 CAPANNOLI (PI)

*** PROGRAMMA FL 10 ***

GEOPROGETTI

Tel. 0587 / 54881

P. I.V.A. 0086639 050 3

Prova penetrometrica n° : 1

Cantiere : VIA DEL VINO

Data : 06/07/1989

valori derivati

PROFONDITA' [metri]	Numero colpi	Tipo litologico	FI [gradi]	Dr [%]	Cu [Kg/cm ²]	mv [cmq/t]
.1	3	Tr				
.2	10	Tr				
.3	8	Tr				
.4	16	Tr				
.5	19	Tr				
.6	15	Tr				
.7	10	Tr				
.8	7	Tr				
.9	5	Tr				
1	4	Tr				
1.1	5	L			.5	33.33
1.2	5	L			.5	33.33
1.3	4	L			.4	41.67
1.4	4	L			.4	41.67
1.5	4	L			.4	41.67
1.6	6	L			.6	27.78
1.7	3	L			.3	55.56
1.8	5	L			.5	33.33
1.9	4	L			.4	41.67
2	5	L			.5	33.33
2.1	6	L			.6	27.78
2.2	5	L			.5	33.33
2.3	7	L			.7	23.81
2.4	8	L			.8	20.83
2.5	8	L			.8	20.83
2.6	13	Sl	30.8	40		12.82
2.7	13	Sl	30.8	40		12.82
2.8	12	Sl	30.8	40		13.89
2.9	13	Sl	30.8	40		12.82
3	12	Sl	30.8	40		13.89
3.1	10	Sl	30	35		16.67
3.2	11	Sl	30	35		15.15
3.3	15	Sl	31.74	45		11.11
3.4	19	Sl	33.18	52		8.77
3.5	17	Sl	32.42	48		9.8
3.6	20	Sl	33.18	52		8.33
3.7	23	Sl	33.94	55		7.25
3.8	21	Sl	33.18	52		7.94
3.9	19	Sl	33.18	52		8.77
4	23	Sl	33.94	55		7.25
4.1	53	Sa	41.43	87		3.14
4.2	47	Sa	40.38	82.5		3.55
4.3	38	Sa	38.83	72.5		4.39
4.4	39	Sa	38.64	75		4.27
4.5	20	Sa	33.18	52		8.33
4.6	46	Sa	39.77	80		3.62
4.7	45	Sa	39.77	80		3.7
4.8	25	Sa	34.6	59		6.67
4.9	31	Sa	35.98	65		5.78
5	55	Sa	41.9	89		3.83

S. T. A. Elaborazione Dati

Via Togliattij 10 - 58033 CAPANNOLE (FI)

*** PROGRAMMA FL 18 ***

GEOPROGETTI

Piazza Martiri della Libertà 45 - 56025 PONTEDERA (PI)
 Tel. 0587 / 54001 P. I.V.A. 0086639 050 3

Prova penetrometrica n° : 1
 Committente : BOCCIARDI B.F. ed F.
 Località : STAFFOLI - S. CROCE S/A
 Cantiere : VIA DEL VINO
 Data : 06/07/1989

valori derivati

PROFONDITA' [metri]	Numero colpi	Tipo litologico	FI [gradi]	Dr [%]	Du [Kg/cm ²]	mv [cmq/t]
5.1	44	Sa	39.77	88		3.79
5.2	31	Sa	35.98	65		5.38
5.3	60	Sa	42.73	92		2.78
5.4	100	Sa	42.73	92		1.67

S. I. A. Elaborazione Dati
 Via Ingliatti 18 - 56023 CAPANNOLI (PT)

*** PROGRAMMA FL 19 ***

GEOPROGETTI

Piazza Martiri della Libertà 45 - 56100 PONTEDERA (PISA)
Tel. 0587 / 54081 F. L.V.A. 208637 034 3

Prova penetrometrica numero : 1
Consistente : I.C.M.M. F.lli Sisti
Località : SIAFOLI
Cantieri : V.le C. Mattei
Data : 10/11/1998

valori derivati

letture di campagna

PROFONDITA' (metri)	Rpt (kg)	Rst (kg)	Rt (kg)	Rst-Rpt (kg)	Rst (kg/cm²)	Rp/Rst	Rt-Rpt (kg)	FI (gradi)	Dr (%)	Cu (kg/cm²)	av (cm/t)
0,2	40	138	118	88	4	18	78			16	33,74
0,4	50	135	120	65	4,3	12	78			2	24
0,6	60	128	240	68	4	15	180			24	25,93
0,8	80	128	318	48	2,6	38	238			32	22,59
1	240	130	1170	198	1,26	19	938			86	16,94
1,2	80	974	1648	158	1	62	828	37	54	3,6	8,1
1,4	70	1158	2070	438	2,86	25	1358			4,5	9,18
1,6	508	168	1808	368	2,93	38	988			3,65	7,39
1,8	738	1408	1738	358	2,33	31	958			3,6	9,18
2	728	1808	1708	288	1,66	39	968			6,61	2,69
2,2	778	1808	2538	238	1,53	58	1358	32	82	3,65	9,18
2,4	1808	1838	2318	38	2	24	1738	38	88	3,65	9,18
2,6	738	1188	2518	458	1,4	33	1378			2,65	9,86
2,8	538	778	1938	248	1,4	25	1638			2,5	12,82
3	588	868	2138	588	2	34	1788			2,2	18,24
3,2	648	948	2318	768	1,36	34	1788			3,9	8,5
3,4	768	1838	2678	318	2,86	38	1878			6,5	6,12
3,6	1388	1808	3158	548	3,75	35	1858				
3,8											
4											

LEGENDA : Rpt = res. totale di punta Rst = res. lat. totale del manico + res. totale di punta Rt = res. laterale Rp = res. di punta
Rp/Rst = rapporto Regenera FI = angolo di attrito Dr = densità' relativa Cu = coesione utile av = coeff. di compressibilità volumetrica

Elaborazione dati a cura di: **GEOPROGETTI**
Piazza Martiri della Libertà 45 - PONTEDERA (PISA) - Tel. 0587 / 54081

area PROSPERITA' FI 16 488

Committente: Soc. Alma srl

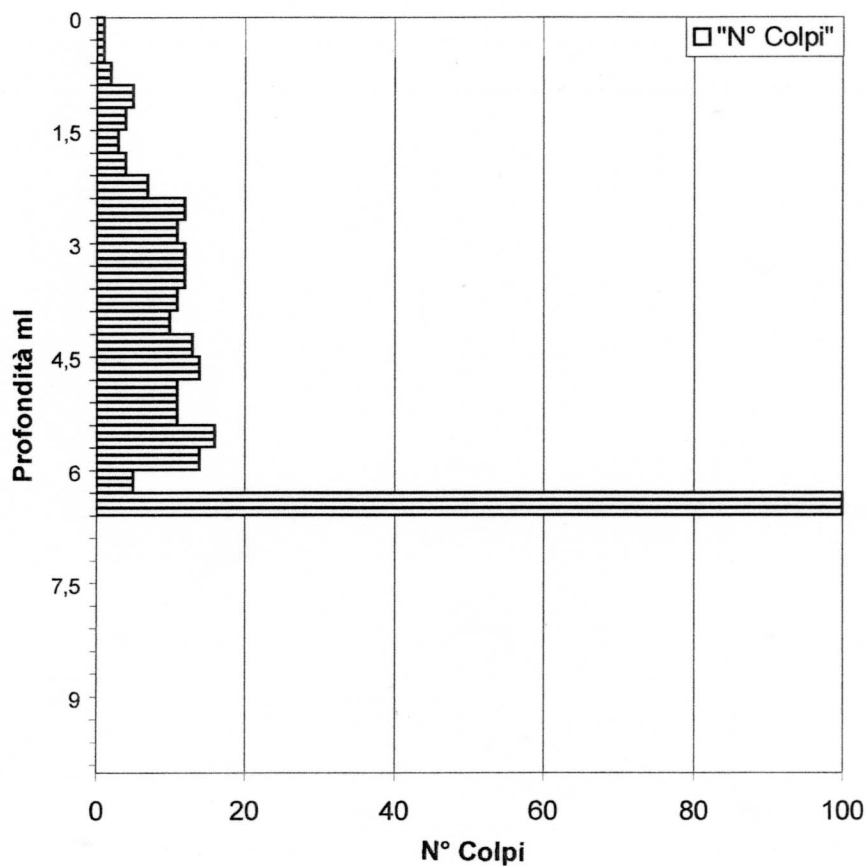
Prova penetrometrica n°: 2

Località: Poggio Adorno - S.Croce s/A

Data: 20, 03, 2000

Penetrometro dinamico Pagani da 73 N

Profondità	N° colpi
0,0—0,3	1
0,3—0,6	1
0,6—0,9	2
0,9—1,2	5
1,2—1,5	4
1,5—1,8	3
1,8—2,1	4
2,1—2,4	7
2,4—2,7	12
2,7—3,0	11
3,0—3,3	12
3,3—3,6	12
3,6—3,9	11
3,9—4,2	10
4,2—4,5	13
4,5—4,8	14
4,8—5,1	11
5,1—5,4	11
5,4—5,7	16
5,7—6,0	14
6,0—6,3	5
6,3—6,6	100
6,6—6,9	
6,9—7,2	
7,2—7,5	
7,5—7,8	
7,8—8,1	
8,1—8,4	
8,4—8,7	
8,7—9,0	
9,0—9,3	
9,3—9,6	
9,6—9,9	
9,9—10,0	



Prova n. :

1

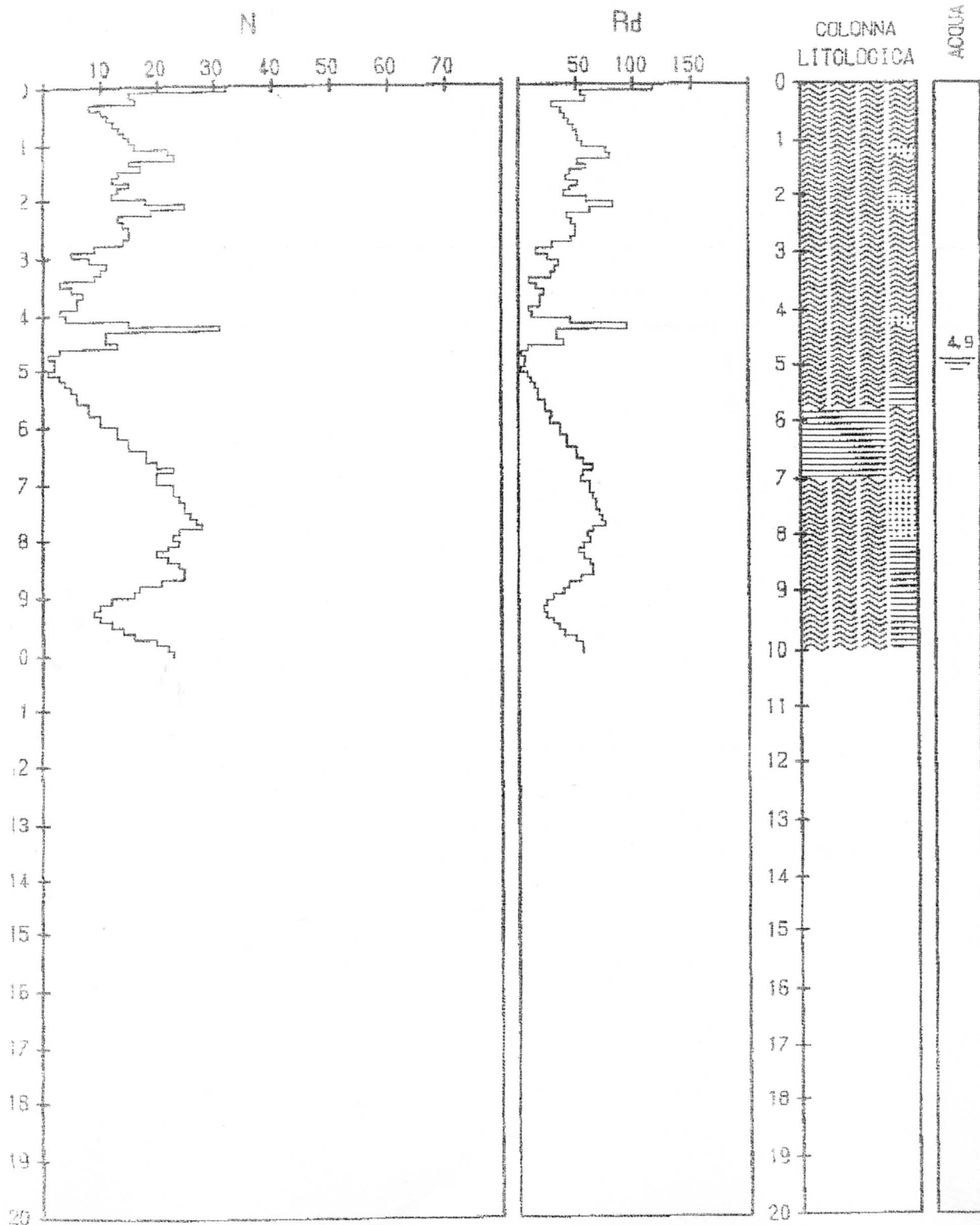
Cantiere : via Rivolta n° 4
 Condittole : Berti Siganetta
 Località : S. Croce sull'Arno
 Comune : S. Croce sull'Arno
 Data : 13/09/1994

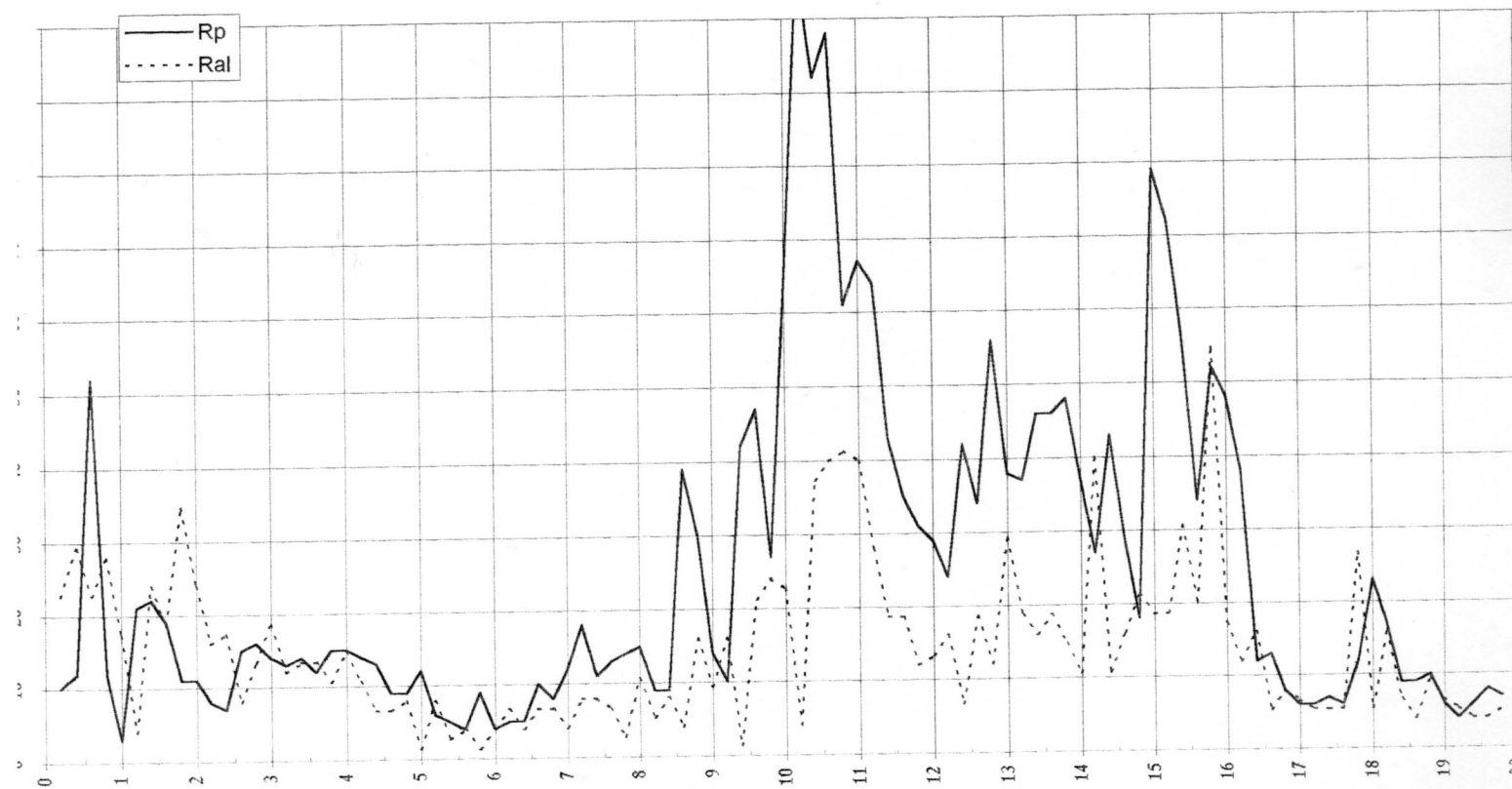
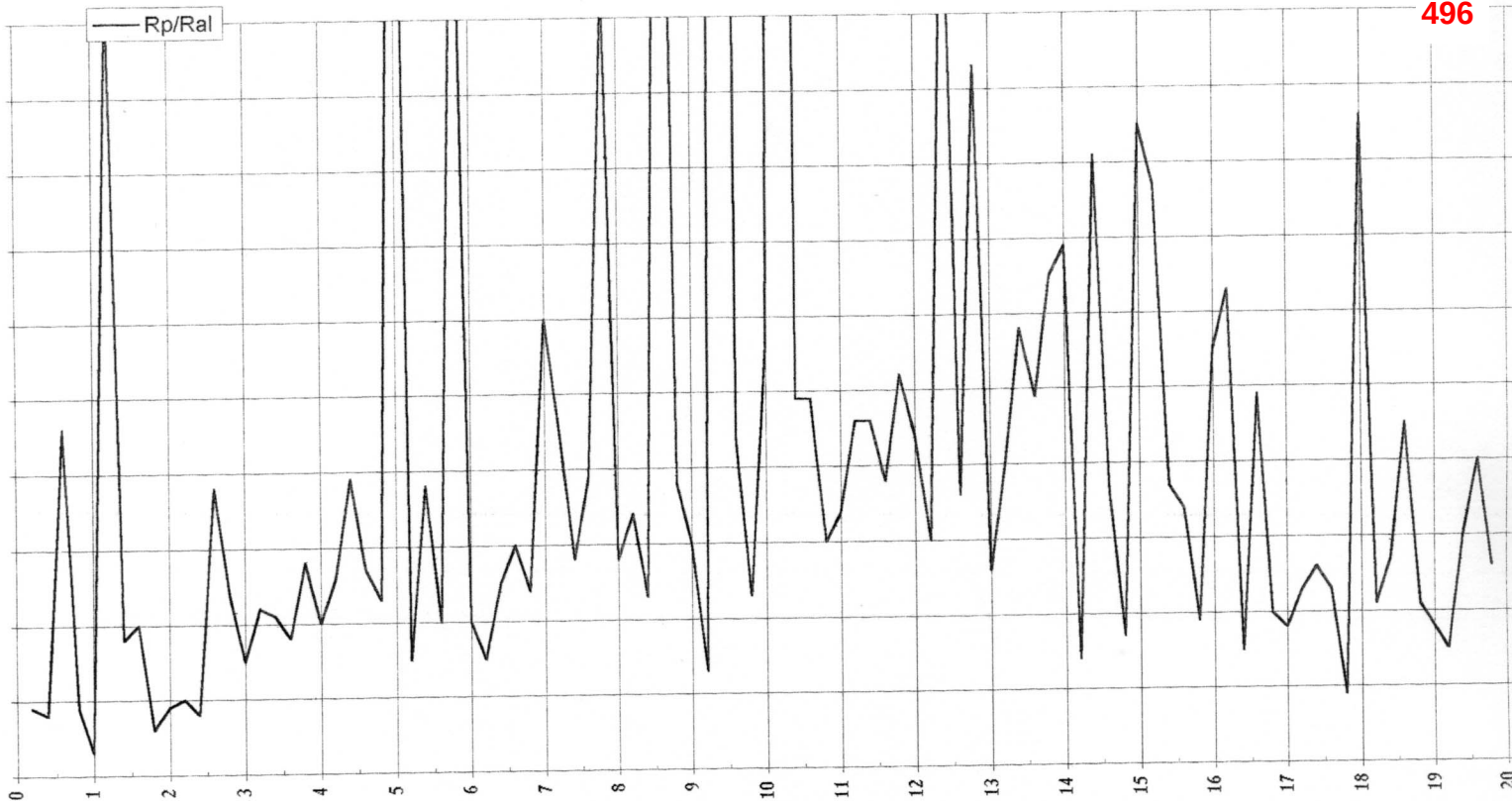
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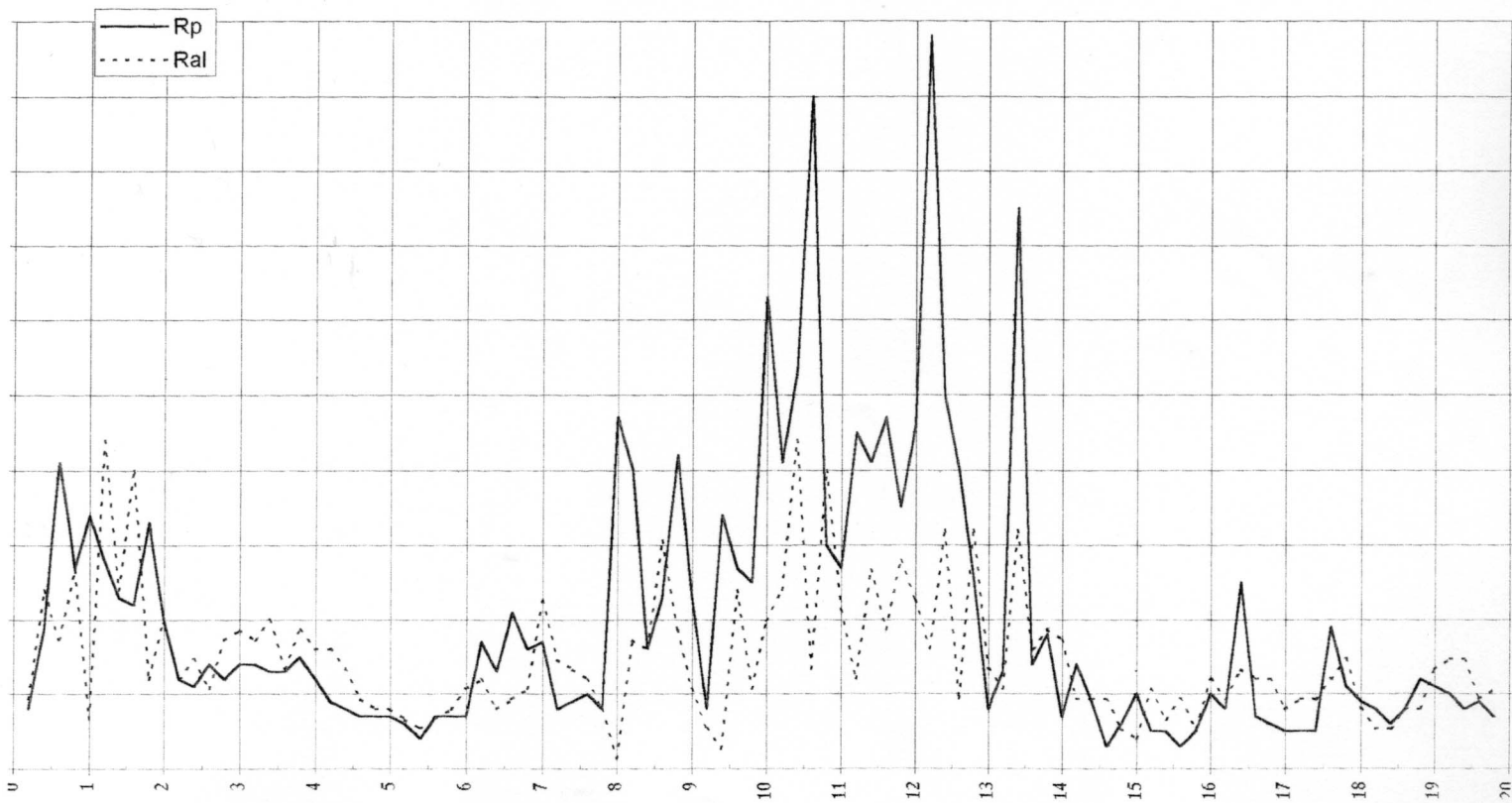
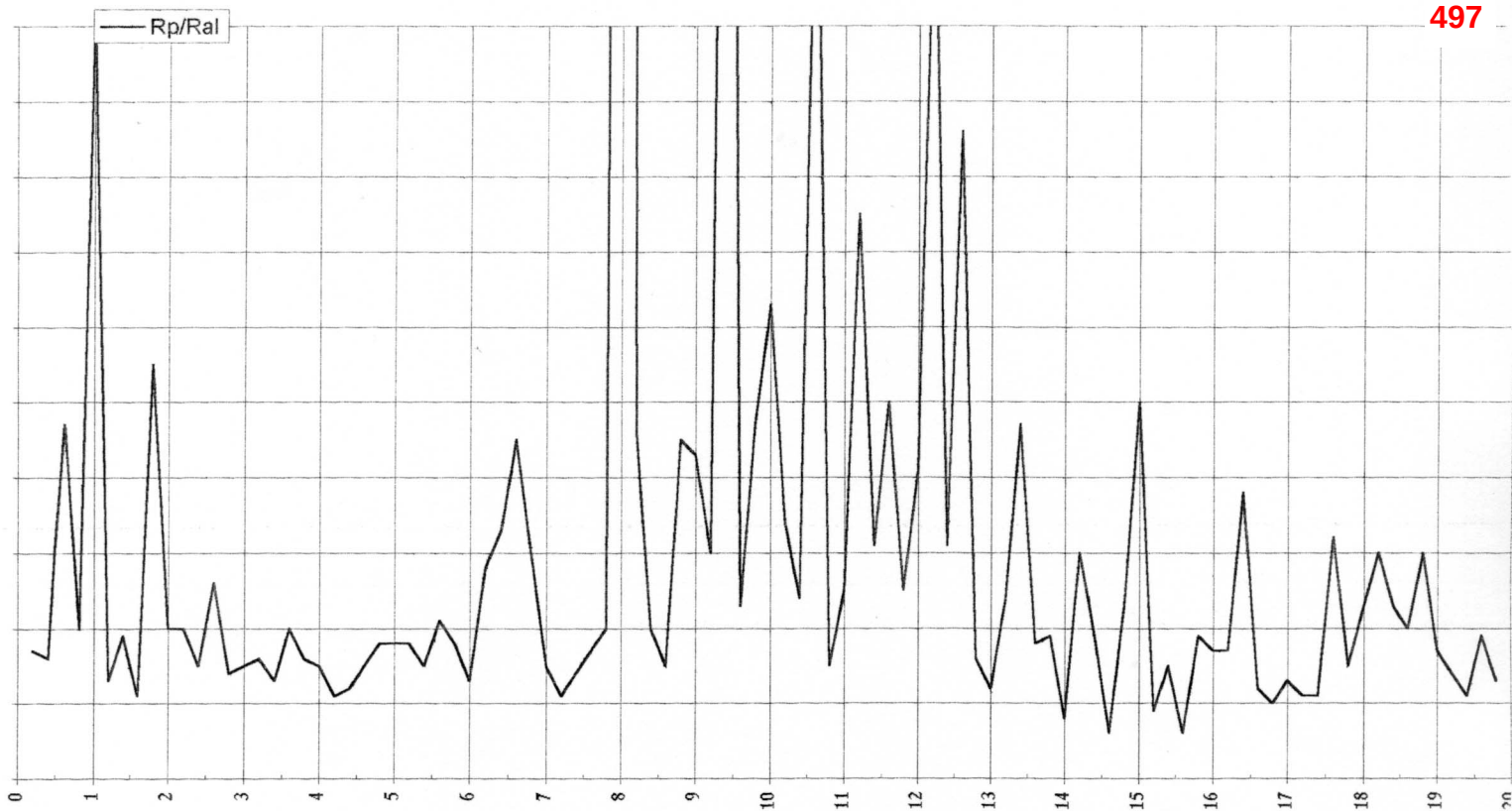
a s.l.m.

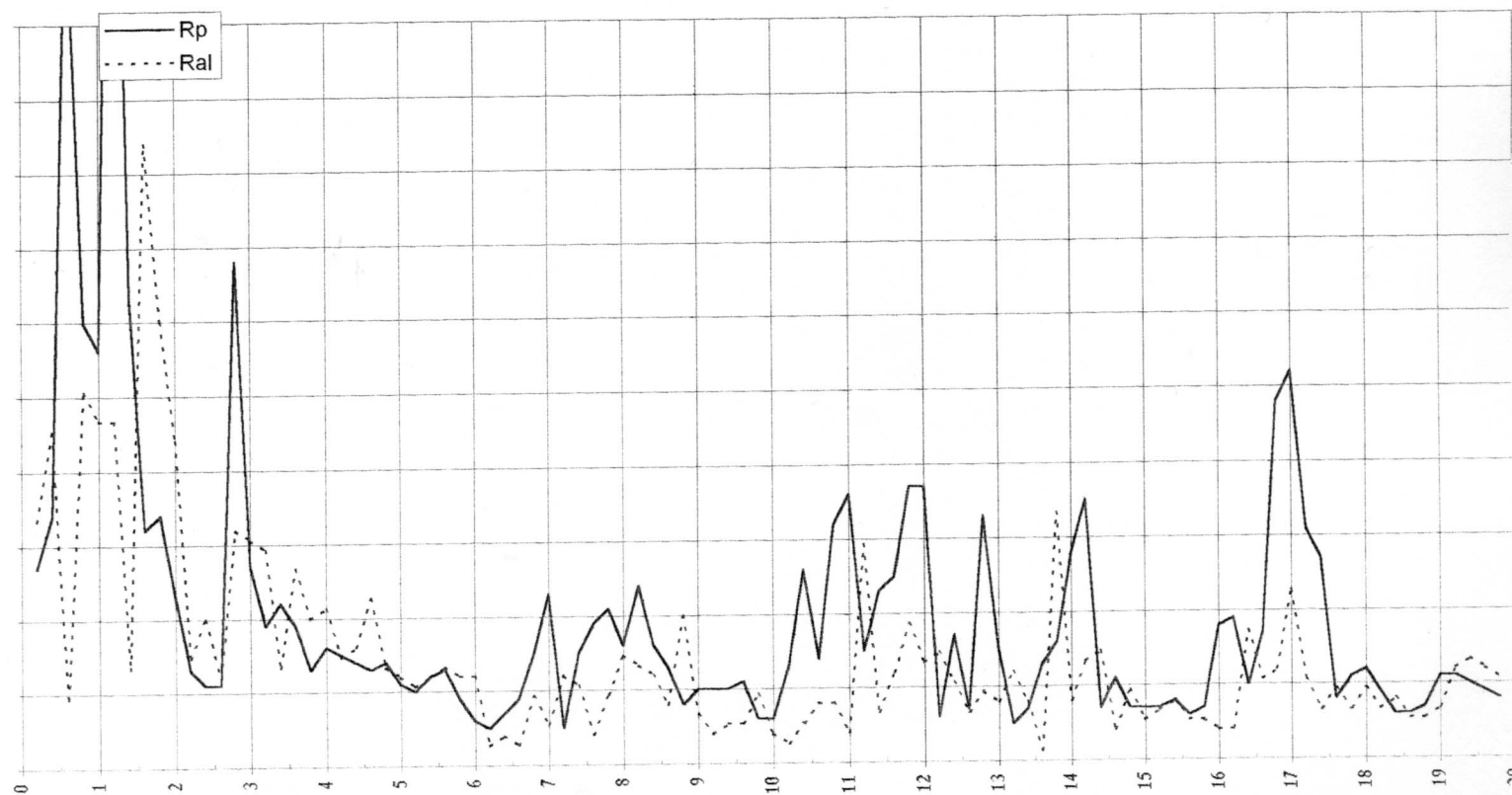
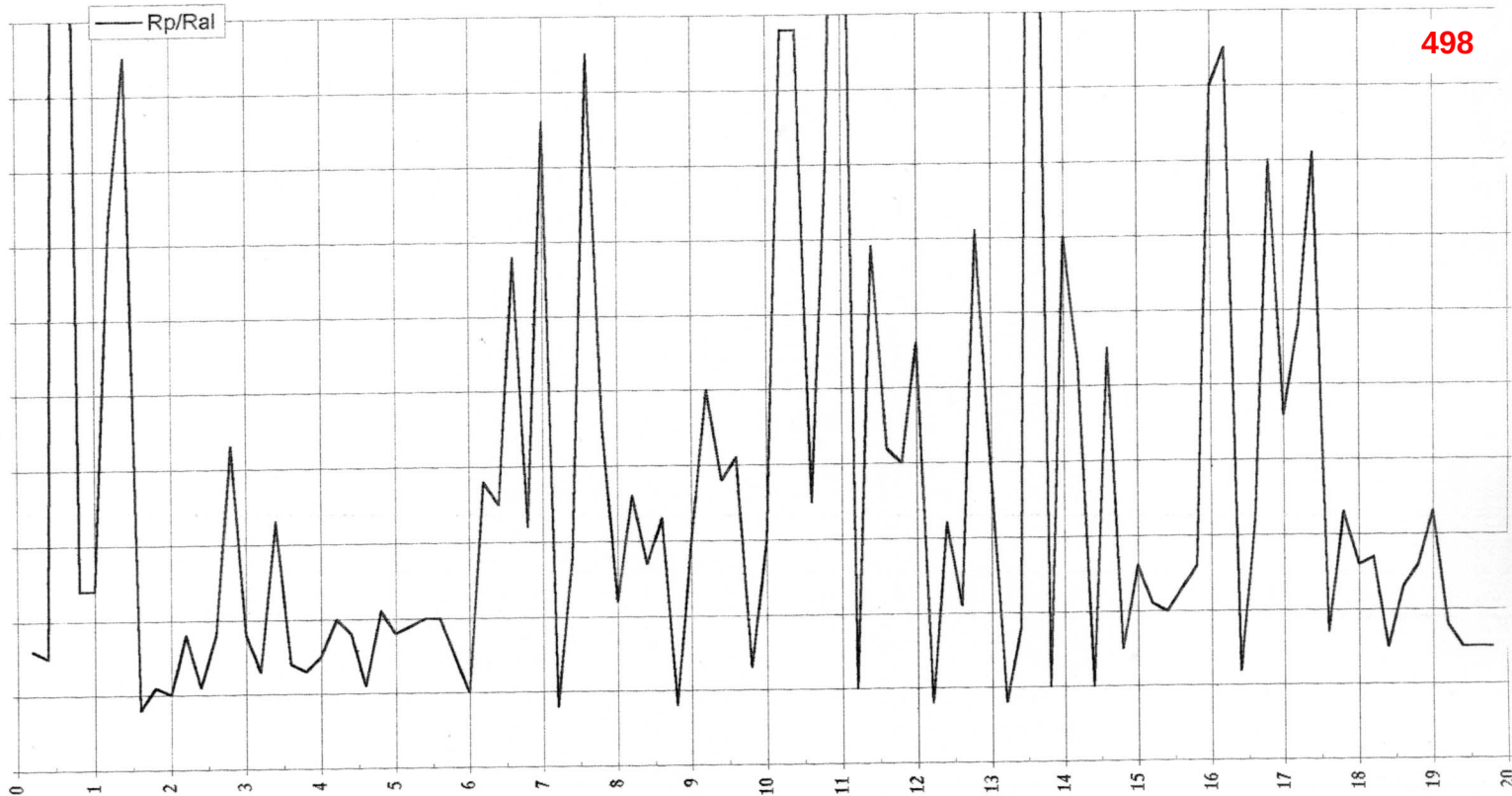
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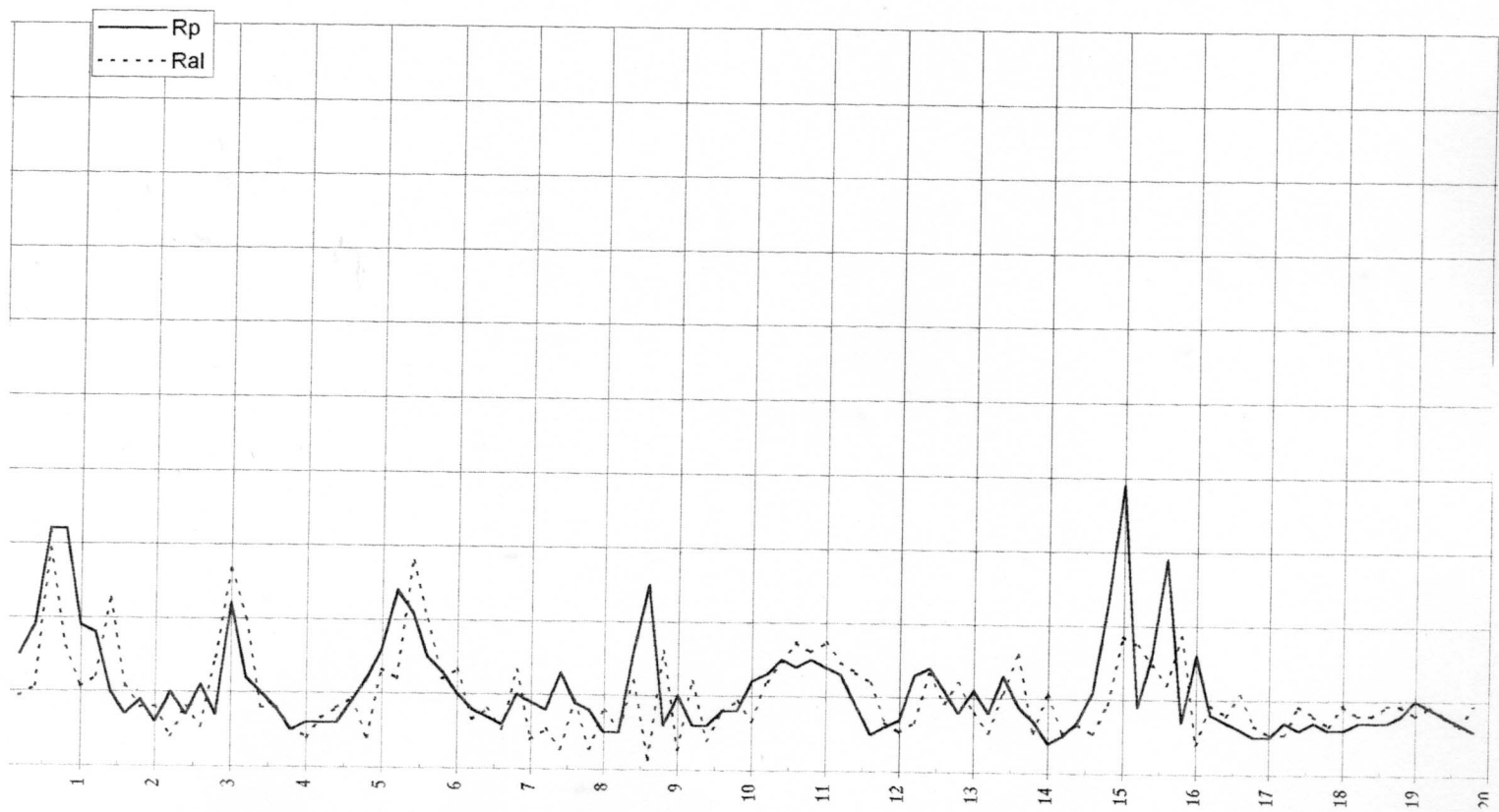
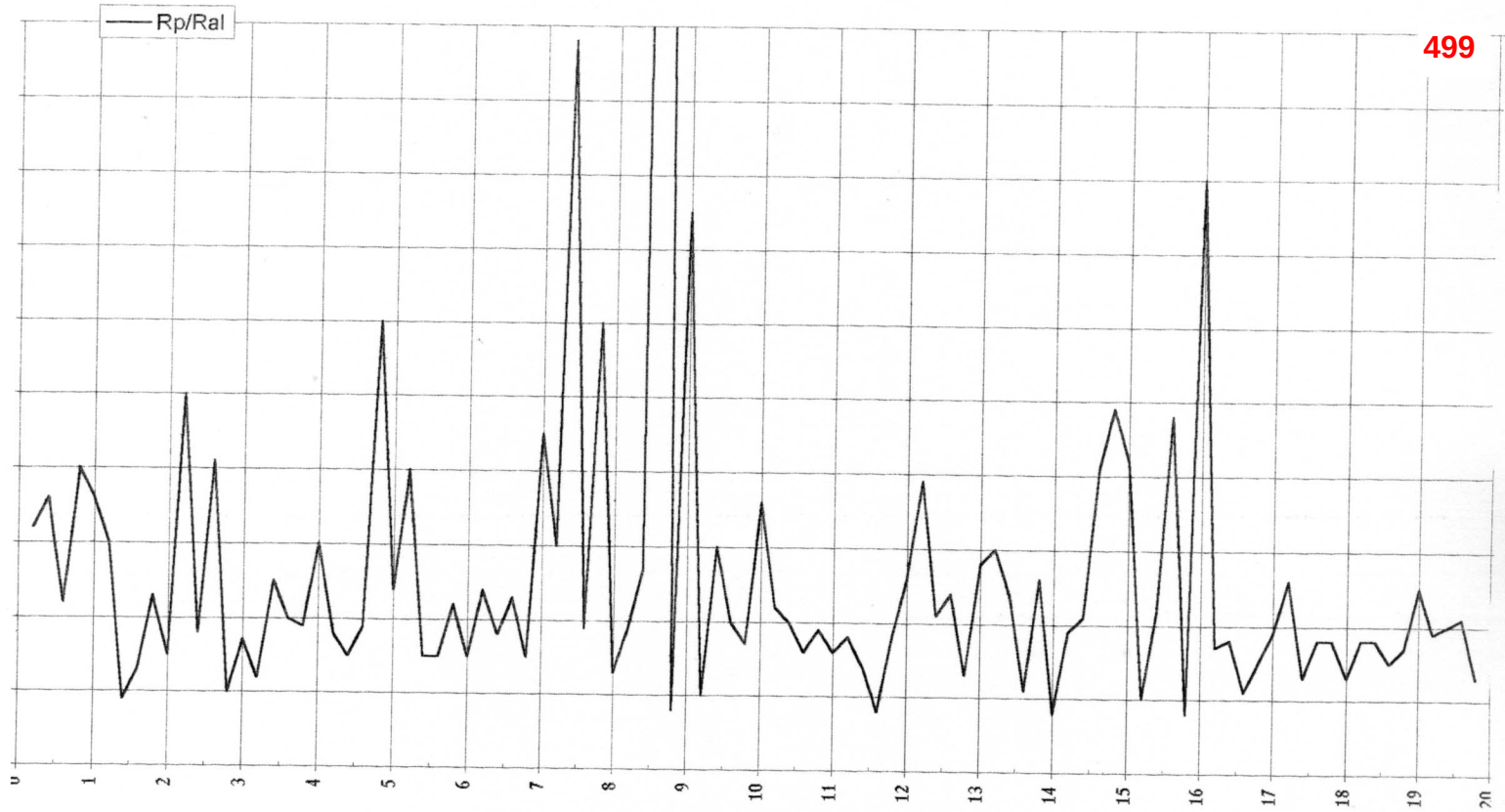
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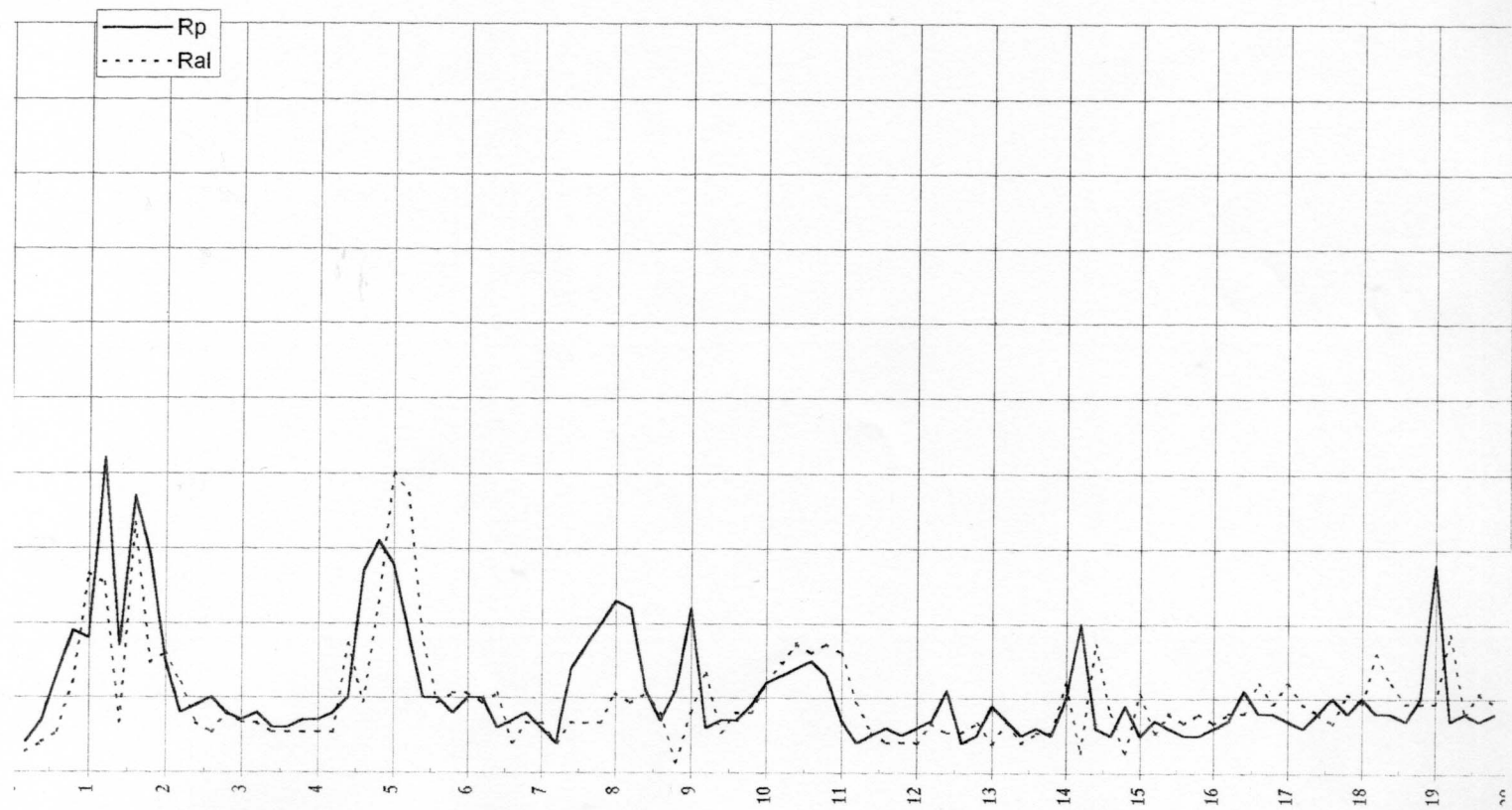
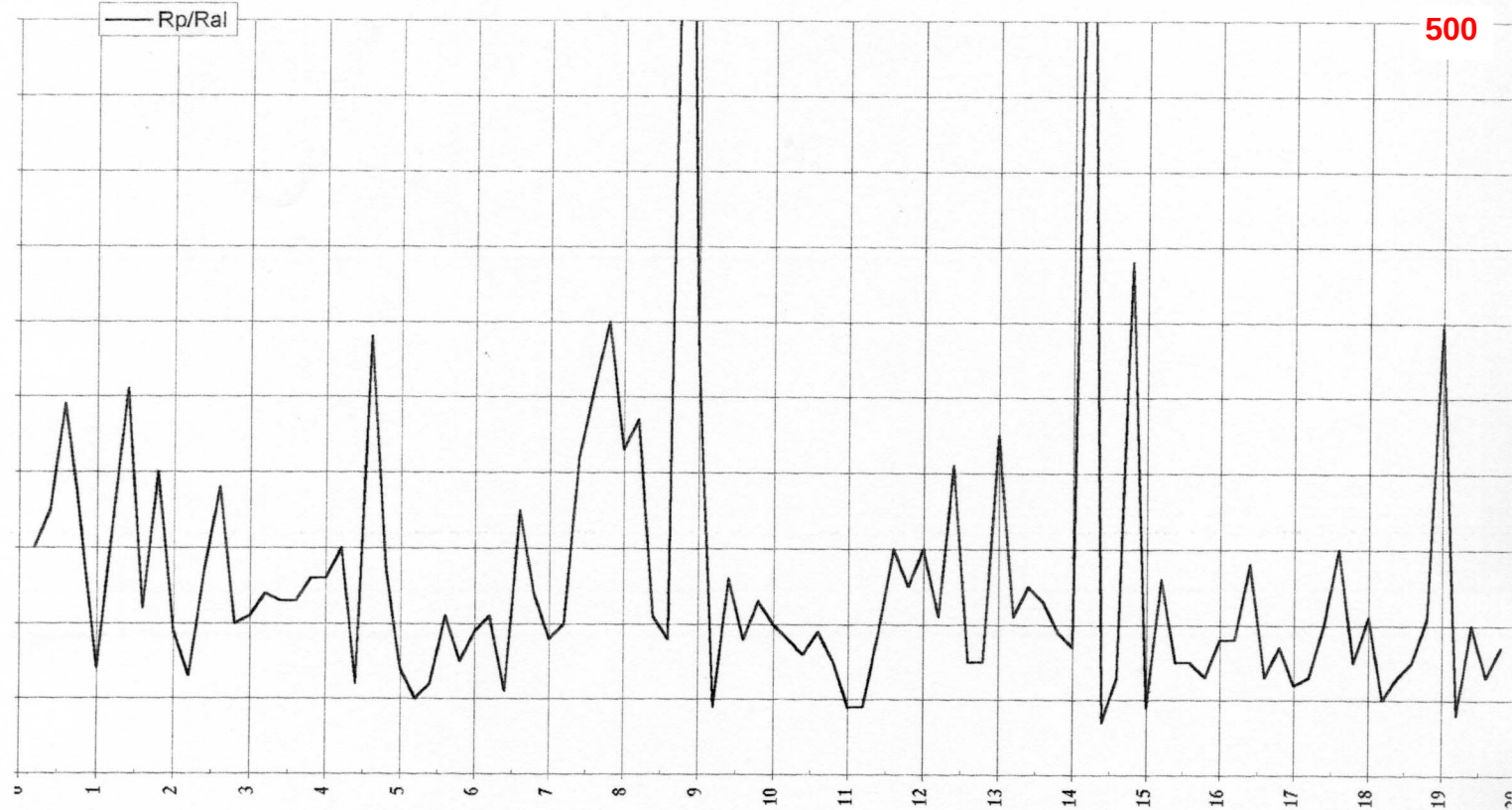




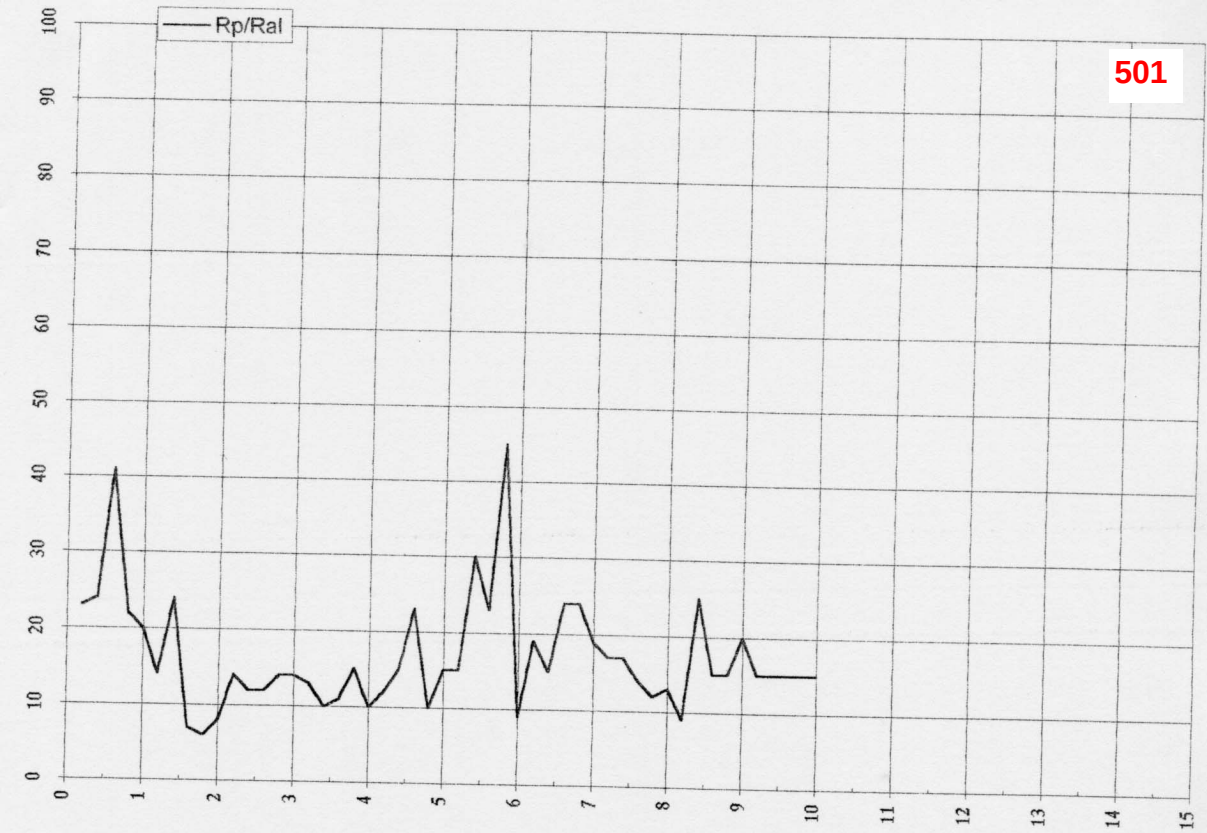




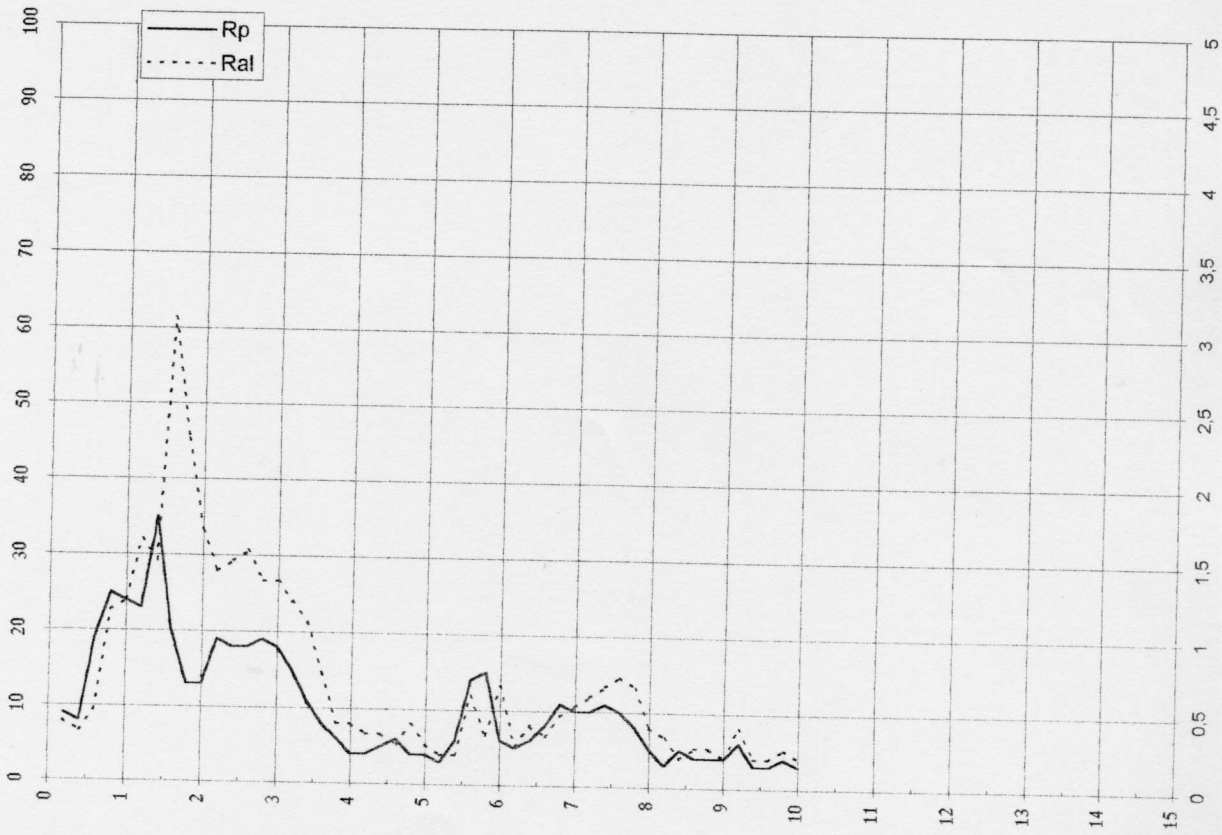


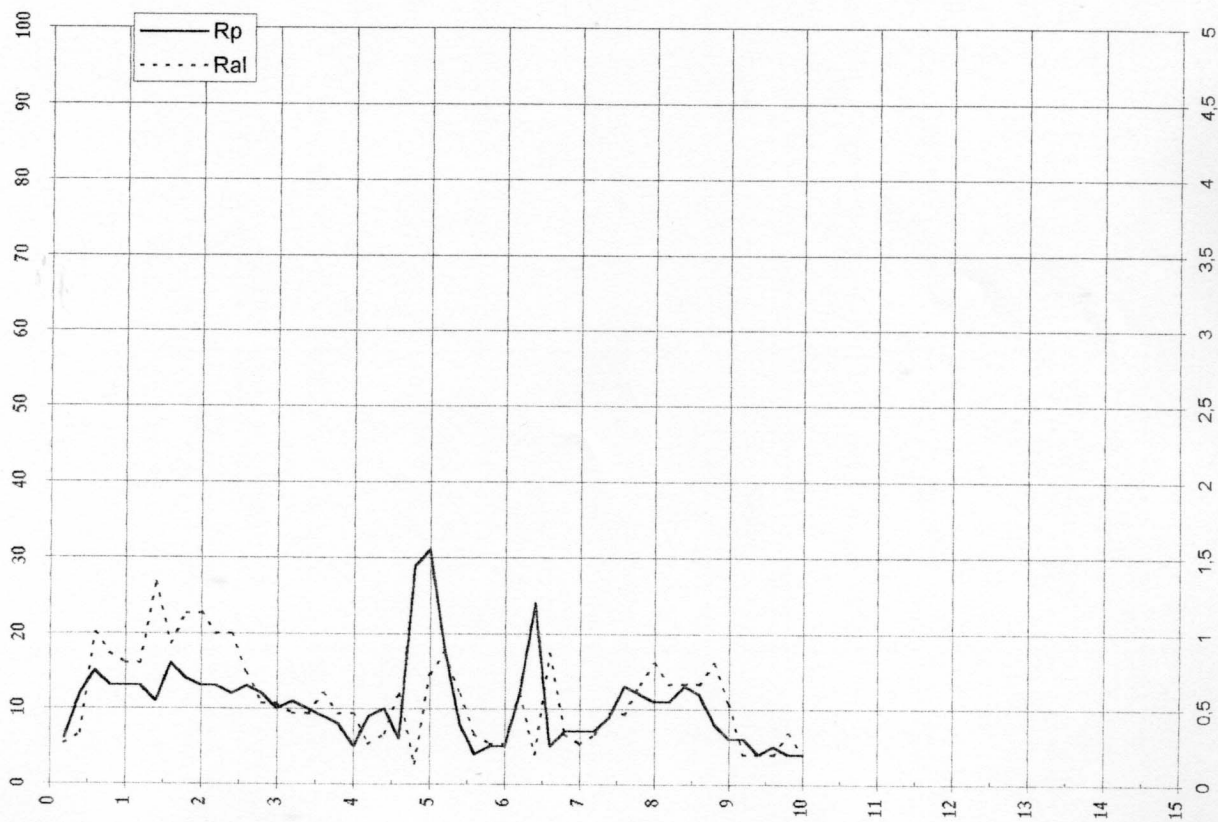
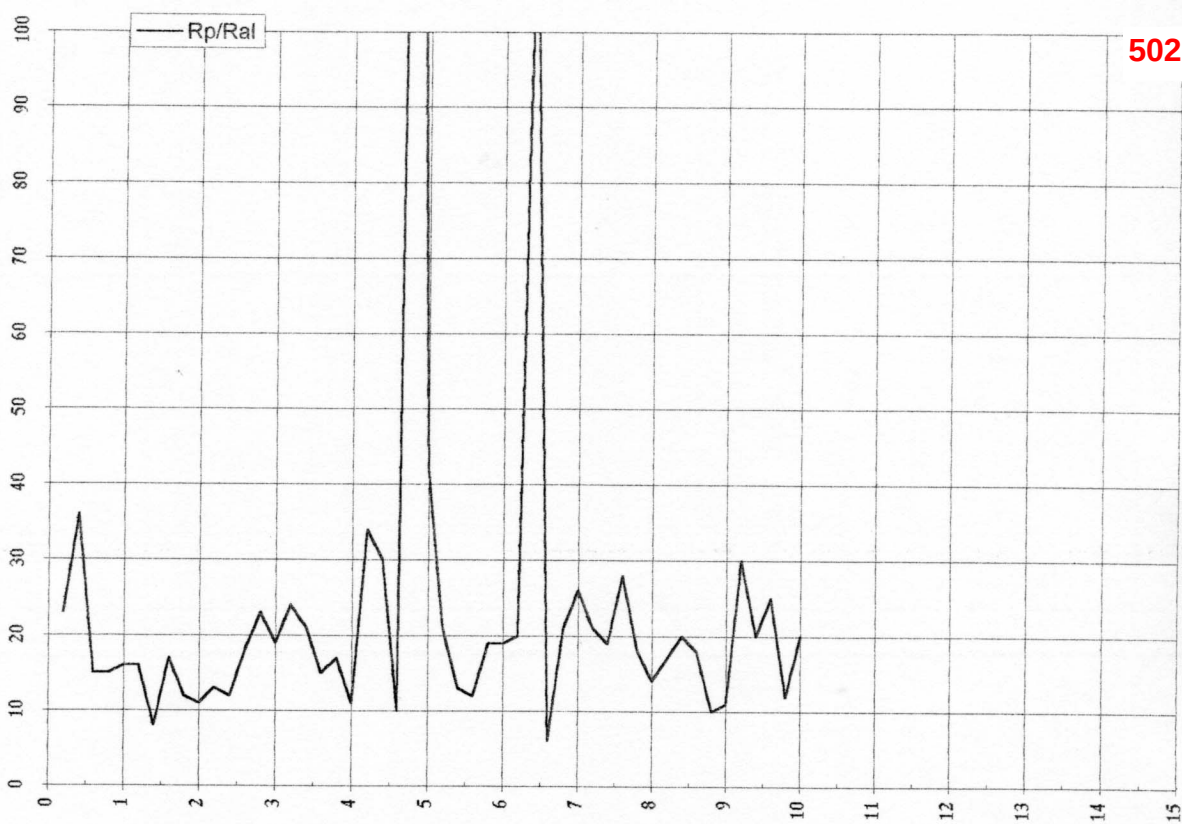


Rp/Ral



Rp
Ral





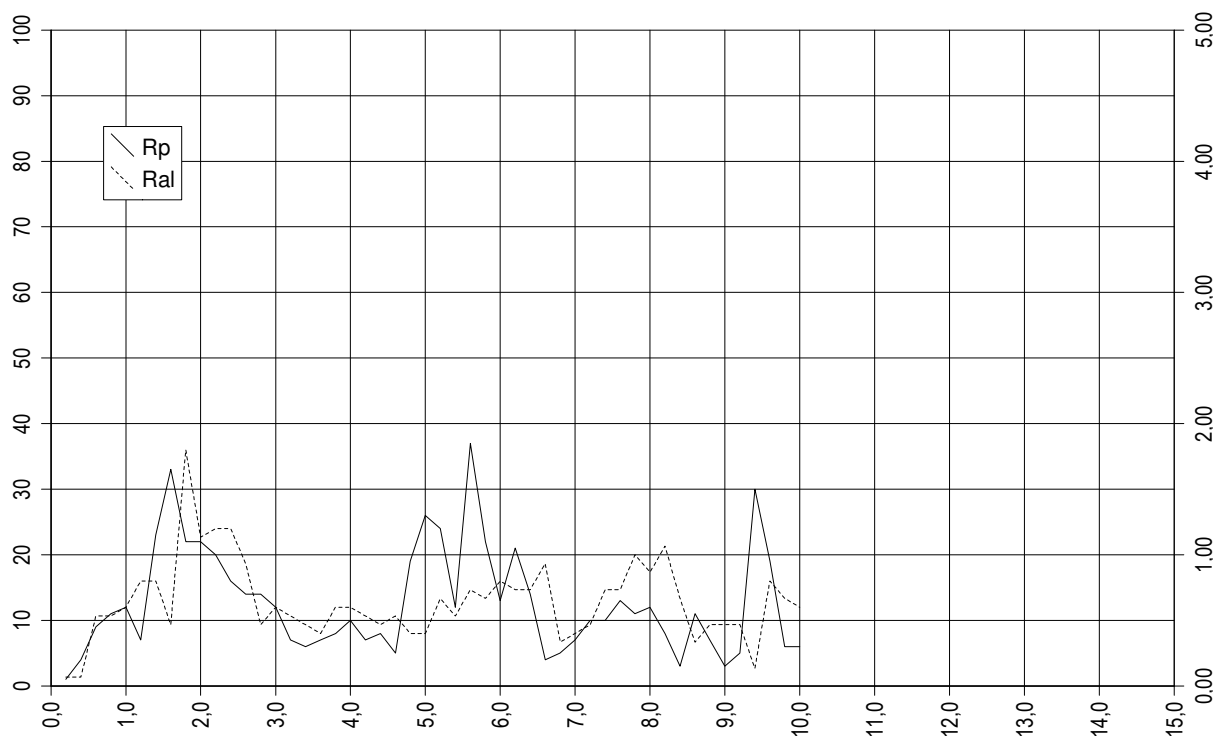
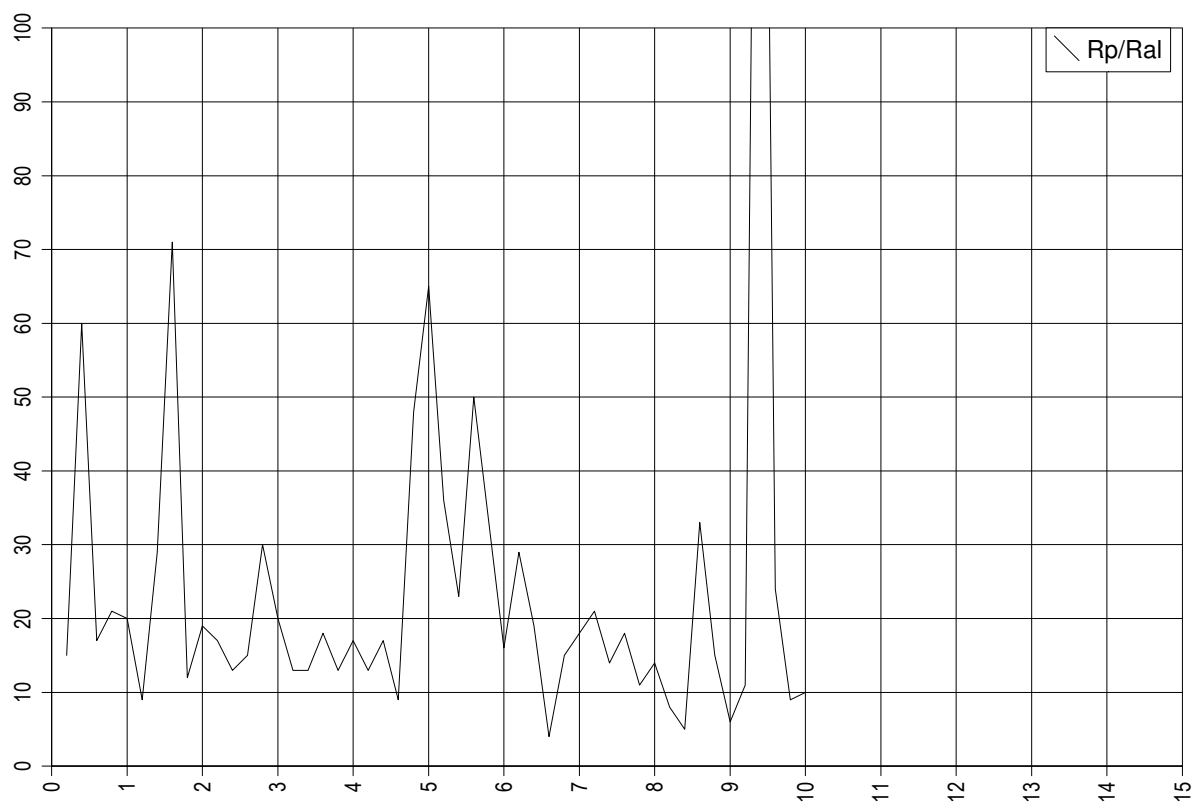
GEOPROGETTI

Committente: Cons. Dep. di S. Croce sull'Arno s.p.a.

Prova penetrometrica n°: 1

Località: Ponte sull'Usciana

Data: 22, 12, 1997



GEOPROGETTI

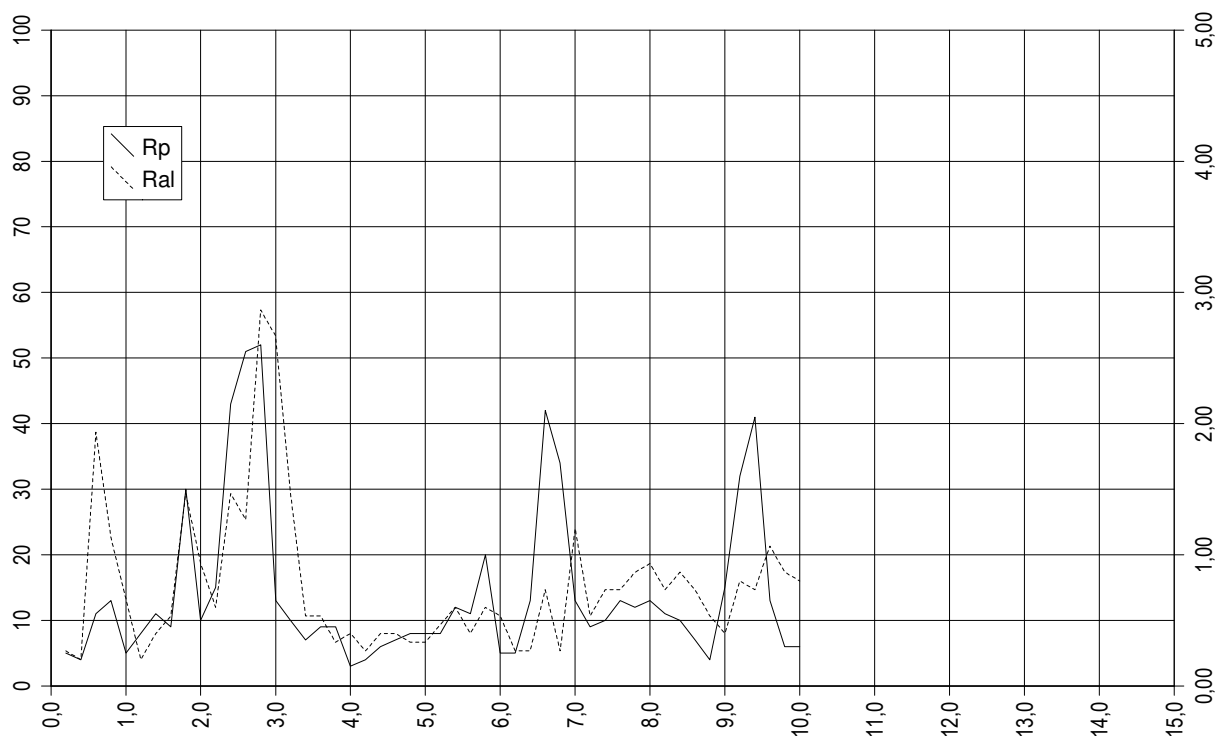
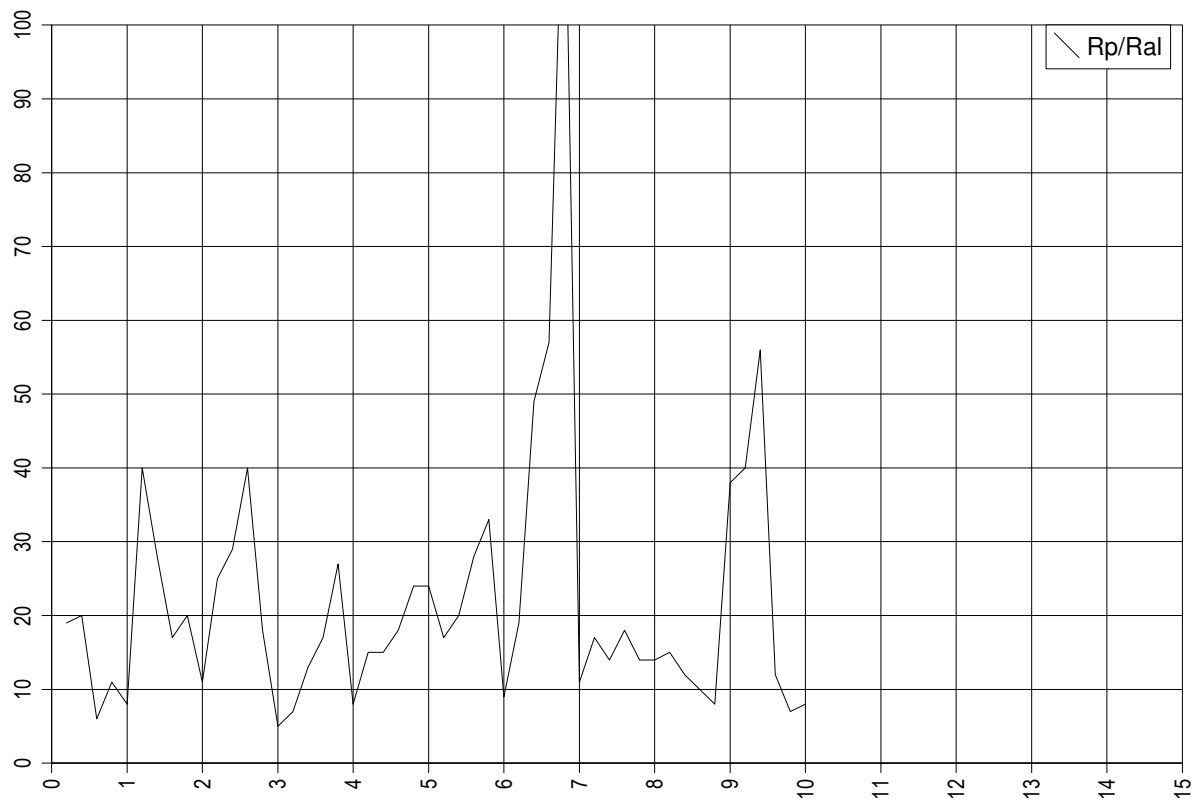
Committente: Cons. Dep. di S. Croce sull'Arno s.p.a.

Prova penetrometrica n°:

2

Località: Ponte sull'Usciana

Data: 22 .12 .1997



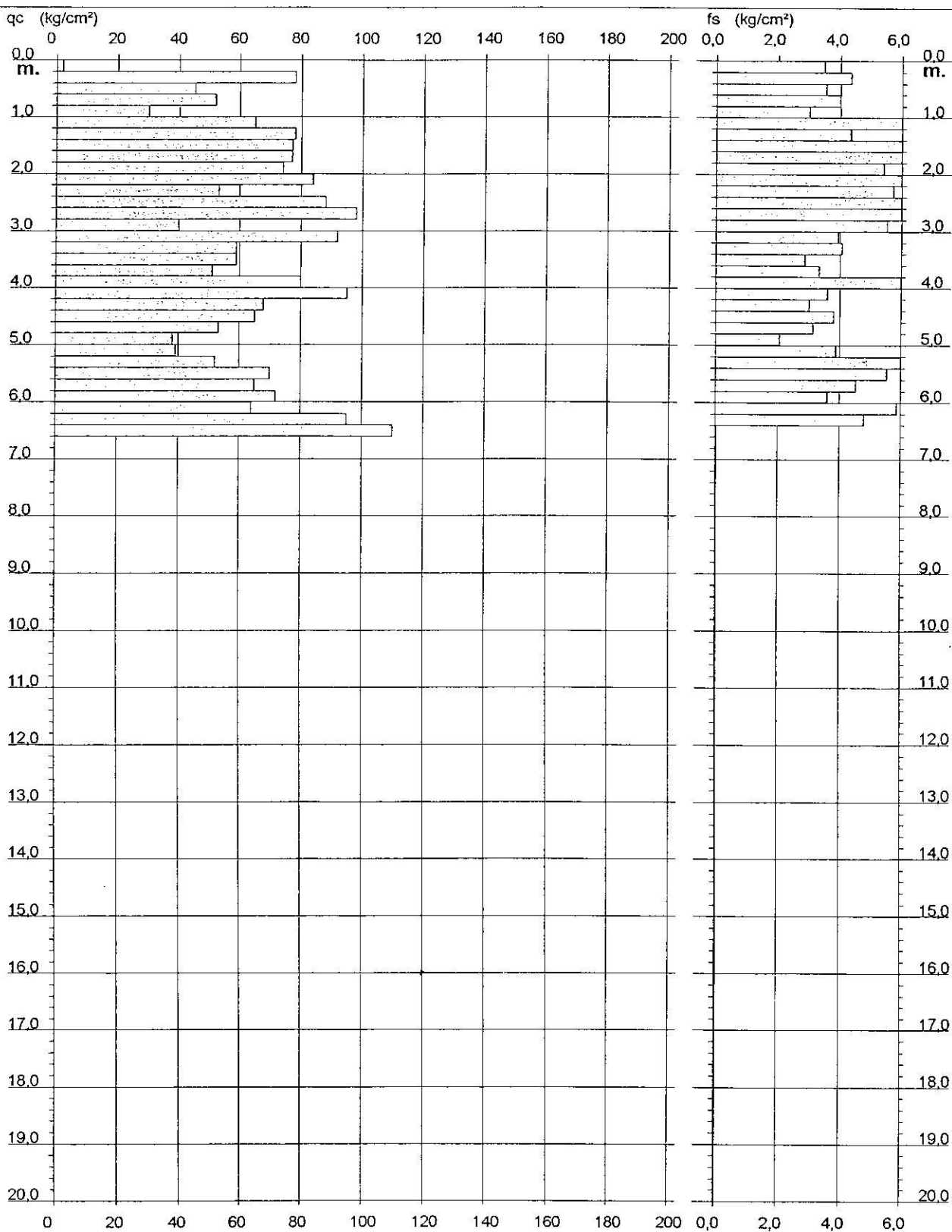
PROVA PENETROMETRICA STATICA DIAGRAMMA DI RESISTENZA

CPT 1

2.01PG05-077

- committente :
- lavoro : Progetto di sostituzione edilizia e ampliamento
- località : loc. Bocciardi - fraz. Staffoli

- data : 22/11/2006
- quota inizio : Piano Campagna
- prof. falda : Falda non rilevata
- scala vert. : 1 : 100



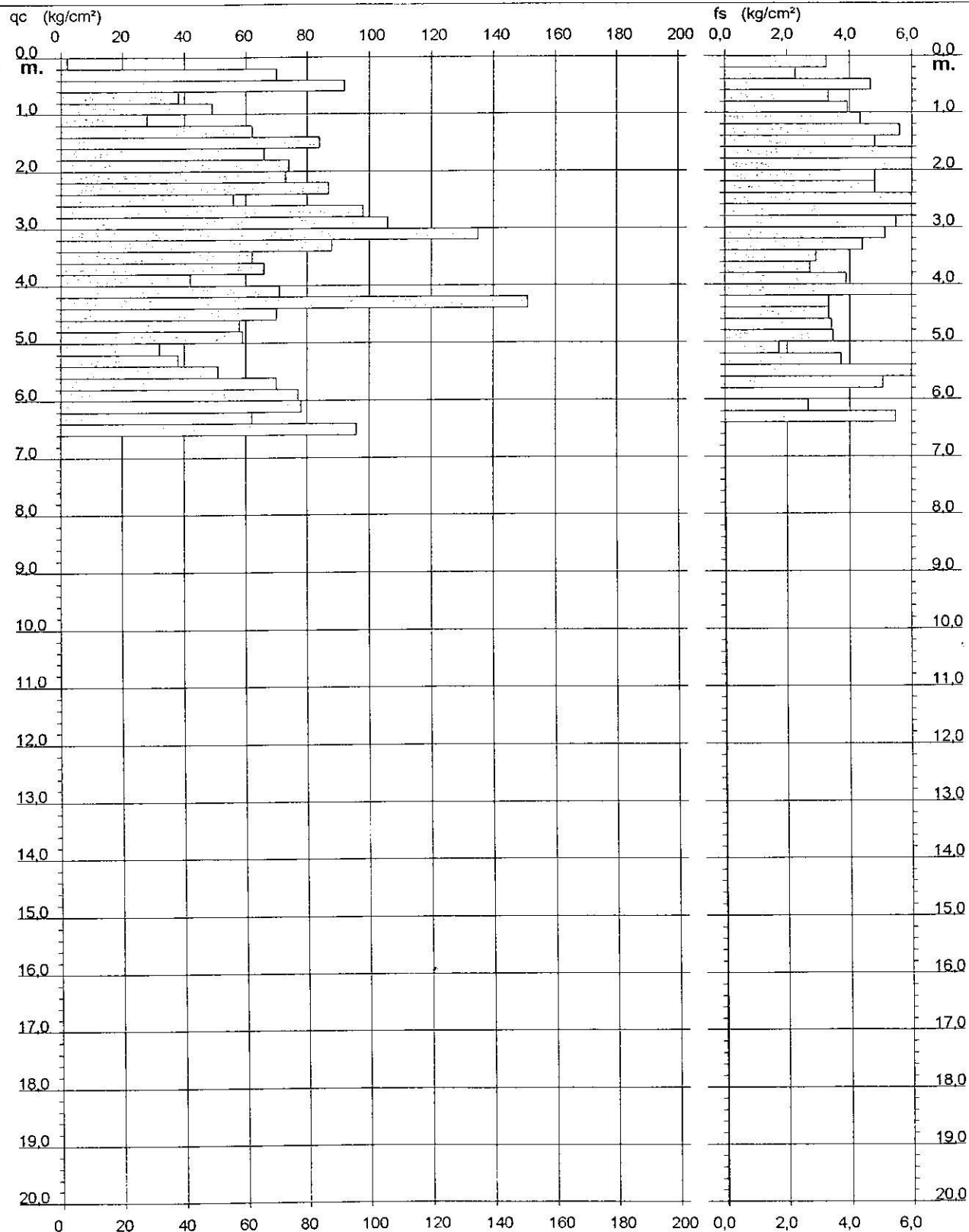
PROVA PENETROMETRICA STATICA. DIAGRAMMA DI RESISTENZA

CPT 2

2.01PG05-077

- committente :
- lavoro : Progetto di sostituzione edilizia e ampliamento
- località : loc. Bocciardi - fraz. Staffoli

- data : 22/11/2006
- quota inizio : Piano Campagna
- prof. falda : Falda non rilevata
- scala vert. : 1 : 100



G. S. TRIVELLAZIONI s.n.c.

Via Bini, 5 - 56028 San Miniato Basso (PI) - Tel. e FAX 0571-485264

Prova n. : 1

Cantiere : Via Baldacci

Committente :

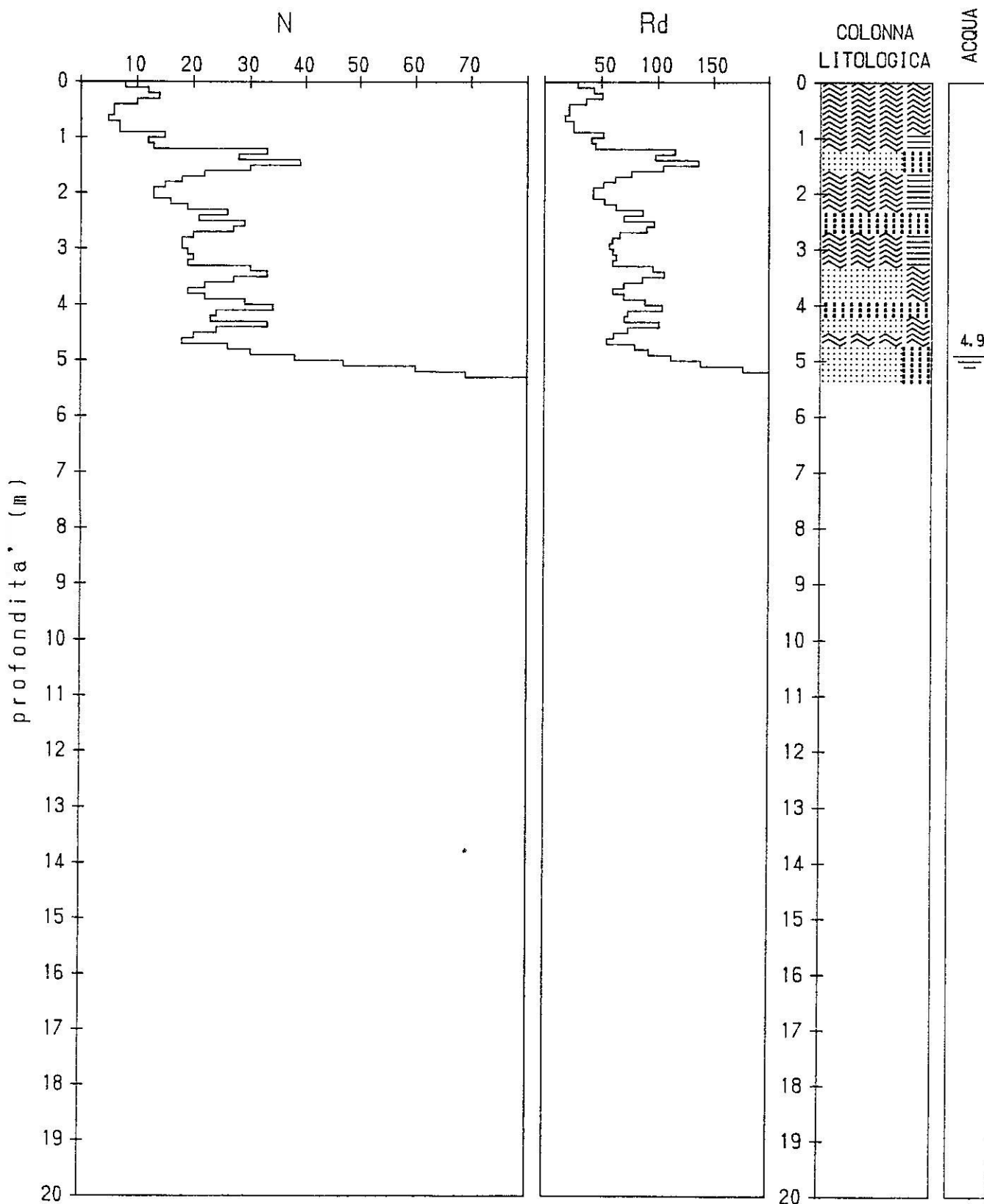
Localita' : Galleno

Comune : Castelfranco di Sotto

Data : 18-1-96

Quota assoluta : m s.l.m.

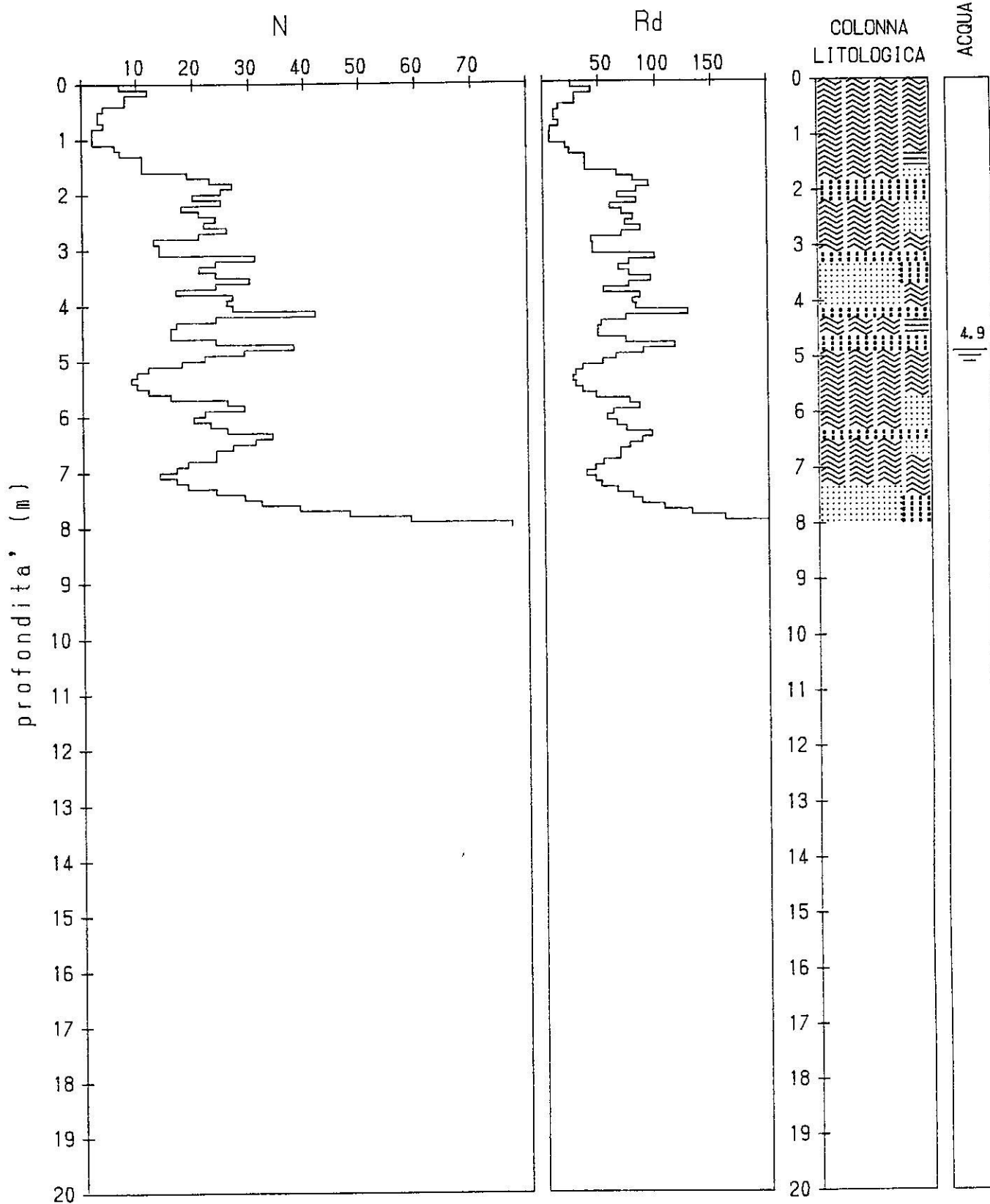
Quota relativa : m



Prova n. : 2

Cantiere : Via Baldacci
Committente :
Localita' : Galleno
Comune : Castelfranco di Sotto
Data : 18-1-96

Quota assoluta : m s.l.m.
Quota relativa : m



Prova n. : 3

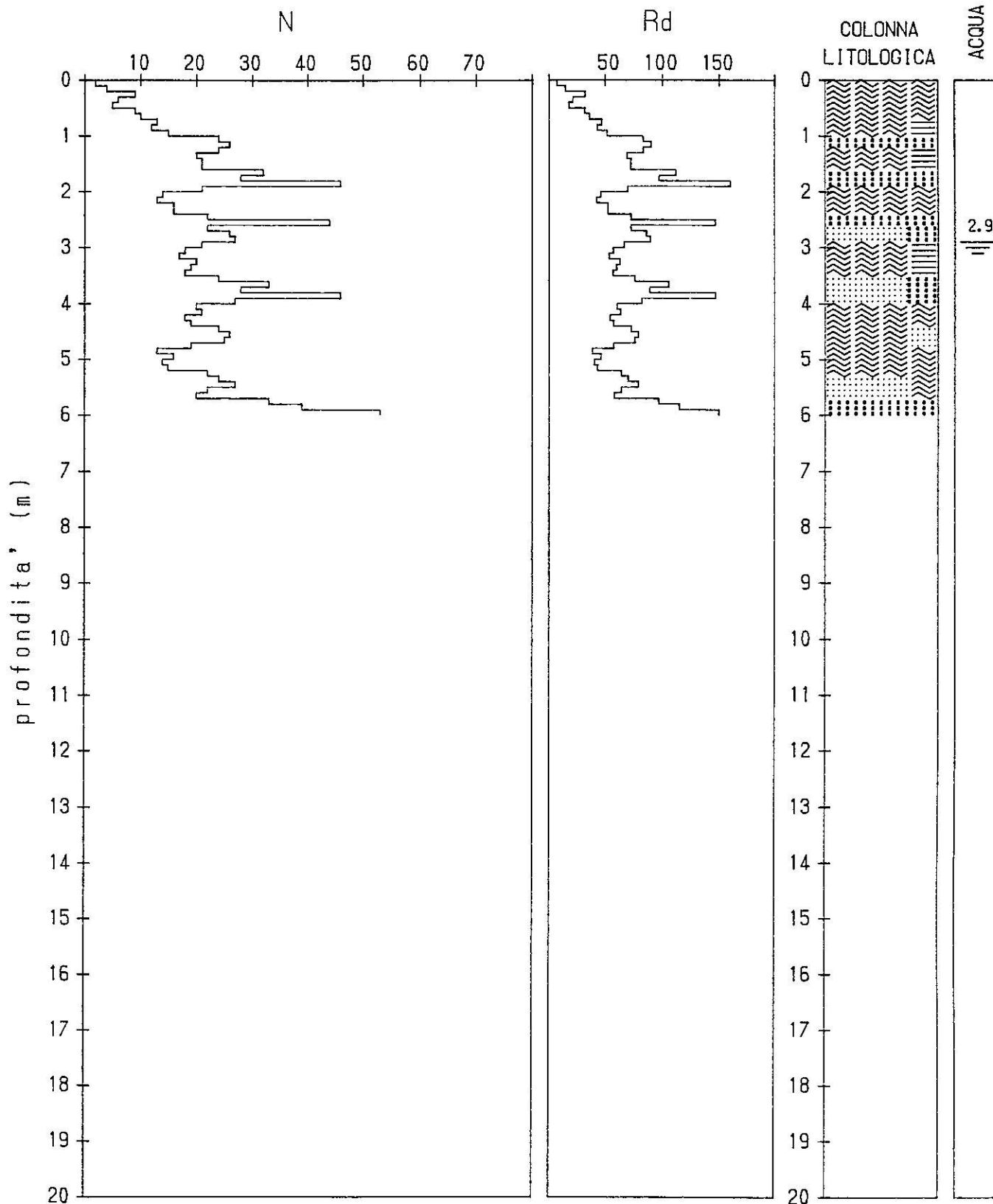
Cantiere : Via Baldacci
Committente :
Localita' : Galleno
Comune : Castelfranco di Sotto
Data : 18-1-96

Quota assoluta :

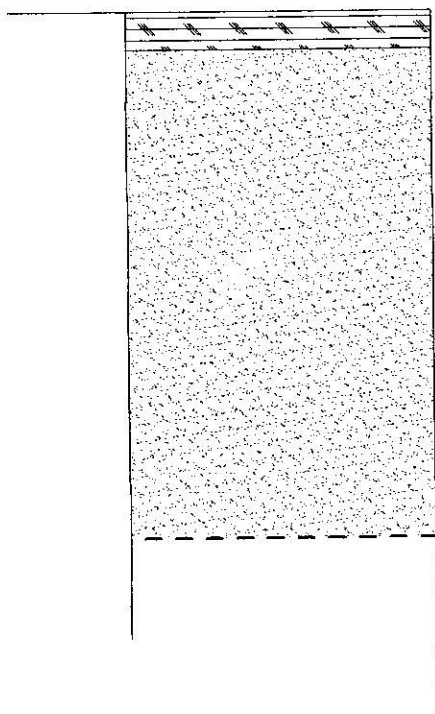
m s.l.m.

Quota relativa :

m



p. c.
1
2
3
4
5
6
7



Sabbia e ghiaia mediamente addensata
 $\varphi = 1,9 \text{ kg/dm}^3; \gamma = 30^\circ$

PROVA DPL: Penetrometro Dinamico Leggero "PENNI 30"



STUDIO TETIDE - GEOLOGIA TECNICA

Dott. Geologo Vito Bruno

Via Vecchia Fiorentina n°72 - 56023 Cascina (PI)

tel. 050/771891 - cell. 349/8055483

e mail studiotetide@tiscali.it

PROVA N° 1

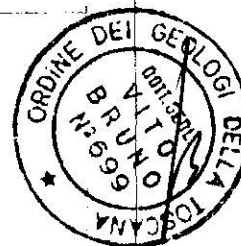
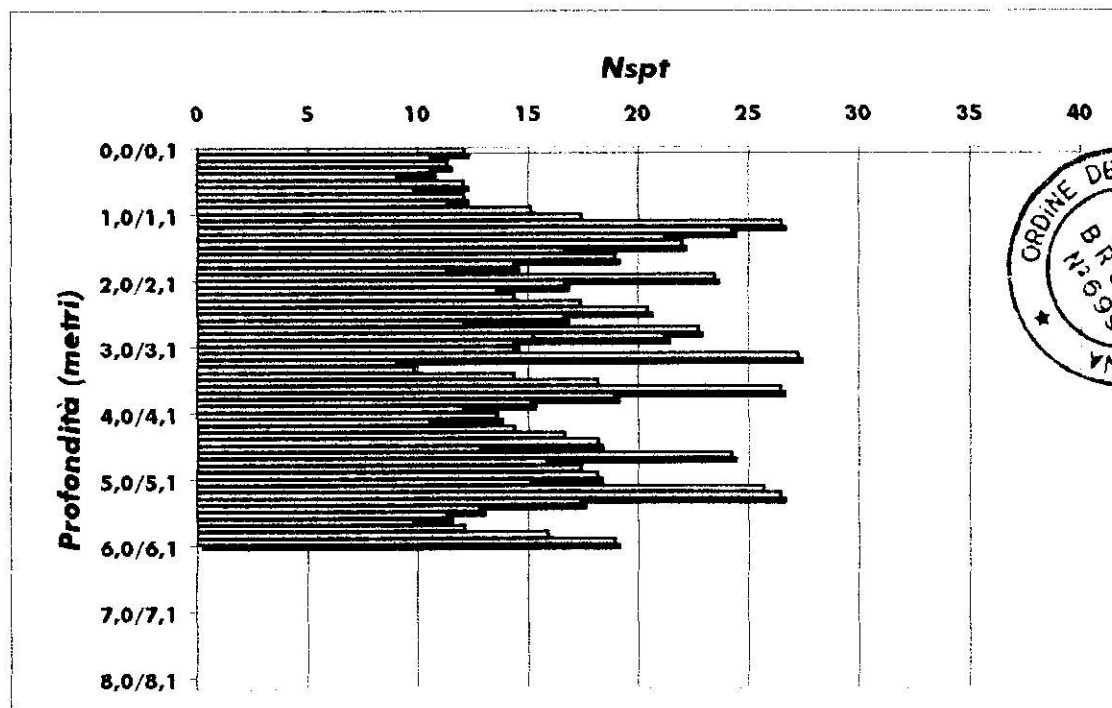
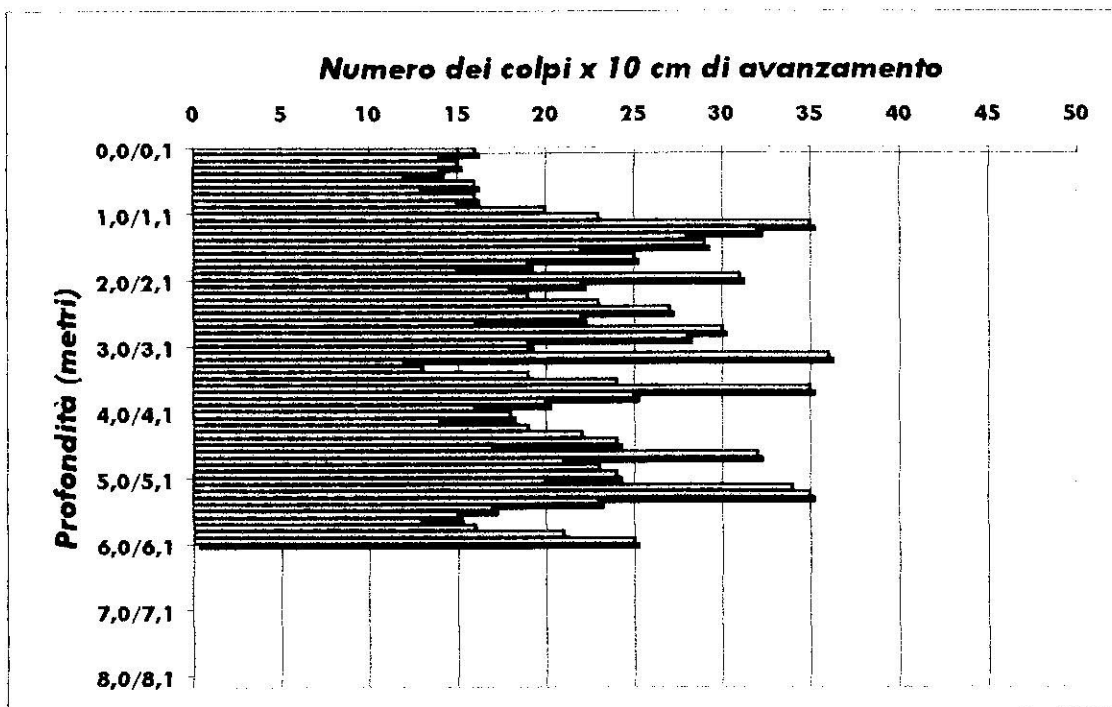
Committente:

Cantiere: via delle Pinete

Località Staffoli

Comune: S. Croce S/A

Data: 24/07/2006



Livello acqua dal p.c. al termine della prova: assente

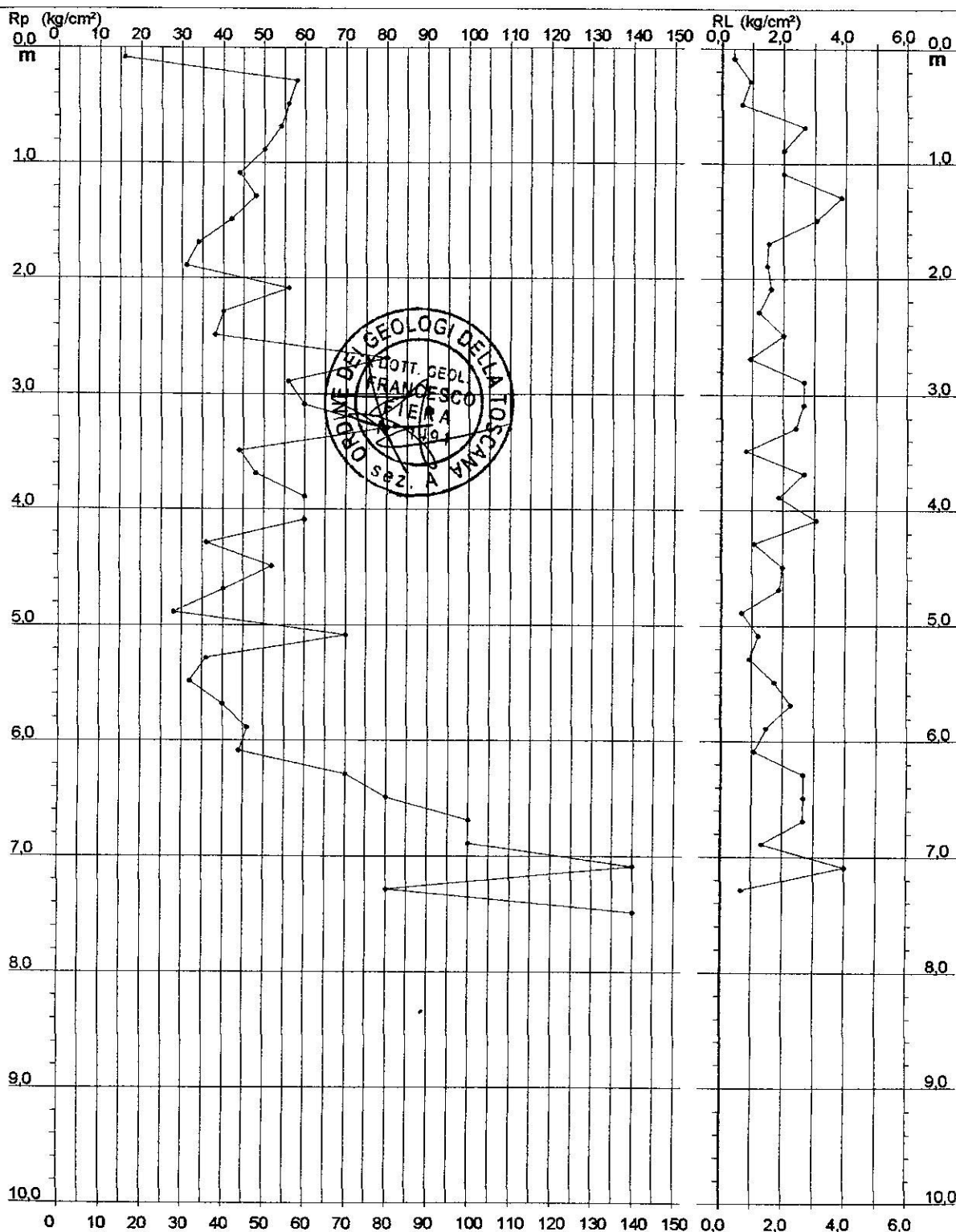
PROVA PENETROMETRICA STATICA DIAGRAMMA DI RESISTENZA

CPT 1

3.010496-018

- committente:
- lavoro:
- località: Via Carmignano
- resp. cantiere:
- assist. cantiere:

- data prova : 03/07/2007
- quota inizio : Piano Campagna
- prof. falda : Falda non rilevata
- scala vert. : 1 : 50
- data emiss. : 04/07/2007



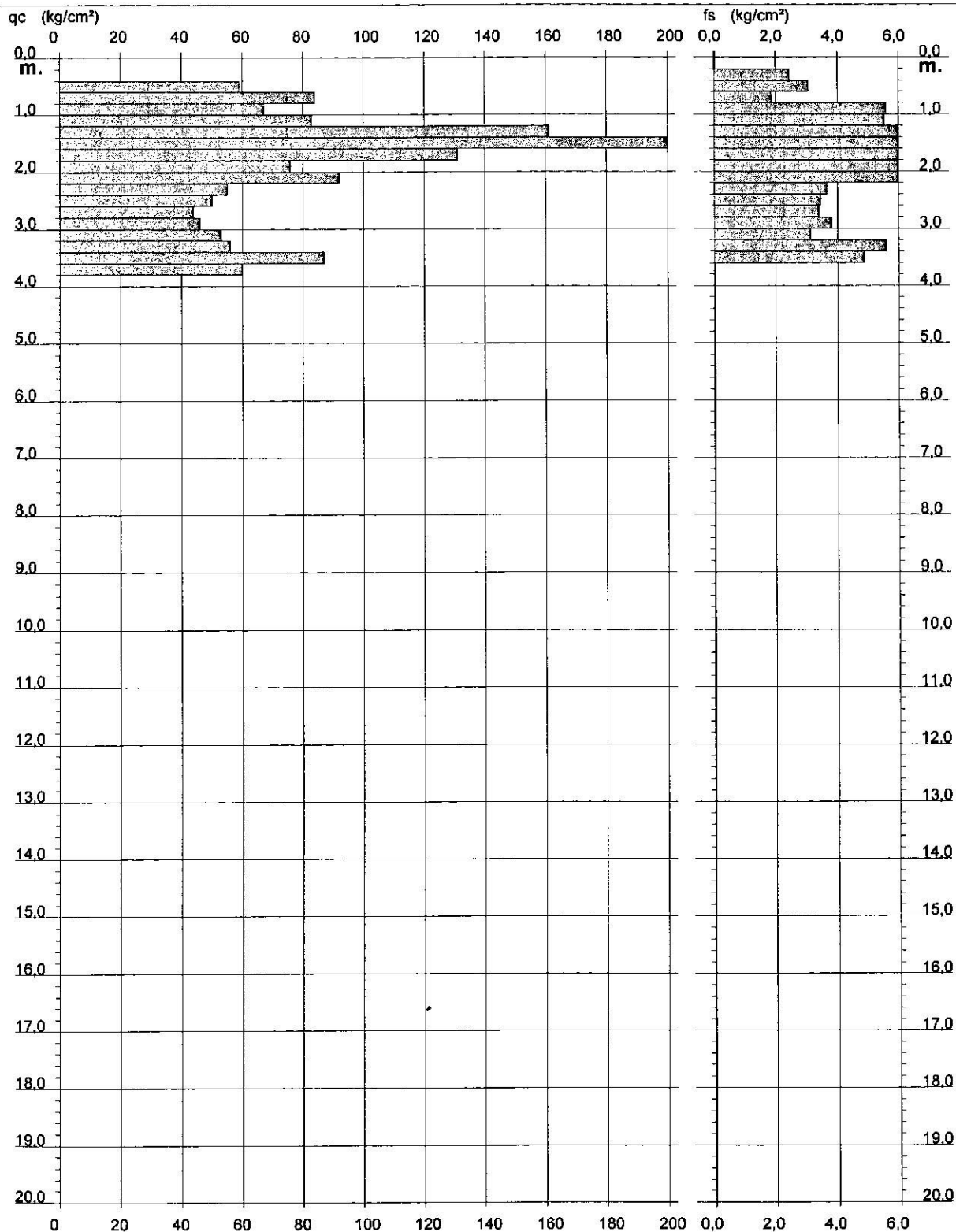
PROVA PENETROMETRICA STATICA DIAGRAMMA DI RESISTENZA

CPT 1

2.01PG05-077

- committente :
- lavoro :
- località : via Ferretto - loc. Staffoli
- note : Max prof. raggiunta prima del disancoramento.

- data : 31/07/2007
- quota inizio : Piano Campagna
- prof. falda : Falda non rilevata
- scala vert.: 1 : 100



PROVA PENETROMETRICA DINAMICA
DIAGRAMMA NUMERO COLPI PUNTA - Rpd

n° 2

Scala 1: 50

- indagine :

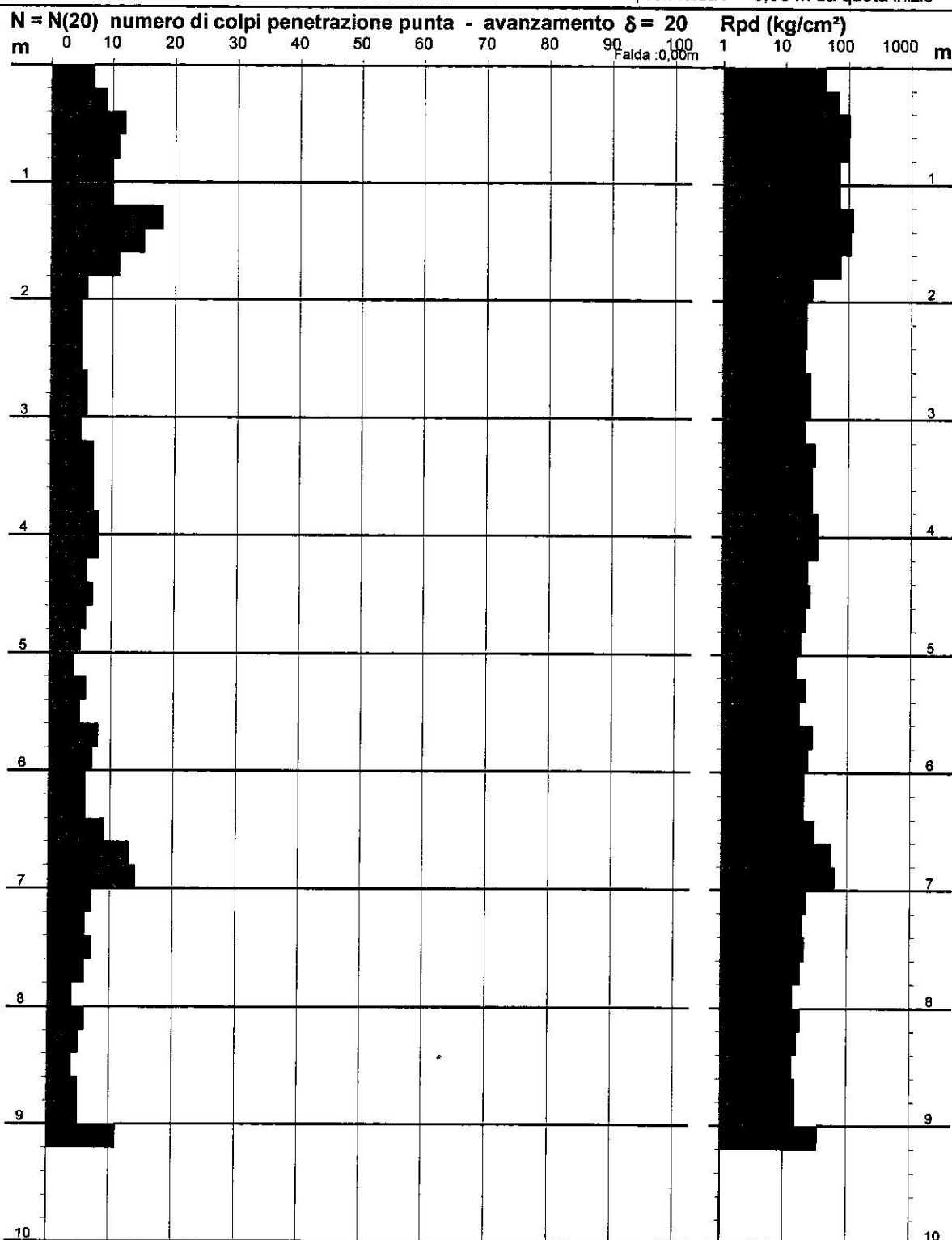
- cantiere :

- località : via Ferretto - loc. Staffoli

- data : 31/07/2007

- quota inizio : 0

- prof. falda : 0,00 m da quota inizio



- PENETROMETRO DINAMICO tipo : TG 63-100 EMLC

- M (massa battente)= 63,50 kg - H (altezza caduta)= 0,75 m

- Numero Colpi Punta N = N(20) [$\delta = 20$ cm]

- A (area punta)= 20,43 cm² - D(diam. punta)= 51,00 mm

- Uso rivestimento / fanghi iniezione : SI

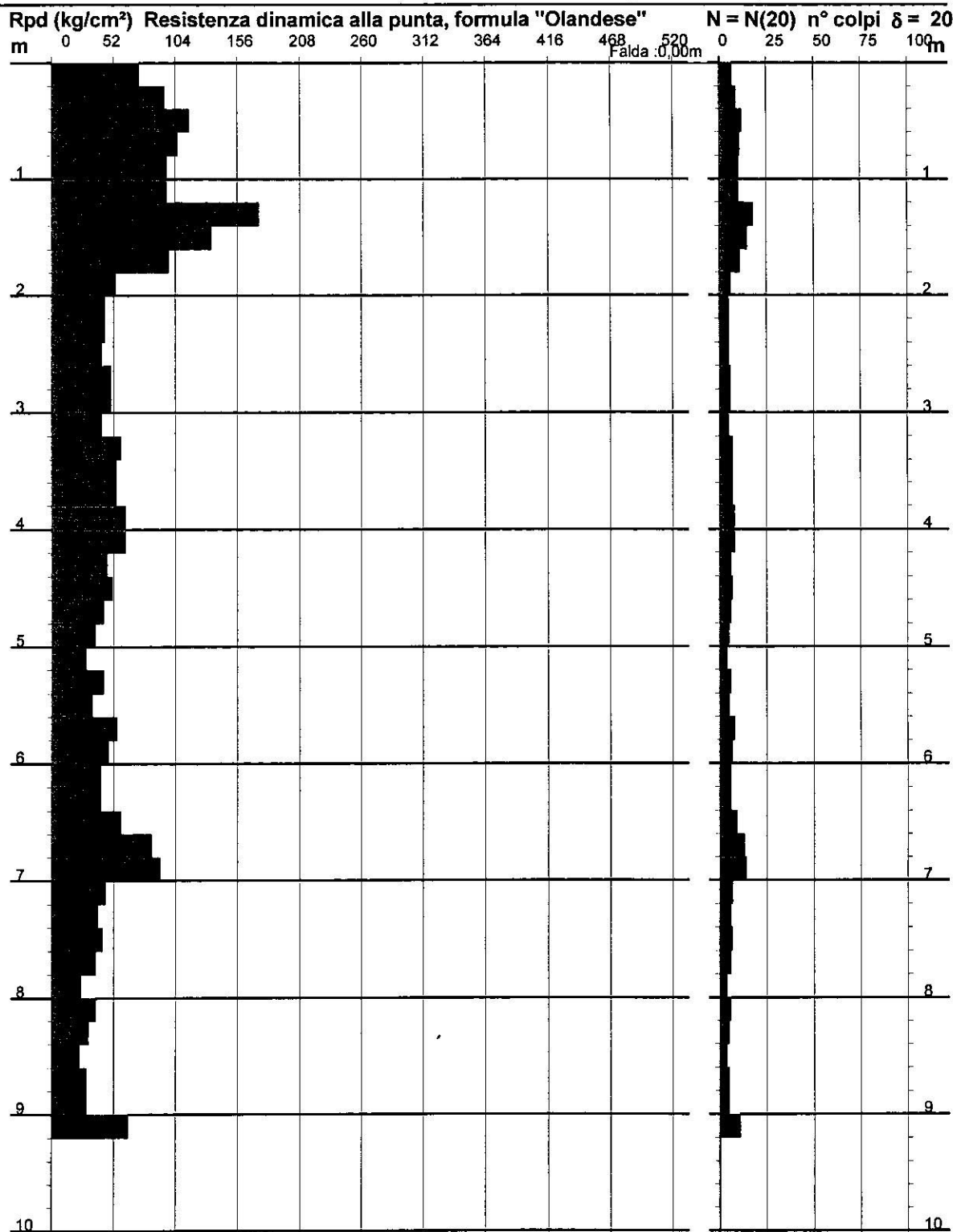
PROVA PENETROMETRICA DINAMICA DIAGRAMMA RESISTENZA DINAMICA PUNTA

n° 2

Scala 1: 50

- indagine :
- cantiere :
- località : via Ferretto - loc. Staffoli

- data : 31/07/2007
- quota inizio : 0
- prof. falda : 0,00 m da quota inizio



- PENETROMETRO DINAMICO tipo : TG 63-100 EML.C

- M (massa battente)= 63,50 kg - H (altezza caduta)= 0,75 m - A (area punta)= 20,43 cm² - D(diam. punta)= 51,00 mm

- Numero Colpi Punta N = N(20) [$\delta = 20$ cm]

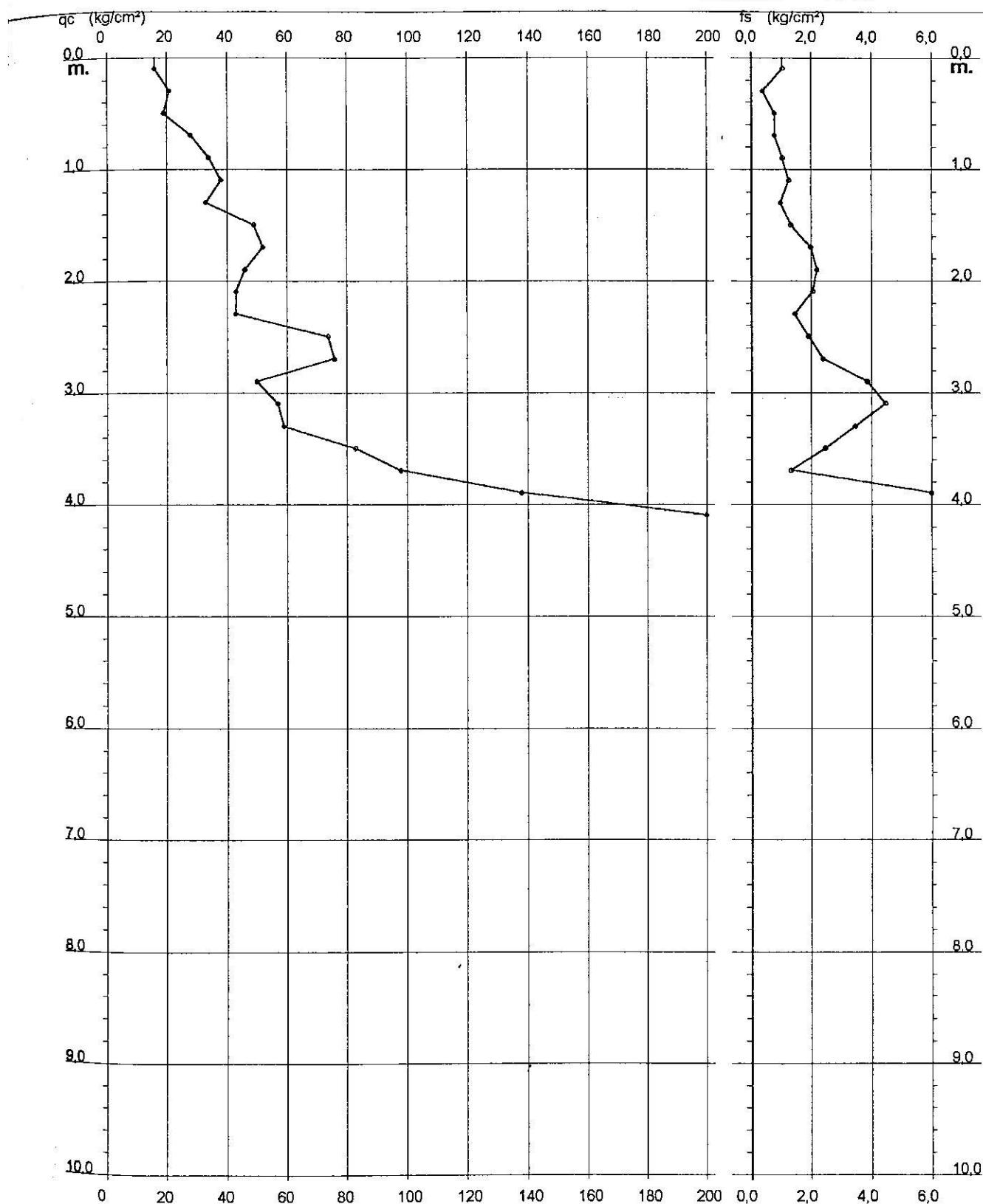
- Uso rivestimento / fanghi iniezione : SI

PROVA PENETROMETRICA STATICA DIAGRAMMA DI RESISTENZA

CPT 1

- committente :
- lavoro : Ampliamento Cimitero di Staffoli
- località : Staffoli - Santa Croce sull'Arno

- data : 08-08-03
- quota inizio : 35 m s.l.m.
- prof. falda :
- scala vert.: 1 : 50



Studio Tecnico Associato di Geologia **GEO – TEST**

Via delle Regioni, 164 50052 Certaldo (FI) - Via Esperanto, 2 51100 Pistoia
Tel. 0571 652633 - 0573 81628 - Cellulare 335 6467559 - E mail: caioli.devita@inwind.it

Prova penetrometrica N° 1

Committente:

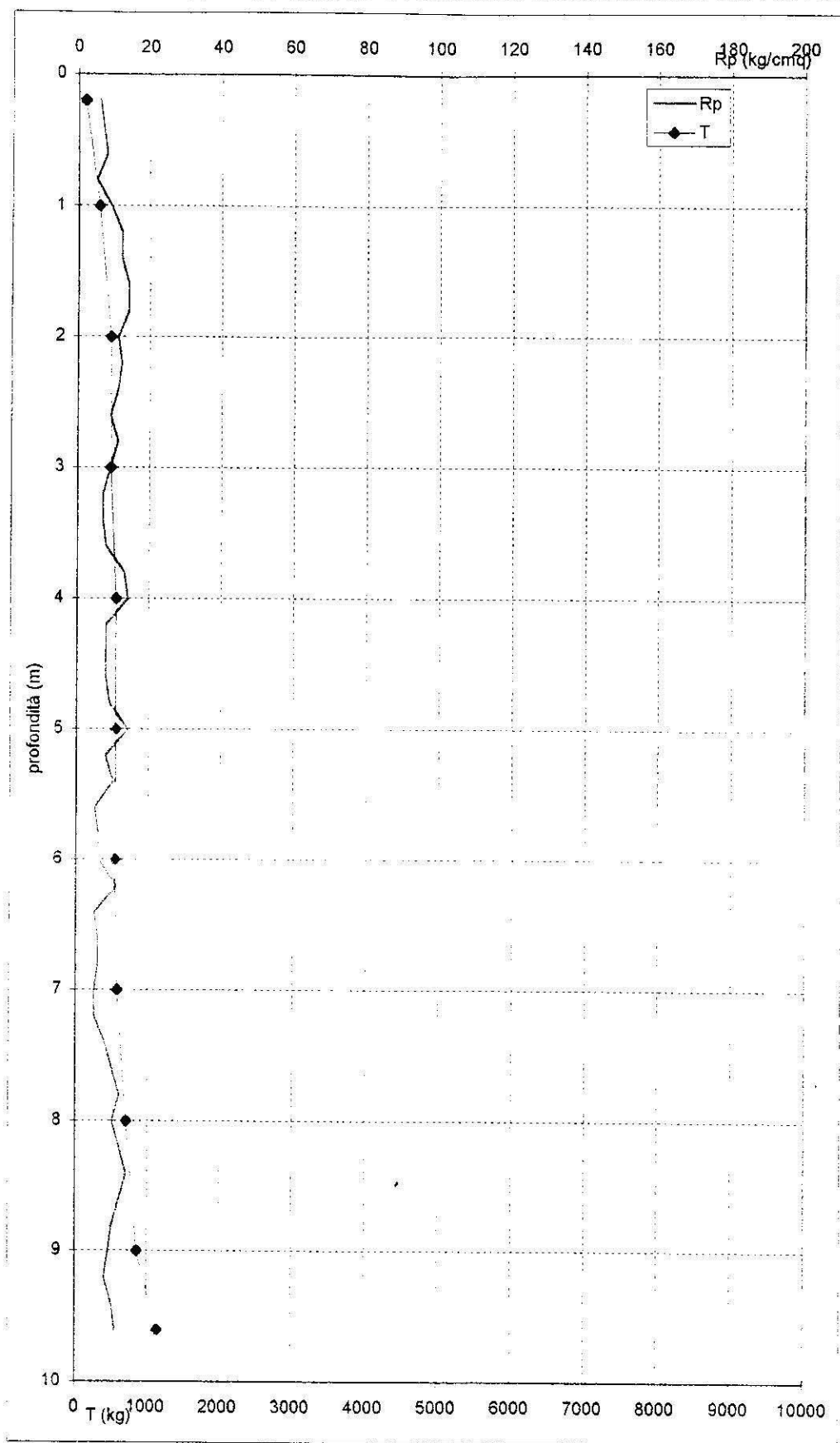
Data: 14/07/03

Località:

S. Groce sulla Arno - PI

File:

PS0307141

*mill*

Prova penetrometrica N° 2

Committente:

Località:

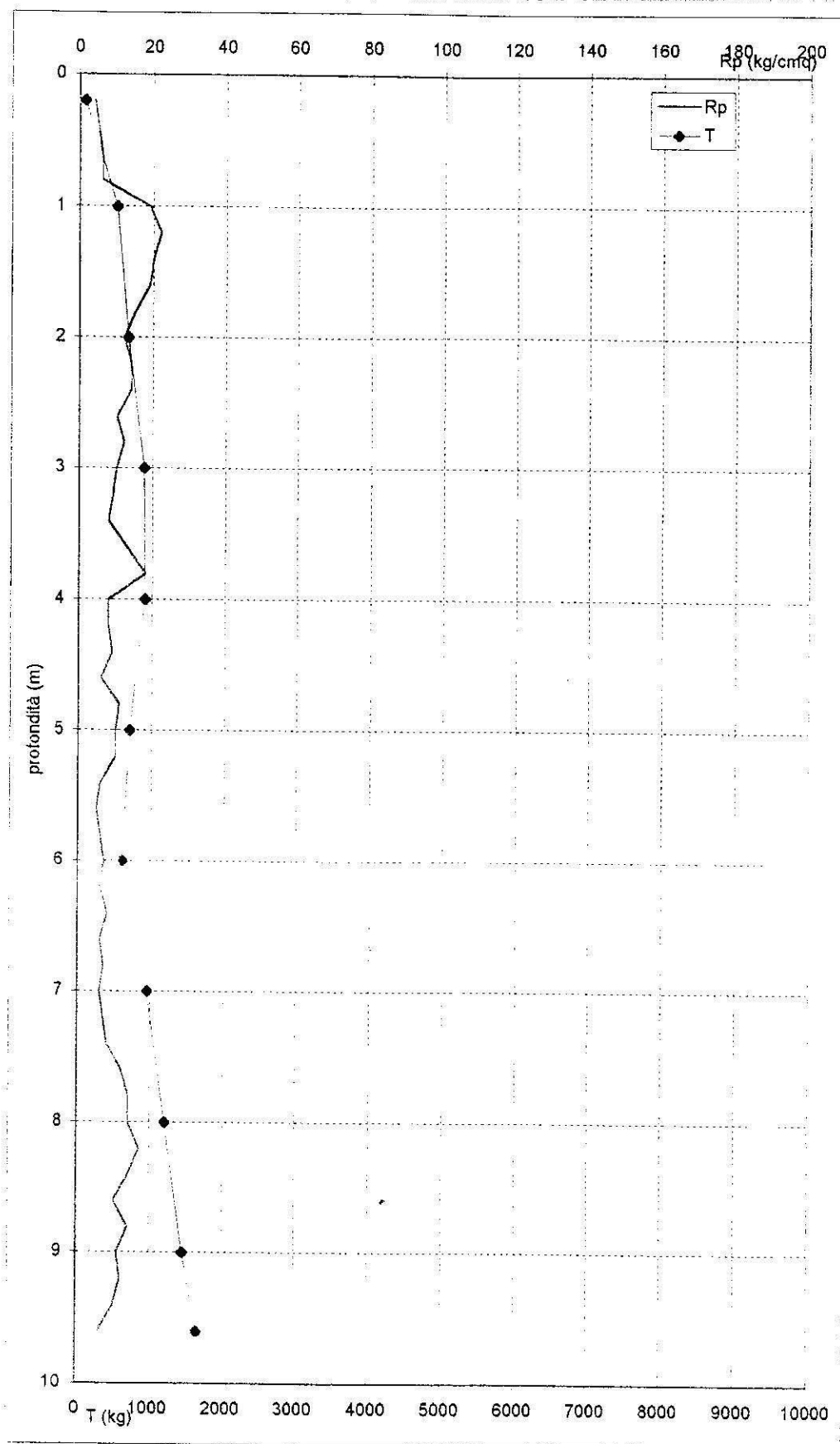
S. Croce sulla Arno - PI

Data:

14/07/03

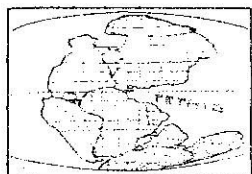
File:

PS0307142



Handwritten signature

PROVA DPL: Penetrometro Dinamico Leggero "PENNI 30"



STUDIO TETIDE - GEOLOGIA TECNICA

Dott. Geologo Vito Bruno

Via Vecchia Fiorentina n°72 - 56023 Cascina (PI)

tel. 050/771891 - cell. 349/8055483

e mail studiotetide@liscali.it

PROVA

N° 1

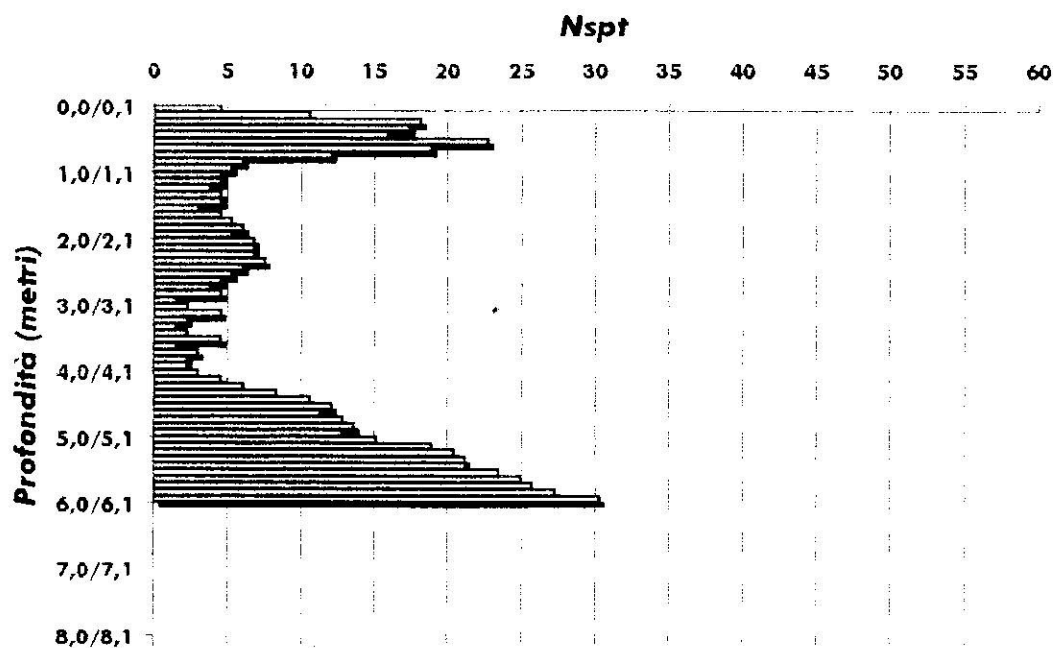
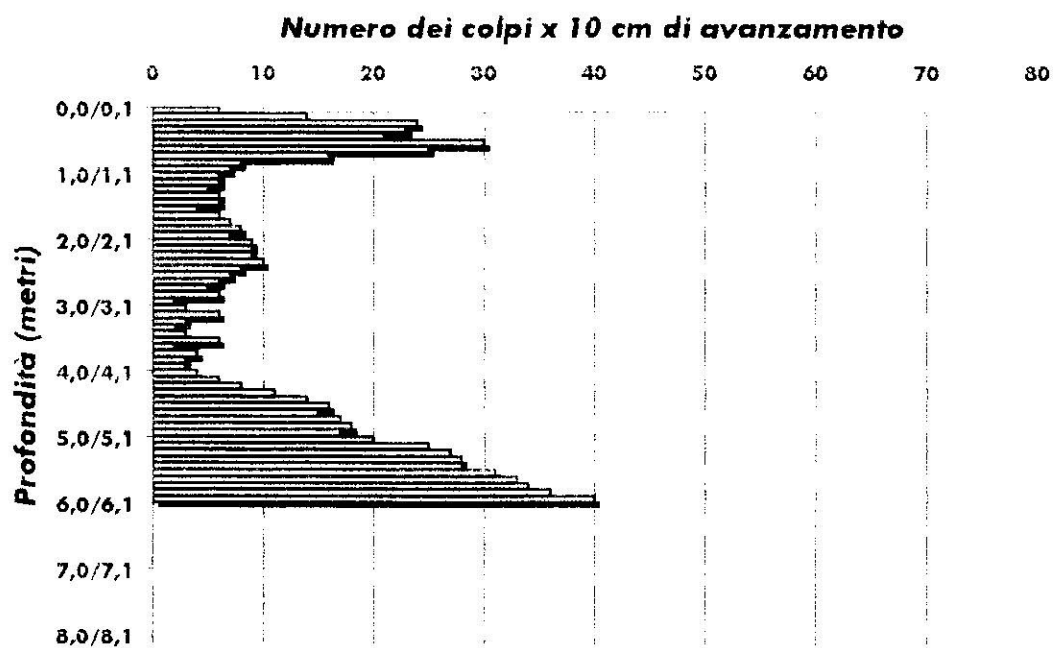
Committente:

Cantiere: Via I Maggio

Località S. Croce sull' Arno

Comune: S. Croce sull' Arno

Data: 26/07/2007



Livello acqua dal p.a. al termine della prova: 1,0m dalla c.

PROVA DPL: Penetrometro Dinamico Leggero "PENNI 30"



STUDIO TETIDE - GEOLOGIA TECNICA

Dott. Geologo Vito Bruno

Via Vecchia Fiorentina n°72 - 56023 Cascina (PI)

tel. 050/771891 - cell. 349/8055483

e mail studiotetide@tiscali.it

PROVA N° 2

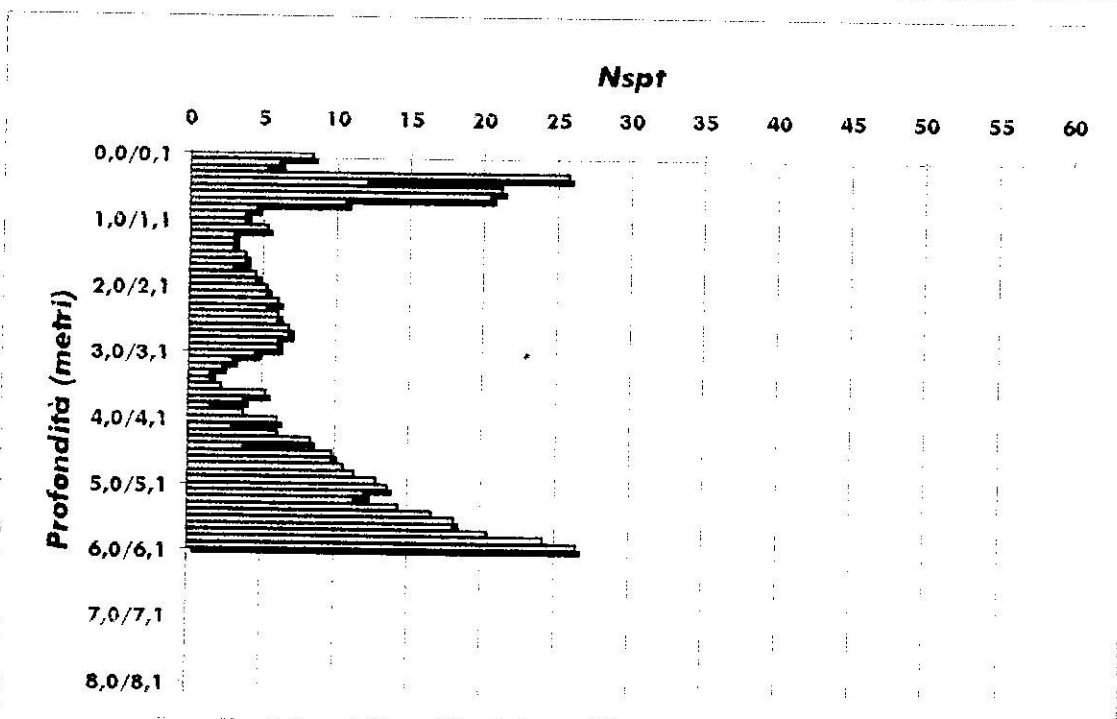
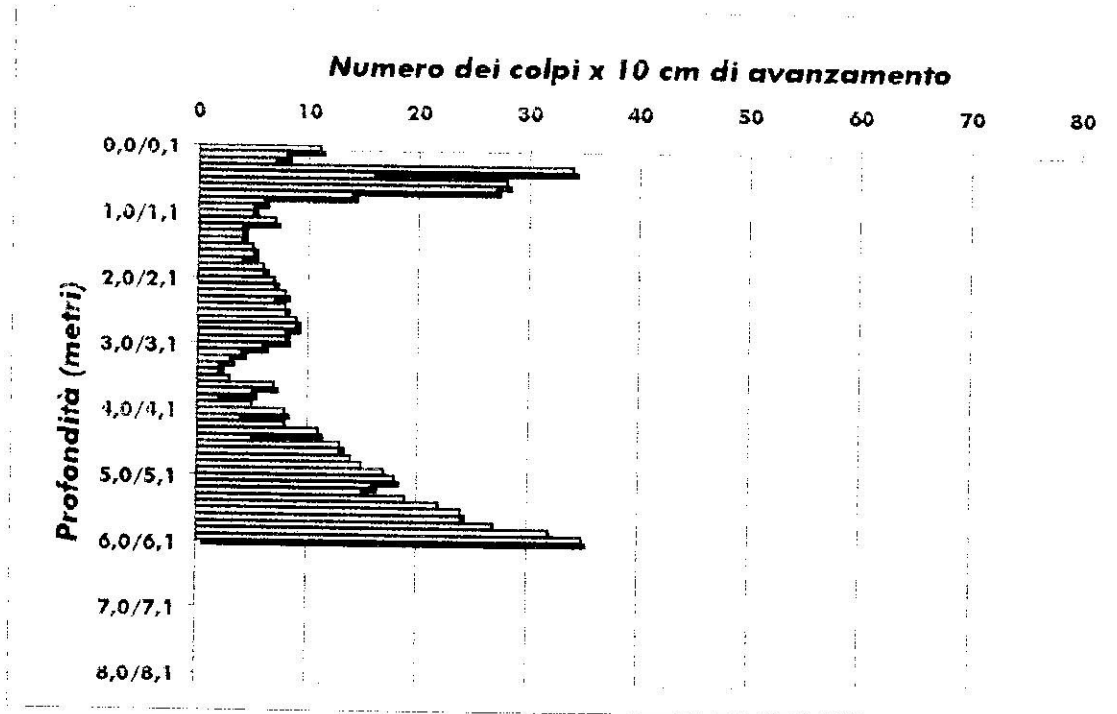
Committente:

Cantiere: Via I Maggio

Località S. Croce sull' Arno

Comune: S. Croce sull' Arno

Data: 26/07/2007



Linea di riferimento per la lettura delle prove DPL: 1 colpo = 10 cm di avanzamento


GEOSERVIZI S.N.C.

di Cosco e Spadaro

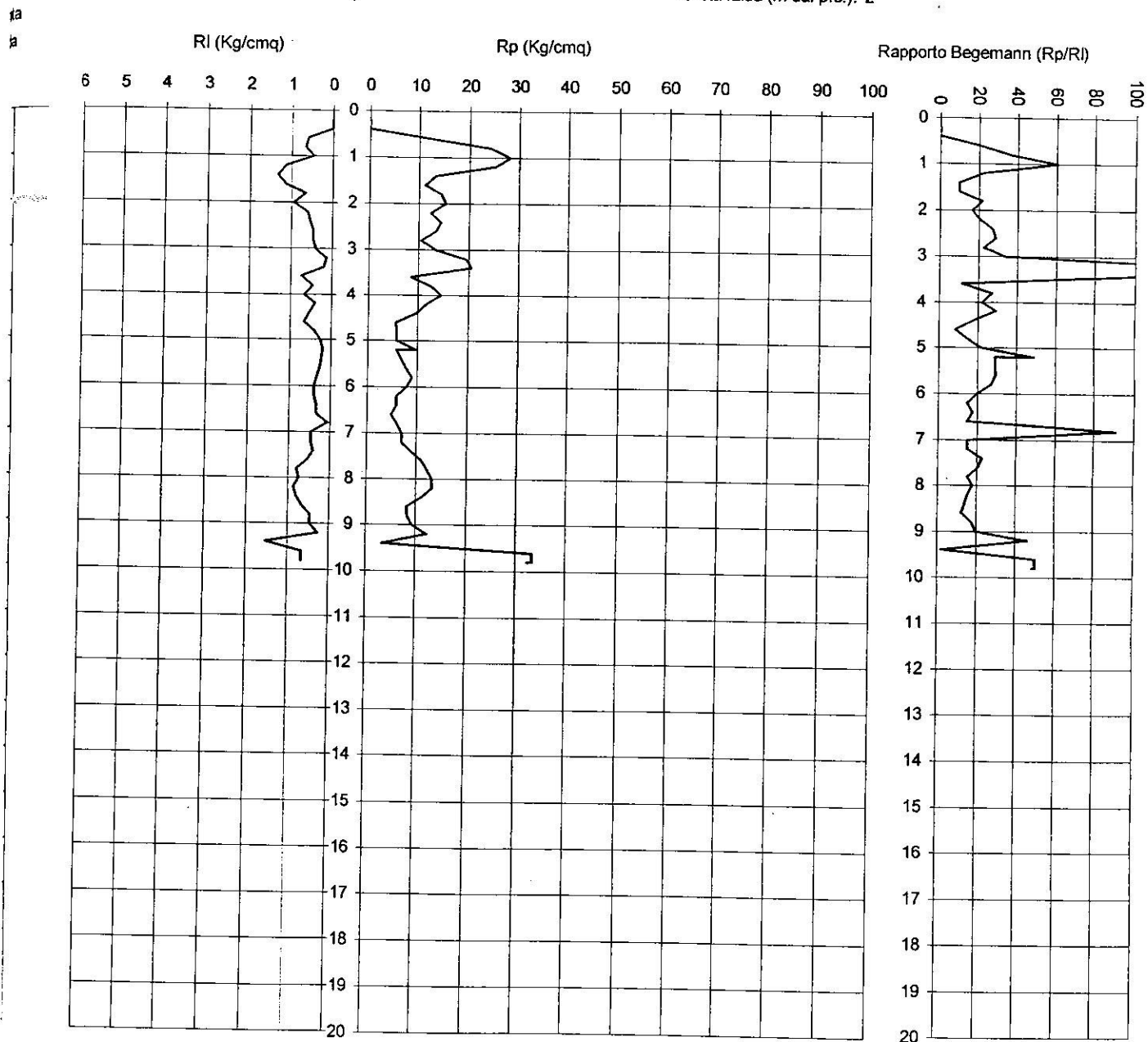
 Via U. Foscolo 14 - 56017 Ghezzano (PI)
 tel e fax 050-878470 cell. 339-1344492

Certificato n. 391-05

Prova numero	1
Committente	
Località	S. CROCE
Cantiere	VIA 1° MAGGIO
Data	11/11/05

Profondità massima (m): 10

Quota falda (m dal p.c.): 2



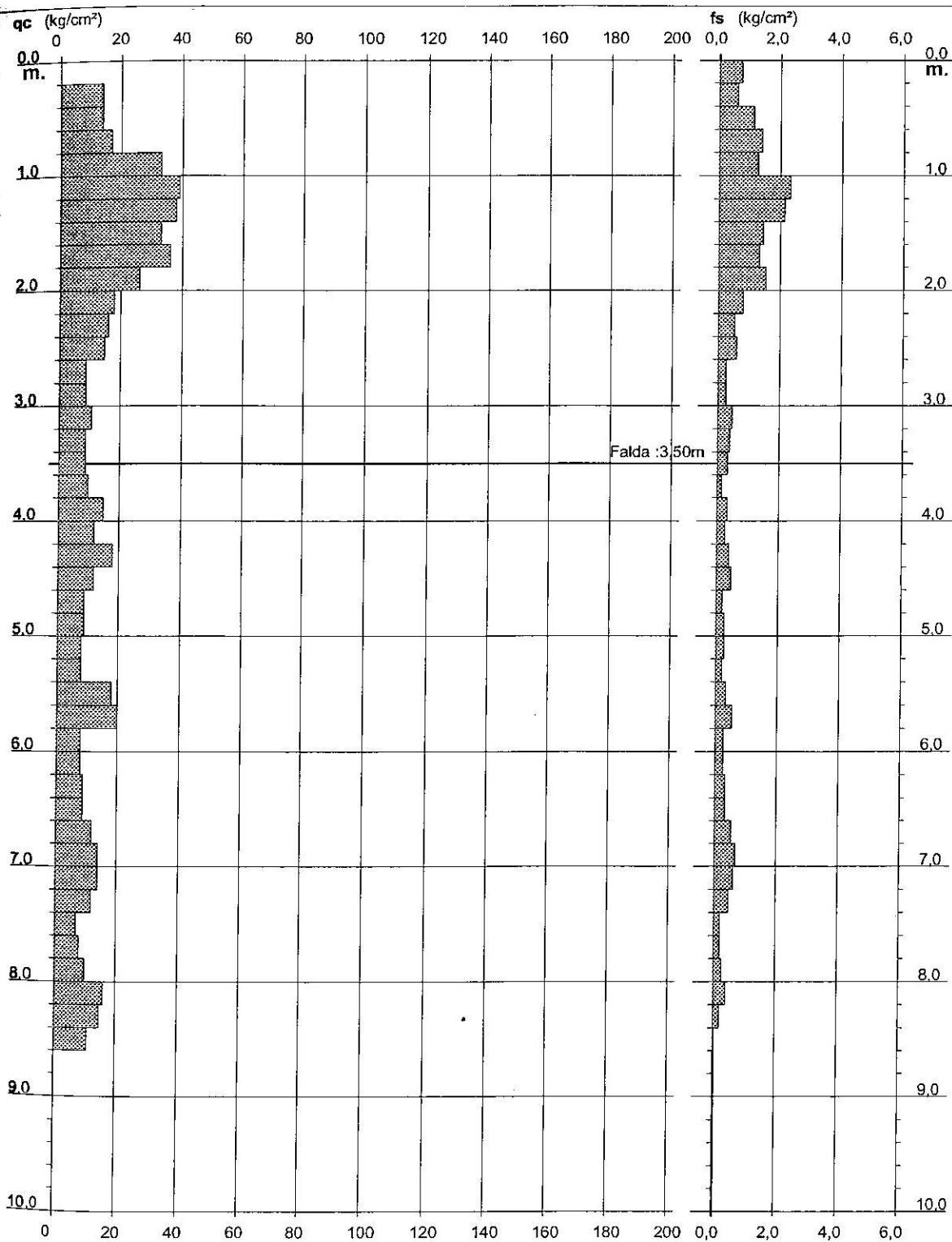
PENETROMETRO STATICO: TG 73 200 KN PAGANI

**PROVA PENETROMETRICA STATICA
DIAGRAMMA DI RESISTENZA****CPT 1**

2.01PG05-064

- committente :
- lavoro : Demolizione e ricostruzione
- località : S.Croce

- data : 06/12/2007
- quota inizio : Piano Campagna
- prof. falda : 3,50 m da quota inizio
- scala vert.: 1 : 50





Ichnogeo s.a.s.

Piazza La Pace, 8-56028 San Miniato Basso (PI)-0571 43213

618

Committente:

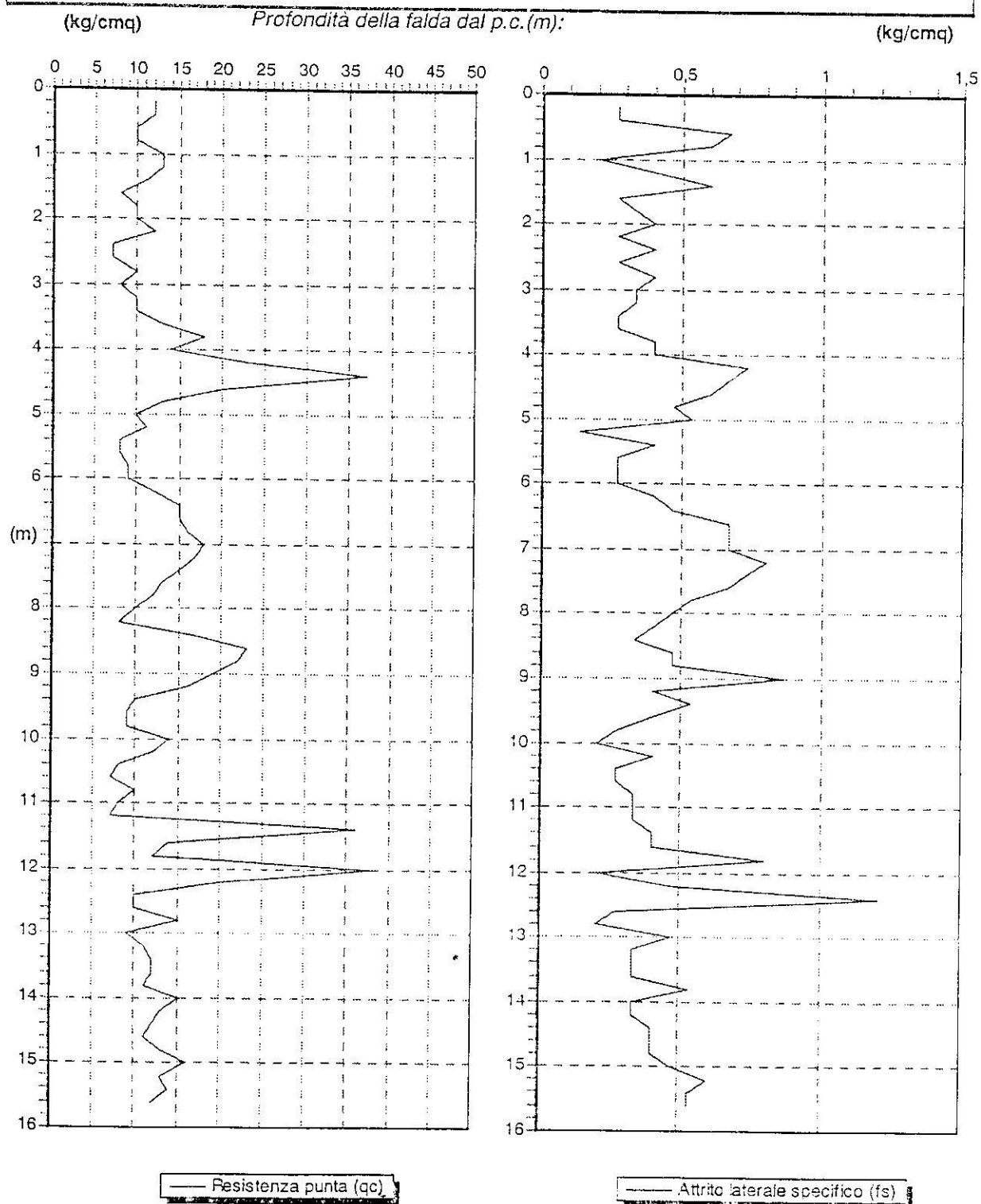
Località: Santa Croce

Penetrometro: RMU 20 t

Note: Inizio indagine da piano campagna

Sigla: CPT1

Grafico della prova





Ichnogeo s.a.s.

Piazza La Pace, 8-56028 San Miniato Basso (PI)-0571 43213

619

Committente:

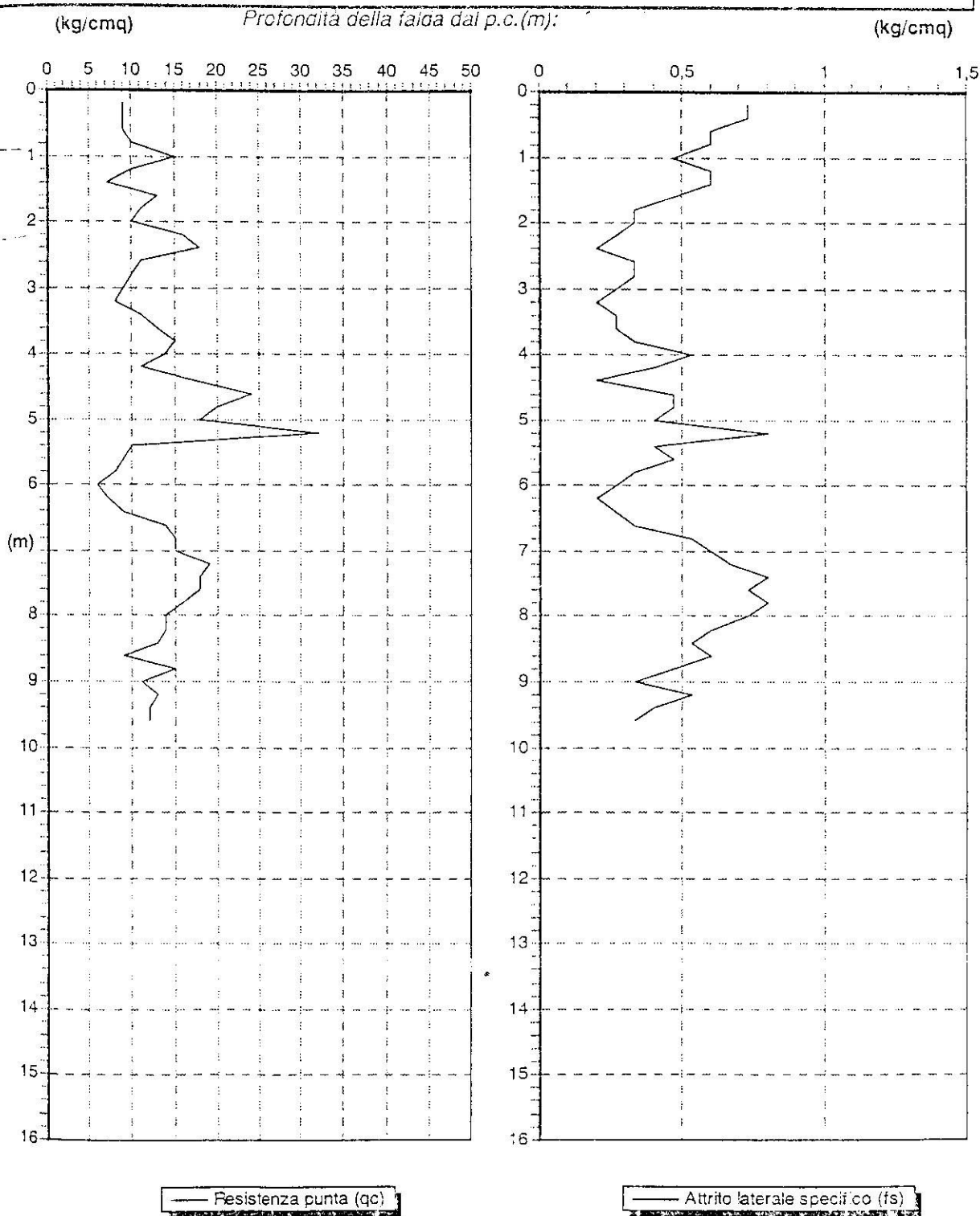
Località: Santa Croce

Penetrometro: RMU 20t

Note: Inizio prova da piano campagna

Sigla: CPT 2

Grafico della prova





Ichnogeo s.a.s.

Piazza La Pace, 8-56028 San Miniato Basso (PI)-0571 43213

620

Committente:

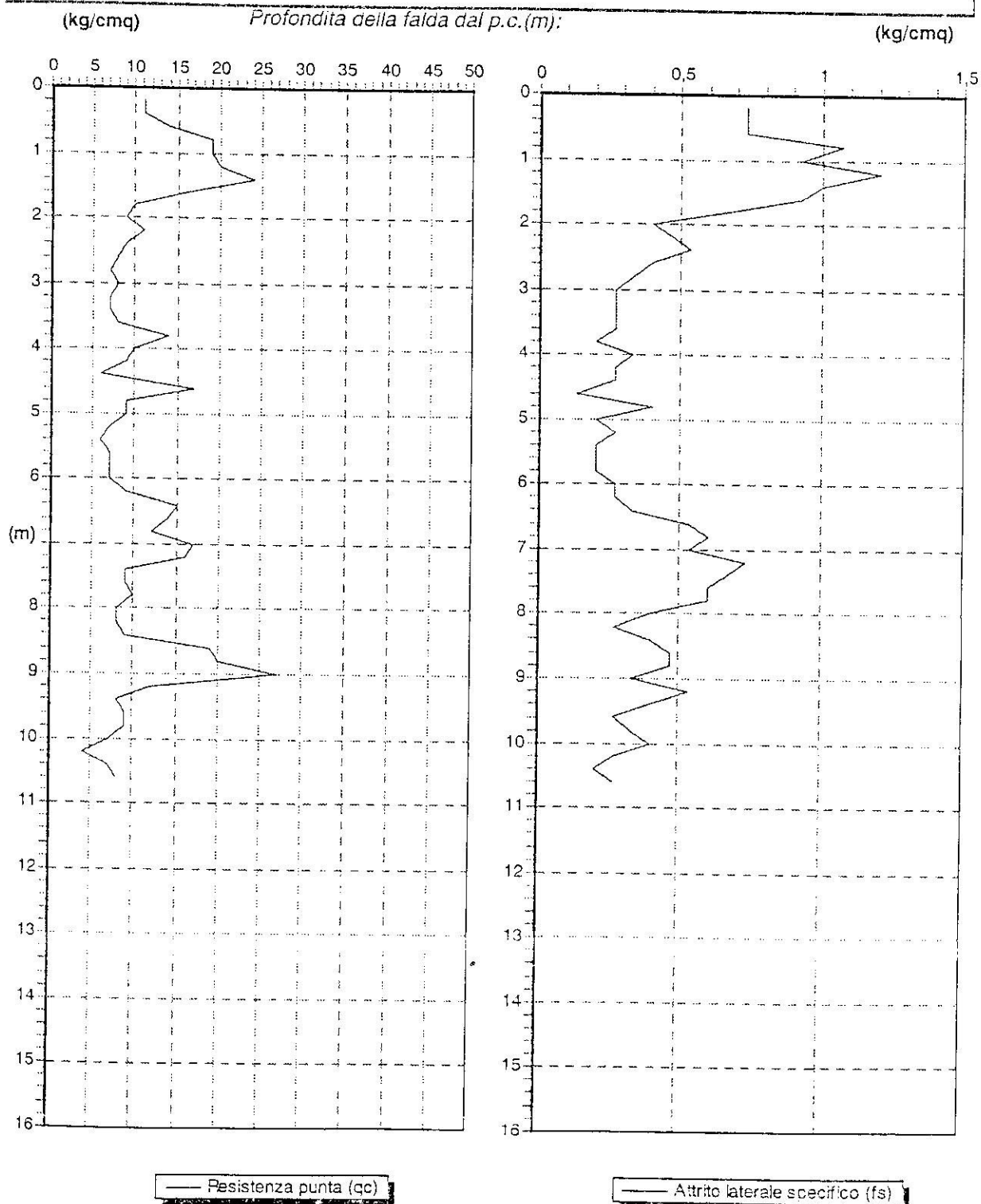
Località: Via Francesca - Santa Croce sull'Arno

Penetrometro: RMU 20t

Note: Inizio prova da piano campagna locale

Sigla: CPT3

Grafico della prova





Ichnogeo s.a.s.

Piazza La Pace, 8-56028 San Miniato Basso (PI)-0571 43213

621

Committente:

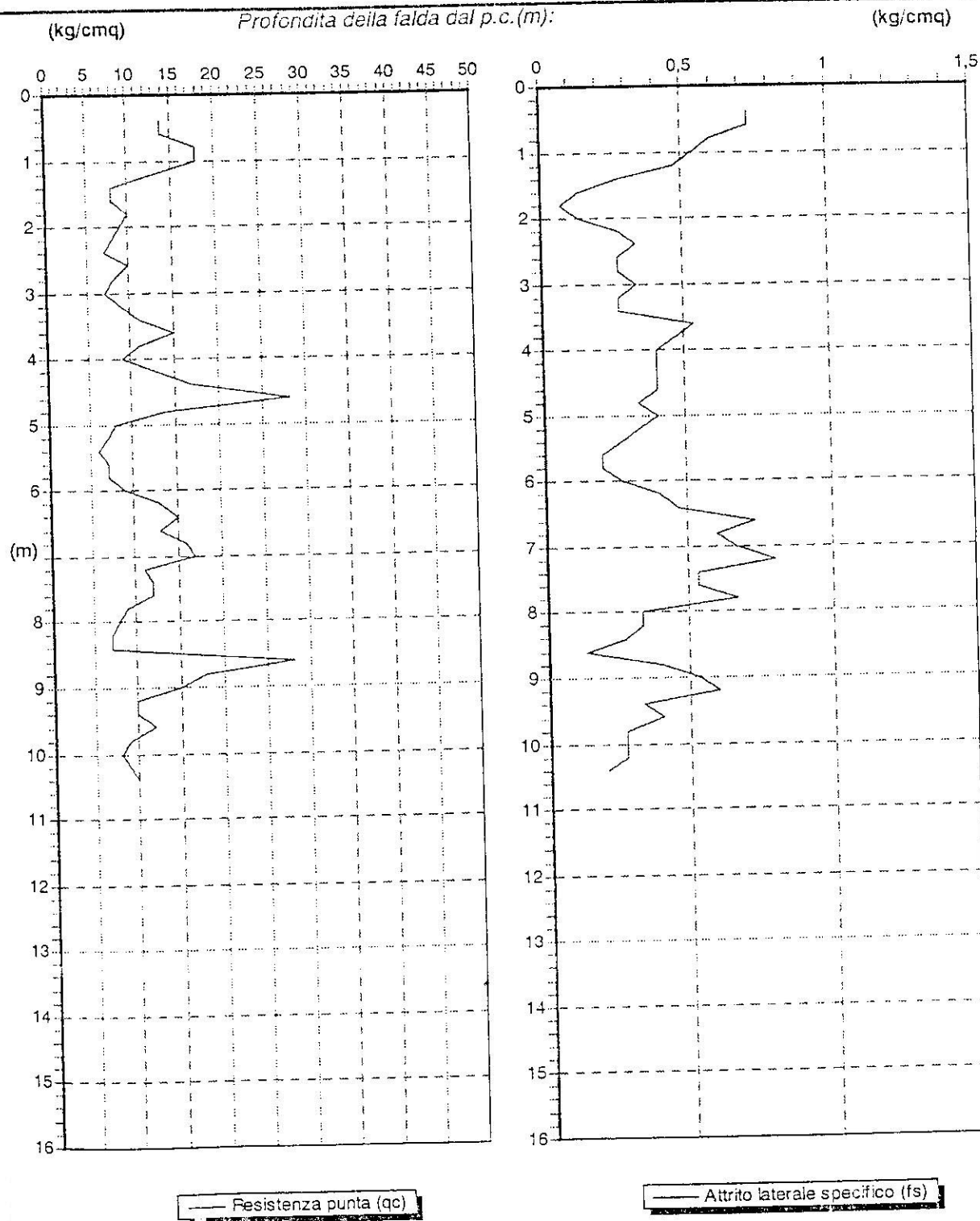
Località: Santa Croce

Penetrometro: RMU 20 t

Note: Inizio prova dal piano campagna

Sigla: CPT4

Grafico della prova



Certificato n.02p18/4 del 14/12/02

Firma:



Ichnogeo S.p.A.

Piazza La Pace, 8-56028 San Miniato Basso (PI)-0571 43213

622

Committente:

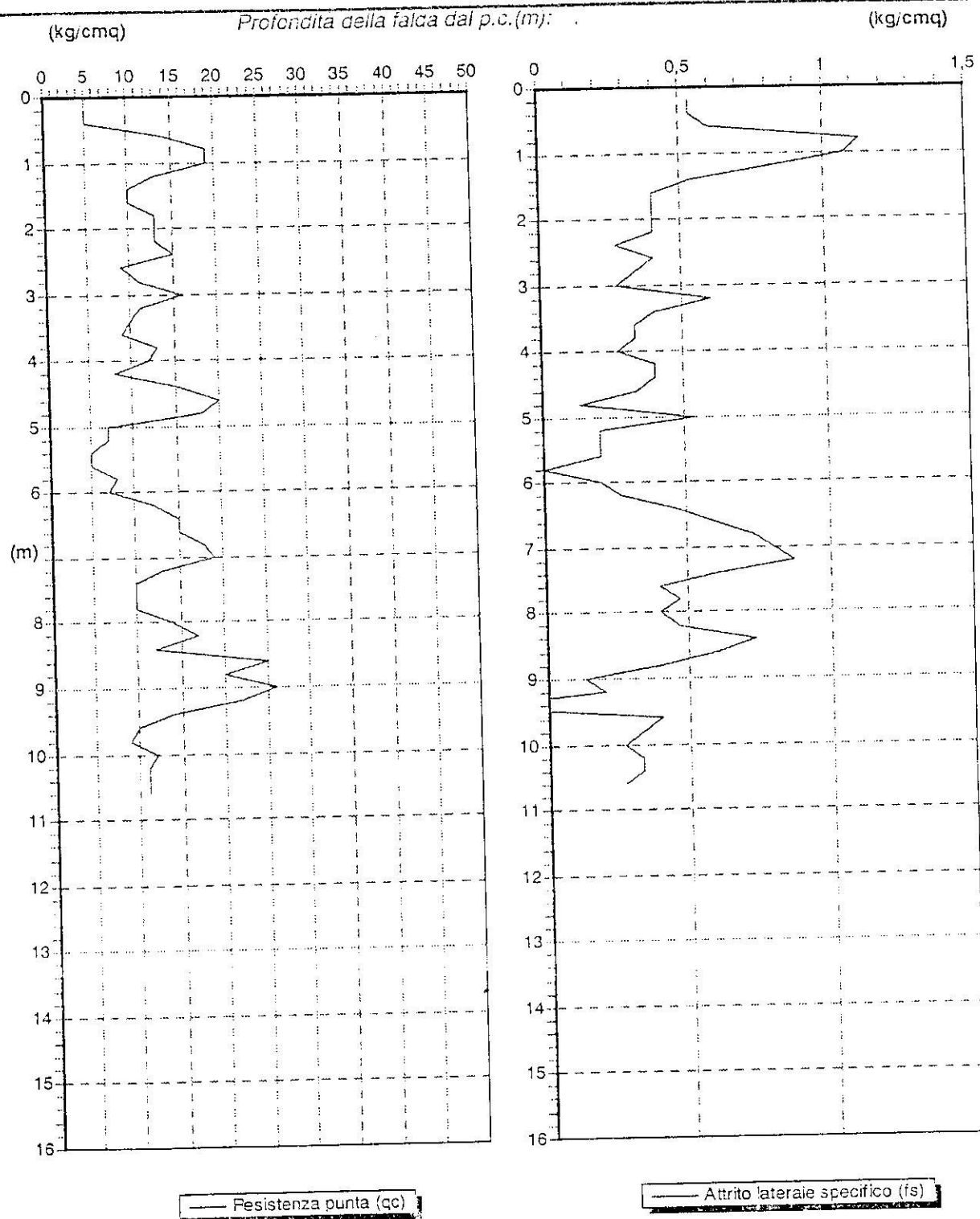
Località: Via Francesca - Santa Croce sull'Arno

Penetrometro: RMU 20t

Note: Inizio prova da piano campagna

Sigla: CPT5

Grafico della prova



Certificato n.02p18/5 del 12/12,02

Firma:



Ichnogeo s.a.s.

Piazza La Pace, 8-56028 San Miniato Basso (PI)-0571 43213

623

Committente:

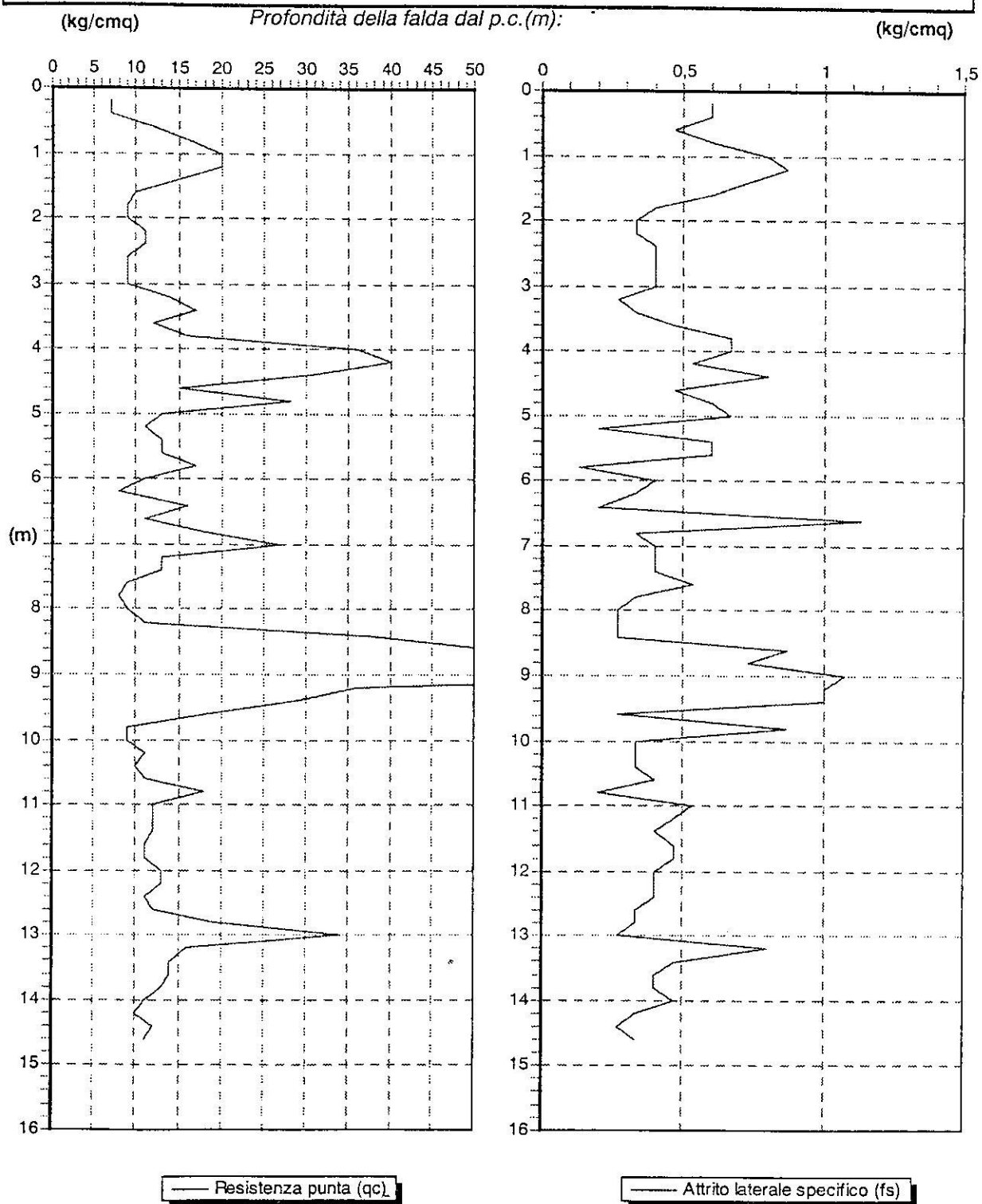
Località: Via Francesca - Santa Croce sull'Arno

Penetrometro: RMU 20t

Note: Inizio prova da piano campagna

Sigla: CPT6

Grafico della prova





Ichnogeo s.a.s.

Piazza La Pace, 8-56028 San Miniato Basso (PI)-0571 43213

Committente:

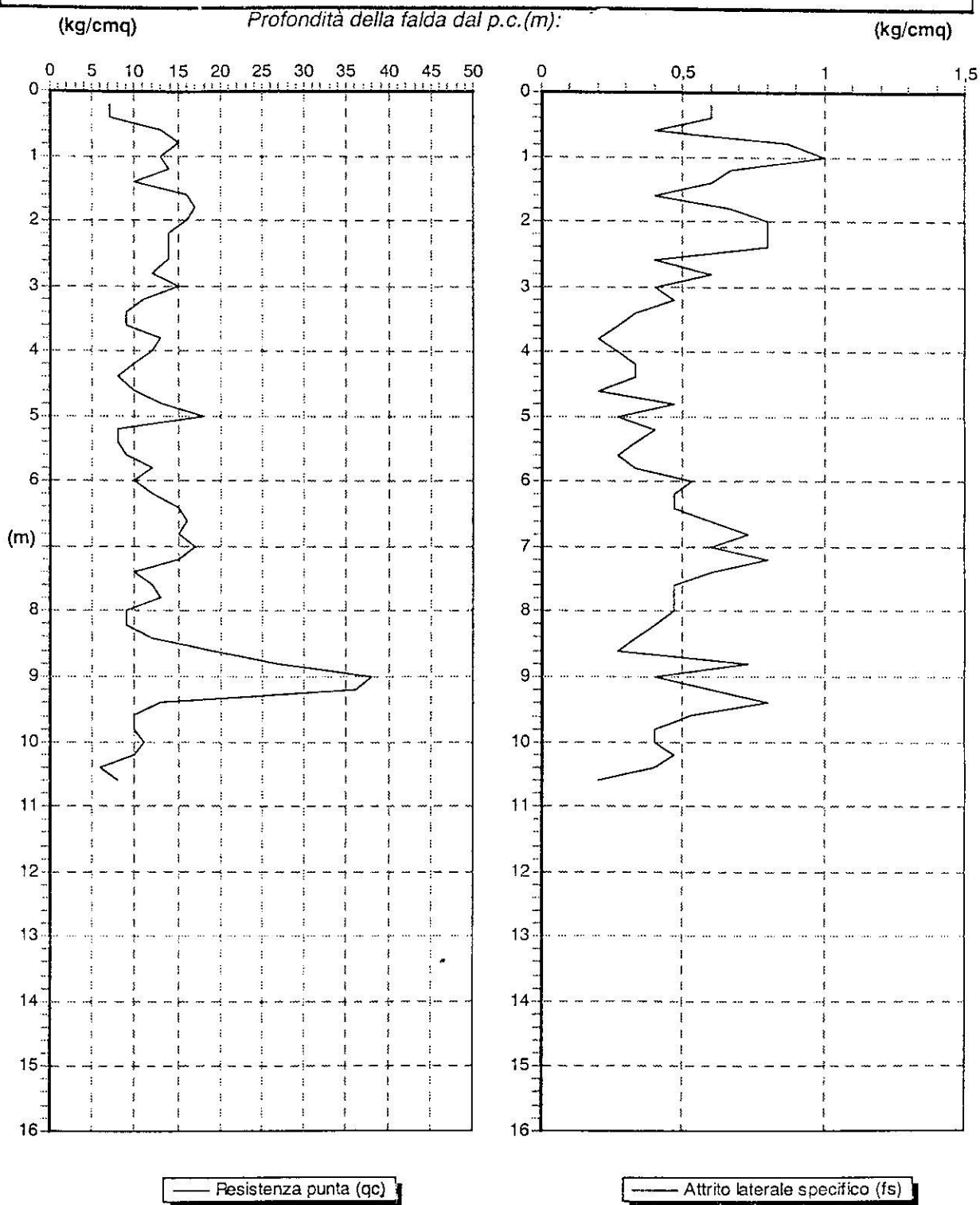
Località: Via Francesca - Santa Croce sull'Arno

Penetrometro: RMU 20 t

Note: Inizio prova da piano campagna

Sigla: CPT7

Grafico della prova

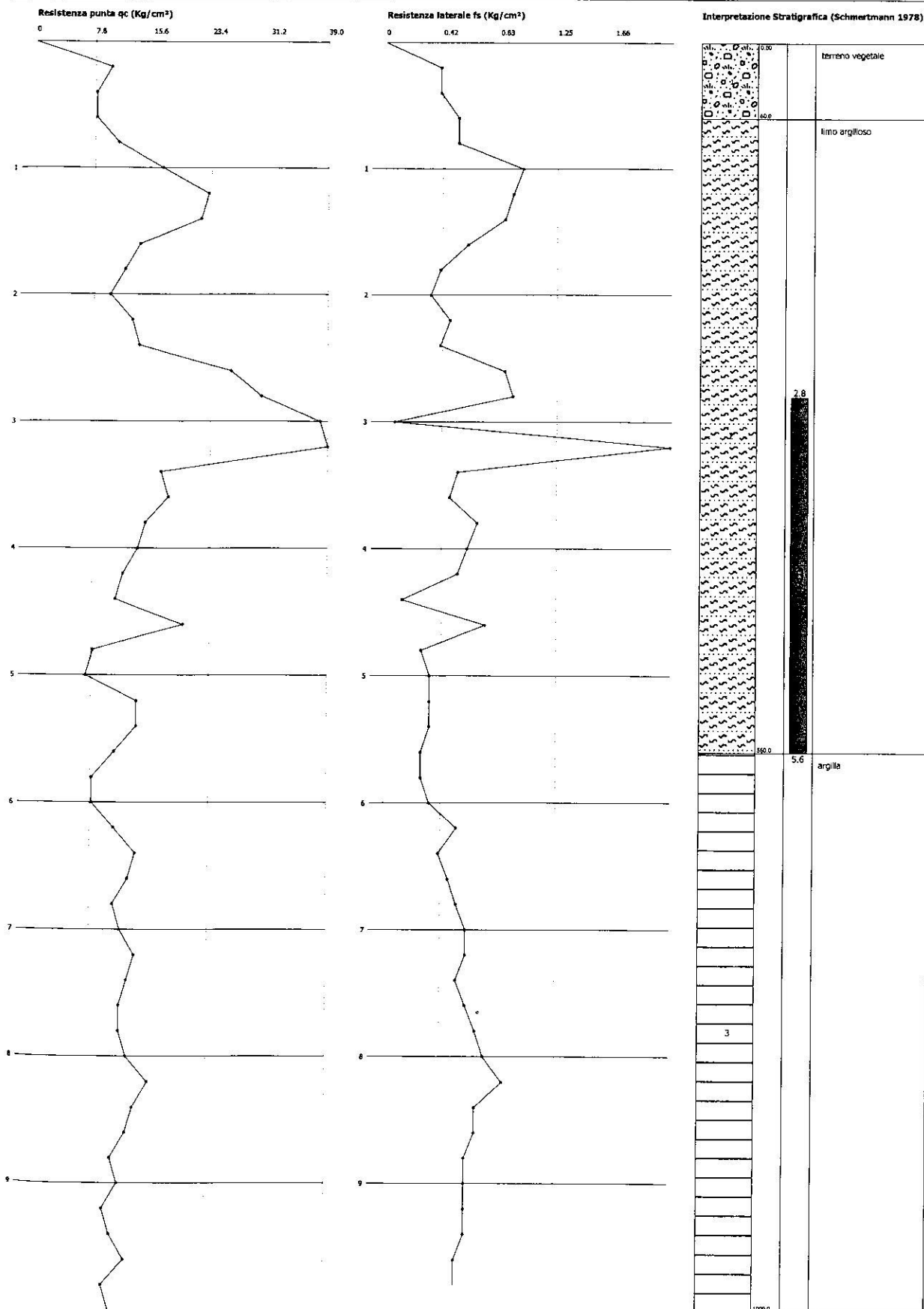


Probe CPT - Cone Penetration P1
Strumento utilizzato... DEEP DRILL
Diagramma Resistenze qc fs

Committente :
Cantiere : Via Bedina
Località : Zona Industriale Santa Croce

Data :

Scala 1:49



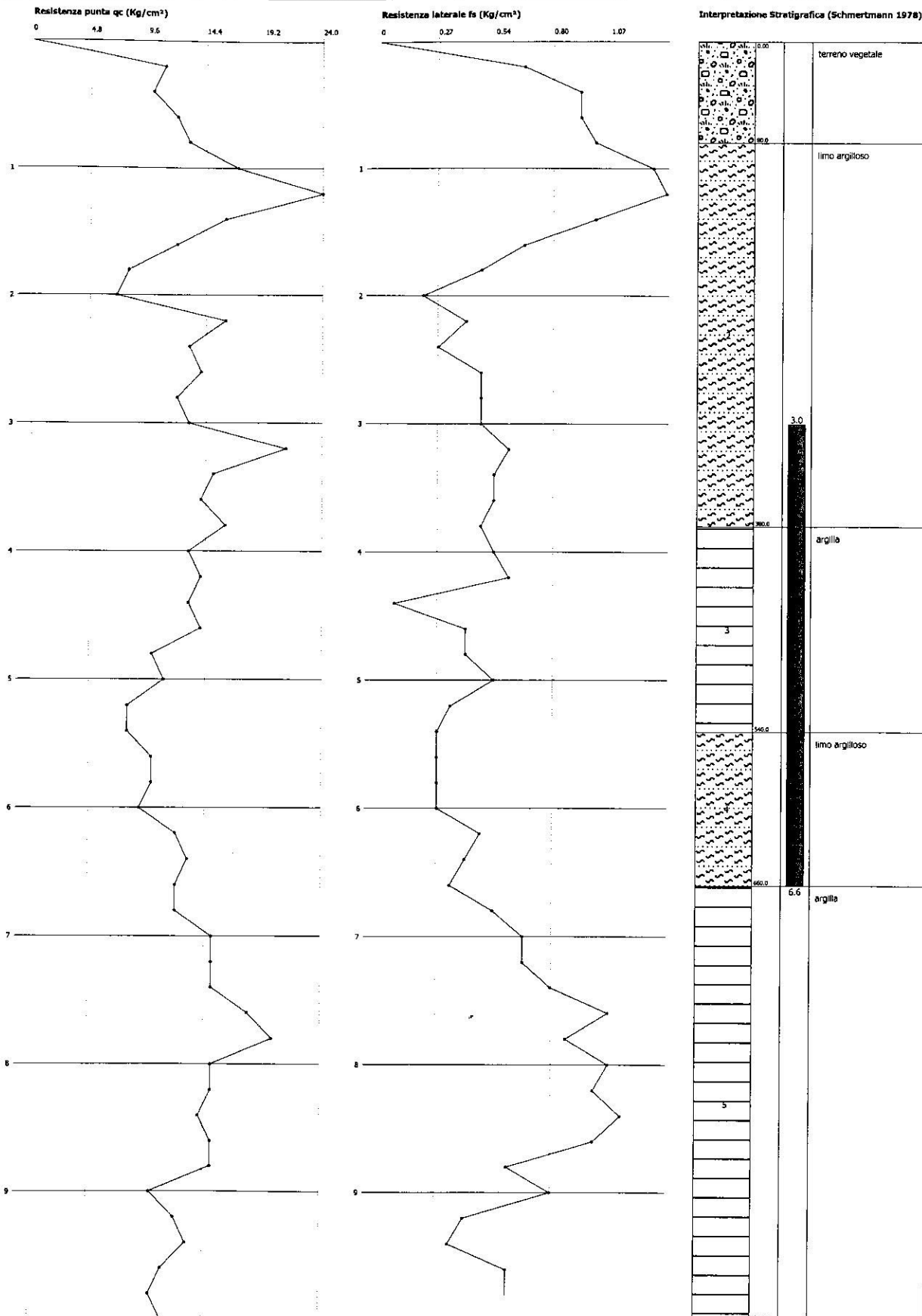
Probe CPT - Cone Penetration P2
Strumento utilizzato... DEEP DRILL
Diagramma Resistenze qc fs

Committente :
Cantiere : Via Bedina
Località : Zona industriale Santa Croce

Data :

Scala 1:49

Profondità

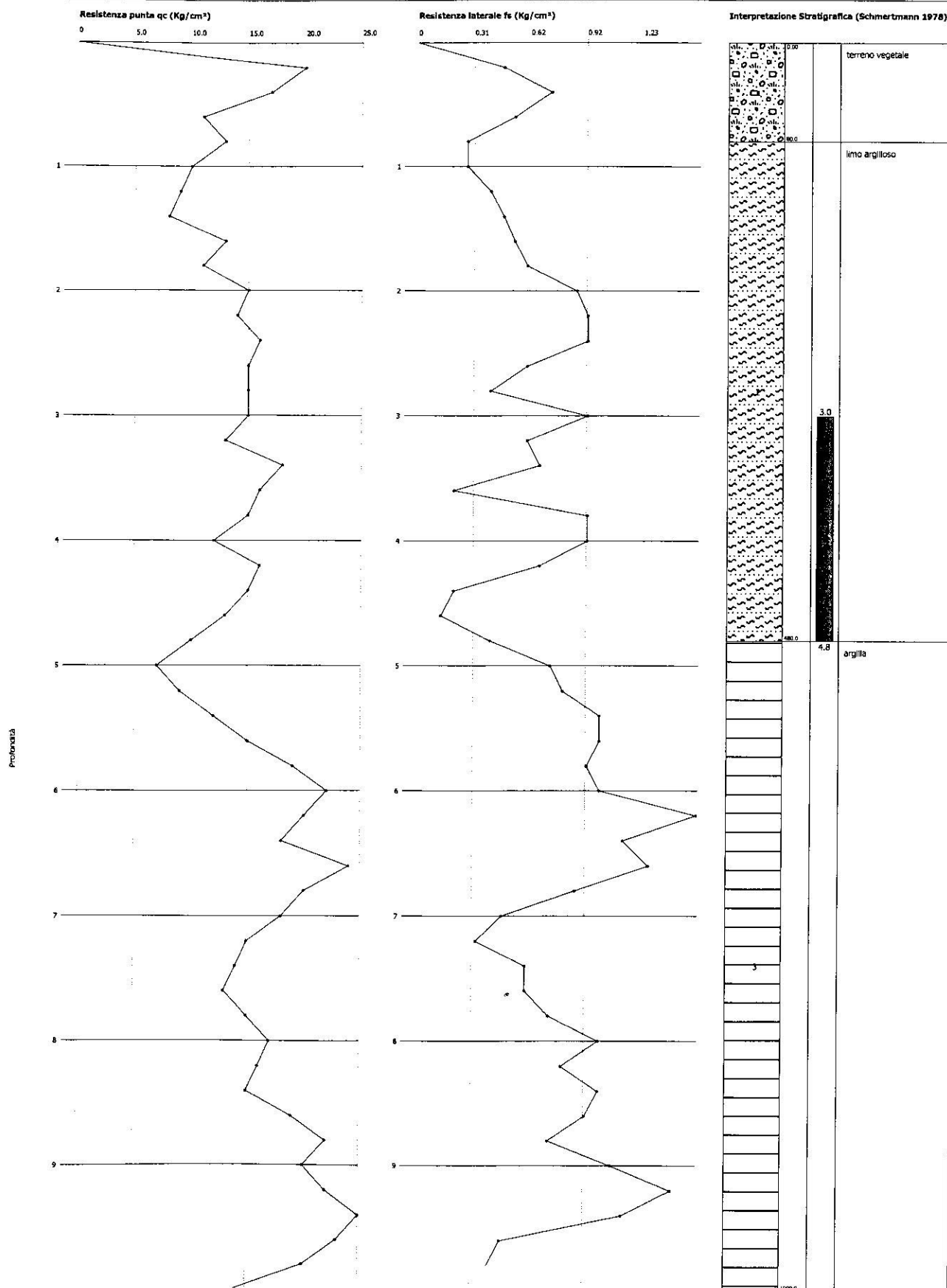


Probe CPT - Cone Penetration P3
Strumento utilizzato... DEEP DRILL
Diagramma Resistenze qc fs

Committente :
Cantiere : Via Bedina
Località : Zona Industriale Santa Croce

Data :

Scala 1:40



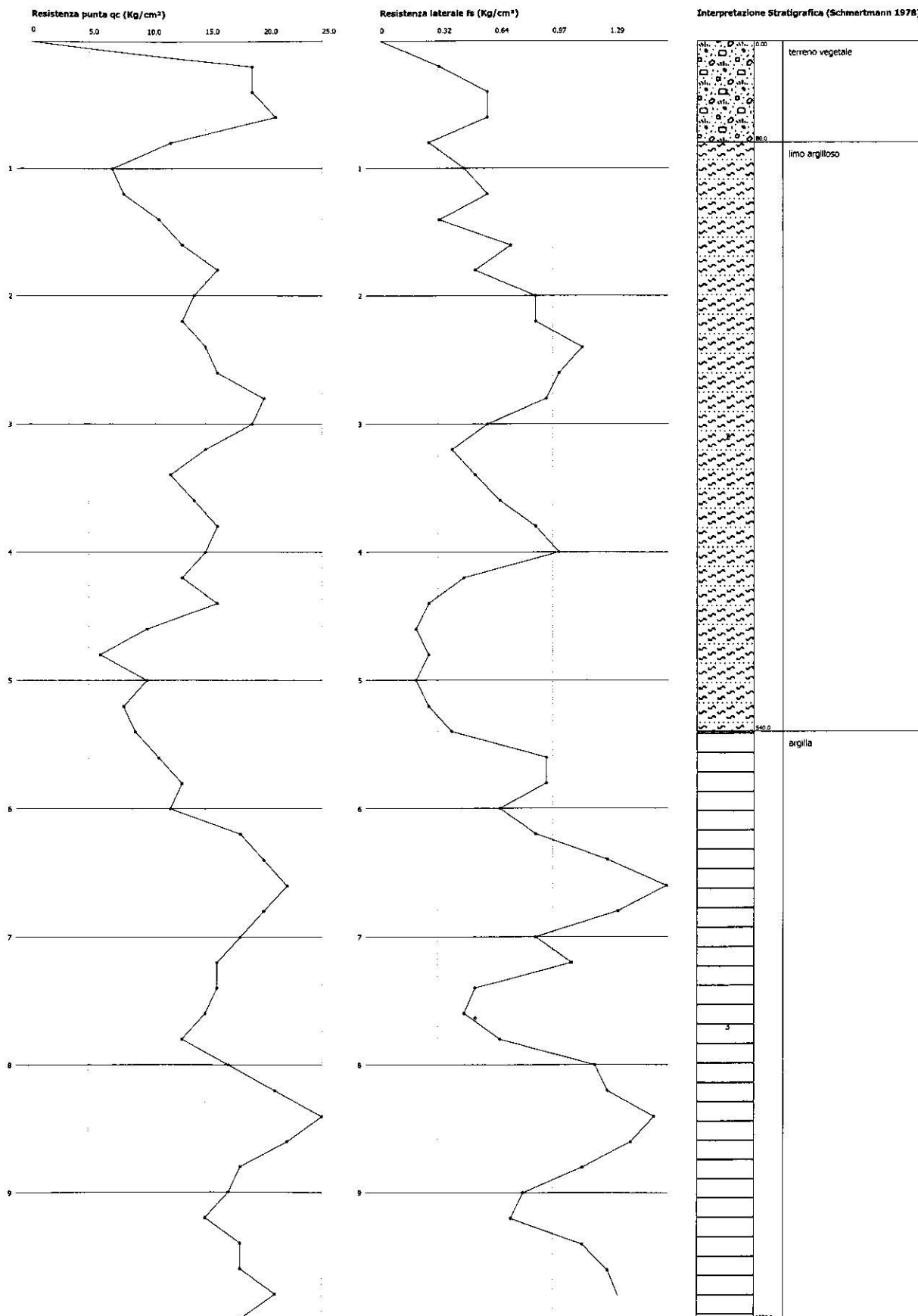
Probe CPT - Cone Penetration P4
Strumento utilizzato... DEEP DRILL
Diagramma Resistenze qc fs

Committente :
Cantiere : Via Bodina
Località : Zona industriale Santa Croce

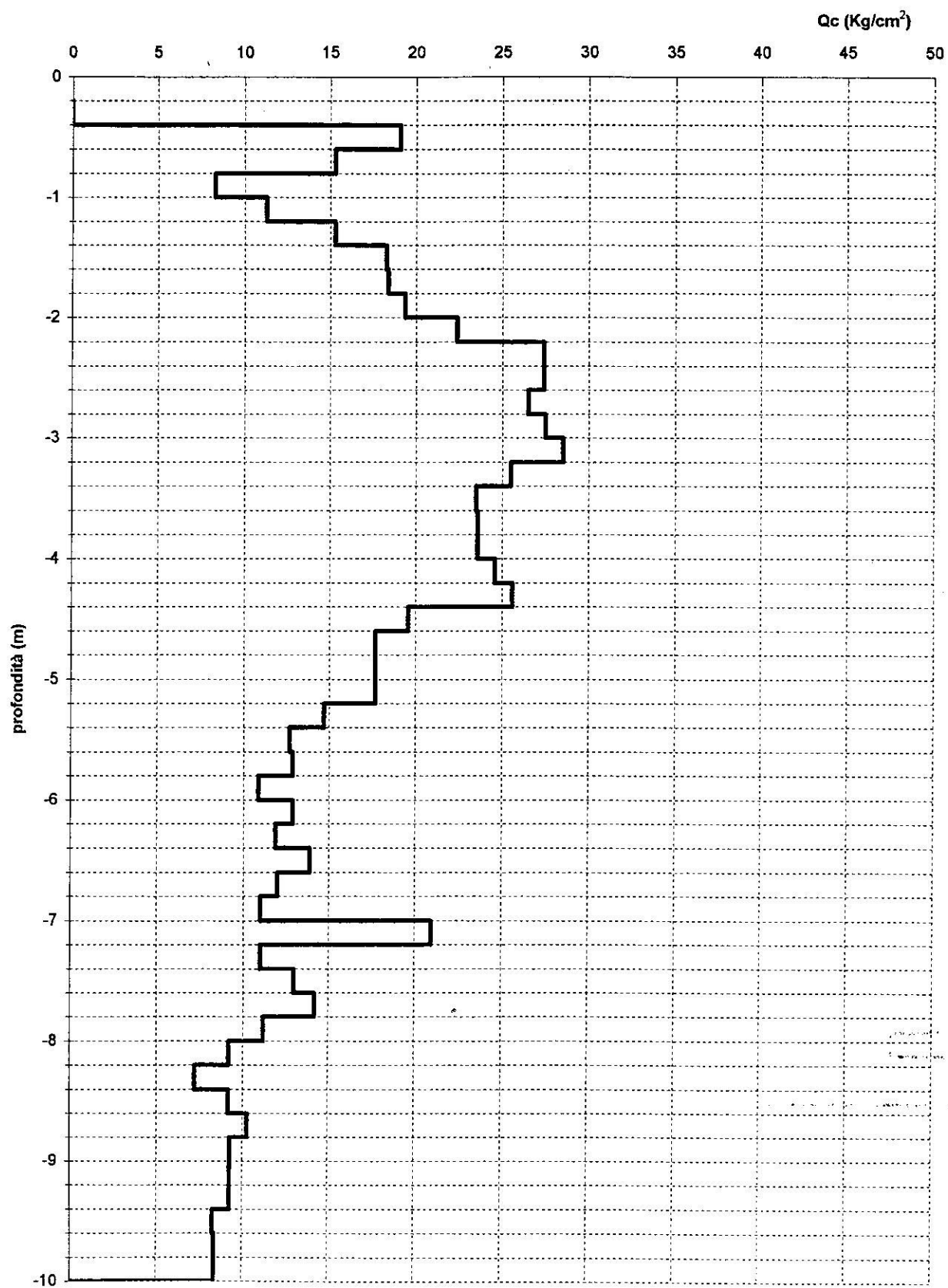
Data :

Scala 1:49

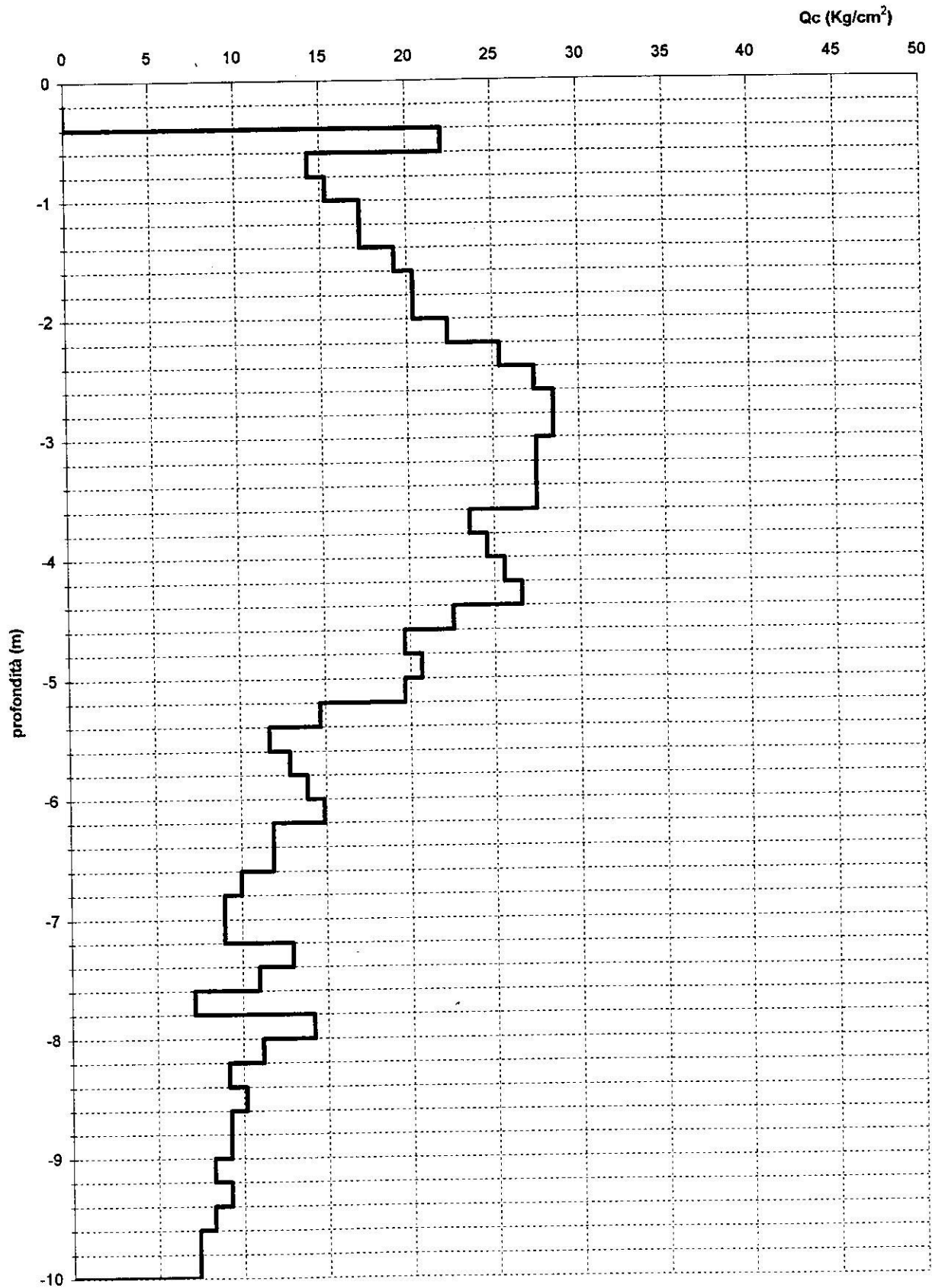
Profondità



prova cpt 1 - diagramma resistenza alla punta vs. prof.



prova cpt 2 - diagramma resistenza alla punta vs. prof.



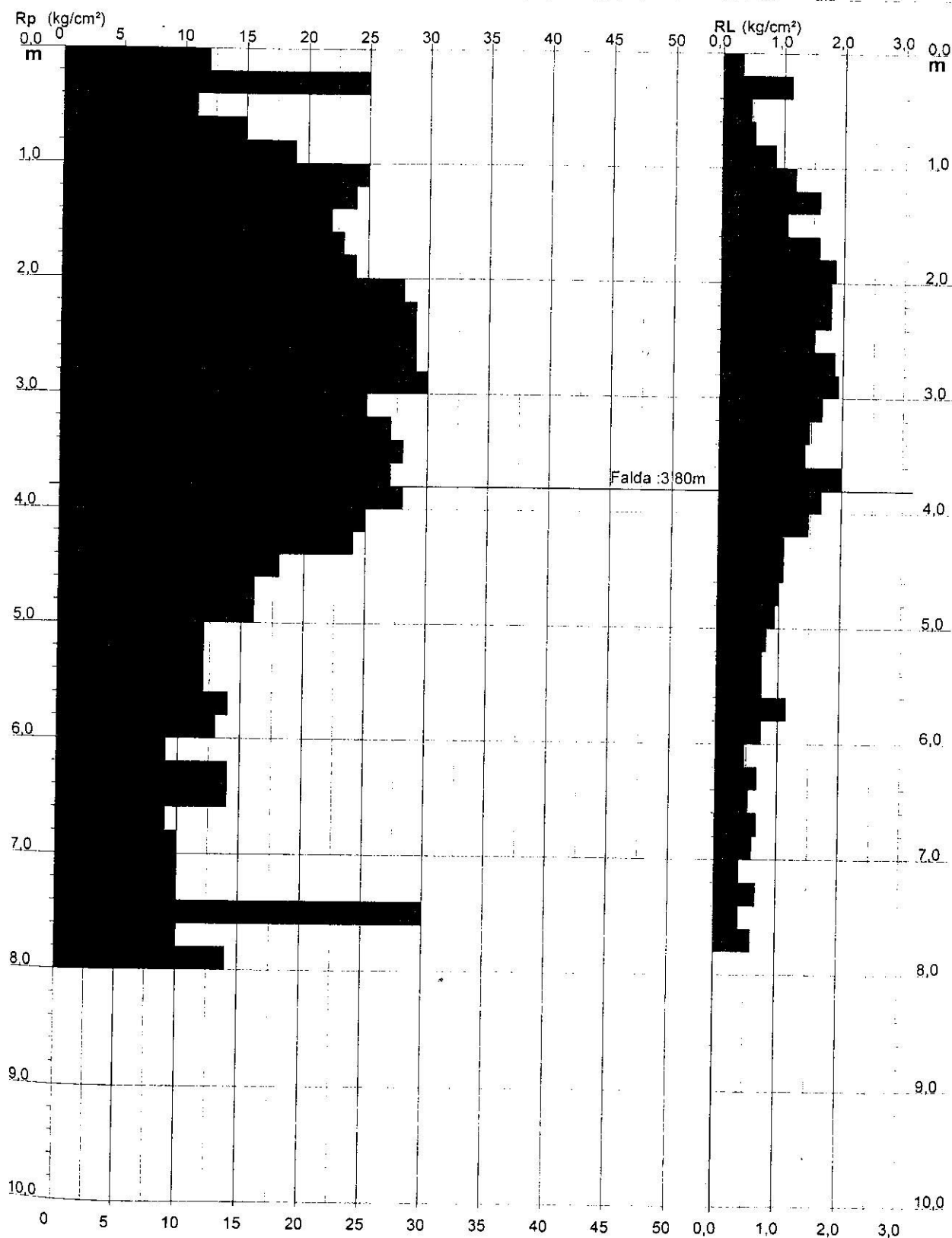
PROVA PENETROMETRICA STATICA DIAGRAMMA DI RESISTENZA

CPT 1

2.010496-116

- committente :
- lavoro : ampliamento civile abitazione
- località : Via S. Andrea - S. Croce S/A

- data : 25/01/2008
- quota inizio : Piano Campagna
- prof. falda : 3,80 m da quota inizio
- scala vert.: 1 : 50



Data: 03/01/2007

Profilo geomeccanico

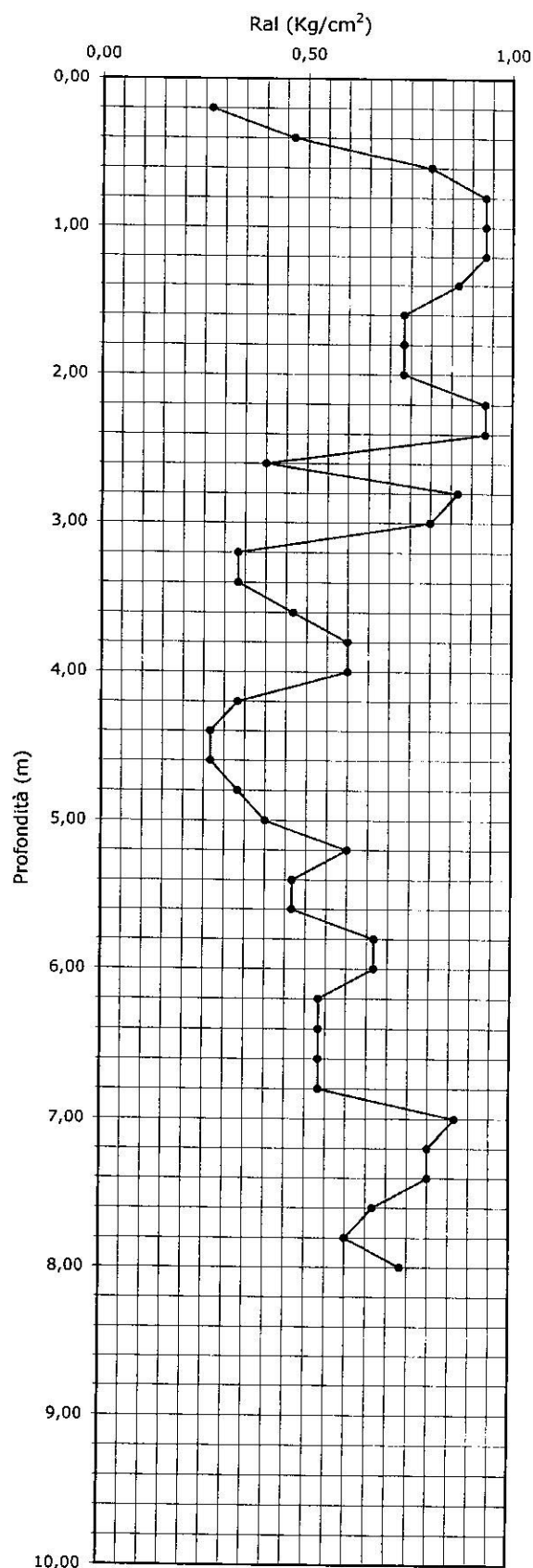
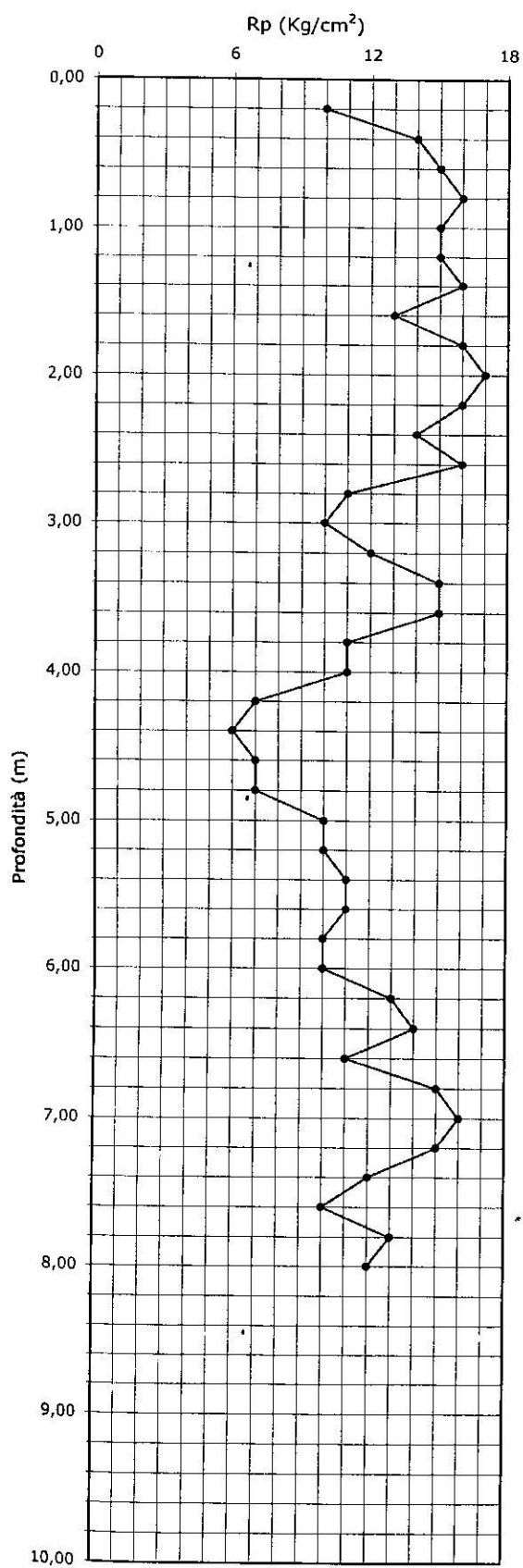
CPT n°1

Committente:

Ubicazione: Via del Castellare- S. Croce sull'Arno (PI)

Progetto: Nuovo fabbricato per civile abitazione

Falda: non intercettata



Livello Piezometrico della falda ———

ANALISI PROVE PENETROMETRICHE DINAMICHE CONTINUE [SCPT]

Committente: _____
Località: Santa Croce sull'Arno
Lavoro: Variante al piano di lottizzazione
Data: aprile

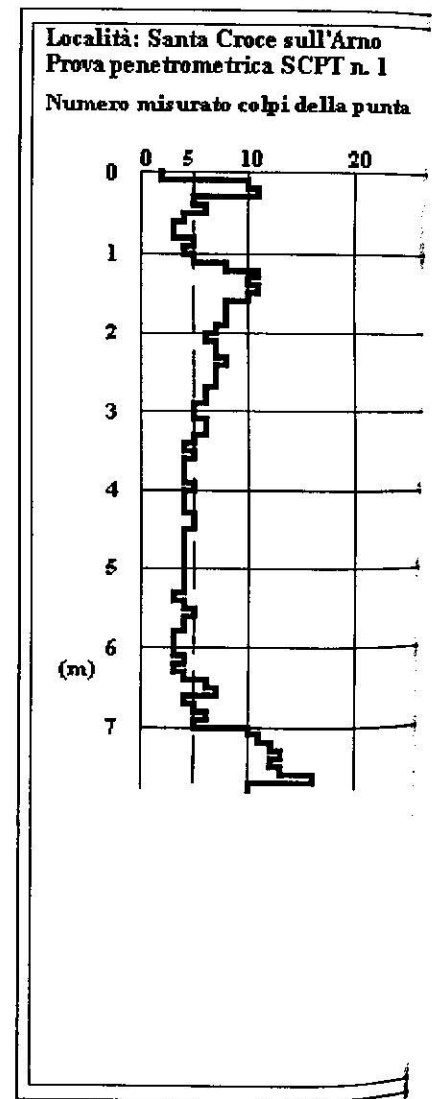
Data elaborazione:
04-20-2004

Prova penetrometrica n. 1

Dati del Penetrometro:

VALORI MISURATI E CALCOLATI DI N

z (m)	N	Nst	Nc	Ns	Nr
0,1	2	2	2	2	0
0,2	10	10	10	10	0
0,3	11	11	11	11	0
0,4	5	5	5	5	0
0,5	6	6	6	6	0
0,6	4	4	4	4	0
0,7	3	3	3	3	0
0,8	3	3	3	3	0
0,9	5	5	5	5	0
1,0	4	4	4	4	0
1,1	5	5	5	5	0
1,2	8	8	8	8	0
1,3	11	11	11	9	0
1,4	10	10	10	10	0
1,5	11	11	11	10	0
1,6	10	10	10	10	0
1,7	8	8	8	8	0
1,8	8	8	8	8	0
1,9	8	8	8	8	0
2,0	7	7	7	7	0
2,1	6	6	6	6	0
2,2	7	7	7	7	0
2,3	7	7	7	7	0
2,4	8	8	8	7	0
2,5	7	7	7	7	0
2,6	7	7	7	7	0
2,7	7	7	7	7	0
2,8	6	6	6	6	0
2,9	6	6	6	6	0
3,0	5	5	5	5	0
3,1	5	5	5	5	0
3,2	6	6	6	6	0
3,3	6	6	6	6	0
3,4	5	5	5	6	0
3,5	4	4	4	5	0
3,6	5	5	5	4	0
3,7	4	4	4	4	0
3,8	4	4	4	4	0
3,9	4	4	4	4	0
4,0	5	5	5	4	0
4,1	4	4	4	4	0
4,2	4	4	4	4	0
4,3	4	4	4	4	0
4,4	5	5	5	4	0
4,5	5	5	5	5	0
4,6	4	4	4	5	0
4,7	4	4	4	4	0
4,8	4	4	4	4	0
4,9	4	4	4	4	0
5,0	4	4	4	4	0



5,1	4	4	4	4	0
5,2	4	4	4	4	0
5,3	4	4	4	4	0
5,4	3	3	3	3	0
5,5	4	4	4	4	0
5,6	5	5	5	4	0
5,7	4	4	4	4	0
5,8	4	4	4	4	0
5,9	3	3	3	3	0
6,0	3	3	3	3	0
6,1	3	3	3	3	0
6,2	4	4	4	3	0
6,3	3	3	3	3	0
6,4	4	4	4	4	0
6,5	6	6	6	6	0
6,6	7	7	6	6	0
6,7	4	4	4	4	0
6,8	5	5	5	5	0
6,9	6	6	5	5	0
7,0	5	5	5	5	0
7,1	10	10	9	9	0
7,2	11	11	10	10	0
7,3	12	12	10	10	0
7,4	13	13	11	10	0
7,5	12	12	10	10	0
7,6	13	13	11	11	0
7,7	16	16	13	10	0
7,8	10	10	9	9	0

N = numero colpi originale
 Nst = numero colpi standardizzato
 Nc = N corretto per Bazaraa.
 Ns = N smussato statisticamente.
 Nr = numero colpi del rivestimento.

CARATTERISTICHE GEOTECNICHE (indicative)

z	gamma	phi	Dr	E	G	k
0,1	14,7	20	8,1	9,9	22,6	0,4
0,2	17,9	27	21,0	22,1	67,5	2,0
0,3	18,2	28	24,5	23,2	72,0	2,2
0,4	16,0	24	18,1	15,7	42,1	1,0
0,5	16,4	24	19,2	15,7	42,1	1,0
0,6	15,6	23	18,1	14,0	36,2	0,8
0,7	15,1	22	16,4	12,1	29,8	0,6
0,8	15,1	22	17,0	12,1	29,8	0,6
0,9	16,0	23	20,1	14,0	36,2	0,8
1,0	15,6	23	20,7	14,0	36,2	0,8
1,1	16,0	24	23,6	15,7	42,1	1,0
1,2	17,2	26	30,2	19,8	58,0	1,6
1,3	18,2	27	32,6	21,0	62,8	1,8
1,4	17,9	27	35,0	22,1	67,5	2,0
1,5	18,2	27	35,6	22,1	67,5	2,0
1,6	17,9	27	36,2	22,1	67,5	2,0
1,7	17,2	26	33,1	19,8	58,0	1,6
1,8	17,2	26	33,6	19,8	58,0	1,6
1,9	17,2	26	34,1	19,8	58,0	1,6
2,0	16,8	25	32,4	18,5	53,0	1,4
2,1	16,4	24	30,5	17,1	47,7	1,2
2,2	16,8	25	33,2	18,5	53,0	1,4
2,3	16,8	25	33,6	18,5	53,0	1,4
2,4	17,2	25	34,0	18,5	53,0	1,4
2,5	16,8	25	34,3	18,5	53,0	1,4
2,6	16,8	25	34,7	18,5	53,0	1,4
2,7	16,8	25	35,0	18,5	53,0	1,4
2,8	16,4	24	32,9	17,1	47,7	1,2
2,9	16,4	24	33,2	17,1	47,7	1,2
3,0	16,0	24	30,7	15,7	42,1	1,0
3,1	16,0	24	30,8	15,7	42,1	0,6
3,2	16,4	24	33,7	17,1	47,7	0,7
3,3	16,4	24	33,8	17,1	47,7	0,7
3,4	16,0	24	31,1	15,7	42,1	0,6
3,5	15,6	23	28,0	14,0	36,2	0,4
3,6	16,0	23	28,1	14,0	36,2	0,4
3,7	15,6	23	28,2	14,0	36,2	0,4
3,8	15,6	23	28,3	14,0	36,2	0,4
3,9	15,6	23	28,4	14,0	36,2	0,4
4,0	16,0	23	28,5	14,0	36,2	0,4
4,1	15,6	23	28,6	14,0	36,2	0,4
4,2	15,6	23	28,7	14,0	36,2	0,4
4,3	15,6	23	28,7	14,0	36,2	0,4
4,4	16,0	24	32,1	15,7	42,1	0,6
4,5	16,0	24	32,2	15,7	42,1	0,6
4,6	15,6	23	29,0	14,0	36,2	0,4
4,7	15,6	23	29,1	14,0	36,2	0,4
4,8	15,6	23	29,2	14,0	36,2	0,4
4,9	15,6	23	29,3	14,0	36,2	0,4
5,0	15,6	23	29,3	14,0	36,2	0,4
5,1	15,6	23	29,4	14,0	36,2	0,4
5,2	15,6	23	29,5	14,0	36,2	0,4
5,3	15,6	23	29,6	14,0	36,2	0,4
5,4	15,1	22	25,8	12,1	29,8	0,3
5,5	15,6	23	29,7	14,0	36,2	0,4
5,6	16,0	23	29,8	14,0	36,2	0,4
5,7	15,6	23	29,9	14,0	36,2	0,4
5,8	15,6	23	30,0	14,0	36,2	0,4
5,9	15,1	22	26,2	12,1	29,8	0,3
6,0	15,1	22	26,2	12,1	29,8	0,3
6,1	15,1	22	26,3	12,1	29,8	0,3
6,2	15,6	22	26,4	12,1	29,8	0,3
6,3	15,1	22	26,4	12,1	29,8	0,3
6,4	15,6	23	30,4	14,0	36,2	0,4
6,5	16,4	24	37,0	17,1	47,7	0,7
6,6	16,8	24	37,1	17,1	47,7	0,7
6,7	15,6	23	30,6	14,0	36,2	0,4
6,8	16,0	24	34,2	15,7	42,1	0,6
6,9	16,4	24	34,2	15,7	42,1	0,6
7,0	16,0	24	34,3	15,7	42,1	0,6
7,1	17,9	27	45,5	21,0	62,8	1,1
7,2	18,2	27	48,0	22,1	67,5	1,2
7,3	18,5	27	48,1	22,1	67,5	1,2
7,4	18,8	27	48,2	22,1	67,5	1,2
7,5	18,5	27	48,3	22,1	67,5	1,2
7,6	18,8	28	50,7	23,2	72,0	1,3

ANALISI PROVE PENETROMETRICHE DINAMICHE CONTINUE [SCPT]

Committente:
Località: Santa Croce sull'Arno
Lavoro: Variante al piano di lottizzazione
Data: aprile

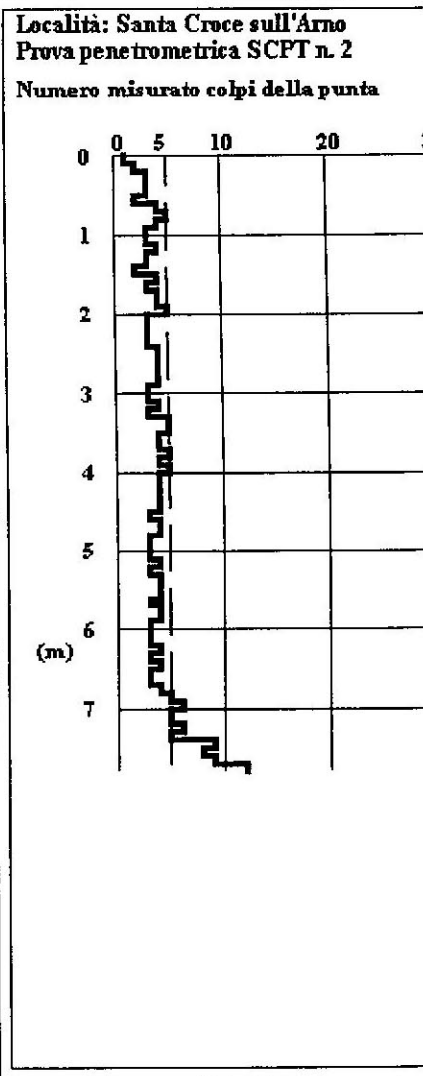
Data elaborazione:
04-20-2004

Prova penetrometrica n. 2

Dati del Penetrometro:

VALORI MISURATI E CALCOLATI DI N

z (m)	N	Nst	Nc	Ns	Nr
0,1	1	1	1	1	0
0,2	2	2	2	2	0
0,3	3	3	3	3	0
0,4	3	3	3	3	0
0,5	3	3	3	3	0
0,6	2	2	2	2	0
0,7	4	4	4	4	0
0,8	5	5	5	4	0
0,9	4	4	4	4	0
1,0	3	3	3	3	0
1,1	3	3	3	3	0
1,2	4	4	4	3	0
1,3	3	3	3	3	0
1,4	3	3	3	3	0
1,5	2	2	2	2	0
1,6	4	4	4	3	0
1,7	3	3	3	3	0
1,8	4	4	4	4	0
1,9	4	4	4	4	0
2,0	5	5	5	4	0
2,1	3	3	3	3	0
2,2	3	3	3	3	0
2,3	3	3	3	3	0
2,4	3	3	3	3	0
2,5	4	4	4	4	0
2,6	4	4	4	4	0
2,7	4	4	4	4	0
2,8	4	4	4	4	0
2,9	4	4	4	4	0
3,0	3	3	3	3	0
3,1	3	3	3	3	0
3,2	4	4	4	3	0
3,3	3	3	3	3	0
3,4	5	5	5	5	0
3,5	5	5	5	5	0
3,6	4	4	4	4	0
3,7	4	4	4	4	0
3,8	5	5	5	4	0
3,9	4	4	4	4	0
4,0	5	5	5	4	0
4,1	4	4	4	4	0
4,2	4	4	4	4	0
4,3	4	4	4	4	0
4,4	4	4	4	4	0
4,5	4	4	4	4	0
4,6	3	3	3	3	0
4,7	4	4	4	4	0
4,8	4	4	4	4	0
4,9	3	3	3	3	0
5,0	3	3	3	3	0



5,1	3	3	3	3	0
5,2	4	4	4	3	0
5,3	3	3	3	3	0
5,4	4	4	4	4	0
5,5	4	4	4	4	0
5,6	4	4	4	4	0
5,7	3	3	3	3	0
5,8	4	4	4	4	0
5,9	4	4	4	4	0
6,0	3	3	3	3	0
6,1	3	3	3	3	0
6,2	3	3	3	3	0
6,3	4	4	4	3	0
6,4	3	3	3	3	0
6,5	4	4	4	3	0
6,6	3	3	3	3	0
6,7	3	3	3	3	0
6,8	4	4	4	4	0
6,9	5	5	5	5	0
7,0	6	6	5	5	0
7,1	5	5	5	5	0
7,2	5	5	5	5	0
7,3	6	6	5	5	0
7,4	5	5	5	5	0
7,5	9	9	8	6	0
7,6	8	8	7	7	0
7,7	9	9	8	8	0
7,8	12	12	10	10	0

N = numero colpi originale

Nst = numero colpi standardizzato

Nc = N corretto per Bazaraa.

Ns = N smussato statisticamente.

Nr = numero colpi del rivestimento.

CARATTERISTICHE GEOTECNICHE (indicative)

z	gamma	phi	Dr	E	G	k
0,1	14,2	19	5,7	7,0	14,1	0,2
0,2	14,7	20	9,6	9,9	22,6	0,4
0,3	15,1	22	13,0	12,1	29,8	0,6
0,4	15,1	22	14,0	12,1	29,8	0,6
0,5	15,1	22	14,8	12,1	29,8	0,6
0,6	14,7	20	12,8	9,9	22,6	0,4
0,7	15,6	23	18,6	14,0	36,2	0,8
0,8	16,0	23	19,2	14,0	36,2	0,8
0,9	15,6	23	19,8	14,0	36,2	0,8
1,0	15,1	22	17,8	12,1	29,8	0,6
1,1	15,1	22	18,2	12,1	29,8	0,6
1,2	15,6	22	18,6	12,1	29,8	0,6
1,3	15,1	22	19,0	12,1	29,8	0,6
1,4	15,1	22	19,4	12,1	29,8	0,6
1,5	14,7	20	16,3	9,9	22,6	0,4
1,6	15,6	22	20,1	12,1	29,8	0,6
1,7	15,1	22	20,4	12,1	29,8	0,6
1,8	15,6	23	23,8	14,0	36,2	0,8
1,9	15,6	23	24,1	14,0	36,2	0,8
2,0	16,0	23	24,4	14,0	36,2	0,8
2,1	15,1	22	21,6	12,1	29,8	0,6
2,2	15,1	22	21,8	12,1	29,8	0,6
2,3	15,1	22	22,1	12,1	29,8	0,6
2,4	15,1	22	22,4	12,1	29,8	0,6
2,5	15,6	23	25,9	14,0	36,2	0,8
2,6	15,6	23	26,2	14,0	36,2	0,8
2,7	15,6	23	26,4	14,0	36,2	0,8
2,8	15,6	23	26,7	14,0	36,2	0,8
2,9	15,6	23	26,9	14,0	36,2	0,8
3,0	15,1	22	23,7	12,1	29,8	0,6
3,1	15,1	22	23,8	12,1	29,8	0,3
3,2	15,6	22	23,8	12,1	29,8	0,3
3,3	15,1	22	23,9	12,1	29,8	0,3
3,4	16,0	24	30,6	15,7	42,1	0,6
3,5	16,0	24	30,7	15,7	42,1	0,6
3,6	15,6	23	27,7	14,0	36,2	0,4
3,7	15,6	23	27,8	14,0	36,2	0,4
3,8	16,0	23	27,9	14,0	36,2	0,4
3,9	15,6	23	27,9	14,0	36,2	0,4
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4,2	15,6	23	28,2	14,0	36,2	0,4
4,3	15,6	23	28,3	14,0	36,2	0,4
4,4	15,6	23	28,3	14,0	36,2	0,4
4,5	15,6	23	28,4	14,0	36,2	0,4
4,6	15,1	22	24,8	12,1	29,8	0,3
4,7	15,6	23	28,6	14,0	36,2	0,4
4,8	15,6	23	28,7	14,0	36,2	0,4
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5,3	15,1	22	25,3	12,1	29,8	0,3
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5,8	15,6	23	29,4	14,0	36,2	0,4
5,9	15,6	23	29,5	14,0	36,2	0,4
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6,2	15,1	22	25,9	12,1	29,8	0,3
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6,6	15,1	22	26,1	12,1	29,8	0,3
6,7	15,1	22	26,1	12,1	29,8	0,3
6,8	15,6	23	30,1	14,0	36,2	0,4
6,9	16,0	24	33,5	15,7	42,1	0,6
7,0	16,4	24	33,6	15,7	42,1	0,6
7,1	16,0	24	33,7	15,7	42,1	0,6
7,2	16,0	24	33,7	15,7	42,1	0,6
7,3	16,4	24	33,8	15,7	42,1	0,6
7,4	16,0	24	33,9	15,7	42,1	0,6
7,5	17,5	24	37,0	17,1	47,7	0,7
7,6	17,2	25	40,0	18,5	53,0	0,8

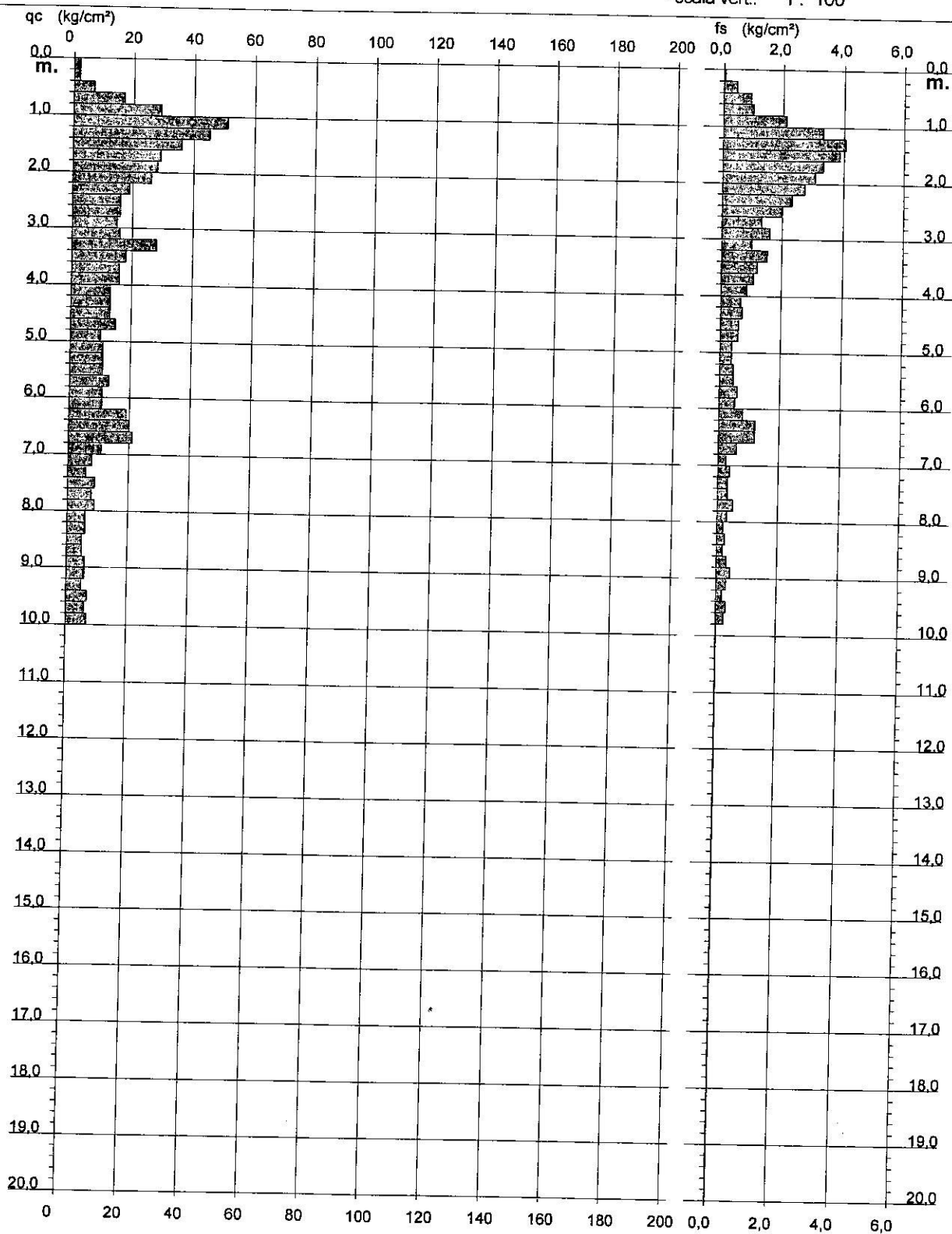
PROVA PENETROMETRICA STATICA DIAGRAMMA DI RESISTENZA

CPT 1

2.01PG05-077

- committente :
- lavoro :
- località : loc. S. Croce sull'Arno

- data : 06/12/2006
- quota inizio : Piano Campagna
- prof. falda : Falda non rilevata
- scala vert. : 1 : 100



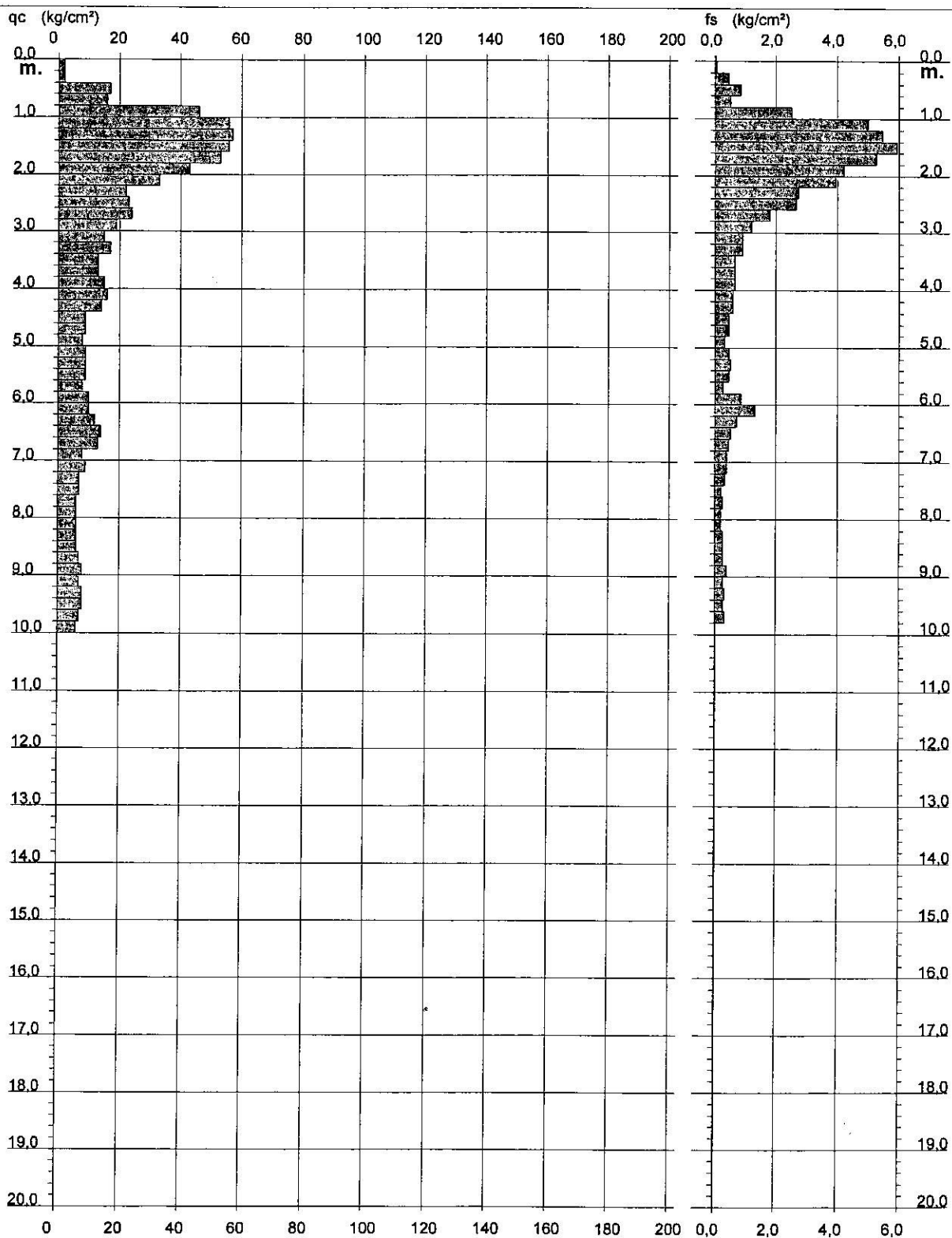
PROVA PENETROMETRICA STATICA DIAGRAMMA DI RESISTENZA

CPT 2

2.01PG05-077

- committente :
- lavoro :
- località : loc. S. Croce sull'Arno
- note :

- data : 06/12/2006
- quota inizio : Piano Campagna
- prof. falda : Falda non rilevata
- scala vert.: 1 : 100



PROVA PENETROMETRICA STATICA DIAGRAMMA DI RESISTENZA

CPT 1

2.01PG05-077

- committente :

- lavoro :

- località : Iloc. S. Croce sull'Arno

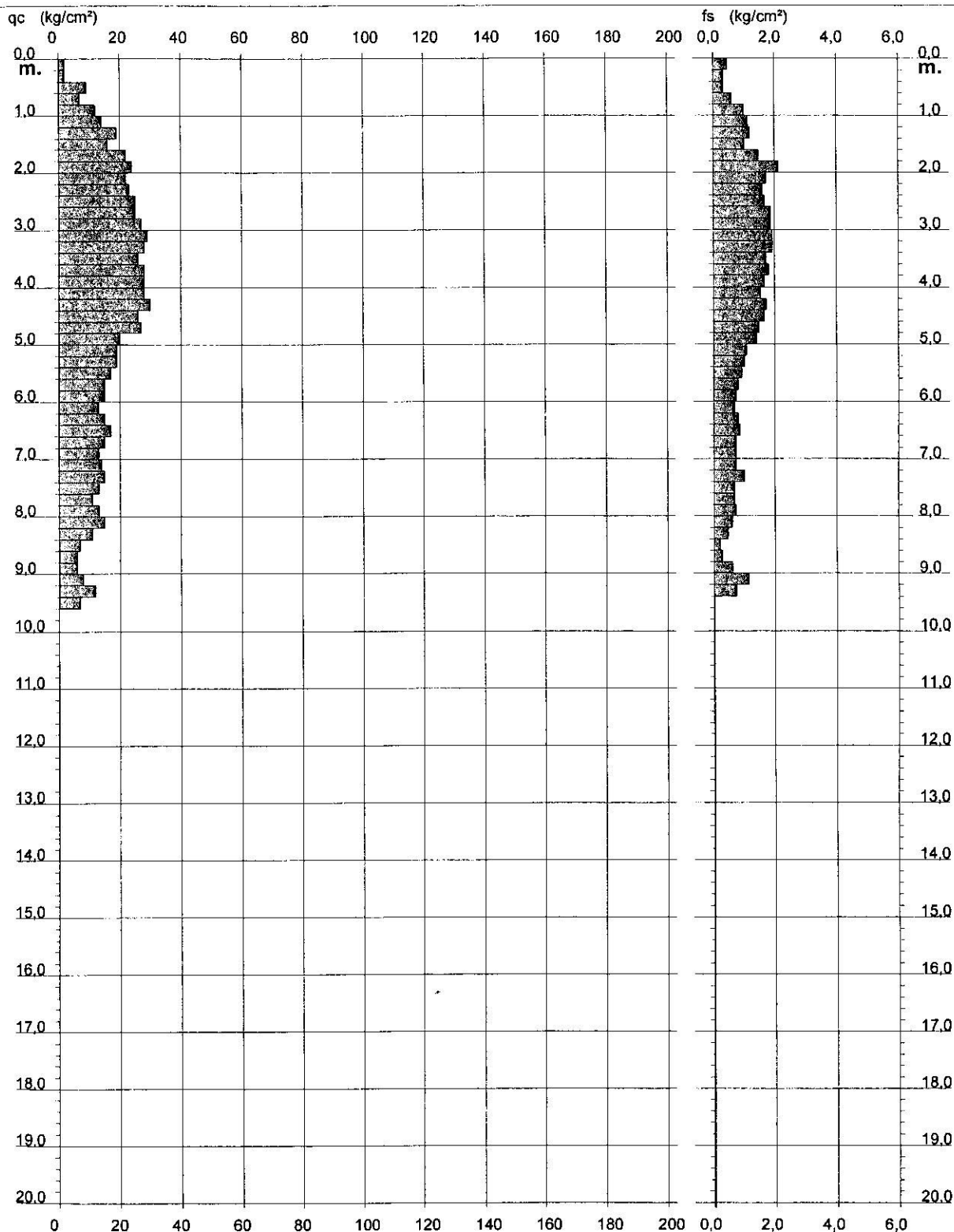
- note : Piezometro installato

- data : 10/02/2006

- quota inizio : Piano Campagna

- prof. falda : Falda non rilevata

- scala vert.: 1 : 100



Data: 26/04/2007

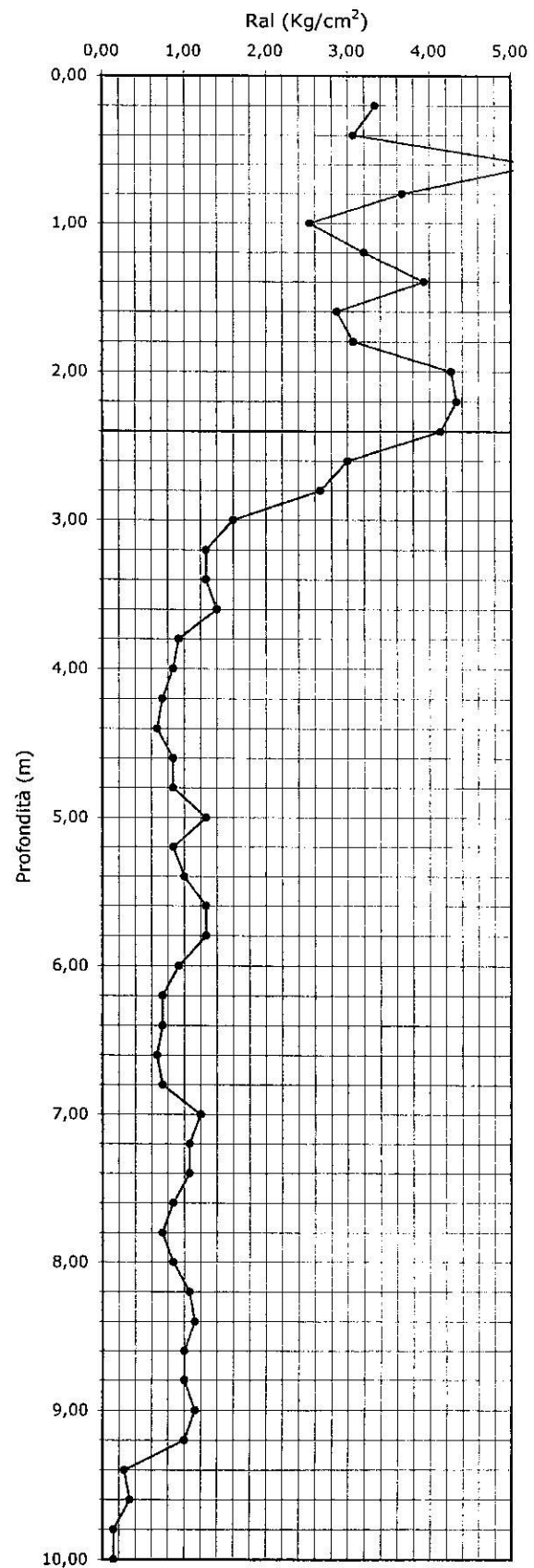
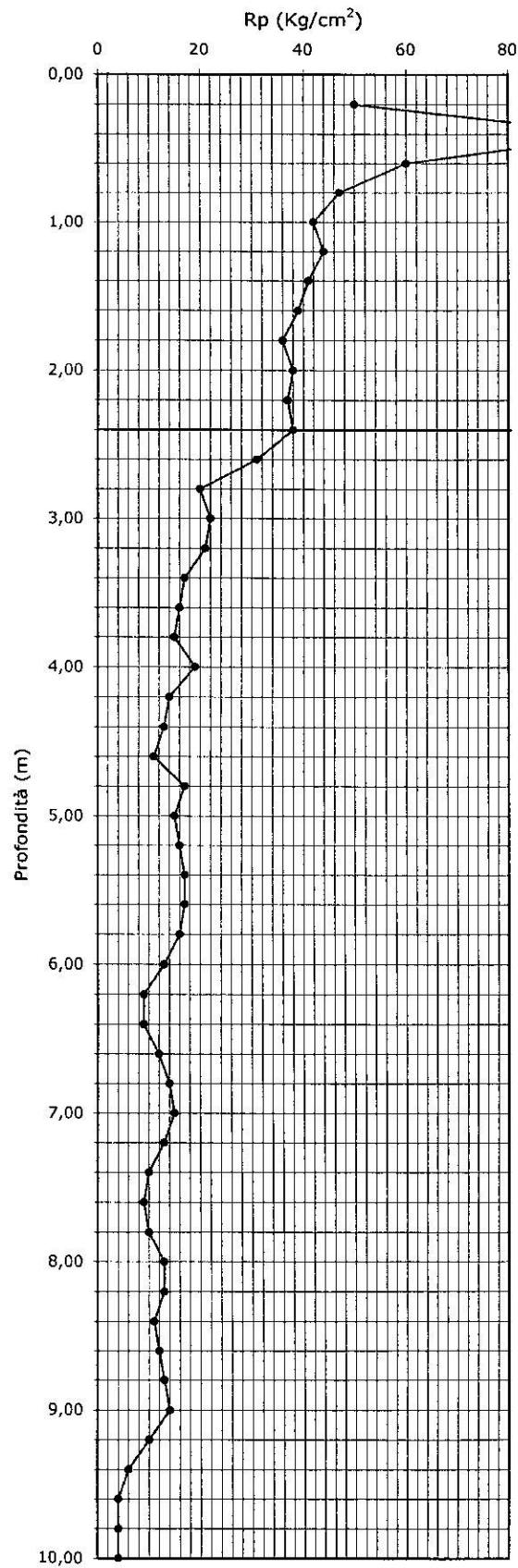
Profilo geomeccanico**CPT n°1**

Committente:

Ubicazione: Via XI Febbraio - Comune di S.Croce sull'Arno (PI)

Progetto: ristrutturazione civile abitazione

Falda: non intercettata



Livello Piezometrico della falda —————

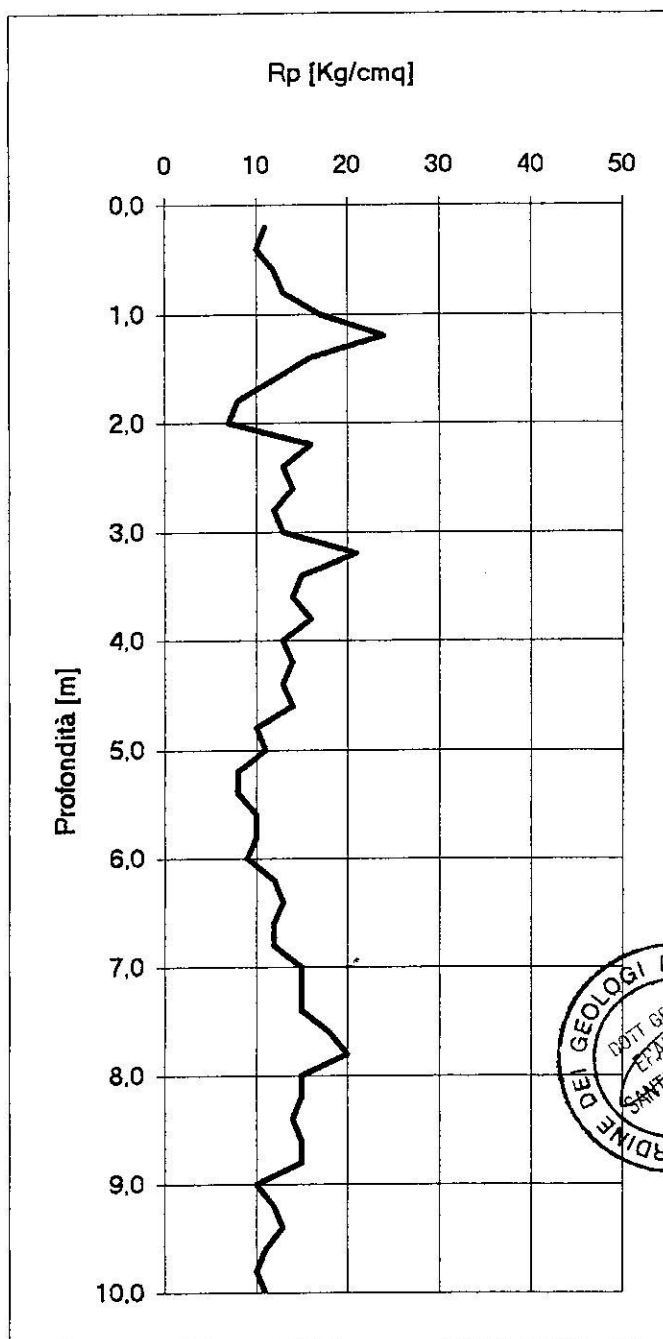
PROVA PENETROMETRICA STATICA: penetrometro Statico 20 t

Studio LITHOS geologia professionale
Via della Costituente, 17 - 56024 Ponte a Egola (Pisa)
tel. & fax 0571/485277
e-mail: studiolithos@libero.it

PROVA N° 1

Geologi:
Dott. Eraldo Santarnecchi
Dott. Vito Bruno

Committente:
Cantiere: zona ind. D13
Località S.Croce sull'Arno
Comune: S.Croce sull'Arno
Data: 18/01/00



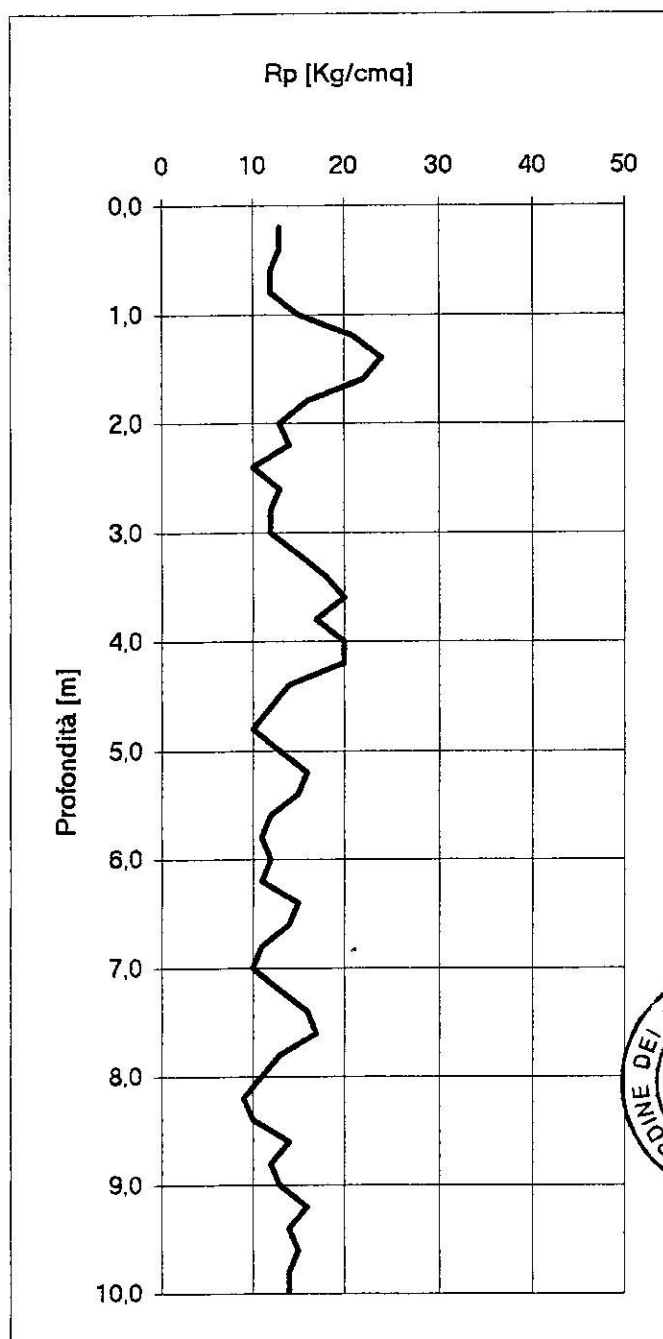
PROVA PENETROMETRICA STATICA: penetrometro Statico 20 t

Studio LITHOS geologia professionale
Via della Costituente, 17 - 56024 Ponte a Egola (Pisa)
tel. & fax 0571/485277
e-mail: studiolithos@libero.it

PROVA N° 2

Geologi:
Dott. Eraldo Santarnecchi
Dott. Vito Bruno

Committente:
Cantiere: zona ind. D13
Località S.Croce sull'Arno
Comune: S.Croce sull'Arno
Data: 18/01/00



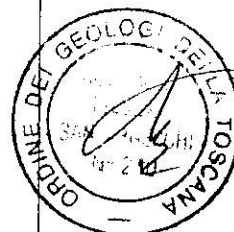
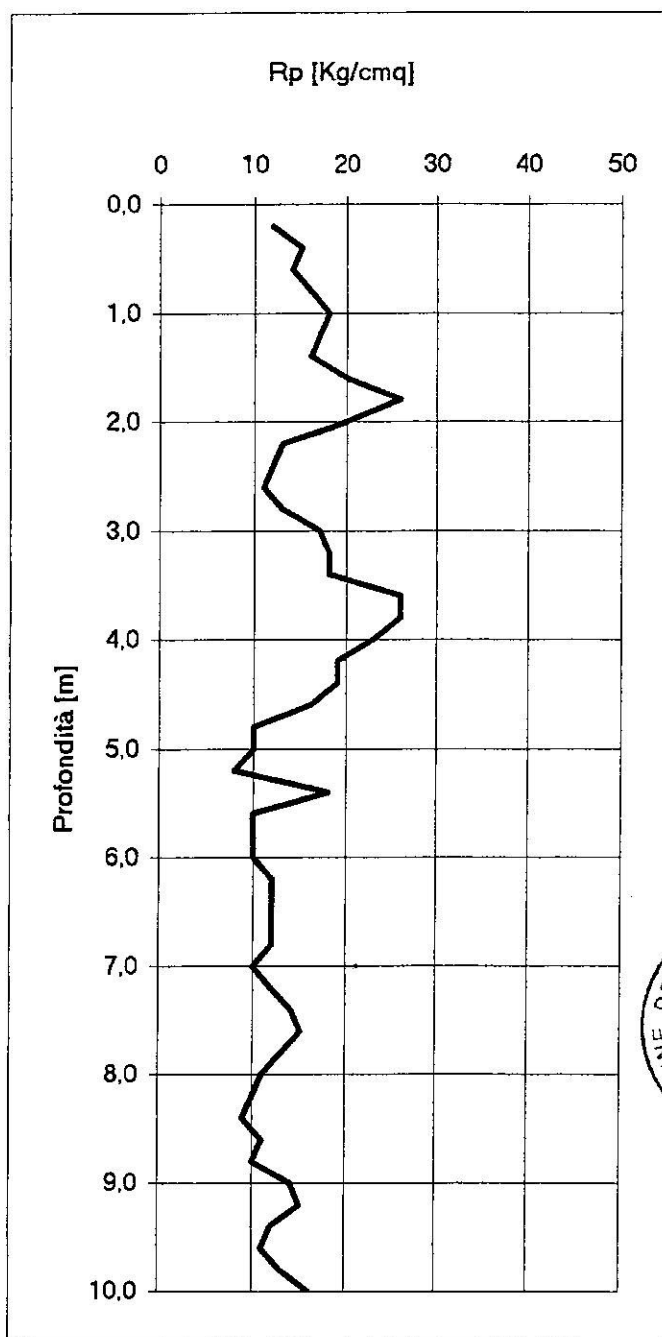
PROVA PENETROMETRICA STATICA: penetrometro Statico 20 t

Studio LITHOS geologia professionale
Via della Costituente, 17 - 56024 Ponte a Egola (Pisa)
tel. & fax 0571/485277
e-mail: studiolithos@libero.it

PROVA N° 3

Geologi:
Dott. Eraldo Santarnecchi
Dott. Vito Bruno

Committente:
Cantiere: zona ind. D13
Località S.Croce sull'Arno
Comune: S.Croce sull'Arno
Data: 18/01/00



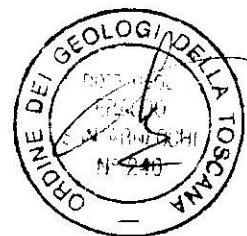
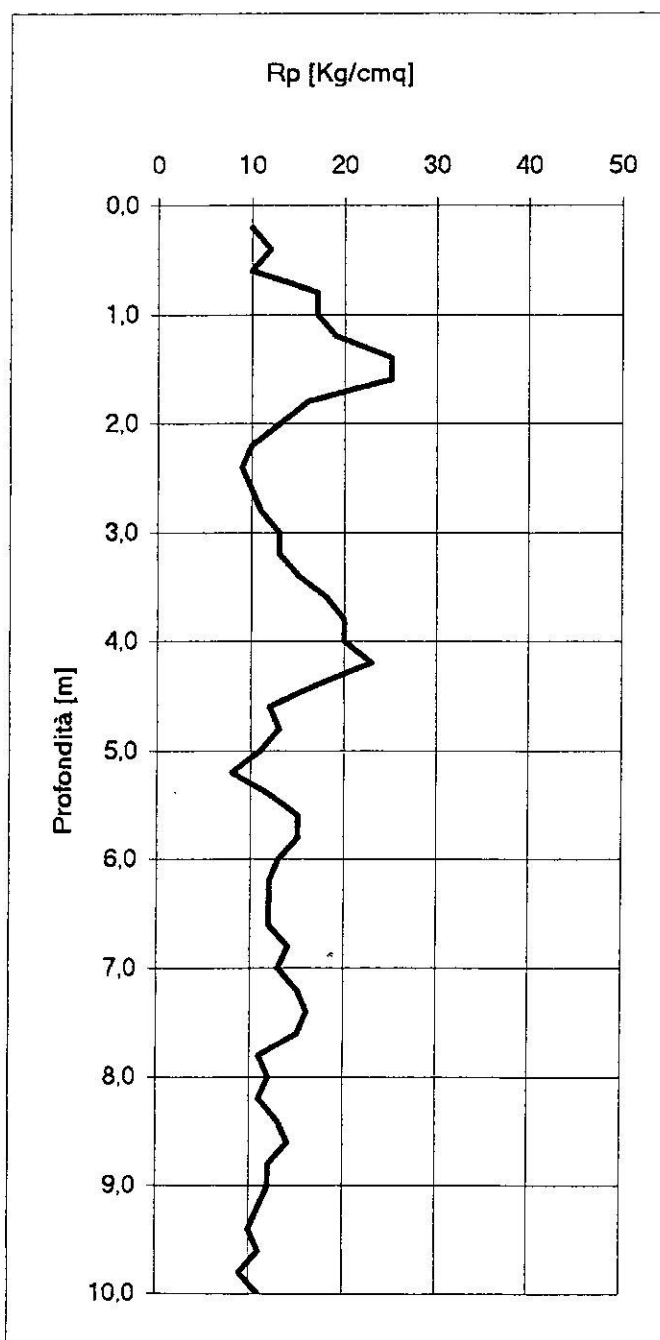
PROVA PENETROMETRICA STATICA: penetrometro Statico 20 t

Studio LITHOS geologia professionale
Via della Costituente, 17 - 56024 Ponte a Egola (Pisa)
tel. & fax 0571/485277
e-mail: studiolithos@libero.it

PROVA N° 4

Geologi:
Dott. Eraldo Santarnecchi
Dott. Vito Bruno

Committente:
Cantiere: zona ind. D13
Località S.Croce sull'Arno
Comune: S.Croce sull'Arno
Data: 18/01/00



G. S. TRIVELLAZIONI snc
Via C. Bini, 5 - Tel. 0571/485264
SAN MINIATO BASSO (Pisa)
PONTE A EGOLA (Pisa)
Partita I.V.A. 00451370506

Prova numero: 1

Committente:

Località: Santa Croce Sull'Arno (PI)

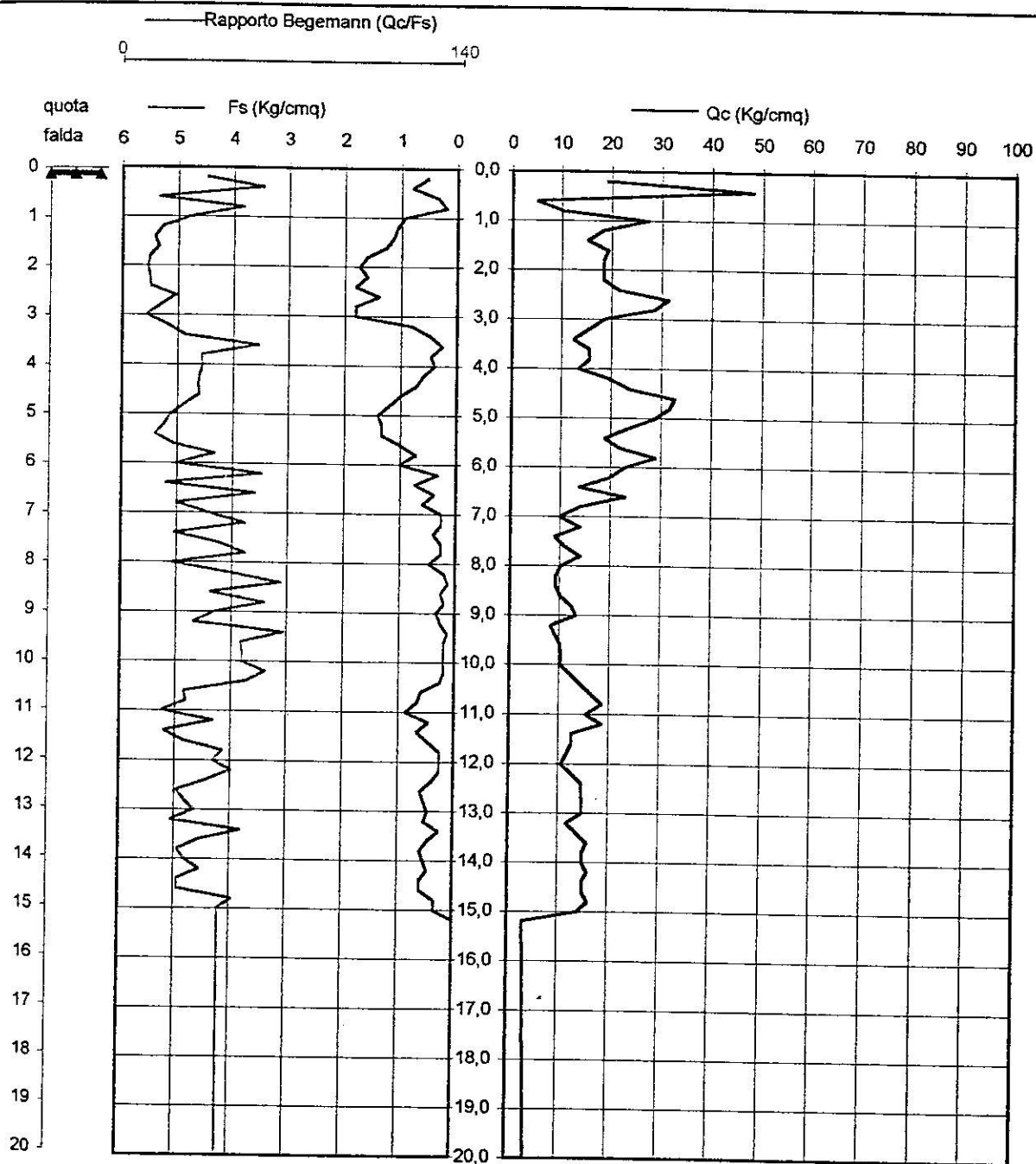
Cantiere: Via del Trebbio Nord

Data: 5/6/02

Profondità massima (m): 15

Quota falda (m dal p.c.): 0,1263889

PENETROMETRO STATICO TECNOTEST 200 Kn.



G. S. TRIVELLAZIONI snc
Via C. Bini, 5 - Tel. 0571/485264
SAN MINIATO BASSO (Pisa)
PONTE A EGOLA (Pisa)
Partita I.V.A. 00451370506

Prova numero: 2

Committente:

Località: Via del Trebbio Nord

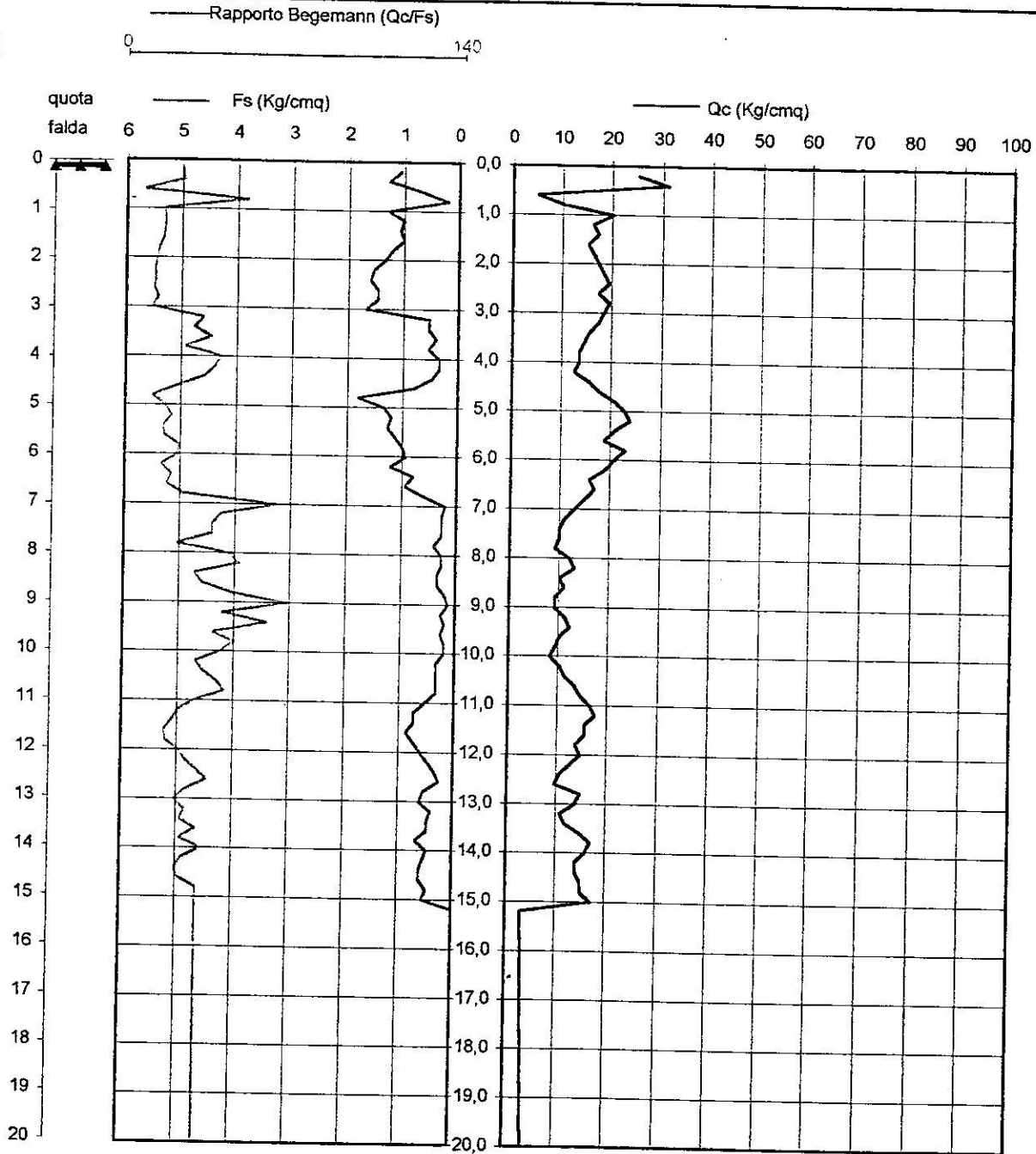
Cantiere: Santa Croce Sull'Arno (PI)

Data: 5/6/02

Profondità massima (m): 15

Quota falda (m dal p.c.): 0,1263889

PENETROMETRO STATICO TECNOTEST 200 Kn.



Prova numero: 3

Committente:

Località: Via del Trebbio Nord

Cantiere: Santa Croce Sull'Arno (PI)

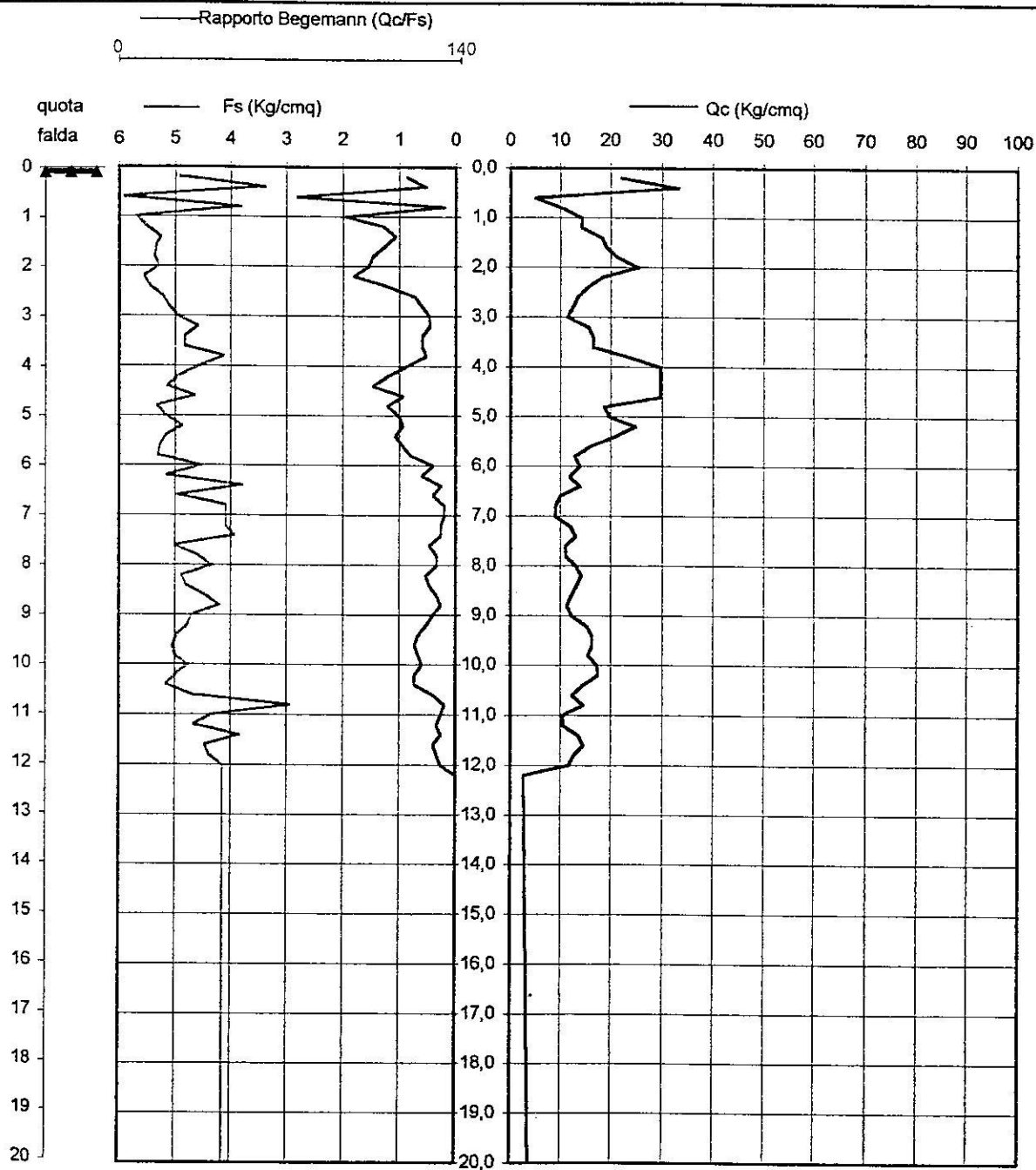
Data: 5/6/02

Profondità massima (m): 12

Quota falda (m dal p.c.): 0,0875

G. S. TRIVELLAZIONI snc
Via C. Bini, 5 - Tel. 0571/485264
SAN MINIATO BASSO (Pisa)
PONTEA EGOLA (Pisa)
Partita I.V.A. 00451370506

PENETROMETRO STATICO TECNOTEST 200 Kn.



Prova numero: 4

Committente:

Località: Via del Trebbio Nord

Cantiere: Santa Croce Sull'Arno

Data: 5/6/02

Profondità massima (m): 12

Quota falda (m dal p.c.): 0,0888889

G. S. TRIVELLAZIONI snc

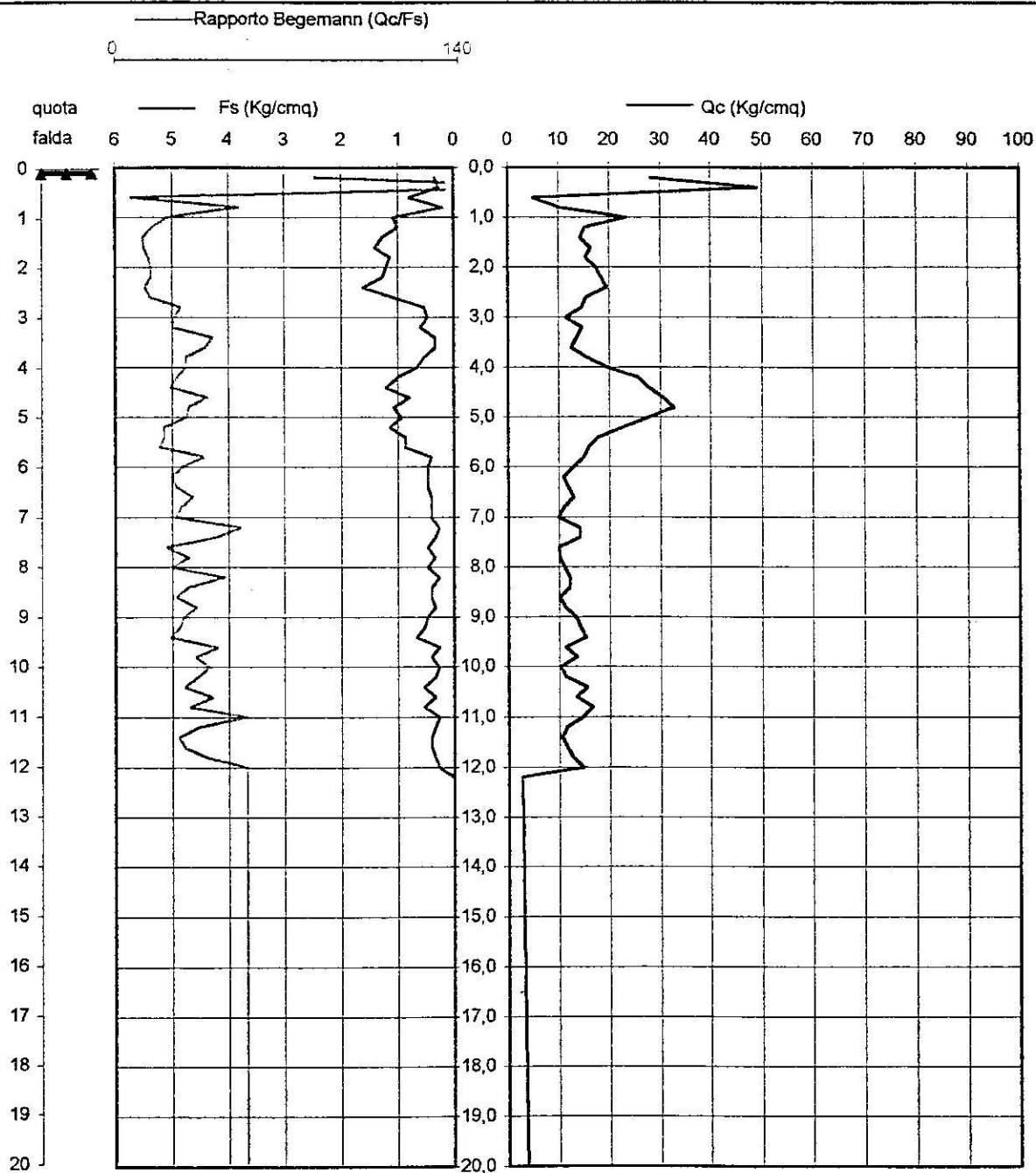
Via C. Bini, 5 - Tel. 0571/485264

SAN MINIATO BASSO (Pisa)

PONTE A EGOLA (Pisa)

Partita I.V.A. 00451370506

PENETROMETRO STATICO TECNOTEST 200 Kn.



PROGEO & C

S.a.S.

Committente _____
 Ditta esecutrice Progeo
 Prova CPT- P.1 Data 07/03/94
 Provincia PI Località S. Croce S/Arno
 Posizione via S. Andrea Coord. UTM _____
 Quota p.c. _____ Quota iniziale 0.00

Profondità [m]	Falda [m]	Stratigrafia	Descrizione	Resistenza alla punta [qc] [N/mm ²]	Attrito laterale locale [fs] [N/mm ²]	Scala 1:60
				4 3 2 1	1 2 3 4	
0.80			Limo argilloso-sabbioso mediamente addensato			
1.00			Limo argilloso consistente			1
			Argilla limosa consistente			
						2
3.00			Limo argilloso consistente			3
3.60			Limo argilloso plastico			4
5.00			Limo argilloso-sabbioso mediamente addensato			5
5.20			Sabbia sciolta			
5.40			Sabbia limosa mediamente addensata			
5.60			Sabbia limoso-argillosa sciolta			
5.80			Sabbia limosa sciolta			6
6.20			Sabbia molto sciolta			
6.60	6.50		Sabbia limosa molto sciolta			7
7.20			Sabbia limoso-argillosa sciolta			
7.80			Limo argilloso-sabbioso sciolto			8
8.00			Sabbia limosa molto sciolta			
8.60			Sabbia ghiaiosa sciolta			
8.80			Sabbia limosa sciolta			9
9.00			Sabbia limosa molto sciolta			
9.20			Ghiaia molto sciolta			
9.40			Sabbia limosa sciolta			
9.60			Limo argilloso-sabbioso mediamente addensato			10
10.39						

PROGEO & C

S.a.s.

Committente _____

Ditta esecutrice ProgeoProva CPT - P.2Data 09/03/94Provincia PILocalità S. Croce S/ArnoPosizione via S. Andrea

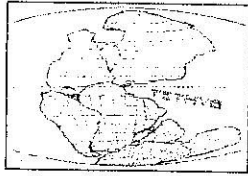
Coord. UTM _____

Quota p.c. _____

Quota iniziale 0.00

Profondità [m]	Falda [m]	Stratigrafia	Descrizione	Resistenza alla punta [qc] [N/mm ²]	Attrito laterale locale [fs] [N/mm ²]	Scala 1:60
				4 3 2 1	04 08 12 16	
0.60			Limo argilloso-sabbioso mediamente addensato			
			Limo argilloso consistente			
1.40						
1.80			Argilla limosa consistente			
2.20			Limo argilloso consistente			
2.60			Argilla limosa consistente			
			Limo argilloso consistente			
4.00						
			Limo argilloso plastico			
5.00						
5.20			Sabbia limosa sciolta			
			Sabbia sciolta			
6.40	6.50					
			Sabbia molto sciolta			
6.80						
			Sabbia limoso-argillosa sciolta			
7.40						
7.60			Sabbia limosa sciolta			
7.80			Sabbia molto sciolta			
			Sabbia limoso-argillosa sciolta			
9.00						
9.20			Sabbia ghiaiosa sciolta			
9.40			Sabbia limosa sciolta			
9.60			Sabbia molto sciolta			
9.80			Sabbia ghiaiosa molto sciolta			
10.00			Sabbia sciolta			1
10.20			Limo argilloso-sabbioso sciolto			
10.60			Limo argilloso plastico			

PROVA DPL: Penetrometro Dinamico Leggero "PENNI 30"



STUDIO TETIDE - GEOLOGIA TECNICA

Dott. Geologo Vito Bruno

Via Vecchia Fiorentina n°72 - 56023 Cascina (PI)

tel. 050/771891 - cell. 349/8055483

e mail studiotetide@tiscali.it

PROVA N° I

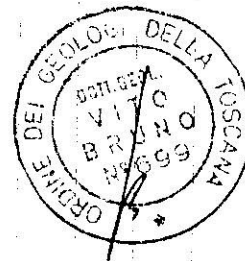
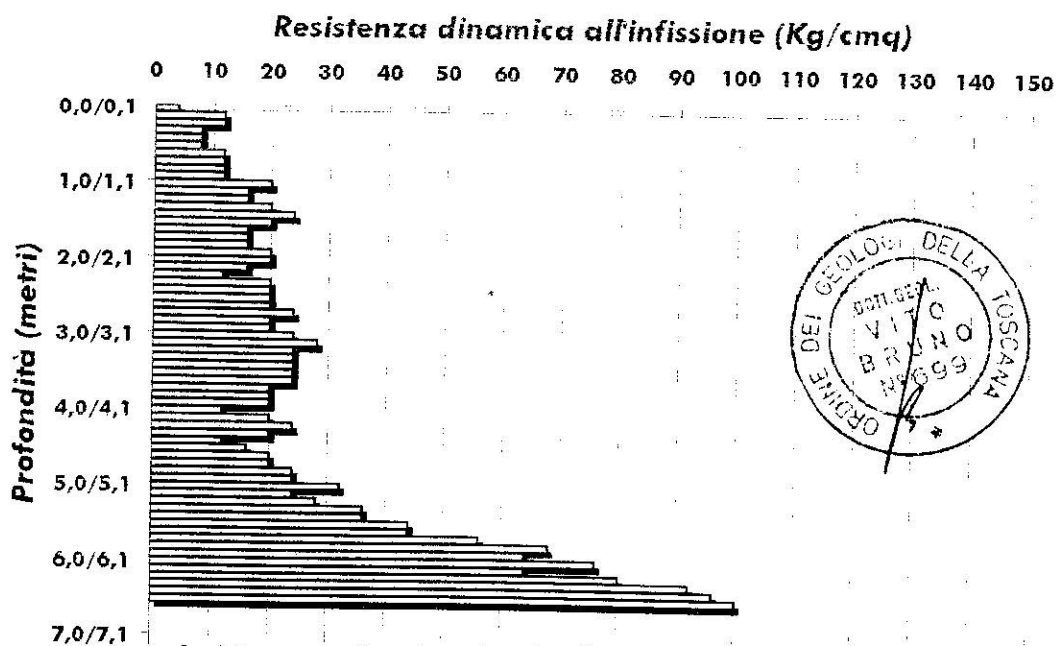
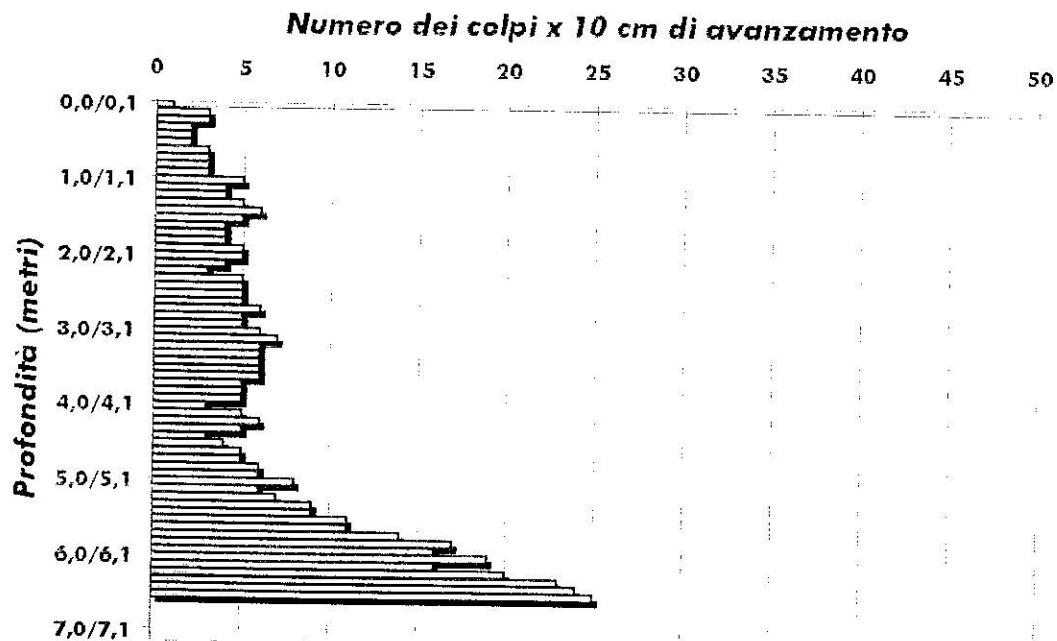
Committente:

Cantiere: Via Donica

Località S. Croce S/A

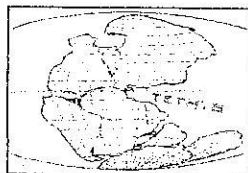
Comune: S. Croce S/A

Data: 07/02/2004



Livello acqua dal p.c. al termine della prova: assente

PROVA DPL: Penetrometro Dinamico Leggero "PENNI 30"



STUDIO TETIDE - GEOLOGIA TECNICA

Dott. Geologo Vito Bruno

Via Vecchia Fiorentina n°72 - 56023 Cascina (PI)

tel. 050/771891 - cell. 349/8055483

e mail studiotetide@tiscali.it

PROVA N° 2

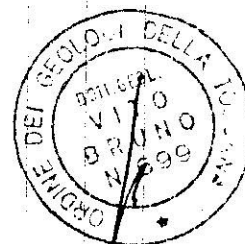
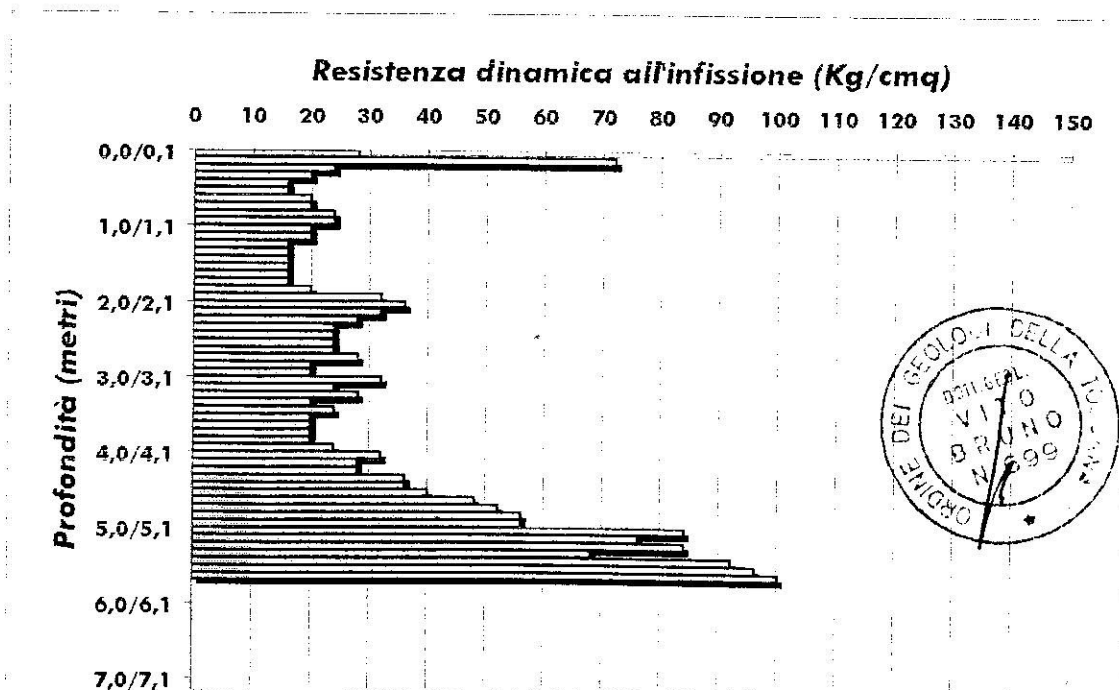
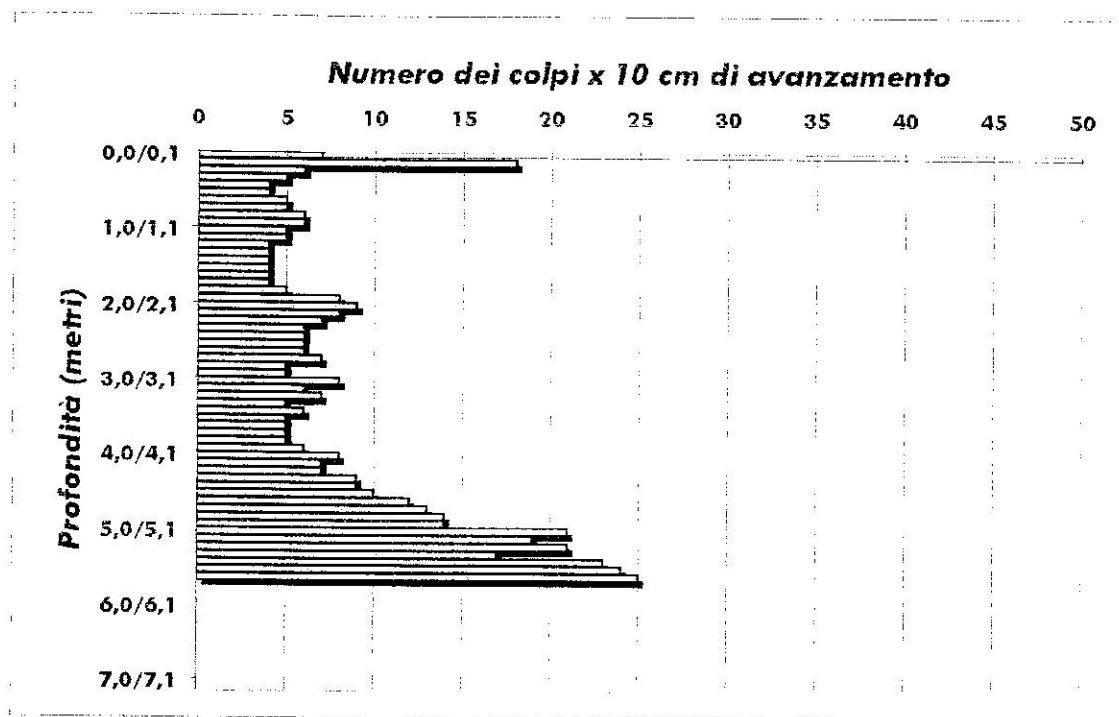
Committente:

Cantiere: Via Donica

Località S. Croce S/A

Comune: S. Croce S/A

Data: 07/02/2004



Livello acqua dal p.c. al termine della prova: assente

PROVA PENETROMETRICA DINAMICA: Penetrometro leggero "PENNI 30"

Studio LITHOS geologia professionale

Via della Costituente, 17 - 56024 Ponte a Egola (PI)

tel. & fax 0571/485277

e-mail: studiolithos@libero.it

Geologo:

Dott. Eraldo Santamocchi

Committente:

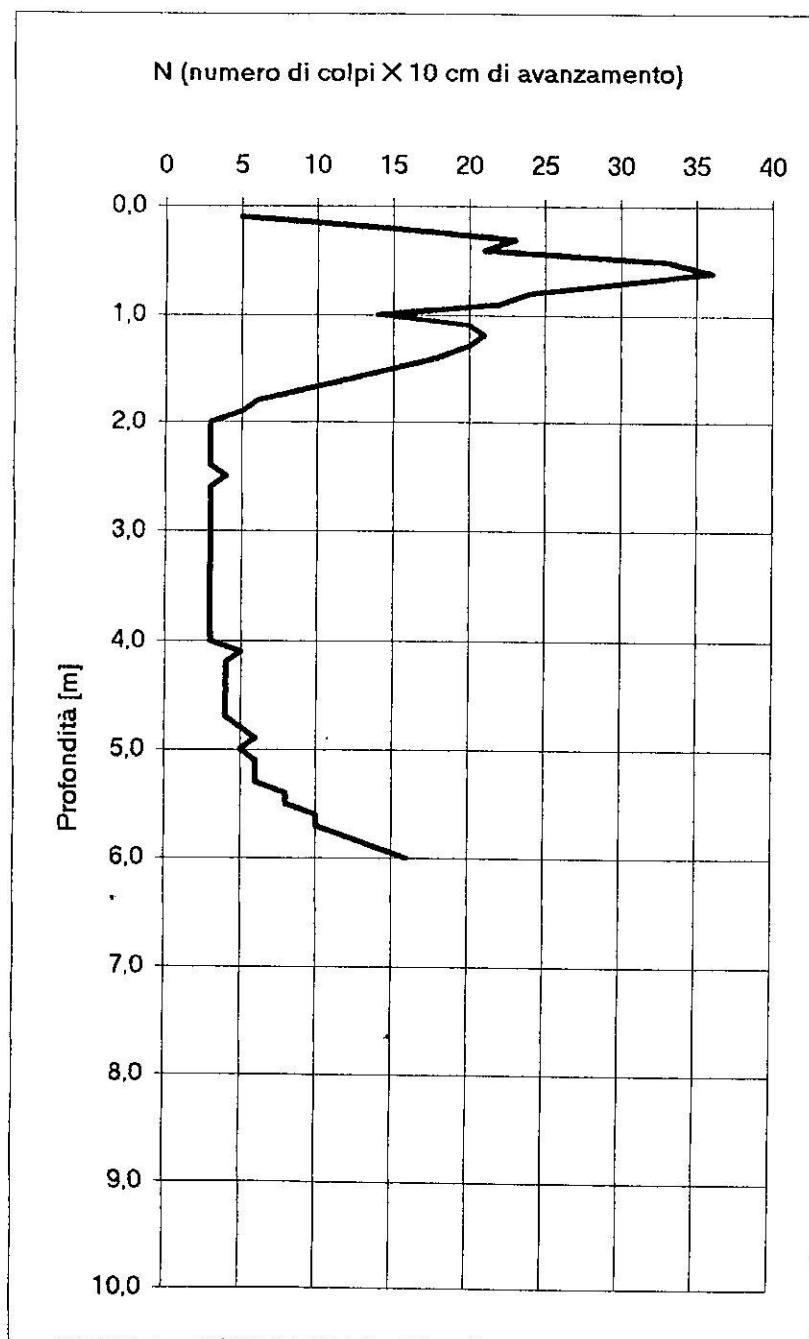
Cantiere: via del Castellare

Località S. Croce s/Arno

Comune: S. Croce s/Arno

Data: 03/09/03

PROVA N°1



PROVA PENETROMETRICA DINAMICA: Penetrometro leggero "PENNI 30"

Studio LITHOS geologia professionale

Via della Costituente, 17 - 56024 Ponte a Egola (PI)

tel. & fax 0571/485277

e-mail: studiolithos@libero.it

Geologo:

Dott. Eraldo Santarnecchi

Committente:

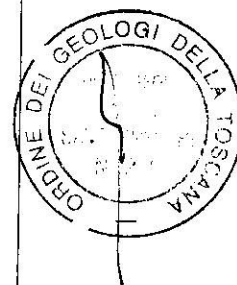
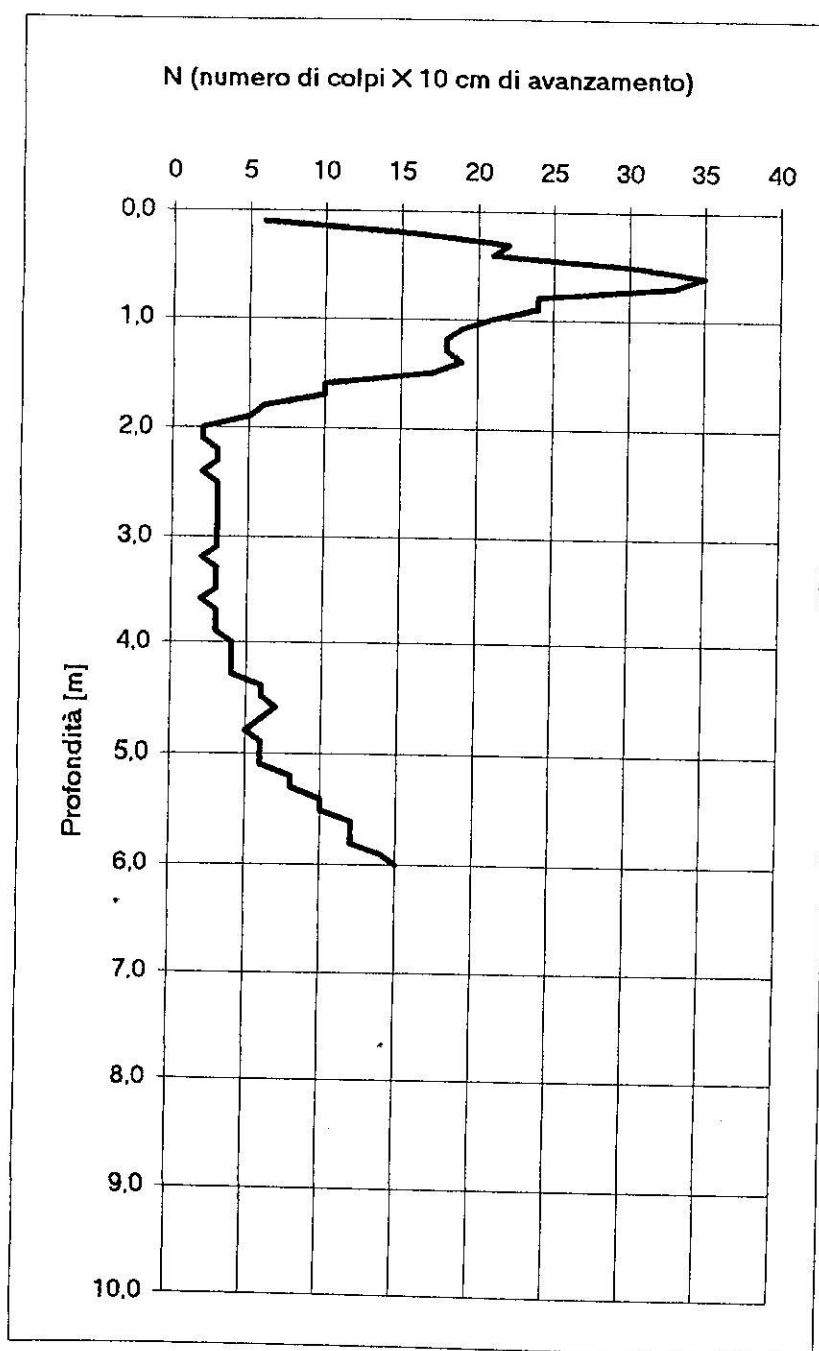
Cantiere: via del Castellare

Località S. Croce s/Arno

Comune: S. Croce s/Arno

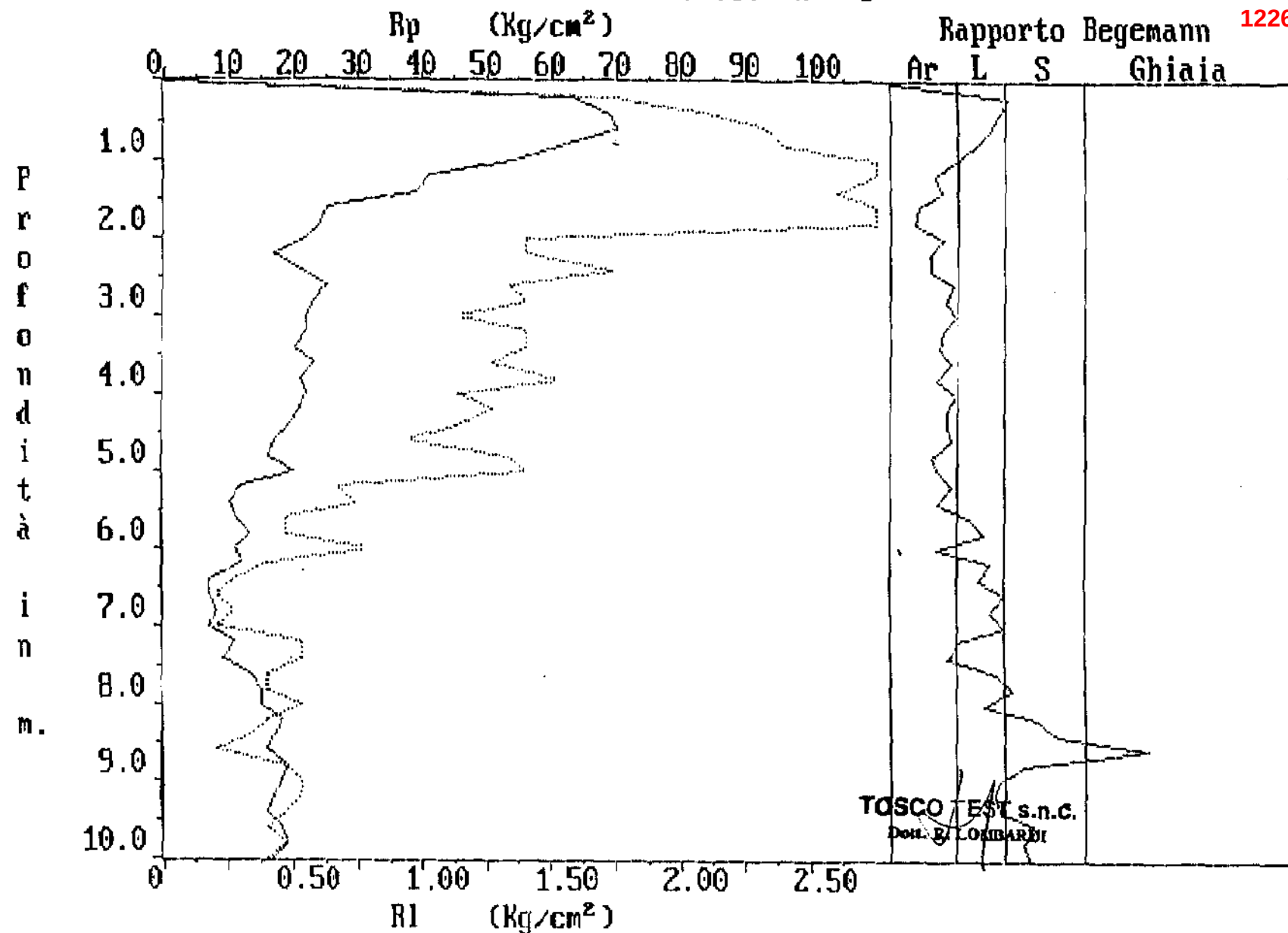
Data: 03/09/03

PROVA N°2



PROVA PENETROMETRICA C.P.T. n° 1

1226



PROVA PENETROMETRICA C.P.I. n° 2

1227

Rp (Kg/cm²)

Rapporto Begemann

0 10 20 30 40 50 60 70 80 90 100

Ar L S Ghiaia

P
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à

i
n

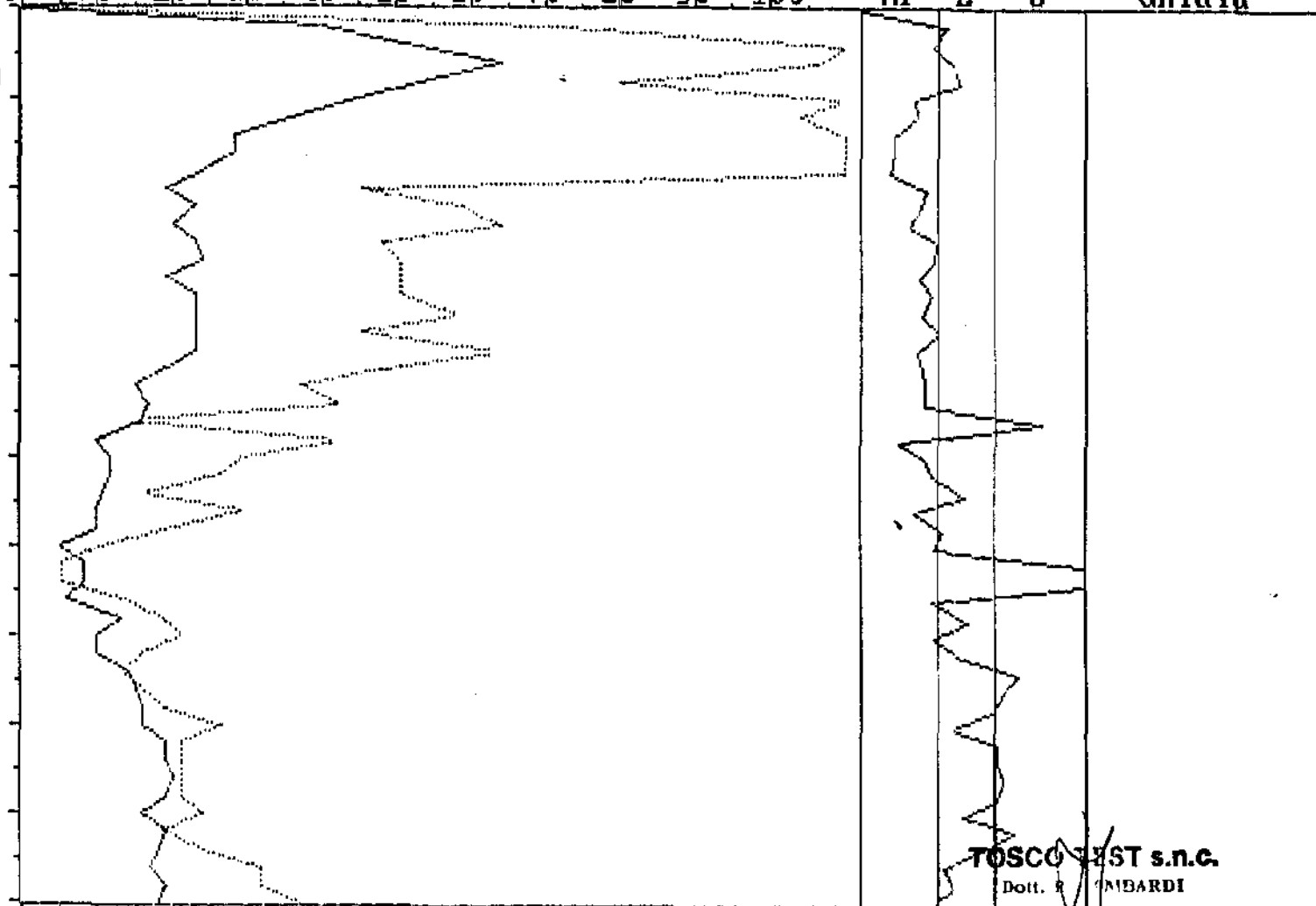
m.

1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0

Rl (Kg/cm²)

0 0.50 1.00 1.50 2.00 2.50

TOSCO TEST s.n.c.
Dott. R. MIBARDI



m 0,00-0,80	Riporto limo-argilloso
m 0,80-1,50	Terreno vegetale limo-sabbioso marrone
m 1,50-3,40	Limo argilloso, a tratti deb. sabbioso (specie fino
m 3,40-5,50	Argilla limosa marrone

campione	γ gr/cm ³	W (%)	C kg/cm ²	ϕ (°)	e_0	C_c	$w_l,$ w_p
S1C1 2,50-2,80	1,92				0,685	0,136	
S1C2 1,90-2,20	1,87	28,9	0,500	12			62 25

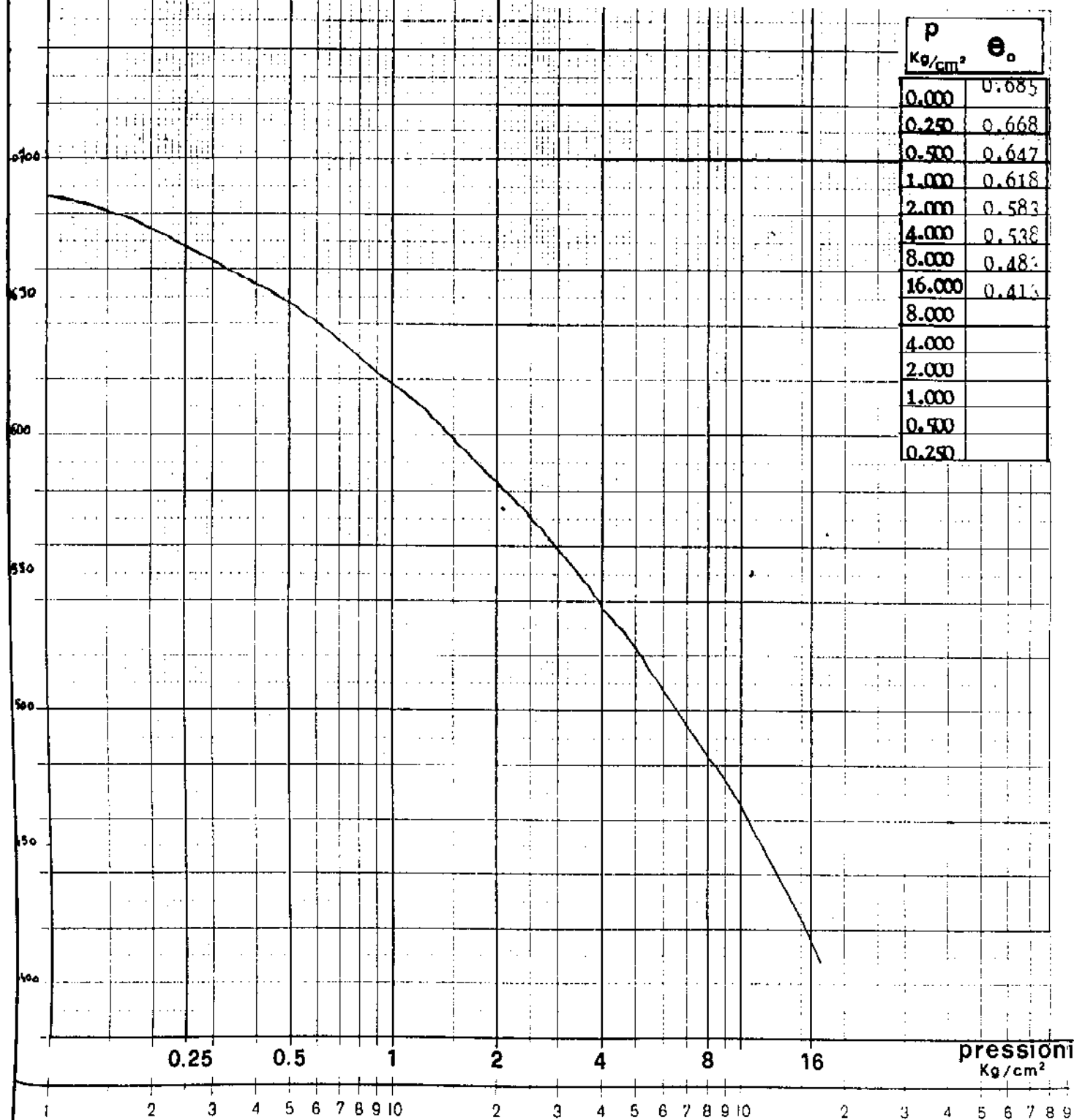
29 MAG. 1991

1229

Località _____

Comm. te _____

Sond. 1 m. 2.50-2.80



Sond. 2

1230

m 0,00-0,20	Riporto limoso-argilloso
m 0,20-0,60	Terreno vegetale limo-sabbioso marrone
m 0,60-2,90	Limo argilloso marrone
m 2,90-5,50	Argilla limosa marrone

29 MAG. 1991

γ	Kg/dm ³	c	Kg/cm ²	φ
28.9	1.87	0.5		12°

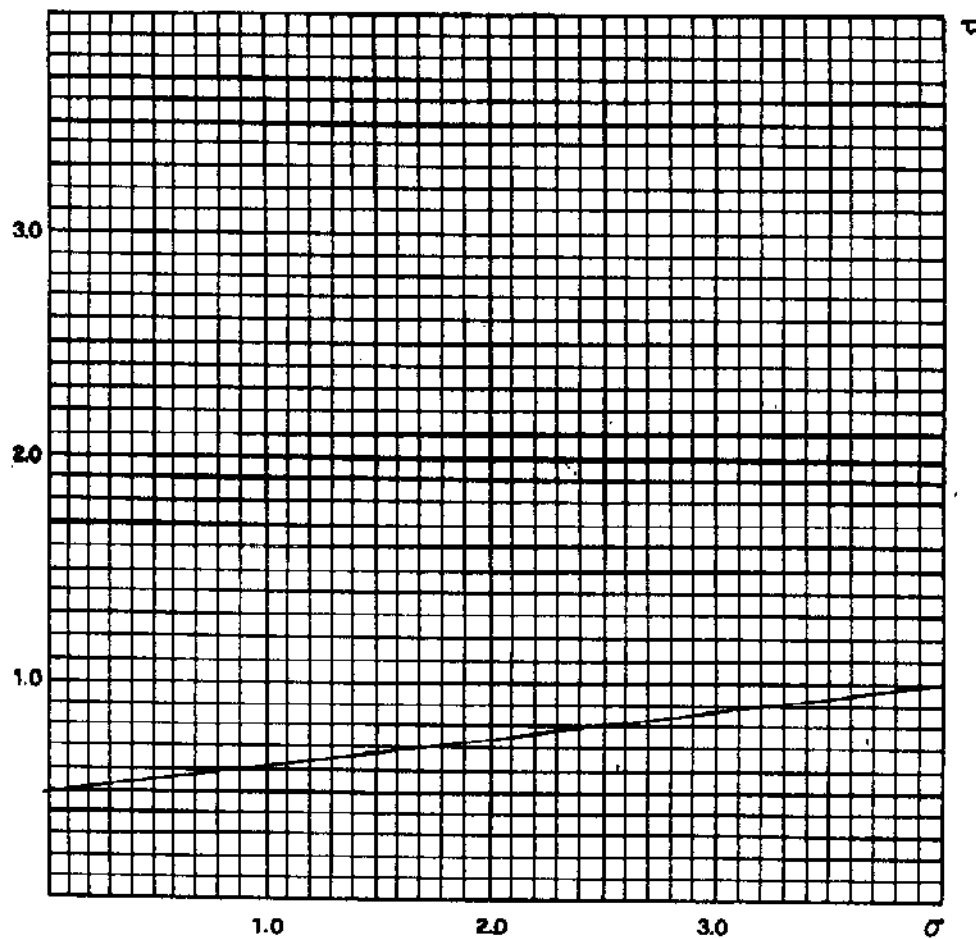
Località _____

1230

Comm. te _____

Sond. 2 m. 1.90-2.20

Modalità di esecuzione:

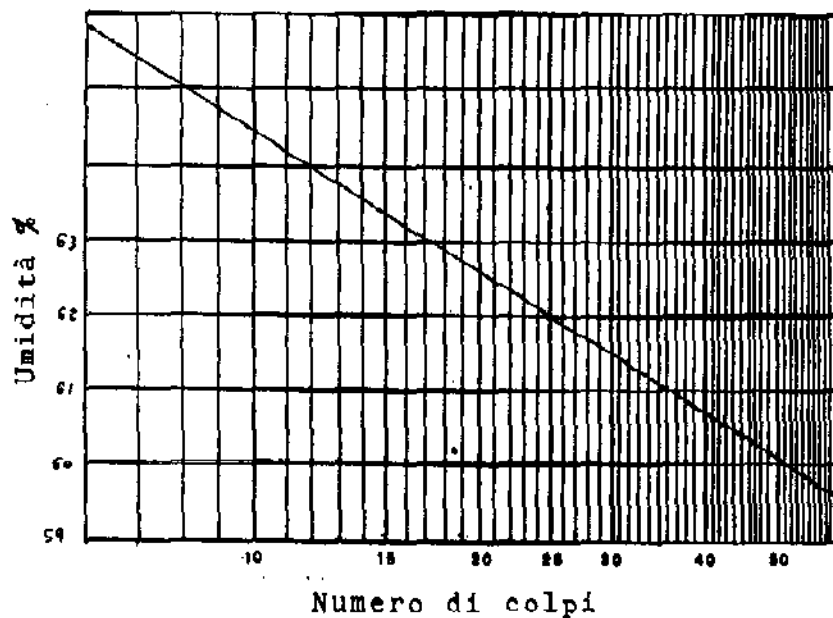
Carico di rottura (Kg/cm²)Sforzi assiali (Kg/cm²)

limite di liquidità	wl	62
limite di plasticità	wp	25
limite di ritiro	ws	
indice di plasticità	PI	37
indice di consistenza	IC	
liquidità naturale	wn	

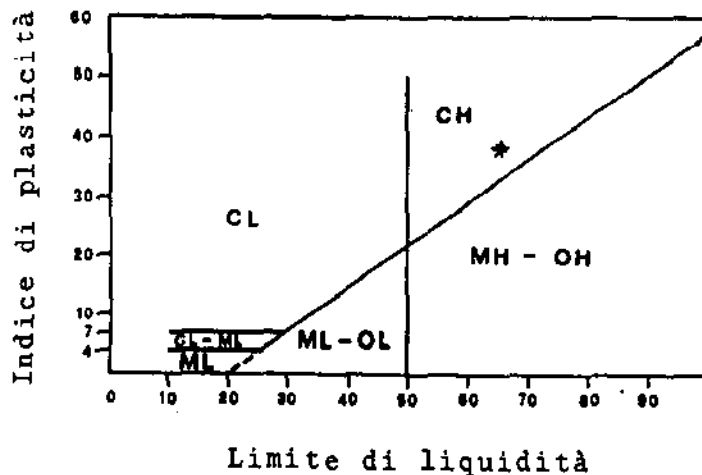
Località	_____
Comm.te	_____
Sond. 2	m. 1.90-2.20

1230

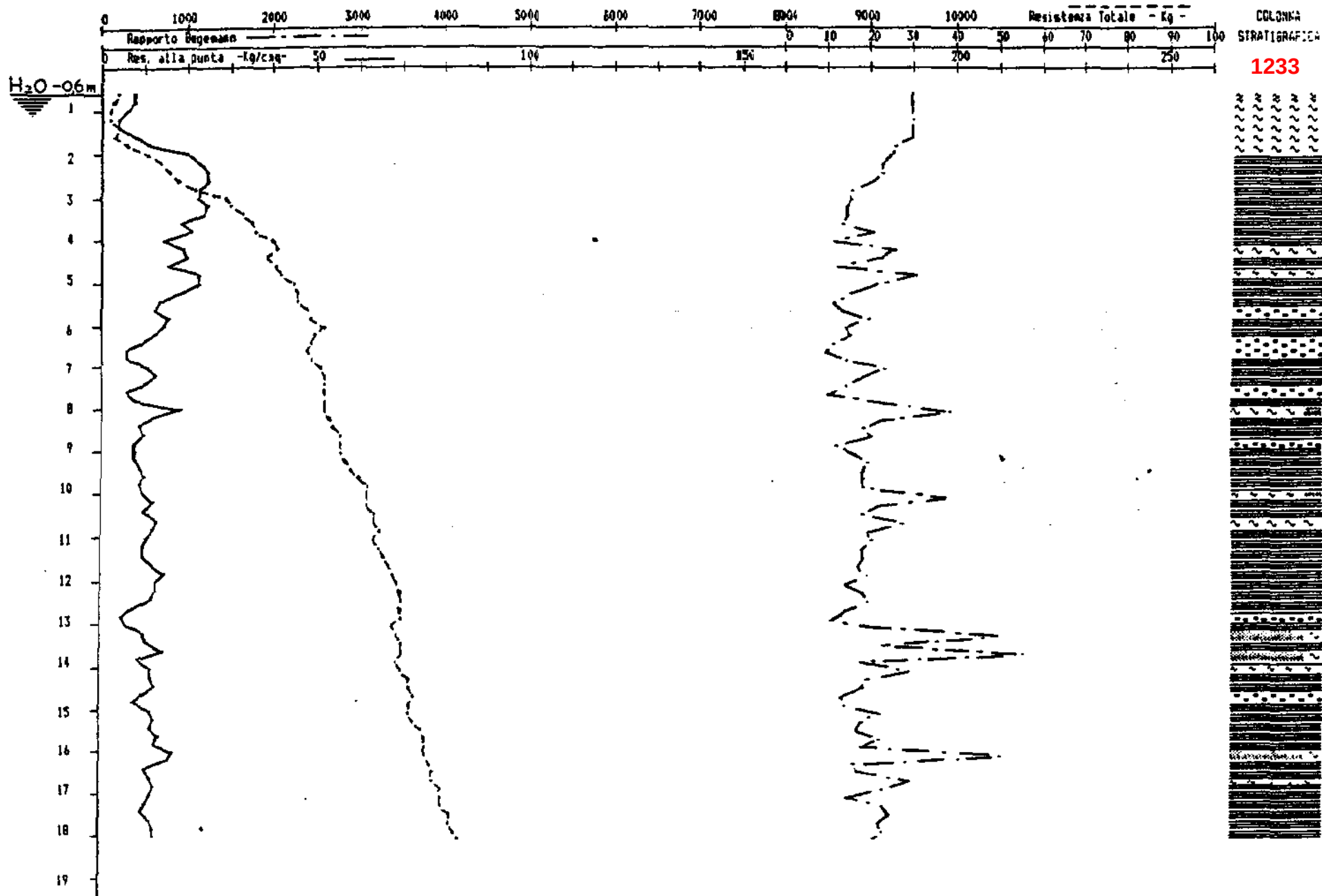
LIMITE DI LIQUIDITA'

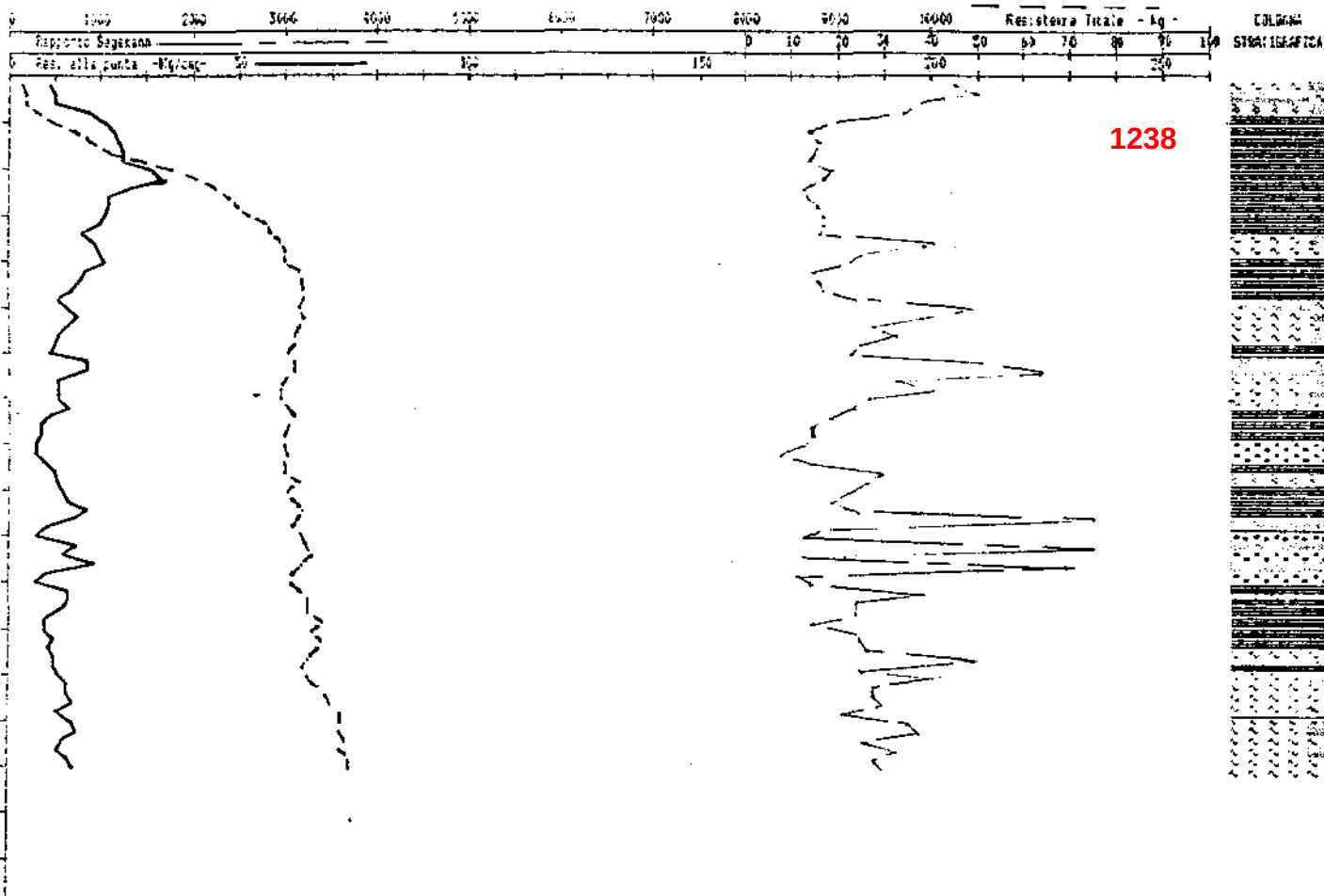


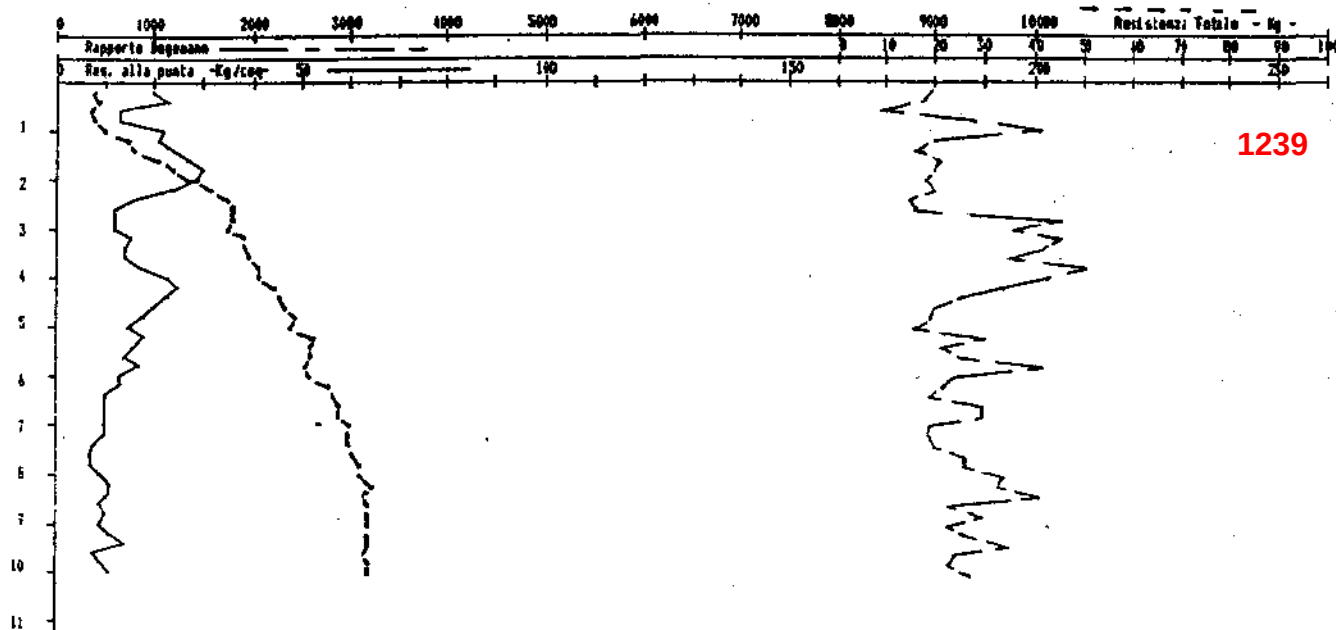
CARTA DI PLASTICITA'



da p.c. a 0,6 m	terreno agricolo;
da 0,6 a 3,0 m	argilla limosa marrone con concrezioni calcaree e frustoli carboniosi;
da 3,0 a 7,0 m	argilla debolmente limosa marrone giallastra con venature grigio azzurre;
da 7,0 a 7,3 m	argilla grigio azzurra plastica;
da 7,3 a 10,5 m	argilla da limosa a debolmente limosa grigio azzurra;
da 10,5 a 12,0 m	limo con sabbia debolmente argilloso grigio azzurro.







1239

CALCARE
STRATIGRAFICA



FS (MN/MQ)

QC (MN/MQ)

QC/FS

1244

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

1

2

3

4

5

6

7

8

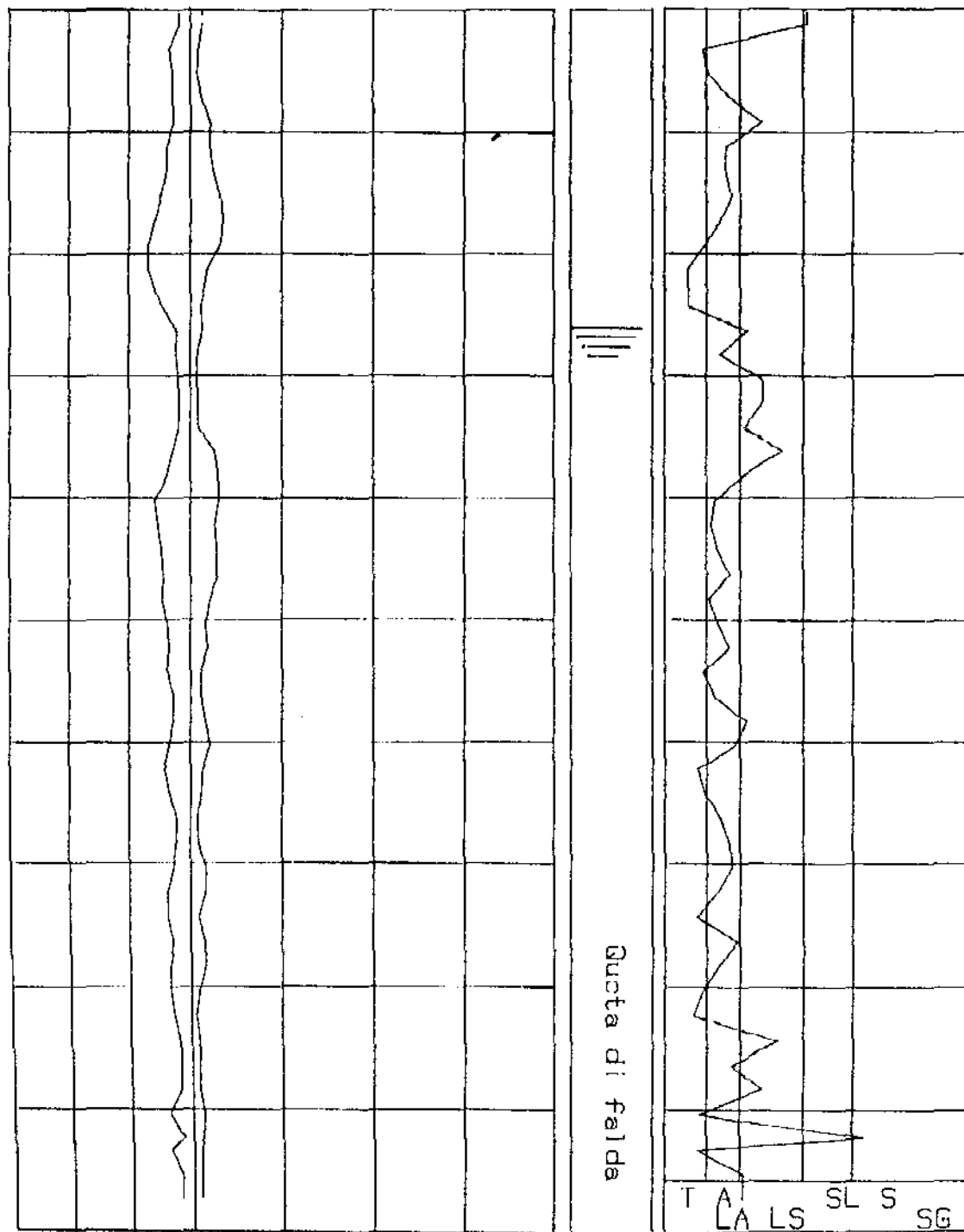
9

10



Quota di falda

T A LS SL S SG



FS (MN/MQ)

QC (MN/MQ)

1245

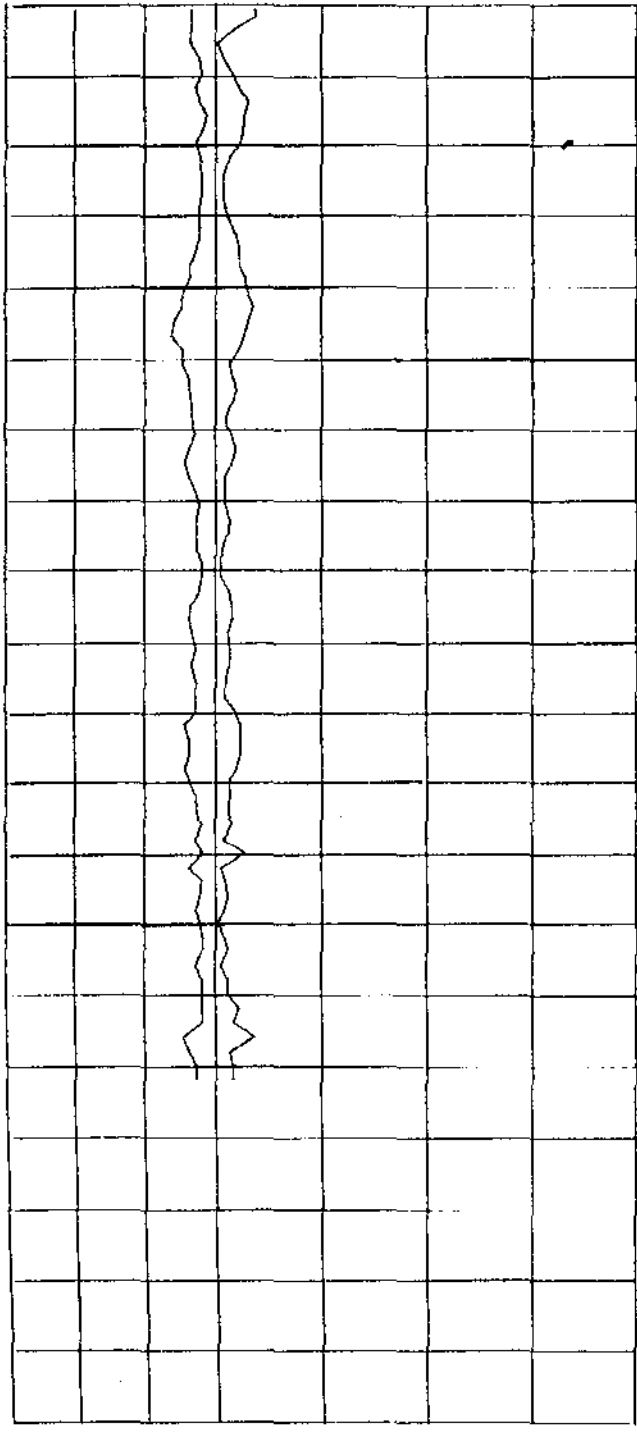
QC/FS

0.6 0.4 0.20

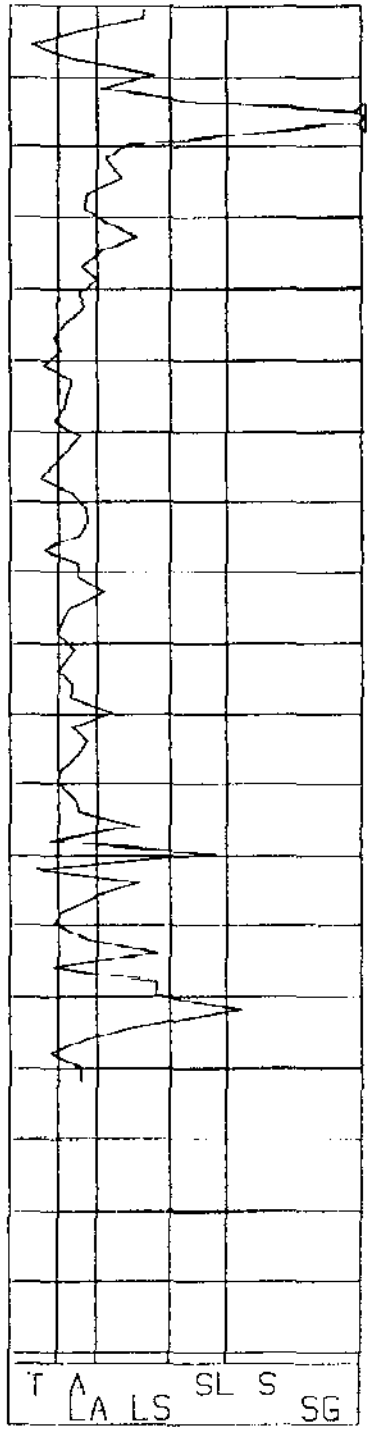
5 10 15 20

0 20 40 60 80 100

0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20



Quota di falda



T A LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

1246

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

1

2

3

4

5

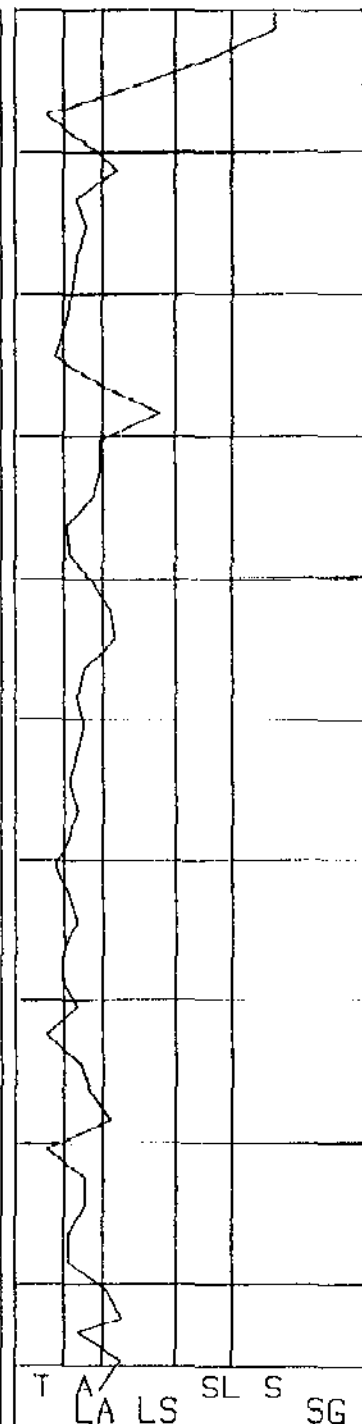
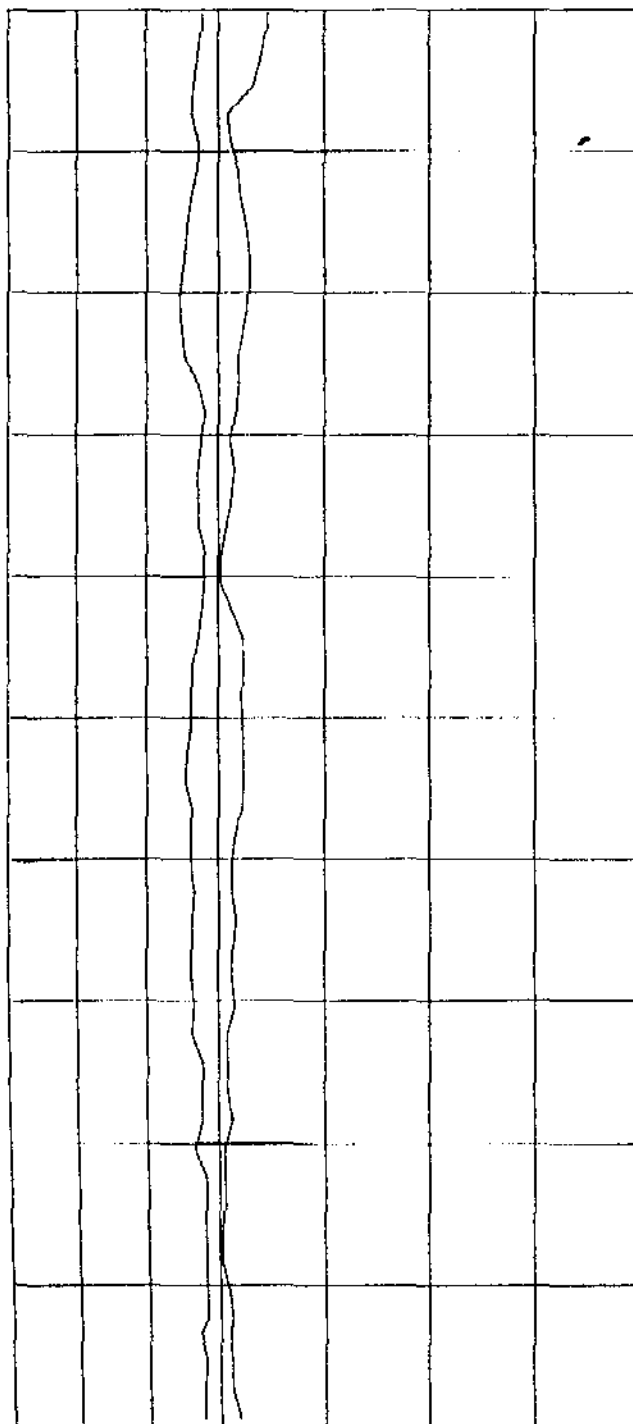
6

7

8

9

10



FS (MN/MQ)

QC (MN/MQ)

1247

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

1

2

3

4

5

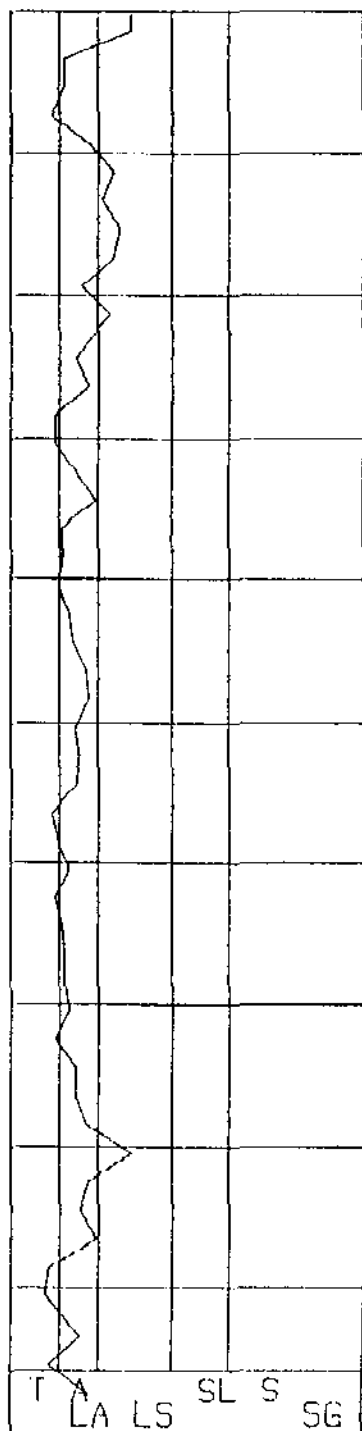
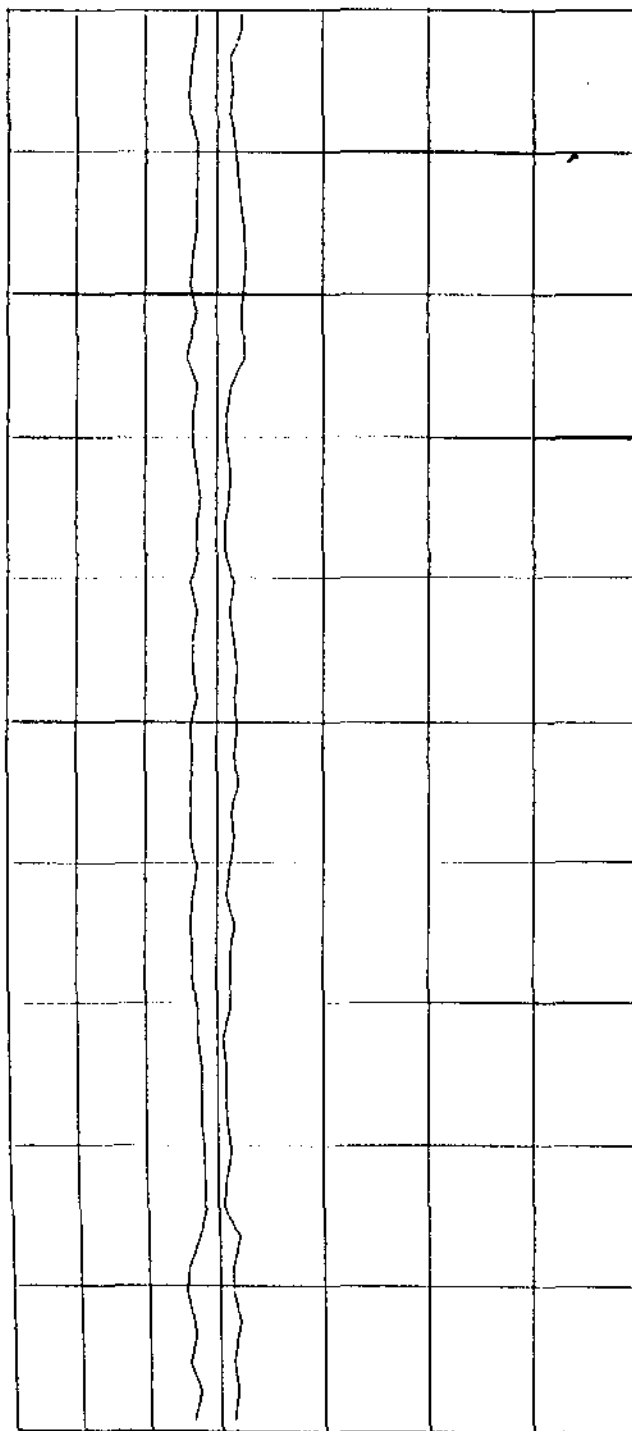
6

7

8

9

10



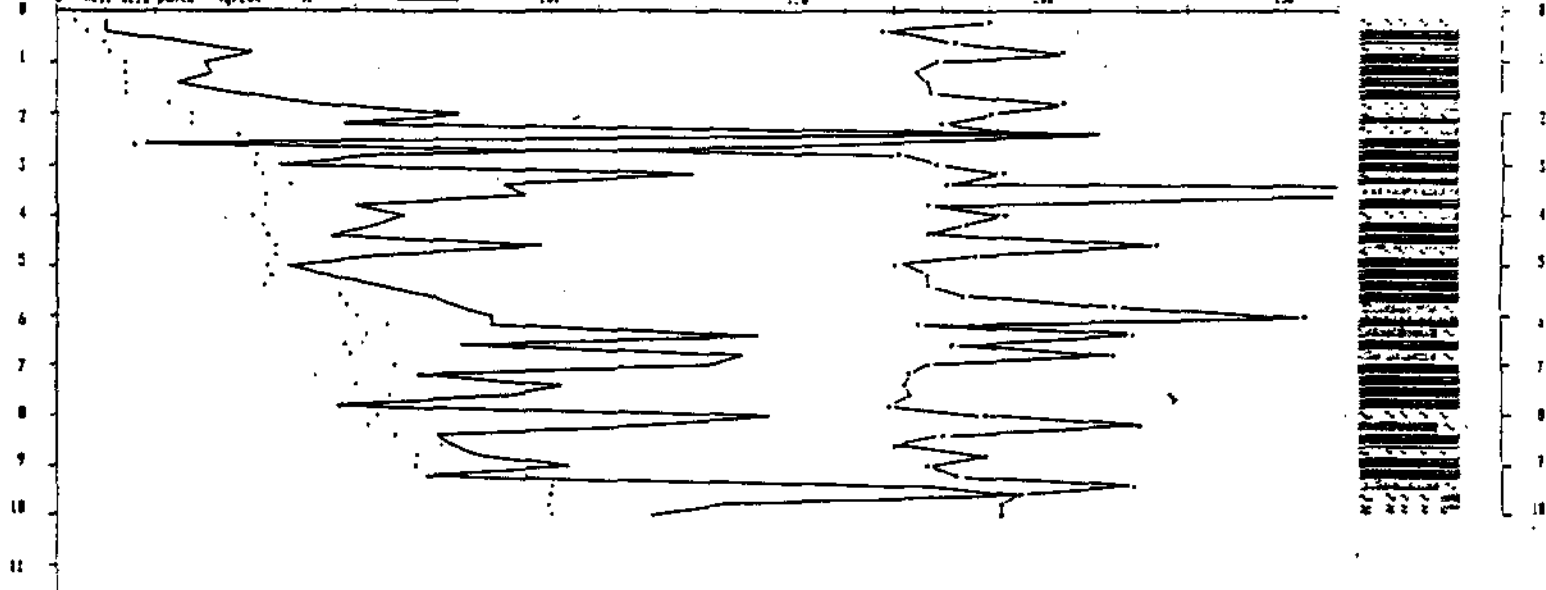
T A LA LS SL S SG

Res. Totale - Kg - 2020 2000 4000 6000 8000 10000 12000 14000

Importo Segreto 10 20 30 40 50 60 70 80 90 100

Res. alla punta - Kg/cmq - 50 100 150 200 250 300 350 400 450 500

CLIMA
1250



FS (MN/MQ)

QC (MN/MQ)

1251

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

1

2

3

4

5

6

7

8

9

10

Quota di falda

T A LA LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

1252

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

1

2

3

4

5

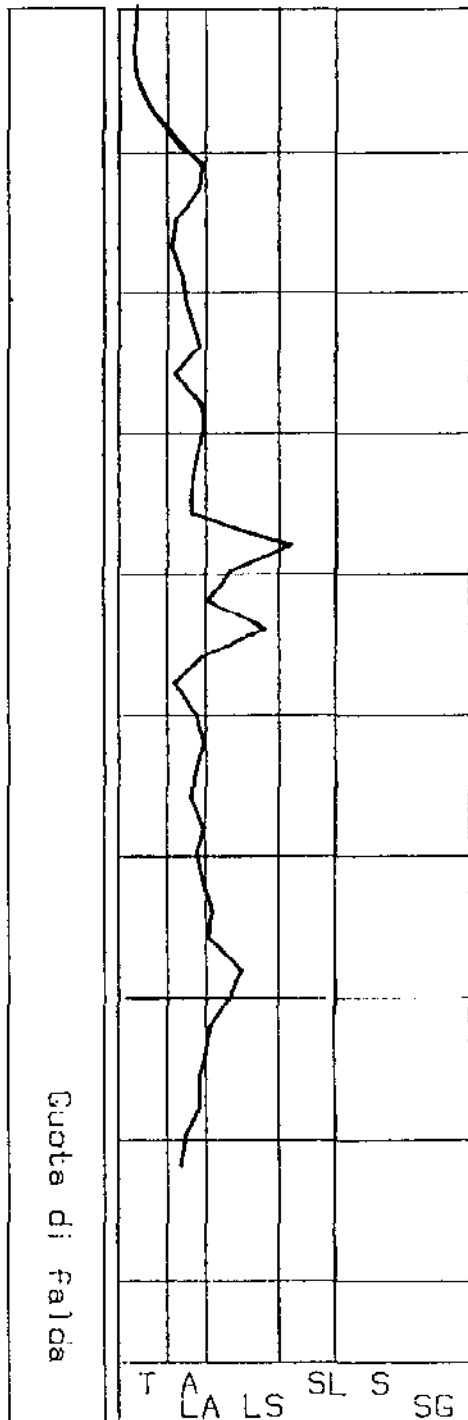
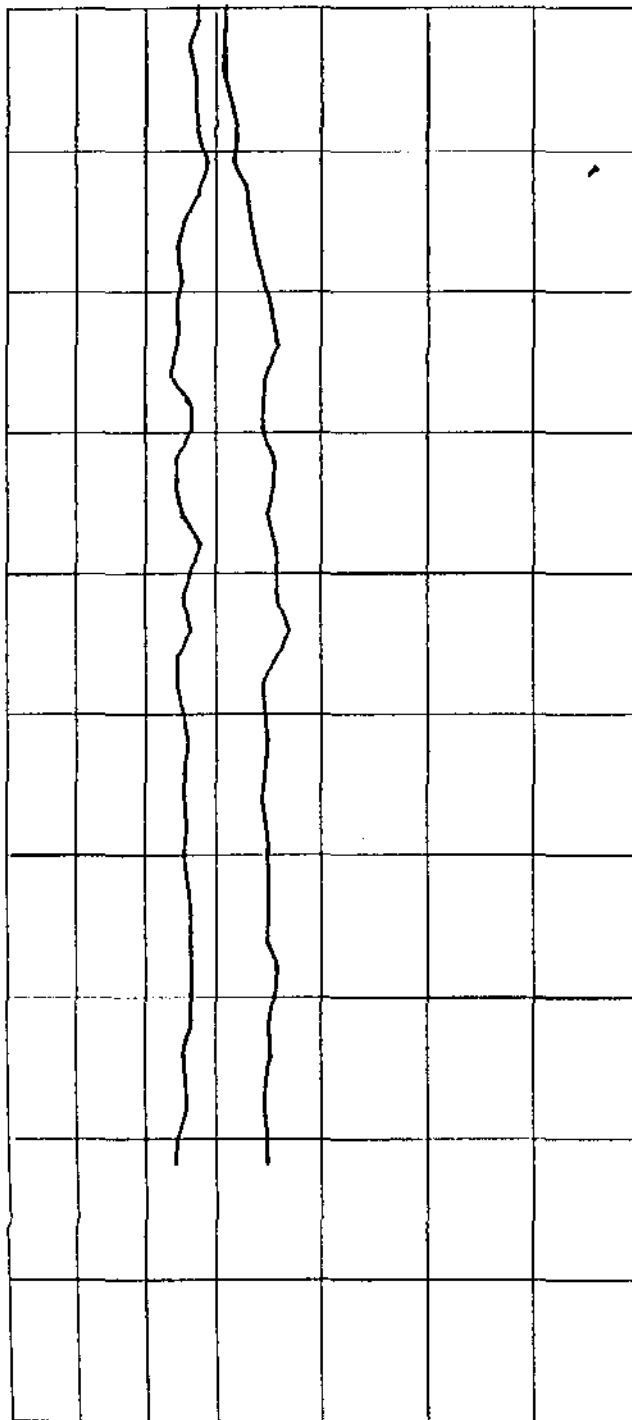
6

7

8

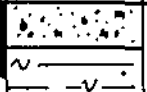
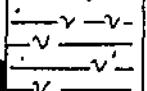
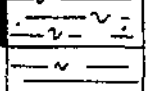
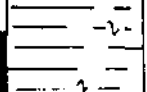
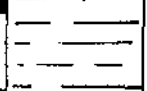
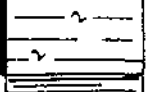
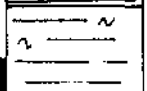
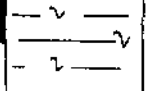
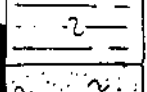
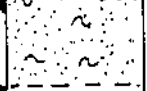
9

10



Quota di falda

T A LA LS SL S SG

PROF. PROVE IN SITO SPT V.T.	N ^{SPT} V.T.	campioni indisturbati	SPESS. STRATI	SCALA m	STRATIGRAFIA	DESCRIZIONE	P.P.	T.V.	H ₂ O
				0,6		Terreno agricolo			
		2,0				Argilla limosa marrone con concrezioni calcaree e frustoli carboniosi			
		2,5		3		Argilla deb.limosa marrone giallastra con venature grigio azzurre.			
				5					
				7,3		Argilla grigio azzurra plastica			
		7,8				Argilla deb.limosa a limosa grigio azzurra.			
		8,3		10					
				10,5		Limo con sabbia debolmente argilloso grigio azzurra			
				12					
				15					
				20					

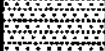
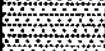
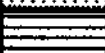
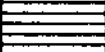
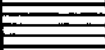
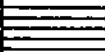
DATA 22/5/91

QUOTA P.C.

SCALE 1: 100

METODO DI PERFORAZIONE carotaggio continuo

FALDA assente

		CAMP IND	PROF.	LITOLOGIA	DESCRIZIONE	P.P (2cu) T/m2	T.V T/m2
					Terreno vegetale limo/argilloso		
		1,7	1		Argilla limosa marrone con frustoli carboniosi.	18	8
		2,0	2				
			3				
			4		Argilla marrone chiara con venature grigio azzurre, debolmente limosa con noduli.	21	1 0
			5				
			6				
							
							
							
							
							
							
							
							
							
							
							
							
							
							
							
							
							
							
							
							
							
							

SONDAGGIO N° 2N

LOCALITA' S. Croce sull'Arno

1281

DATA 22/5/91

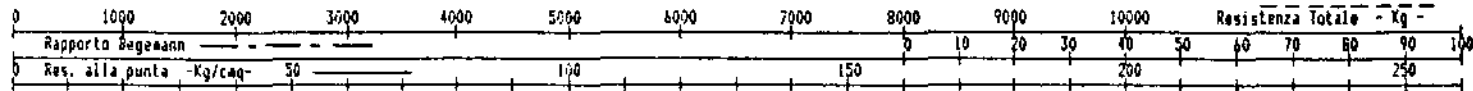
QUOTA P.C. _____

SCALA 1: 100

METODO DI PERFORAZIONE carotaggio continuo

FALDA assente

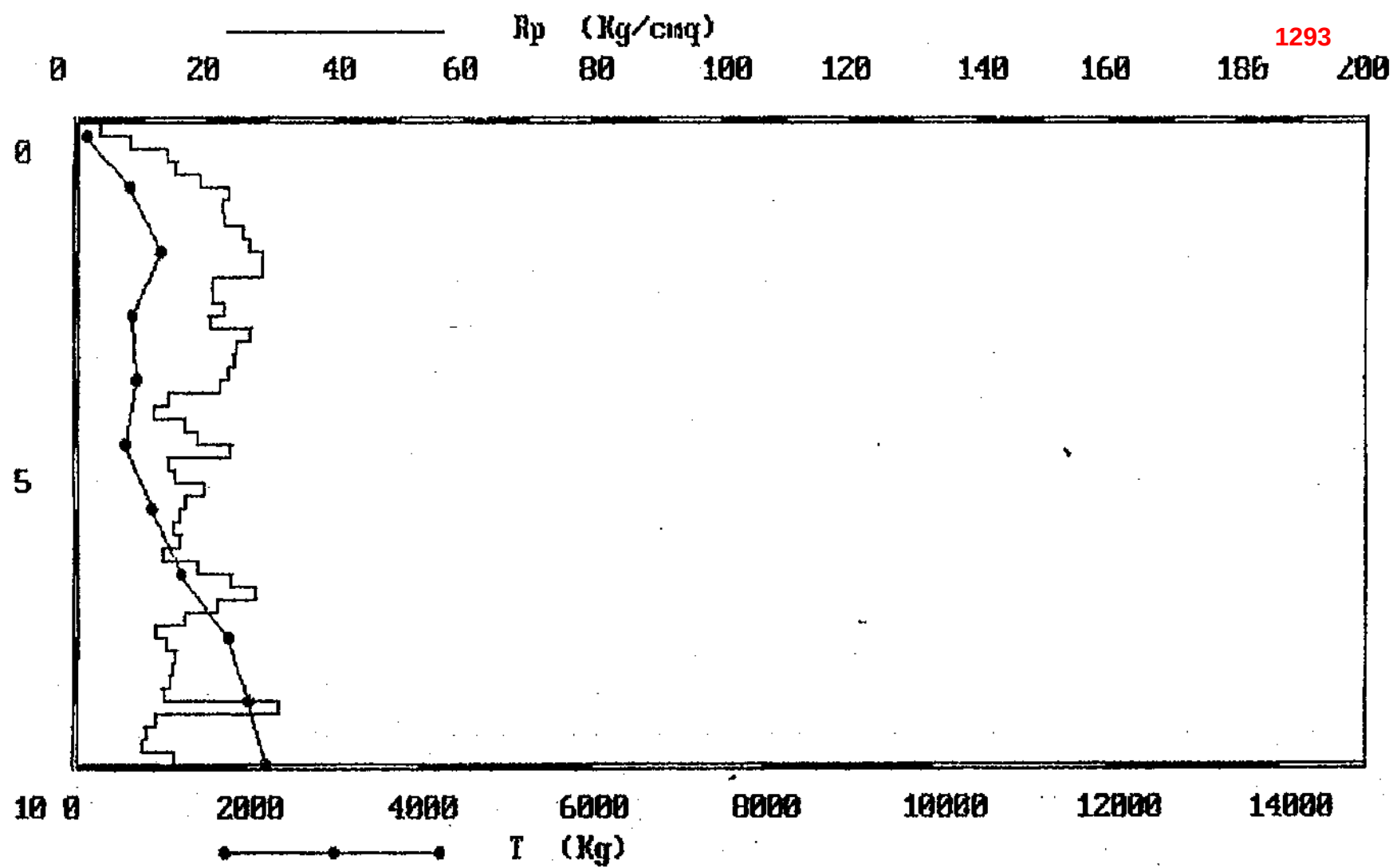
		CAMP IND	PROF.	LITOLOGIA	DESCRIZIONE	P.P. (2cu) T/m2	T.V T/m2
			1		Terreno vegetale limo argilloso		
			2		Argilla limosa marrone con frustoli carboniosi; sporadici livelli limo sabbiosi millimetrici tra 2,2 e 2,5 m.	19	8
			3				
			4		Argilla marrone chiara deb. limosa con livelli grigio azzurri e concrezioni	23	11
			5				
			6				
							
							
							
							
							
							
							
							
							
							
							



COLUMNA
STRATIGRAFICA

1283





DATA [i]	R ₀ [Kg/cm²]	R ₁ [Kg/cm²]	R ₀ /R ₁	R _t [Kgf]	δ [Kg/dm³]	γ _{ov} [Kg/cm³]	φ [gradi]	D _r [%]	C _u [Kg/cm²]	S _v [cm²/t]	Colonna Stratig.
2					1,80	,04	-	-	-	-	
4					1,80	,07	-	-	-	-	
6	8,1	,3	30	181	1,81	,11	-	-	,32	26,7	*****
8	7,3	,4	18	153	1,77	,14	-	-	,29	28,8	*****
9	6,3	,4	16	163	1,49	,17	-	-	,25	49,9	"-.-.-"
22	6,3	,5	14	303	1,49	,20	-	-	,24	49,9	"-.-.-"
44	16,3	,3	49	313	1,68	,24	35	38	-	16,7	*****
66	16,3	,7	24	353	1,91	,28	-	-	,64	19,4	*****
88	18,4	,7	25	444	1,92	,31	-	-	,72	19,5	*****
100	18,4	,9	21	524	1,92	,35	-	-	,72	19,5	*****
122	19,4	,8	24	524	1,92	,39	-	-	,76	19,8	*****
144	15,4	,9	18	594	1,91	,43	-	-	,60	19,6	*****
166	14,4	,5	27	634	1,91	,47	-	-	,56	19,9	*****
188	14,5	,5	27	735	1,91	,50	-	-	,56	19,8	*****
200	17,5	,7	26	885	1,92	,54	-	-	,68	19,4	*****
222	22,5	,9	26	995	1,93	,58	-	-	,88	17,8	*****
244	25,5	1,3	19	1185	1,93	,62	-	-	1,00	15,7	*****
266	27,5	1,2	23	1305	1,94	,66	-	-	1,07	14,5	*****
288	21,6	1,3	17	1436	1,93	,70	-	-	,84	18,5	*****
300	22,6	1,1	20	1596	1,93	,74	-	-	,87	17,7	*****
322	22,6	1,1	21	1746	1,93	,77	-	-	,87	17,7	*****
344	22,6	1,1	20	1836	1,93	,81	-	-	,87	17,7	*****
366	23,6	1,3	18	2026	1,93	,85	-	-	,91	16,9	*****
388	23,7	1,1	21	2187	1,93	,89	-	-	,91	16,9	*****
400	21,7	1,3	17	2307	1,93	,93	-	-	,83	18,4	*****
422	20,7	1,2	17	2457	1,92	,97	-	-	,79	19,3	*****
444	18,7	1,1	18	2607	1,92	1,01	-	-	,71	19,6	*****
466	18,7	1	19	2757	1,92	1,04	-	-	,71	19,6	*****
488	15,9	,9	17	2819	1,91	1,08	-	-	,59	19,5	*****
500	15,9	,6	27	2909	1,91	1,12	-	-	,59	19,5	*****
522	14,9	,5	32	3039	1,91	1,16	-	-	,55	19,7	*****
544	15,9	,7	22	3109	1,91	1,20	-	-	,59	19,5	*****
566	12,9	,9	15	3139	1,91	1,24	-	-	,47	20,6	*****
588	14	,5	26	3210	1,91	1,27	-	-	,51	20,0	*****
600	12	,5	23	3320	1,90	1,31	-	-	,43	21,2	*****
622	15	,5	32	3450	1,91	1,33	-	-	,55	19,7	*****
644	15	,7	20	3560	1,91	1,35	-	-	,55	19,7	*****
666	10	,3	30	3560	1,90	1,37	-	-	,35	23,4	*****
688	10,2	,3	38	3612	1,65	1,38	-	-	,35	21,9	*****
700	8,2	,4	21	3792	1,81	1,40	-	-	,27	26,5	*****
722	11,2	,3	42	3862	1,66	1,41	-	-	,39	20,7	*****
744	14,2	,5	30	3972	1,91	1,43	-	-	,51	19,9	*****
766	14,2	,6	24	3982	1,91	1,44	-	-	,51	19,9	*****
788	13,3	,5	25	4083	1,91	1,46	-	-	,47	20,4	*****
800	14,3	,3	43	4173	1,67	1,48	-	-	,51	18,1	*****
822	14,3	,3	43	4203	1,67	1,49	-	-	,51	18,1	*****
844	11,3	,5	21	4313	1,90	1,51	-	-	,39	21,9	*****
866	13,3	,5	25	4333	1,91	1,53	-	-	,47	20,4	*****
888	15,4	,5	33	4384	1,68	1,54	-	-	,55	17,6	*****
900	14,4	,6	24	4444	1,91	1,56	-	-	,51	19,9	*****

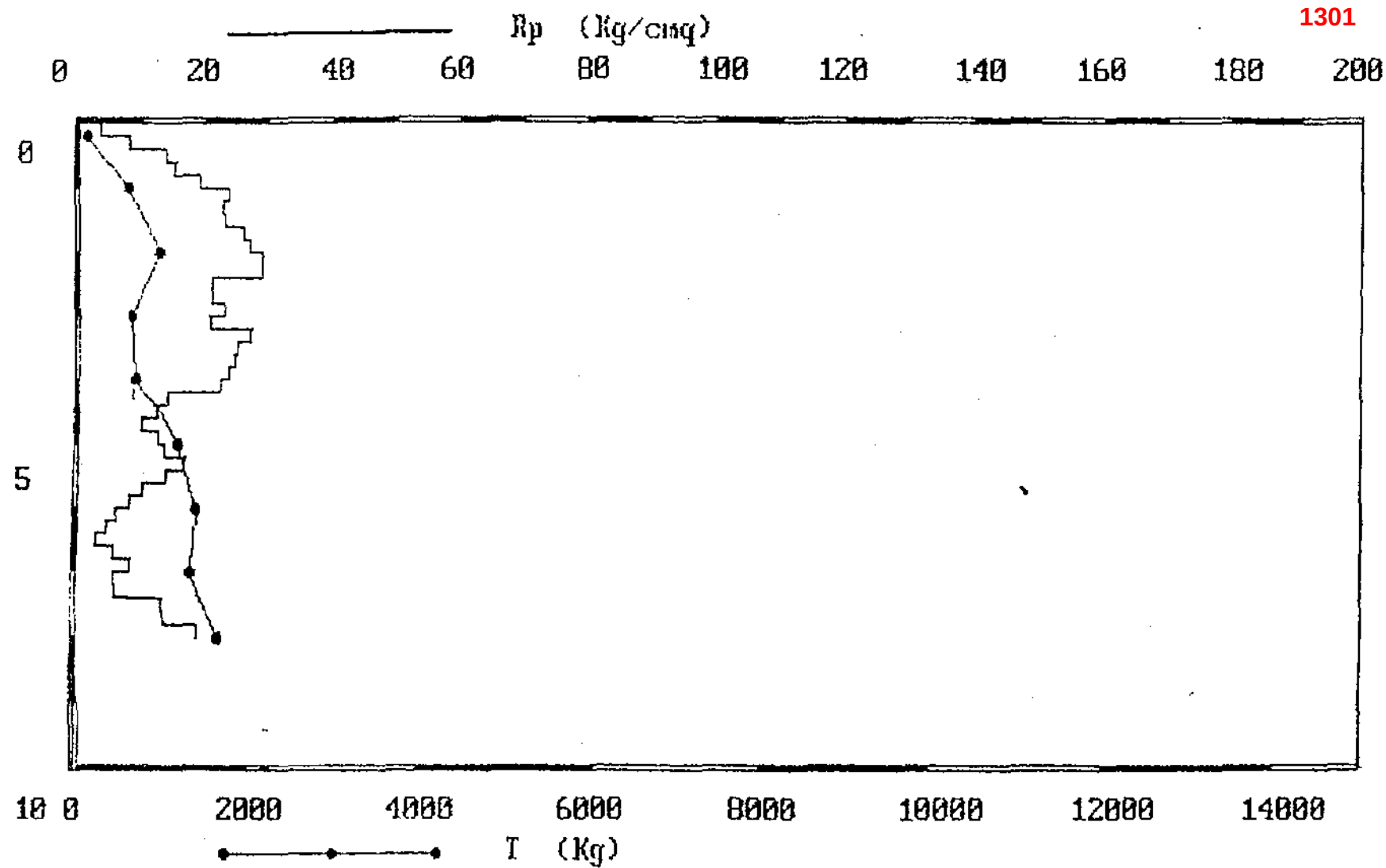
PROFONDITA' [m]	R ₀ [Kg/cm ²]	R ₁ [Kg/cm ²]	R ₀ /R ₁	R _t	δ [Kg/dm ³]	σ _{av} [Kg/cm ²]	φ [gradi]	De [%]	Cu [Kg/cm ²]	N _v [cmq/t]	Colonna Stratig.
2	13,4	,5	25	4474	1,91	1,58	-	-	,47	20,3	XXXXXXXX
4	12,4	,6	21	4524	1,91	1,60	-	-	,43	20,9	XXXXXXXX
6	11,4	,6	19	4574	1,90	1,61	-	-	,39	21,8	XXXXXXXX
8	10,5	,7	28	4625	1,92	1,63	-	-	,67	19,5	XXXXXXX
10	13,5	,7	21	4705	1,91	1,65	-	-	,55	19,6	XXXXXXXX
12	17,5	,5	33	4785	1,69	1,66	-	-	,63	16,9	XXXXXXX
14	16,5	,9	19	4845	1,91	1,68	-	-	,59	19,4	XXXXXXXX
16	16,5	,7	23	4905	1,91	1,70	-	-	,59	19,4	XXXXXXXX
18	19,7	,6	49	4957	1,70	1,72	28	1	-	16,7	XXXXXXXX
20	20,7	1,2	17	5037	1,92	1,73	-	-	,76	19,3	XXXXXXXX
22	16,7	,9	18	5107	1,91	1,75	-	-	,60	19,4	XXXXXXXX
24	12,7	,6	21	5187	1,91	1,77	-	-	,44	20,7	XXXXXXXX
26	29,7	,7	41	5277	1,75	1,79	28	-	-	11,2	XXXXXXXX
28	13,8	,7	19	5178	1,91	1,80	-	-	,48	20,1	XXXXXXXX
30	15,8	,5	30	5468	1,91	1,82	-	-	,56	19,5	XXXXXXXX

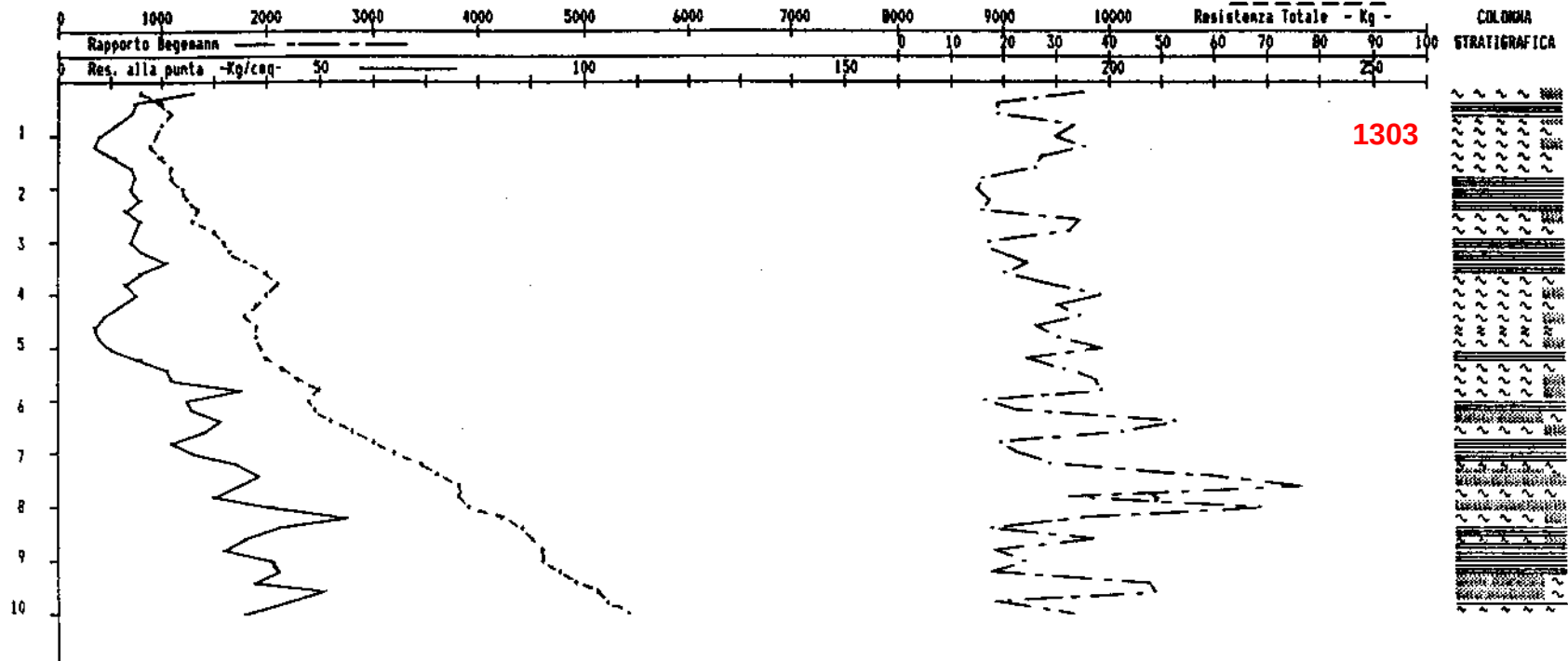
PROFONDITA' [tri]	R _d [Kg/cm ²]	R _l [Kg/cm ²]	R _d /R _l	R _t [Kgf]	δ [Kg/dm ³]	σ _{av} [Kg/cm ²]	φ [gradi]	Dr [%]	Cu [Kg/cm ²]	σ _v [cmq/t]	Colonna Stratig.
0.2					1,80	,04	-	-	-	-	
0.4					1,80	,07	-	-	-	-	
0.6	10,1	,2	51	191	1,65	,11	37	60	-	16,7	████████
0.8	9,3	,3	17	203	1,87	,14	-	-	,37	24,4	████████
1.0	9,3	,3	20	263	1,87	,18	-	-	,36	24,4	████████
1.2	10,3	,5	22	313	1,90	,22	-	-	,40	23,0	████████
1.4	12,3	,6	21	363	1,91	,26	-	-	,48	21,0	████████
1.6	14,3	,4	36	403	1,67	,29	-	-	,56	18,1	-----
1.8	9,4	,7	13	474	1,52	,32	-	-	,36	38,3	"-".-".-
2.0	11,4	,4	29	504	1,90	,36	-	-	,44	21,8	██████-
2.2	10,4	,4	26	534	1,90	,40	-	-	,40	22,9	████████
2.4	10,4	,5	22	604	1,90	,43	-	-	,40	22,9	████████
2.6	16,4	,5	33	734	1,68	,47	-	-	,64	17,2	-----
2.8	20,5	,8	26	875	1,92	,51	-	-	,80	19,5	██████-
3.0	21,5	1,1	20	995	1,93	,54	-	-	,84	18,6	████████
3.2	22,9	1	23	1125	1,93	,58	-	-	,88	17,8	████████
3.4	18,5	1,2	15	1215	1,92	,62	-	-	,72	19,5	████████
3.6	19,5	1,1	18	1315	1,92	,66	-	-	,75	19,8	████████
3.8	18,6	1	19	1446	1,92	,70	-	-	,72	19,6	████████
4.0	20,6	1	21	1616	1,92	,74	-	-	,79	19,4	████████
4.2	22,6	1,1	21	1726	1,93	,78	-	-	,87	17,7	████████
4.4	24,6	1,1	23	1936	1,93	,81	-	-	,95	16,3	████████
4.6	23,6	1,2	20	2056	1,93	,85	-	-	,91	16,9	████████
4.8	23,7	1,3	19	2207	1,93	,89	-	-	,91	16,9	████████
5.0	16,7	1,3	13	2337	1,60	,92	-	-	,63	22,2	"-".-".-
5.2	18,7	,9	20	2507	1,92	,96	-	-	,71	19,6	████████
5.4	15,7	1,1	15	2587	1,91	1,00	-	-	,59	19,5	████████
5.6	15,7	1,1	15	2697	1,91	1,04	-	-	,59	19,5	████████
5.8	15,9	,8	20	2799	1,91	1,08	-	-	,59	19,5	████████
6.0	13,9	,9	16	2849	1,91	1,11	-	-	,51	20,1	████████
6.2	12,9	,9	15	2959	1,91	1,15	-	-	,47	20,6	████████
6.4	11,9	,7	16	3039	1,90	1,19	-	-	,43	21,3	-----
6.6	11,9	,7	18	3109	1,90	1,23	-	-	,43	21,3	████████
6.8	15	,6	25	3270	1,91	1,27	-	-	,55	19,7	████████
7.0	18	,7	27	3260	1,92	1,31	-	-	,67	19,5	██████-
7.2	16	1	16	3460	1,91	1,32	-	-	,59	19,5	████████
7.4	16	,6	27	3590	1,91	1,34	-	-	,59	19,5	██████-
7.6	13	,7	20	3600	1,91	1,36	-	-	,47	20,5	████████
7.8	14,2	,5	27	3622	1,91	1,38	-	-	,51	19,9	██████-
8.0	11,2	,7	17	3722	1,90	1,40	-	-	,39	22,0	████████
8.2	12,2	,3	37	3732	1,66	1,41	-	-	,43	19,7	-----
8.4	12,2	,3	37	3732	1,66	1,42	-	-	,43	19,7	-----
8.6	11,2	,3	34	3692	1,90	1,44	-	-	,39	22,0	██████-
8.8	10,3	,3	31	3703	1,90	1,46	-	-	,35	23,0	██████-
9.0	12,3	,3	46	3773	1,66	1,47	-	-	,43	19,6	-----
9.2	12,3	,3	46	3793	1,66	1,48	-	-	,43	19,6	-----
9.4	12,3	,3	46	3783	1,66	1,50	-	-	,43	19,6	-----
9.6	13,3	,3	50	3823	1,67	1,51	28	2	-	16,7	████████
9.8	12,4	,3	37	3854	1,66	1,52	-	-	,44	19,5	-----
10.0	15,4	,5	29	3924	1,91	1,54	-	-	,55	19,6	██████-

FONDATA- [etri]	R _p [Kg/cm ²]	R _l [Kg/cm ²]	R _p /R _l	R _t	δ [Kg/dmc]	σ _{ov} [Kg/cm ²]	φ [gradi]	Dr [%]	C _u [Kg/cm ²]	σ _v [cm ² /t]	Colonna Stratig.
0.2	18,4	,7	25	3854	1,92	1,56	-	-	,67	19,5	*****
0.4	21,4	1,1	19	3924	1,93	1,58	-	-	,79	18,7	*****
0.6	17,4	1,3	14	3974	1,92	1,60	-	-	,63	19,4	*****
0.8	15,5	,9	17	4005	1,91	1,61	-	-	,56	19,6	*****
1.0	14,5	,5	31	4055	1,91	1,63	-	-	,51	19,8	*****

FONDATA [cm]	R _p [Kg/cm²]	R _i [Kg/cm²]	R _p /R _i	R _t [Kg]	δ [Kg/dm²]	σ _{ov} [Kg/cm²]	φ [gradi]	α _n [%]	c _u [Kg/cm²]	σ _v [cm/t]	Colonna Stratig.
0.2					1,80	,06	-	-	-	-	
0.4					1,80	,07	-	-	-	-	
0.6	19,1	,3	57	251	1,70	,11	40	52	-	16,7	████████
0.8	17,3	,3	52	233	1,69	,14	38	52	-	16,7	████████
1.0	10,3	,5	22	203	1,90	,18	-	-	,40	23,0	████████
1.2	12,3	,5	26	233	1,91	,22	-	-	,48	21,0	████████
1.4	12,3	,7	17	293	1,91	,25	-	-	,48	21,0	████████
1.6	13,3	,8	17	393	1,91	,29	-	-	,52	20,4	████████
1.8	15,4	,9	18	444	1,91	,33	-	-	,60	19,6	████████
2.0	15,4	,9	17	564	1,91	,37	-	-	,60	19,6	████████
2.2	15,4	,9	18	634	1,91	,41	-	-	,60	19,6	████████
2.4	13,4	,9	14	704	1,91	,44	-	-	,52	20,3	████████
2.6	14,4	,9	15	814	1,91	,48	-	-	,56	19,9	████████
2.8	14,5	,8	18	985	1,91	,52	-	-	,56	19,8	████████
3.0	18,5	,5	35	1075	1,69	,56	-	-	,72	16,8	████████
3.2	19,5	1,1	18	1255	1,92	,59	-	-	,76	19,8	████████
3.4	21,5	1,4	15	1455	1,93	,63	-	-	,83	18,6	████████
3.6	23,5	1,4	17	1565	1,93	,67	-	-	,91	17,0	████████
3.8	21,6	1,5	14	1846	1,93	,71	-	-	,84	18,5	████████
4.0	18,6	1,5	13	1976	1,62	,74	-	-	,71	19,9	"."."."
4.2	17,6	1,5	12	2186	1,61	,77	-	-	,67	21,0	"."."."
4.4	18,6	1,3	15	2246	1,92	,81	-	-	,71	19,6	████████
4.6	13,6	1,1	13	2266	1,57	,84	-	-	,51	27,2	"."."."
4.8	9,7	,7	13	2387	1,53	,87	-	-	,35	37,6	"."."."
5.0	12,7	,4	32	2497	1,91	,91	-	-	,47	20,7	████████
5.2	10,7	,5	23	2587	1,90	,95	-	-	,39	22,5	████████
5.4	9,7	,3	29	2687	1,89	,99	-	-	,35	23,8	████████
5.6	9,7	,3	29	2777	1,89	1,03	-	-	,35	23,8	████████
5.8	11,9	,3	36	2859	1,66	1,06	-	-	,43	19,9	████████
6.0	10,9	,3	33	2969	1,90	1,10	-	-	,39	22,3	████████
6.2	12,9	,3	39	3069	1,66	1,13	-	-	,47	19,1	████████
6.4	14,9	,6	25	3159	1,91	1,17	-	-	,55	19,7	████████
6.6	13,9	,9	16	3239	1,91	1,21	-	-	,51	20,1	████████
6.8	11	,7	17	3230	1,90	1,24	-	-	,39	22,2	████████
7.0	11	,4	28	3290	1,90	1,28	-	-	,39	22,2	████████
7.2	11	,3	33	3330	1,90	1,30	-	-	,39	22,2	████████
7.4	15	,5	28	3470	1,91	1,32	-	-	,55	19,7	████████
7.6	13	,8	16	3490	1,91	1,34	-	-	,47	20,5	████████
7.8	10,2	,5	22	3532	1,90	1,35	-	-	,35	23,1	████████
8.0	11,2	,3	34	3592	1,90	1,37	-	-	,39	22,0	████████
8.2	15,2	,5	33	3662	1,68	1,39	-	-	,55	17,7	████████
8.4	15,2	,8	19	3682	1,91	1,40	-	-	,55	19,6	████████
8.6	12,2	,9	14	3682	1,55	1,42	-	-	,43	30,4	"."."."
8.8	11,3	,5	21	3733	1,90	1,43	-	-	,39	21,9	████████
9.0	27,3	,3	102	3793	1,74	1,45	28	16	-	12,2	████████
9.2	18,3	,5	39	3873	1,69	1,46	-	-	,67	16,8	████████
9.4	12,3	,3	46	3823	1,66	1,48	-	-	,43	19,6	████████
9.6	10,3	,3	39	3843	1,65	1,49	-	-	,35	21,8	████████
9.8	41,4	,3	124	4024	1,81	1,50	30	29	-	8,1	████████
10.0	15,4	,4	39	3944	1,68	1,52	-	-	,56	17,6	████████

ONDITA' metri]	R _D [Kg/cm²]	R _I [Kg/cm²]	R _D /R _I	R _t	δ [Kg/dm³]	σ _{ov} [Kg/cm²]	φ [gradi]	D _r [%]	C _u [Kg/cm²]	σ _v [cm/t]	Colonna Stratig.
10.2	12.4	,7	19	3944	1,91	1,54	-	-	,43	20,9	XXXXXX
10.4	12.4	,5	27	3984	1,91	1,56	-	-	,43	20,9	XXXXXX
10.6	13.4	,5	29	4024	1,91	1,57	-	-	,47	20,3	XXXXXX
10.8	14.5	,7	20	4035	1,91	1,59	-	-	,52	19,8	XXXXXX
11.0	16.5	,8	23	4155	1,92	1,61	-	-	,58	19,5	XXXXXX





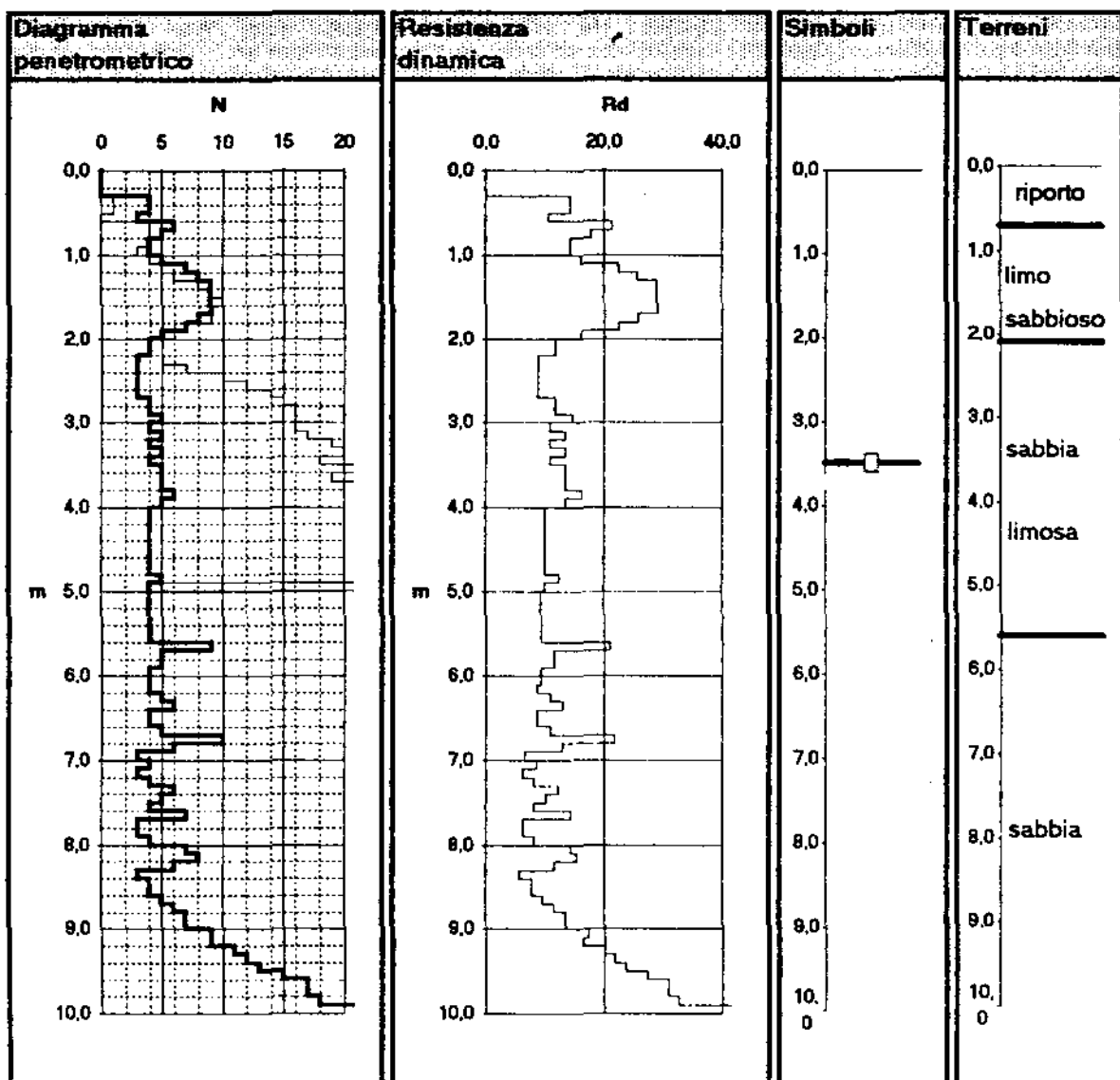
Profondità dal piano di campagna	Spessore degli strati	CAMPIONE N° d'ordine	Scale di Riferimento	STRATIGRAFIA	Scala scoperta	Percentuale di Canteggio	DESCRIZIONE LITOLOGICA	1312	NOTE
1.2	1.2			1			Muratura in pietra e mattoni		
3.8	3.8			2			Sabbia fine-limosa sciolta e limo molle, di color beige/nocciola con inclusioni (?) di frammenti di mattoni e pietra (terreno di riporto ?)		
5.0		C1		3					
8.5		C2		4					
				5					
				6					
				7					
				8			Argilla beige passante a grigia, mediamente compatta.		
				9			Livello di sabbia limosa tra 9.5-11.0 m		
				10					
				11					
				12					
13.5				13					
15.0	1.5			14			Sabbia limosa sciolta		
				15					
				16					
				17					
				18			Sabbia grigia da mediamente addensata a addensata		
				19					
20.0				20					
				21					
				22					

Profondità dal piano di campagna	Spessore degli strati	CAMPIONE N° d'ordine	Scala di riferimento	STRATIGRAFIA	Falda acquifera	Percentuale di Cementaggio	DESCRIZIONE LITOLOGICA	NOTE
1.2	1.2		1				Naturata in pietra e mattoni	
1.2	3.4	C1	2				Sabbia fine-limosa sciolta e limo molle, di color beige/nocciola con inclusioni (?) di frammenti di mattoni e pietre (terreno di riporto ?)	
4.5	8.7	C2	3				Argilla beige passante a grigia, mediamente compatta, talora intercalata da livelli di sabbia limosa	Installato piezometro aperto in p.v.c con chiusura a lucchetto.
13.2			4					
20.0			5				Sabbia grigia da mediamente addensate a addensata, talora intercalata con livelli limosi	
			6					
			7					
			8					
			9					
			10					
			11					
			12					
			13					
			14					
			15					
			16					
			17					
			18					
			19					
			20					
			21					
			22					

Dati generali

1314

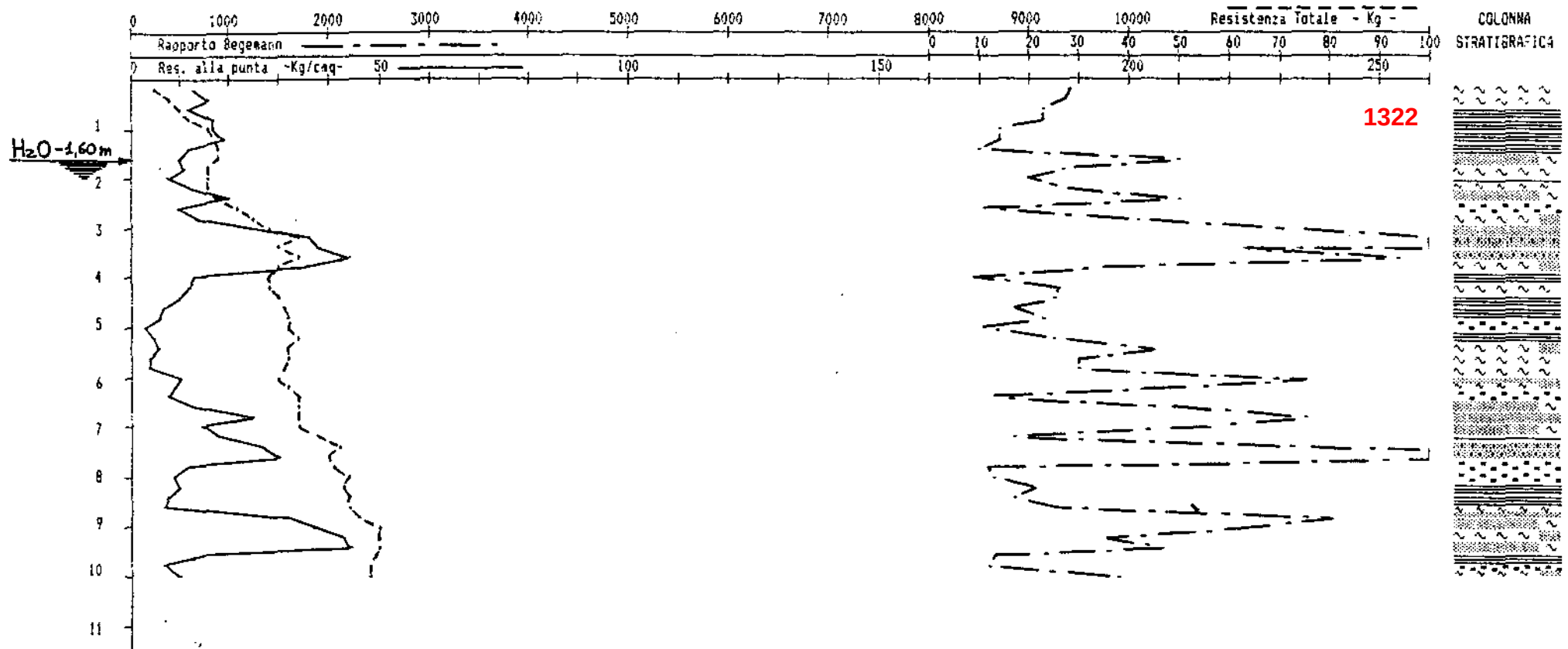
Committente		Prova	P 1
Località	Via XI Febbraio. S. Croce S/A	Prof.	0,0m
Data	18/2/93	Note:	nessuna



Legenda

- Colpi punta
- Colpi rivestimento
- Resist. dinamica (Kg/cm²)
- □ — Superficie falda

- Limite litologico
- △ Base piezometro
- Campioni
- ◇ Prova pressiometrica



Dalla ricostruzione geomeccanica del sottosuolo si è dedotta la sequenza litostratigrafica riportata in allegato: In superficie affiora uno strato continuo di terreno limo argilloso mediamente sciolto, a bassa consistenza, soggetto alle variazioni stagionali, lo spessore risulta pari a circa 0.50 mt; segue poi uno strato omogeneo costituito da argilla limosa normalconsolidata dello spessore di circa 1.50 mt., al di sotto è presente uno strato di circa 4.00 mt. di argilla mediamente plastica con livelli lentiformi di argilla mediamente compatta (prova n° 1 + 2); segue poi uno strato di circa 2.00 mt. di spessore, costituito principalmente da limo argilloso plastico con lenti di argilla limosa e argilla compatta; infine si incontra, fino alla massima profondità raggiunta nelle perforazioni, uno strato omogeneo di argilla grigia compatta.

1327

DATA 23-1-84

CAMPIONE N. 7

SONDAGGIO N. 1

DESCRIZIONE DEL CAMPIONE _____

CARICO DI ROTTURA K_{R, cm^2} 1.56

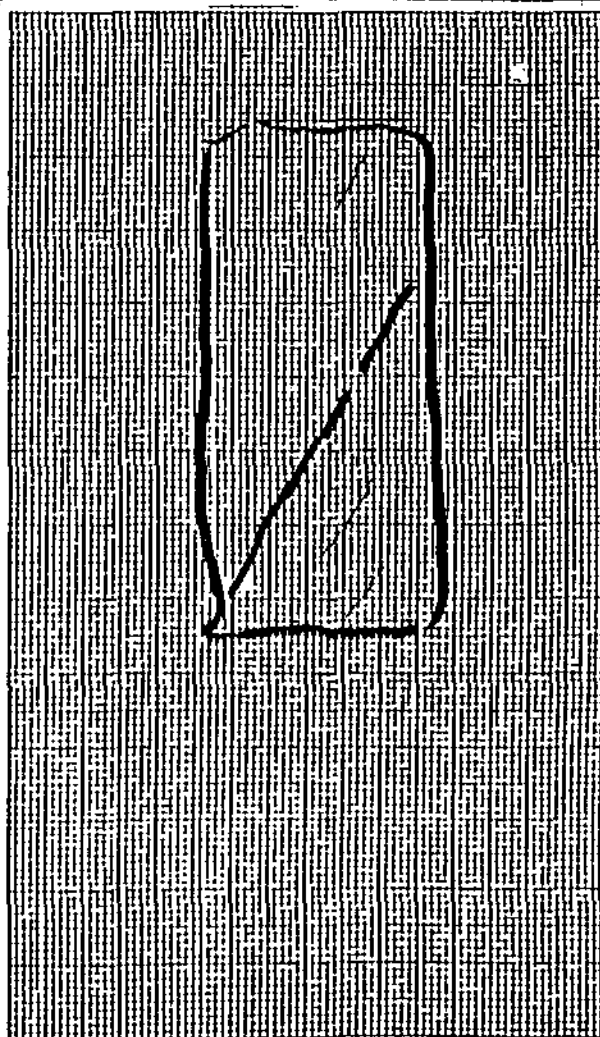
PROFONDITA' da "3.20" a "3.28"

ARGILLA MEDIANTE PLASTICA

10 SPERIMENTATORE _____

CAMP DISTURBATO ☒ CAMP INDISTURBATO ☐

DIAMETRO MEDIO 2.75 cm
ALTEZZA MEDIA 7.00 cm
AREA 5.936 cm²
CONTENUTO DI UMIDITA' _____
PESO DI VOLUME 2.01 g/cm³



1327

DATA 23-1-84

CAMPIONE N 2

SONDAGGIO N. 1

CARICO DI ROTTURA K_{cm^2} 1.52

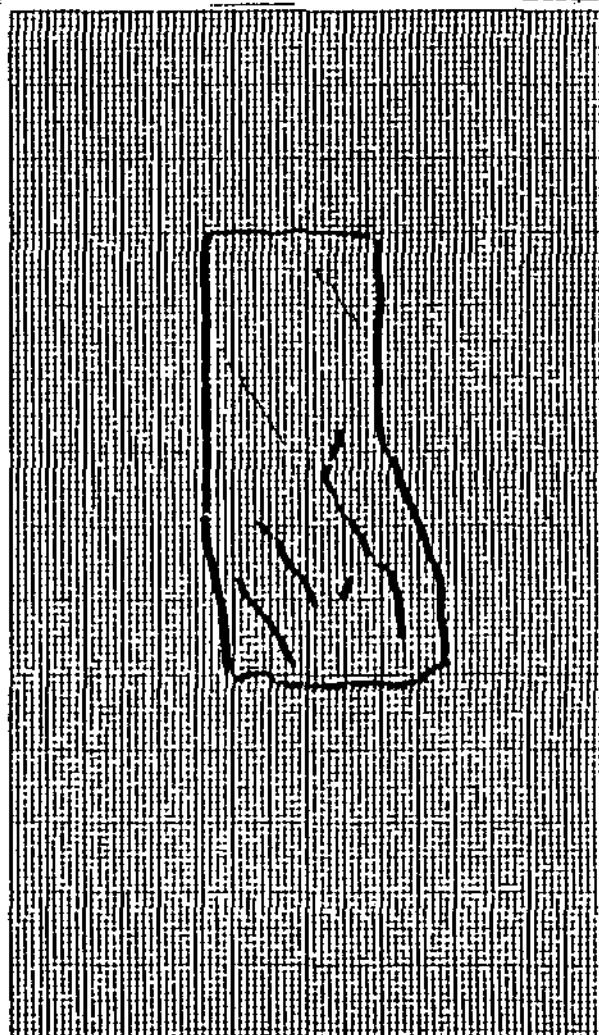
PROFONDITA' 3.13 5.20

10. SPERIMENTATORE _____

CAMP DISTURBATO ☒ CAMP INDISTURBATO ☐

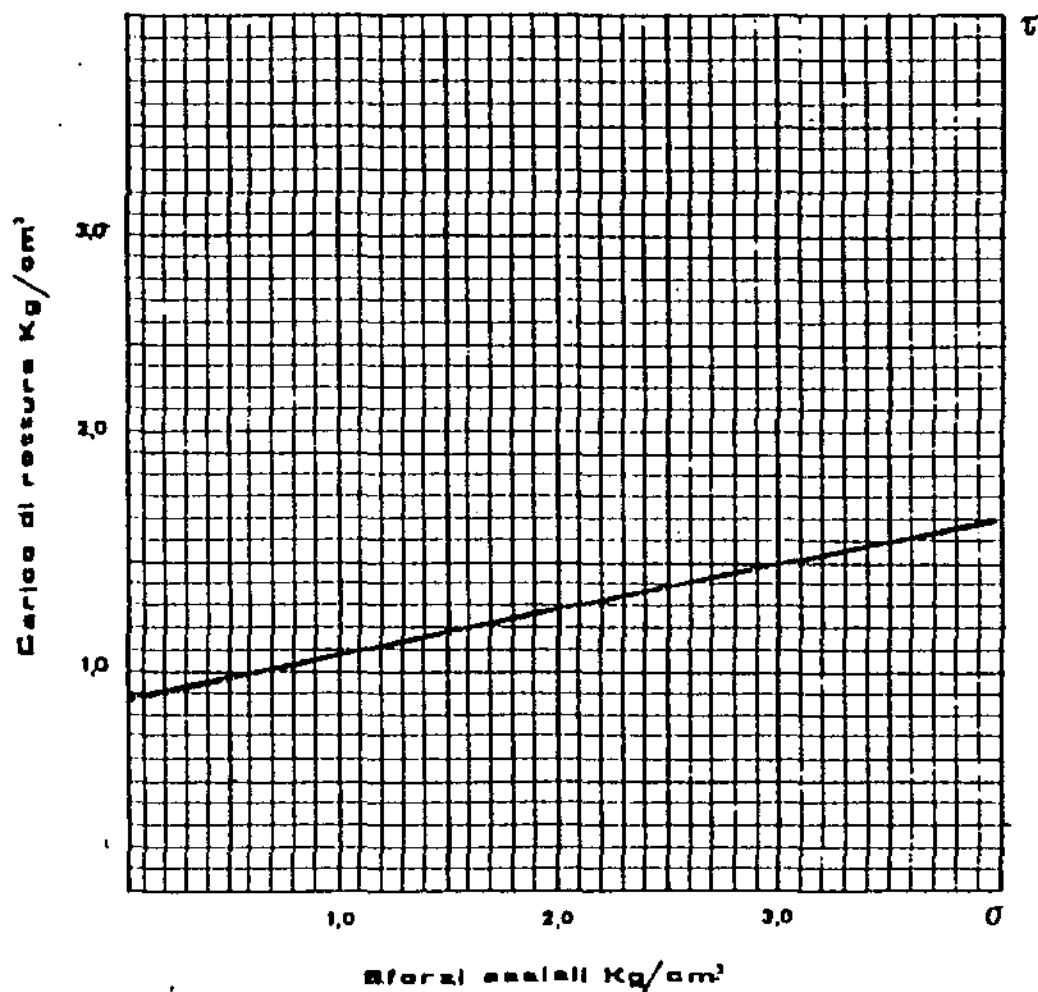
DIAMETRO MEDIO 2.75 cm
ALTEZZA MEDIA 7.00 cm
AREA 5.936 cm²

CONTENUTO DI UMIDITA' _____
PESO DI VOLUME 2.01 g/cm³



Bondage	n° 1	Densità	τ	σ	U%	$\varphi = 12^\circ$
Camp.	n° 1	Assesam.	1.08	1.00		$\square \cdot 0.870$
Pois. pcal.	1.50 - 1.80 mt		1.32	2.00		Kg/cm ²
Peso spao	2.03 t/mc		1.52	3.00		U% 19
Fraz. ind.		Condizioni di prova: Taglio rapido non drenato non consolidato				
		Descrizione: Limo argilloso, marrone cauipotto, radici vegetali.				

1327



PRATICA L/2 TORINO

DIMENSIONI SCATOLA

 $H = 2.4 \text{ cm}$ $\phi = 7.00 \text{ cm}$ $\Omega = 38.46$

SONDAGGIO 1

 PESO SPECIFICO ASS. $(\gamma) = 2.65 \text{ gr/cm}^3$

CAMPIONE N° 1

 PESO UMIDO FINALE $= 182.05 \text{ gr}$

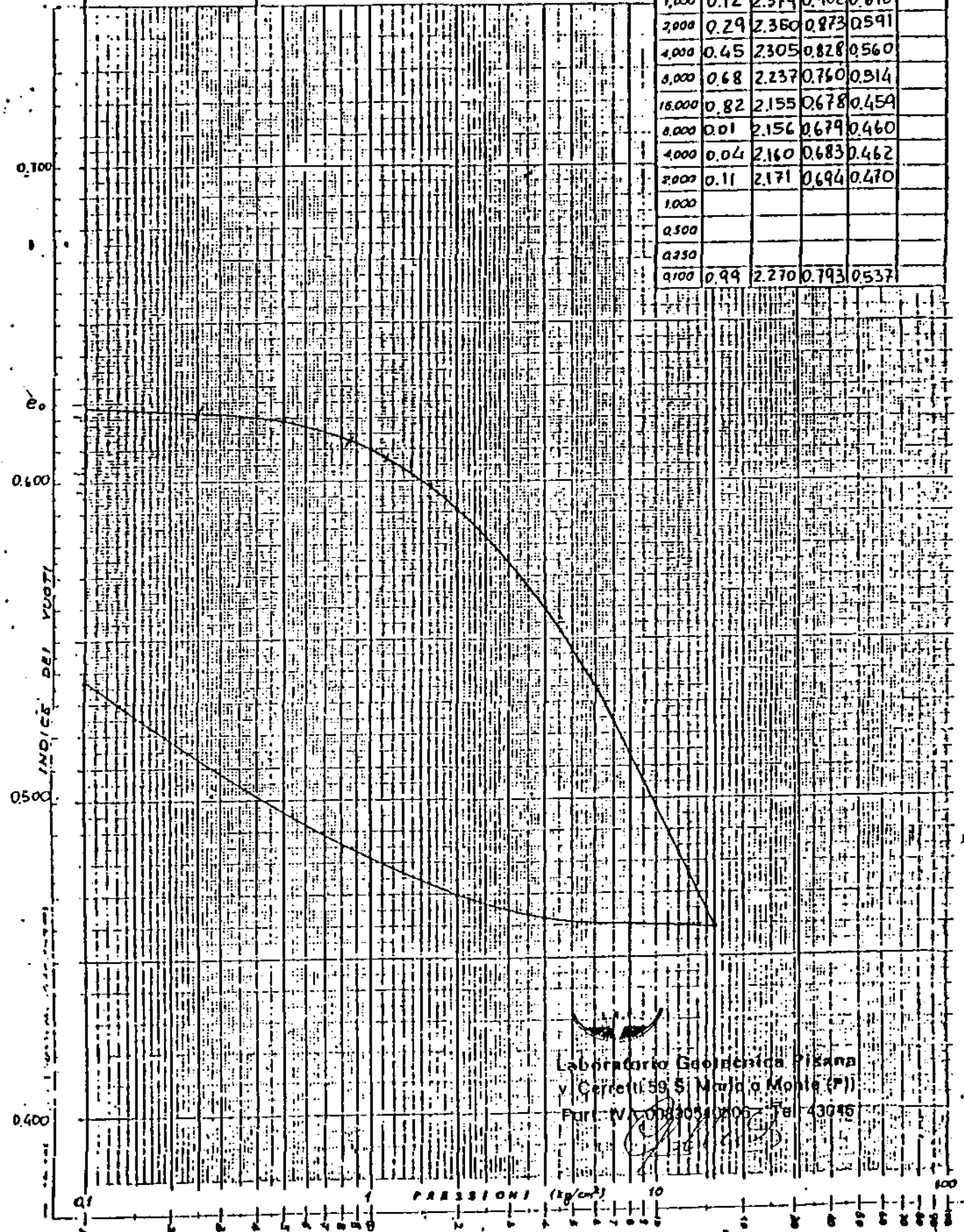
PROF. (m) 1.50-1.80

 PESO SECCO FINALE $(P_s) = 150.6 \text{ gr}$

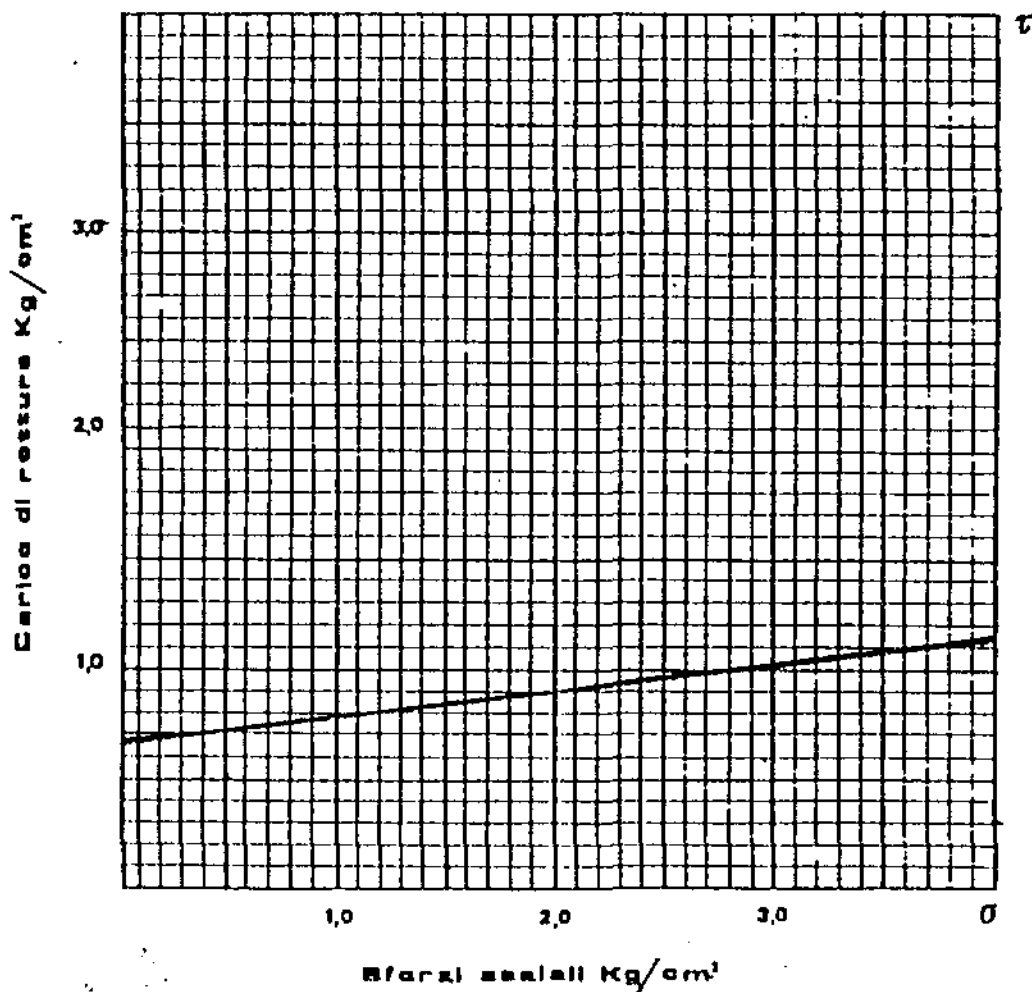
 ALTEZZA RIDOTTA $(2H_0) - (P_s) / \gamma \cdot \Omega = 1.477$

 UMIDITÀ FINALE $= 21 \%$

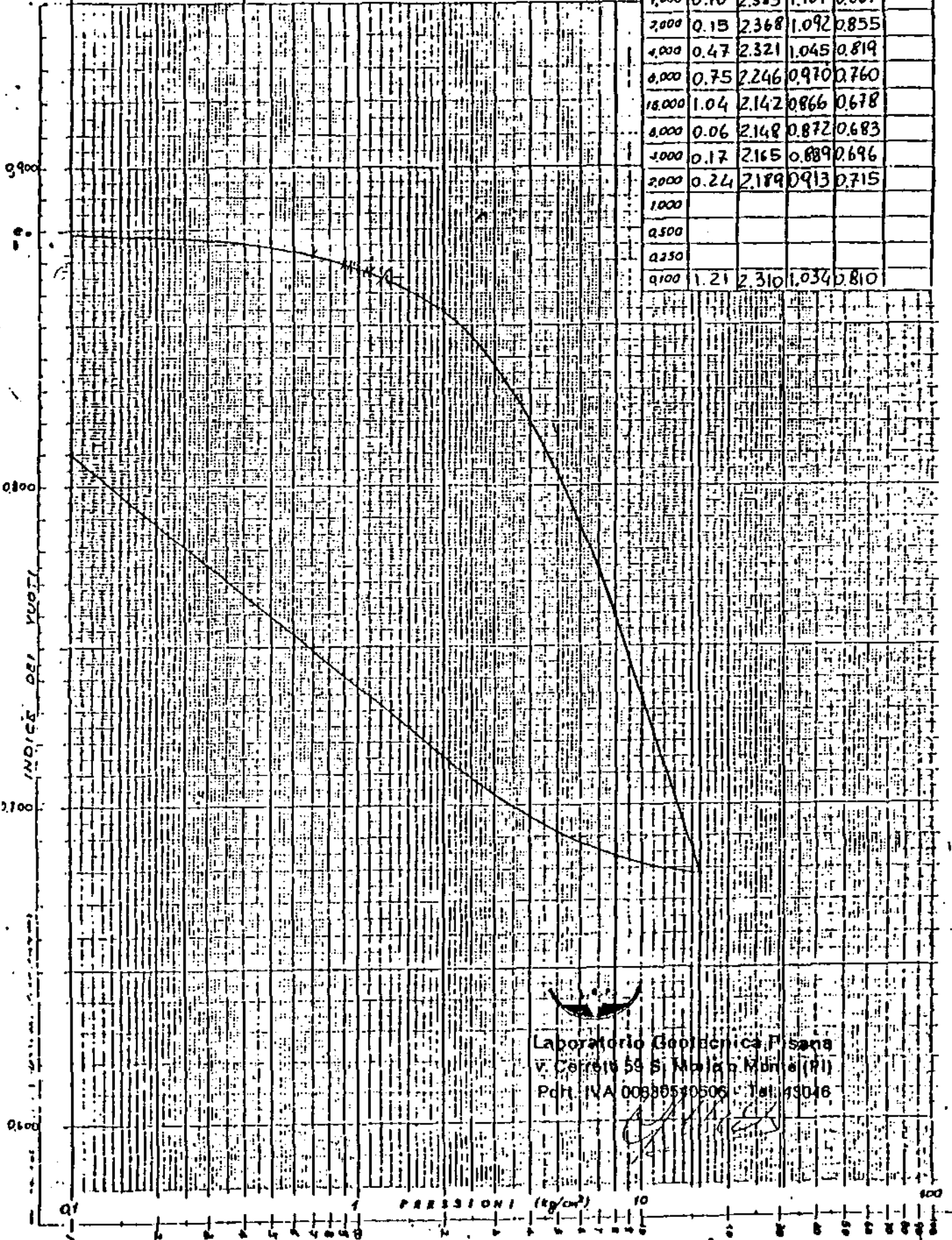
PRESS.	DEFORM.	ALTEZZA	INDICE	INDICE
(kg/cm²)	(mm)	(2 H)	DEFORM.	DEFORM.
0.00	0.00	2.400	0.923	0.625
0.250	0.06	2.394	0.917	0.621
0.500	0.03	2.391	0.914	0.619
1.000	0.12	2.379	0.902	0.610
2.000	0.29	2.360	0.873	0.591
4.000	0.45	2.305	0.828	0.560
6.000	0.68	2.237	0.760	0.514
16.000	0.82	2.155	0.678	0.459
3.000	0.01	2.156	0.679	0.460
4.000	0.04	2.160	0.683	0.462
2.000	0.11	2.171	0.694	0.470
1.000				
0.500				
0.250				
0.100	0.99	2.270	0.793	0.537


 Laboratorio Geotecnica Pisana
 v. Cerrelli 59 S. Maria a Monte (PI)
 Part. IVA 01830510065 Tel. 43046

Bondag	n°1	Densità	τ	σ	U%	φ 7°	1327
Camp.	n°2	Assesam.	0.78	1.00		$\alpha = 0.650$	
Pois. acal.	3.20 - 3.50 μ t		0.88	2.00		Kg/cm ²	
Peso spec.	1.95 t/mc		1.00	3.00		U% 29%	
Fraz. inf.		Condizioni di prova: Taglio rotato non					
		dritto non consolidato					
		Descrizione: Argilla grigia-marrone					
		mediamente plastiche					



PRATICA L/S TORINO	DIMENSIONI SCATOLA			PRESSIO	DEFORMAZIONE	SCEGLI		INDICE
	H = 2.4 cm	d = 7.0 cm	SL = 38.46	(kg/cm ²)	(mm)	PRELIMINARE	VUOTI	VUOTI
BONDAGGIO 1	PESO SPECIFICO ASS. (γ) = 2.65 g/cm ³			0.00	0.00	2.400	1.124	0.880
CAMPIONE N° 2	PESO UMIDO FINALE = 170.81 gr			0.250	0.04	2.396	1.120	0.877
PROF. (m) 3.20-3.50	PESO SECCO FINALE (P.S.) = 130.03 gr			0.500	0.03	2.393	1.117	0.875
	ALTEZZA RIDOTTA (2H ₀) - (H ₃) / γ = 1.276			1.000	0.10	2.383	1.107	0.867
	UMIDITÀ FINALE = 31 %			2.000	0.15	2.368	1.092	0.855
				4.000	0.47	2.321	1.045	0.819
				6.000	0.75	2.246	0.910	0.760
				16.000	1.04	2.142	0.866	0.678
				4.000	0.06	2.148	0.872	0.683
				4.000	0.17	2.165	0.889	0.696
				2.000	0.24	2.189	0.913	0.715
				1.000				
				0.500				
				0.250				
				0.100	1.21	2.310	1.034	0.810



Laboratorio Geotecnica P. Sana
 v. Corredo 59 S. Maria a Monte (FI)
 P.d.t. IVA 008805510506 Tel. 43046

CPT (CONE PENETROMETER TEST)

Certif.n. 640-AA

Picchetto n. P/1

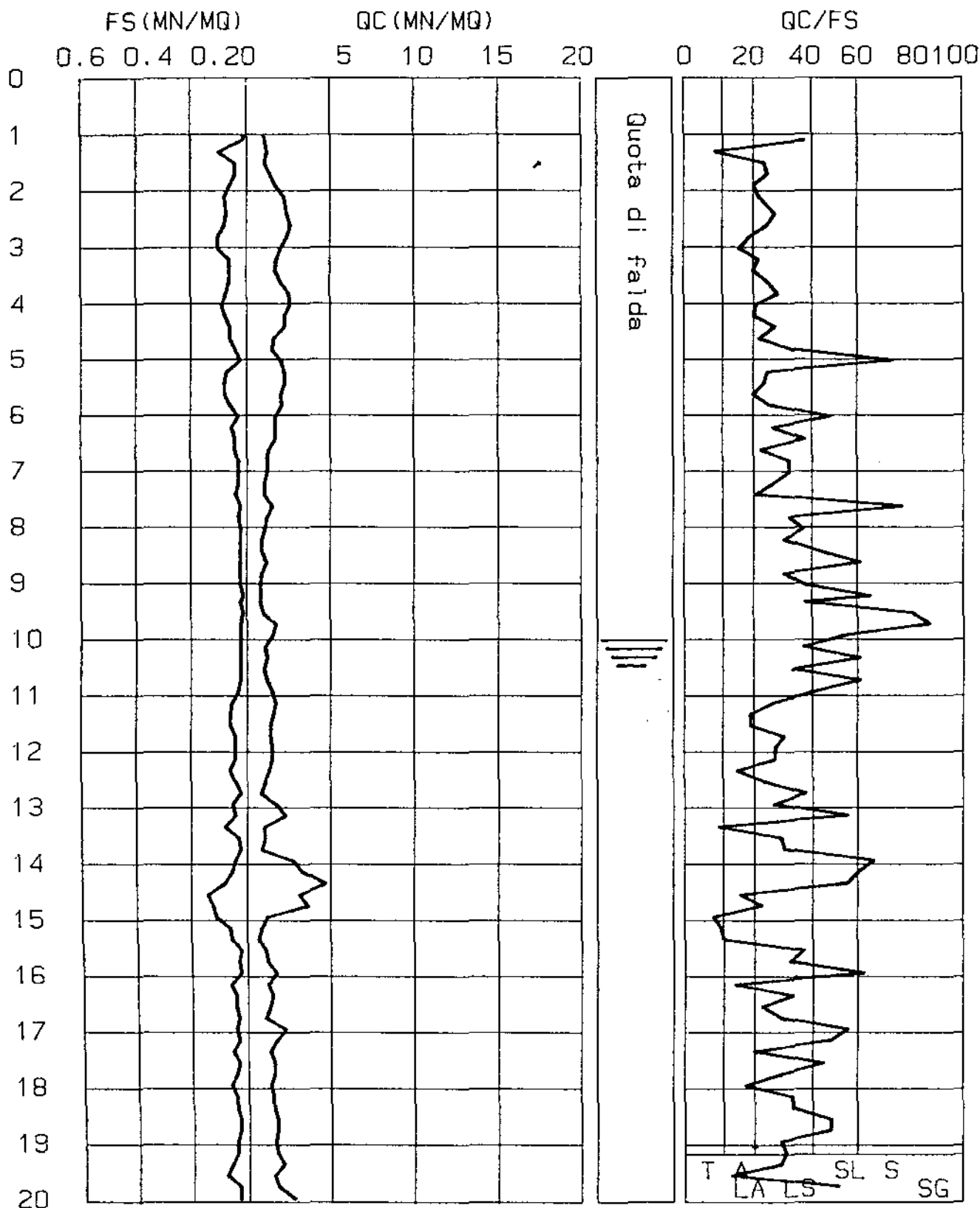
del 18/12/1990

Cantiere

COSTRUZIONE DI EDIFICIO DIREZIONALE-COMMERCIALE

1333

Committente



CPT (CONE PENETROMETER TEST)

Picchetto n. P/2

Certif.n. 641-AA

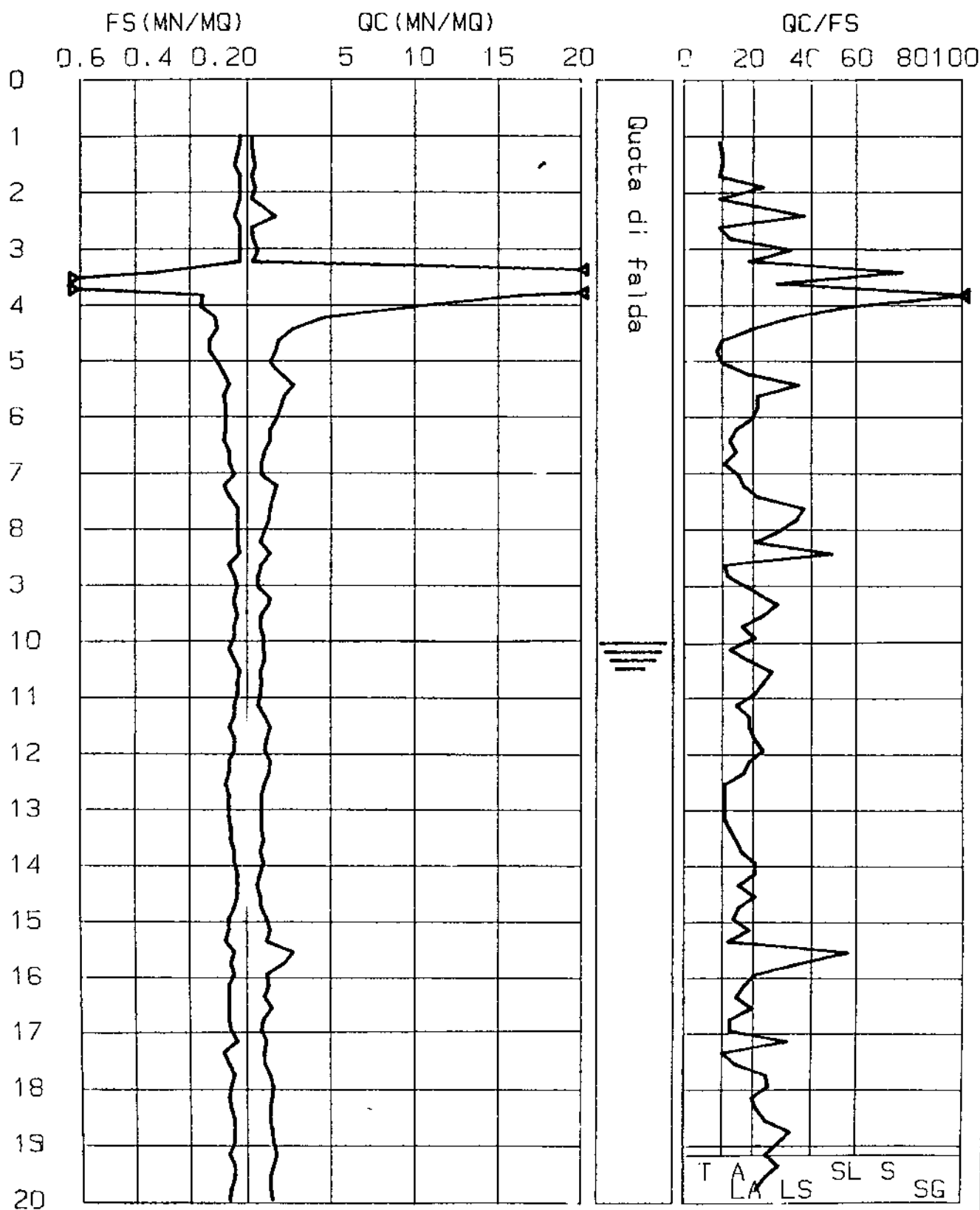
del 18/12/1990

Cantiere

COSTRUZIONE DI EDIFICIO DIREZIONALE-COMMERCIALE

1334

Committente



CPT (CONE PENETROMETER TEST)

Picchetto n. P/3

Certif.n. 642-AA

del 18/12/1990

Cantiere

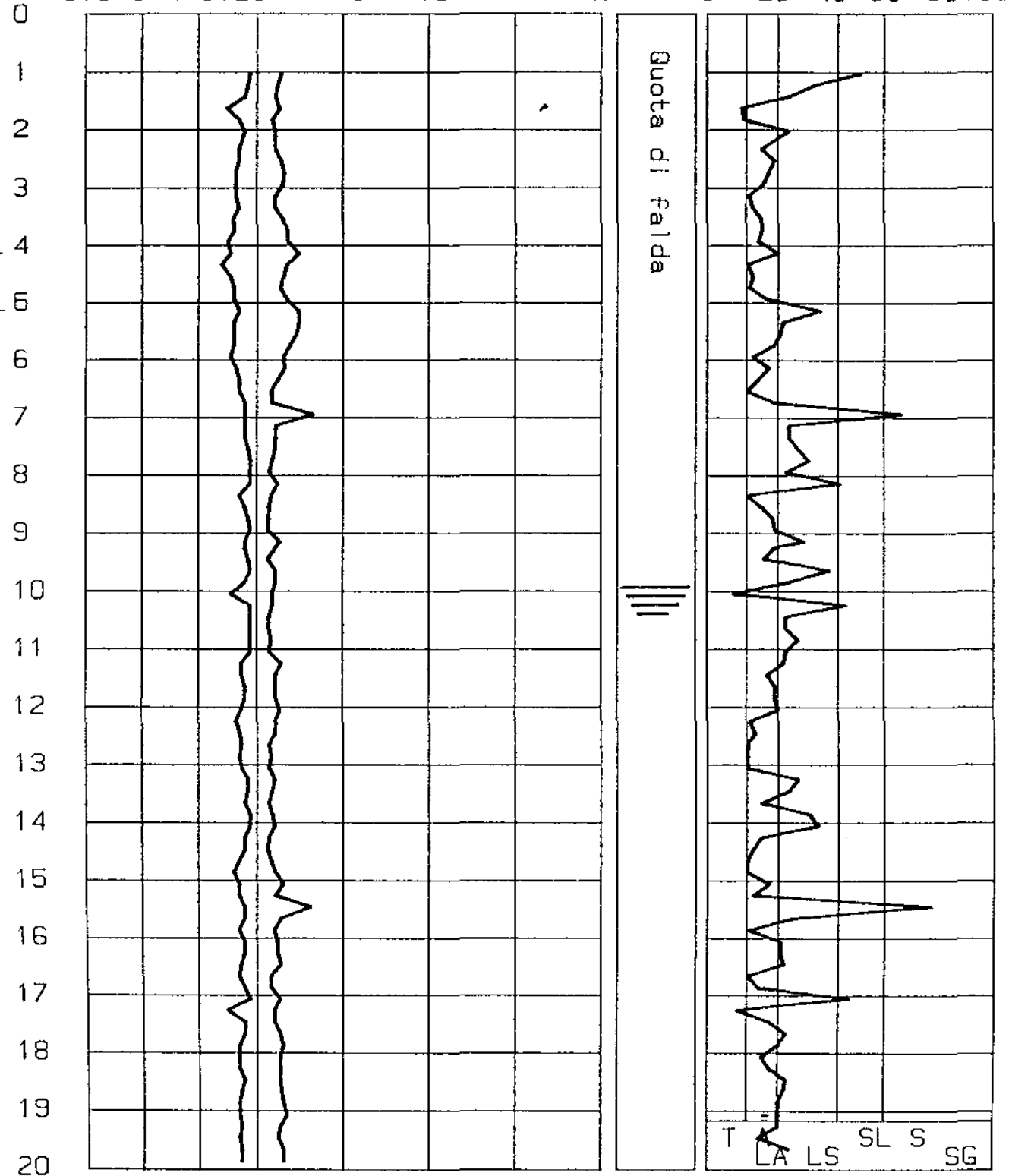
COSTRUZIONE DI EDIFICIO DIREZIONALE-COMMERCIALE

1335

Committente

FS (MN/MQ) QC (MN/MQ) QC/FS

0.6 0.4 0.20 5 10 15 20 0 20 40 60 80 100



CPT (CONE PENETROMETER TEST)

Picchetto n. P/4

Certif.n. 643-AA

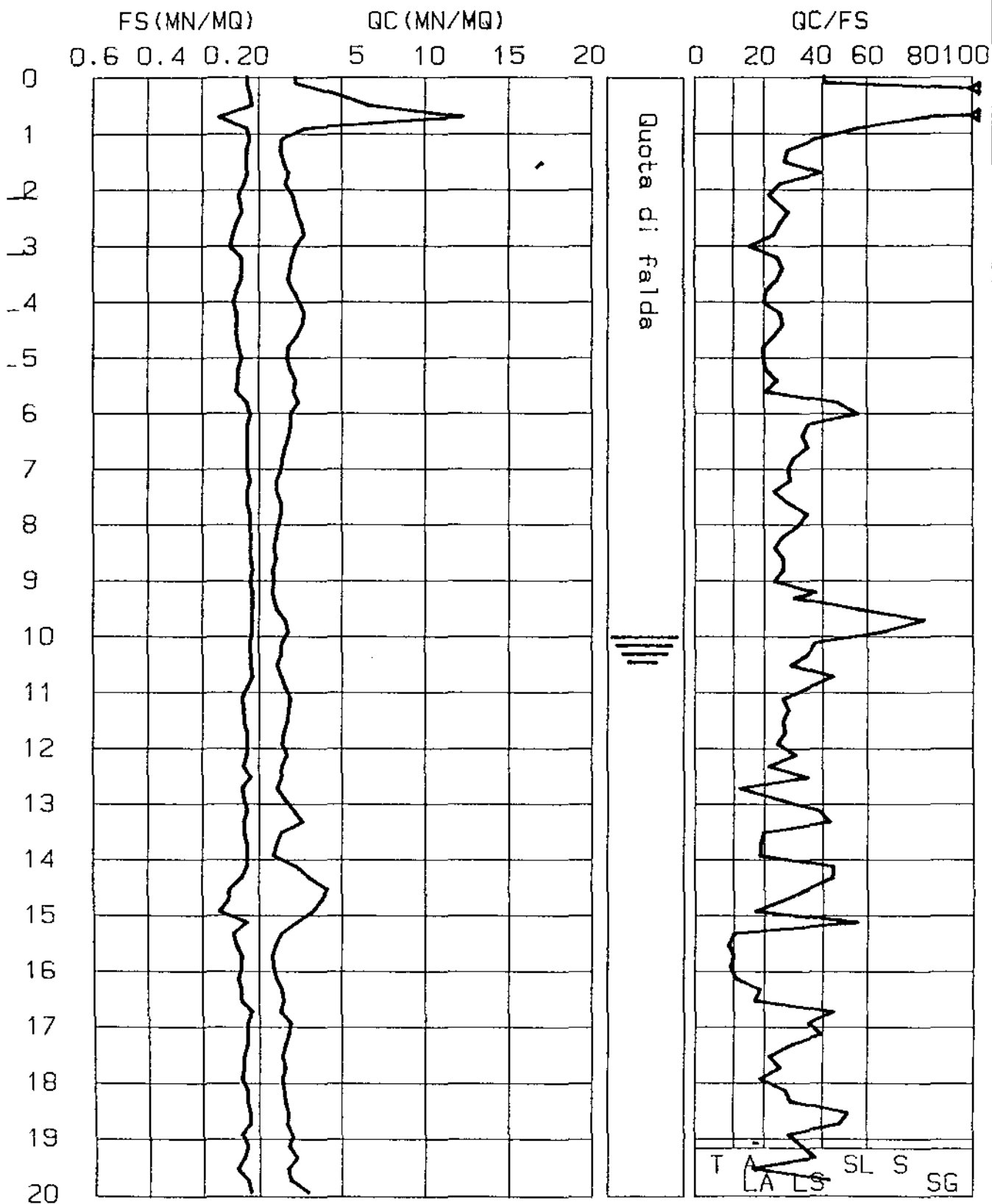
del 18/12/1990

Cantiere

COSTRUZIONE DI EDIFICIO DIREZIONALE-COMMERCIALE

1336

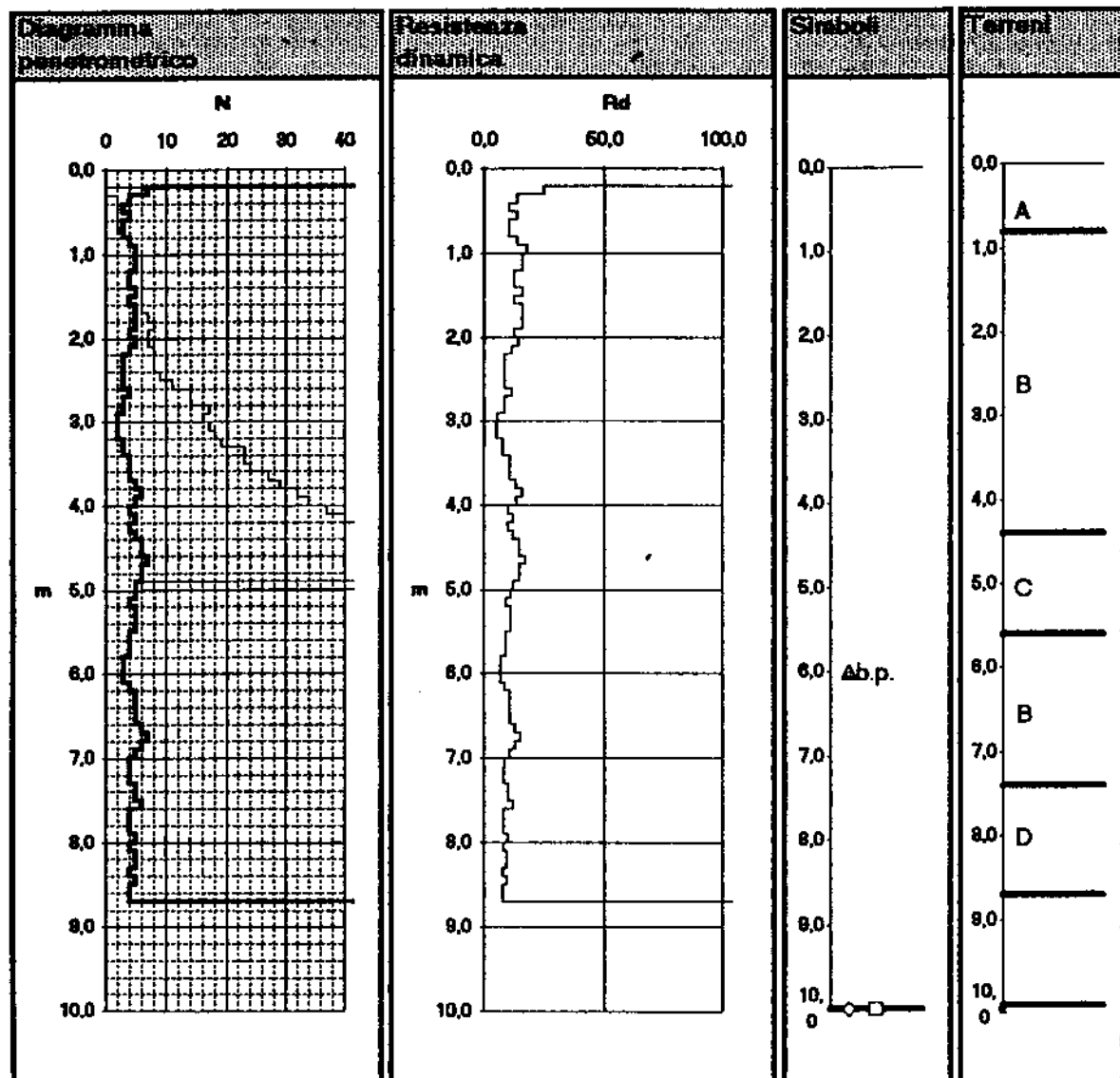
Committente



Dati generali

1337

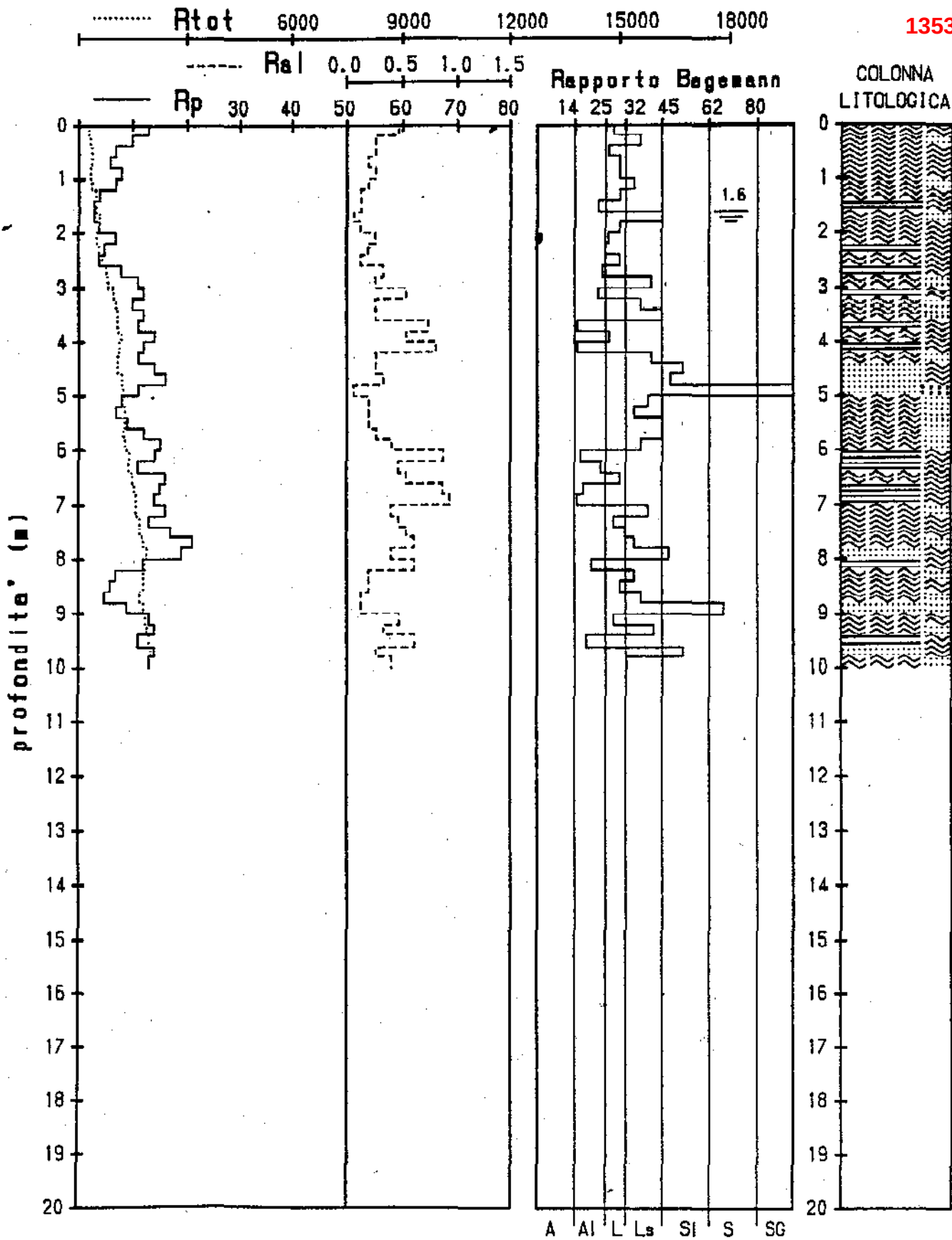
Committente		Prova	P 1
Località	S. Croce S/A (FI)	Prof.	0,0m
Data	20-ott-93	Note	N sign. fino 8.7 m

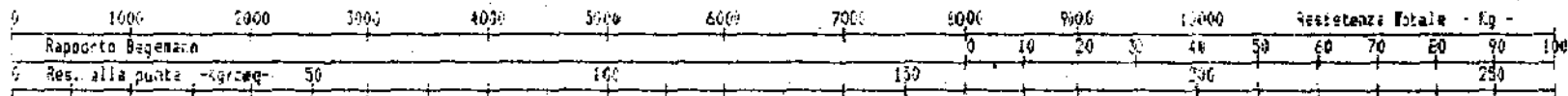


Legenda

- Colpi punta
- Colpi rivestimento
- Resist. dinamica (Kg/cm²)
- Superficie falda

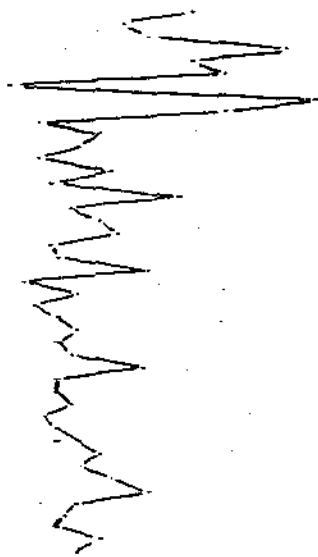
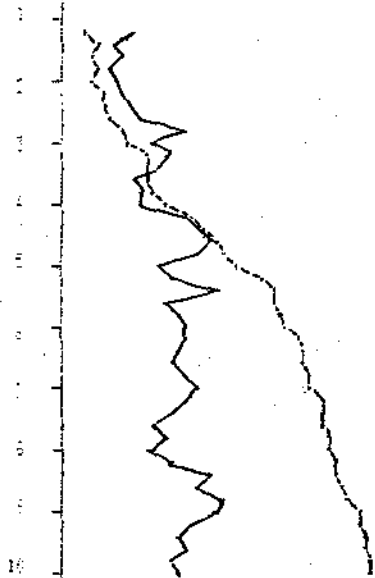
- Limite litologico
- △ Base piezometro
- Campioni
- ◇ Prova pressiometrica

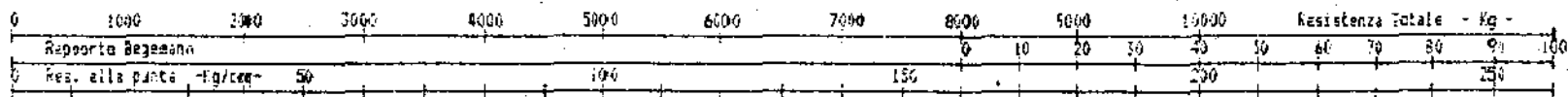




COLONNA
STRATIGRAFICA

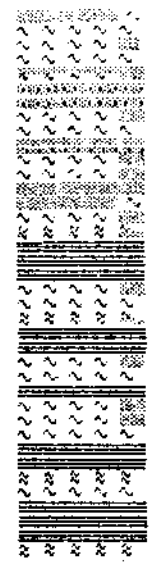
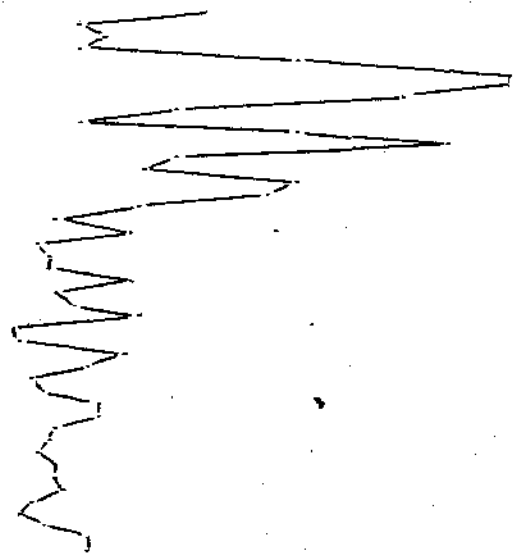
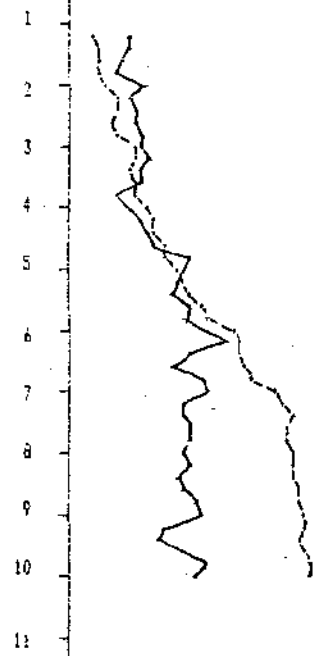
1354





COLONNA
STRATIGRAFICA

1355

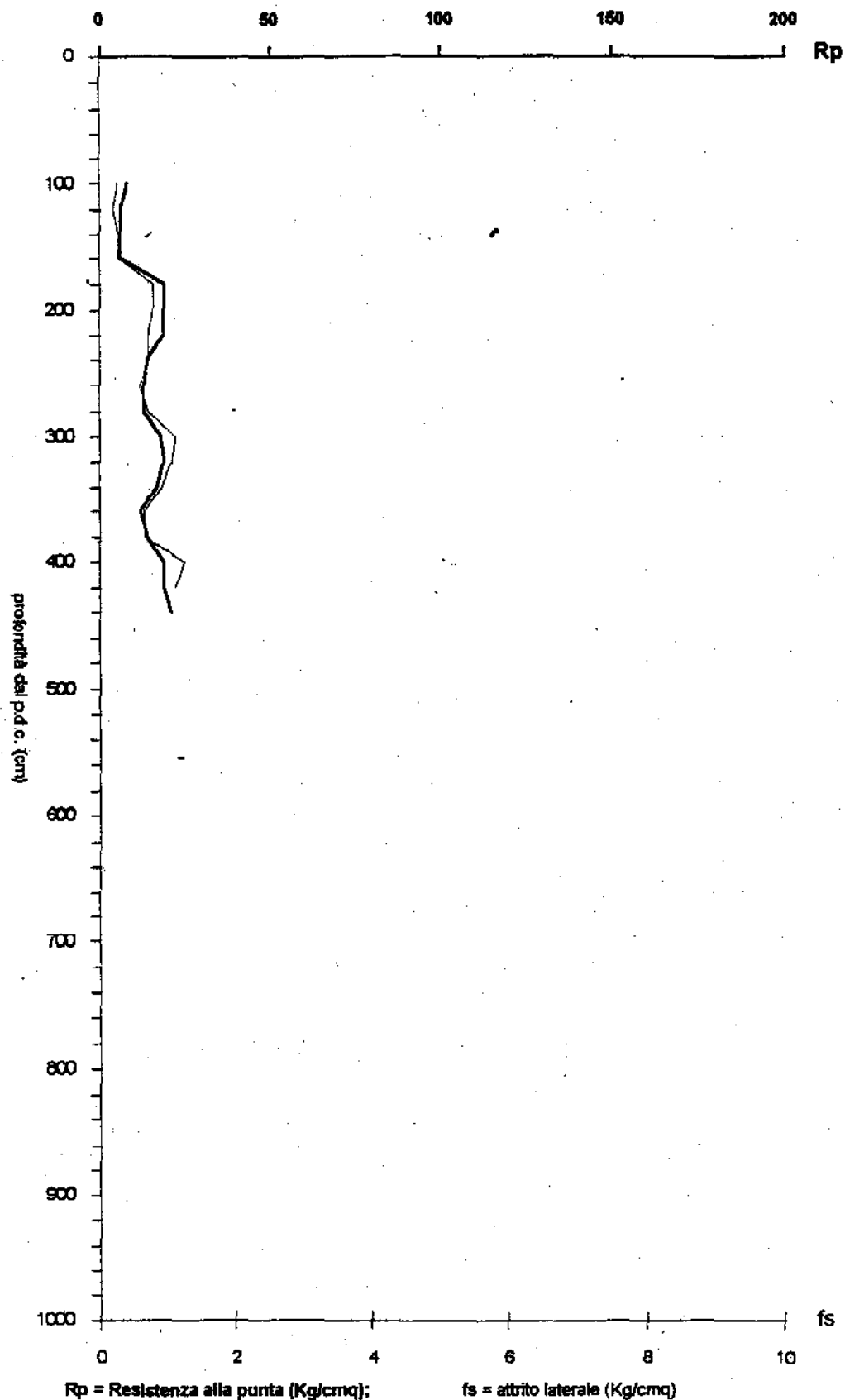


committente:

località: VIA CATTANEO - S.CROCE

1365

data: 20.01.1994 CPT n°: 1

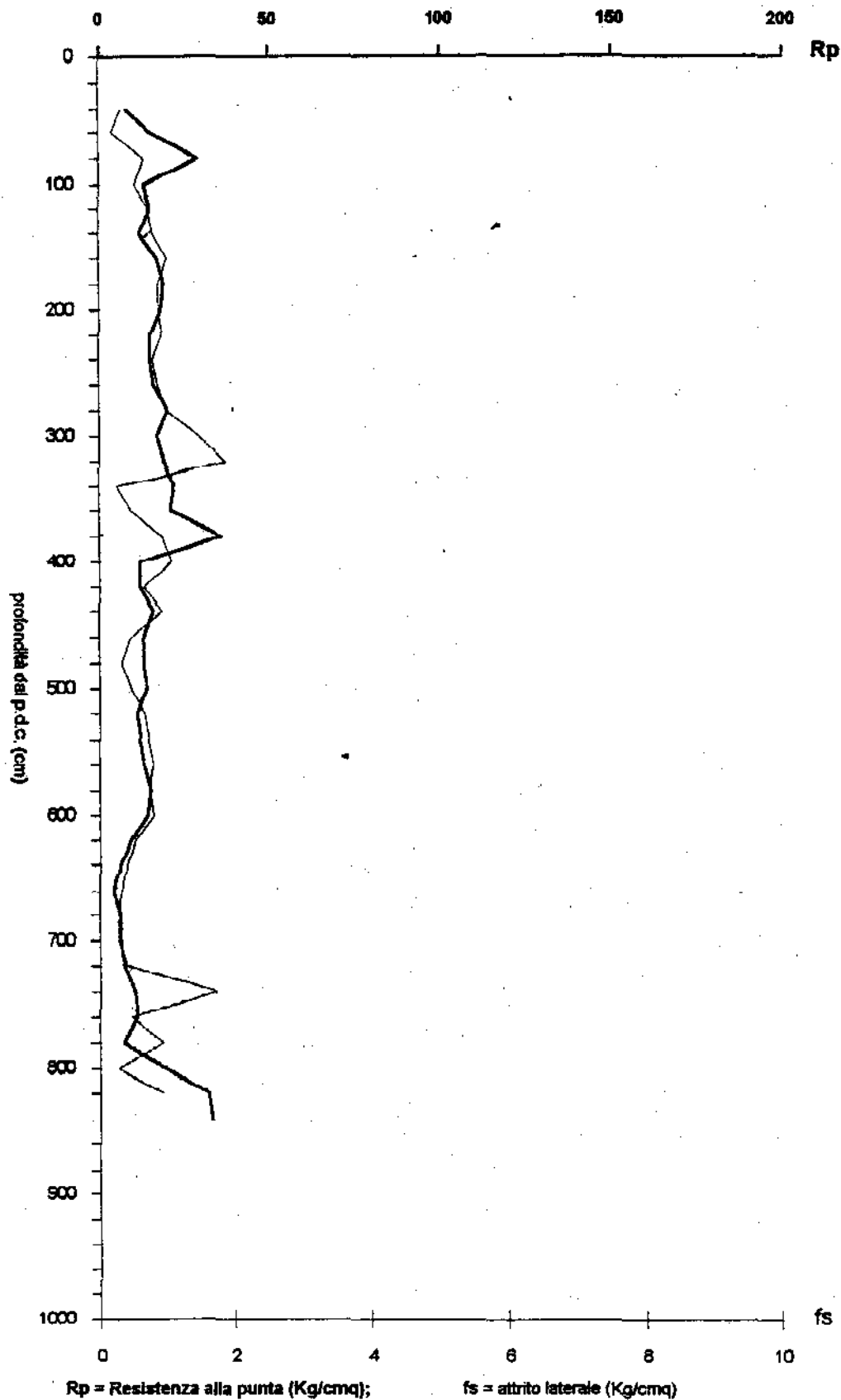


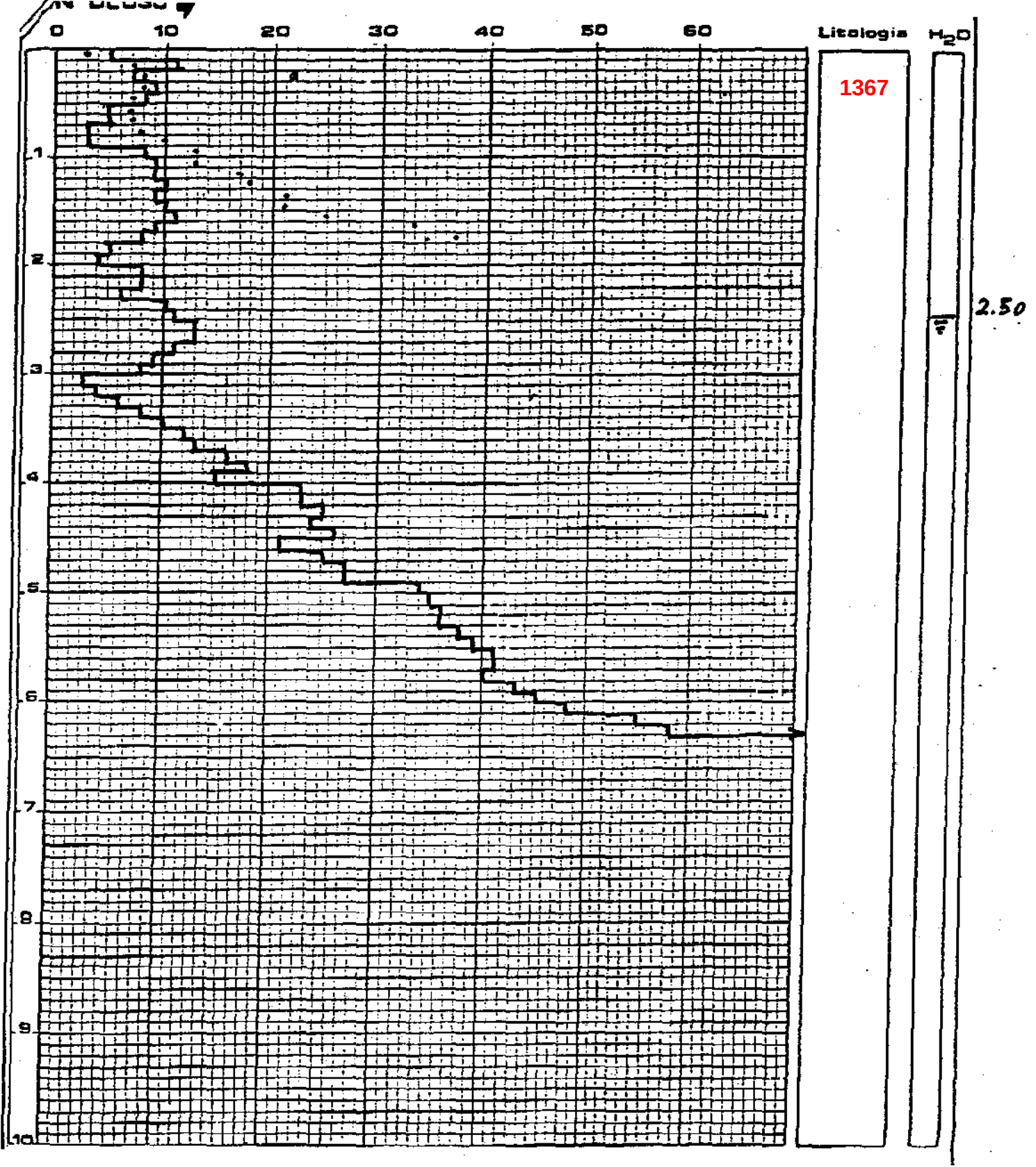
committente:

località: VIA CATTANEO - S.CROCE

1366

data: 20.01.1994 CPT n°: 2





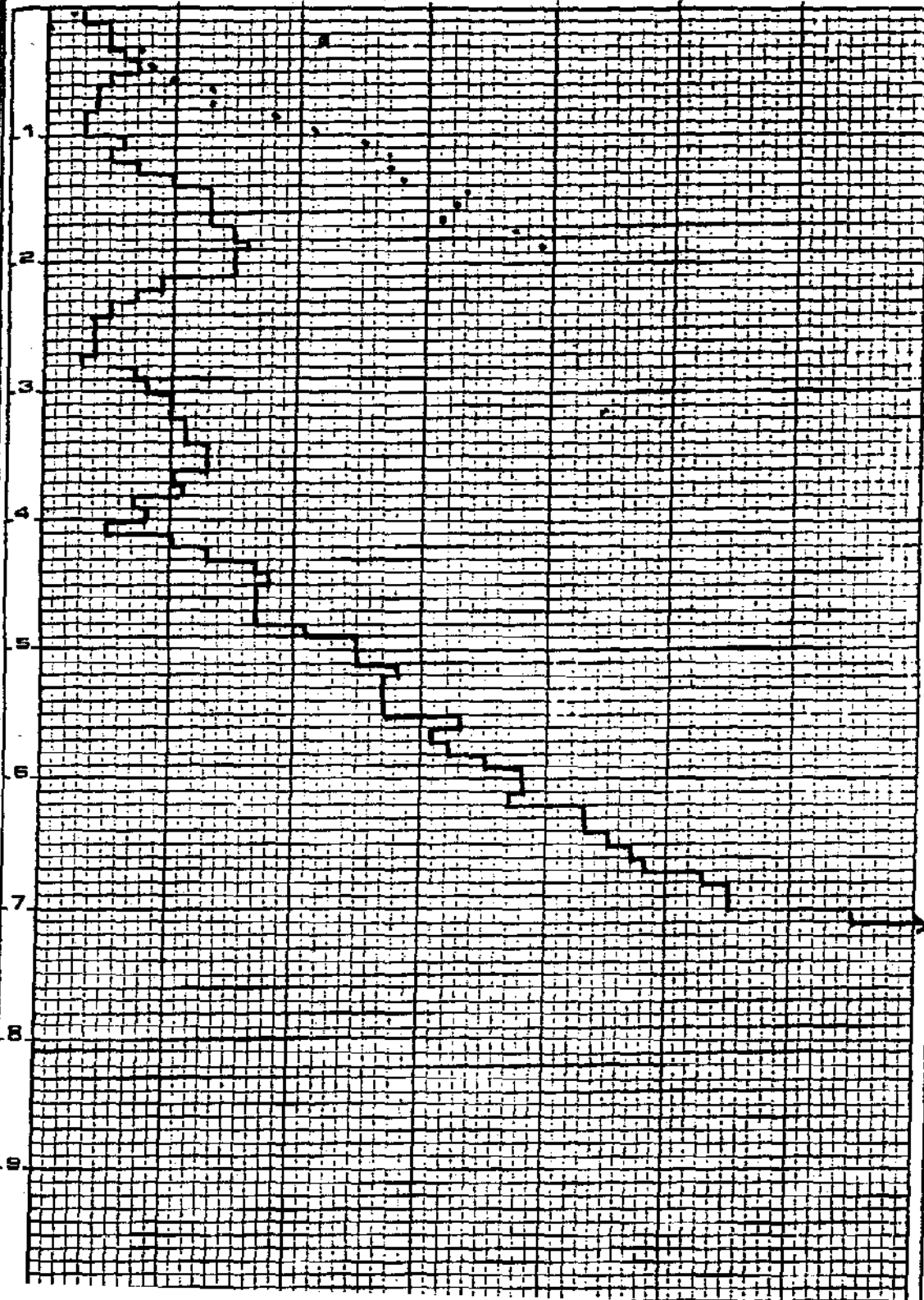
N DLO30

0 10 20 30 40 50 60

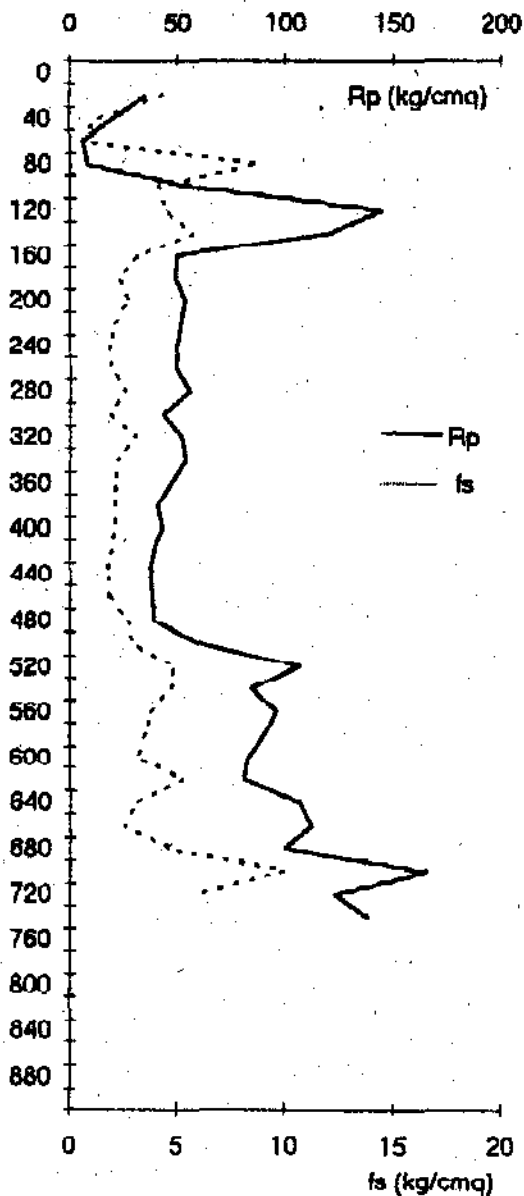
Litologia H₂O

1368

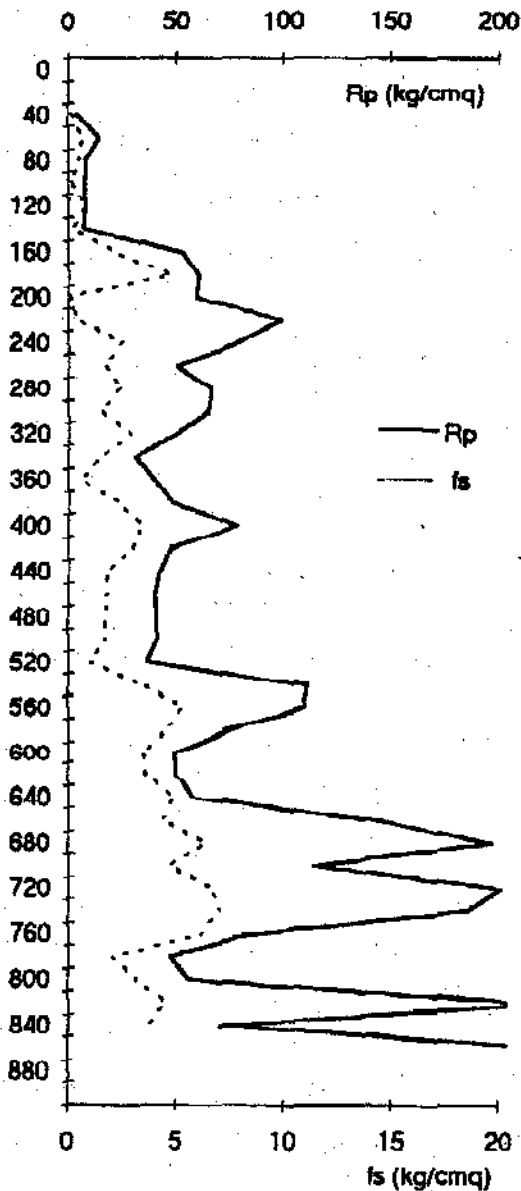
2.50



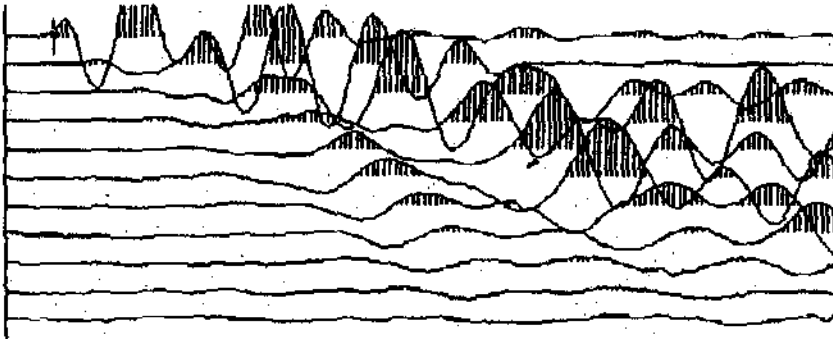
CPT n.0 - Staffoli (PI)



CPT n.1 - Staffoli (PI)



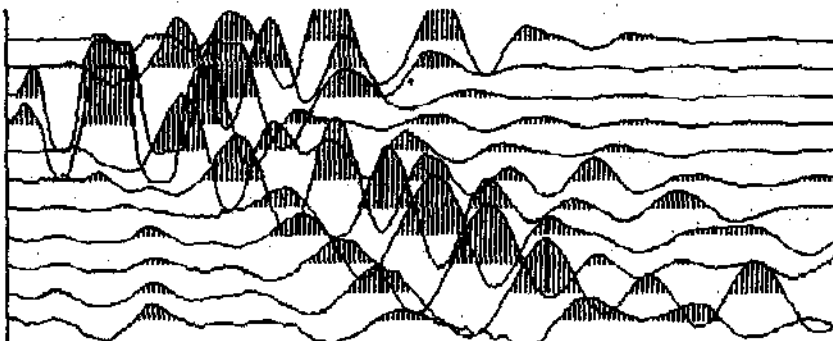
SISMOGRAMMI DI CAMPAGNA



staffola. A

Inizio. 12.00
Fine 12.30
Velocità 12.00
Amplif. 12.00

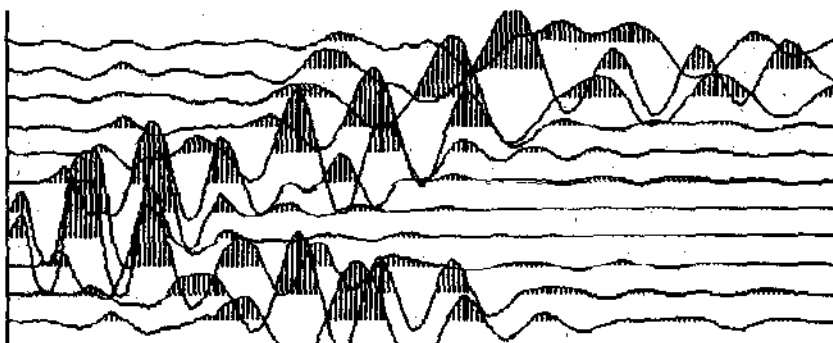
Dr. Geol.
Stragapede F.



staffola. A

Inizio. 12.00
Fine 12.30
Velocità 12.00
Amplif. 12.00

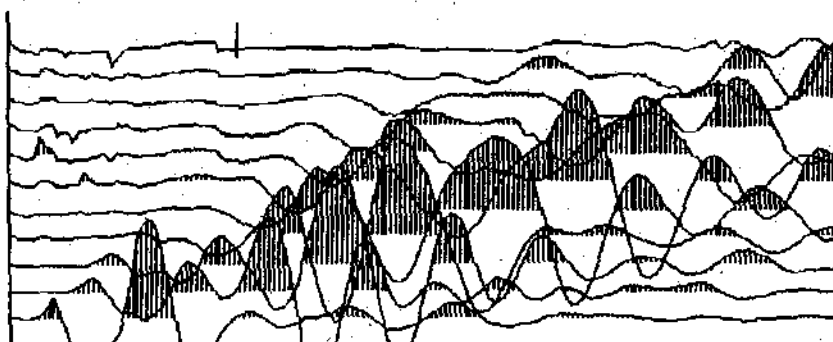
Dr. Geol.
Stragapede F.



staffola. A

Inizio. 12.00
Fine 12.30
Velocità 12.00
Amplif. 12.00

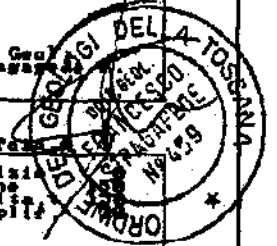
Dr. Geol.
Stragapede F.



staffola. A

Inizio. 12.00
Fine 12.30
Velocità 12.00
Amplif. 12.00

Dr. Geol.
Stragapede F.



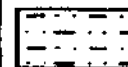
sezione geofisica - sismica a rifrazione

1385

LEGENDA



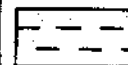
Terrani sabbioso-cret. con limo ($V_p=500-700$ m/sec)



limi ed argille sabbiose con sabbie ($V_p=900-1000$ m/sec)



argille con limi sabb. ($V_p=1300-1500$) con folds.



sabbie con limi sabbiosi (ca. $1000-1300$ m/sec)



Tempi dei primi arrivi di geofoni



Distanza dalla superficie topografica del limite di strato all'involuppo degli archi

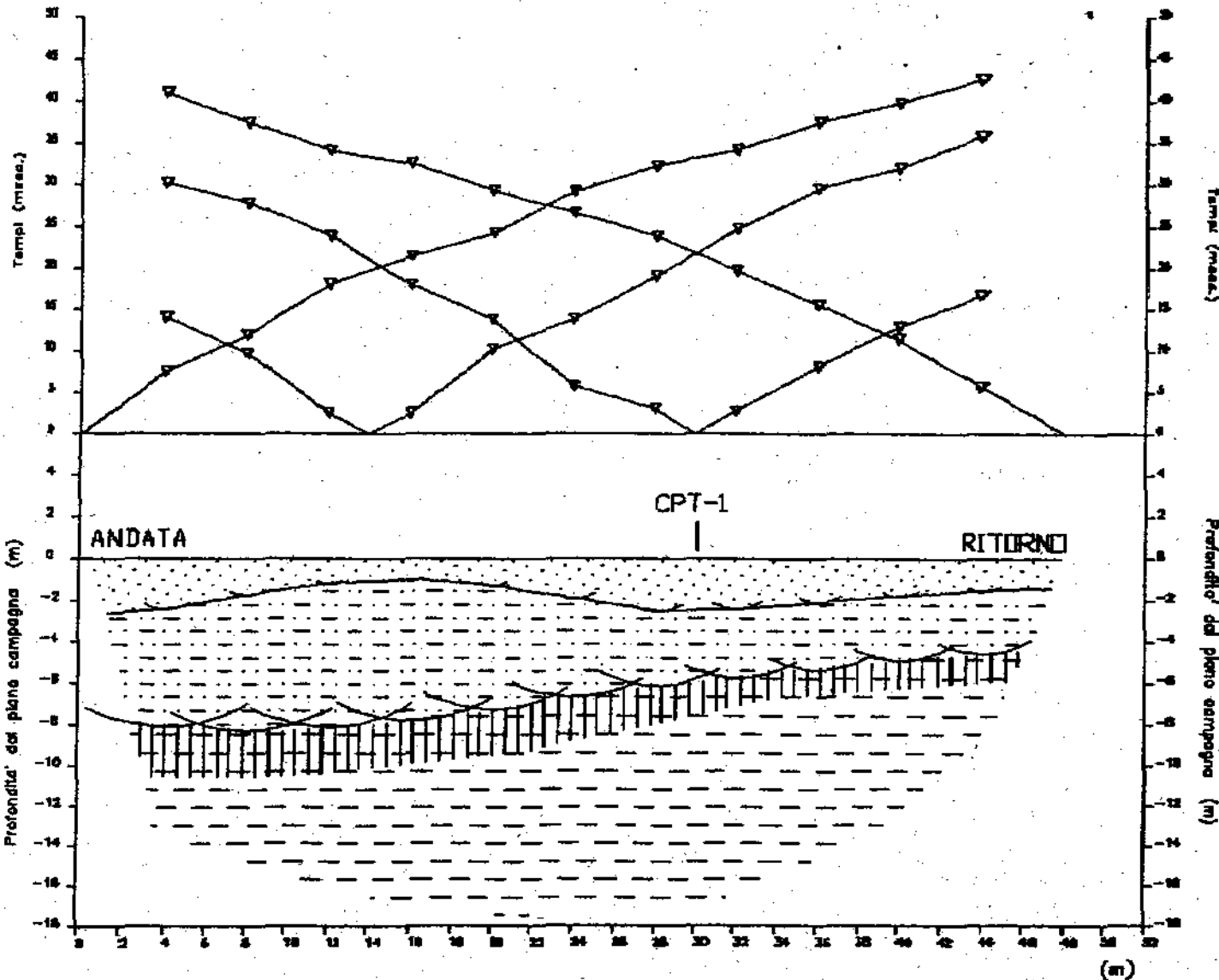


tabella parametri elasto-meccanici

FACIES LITOLOGICA STRATO	Vel. onde P m/s	Vel. onde S m/s	mod. Poisson	mod Young din. kg/cmq	mod Young stat. kg/cmq	ID (Vp/Vs)%	IQ (Vp/Vt)%	densita' nat. gr/cm ³	Nspt	angolo attrito gradi	carico UCS kg/cmq
I - terr. sabb.-ciott. di copertura	600-700	200-250	0.43-0.44	—	—	2.8-3.0	<25	1.7-1.8	5-15	13-15	<1.0
II - limi - argille marcat.sabbiose	900-1000	450-500	0.32-0.34	10000-15000	120 (m 2.0-4.0) 80 (m 4.0-7.5)	1.9-2.1	30-45	1.8-2.0	15-25	28-31	2.5-3.0
III - argille (OCR >6) con limi sab.	1300-1500	750-850	0.29-0.31	30000-35000	350	1.8-1.9	40-50	2.1-2.2	30-40	—	3.2-4.5
IV - sabbie con limi argillosi	(1000-1300)	—	—	(15000-20000)	-130	2.2-2.4	35-45	2.0-2.1	15-30	21-23	—

Rp (Kg/cm²)

Rapporto Begemann

0 10 20 30 40 50 60 70 80 90 100

Ar L S Ghiaia

P
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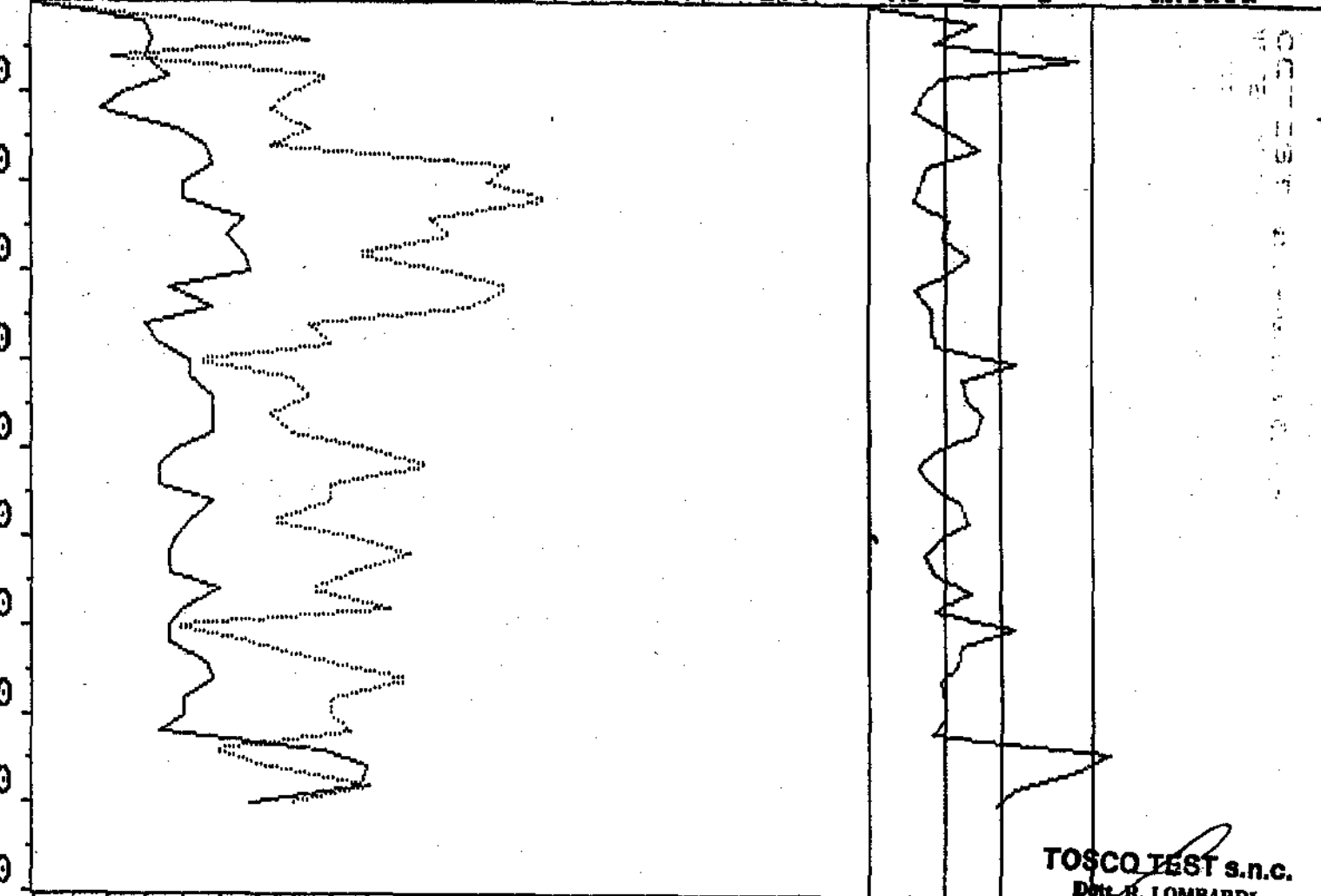
m.

1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0

Rl (Kg/cm²)

0 0.50 1.00 1.50 2.00 2.50

TOSCO TEST s.n.c.
Dott. R. LOMBARDI

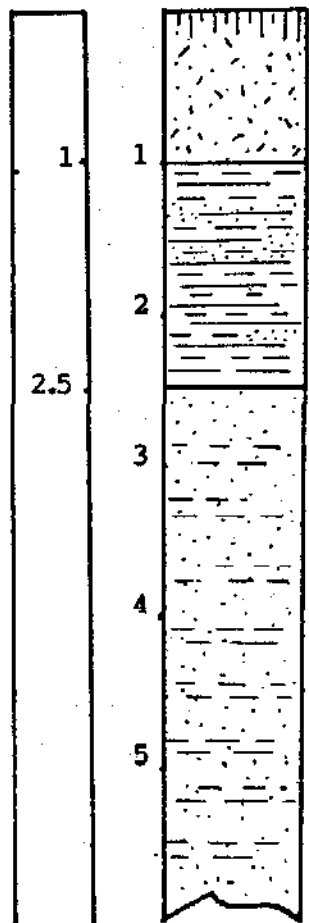


Profondità
(m)

Stratigraf.

DESCRIZIONE LITOLOGICA

1397



Terreno superficiale

Limo argilloso da poco a med. compatto a tratti deb. sabbioso di color giallastro

Sabbie fini con limo

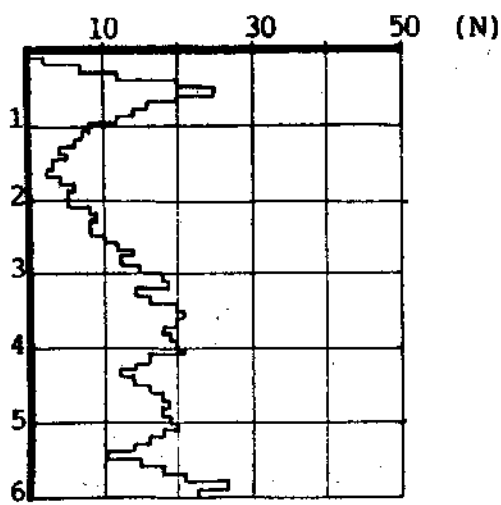
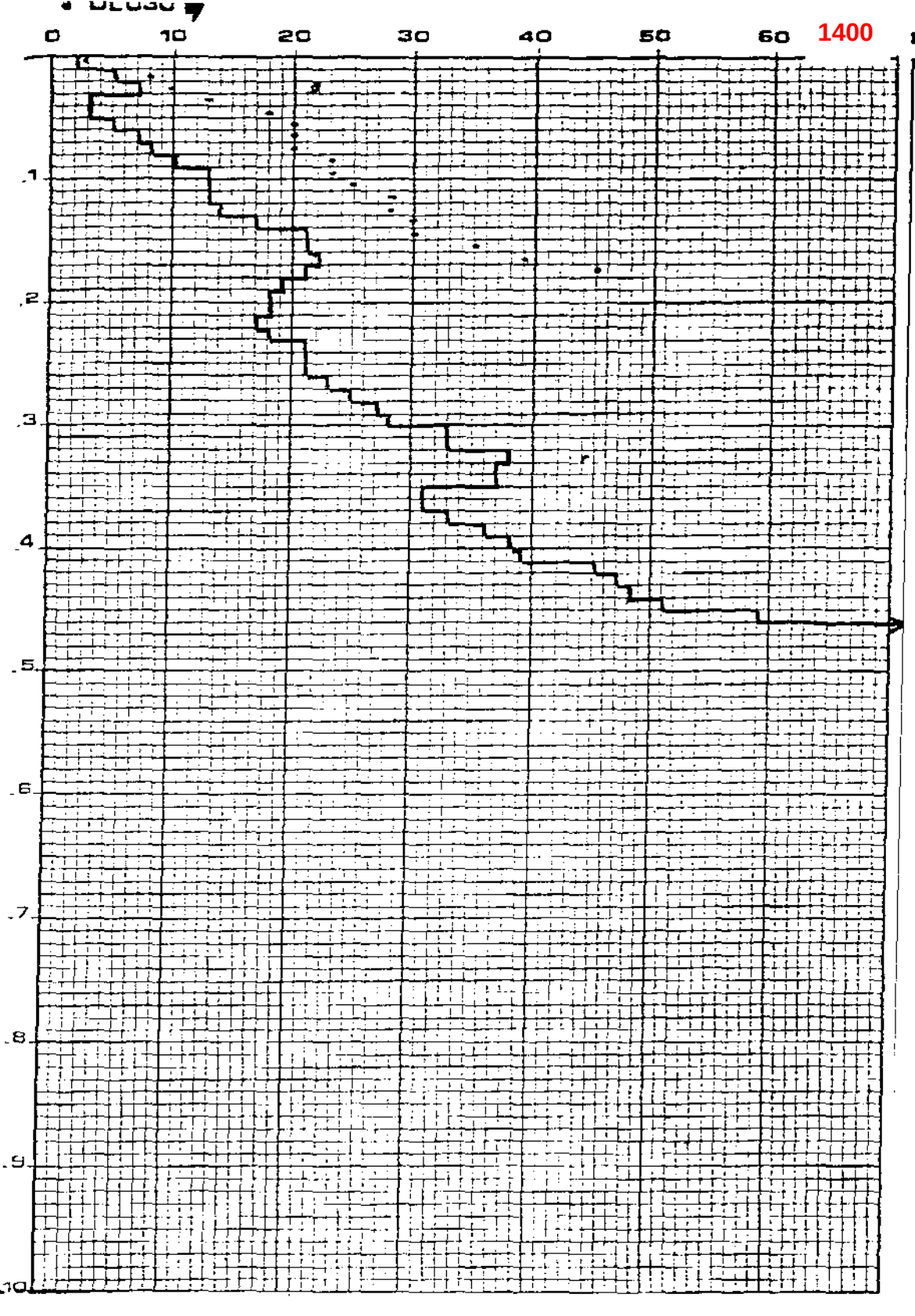


FIG. 5

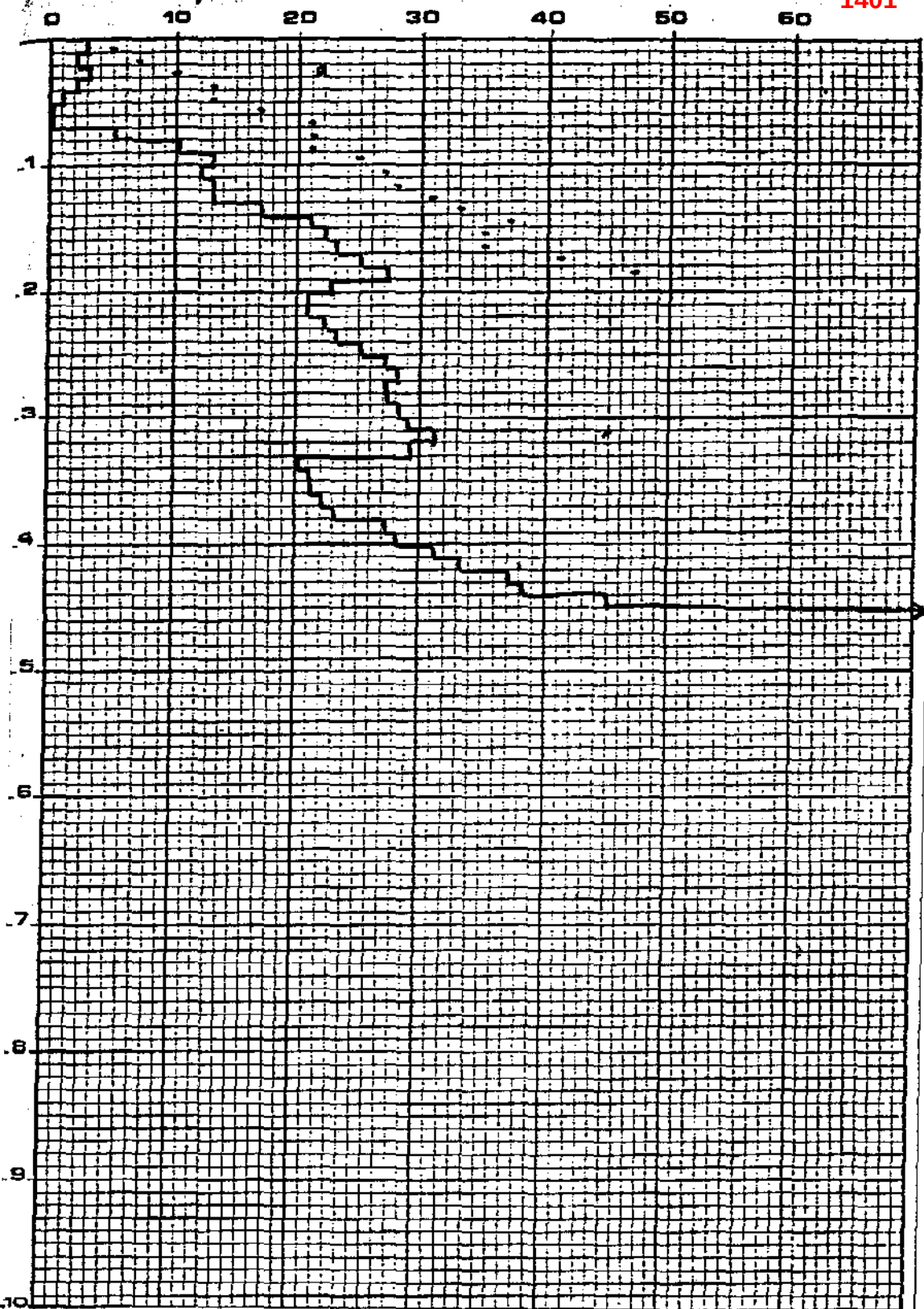
DIAGRAMA PROVA PENETROMETRICA

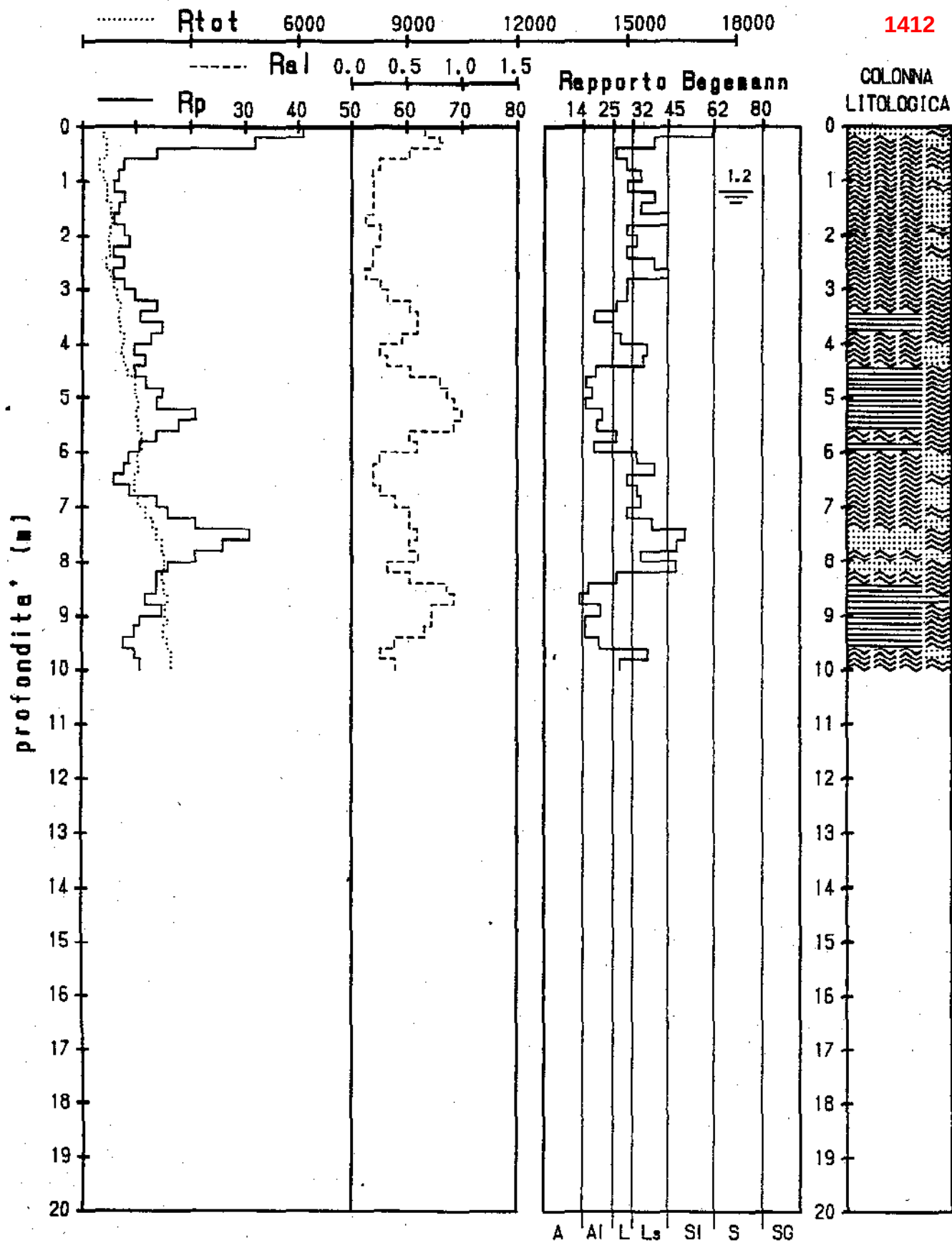


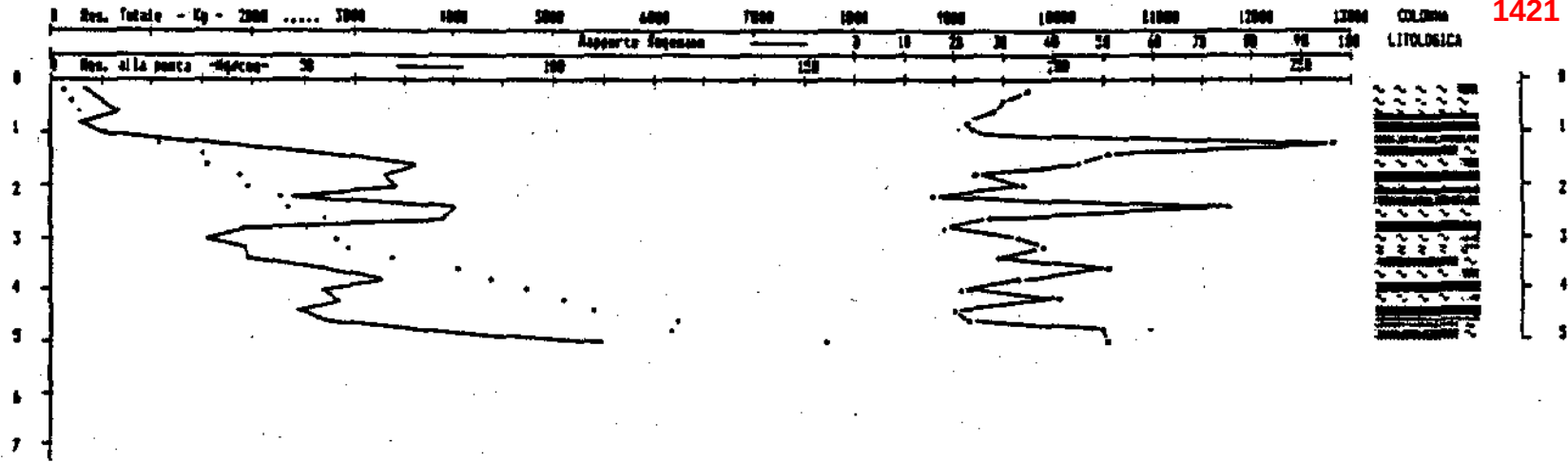
N 01030

STATION 1401

1401







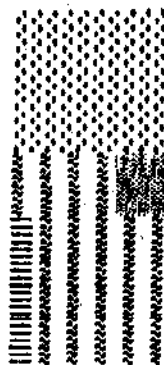
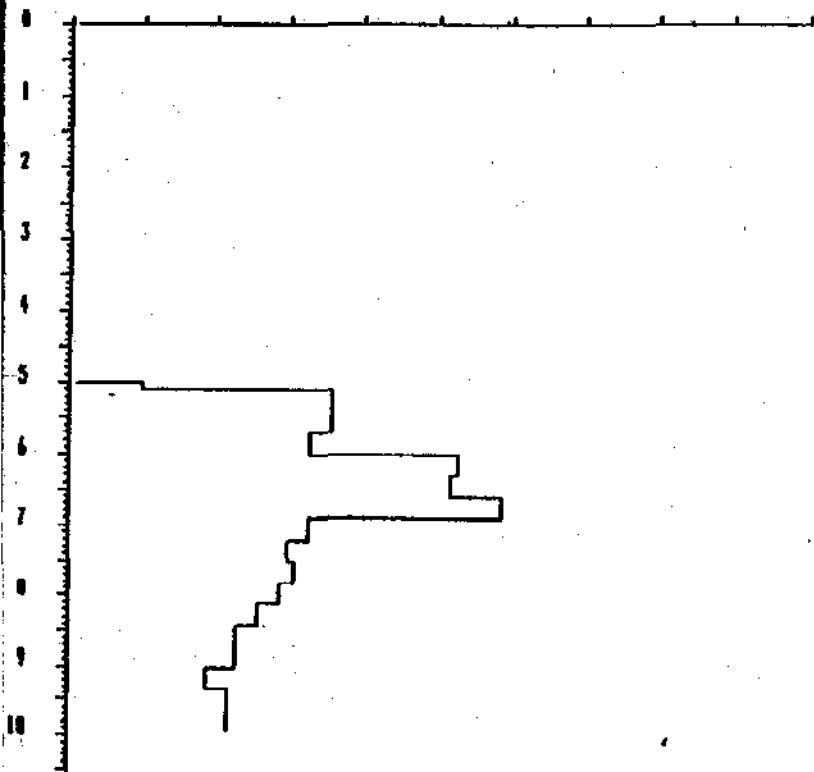
1422

COLONNA
LITTOLOGICA

50

(M)

100



FS (MN/MQ)

QC (MN/MQ)

1423

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80

0

1

2

3

4

5

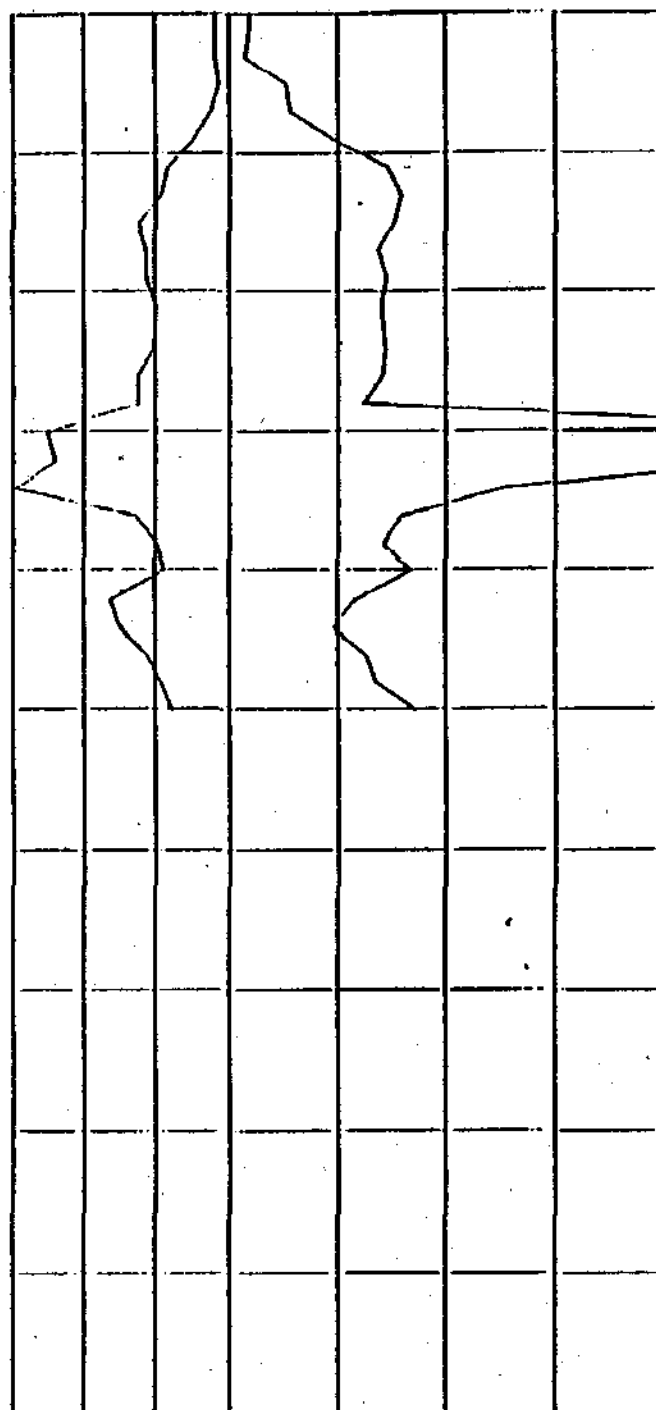
6

7

8

9

10



Quota di falda

T

CA LS

SL

S

FS (MN/MQ)

QC (MN/MQ)

1424

QC/F²

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

1

2

3

4

5

6

7

8

9

10

Quota di falda

T

A

LS

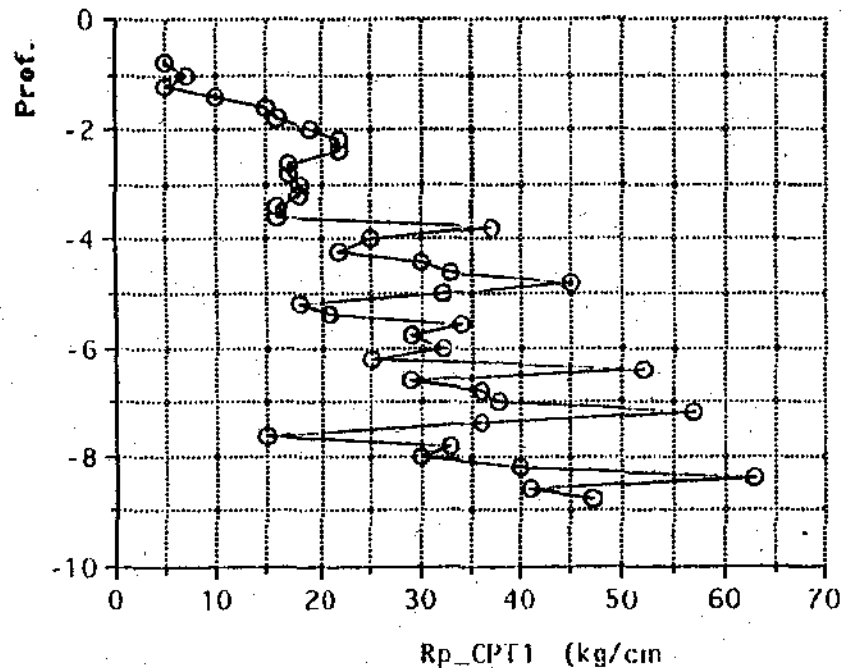
SL

S

SG

CPT 1

—○— Rp_CPT1



COLONNA STRATIGRAFICA

1432

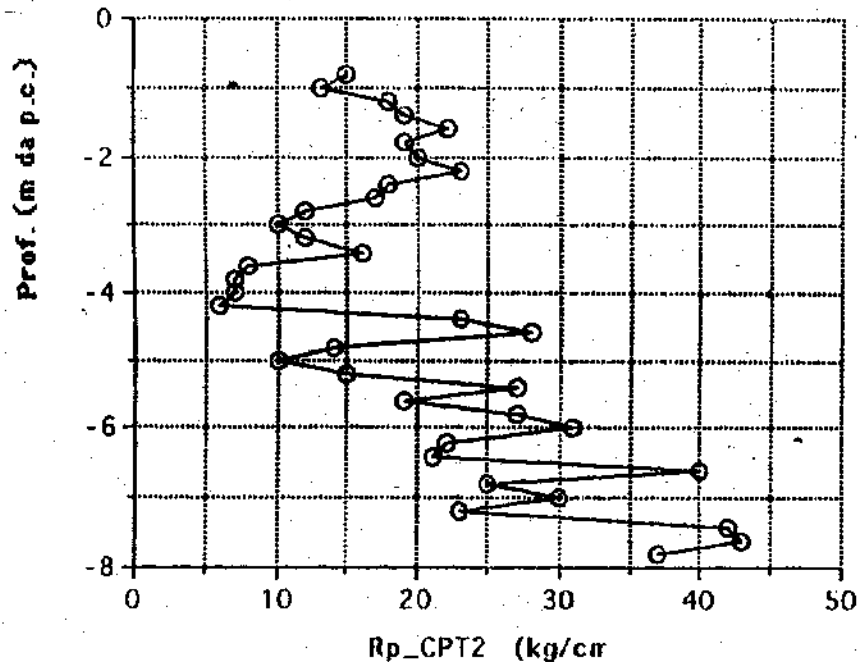
Rp/RI (Begeman 1968)

5 15 30 60 200



CPT 2

—○— Rp_CPT2

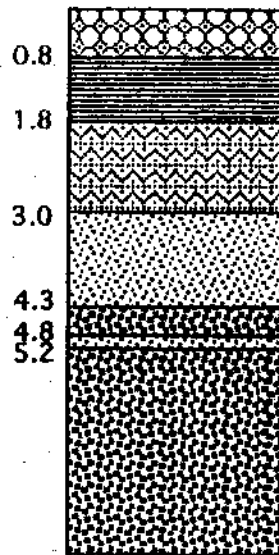


COLONNA STRATIGRAFICA

1433

Rp/Ri (Begeman 1985)

5 15 30 60 200



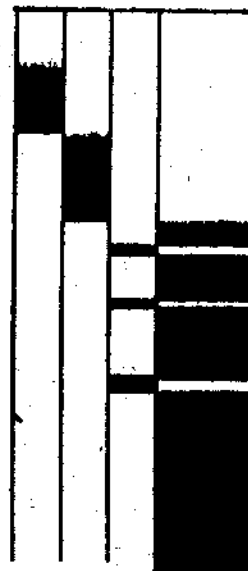
Riporto consistente

Torbe ed argille organiche

Limi argille e sabbie
mediamente compatte

Sabbie limose e sabbie
sciolte

Sabbie e ghiaie



Resistenza alla punta [Kg/cm²] —

0 10 20 30 40 50 60 70 80 90 100

Fr

L

S

G

P
R
O
F
O
N
D
I
T
A'

i
n

m.1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0Resistenza laterale [Kg/cm²]

0 0.50 1.00 1.50 2.00 2.50

TOSCO TEST S.p.A.

Bologna

FS (MN/MQ)

QC (MN/MQ)

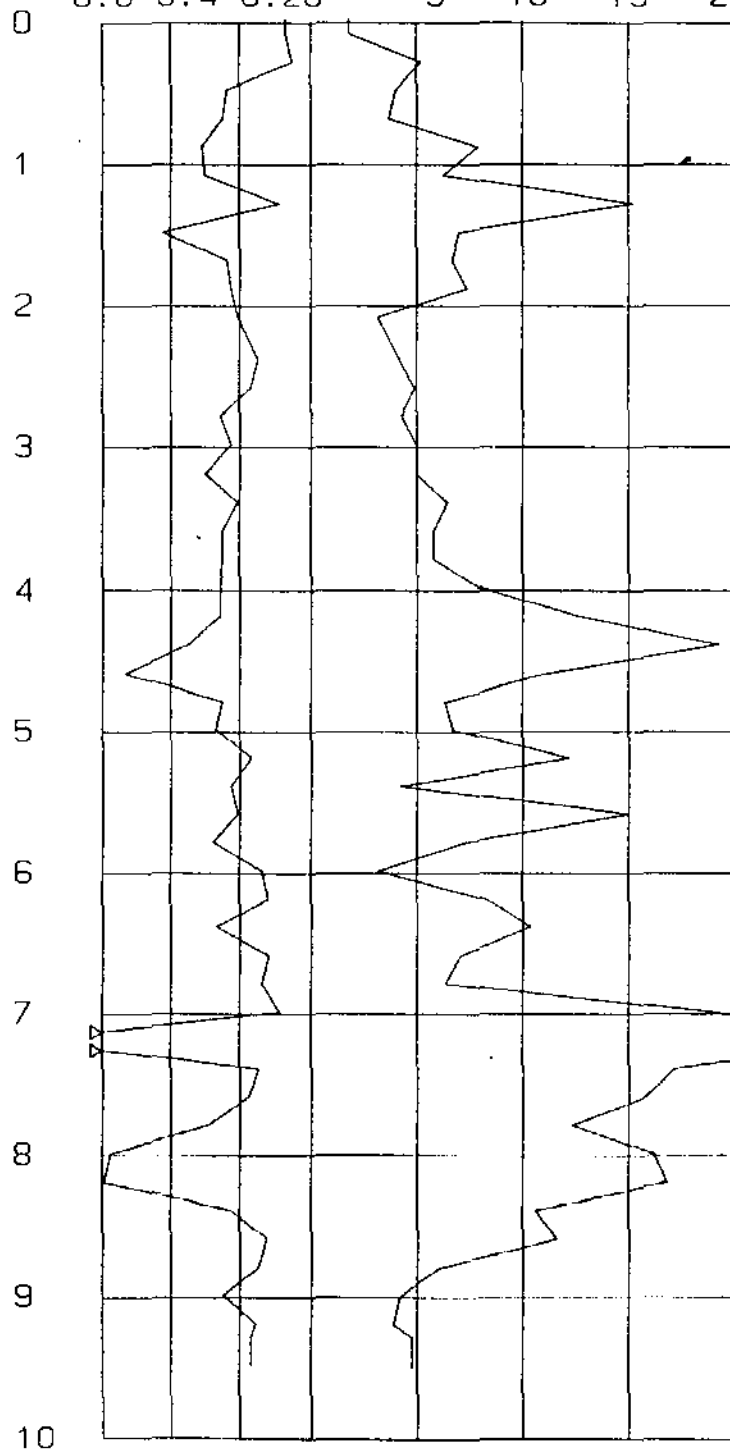
1440

QC/FS

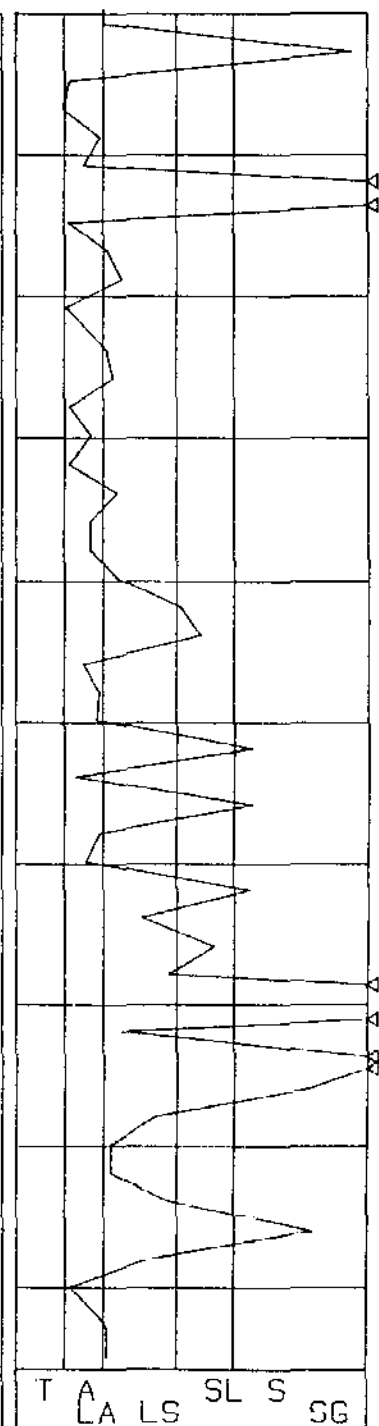
0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100



Quota di falda



T A LA LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

1441

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

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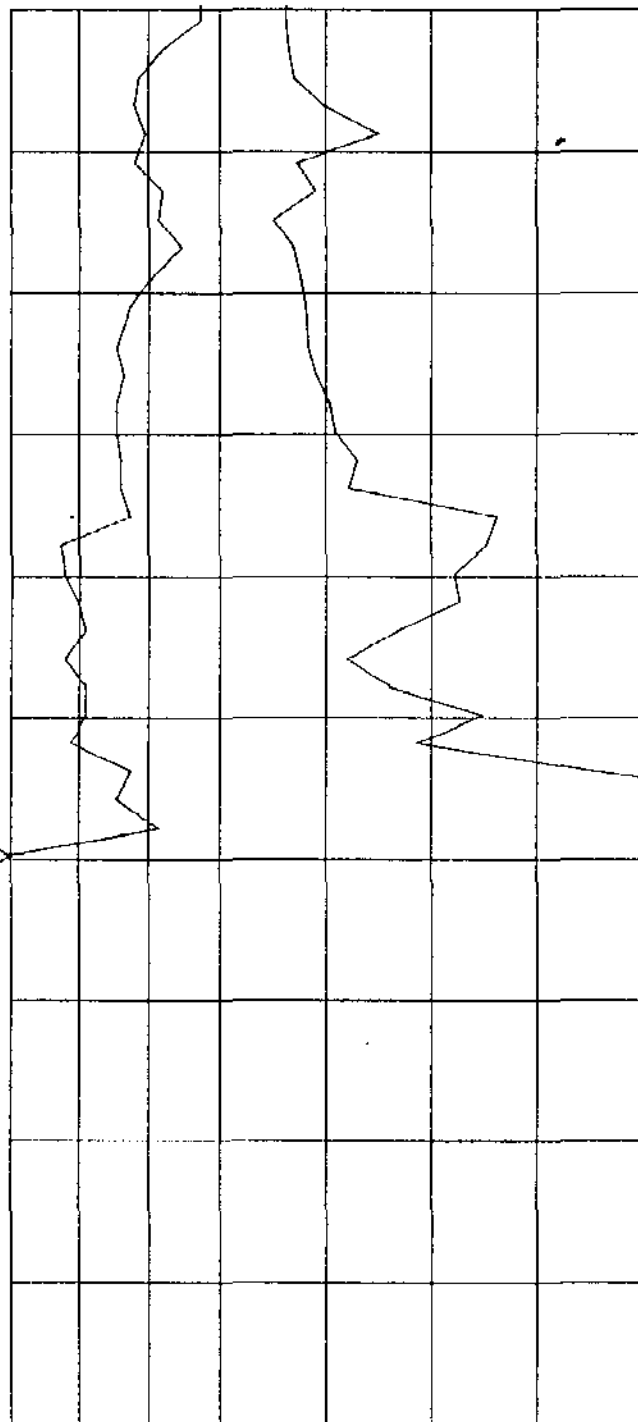
6

7

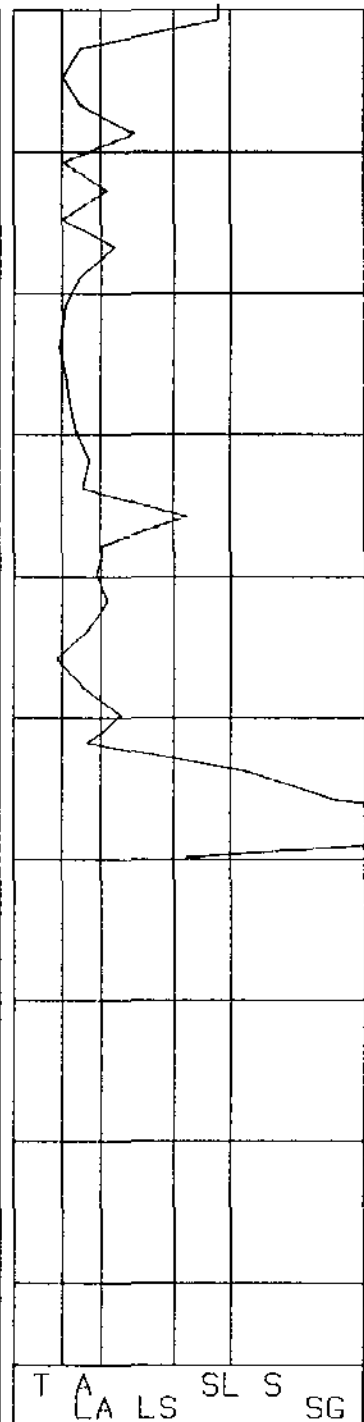
8

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10



Quota di falda

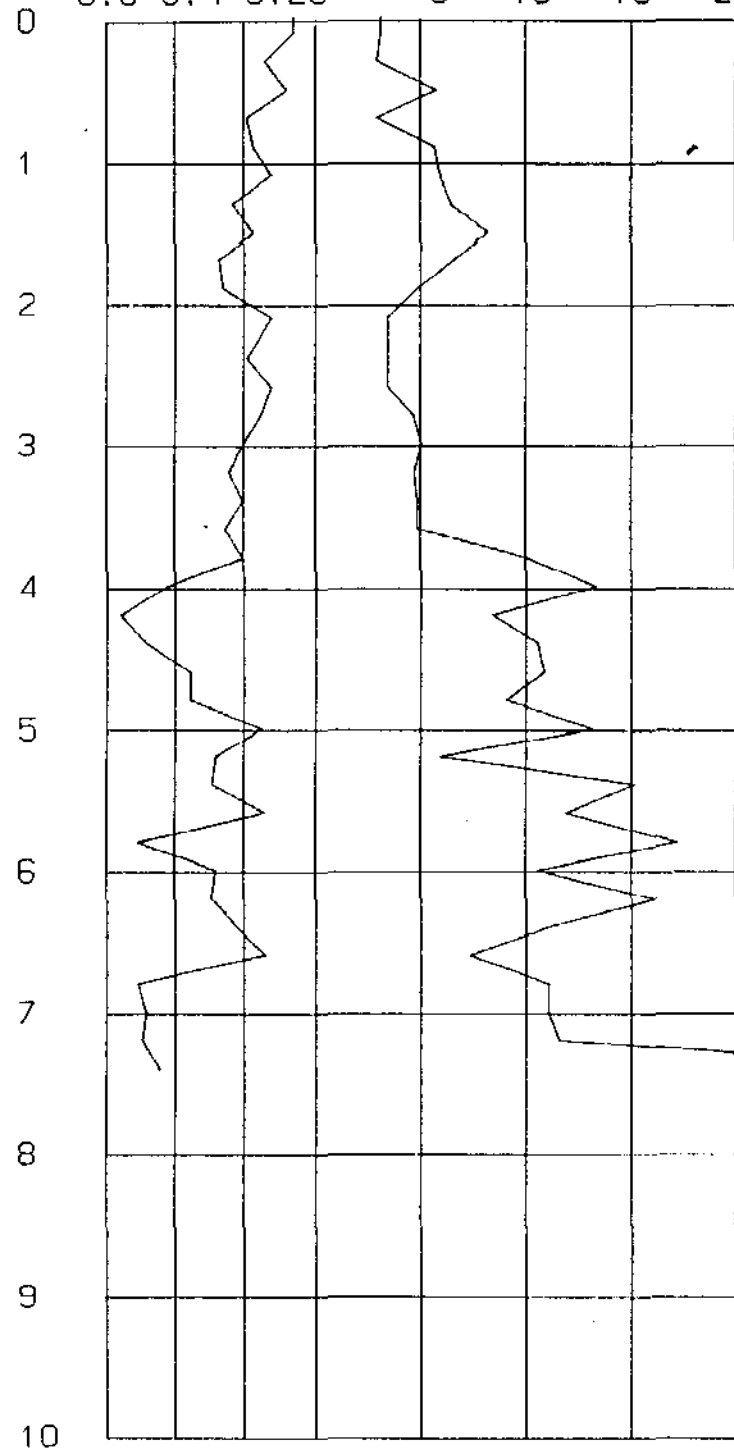
T A SL S SG
LA LS

FS (MN/MQ) QC (MN/MQ) 1442 QC/FS

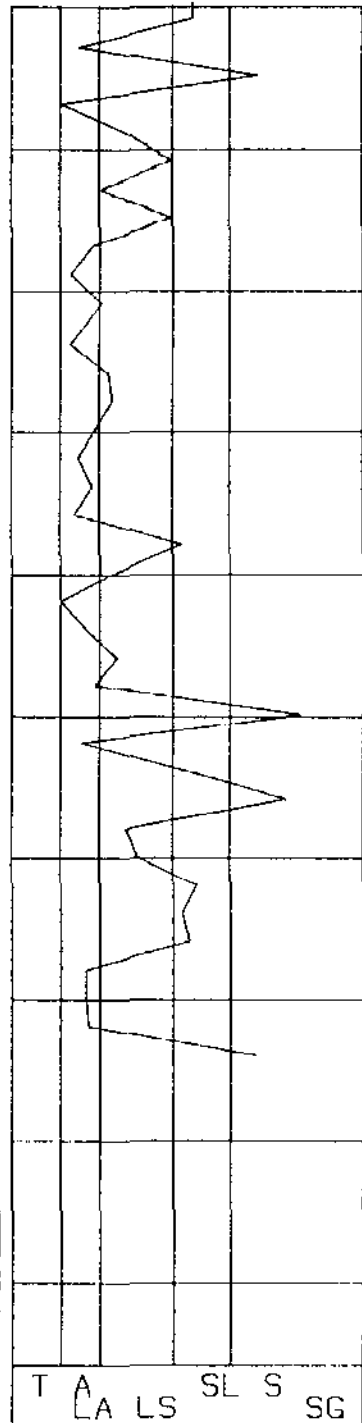
0.6 0.4 0.20

5 10 15 20

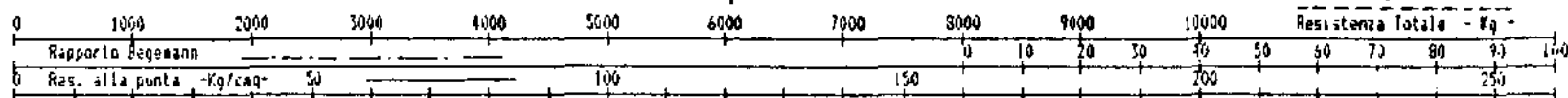
0 20 40 60 80 100



Quota ci falda

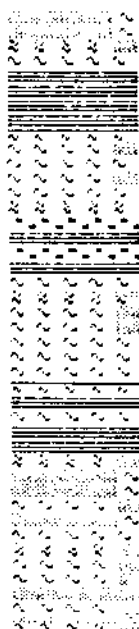


T A LA LS SL S SG



COLONNA
STRATIGRAFICA

1447



FS (MN/MQ)

QC (MN/MQ)

1454

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

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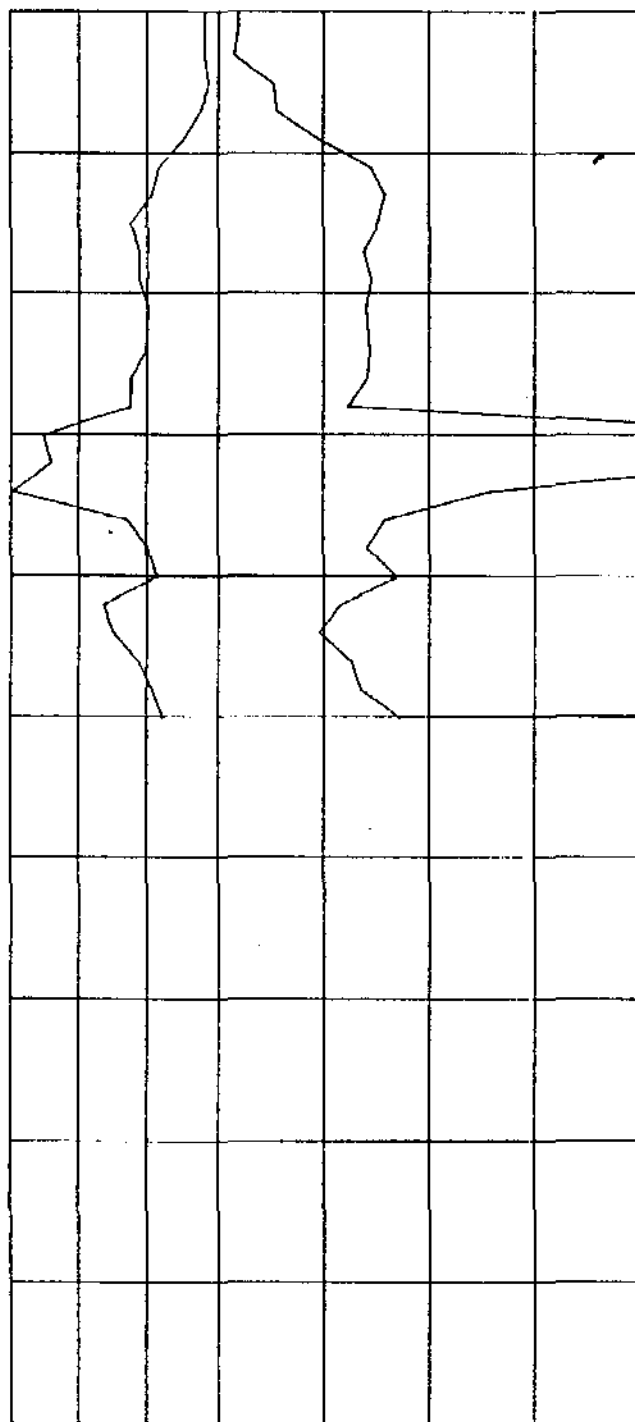
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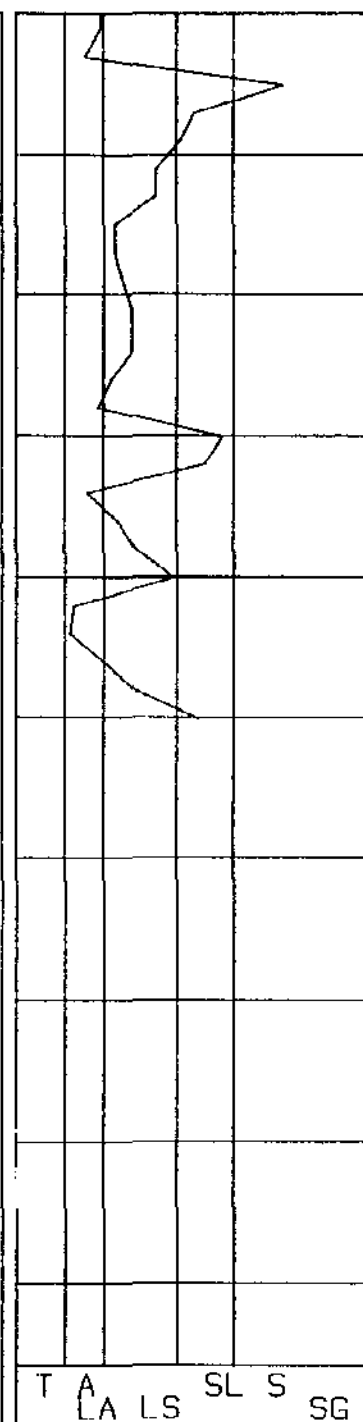
8

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Quota di falda



T A LA LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

QC/FS

1455

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

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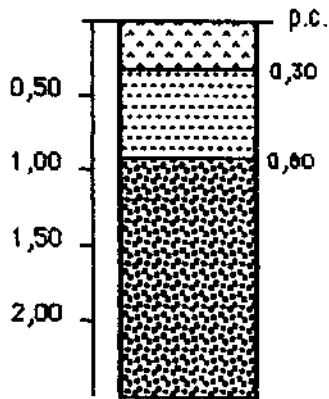
10

Quota di falda

T A SL S SG
LA LS

S 1

1491



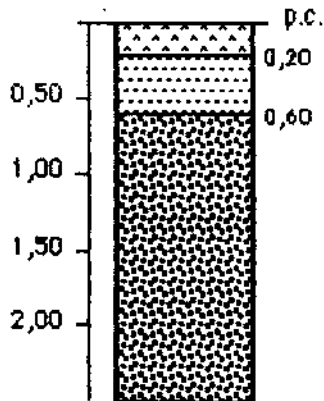
terreno vegetale limoso debolmente sabbioso, marrone-rossastro, asciutto

limo debolmente sabbioso marrone-rossastro

ghiaia e ciottoli arrotondati in matrice limo-sabbiosa
da rossastra a marrone-giallastra e grigia

S 2

1492



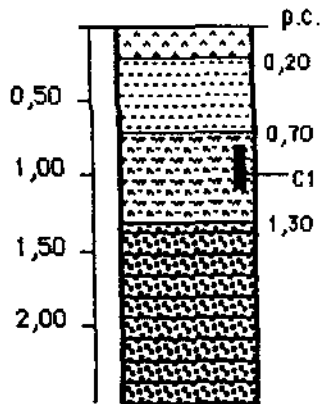
terreno vegetale limoso debolmente sabbioso

limo debolmente sabbioso marrone-rossastro

ghiaia e ciottoli arrotondati in matrice limo-sabbiosa
da rossastra a marrone-giallastra e grigia

S 3

1493



terreno vegetale limoso-sabbioso

limo da argilloso a debolmente sabbioso, marrone-rossastro,

c.s. con frustoli carboniosi e frammenti lapidei alterati, marrone-rossastro con variegature biancastre

ghiaia e ciottoli, spesso alterati, in matrice limoso-argillosa, debolmente sabbiosa, marrone-rossastra con variegature biancastre

FS (MN/MQ)

QC (MN/MQ)

QC/FS

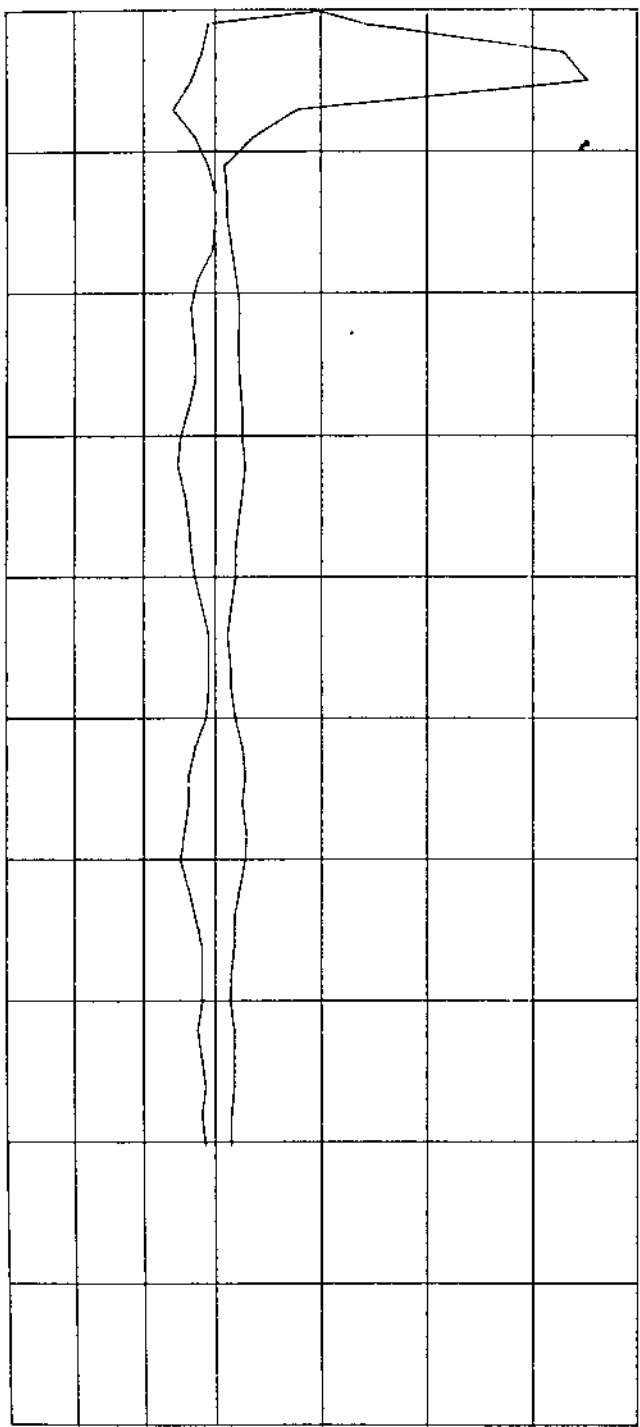
1494

0.6 0.4 0.20

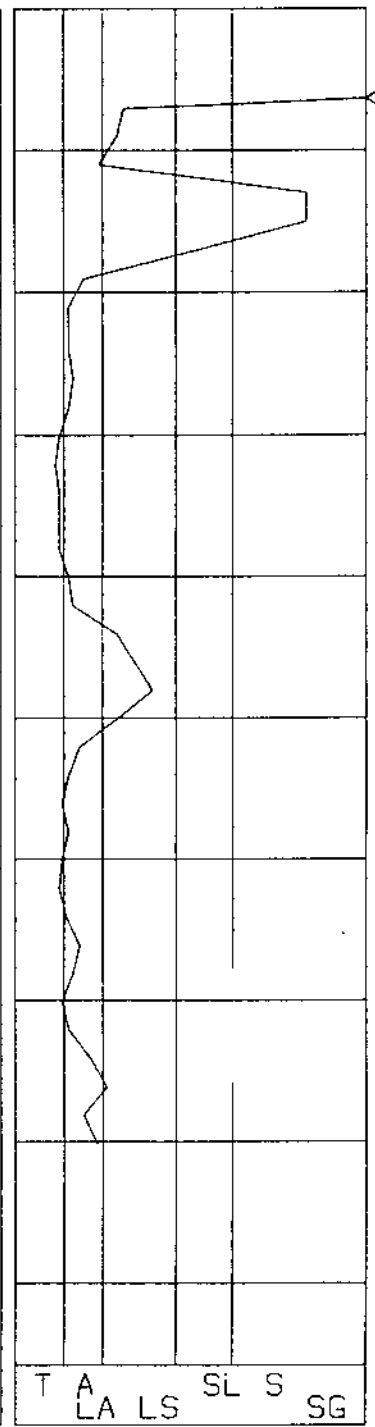
5 10 15 20

0 20 40 60 80 100

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Quota di falda

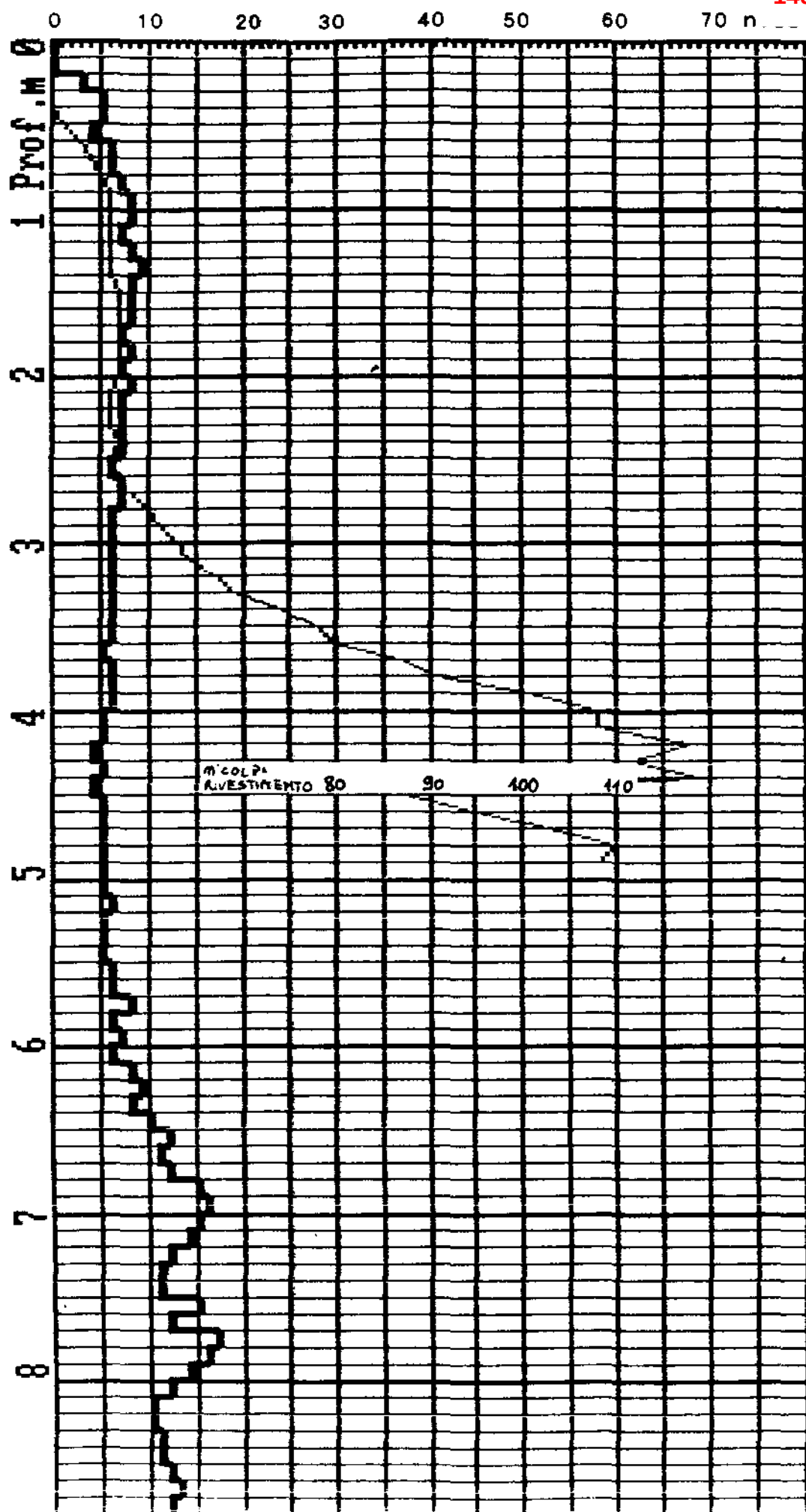


T A LA LS SL S SG

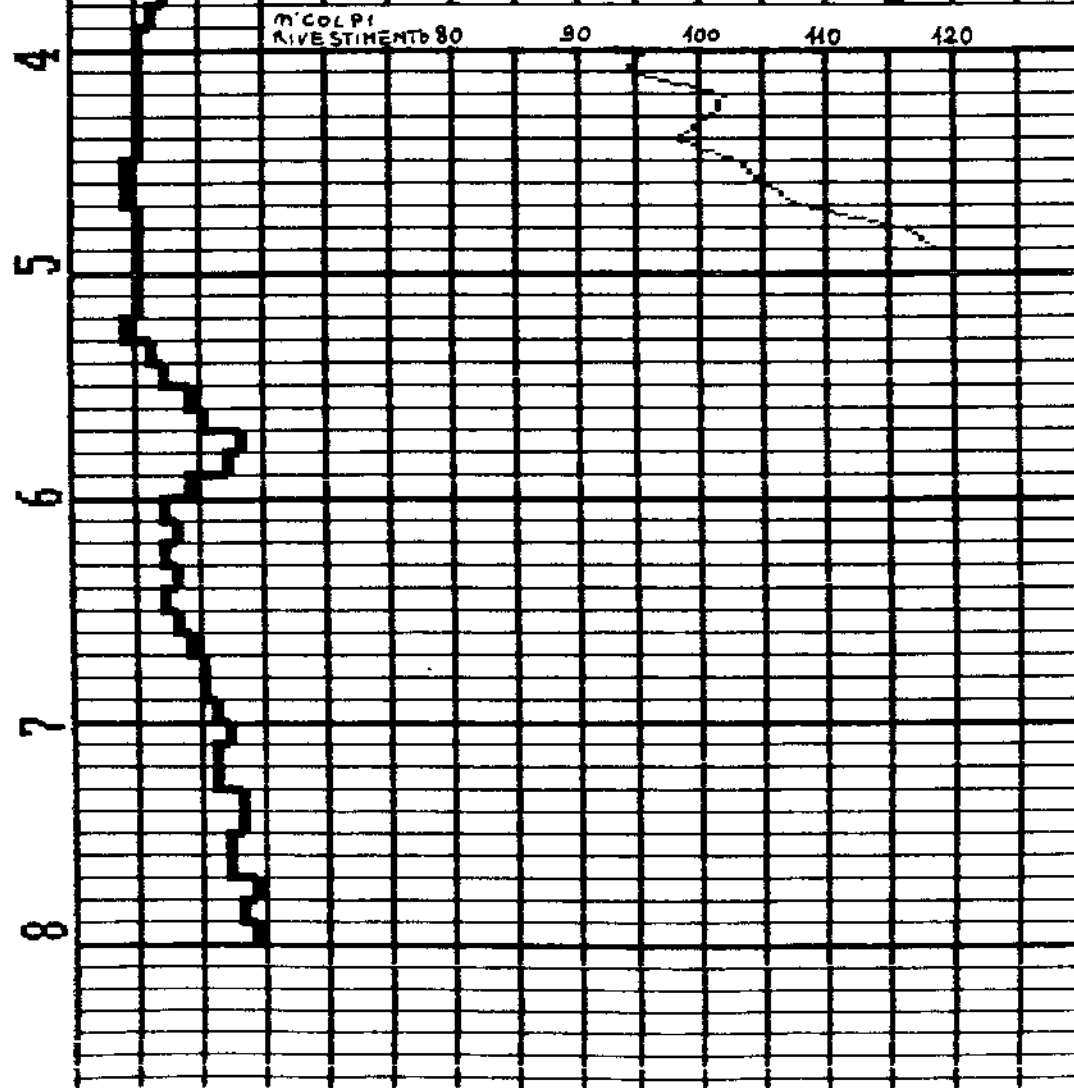
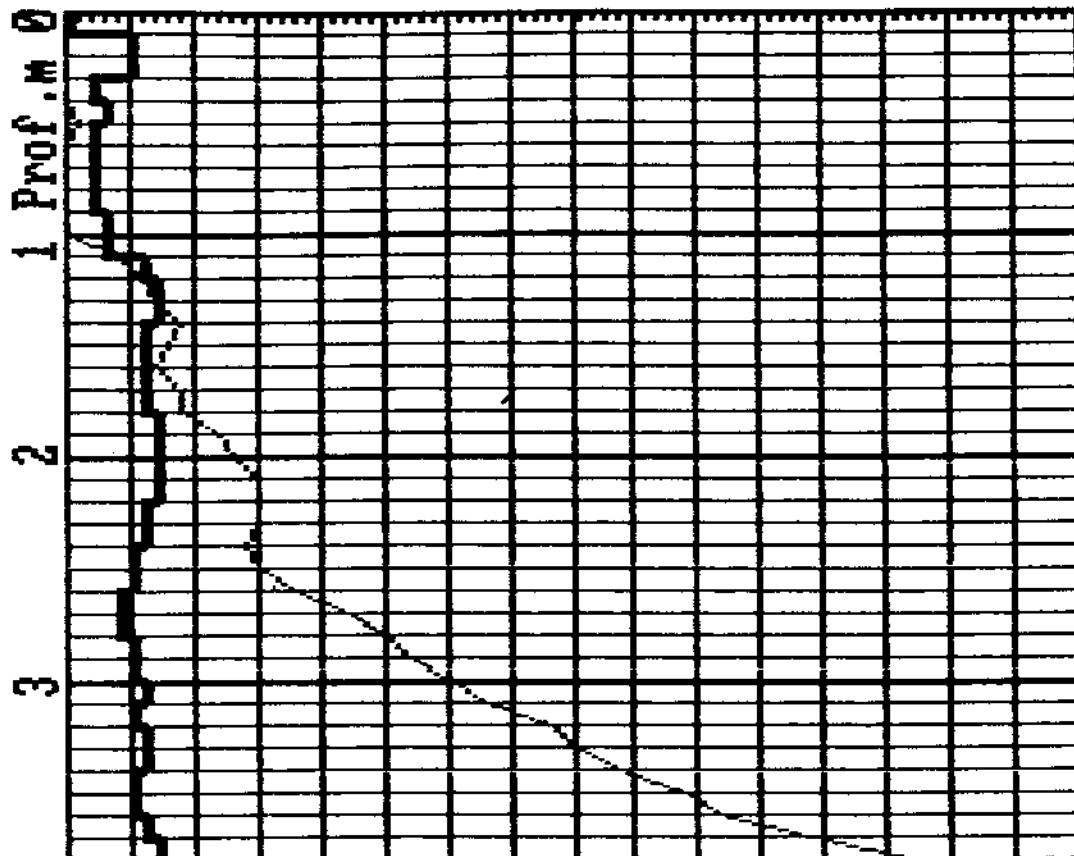
■ Punta -- Rivestimento

PROVA N. 1

1495



0 10 20 30 40 50 60 70 n.colpi



FS (MN/MQ)

QC (MN/MQ)

1497

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

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Quota di falda

T A LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

1498

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

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Quota di falda

T A LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

1499

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

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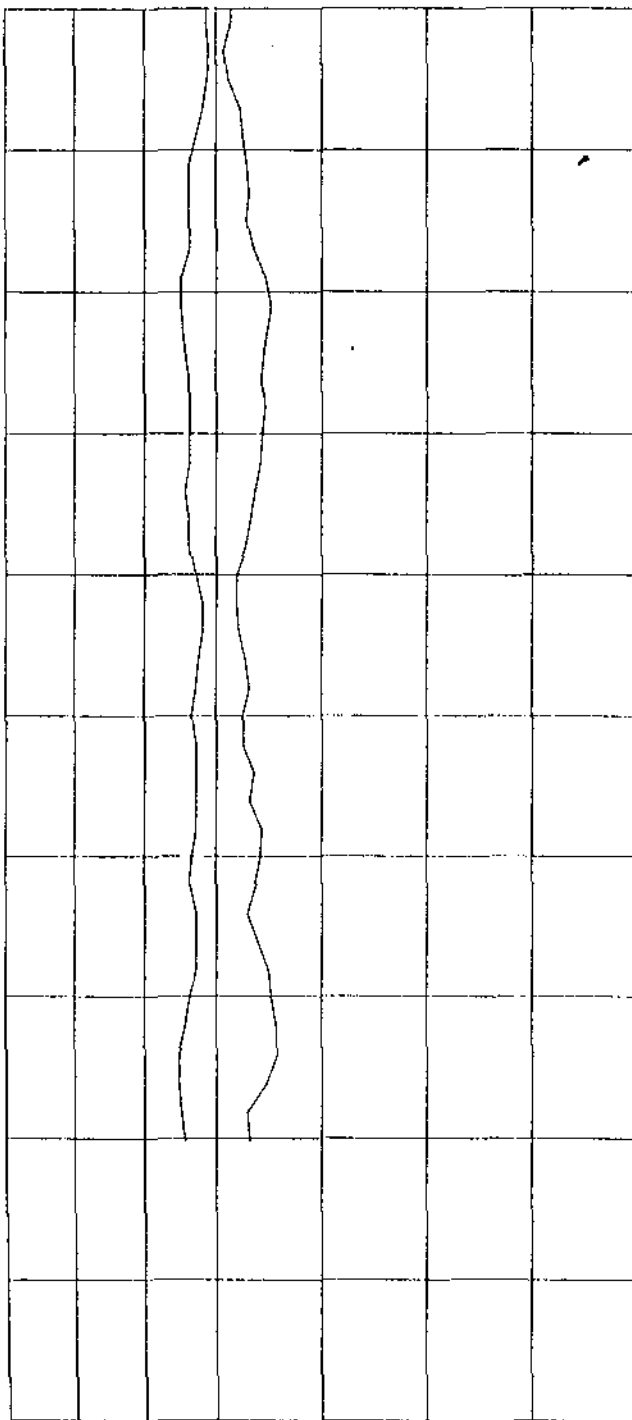
6

7

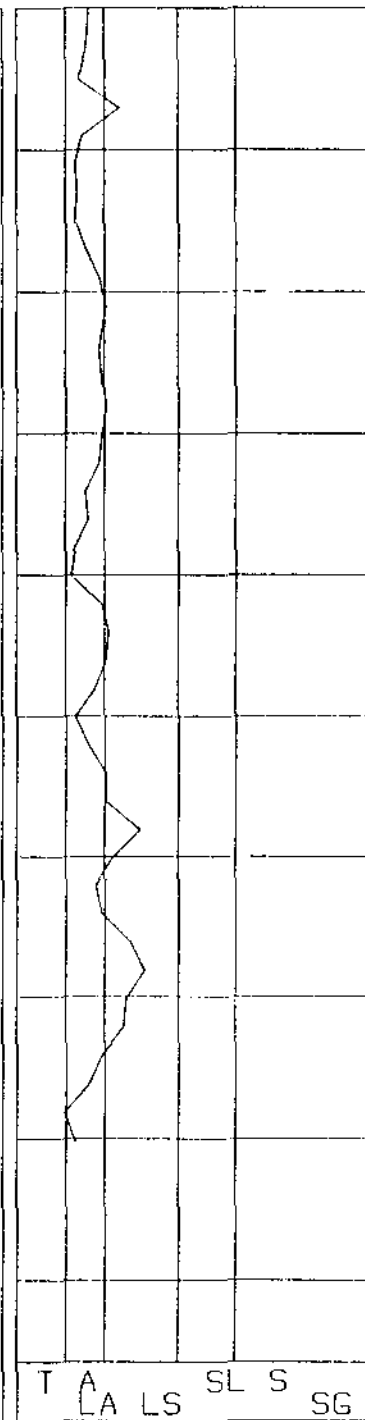
8

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Quota di falda



T A LA LS SL S SG

FS (MN/MQ) QC (MN/MQ) **1500** QC/FS

0.6 0.4 0.20 5 10 15 20 0 20 40 60 80 100

0

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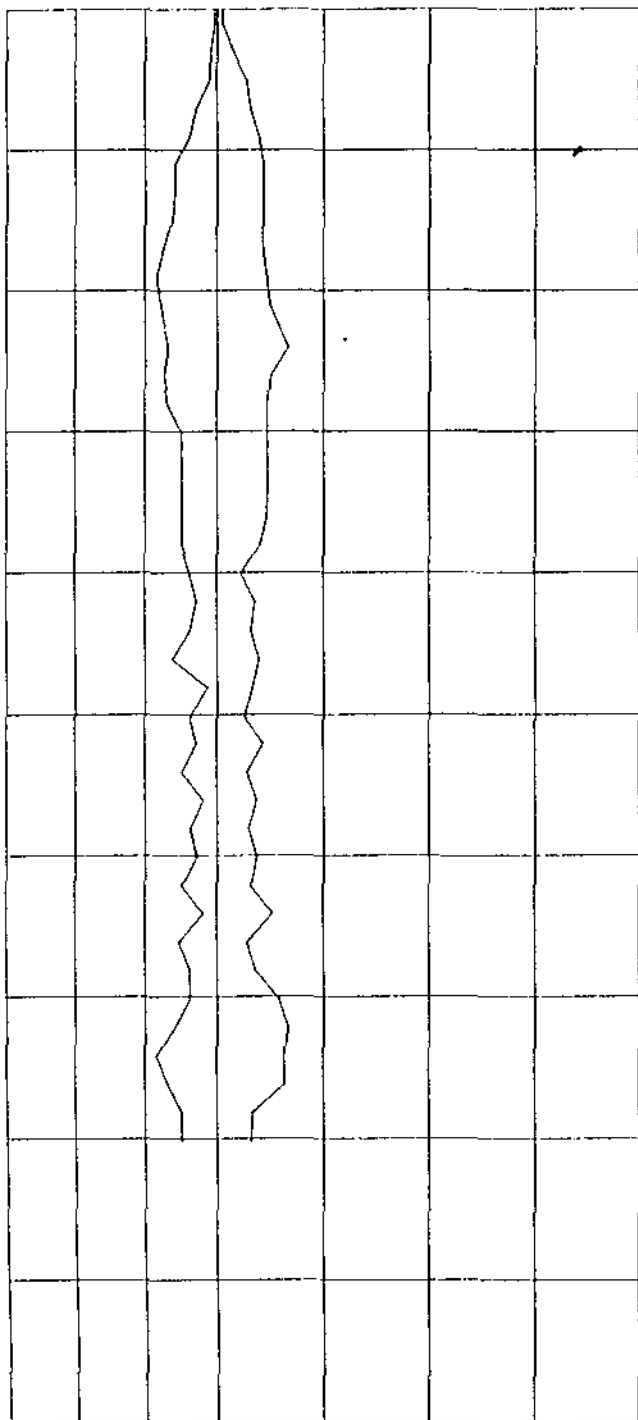
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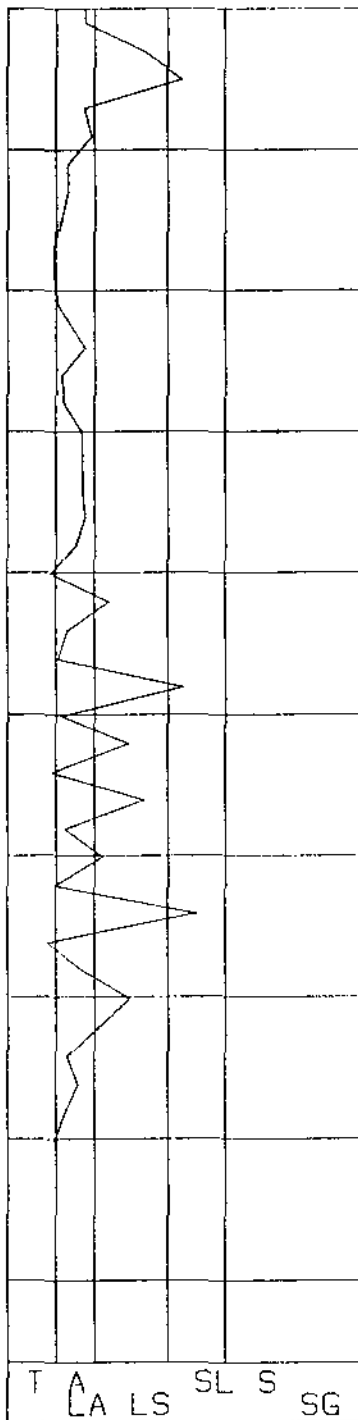
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9

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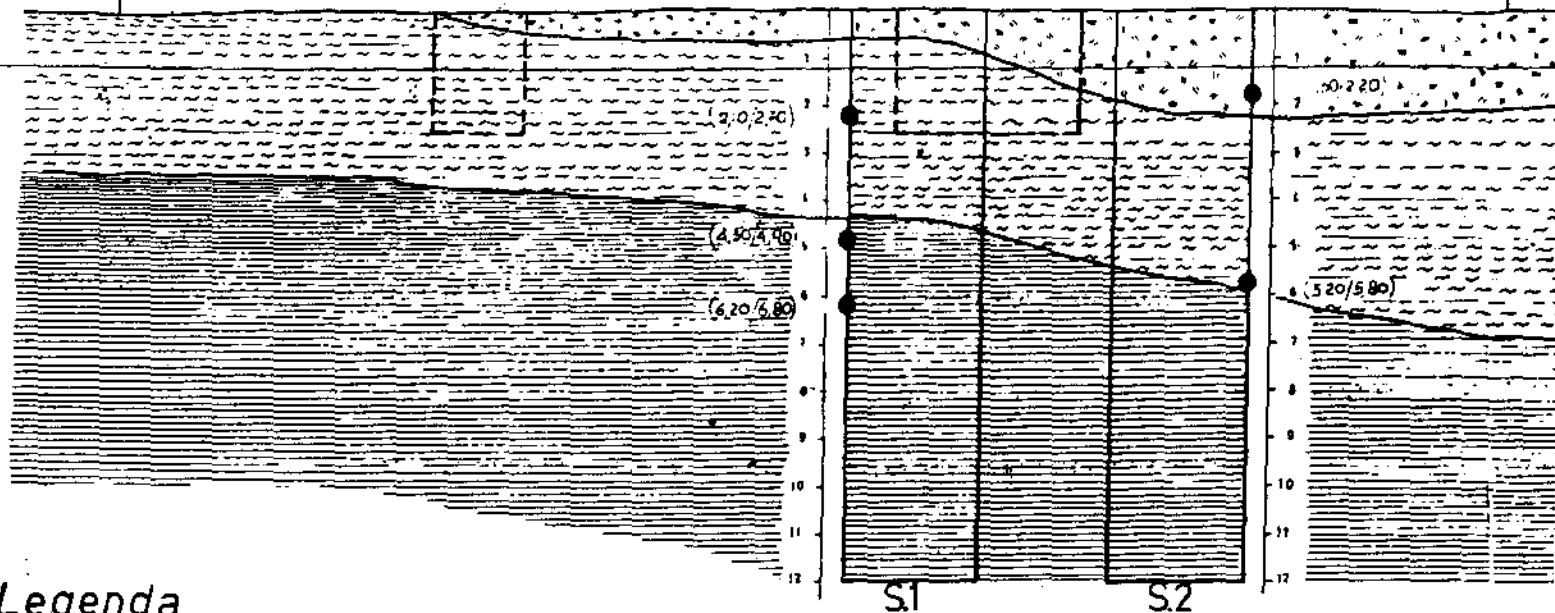
Quota di falda



T A LA LS SL S SG

AREA INGOMBRO FABBRICATO

1527

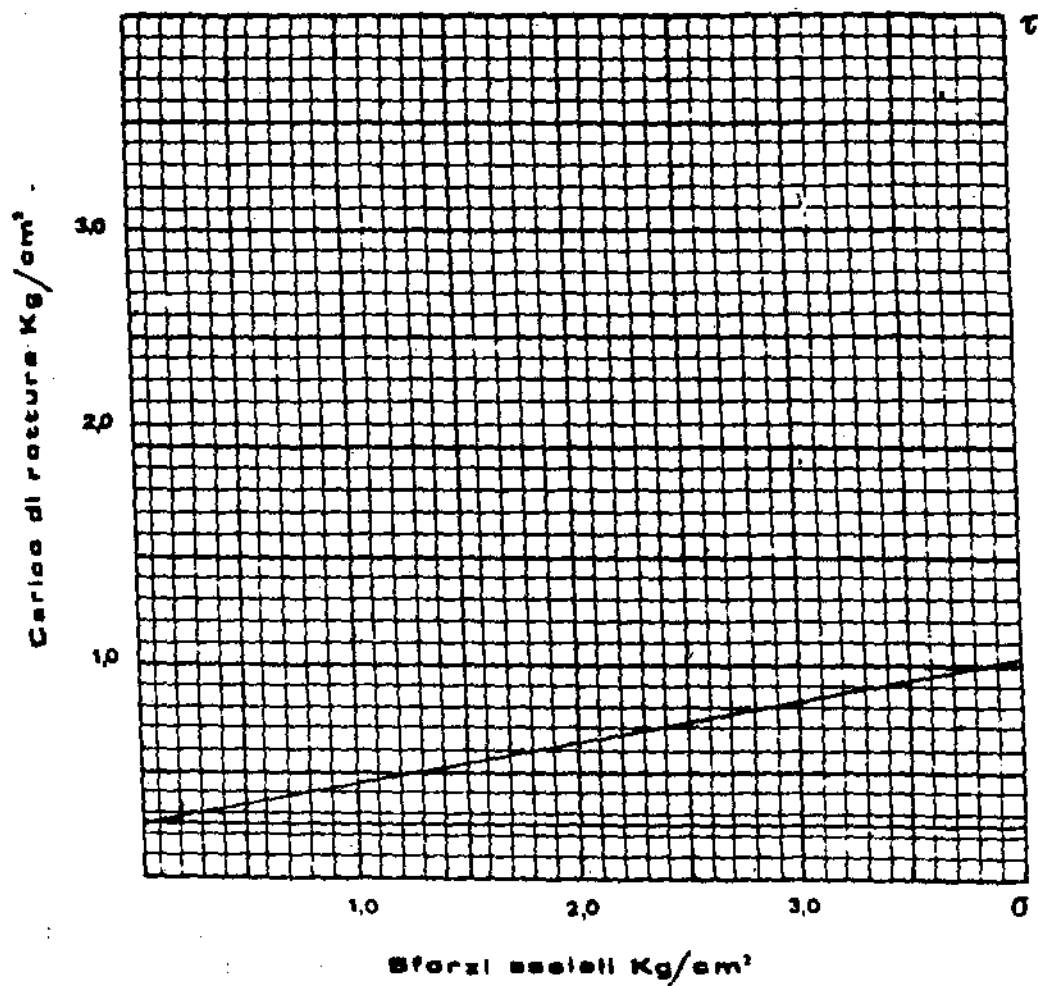


Legenda

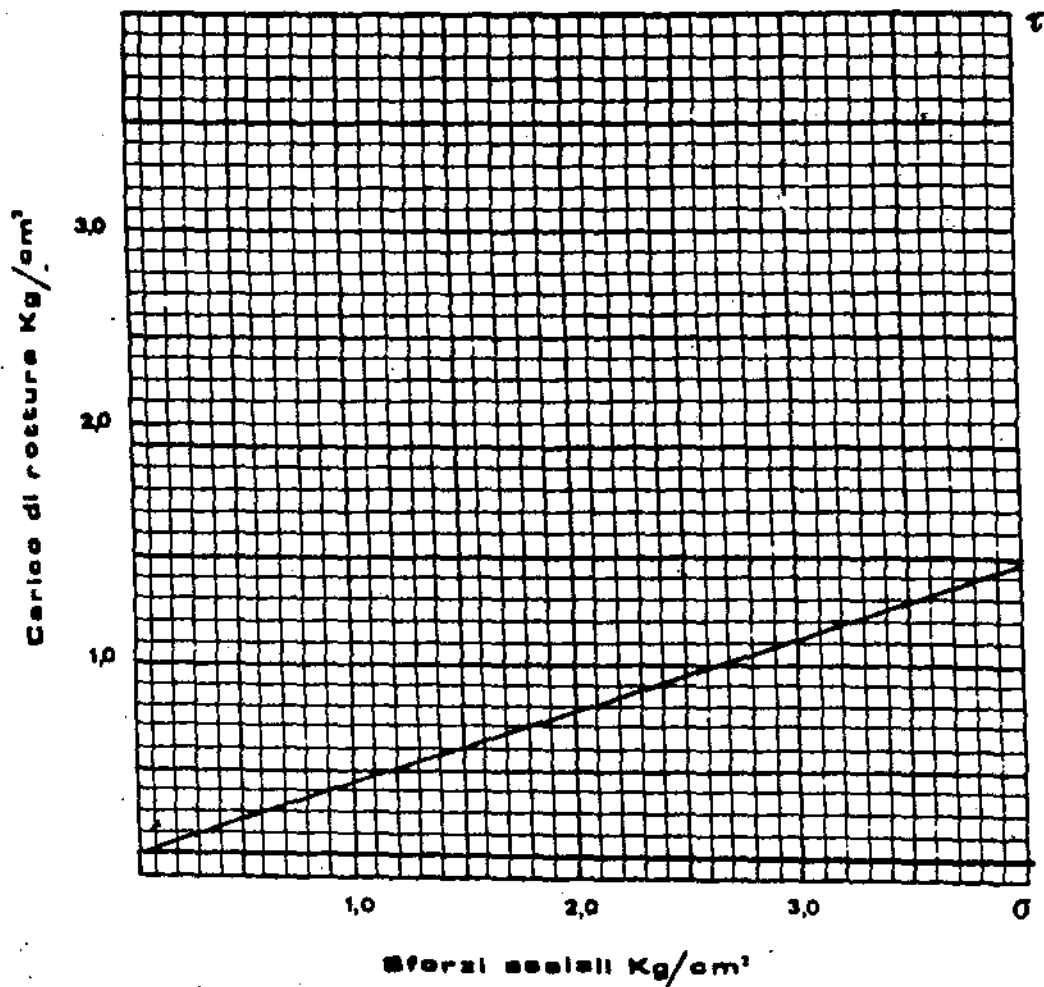
-  TERRENO DI RIPIERO
-  LIMO ARGILLOSO MARRONE COMPATTO
-  LIMO ARGILLOSO MARRONE con % di torba e livelli plastici
-  ARGILLA MARRONE PLASTICA con % di torba
-  ARGILLA CELESTE con sporadici livelli sabbiosi

		Densità	τ	σ	$U\%$	φ : 11°
Boring		Assesem.	0.450	1		α : 0.250
Camp.			0.640	2		
Posiz. p.c.				0.820	3	
Peso sp.						
Peso sp.						
Fraz. inf.						
L1		33				
Lp		18				

Condizioni di prova:						
Taglio rapido non drenato.						



		Densità	τ	σ	U%	$\varphi = 19^\circ$
Bonding	1	Assettam.	0.440	1		e = 0.100
Comp.			0.760	2		
Peso spec.	n. 4.30-4.90		1.110	3		U% = 29
Peso app.	1.960 Kg/dm ³	Condizioni di prova:				
Pres. int.						
Ll	41					
Lp	21					
		Taglio rapido non drenato.				



PRATICA L/D/B	UNITÀ	DIMENSIONI SCATOLA			PRESSIONE (kg/cm²)	SPOSTAMENTO (mm)	ALTEZZE		INDICE
		H	φ	α			INIZIALE	FINALE	
BONDAGGIO		2.500	1.000	38.140					
CAMPIONE N°									
PESO SPECIFICO ABS.									
PESO UMIDO FINALE									
PESO SECCO FINALE									
ALTEZZA RIDOTTA (2H)									
UMIDITÀ FINALE									

PRESSIONE (kg/cm²)	SPOSTAMENTO (mm)	ALTEZZA INIZIALE (2H)	ALTEZZA FINALE (2H)	INDICE
0.000	0.00	2.500	1.096	0.780
0.250	0.14	2.486	1.083	0.780
0.500	0.20	2.466	1.062	0.756
1.000	0.35	2.431	1.027	0.731
2.000	0.52	2.379	0.975	0.694
4.000	0.63	2.310	0.906	0.645
8.000	0.81	2.229	0.825	0.587
16.000	0.97	2.132	0.728	0.518
32.000	1.02	2.134	0.730	0.520
64.000	1.08	2.143	0.731	0.525
128.000	1.13	2.155	0.751	0.535
256.000	1.22	2.177	0.773	0.550
512.000	1.20	2.197	0.793	0.565
1024.000	1.19	2.216	0.812	0.578
2048.000	1.18	2.234	0.830	0.591

ARGILLA PRE-CONSOLIDATA

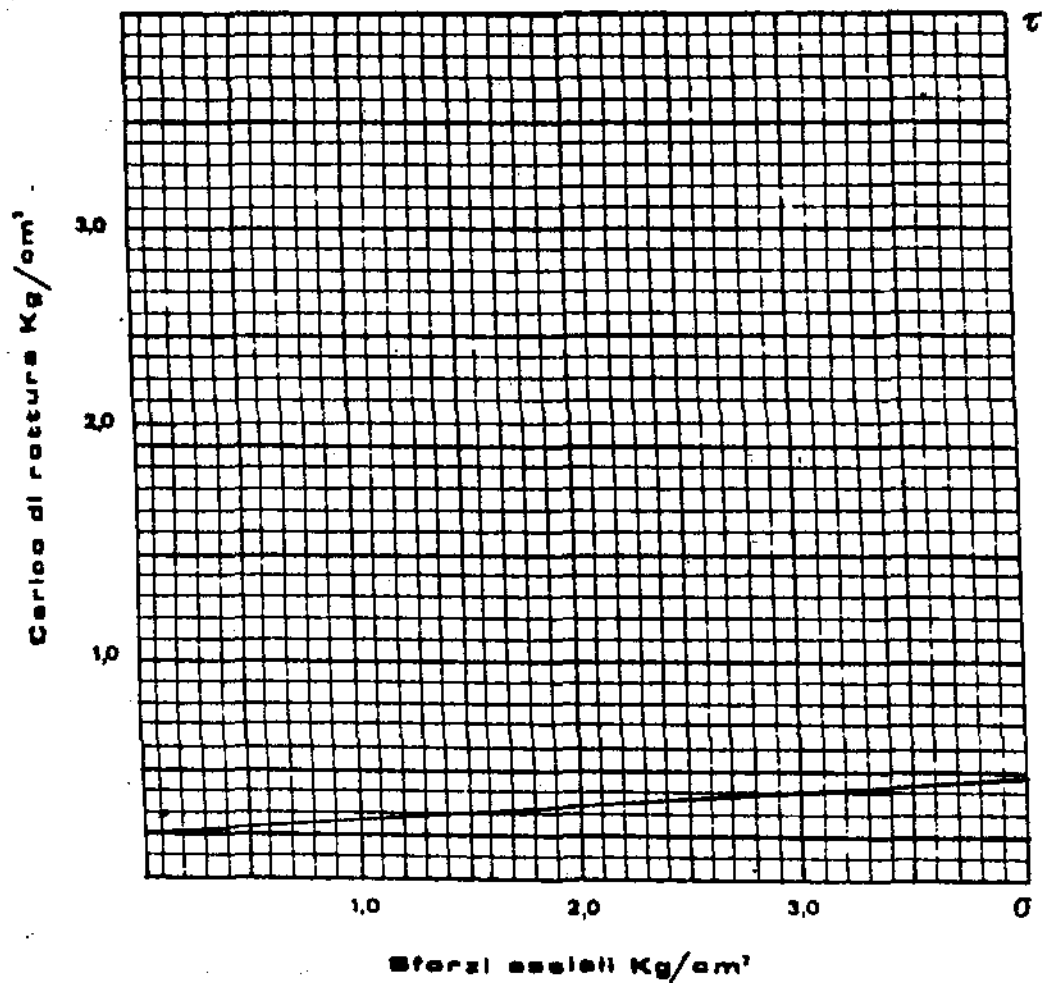
e_v = 0.235CURVA DI
LABORATORIO

CURVA IN SITU

INDICE DEI VUOTI

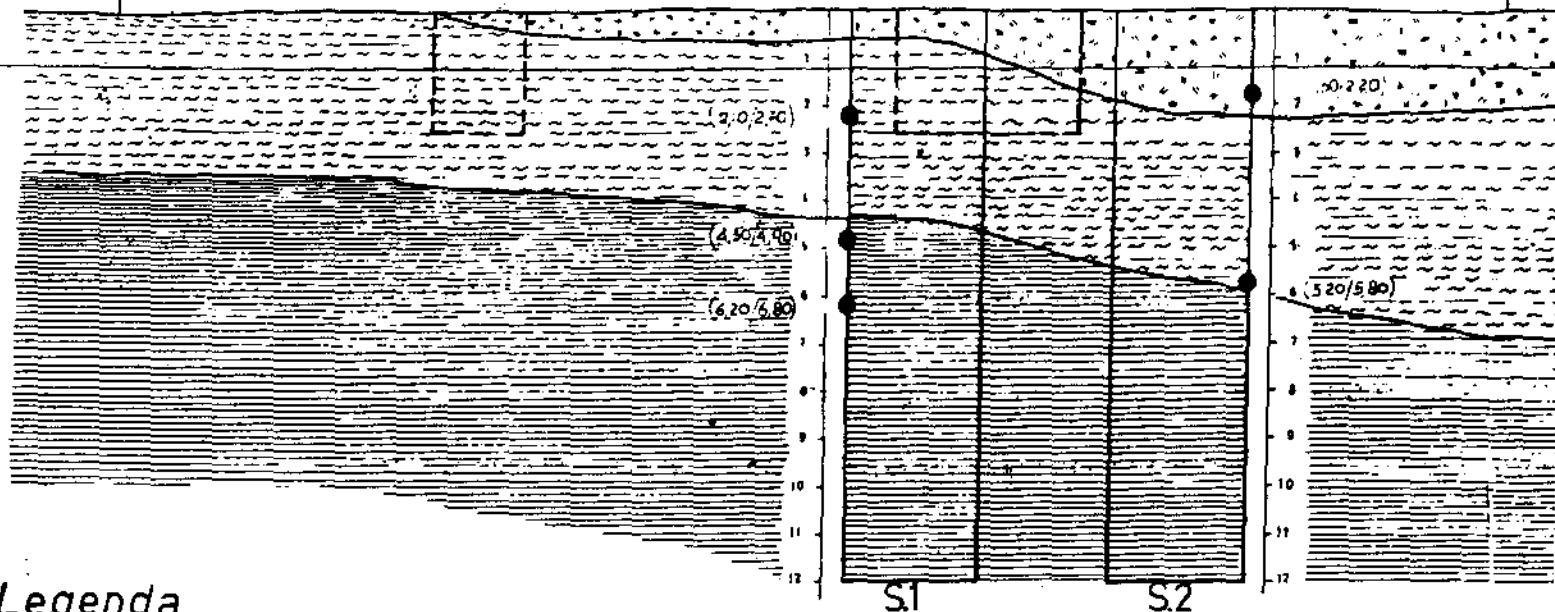
P₀ = 0.90P₀' = 1.60

		Densità	τ	σ	U%	$\varphi =$
Bandag.	1					4°
Camp.		Assistem.	0.260	1		$\sigma =$
Posiz. anal.	n. 6.20-6.80		0.330	2		0.200
Peso spec.	1.830 Kg/dm ³		0.400	3		U% =
Fraz. ind.						36
L1	64	Condizioni di prova: Taglio rapido non drenato.				
Lp	34					



AREA INGOMBRO FABBRICATO

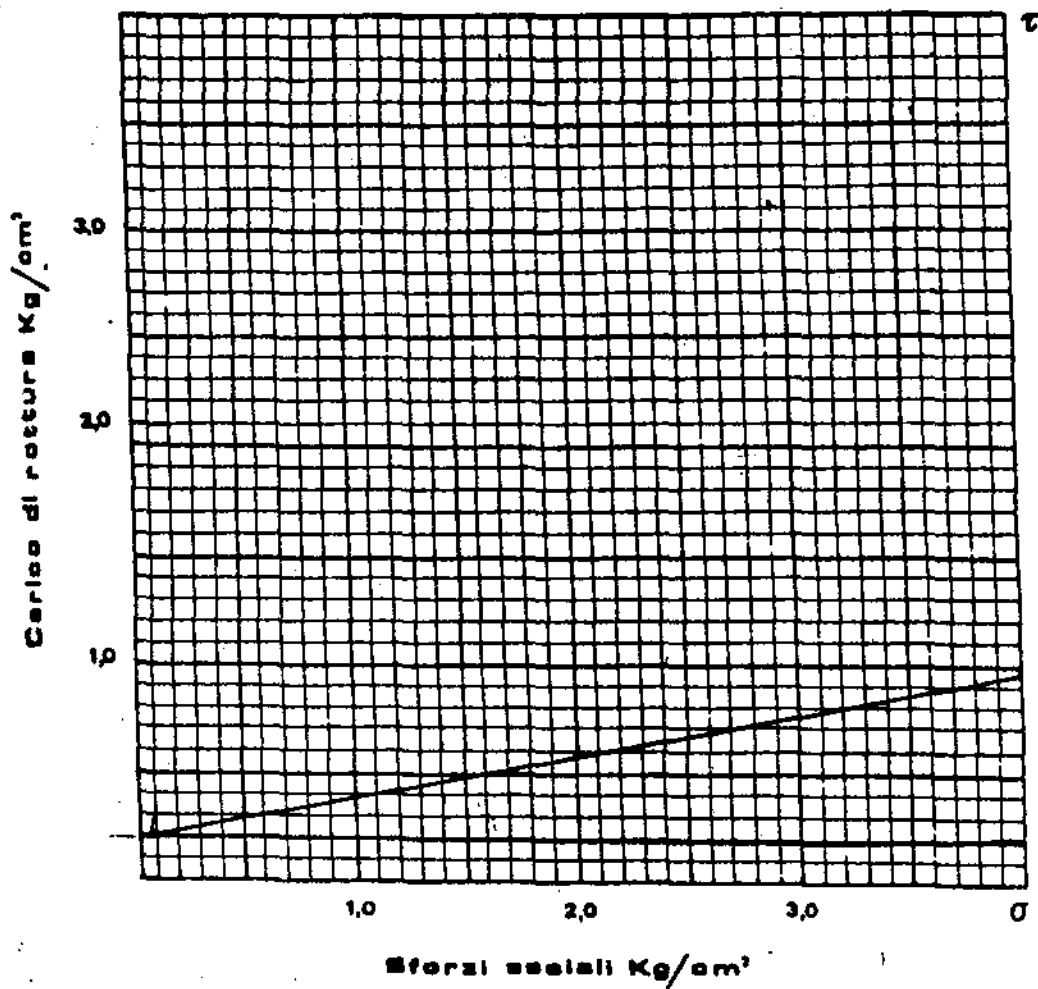
1528



Legenda

-  TERRENO DI RIPIRO
-  LIMO ARGILLOSO MARRONE COMPATTO
-  LIMO ARGILLOSO MARRONE con % di torba e livelli plastici
-  ARGILLA MARRONE PLASTICA con % di torba
-  ARGILLA CELESTE con sporadici livelli sabbiosi

		Densità	τ	σ	UN	φ
Bondag	2					11°
Camp.		Assistem.	0.390	1		σ
Posiz. pred.	m. 1.60-2.20		0.570	2		0.200
Peso	2,00 Kg/dm ³		0.750	3		UN
Pres. ind.						24
L1	42	Condizioni di prova:				
Lp	22					
		Taglio rapido non drenato.				



PRATICA L/DE. B. mm	DIMENSIONI SCATOLA			PRESSIONE (kg/cm ²)	(mm)	ALTEZZE		INDICE
	H = 3.500	φ = 3.000	α = 38.140			INIZIALE (mm)	FINALE (mm)	
BONDABISSIO 2	PESO SPECIFICO ASS. (γ) = 2.65 gr/cm ³			0.00	0.00	2.500	1.017	0.685
CAMPIONE N° /	PESO UMIDO FINALE = 180.39 gr			0.50	0.06	2.494	1.011	0.682
PROF. (m) 160-2.30	PESO SECCO FINALE (M _s) = 142.89 gr			0.800	0.12	2.482	0.999	0.673
	ALTEZZA RIDOTTA (S _N) = 1.423			1.000	0.25	2.457	0.974	0.657
	UMIDITÀ FINALE = 20 %			2.000	0.41	2.416	0.933	0.629
				4.000	0.61	2.395	0.872	0.587
				6.000	0.72	2.283	0.800	0.539
				10.000	0.81	2.202	0.719	0.485
				20.000	0.05	2.207	0.724	0.488
				40.000	0.12	2.219	0.736	0.496
				60.000	0.15	2.234	0.751	0.504
				1.000	0.17	2.251	0.768	0.518
				0.800	0.17	2.268	0.785	0.529
				0.680	0.17	2.285	0.802	0.541
				0.100	0.17	2.302	0.819	0.553

ARGILLA PRE-CONSOLIDATA

C_c = 0.170

700

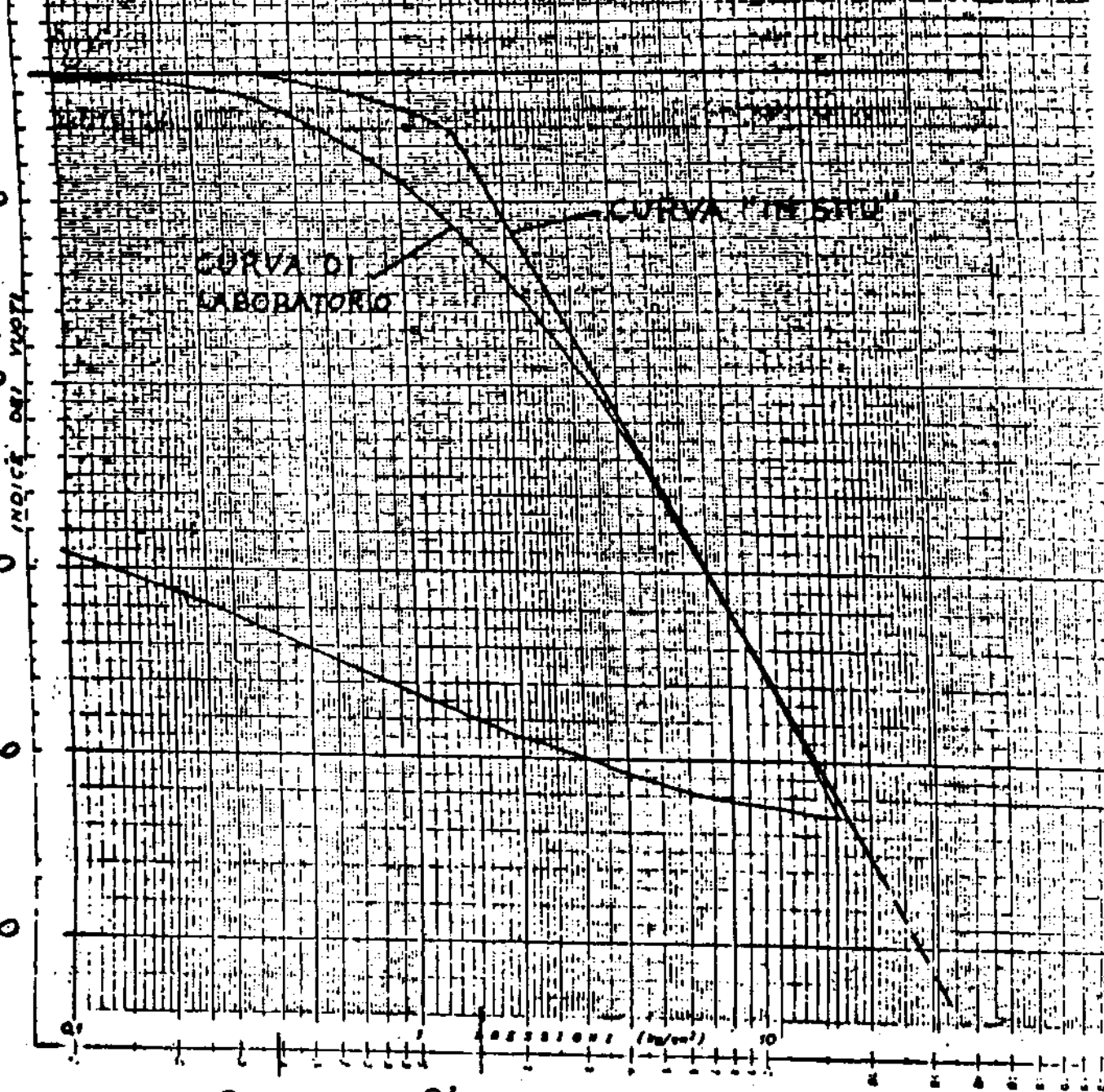
650

600

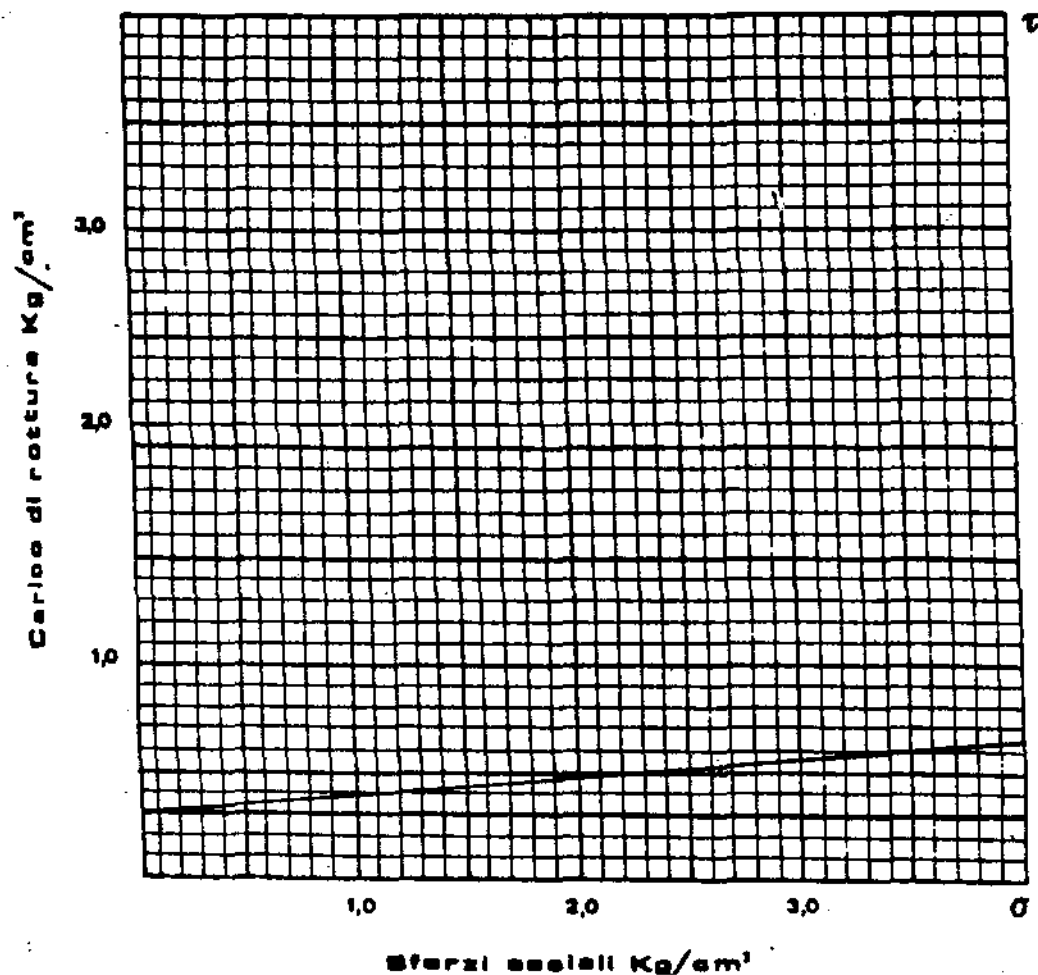
550

500

450

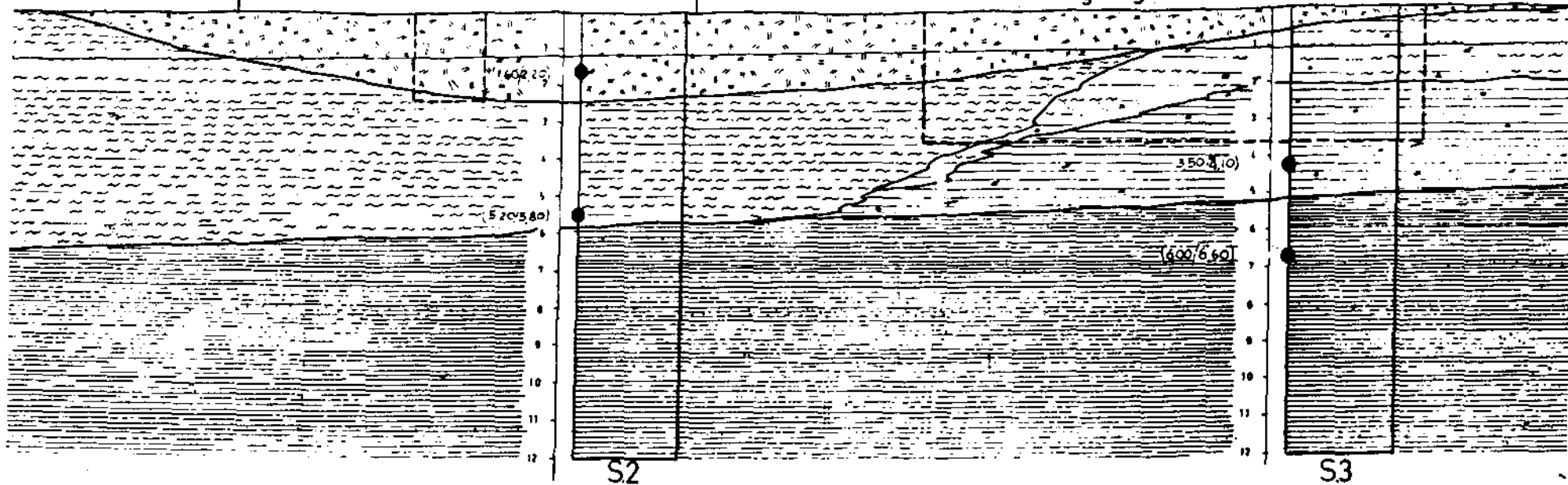
 $P_0 = 0.38$ $P'_0 = 1.48$

		Densità	τ	σ	U%	φ
Bondag	2					5°
Camp.		Assesam.	0.390	1		$\sigma =$
Posiz. local.	m. 5.20-5.80		0.480	2		0.300
Peso spec.	1.860 Kg/dm ³		0.560	3		U%
Fraz. inf.						35
L1	64	Condizioni di prova: Taglio rapido non drenato.				
Lp	27					



AREA INGOMBRO FABBRICATO

garage B

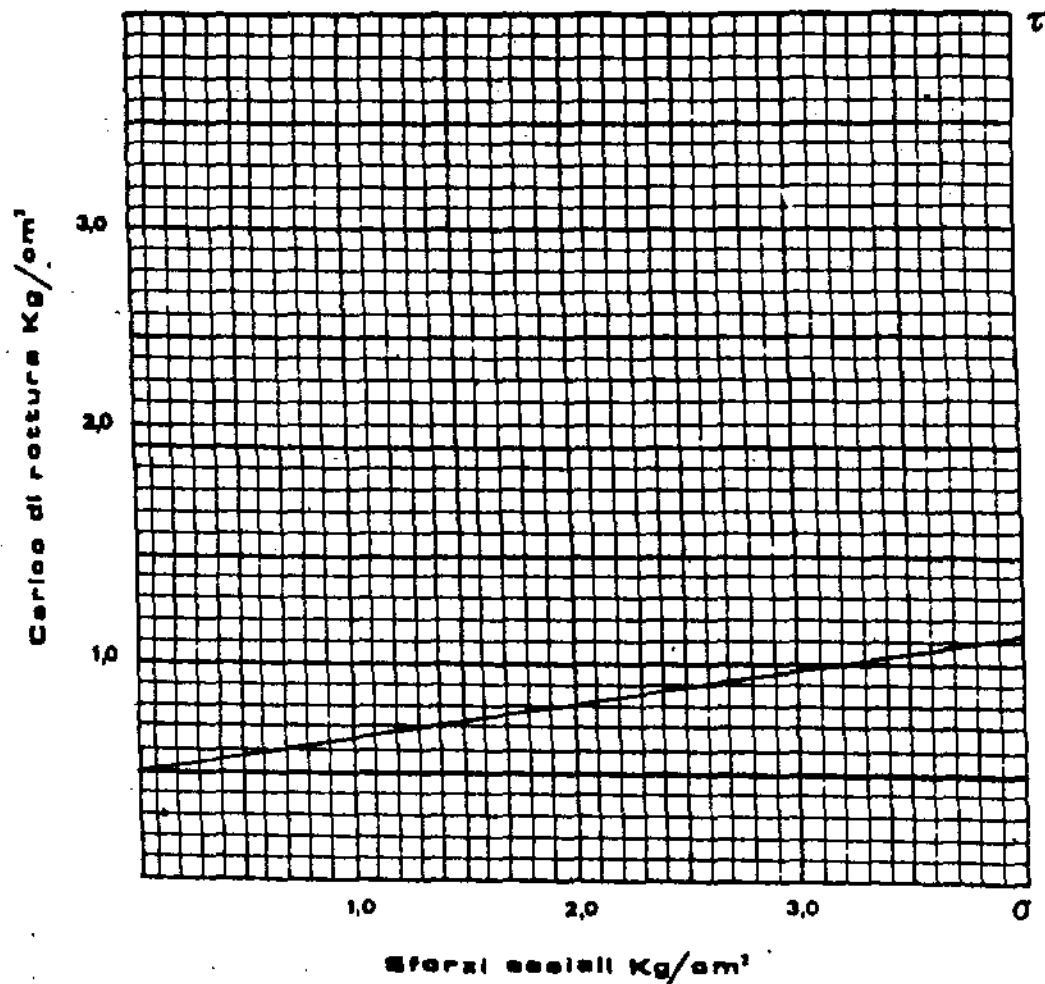


Legenda

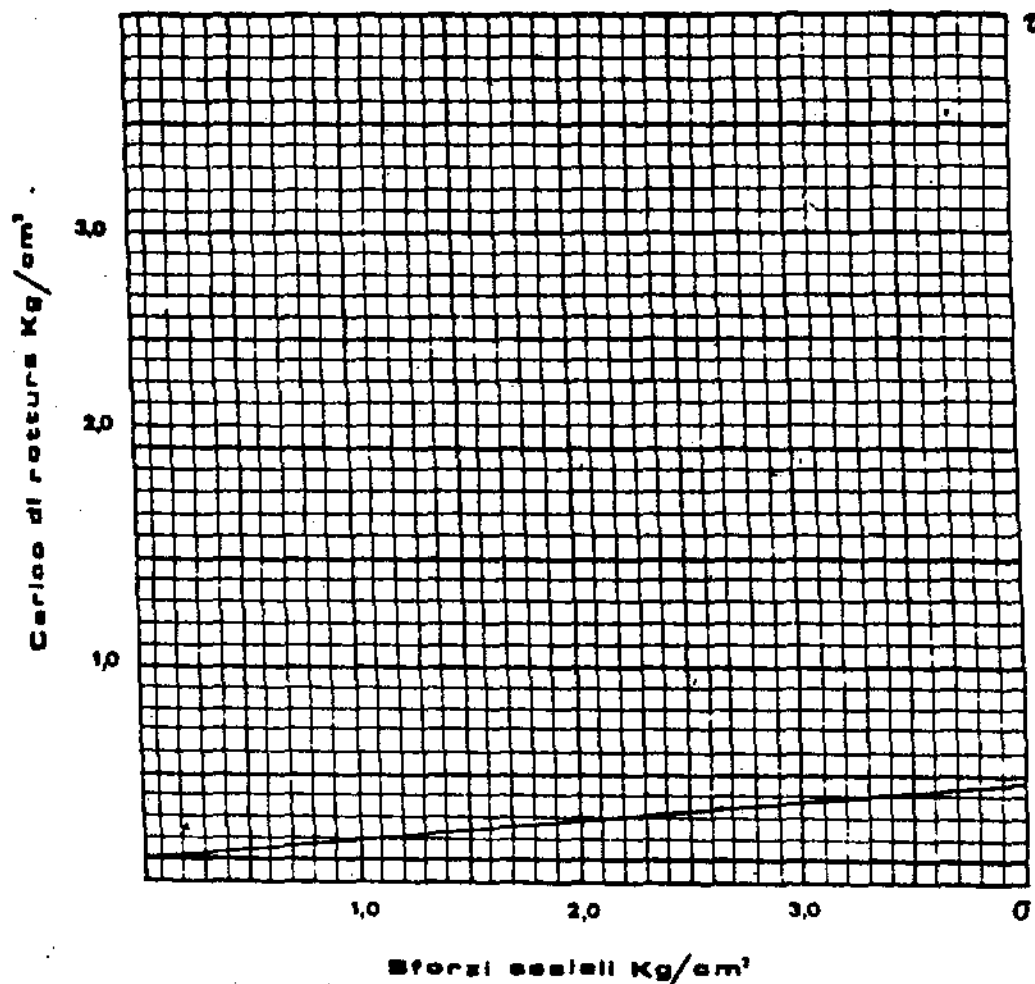
	TERRENO DI RIPIRO
	LIMO ARGILLOSO MARRONE COMPATTO
	LIMO ARGILLOSO MARRONE con % di torbo e livelli plastici
	ARGILLA MARRONE PLASTICA con % di torbo
	ARGILLA CELESTE con sporadici livelli sabbiosi

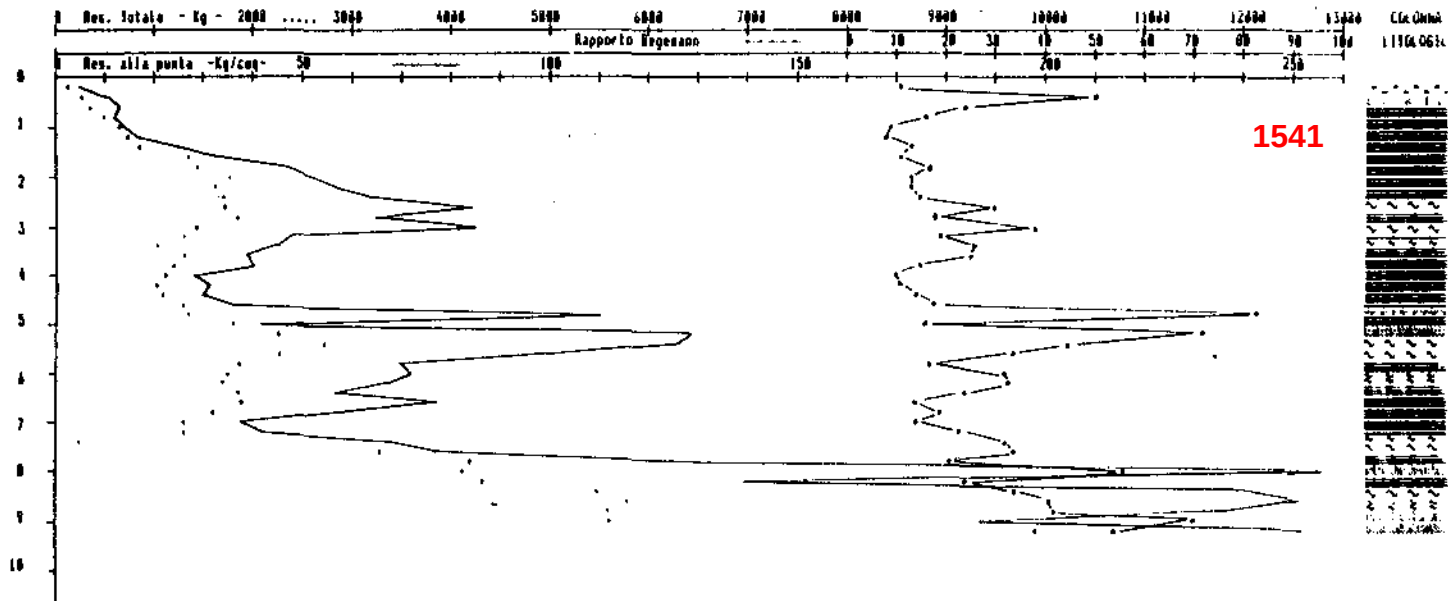
SEZIONE B-B'

		Densità	τ	σ	U%	$\varphi = 9^\circ$
Bordag	3	Assistem.	0.650	1		0.500
Camp.			0.810	2		
Poziz. anal.	m. 3.50-4.10		0.970	3		U% = 25
Peso spec.	2.02 Kg/dm ³	Condizioni di prova: Taglio rapido non drenato.				
Press. inf.						
L1	46					
Lp	26					

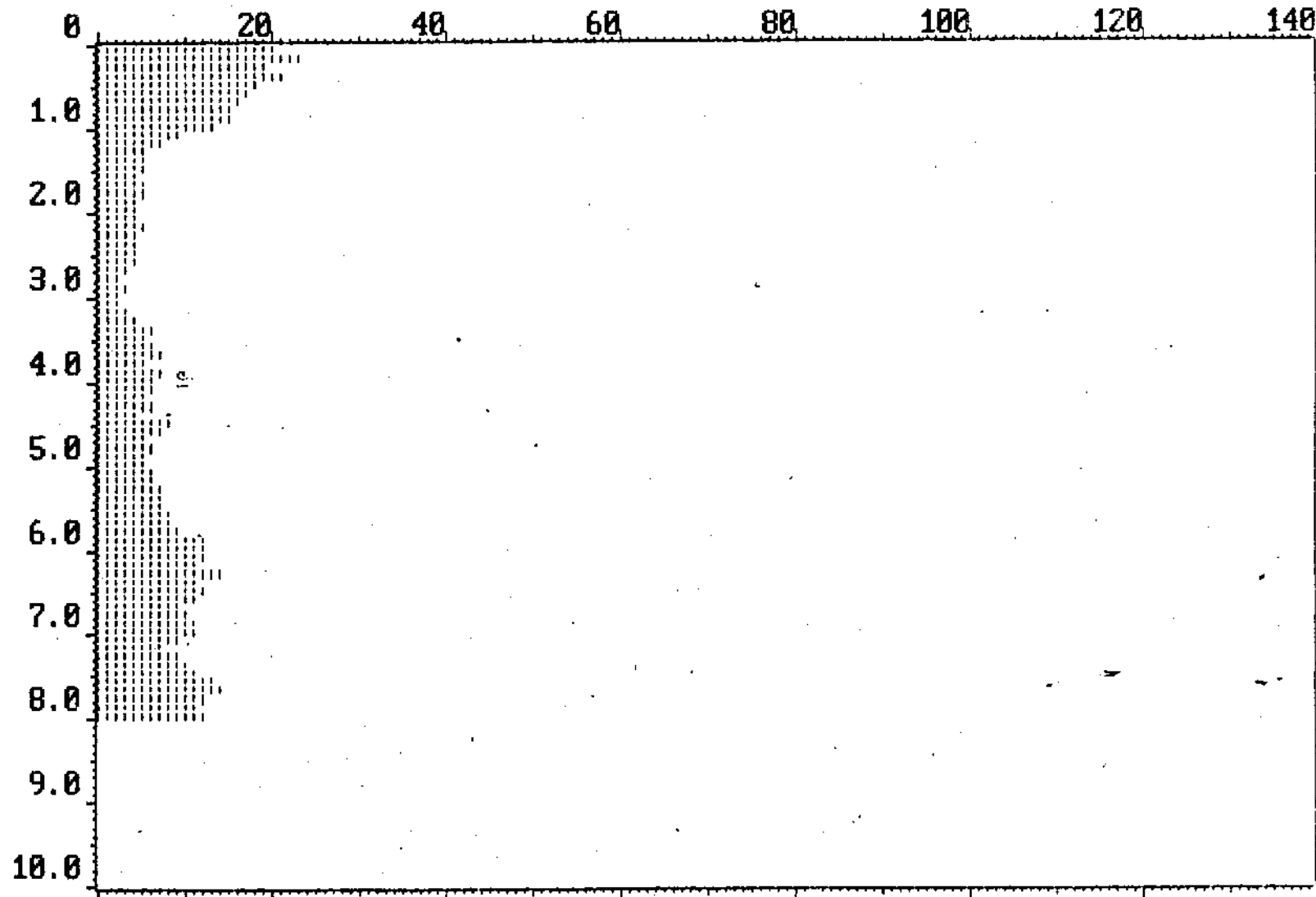


		Densità	τ	σ	U%	$\varphi = 5^\circ$
Sondaggio	3					
Camp.		Assistem.	0.200	1		$\alpha =$
Posiz. anal.	m. 6.00-6.60		0.290	2		0.100
Peso anal.	1.820 Kg/dm ³					U% =
Fraz. tot.			0.370	3		36
Ll	63	Condizioni di prova: Taglio rapido non drenato.				
Lp	24					





n.colpi



Resistenza : punta (| 1 colpo/10 cm.) rivestimento (—)

PROVA PENETROMETRICA C.P.T. n° 1

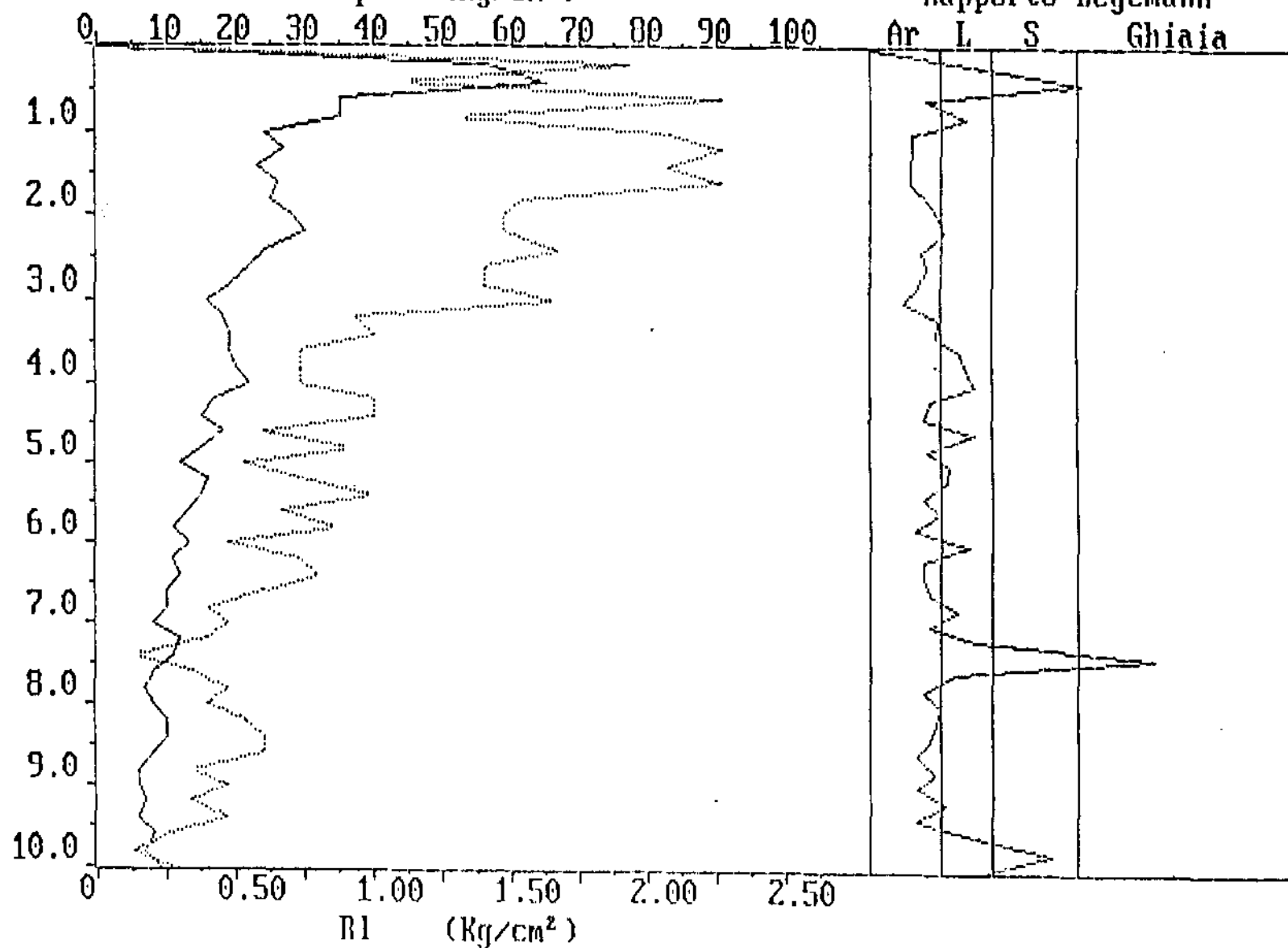
Rp (Kg/cm²)

Rapporto Begemann

Ar L S Ghiaia

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i
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i
n

m.

PROVA PENETROMETRICA C.P.T. n° 2

1546

Rp (Kg/cm²)

Rapporto Begemann

0 10 20 30 40 50 60 70 80 90 100

Ar L S Ghiaia

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à

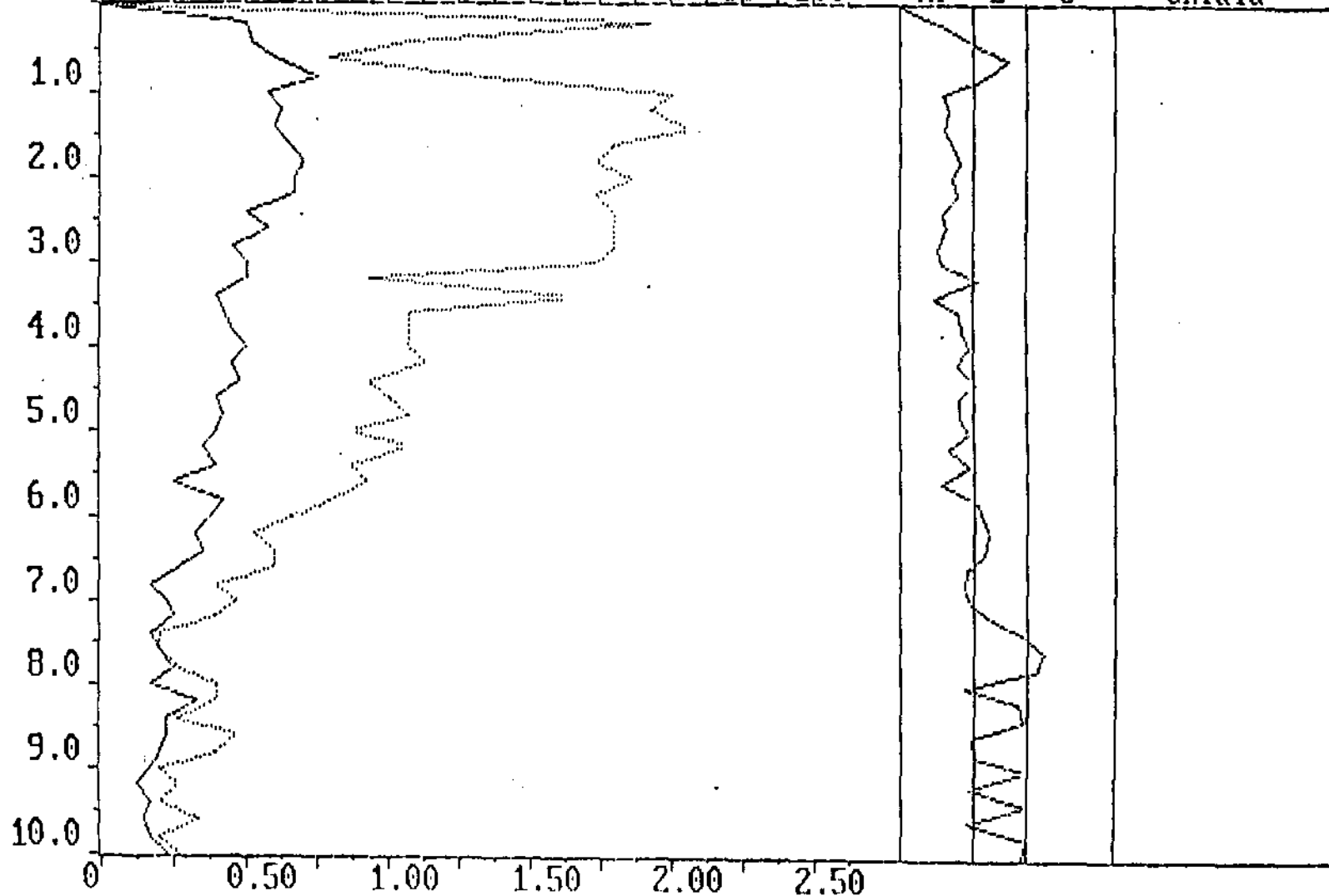
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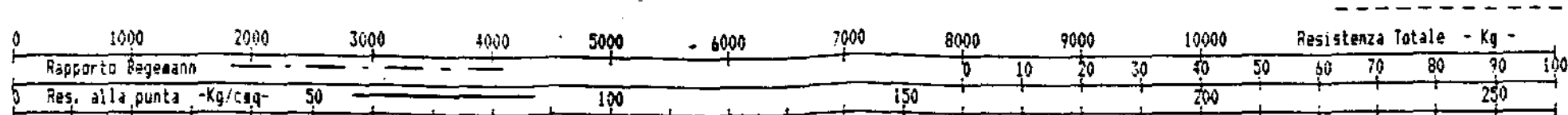
m.

1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0

Rl (Kg/cm²)

0 0.50 1.00 1.50 2.00 2.50



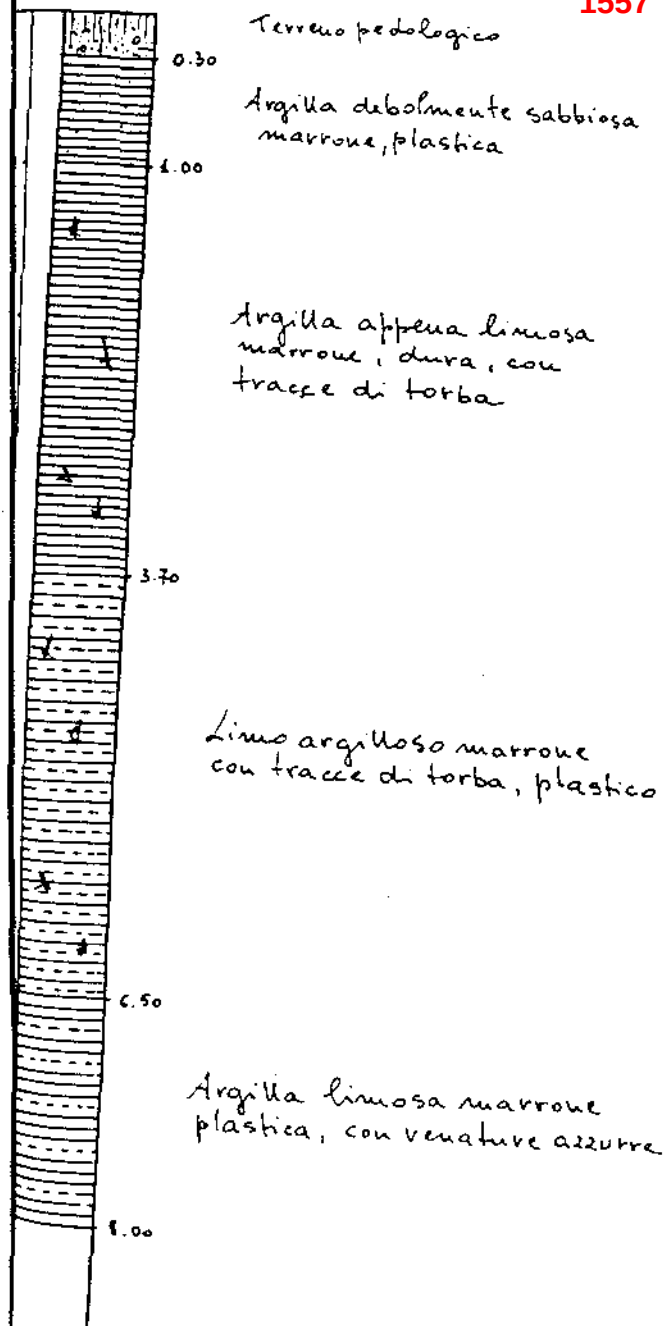


COLONNA
STRATIGRAFICA

1552

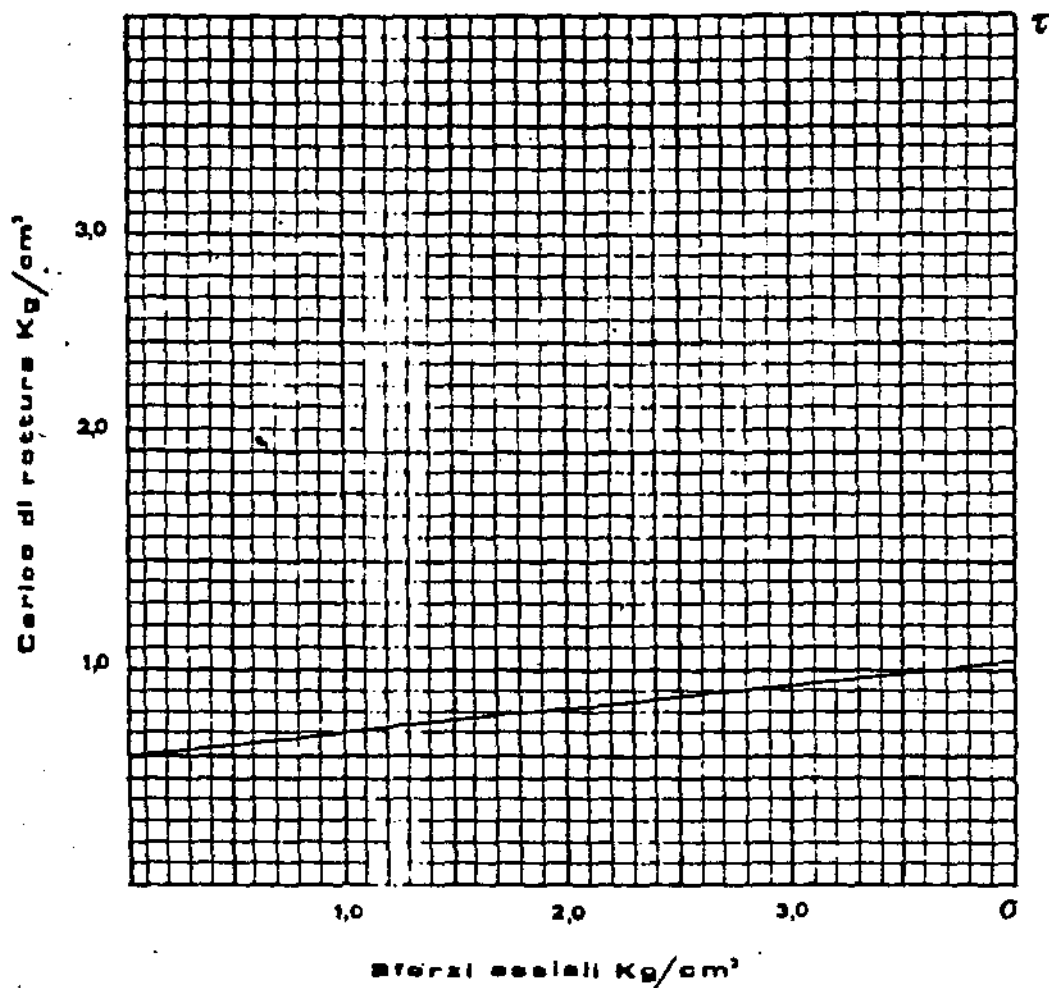


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11

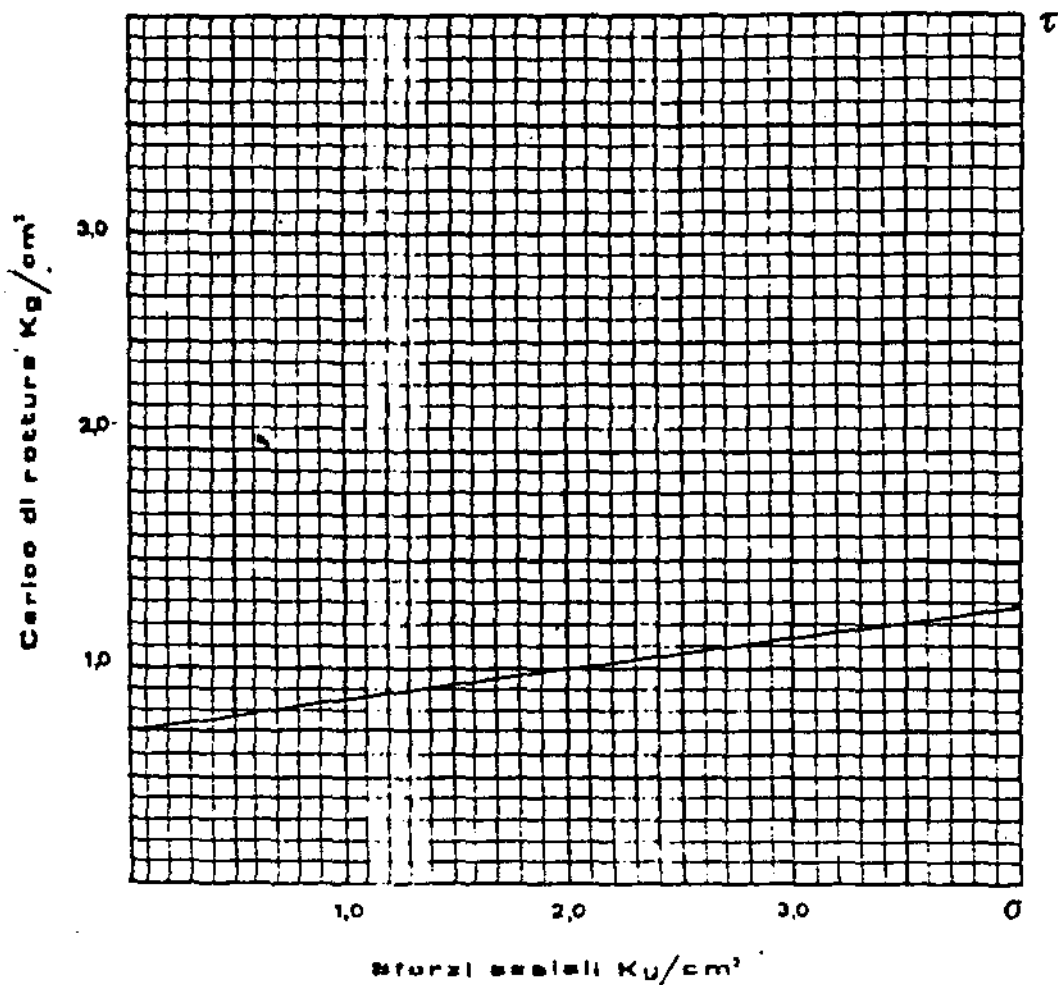


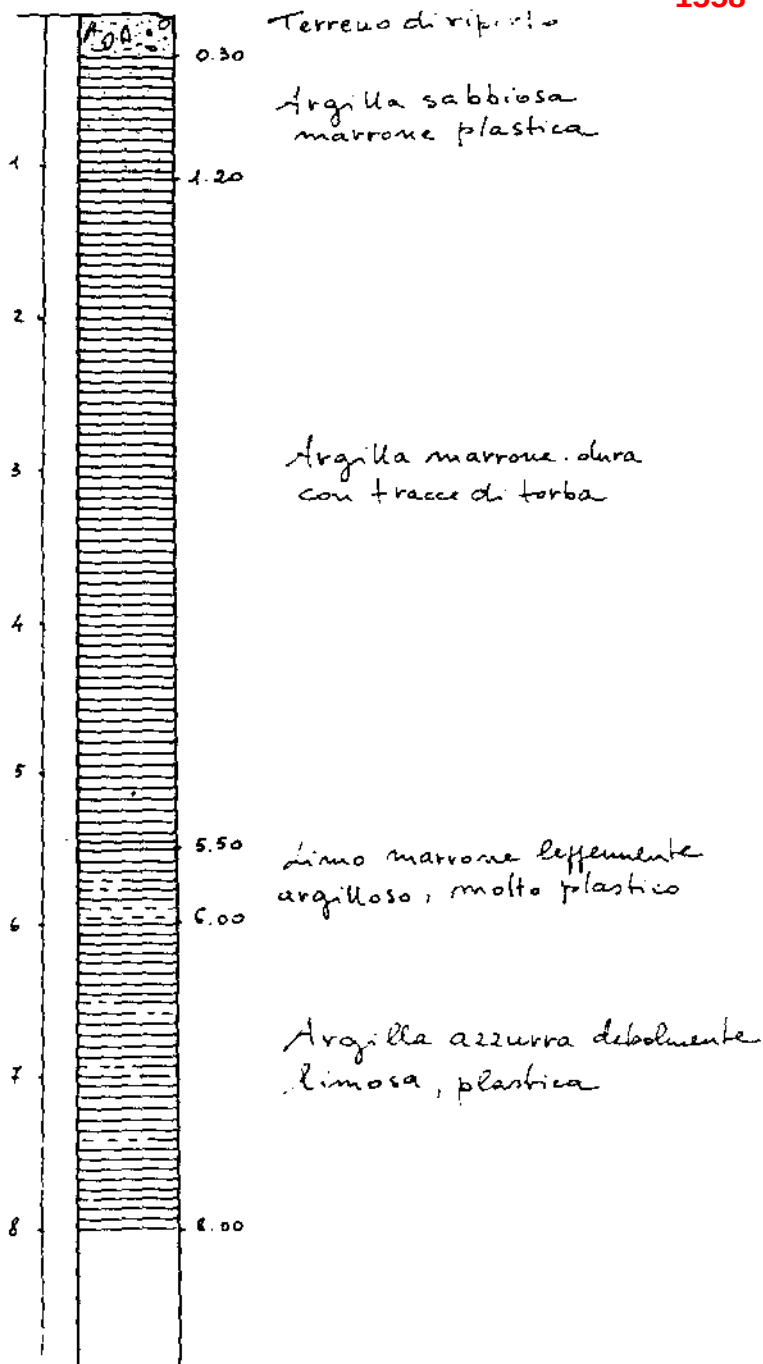
Bondag.	n. 1	Densità	τ	σ	U%	$\varphi = 6^\circ$
Camp.		Assesam.	0,70	1		$\sigma = 0.600$
Posiz. pres.	m. 1.00 - 1.50		0,82	2		kg/cm ²
Peso spec.	1.97 kg/dmc.		0,93	3		U% = 27
Fraz. tot.		Condizioni di prova:				
		TAGLIO RAPIDO NON DRENATO				

1557



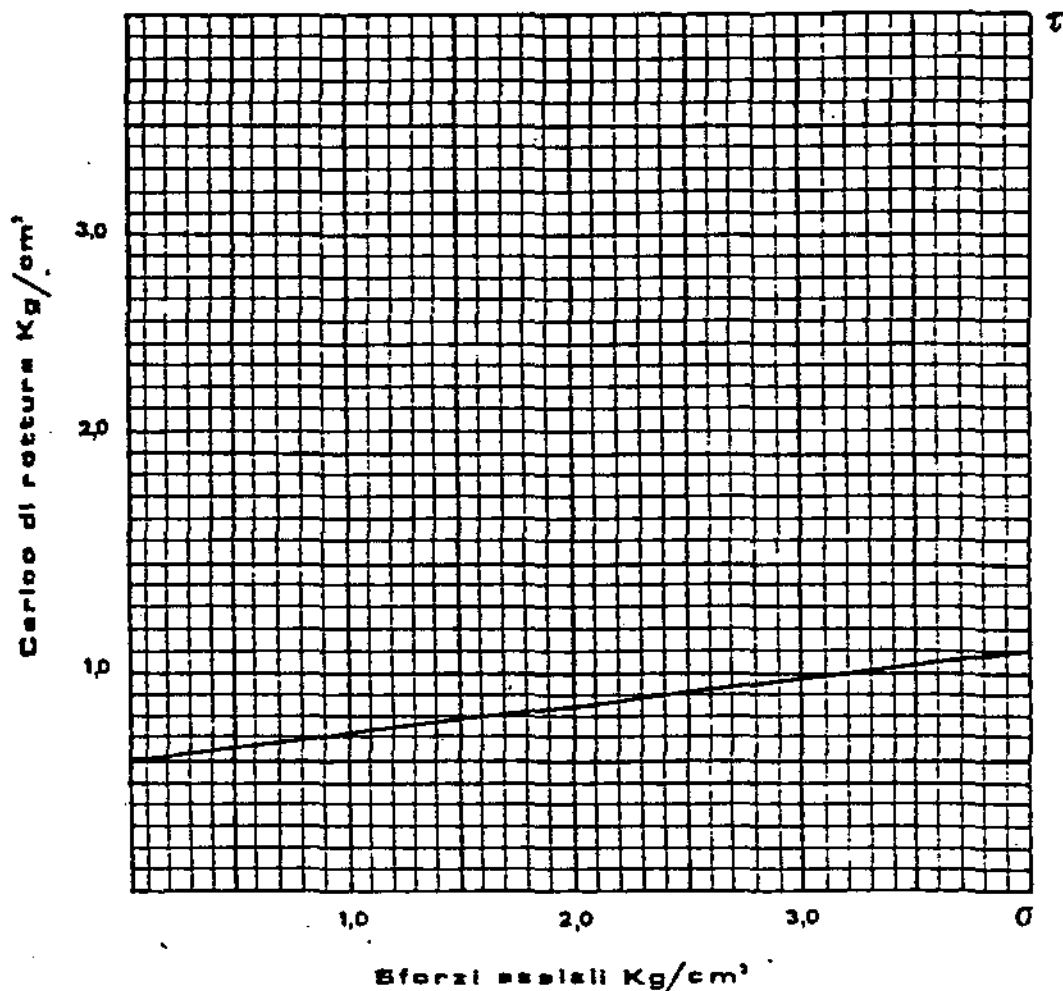
Sondaggio		n. 1	Densità		τ	σ	U%	$\varphi = 8^\circ$
Camp.			Assistem.		0.85	1		$\sigma = 0.700$
Posiz. (prof.)		m. 3.30 - 3.70			1.00	2		kg/cm ²
Peso spec.		1.97 kg/dm ³			1.13	3		U% =
Fraz. inf.								25
			Condizioni di prova: TAGLIO RAPIDO NON DRENATO					





		Densità	τ	σ	U%	$\varphi = 7^\circ$
Sondag.	m. 6	Assesam.	0.70	1		$e = 0.600$
Camp.			0.85	2		kp/amp.
Posiz. pred.	m. 2.00-2.50					U% =
Peso spec.	1.94 kp/dm ³		0.98	3		29
Fraz. in		Condizioni di prova:				
		TAGLIO RAPIDO NON DRENATO				

1558



Sondaggio n°1

1561

0,00 - 0,45	45 cm	Terreno di riporto
0,45 - 1,30	85 cm	Limo argilloso marrone plastico
1,30 - 1,80	50 cm	Limo debolmente argilloso marrone mediamente compatto
1,80 - 2,40	60 cm	Argilla limosa marrone molto plastica
2,40 - 2,90	50 cm	Limo debolmente argilloso appena compatto
2,90 - 3,60	70 cm	Limo argilloso appena plastico
3,60 - 4,20	60 cm	Argilla limosa dura
4,20 - 5,30	110 cm	Limo debolmente argilloso marrone compatto
5,30 - 6,30	100 cm	Sabbia fine localmente limosa mediamente compatta
6,30 - 7,10	80 cm	Sabbia medio-grossolana umida e sciolta
7,10 - 7,30	20 cm	Argilla marrone plastica
7,30 - 8,00	70 cm	Argilla azzurra dura

Il campione indisturbato è stato prelevato da m 4,20 a m 4,80, h = 60 cm, nello strato di limo debolmente argilloso marrone compatto.

Sono stati ottenuti i seguenti dati:

1561

$$w_L = 38 ; w_P = 21 ; \gamma = 1,97 \text{ g/cm}^3 ; w\% = 24\% .$$

Risultando pertanto l'indice di plasticità $I_P = 17$, secondo la carta di plasticità e la classificazione del Bureau of Reclamation, si ha:

CL - argille inorganiche di bassa e media plasticità; argille ghiaiose, sabbiose, limose; argille magre
e poiché l'indice di consistenza $I_C = 0,82$, trattasi di mezzo solido-plastico.

Dalle prove di taglio rapido non drenato si sono ottenuti i seguenti valori:

$$\varphi = 16^\circ ; c = 0,150 \text{ kg/cm}^2$$

La prova edometrica ha fornito per l'indice dei vuoti iniziale e_0 , l'indice di compressibilità C_c e il coefficiente di compressibilità volumetrica $m_v = 1/E$, i valori:

$$e_0 = 0,630 ; C_c = 0,148 ;$$

p	ΔH	m_v	p (kg/cm ²) ΔH (mm) m_v (cm ² /kg)
0,00	0,00	0,017	
0,25	0,08	0,024	
0,50	0,12	0,022	
1,00	0,22	0,016	
2,00	0,32	0,0095	
4,00	0,39	0,0062	
8,00	0,50	0,0036	
16,00	0,58		

Sondaggio n°2

0,00 - 1,20	120 cm	Sabbia medio-fine ricca di materiale di riporto
1,20 - 2,00	80 cm	Argilla marrone dura
2,00 - 2,30	30 cm	Sabbia medio-fine sciolta
2,30 - 2,50	20 cm	Argilla limosa appena plastica
2,50 - 3,20	70 cm	Argilla limosa molle
3,20 - 5,00	180 cm	Sabbia argillosa marrone molle
5,00 - 5,10	10 cm	Argilla sabbiosa plastica
5,10 - 7,20	210 cm	Argilla marrone dura
7,20 - 8,00	80 cm	Argilla debolmente limosa azzurra plastica

Il campione indisturbato è stato estratto da m 2,50 a m 3,10, h = 60 cm, nello strato di argilla limosa molle.

1562

I dati ottenuti sono:

$$w_L = 47 ; w_P = 30 ; \gamma = 1,82 \text{ g/cm}^3 ; w\% = 36\% .$$

Essendo $I_P = 17$, sempre secondo la carta di plasticità, si ha:

ML/OL - limi inorganici e sabbie molto fini; polvere di roccia; sabbie fini limose e argillose a bassa plasticità; e

limi organici; limi-argille organiche a bassa plasticità

e poiché $I_C = 0,64$, trattasi di terreno a consistenza plastica.

La prova di taglio fornisce:

$$\varphi = 10^\circ ; c = 0,800 \text{ kg/cm}^2$$

Dalla prova edometrica si sono ottenuti i valori:

$$e_o = 0,818 ; C_c = 0,258 ;$$

p	ΔH	m_v
0,00	0,00	
0,25	0,15	0,030
0,50	0,33	0,066
1,00	0,50	0,049
2,00	0,65	0,032
4,00	0,71	0,018
8,00	0,83	0,0103
16,00	0,90	0,0056

0,00 - 1,00	100 cm	Terreno di riporto
1,00 - 1,90	90 cm	Sabbia fine limosa marrone compatta
1,90 - 3,10	120 cm	Argilla limosa marrone compatta
3,10 - 4,00	90 cm	Limo argilloso marrone plastico
4,00 - 4,30	30 cm	Argilla debolmente limosa marrone dura
4,30 - 6,90	260 cm	Limo compatto marrone appena plastico
6,90 - 7,10	20 cm	Sabbia medio-fine marrone compatta
7,10 - 7,75	65 cm	Argilla marrone dura
7,75 - 8,00	25 cm	Argilla azzurra appena plastica

Il campione indisturbato è stato prelevato da m 2,50 a m 3,10 , h = 60 cm, nello strato di argilla limosa marrone compatta.

Si sono ottenuti i seguenti dati:

$$v_L = 38 ; v_P = 26 ; \gamma = 2,04 \text{ kg/cm}^2 ; w\% = 24\% .$$

Risultando $I_p = 12$, si ha anche in questo caso: CL ; e poiché
 $I_c = 1,16$, il suolo ha consistenza semi-solida.

1563

La prova di taglio ha dato i seguenti valori:

$$\varphi = 7^\circ ; c = 0,500 \text{ kg/cm}^2$$

La prova edometrica ha fornito i valori:

$$e_o = 0,550 ; C_c = 0,190 ;$$

p	ΔH	m_v
0,00	0,00	0,0103
0,25	0,05	0,0206
0,50	0,10	0,0245
1,00	0,25	0,0174
2,00	0,35	0,0148
4,00	0,59	0,0079
8,00	0,63	0,0046
16,00	0,74	

[illegible]

16,50

Limi grigi-marroni
compatti

18,00

Limi argillosi con
fossili e livelletti
di ghiaia

20,00

21,00

Sabbia sciolta

22,50

Sabbia più o meno
addensata

25,00

25,30

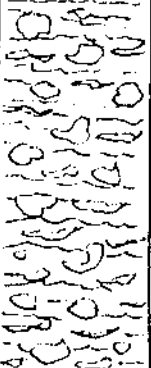
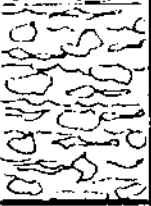
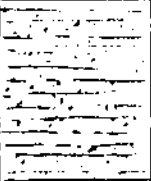
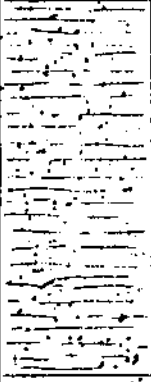
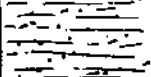
Ghiaia
Sabbia addensata
gialla

27,00

30,00

35,00

Ghiaia e sabbia fine

Foro Ø mm.	Profond. mt.	Litologia	Descrizione del terreni	CAROTAGGIO																CAMPIONI																S.P.T n° colpi ogni 15 cm
				% prelievo																Indisturb. quota m.	Disturb. quota m.	Penetrom.					Torvane									
				0	10	20	30	40	50	60	70	80	90	100			0	1	2			3	4	5	0	0,5	1,0	1,5	2,0	2,5						
	5,00		Riporto, ciottoli e materiale di depositi conciari molto molle																											1565						
	7,50																													2						
	10,00																													4						
	15,00		Limo sabbioso azzurro molto molle																											6						
																														1						
																														3						
																														7						

[illegible]

31,60

C.I. $\phi=29^{\circ}$ C=0

35,00

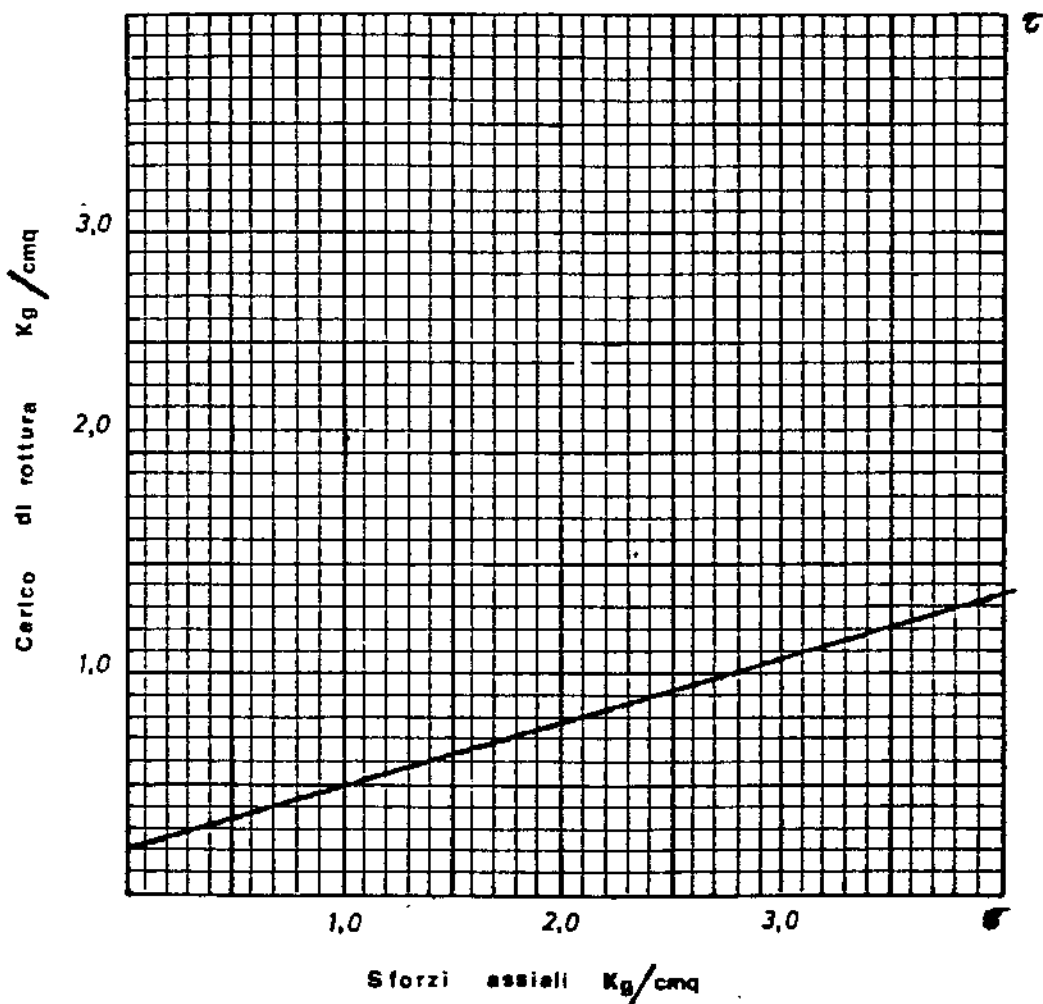
Limo sabbioso sciolto

40,00

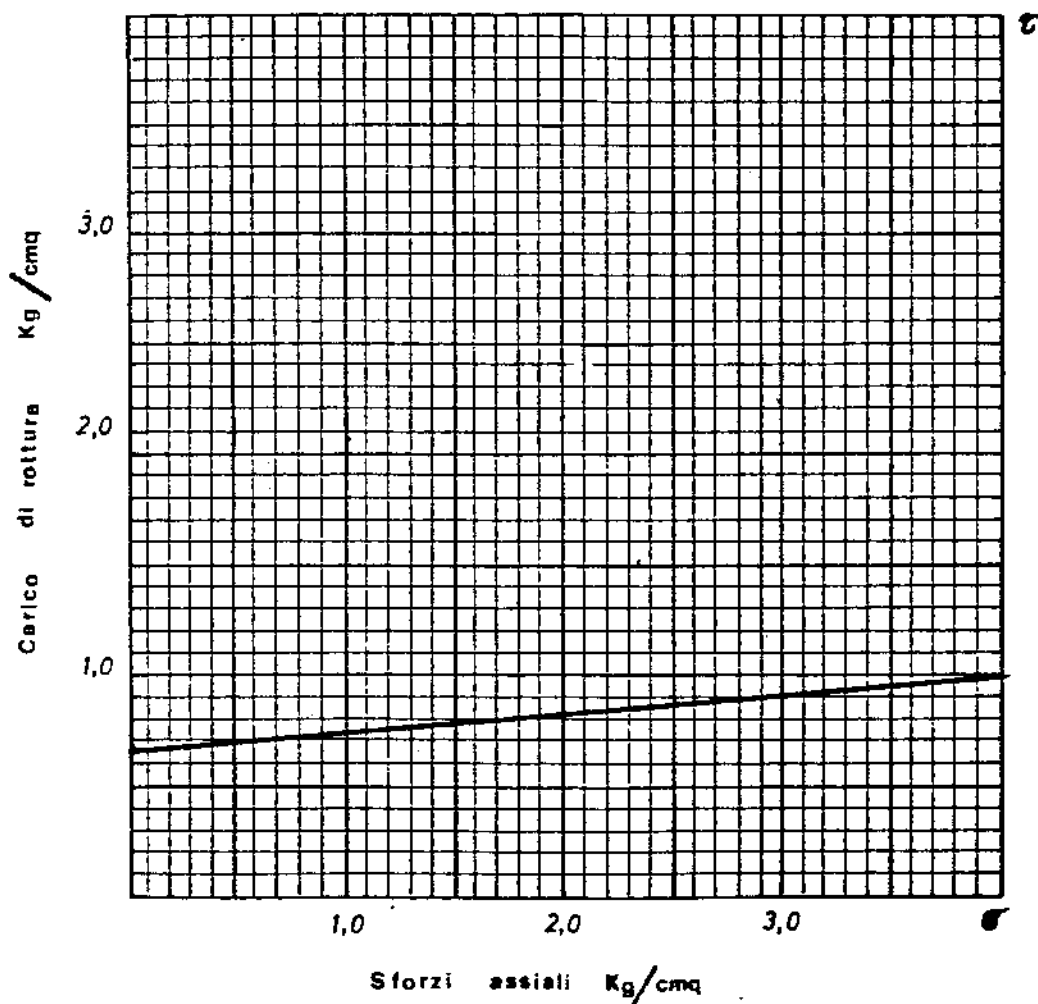
1565

1
3
5

Sond.	N°2	Densità	τ	σ	u%	φ	15°
Camp.		Assestam.	0,44	1		c	0,2 Kg/cm ²
Posiz. Prel.	19,00=19,30m		0,63	2		u%	
Peso Spec.	1,82 Kg/dm ³		1,12	3			26%
Fraz. Int.		Condizioni di prova Taglio rapido non drenato non consolidato. Velocità di prova 1,27 mm/min.					
Prova Penetr							

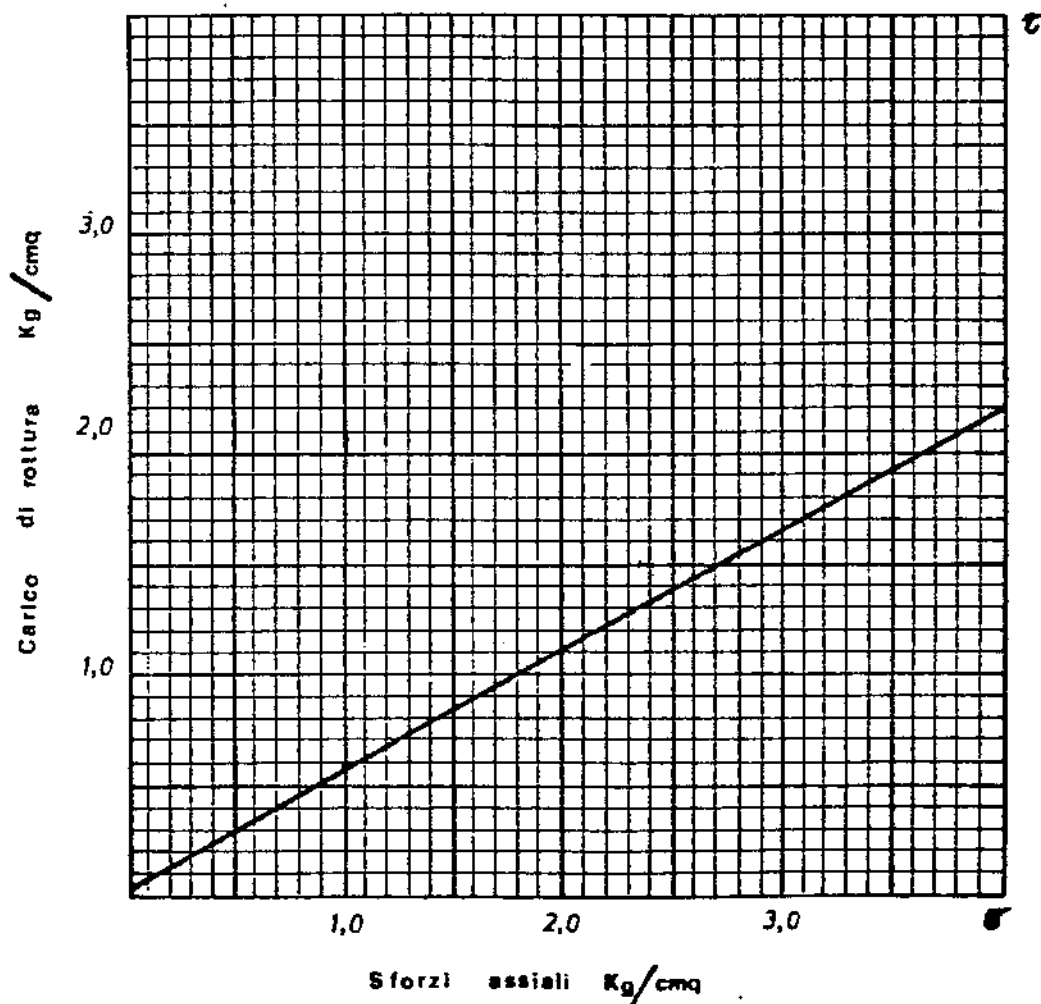


Sond.	N°2	Densità	τ	σ	u%	φ	5°	1565
Camp.		Assestam.	0,73	1		c		
Posiz. Prel.	26,00=26,30m		0,81	2		0,65 Kg/cm ²		
Peso Spec.	1,88 Kg/dm ³		0,90	3		u%	24%	
Fraz. Int.		Condizioni di prova Taglio rapido non drenato non consolidato. Velocità di prova 1,27 mm/min.						
Prova Penetr.								



Sond.	N°2	Densità	τ	σ	u%	φ	29°
Camp.		Assestam.	0,59	1		c	0
Posiz. Fraz.	31,60=32,00m		1,10	2		u%	25%
Peso Spec.	1,85 Kg/dm ³		1,65	3		Condizioni di prova Taglio rapido non drenato non consolidato. Velocità di prova 1,27 mm/min.	
Fraz. Int.							
Prova Penetr							

1565



[illegible]

20.00

20,10

25.00

30,00

35.00

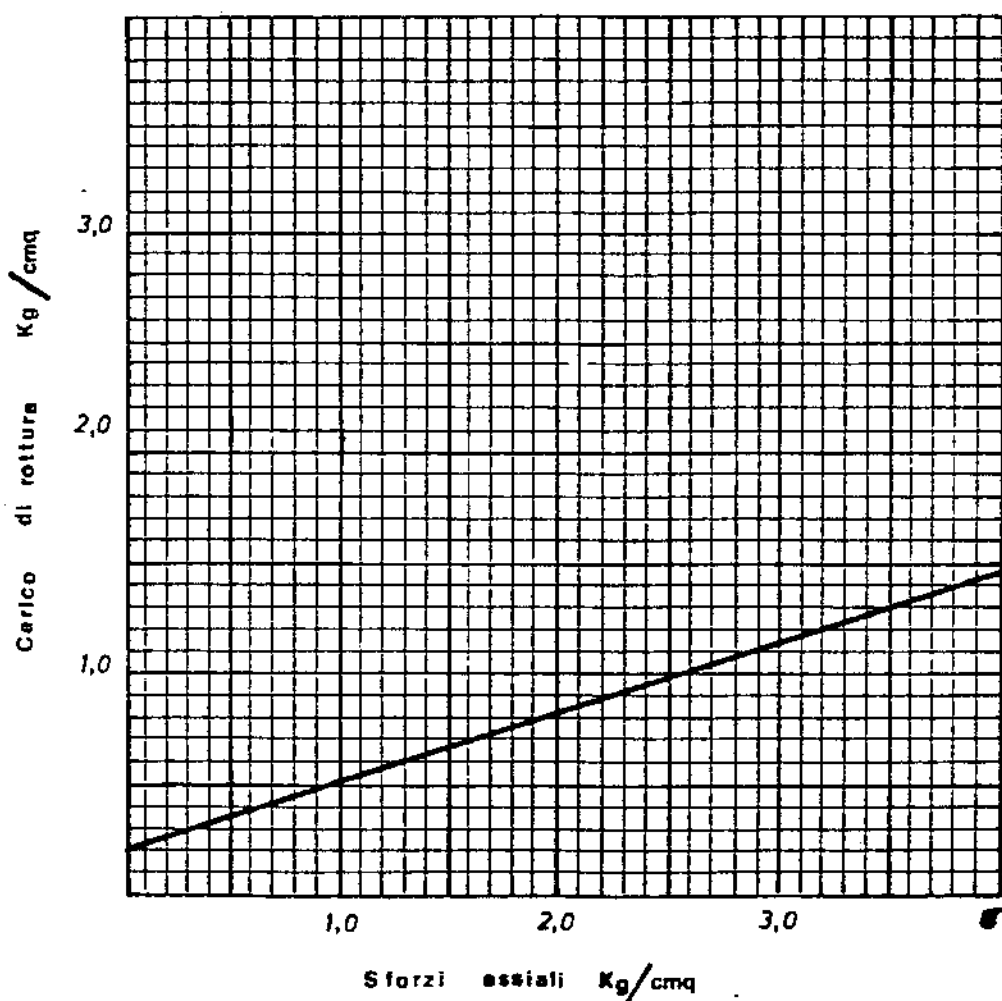
Sabbia e ghiaia sciolta
con associati livelletti
argillosi

35,00

40,00

VALUTAZIONE
LINEA DI CANTIEREVALUTAZIONE
CANTIERE

Sond.	N°3	Densita'	τ	σ	u%	φ	17°
Camp.		Assestam.	0,52	1		c	0,2 Kg/cm ²
Posiz. Prel.	7,50=8,10 m		0,84	2			
Peso Spec.	1,92 kg/dm ³		1,12	3		u%	25%
Frez. Int.		Condizioni di prova Taglio rapido non drenato non consolidato. Velocità di prova 1,27 mm/min.					
Prova Penetr.							
E.L.L.	kg/cm ²						



τ 1566

0.00

0.20

0.40

0.90

4.00



Cemento

Materiale di riporto

Limo argilloso grigio, plastico

Argilla massone con venature grigie,
con tracce di torba, compatta

w_n	γ Kg/dm ³	c Kg/cm ²	φ
26%	1.99	0.400	10°

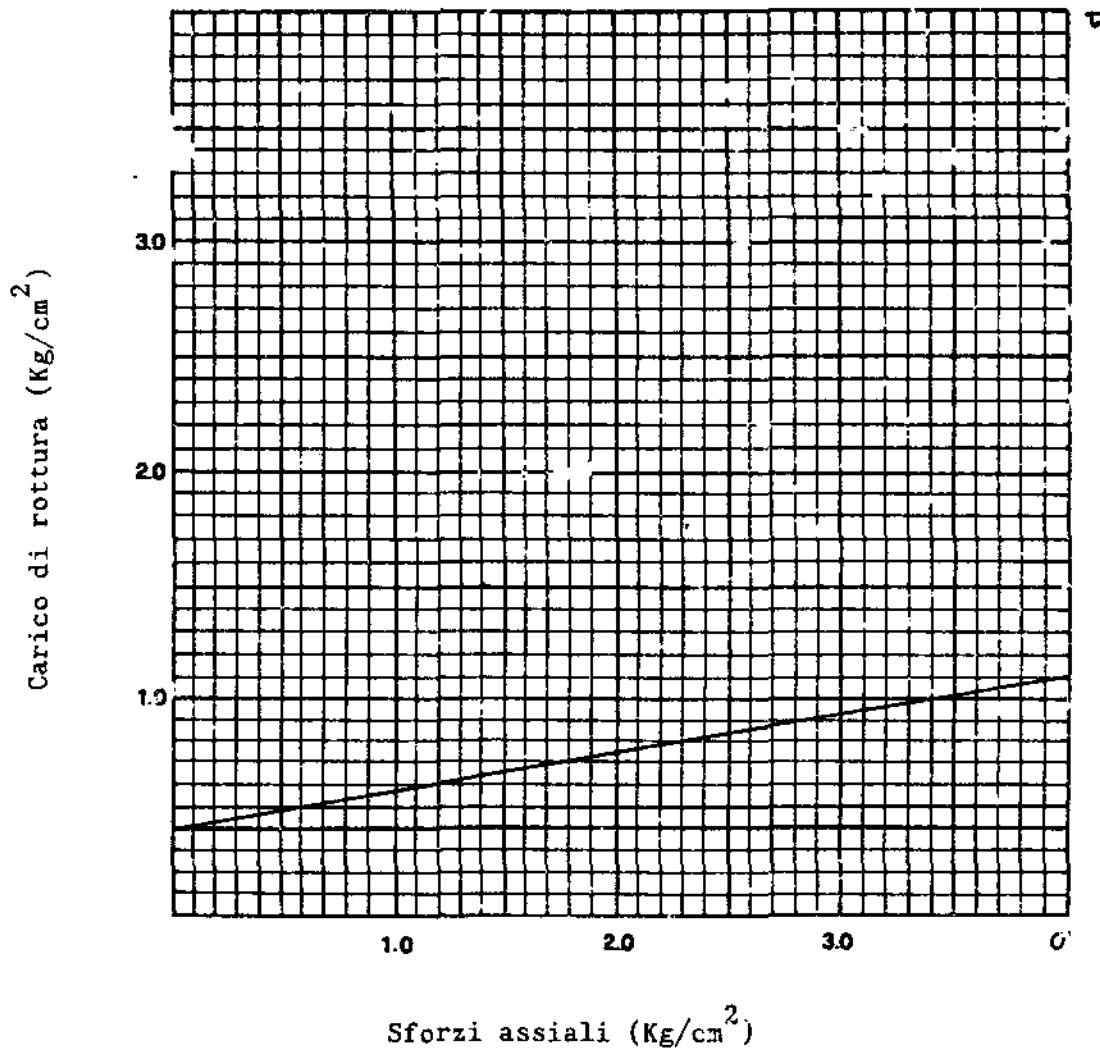
Località S. Croce S/A

1567

Comm.te _____

Sond. 1 m. 1.50 - 1.80

Modalità di esecuzione: Taglio diretto mediante apparecchio Casagrande.

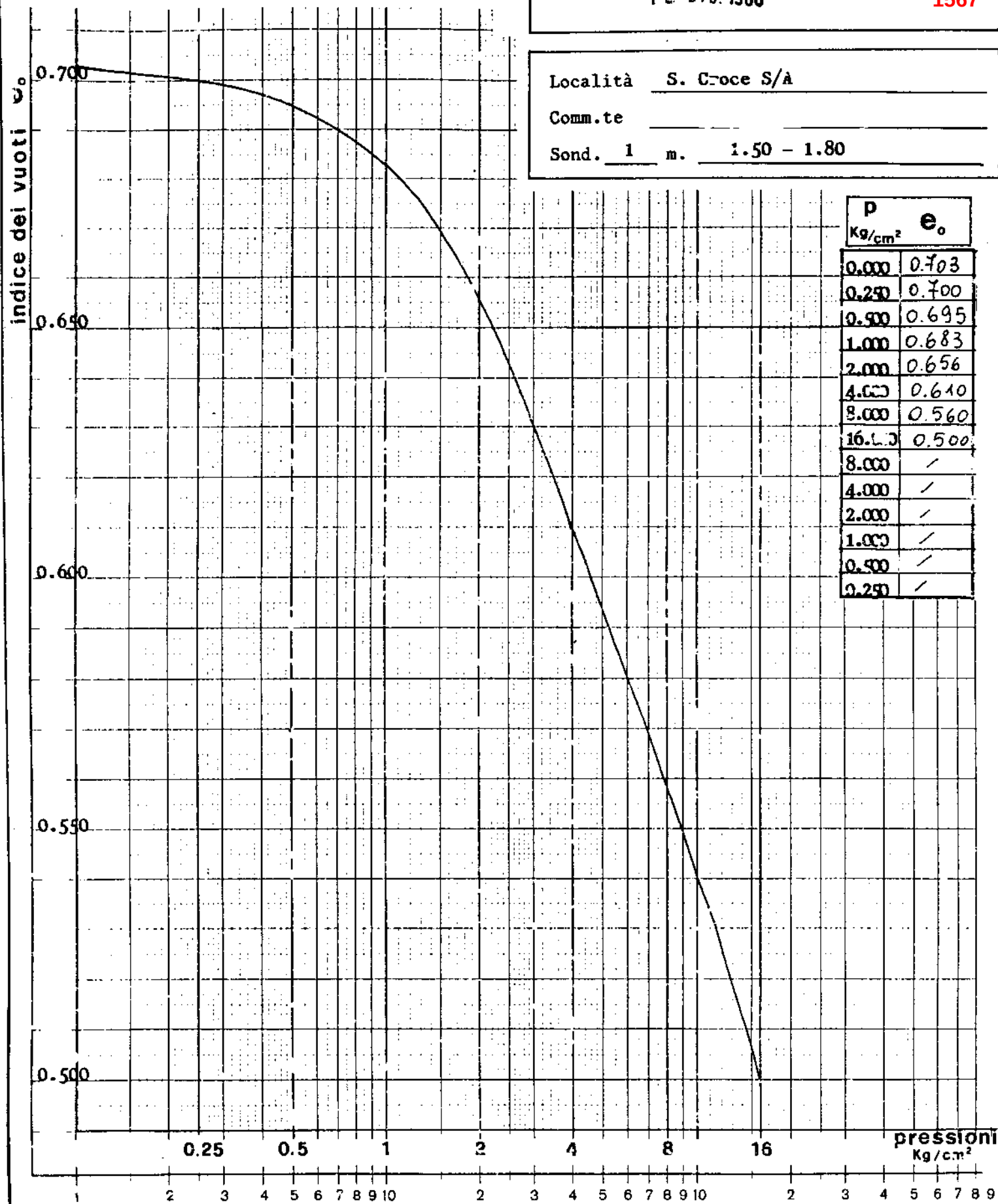


Descrizione: Argilla marrone con tracce di torba, compatta.

Località S. Croce S/A

Comm.te _____

Sond. 1 m. 1.50 - 1.80

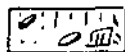


0.00

0.35

1.40

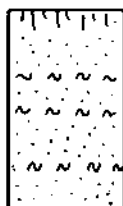
4.50



Materiale di riporto

Argilla debolmente limosa, grigia,
compattaArgilla marrone con venature grigie,
con tracce di torba, compatta

0.00



Sabbia fine limosa, marrone,
compatta.

1.30



Argilla marrone, compatta.

2.10



Limo argilloso, marrone,
plastico.

3.00



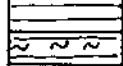
Argilla marrone, compatta.

4.40



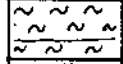
Argilla grigia, plastica.

5.70



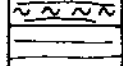
Argilla debolmente limosa,
plastica.

5.90



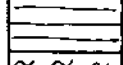
Limo argilloso marrone, plastico.

6.30



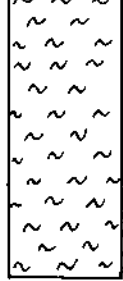
Argilla limosa, grigia, plastica.

6.50



Argilla grigia, plastica.

7.10

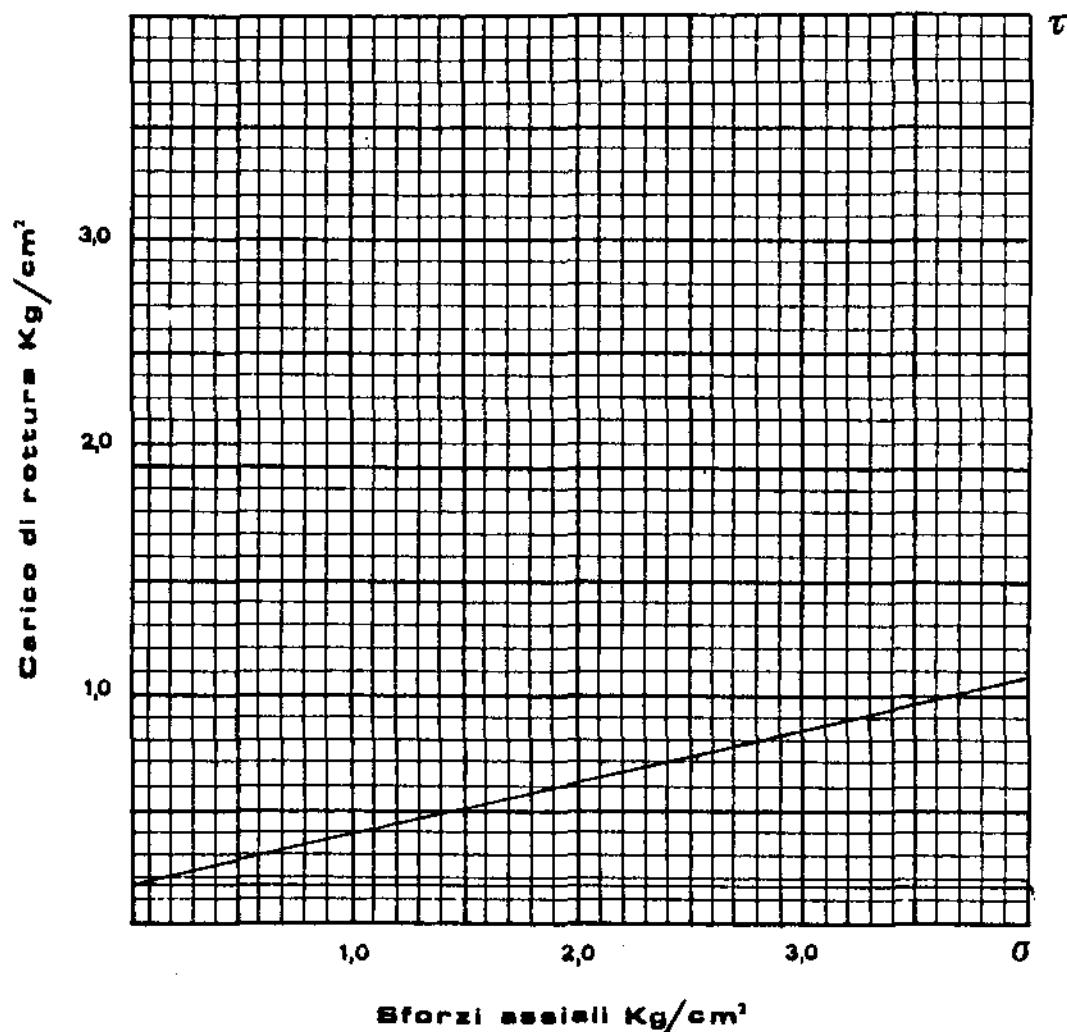


Limo grigio, molle.

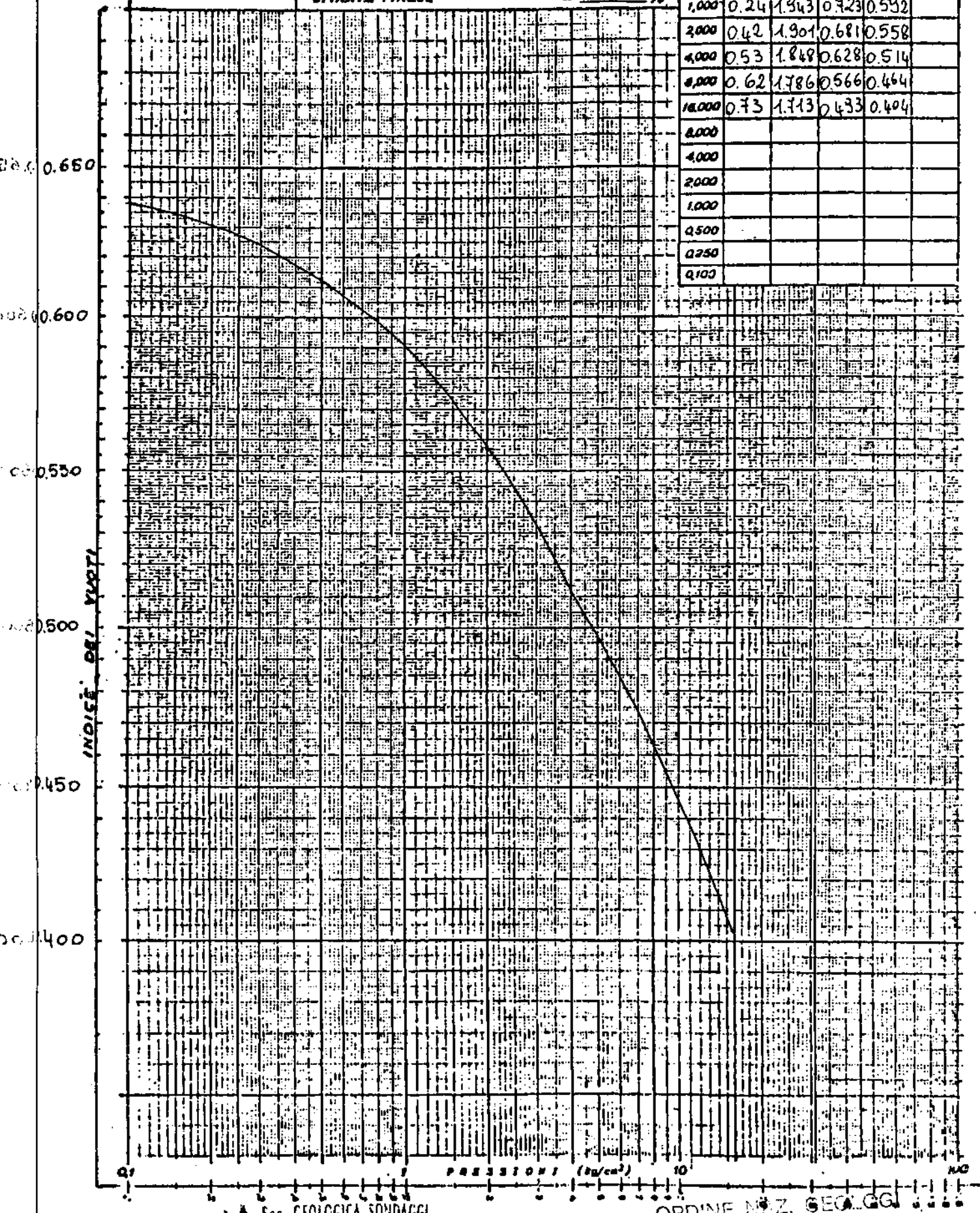
9.00

S. Croce		Densità'	τ	σ	U%	$\varphi = 13^\circ$
Bondag.	1		0.390	1.00		$c =$
Camp.	1					0.150
Posiz. prel.	M. 2.50+2.80		0.620	2.00		U% =
Peso spec.	2.01 Kg/dm ³		0.840	3.00		25
Fraz. inf.		Condizioni di prove: Taglio rapido non drenato.				

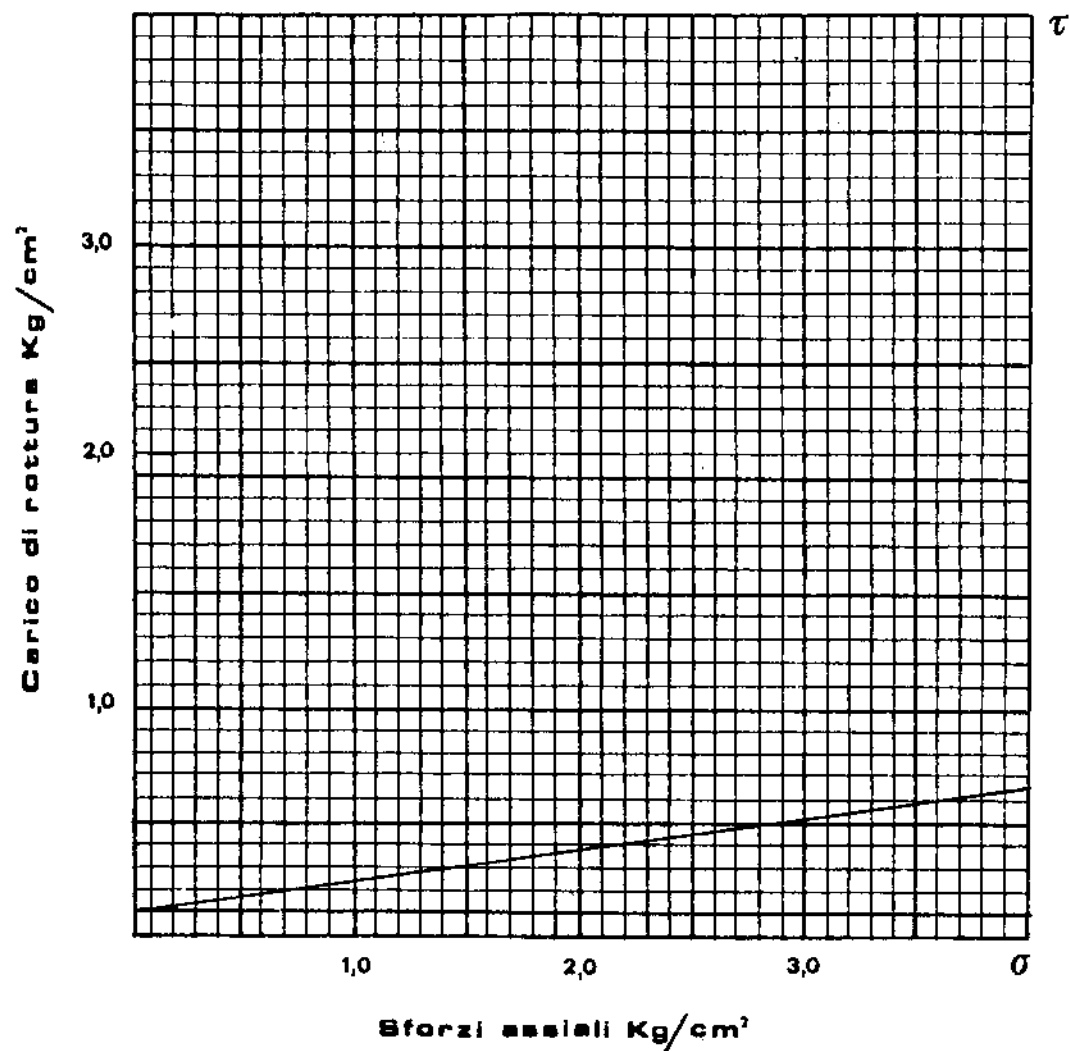
2578



PRATICA L/	DIMENSIONI SCATOLA			PRESSIONE (kg/cm ²)	TEMPERATURA (mm)	ALTEZZE		INDICE VUOTI
	H = 2.000	φ = 5.000	Σ = 20			CALCOLATE VUOTI (2 M)	(2H-2h)	
BONDAGGIO 1	PESO SPECIFICO ASS. (γ) = 2.65	gr/cm ³		0.00	0.00	2.000	0.780	0.635
CAMPIONE N°	PESO UMIDO FINALE = 36.43	gr		0.250	0.15	1.985	0.765	0.627
PROF. (m) 250/2.80	PESO SECCO FINALE (P.S.) = 64.70	gr		0.500	0.18	1.967	0.747	0.612
	ALTEZZA RIDOTTA (2H ₀) = (RΣ)/γ = 1.220			1.000	0.24	1.943	0.723	0.592
	UMIDITÀ FINALE = 18 %			2.000	0.42	1.901	0.681	0.558
				4.000	0.53	1.848	0.628	0.514
				6.000	0.62	1.786	0.566	0.464
				10.000	0.73	1.713	0.433	0.404
				2.000				
				4.000				
				6.000				
				1.000				
				0.500				
				0.250				
				0.100				



S. Croce		Densita'	τ	σ	U%	$\varphi = 8^\circ$ 2578
Bondag.	1		0.240	1.00		c = 0.100
Camp.	2	Assesam.	0.380	2.00		
Posiz. prel.	m. 5.30-5.70		0.520	3.00		U% = 30
Peso spacc.	1.95 Kg/dm ³	Condizioni di prova: Taglio rapido non drenato.				
Fraz. inf.						



FS (MN/MQ)

QC (MN/MQ)

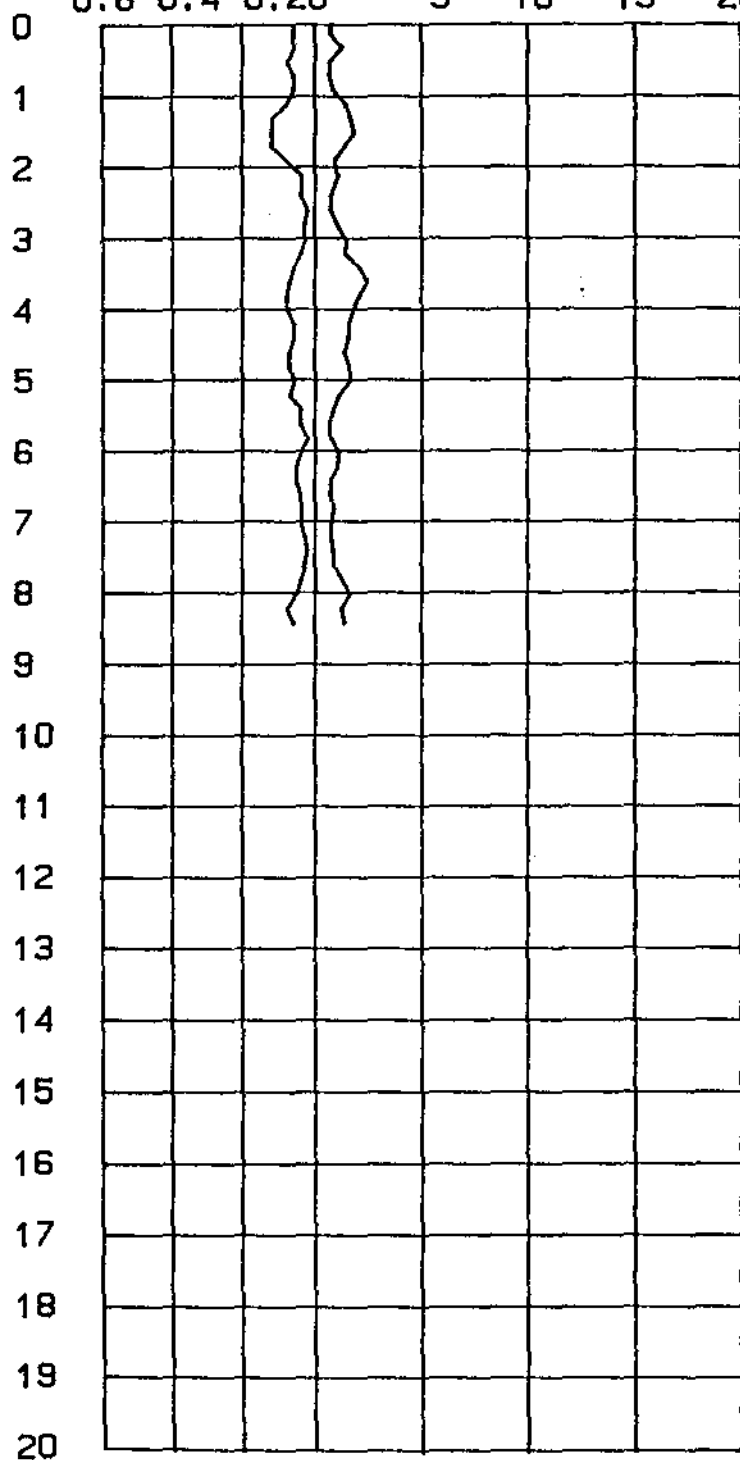
2592

QC/FS

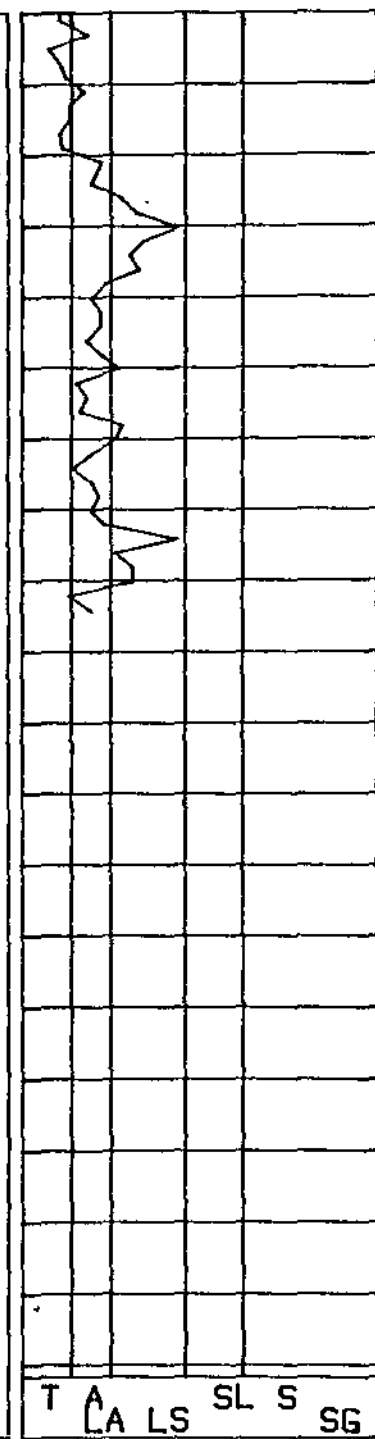
0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100



Quota di falda



T A LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

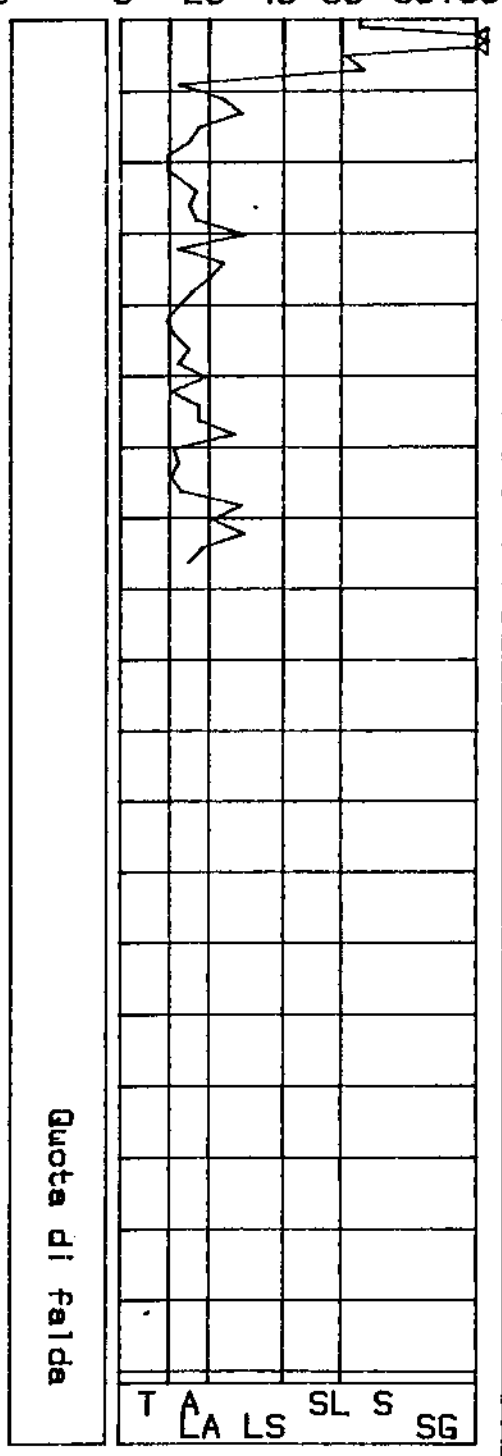
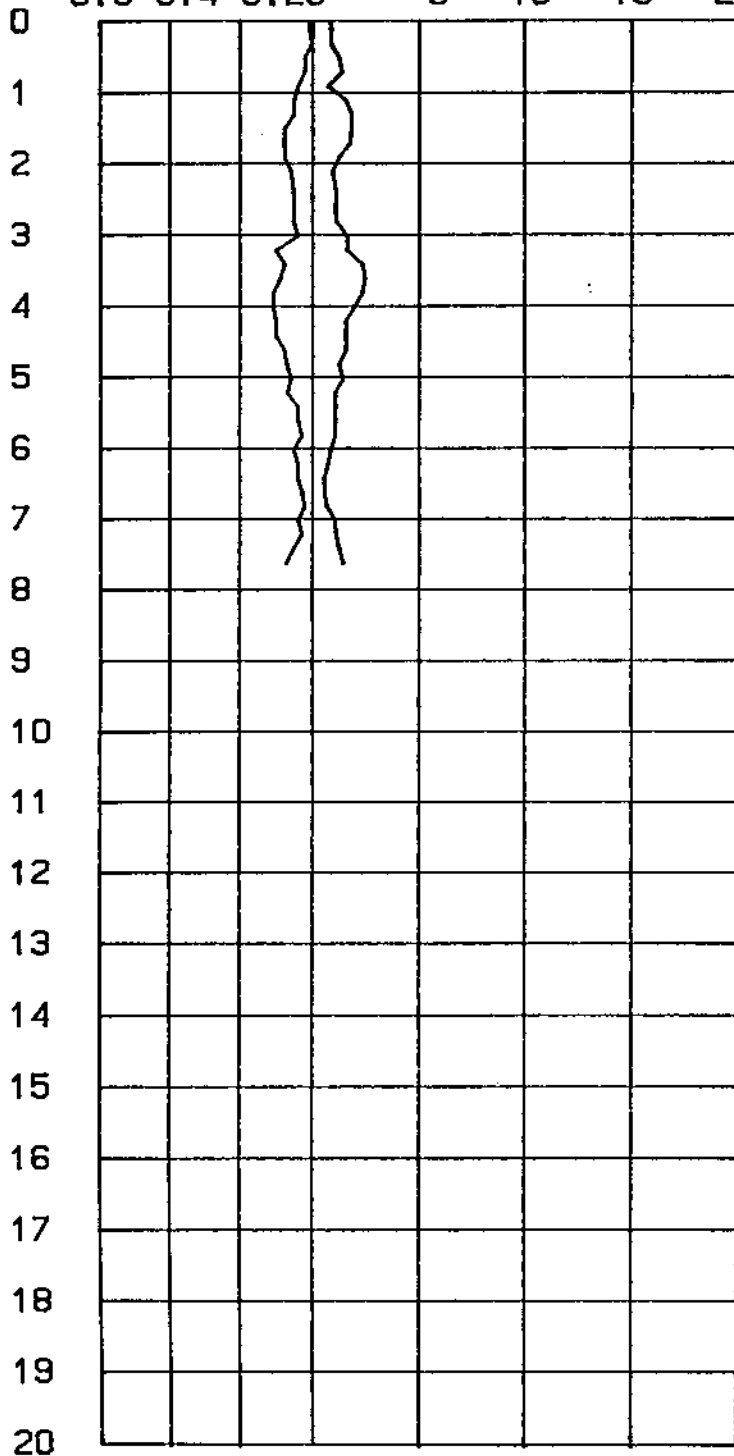
2593

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100



Quota di falda

T A LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

2594

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100

0

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

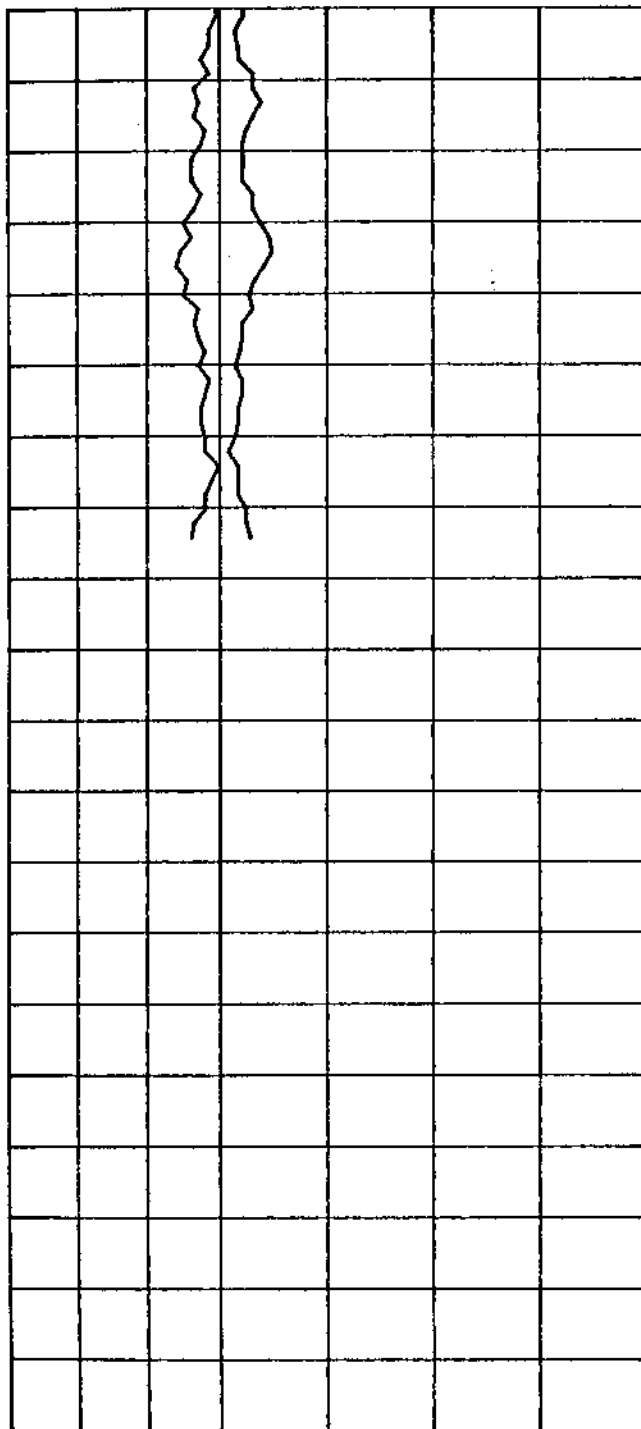
16

17

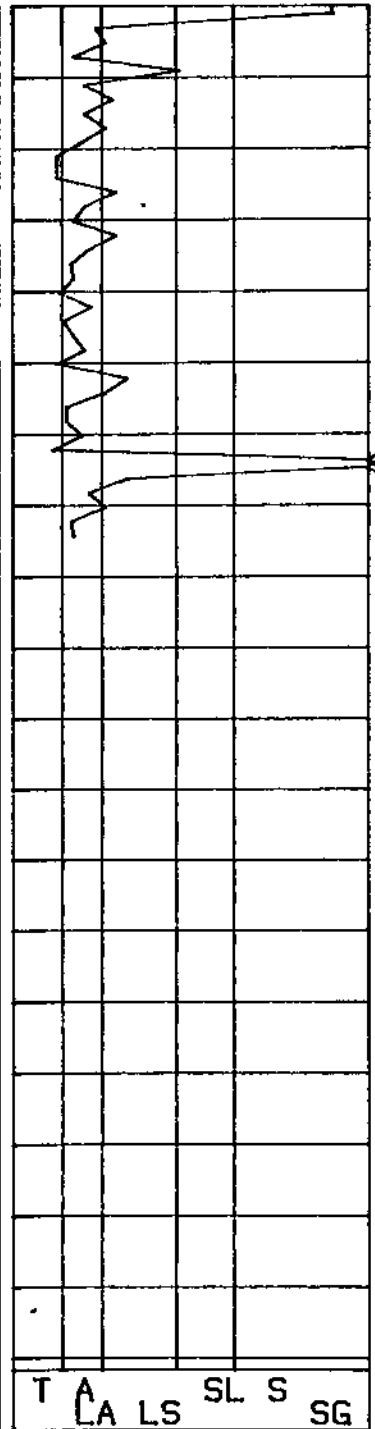
18

19

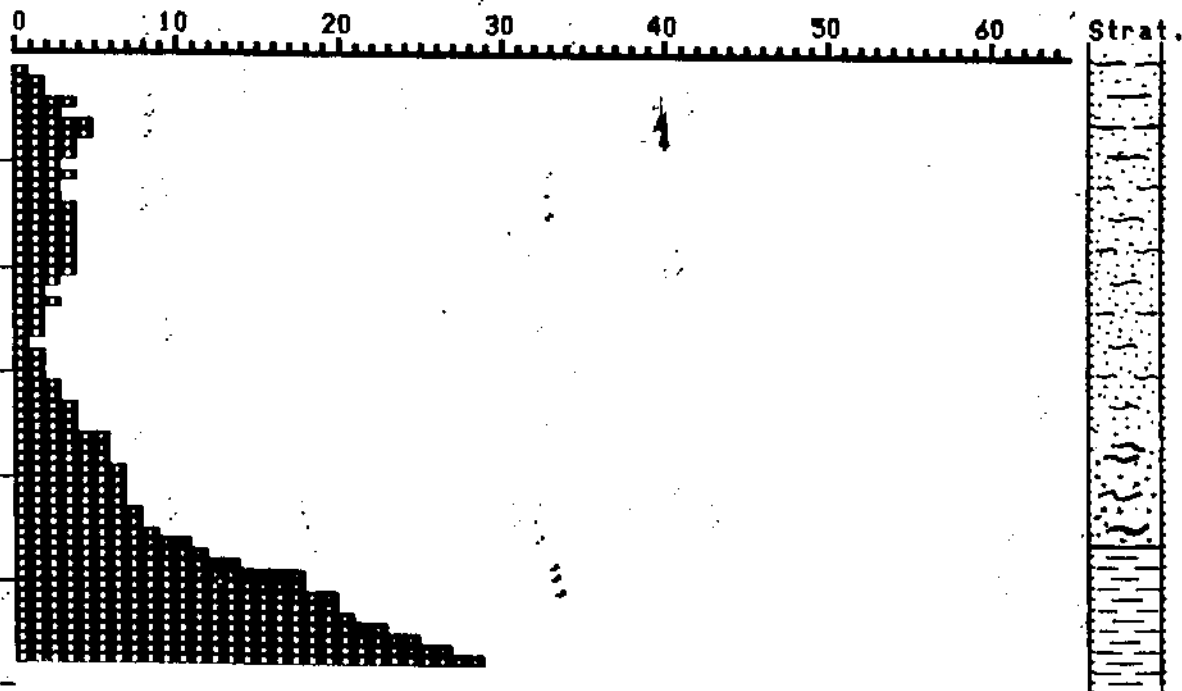
20

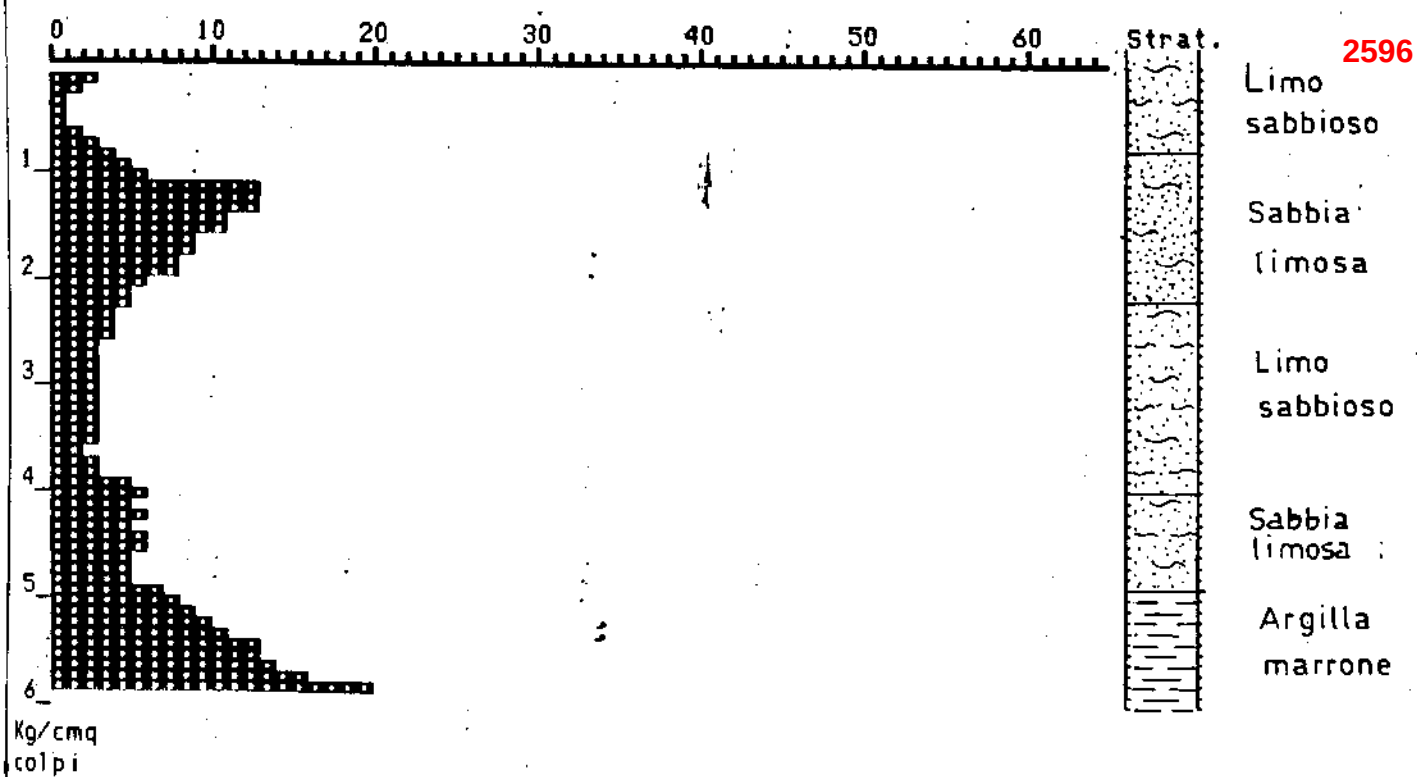


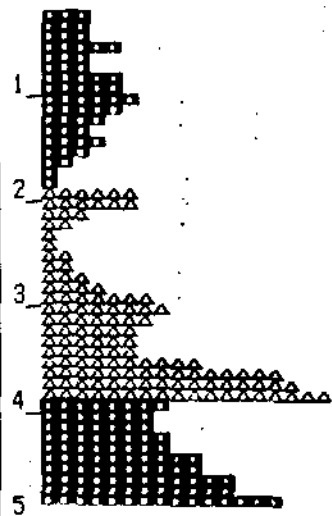
Quota di falda



T A LS SL S SG







Strat.

2597

Limo
sabbioso

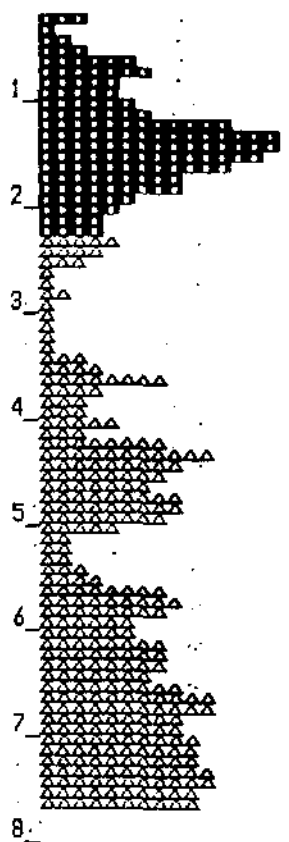
Argilla
marrone

Kg/cmq
colpi

0 10 20 30 40 50 60

Strat.

2598



Limo
sabbioso

Sabbia

limosa

Limo
sabbioso

Sabbia

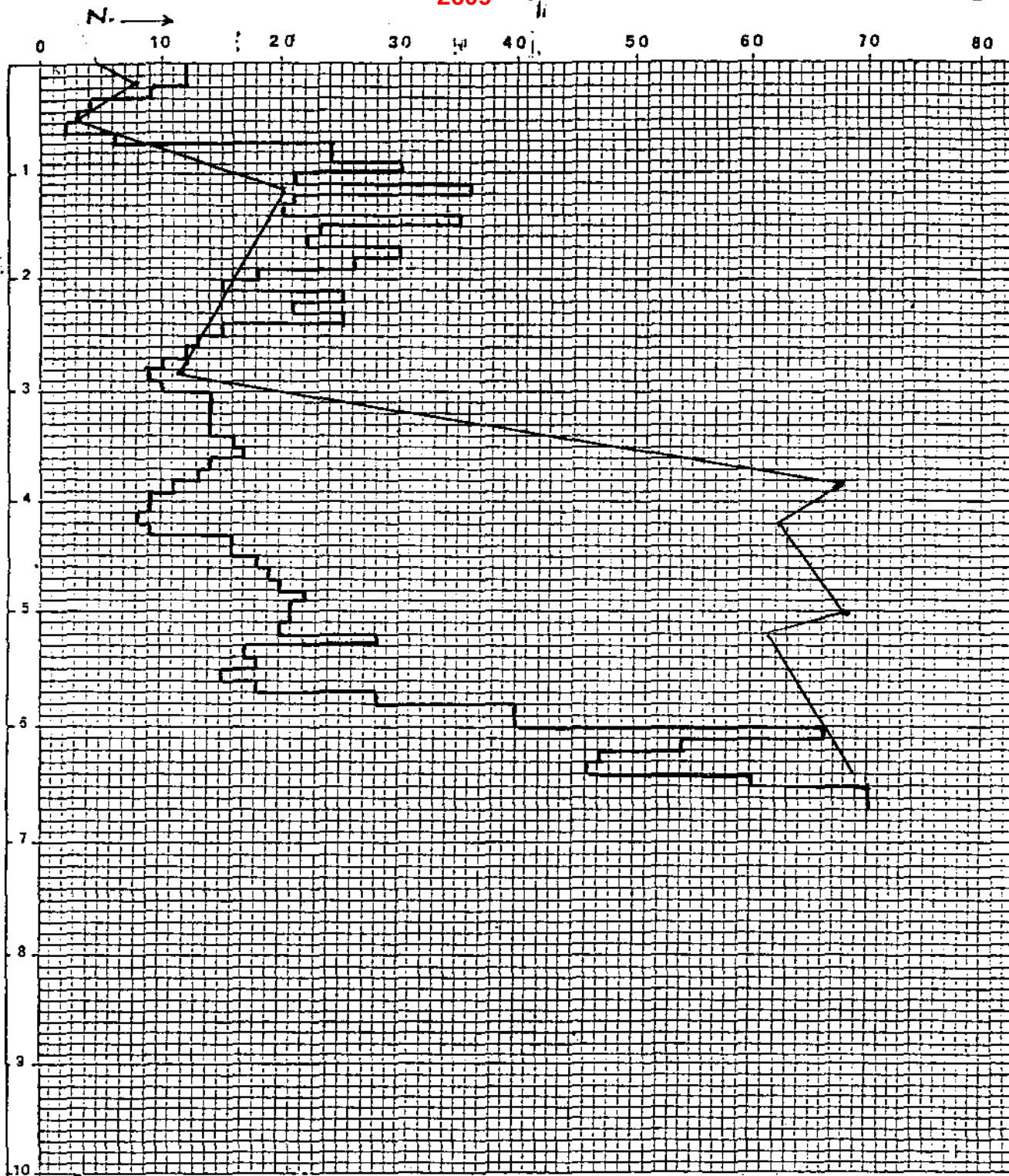
limosa

Limo
sabbioso

Argilla
marrone

Kg/cmq
colpi

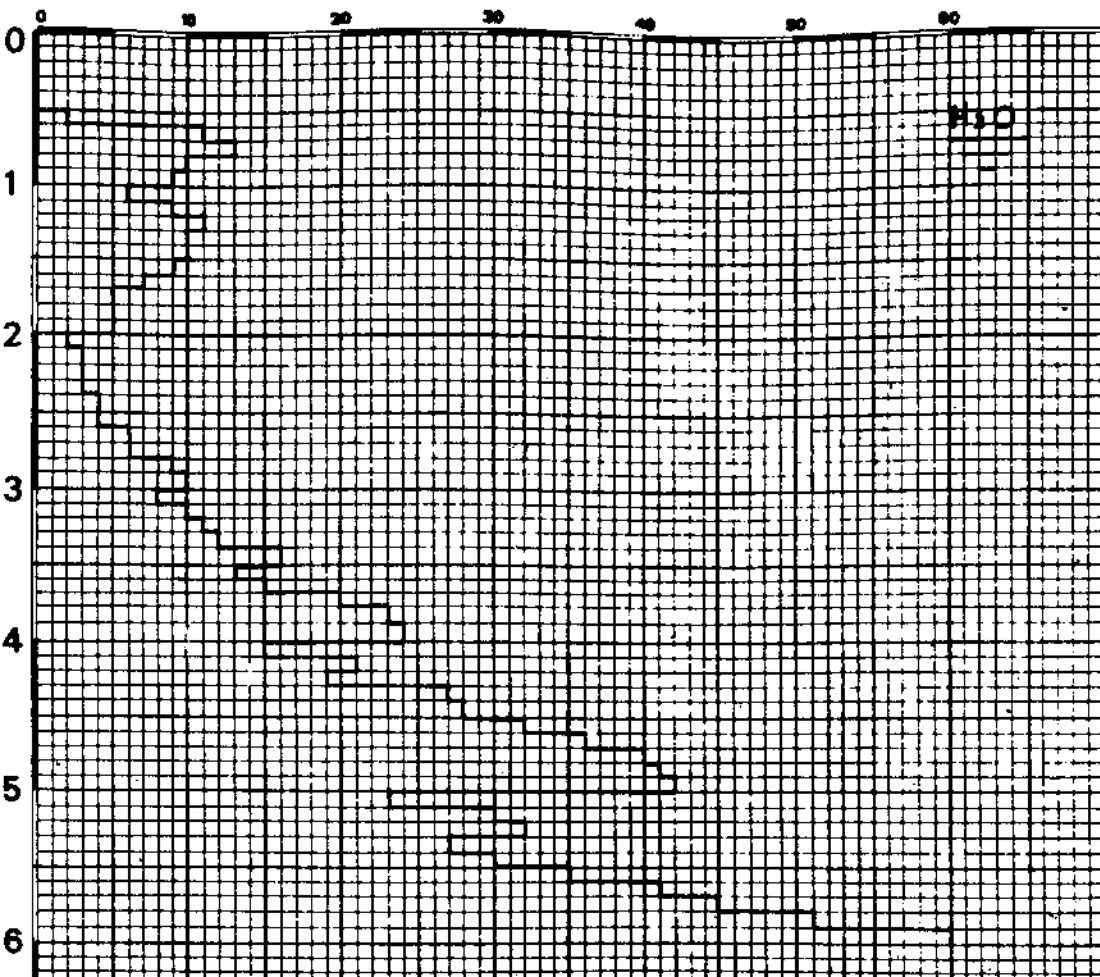
2609 DYNAMIC-PENETROMETER TEST



colpi per 10 cm di avanzamento. →

Strati =
graficiDescrizione =
Log.

2611



suolo

lime

lime
argilleosoargilla
mediamente
plasticaargilla
compatta

colpi per 10 cm di avanzamento. —→

Strati x
grafia

Descrizione
Log.

2612

suolo

lime

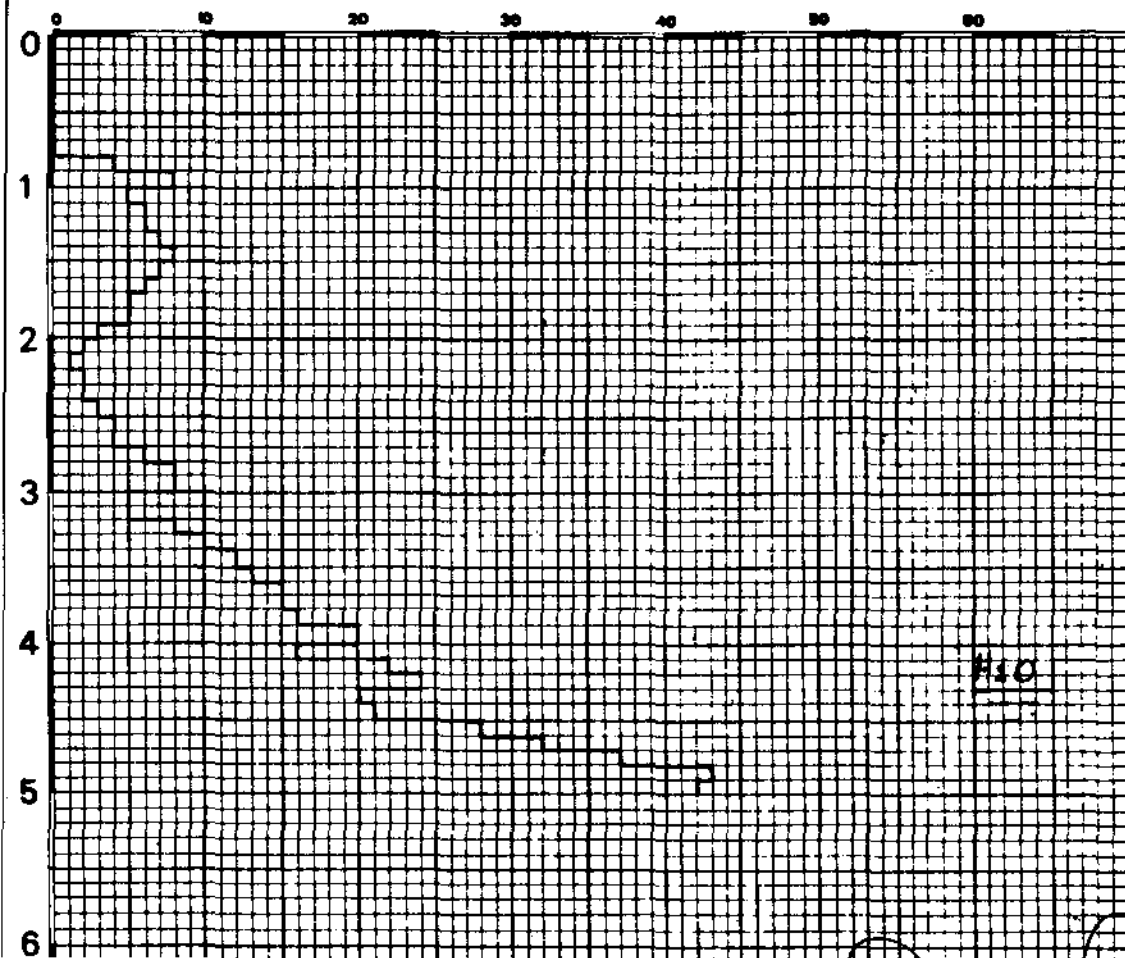
lime
argillose

argilla
mediamente

plastica

argilla
compatta

H₂O



colpi per 10 cm di avanzamento. —→

Strati =
grafiDescrizione
Log.

2613

suolo

lime

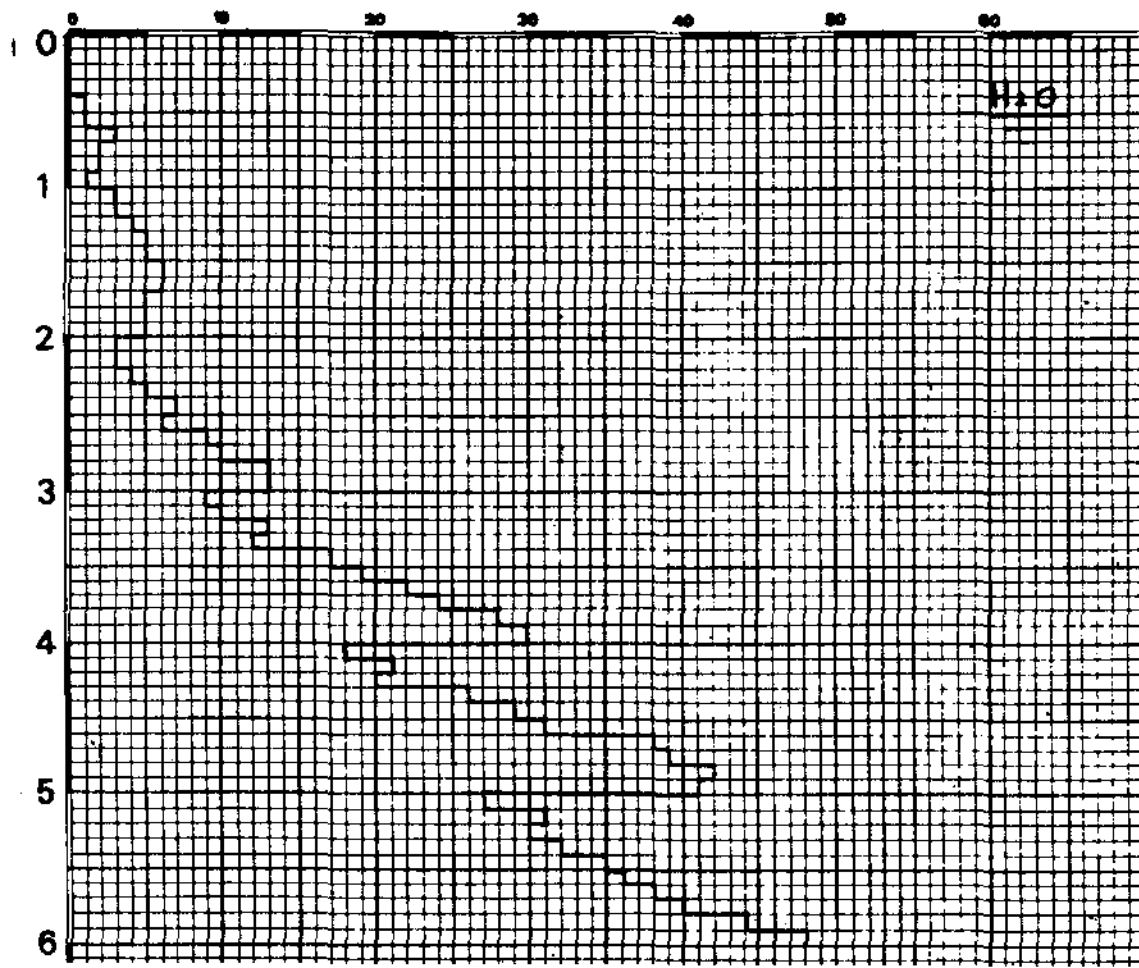
lime
argilleseargilla
mediamente

plastica

argilla

compatta

colpi per 10 cm di avanzamento. —→

Strati-
grafiaDescrizione
Log.

suele 2614

lime

lime
argillosoargilla
mediamente
plasticaargilla
compatta

FS (MN/MQ)

QC (MN/MQ)

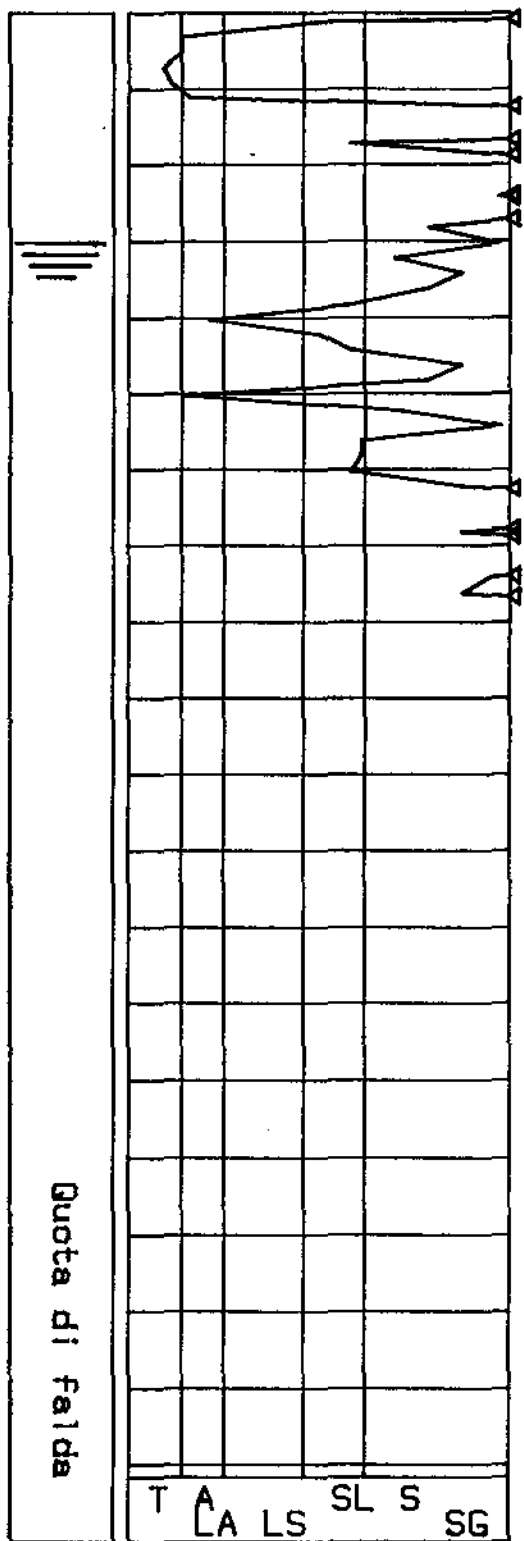
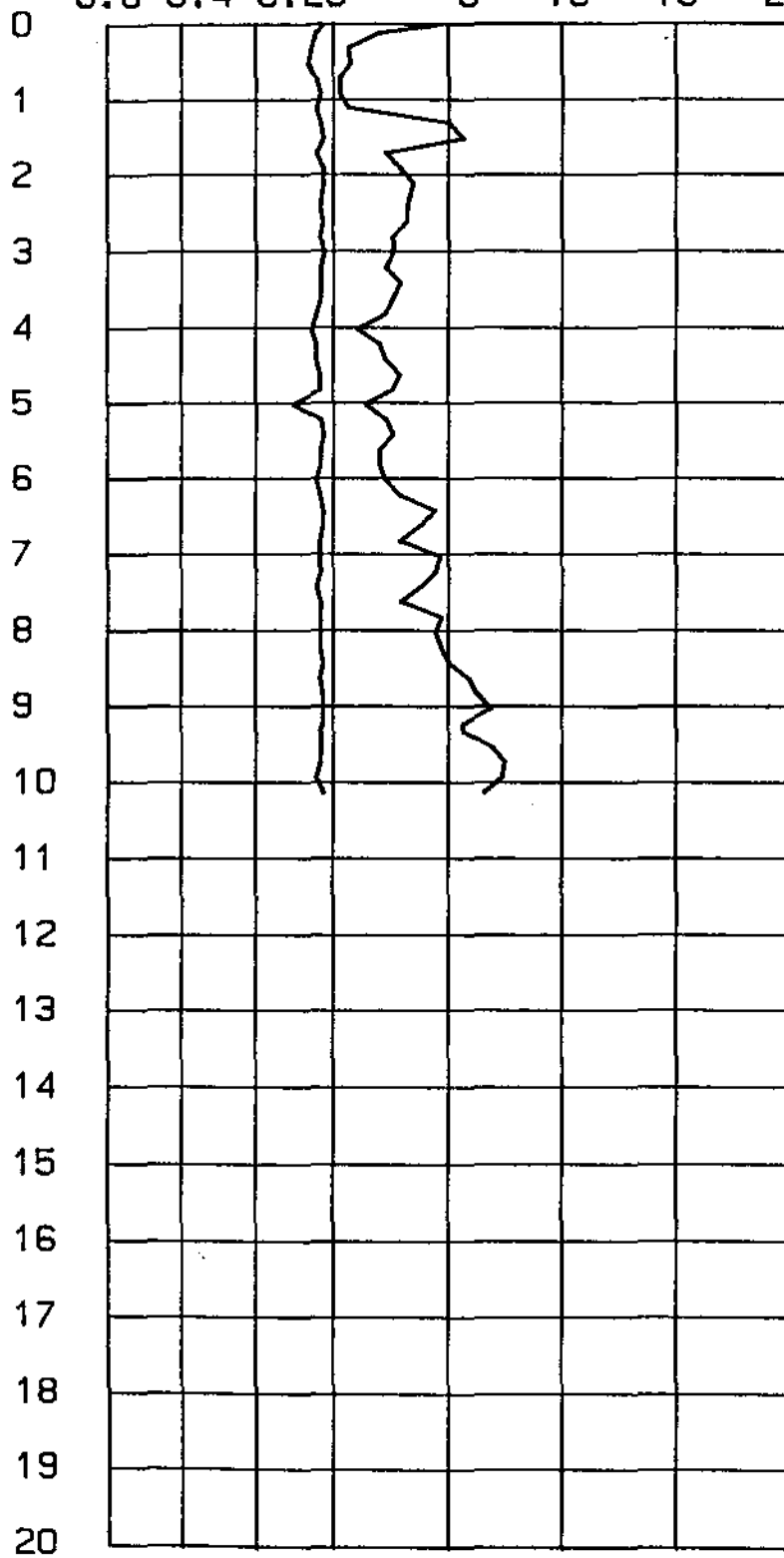
2615

QC/FS

0.6 0.4 0.20

5 10 15 20

0 20 40 60 80 100



Quota di falda

T A LA LS SL S SG

FS (MN/MQ)

QC (MN/MQ)

2616

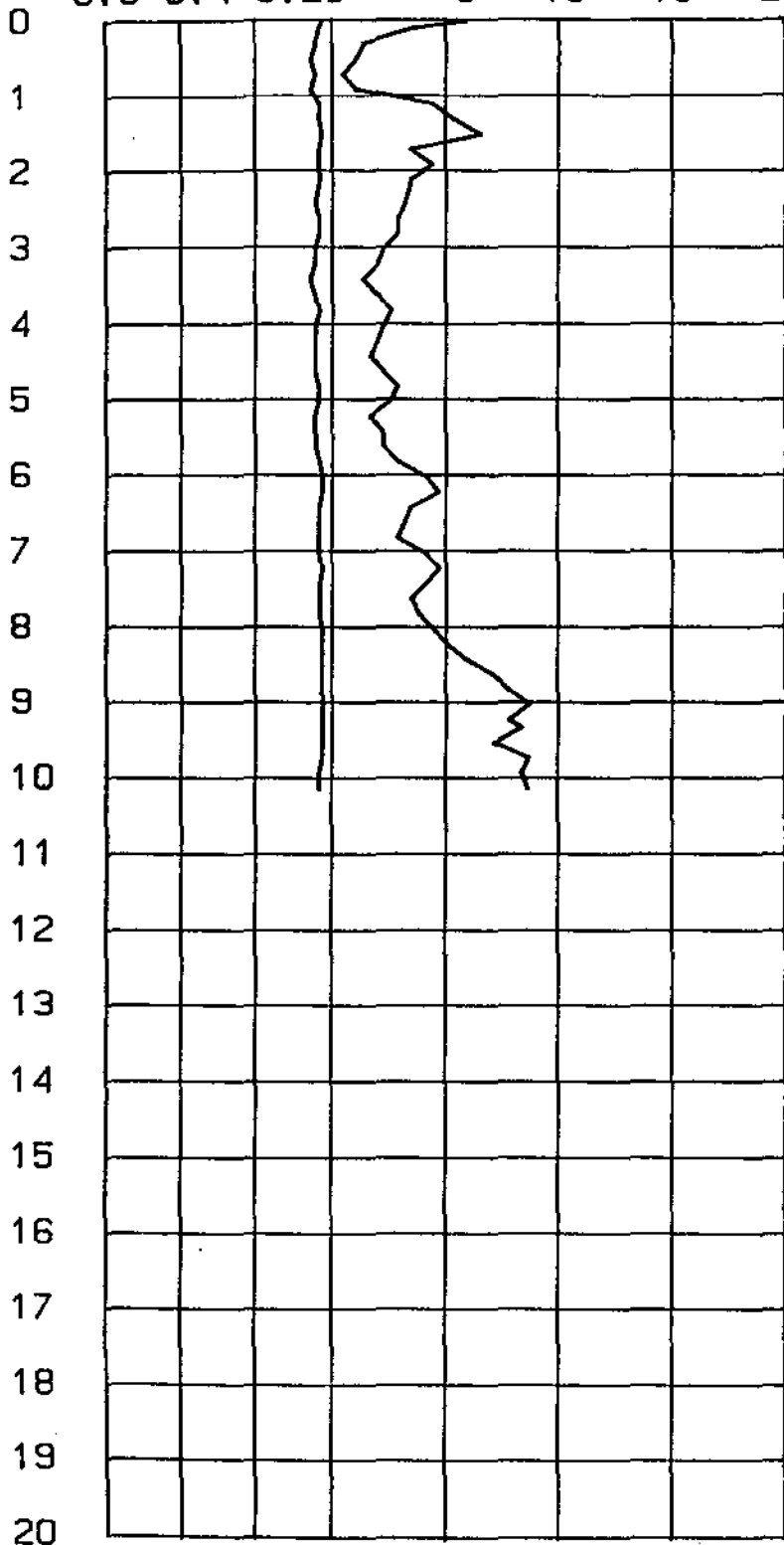
QC/FS

4

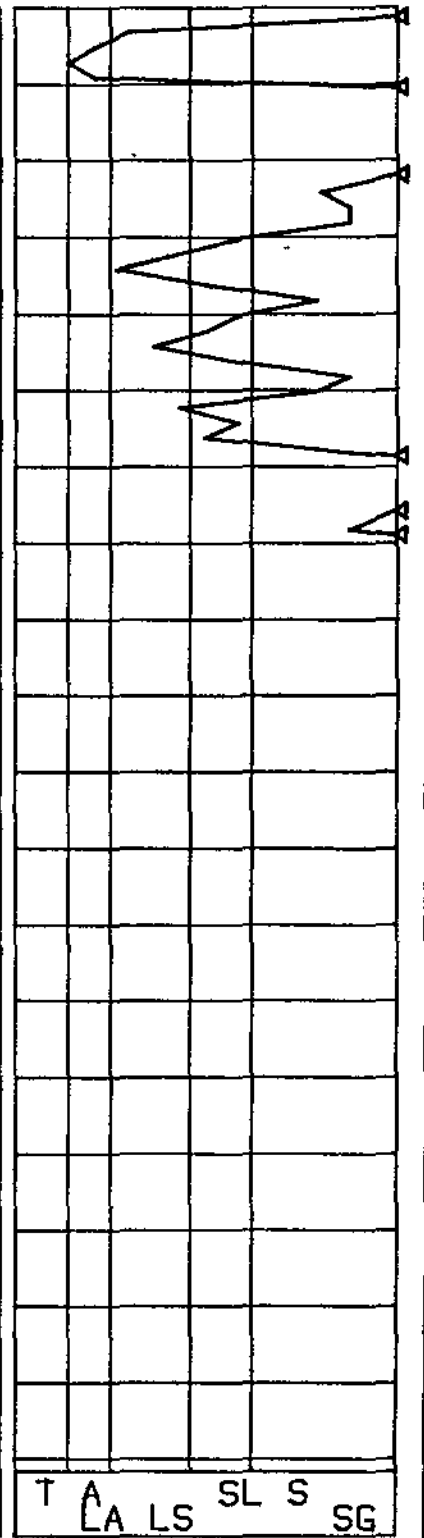
0.6 0.4 0.20

5 10 15 20

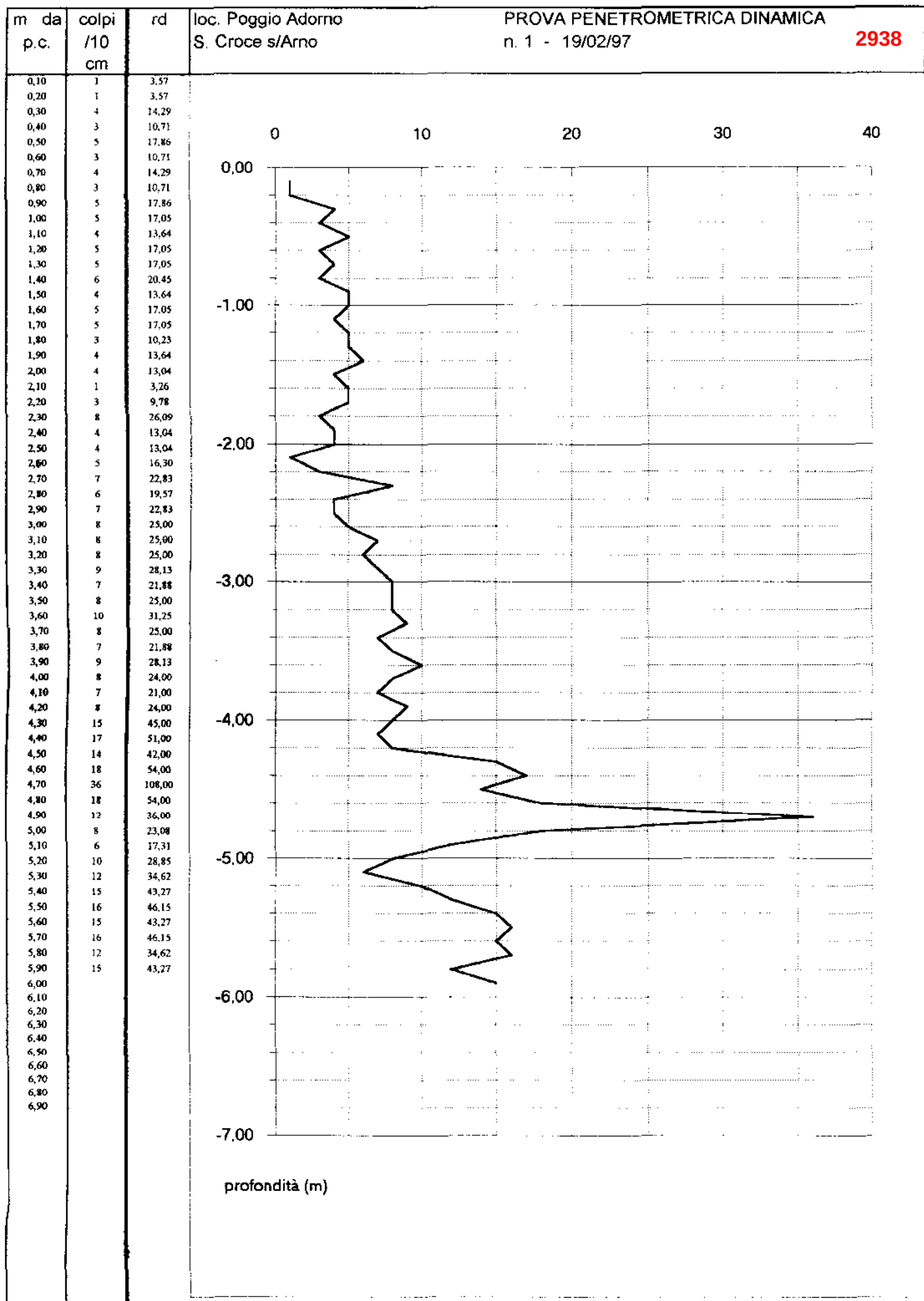
0 20 40 60 80 100

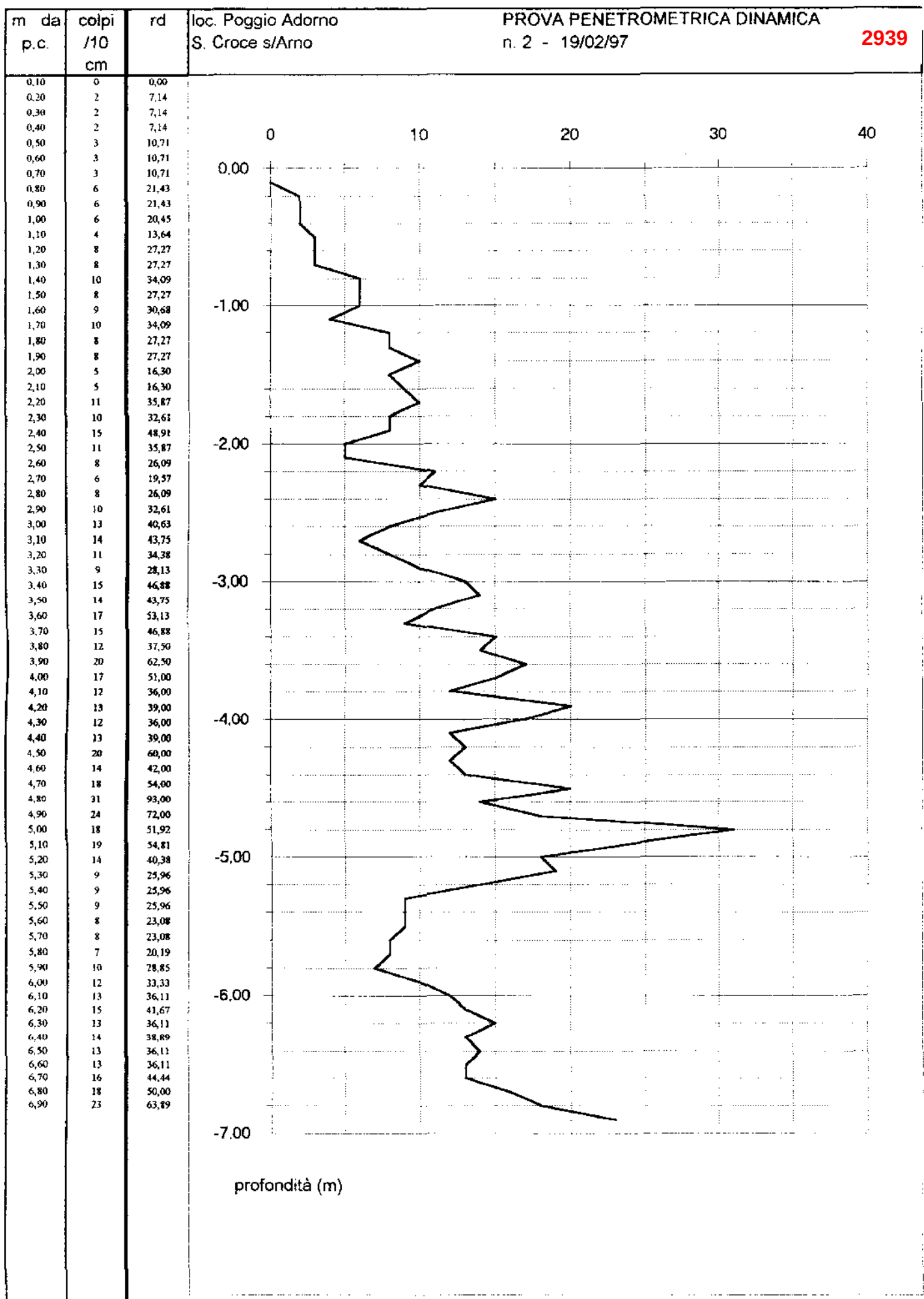


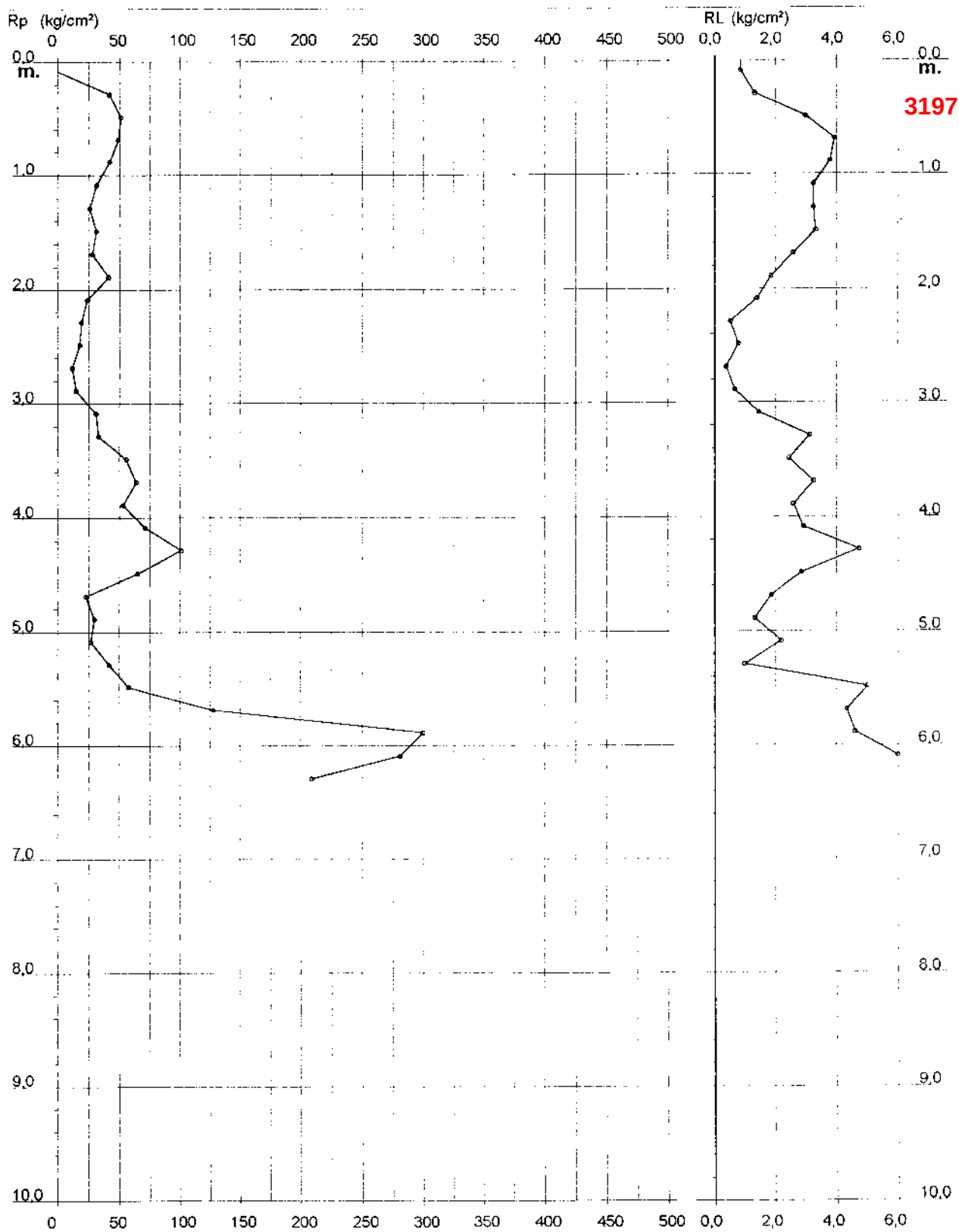
Quota di falda

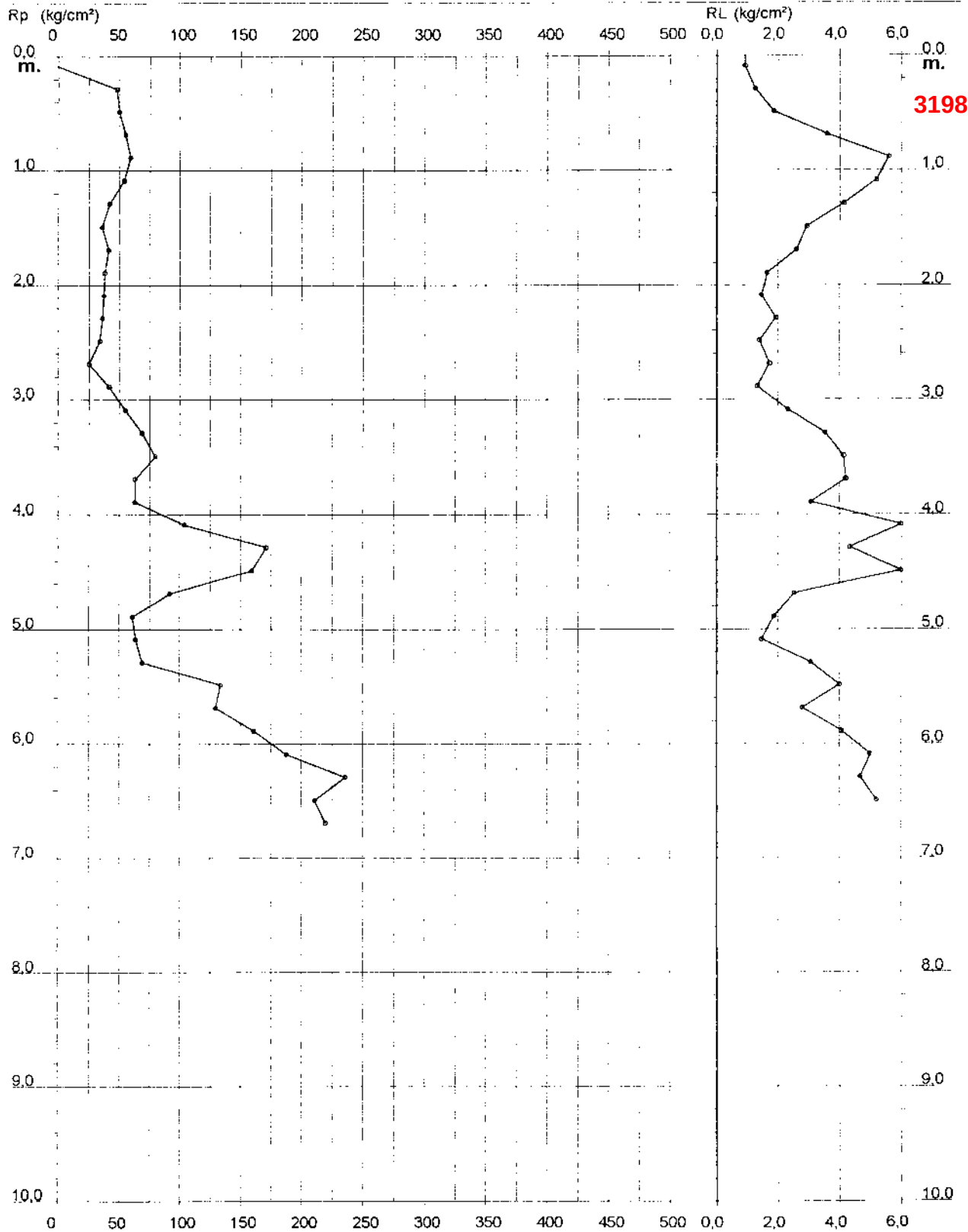


T A LA LS SL S SG



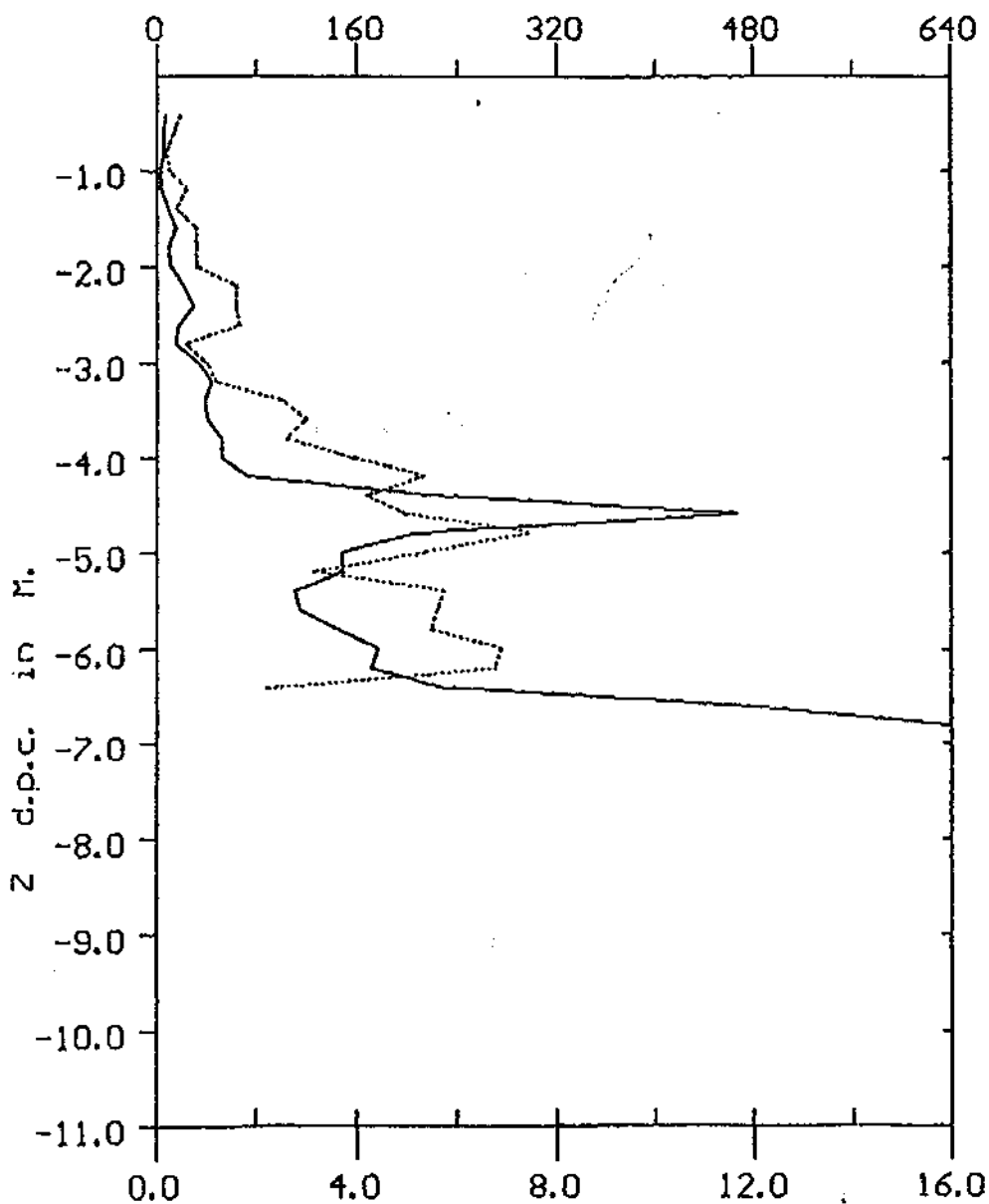






— Q_c (Kg/cm²) - Resistenza alla punta

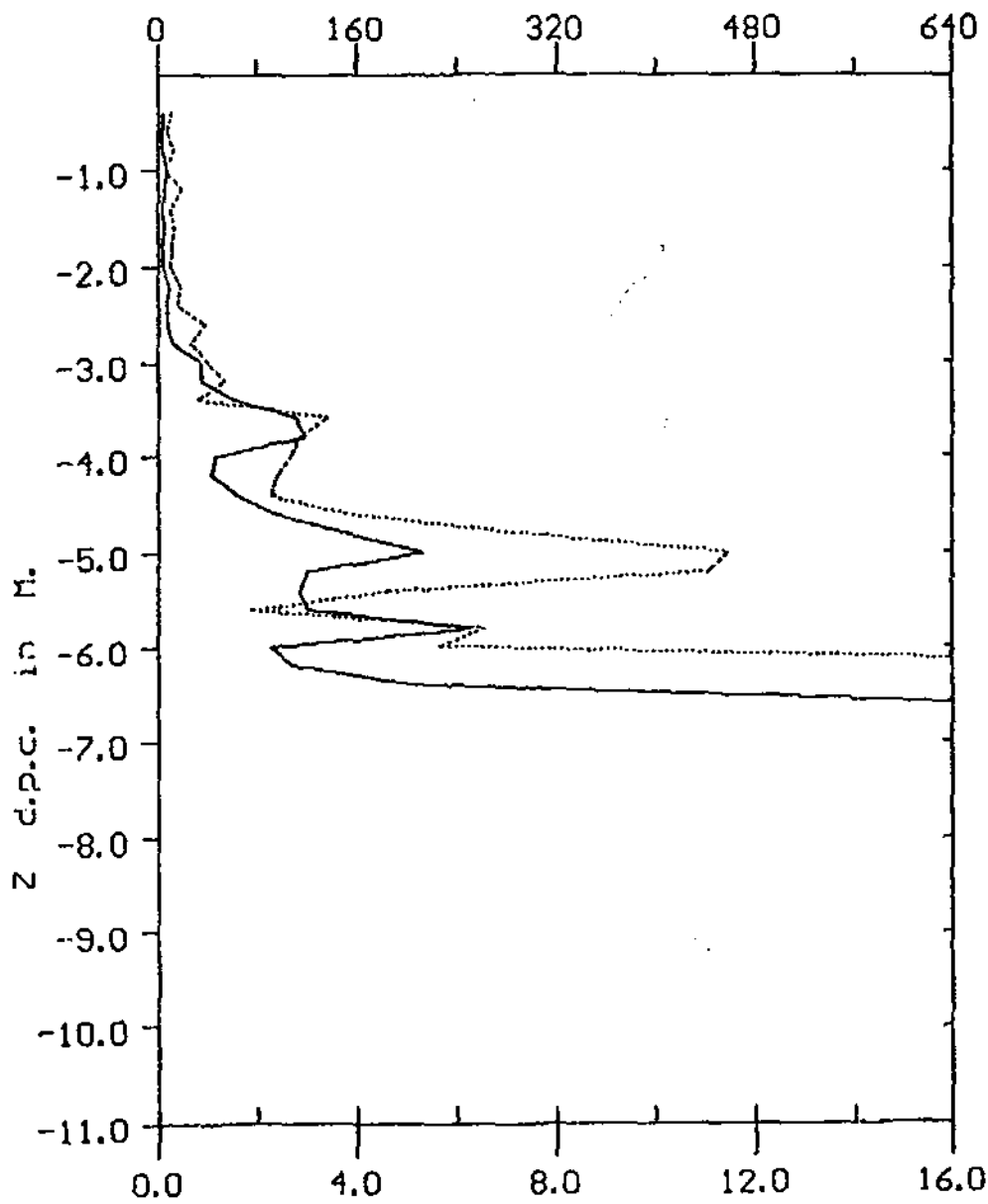
3252



.... F_s (Kg/cm²) - Resistenza attrito laterale locale

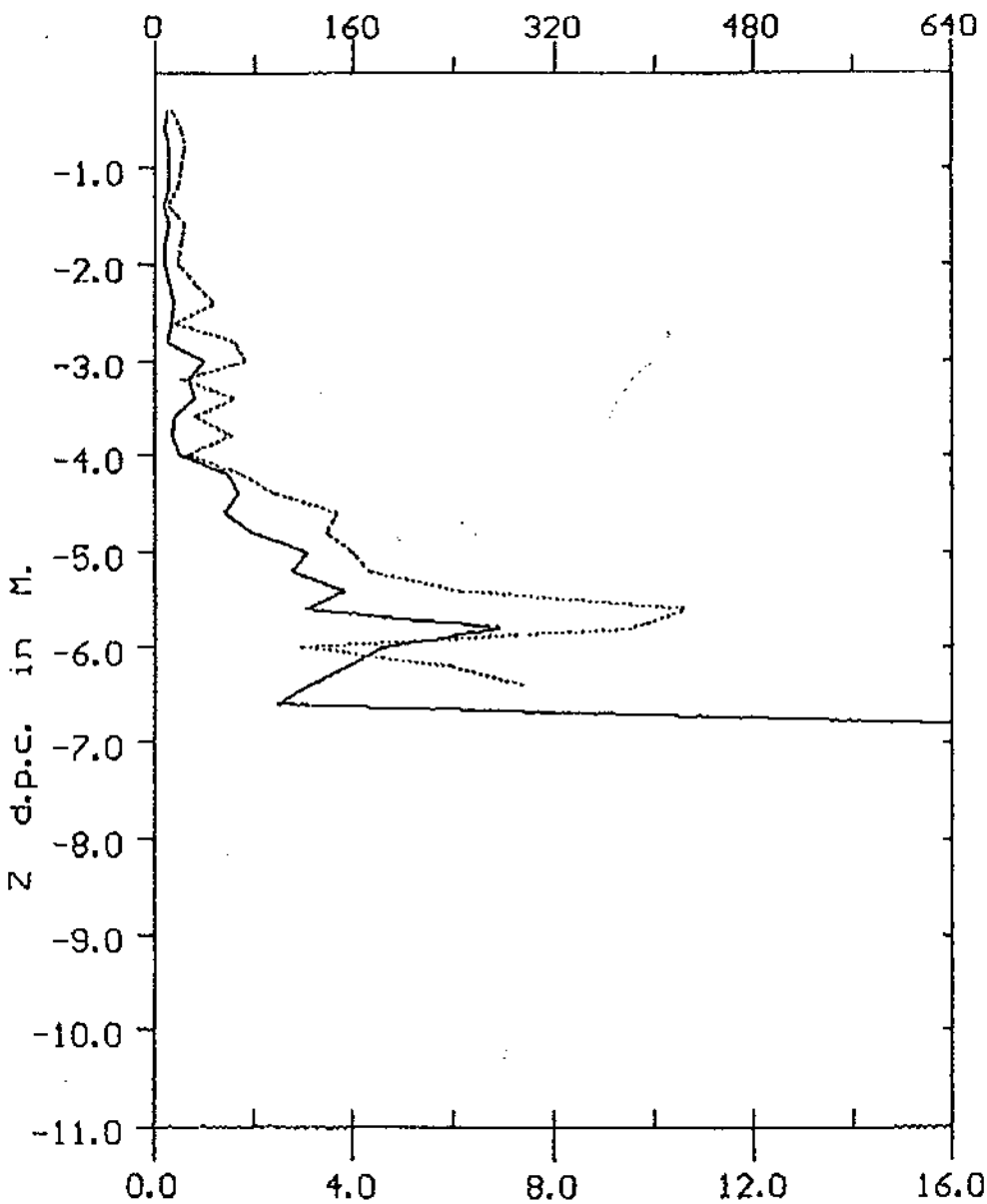
— Q_c (Kg/cm²) - Resistenza alla punta

3253



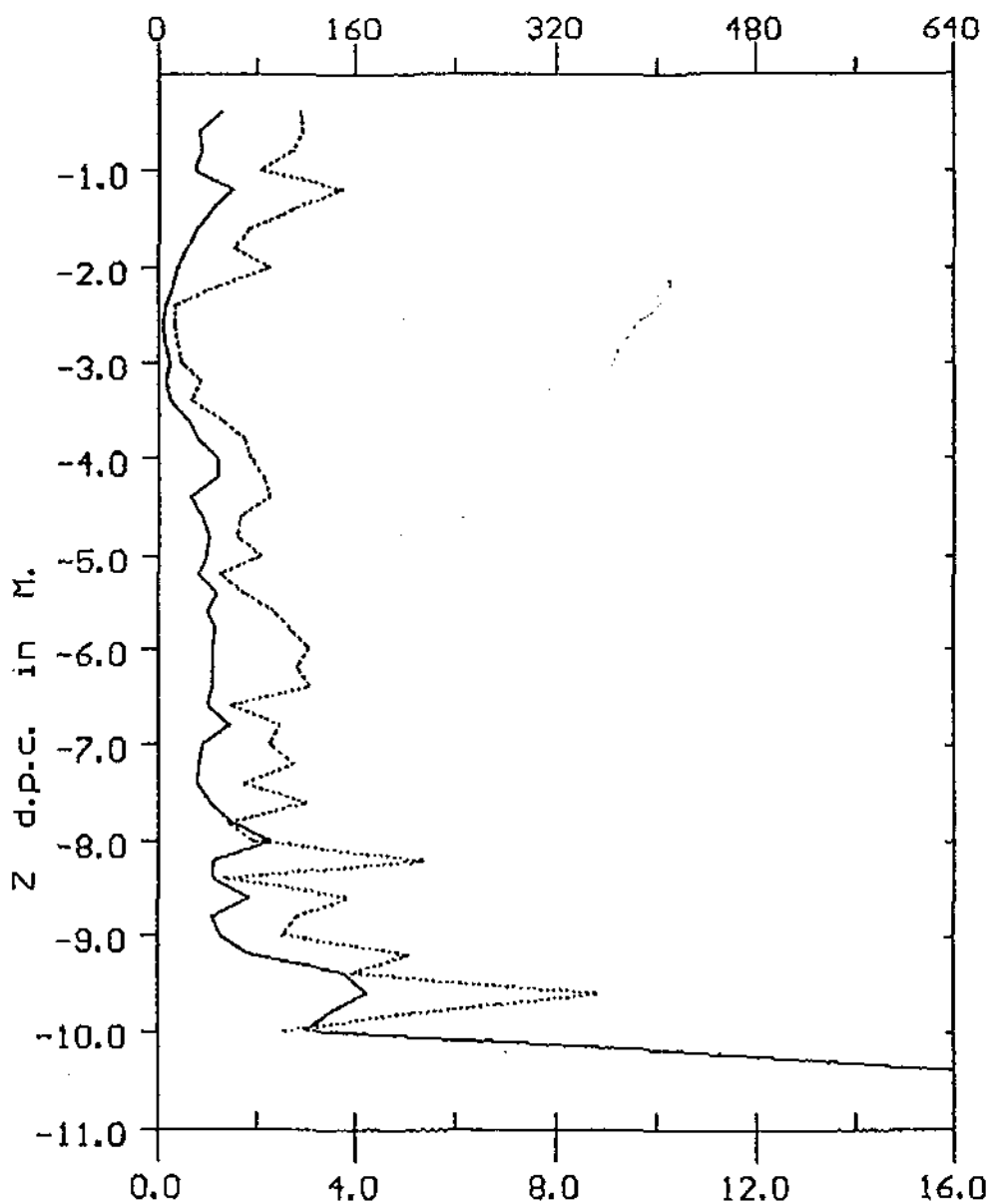
.... F_s (Kg/cm²) - Resistenza attrito laterale locale

— Q_c (Kg/cm²) - Resistenza alla punta 3254



..... F_s (Kg/cm²) - Resistenza attrito laterale locale

— Q_c (Kg/cmq) - Resistenza alla punta 3255



.... F_s (Kg/cmq) - Resistenza attrito laterale locale

DATI DI CAMPAGNA			DATI ELABOR.		STRATIGRAFIA		PARAMETRI GEOTECNICI		
Profond.	Rp Kg/cm ²	Rl Kg/cm ²	Ral	Rp/Ral	Lito- logia	Stratig. Simbol.	Φ	Cu Kg/cm ²	σ-a Kg/cm ²

3640

** PROVA PENETROMETRICA STATICA : PP1

0.40-->	10.00	16.00	0.40	18.75	La	==	29	0.496	0.968
0.60-->	10.00	18.00	0.53	21.43	La	==	27	0.494	0.977
0.80-->	8.00	15.00	0.47	17.14	La	==	24	0.392	0.795
1.00-->	12.00	19.00	0.47	25.71	Ls	: : : :	26	0.622	1.240
1.20-->	18.00	25.00	0.47	27.00	Ls	: : : :	27	0.936	1.849
1.40-->	25.00	35.00	0.67	31.25	Ls	: : : :	28	1.303	2.558
1.60-->	21.00	33.00	0.80	24.23	Ls	: : : :	26	1.090	2.165
1.80-->	27.00	40.00	0.87	28.93	Ls	: : : :	27	1.404	2.774
2.00-->	38.00	52.00	0.93	28.50	Ls	: : : :	28	1.981	3.882
2.20-->	42.00	62.00	1.33	22.50	La	==	28	2.080	4.082
2.40-->	52.00	80.00	1.87	26.00	Ls	: : : :	29	2.714	5.299
2.60-->	55.00	85.00	2.00	25.78	Ls	: : : :	29	2.870	5.607
2.80-->	44.00	76.00	2.13	36.67	Sa	: : : :	27	2.559	5.028
3.00-->	72.00	90.00	1.20	60.00	Sl	: : : :	29	4.467	8.666

DATI DI CAMPAGNA			DATI ELABOR.		STRATIGRAFIA		PARAMETRI GEOTECNICI		
Profond.	Rp Kg/cm ²	Rl Kg/cm ²	Ral	Rp/Ral	Lito- logia	Stratig. Simbol.	φ	Cu Kg/cm ²	σ-a Kg/cm ²

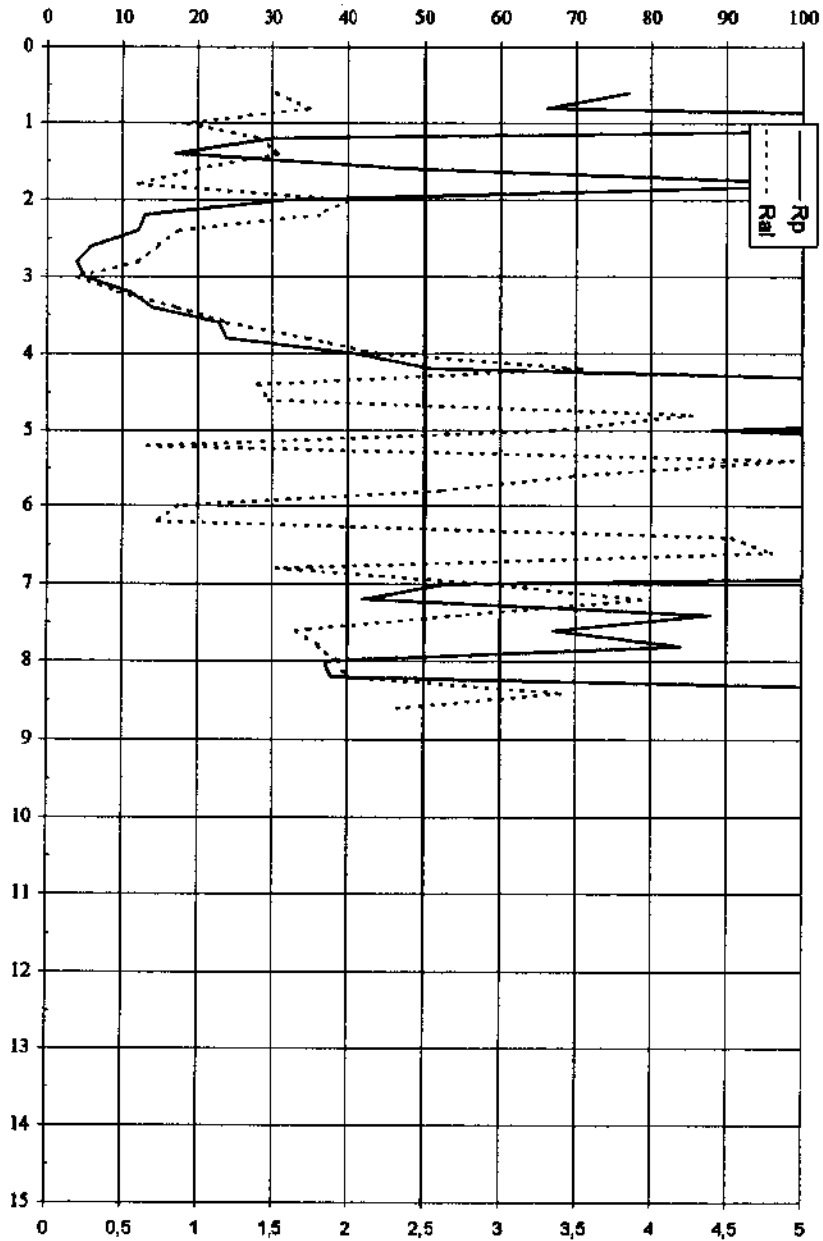
** PROVA PENETROMETRICA STATICA : PP2

3641

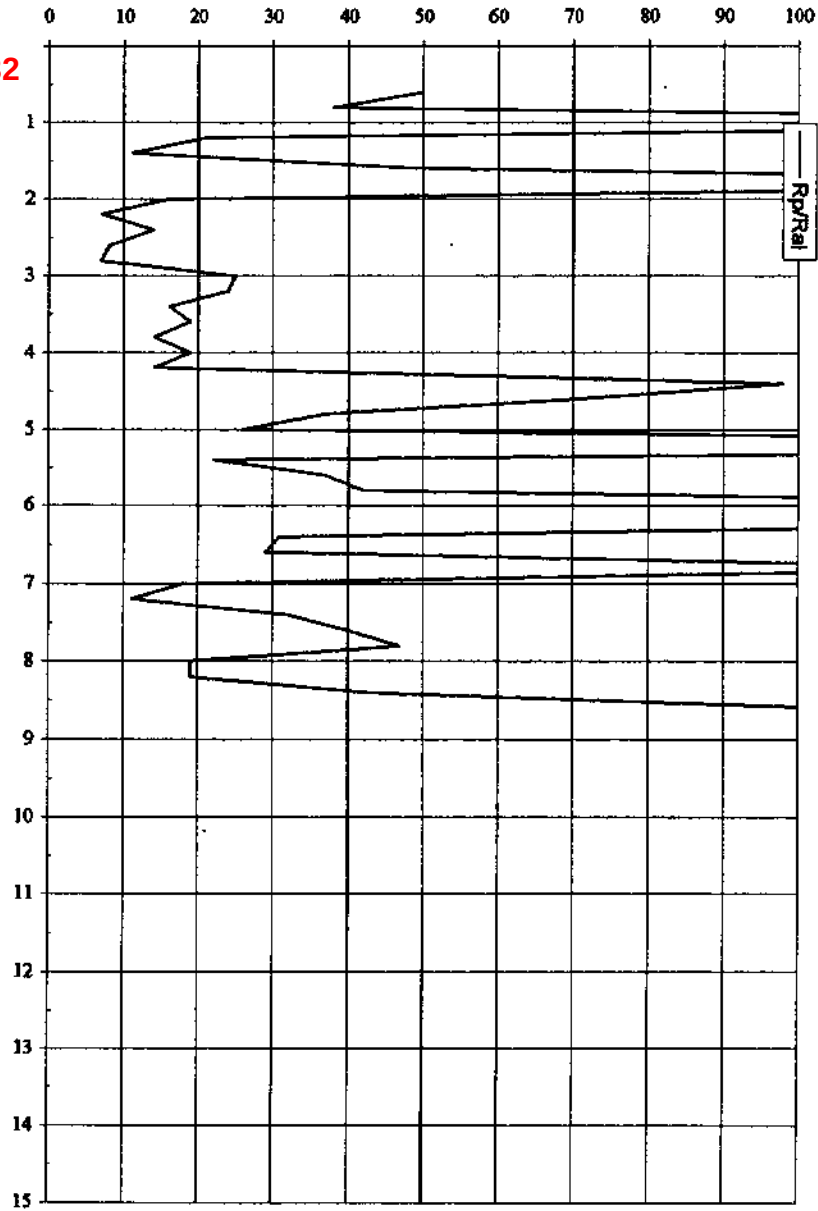
0.40-->	10.00	18.00	0.53	18.75	La	≈≈≈≈≈	29	0.496	0.268
0.60-->	9.00	17.00	0.53	22.50	La	≈≈≈≈≈	26	0.444	0.882
0.80-->	12.00	18.00	0.40	18.00	La	≈≈≈≈≈	26	0.592	1.175
1.00-->	20.00	30.00	0.67	25.00	Ls	≈:≈≈:≈	28	1.043	2.040
1.20-->	26.00	38.00	0.80	26.00	Ls	≈:≈≈:≈	29	1.357	2.649
1.40-->	23.00	38.00	1.00	26.54	Ls	≈:≈≈:≈	27	1.198	2.359
1.60-->	22.00	35.00	0.87	22.00	La	≈≈≈≈≈	26	1.086	2.158
1.80-->	35.00	50.00	1.00	35.00	Sa	::=::=	28	2.040	3.982
2.00-->	40.00	55.00	1.00	31.58	Ls	≈:≈≈:≈	28	2.087	4.084
2.20-->	45.00	64.00	1.27	24.11	Ls	≈:≈≈:≈	28	2.348	4.592
2.40-->	54.00	82.00	1.87	32.40	Ls	≈:≈≈:≈	29	2.820	5.500
2.60-->	65.00	90.00	1.67	34.82	Sa	::=::=	29	3.796	7.367
2.80-->	72.00	100.00	1.87	38.57	Sa	::=::=	29	4.206	8.158
3.00-->	94.00	125.00	2.07	45.48	Sl	::≈::~≈	30	5.842	11.278

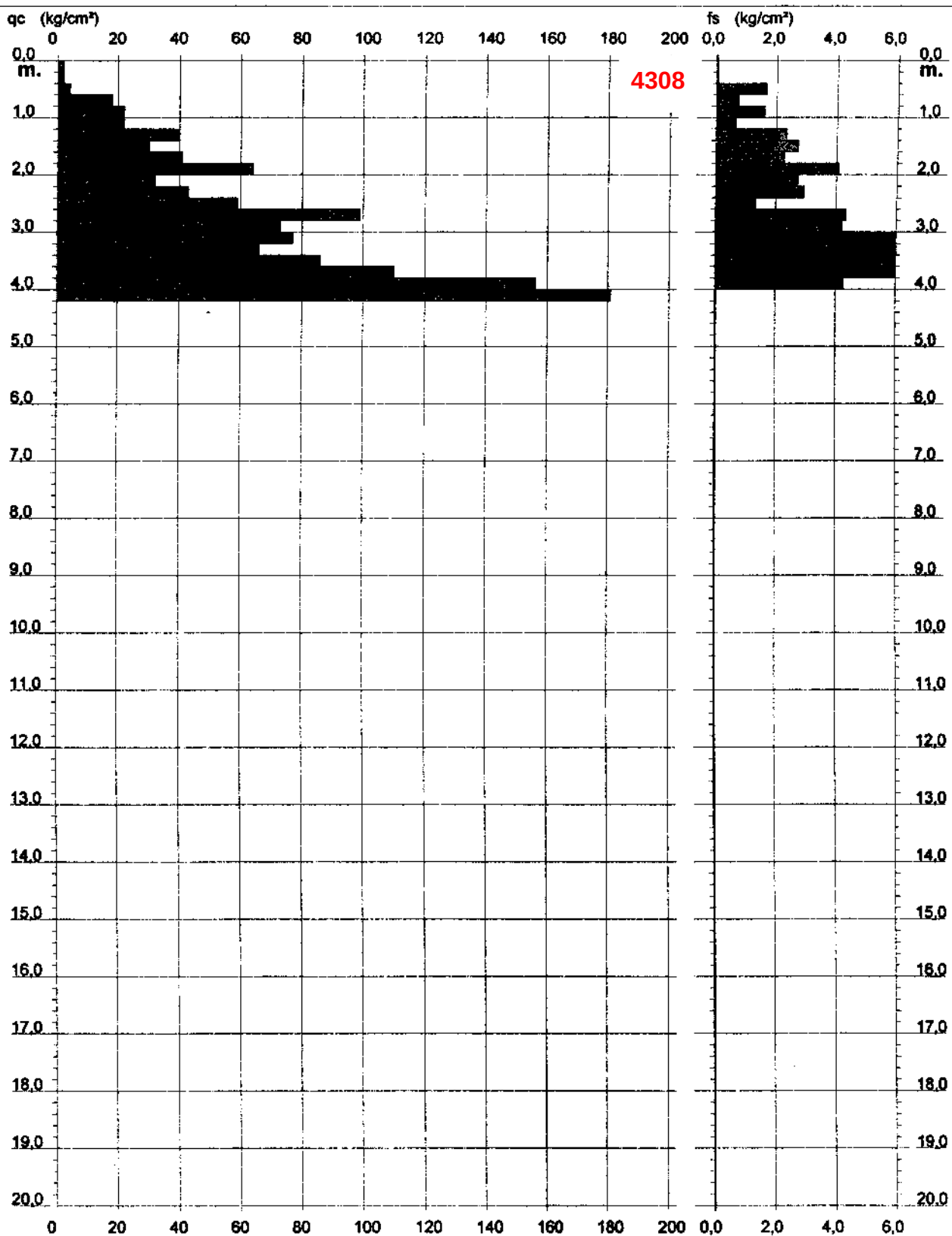
DATI DI CAMPAGNA			DATI ELABOR.		STRATIGRAFIA		PARAMETRI GEOTECNICI		
Profond.	Rp Kg/cm ²	Rl Kg/cm ²	Ral	Rp/Ral	Lito- logia	Stratig. Simbol.	φ	Cu Kg/cm ²	σ-a Kg/cm ²
** PROVA PENETROMETRICA STATICA :PP3									
0.40-->	8.00	15.00	0.47	15.00	Al	==~==~	28	0.377	0.742
0.60-->	12.00	20.00	0.53	22.50	La	~==~==~	28	0.594	1.167
0.80-->	10.00	18.00	0.53	21.43	La	~==~==~	25	0.492	0.985
1.00-->	15.00	22.00	0.47	17.31	La	~==~==~	27	0.741	1.466
1.20-->	22.00	35.00	0.87	27.50	Ls	~::~::~	28	1.147	2.250
1.40-->	23.00	35.00	0.80	31.36	Ls	~::~::~	27	1.198	2.359
1.60-->	26.00	37.00	0.73	19.50	La	~==~==~	27	1.286	2.538
1.80-->	32.00	52.00	1.33	26.67	Ls	~::~::~	28	1.667	3.274
2.00-->	36.00	54.00	1.20	33.75	Sa	::::::=	28	2.097	4.103
2.20-->	46.00	62.00	1.07	38.33	Sa	::::::=	29	2.683	5.228
2.40-->	42.00	60.00	1.20	21.00	La	~==~==~	27	2.079	4.092
2.60-->	45.00	75.00	2.00	25.00	Ls	~::~::~	27	2.344	4.608
2.80-->	43.00	70.00	1.80	25.80	Ls	~::~::~	27	2.237	4.417
3.00-->	50.00	75.00	1.67	28.85	Ls	~::~::~	27	2.603	5.124
3.20-->	54.00	80.00	1.73	36.82	Sa	::::::=	27	3.143	6.162
3.40-->	48.00	70.00	1.47	32.73	Ls	~::~::~	26	2.494	4.942
3.60-->	56.00	78.00	1.47	36.52	Sa	::::::=	27	3.256	6.402
3.80-->	65.00	88.00	1.53	33.62	Sa	::::::=	27	3.783	7.415
4.00-->	86.00	115.00	1.93	44.48	Sl	::::~::~	29	5.330	10.367

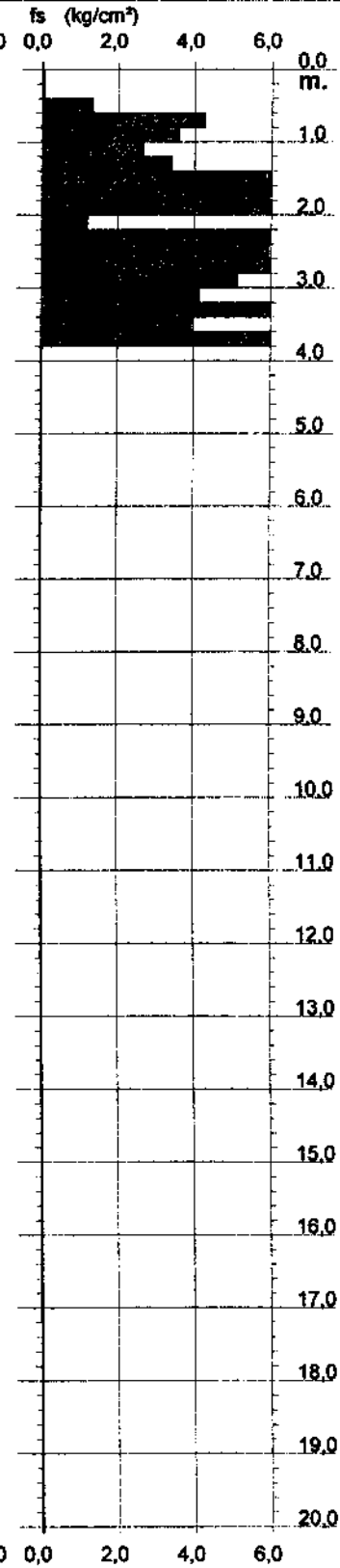
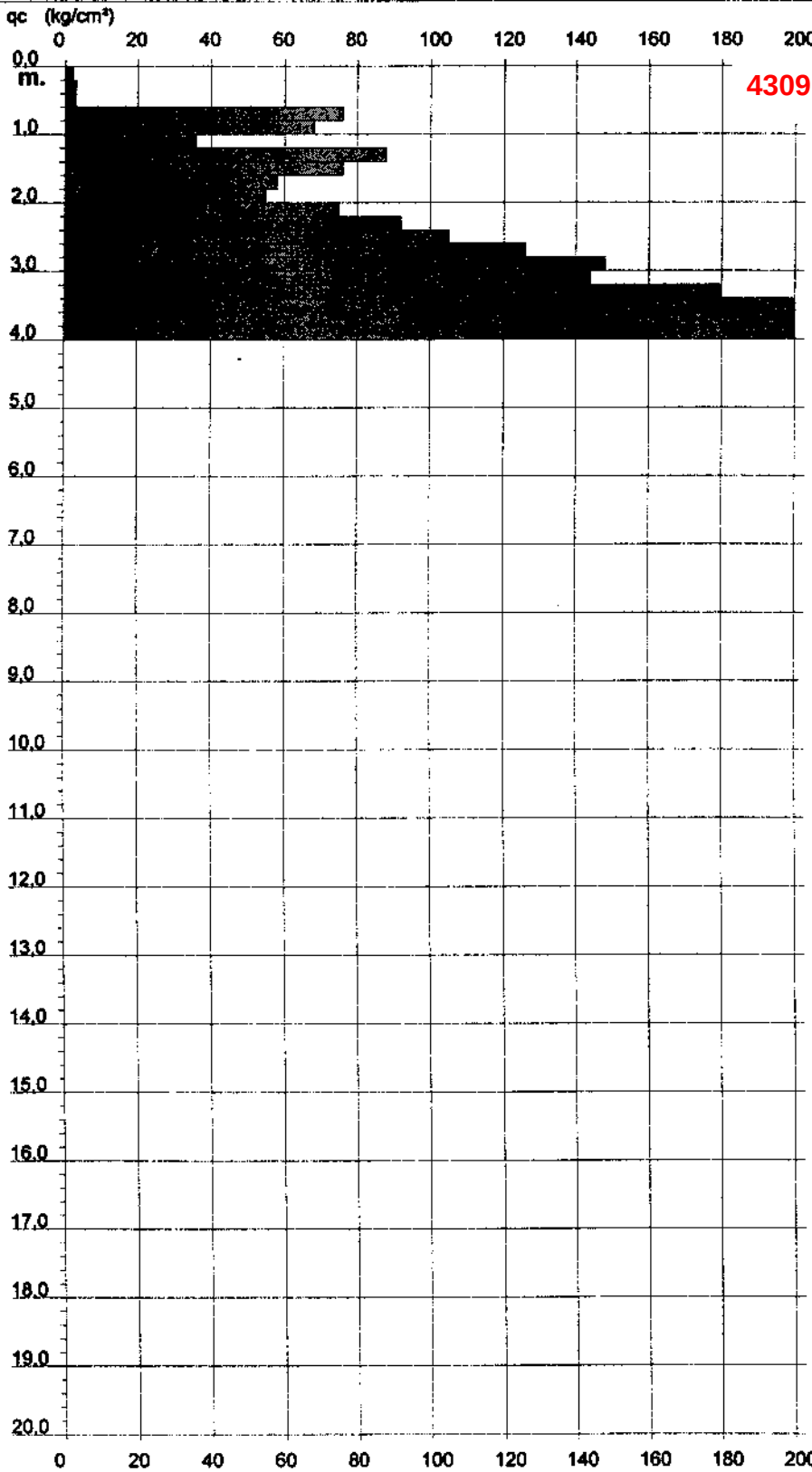
3642



3932





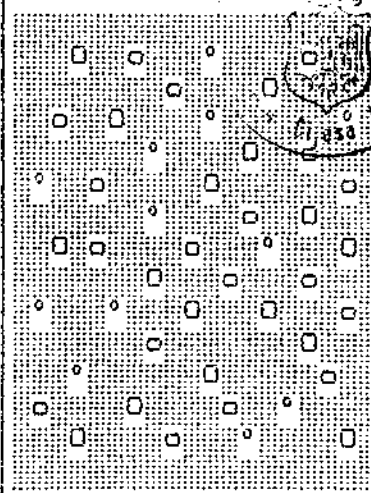
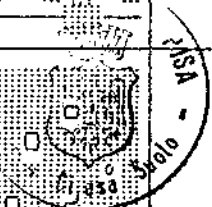


4343

(quote)

Piano di campagna

0,00

	materiale arido di riporto
 	depositi sabbiosi - ciottolosi

- 0,70

- 4,00

LIMITE DI LIQUIDITA' WI 43,2 %
LIMITE DI PLASTICITA' Wp 26,63 %
LIMITE DI RITIRO Wr %

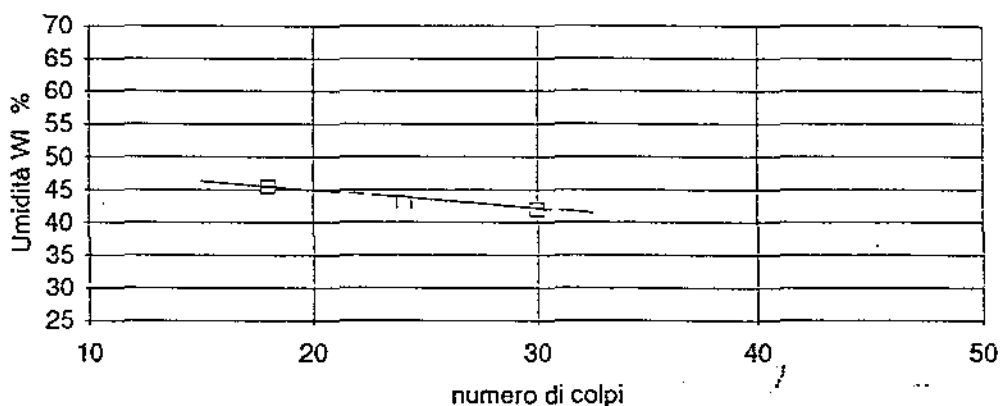
INDICE DI PLASTICITA' IP 16,57

INDICE DI CONSISTENZA Ic 0,99

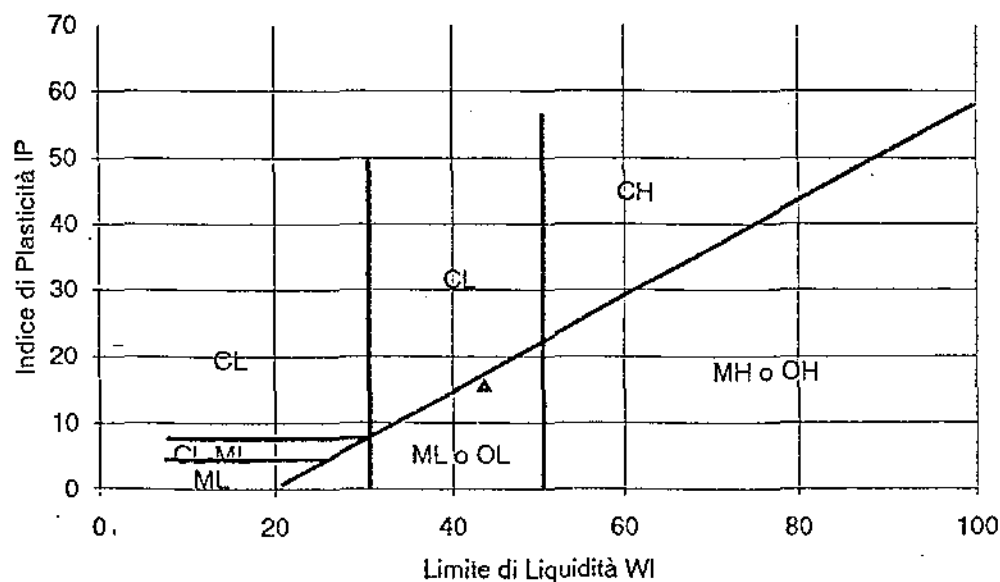
DATI CAMPIONE:

Peso di volume 1,87
Umidità naturale 26,81

4344



CARTA DI PLASTICITA'



Comm.te:

Data

12/3/96

Località:

Poggio Adorno

Camp.

S1 C2 Prof.

2,10-2,50 m

carico assiale (Kg/cmq)

1

2

3

 $\gamma = 1,87 \text{ g/cc}$ $c = 0,50$

sforzo a rottura (Kg/cmq)

0,61

0,67

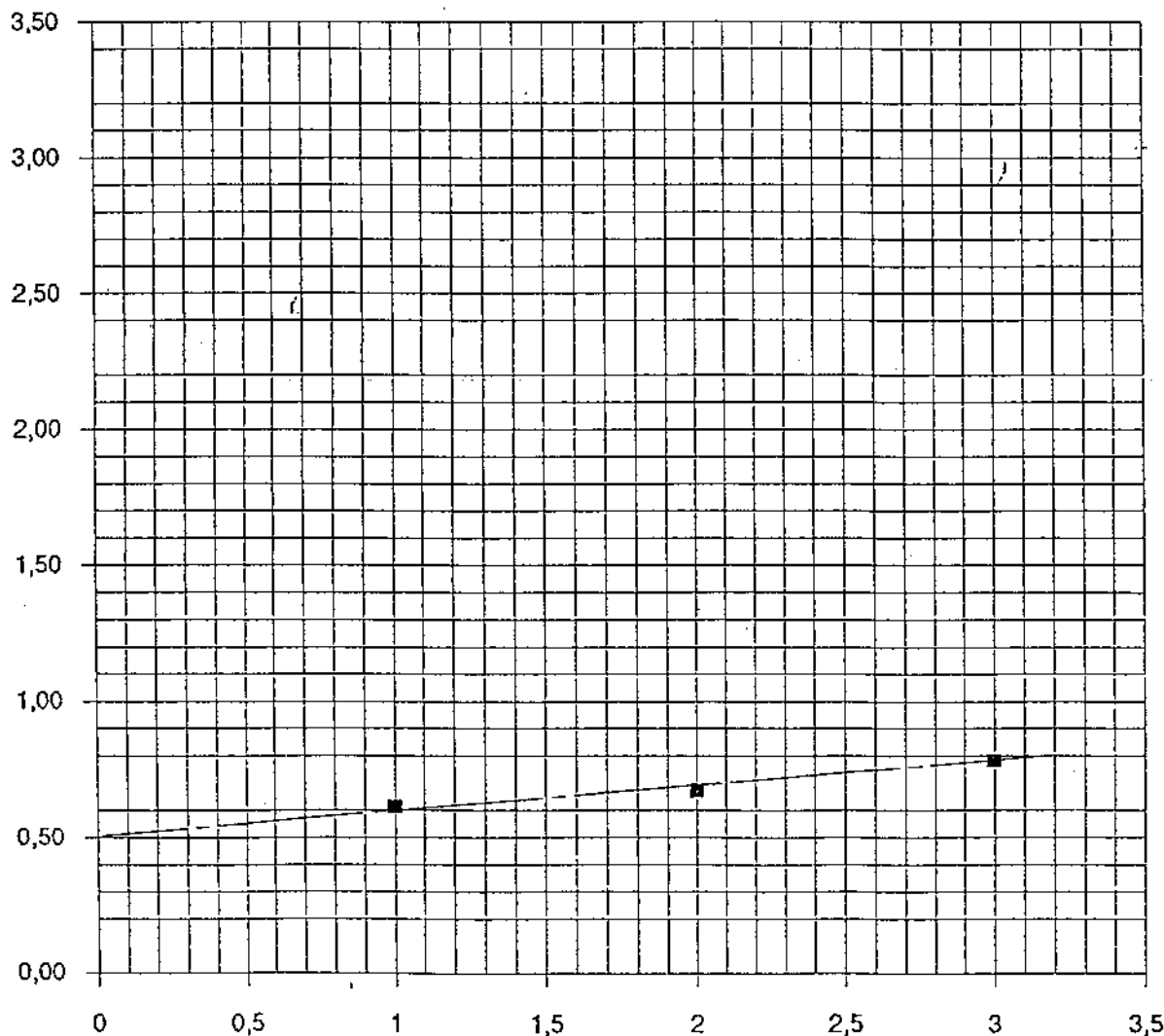
0,78

 $w \% = 26,81$ $\phi = 5^\circ$

Descrizione:

Limo con argilla giallo mediamente consistente.

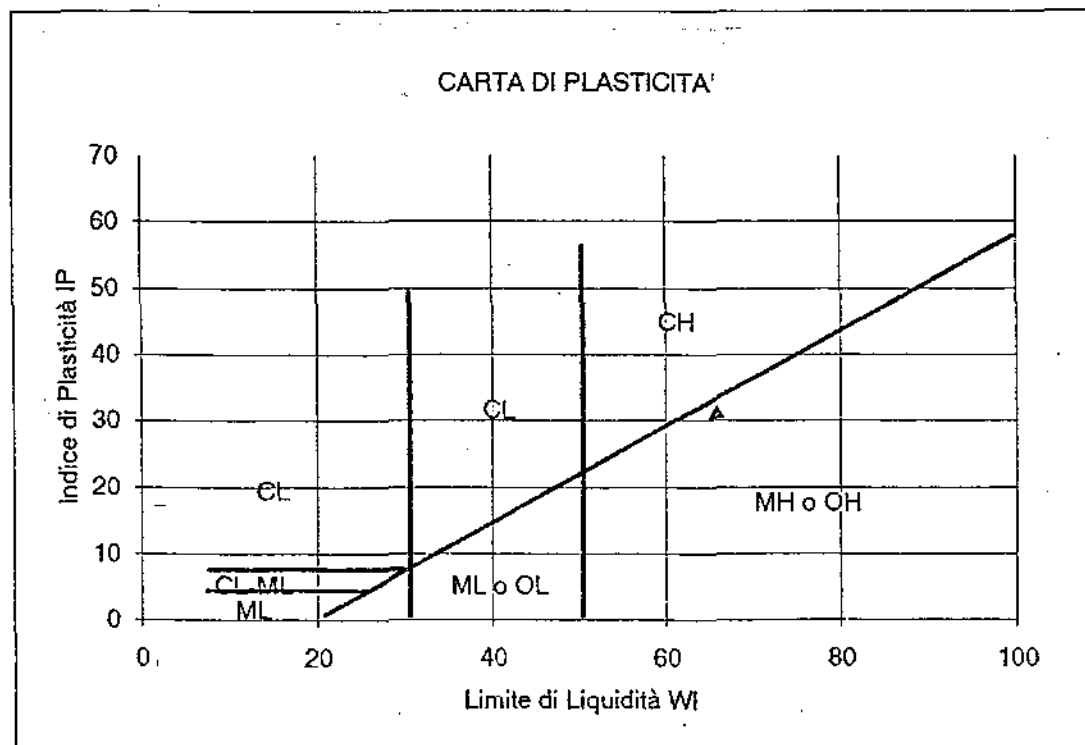
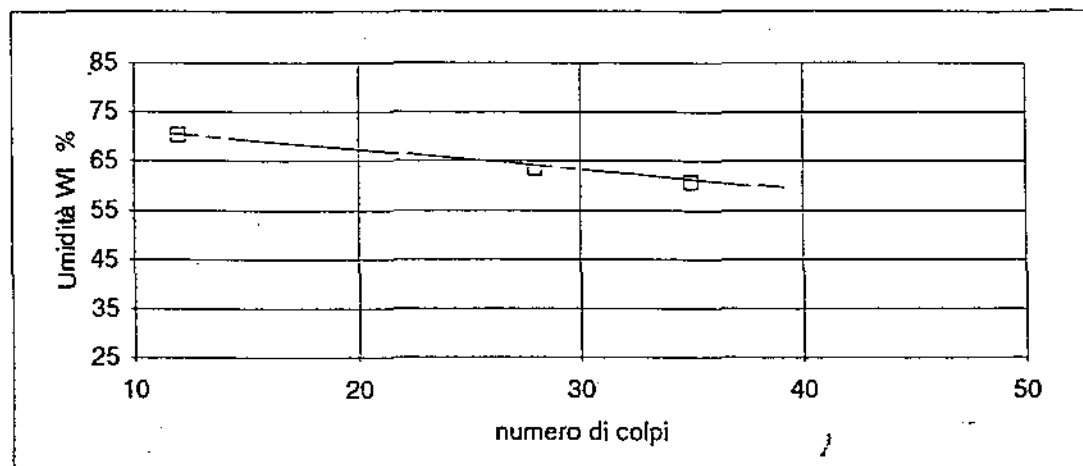
Campione indisturbato.

 τ  σ

LIMITE DI LIQUIDITA'	Wl	65 %
LIMITE DI PLASTICITA'	Wp	34,78 %
LIMITE DI RITIRO	Wr	%
INDICE DI PLASTICITA'	IP	30,22
INDICE DI CONSISTENZA	Ic	1,07

DATI CAMPIONE: 4344

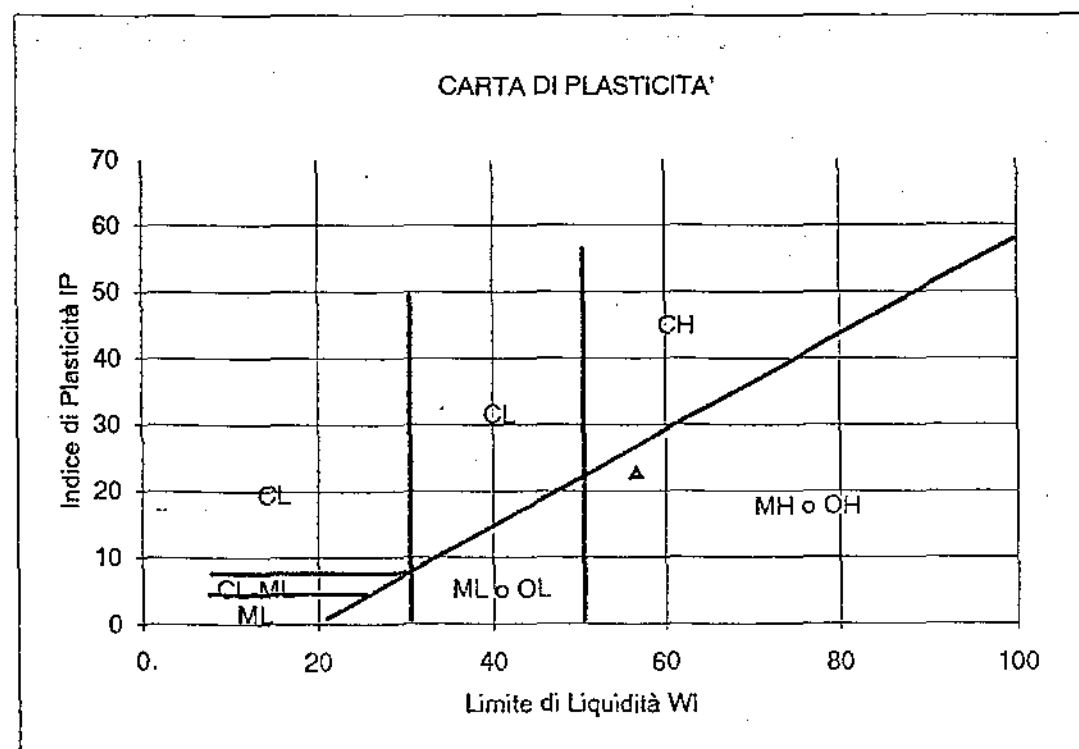
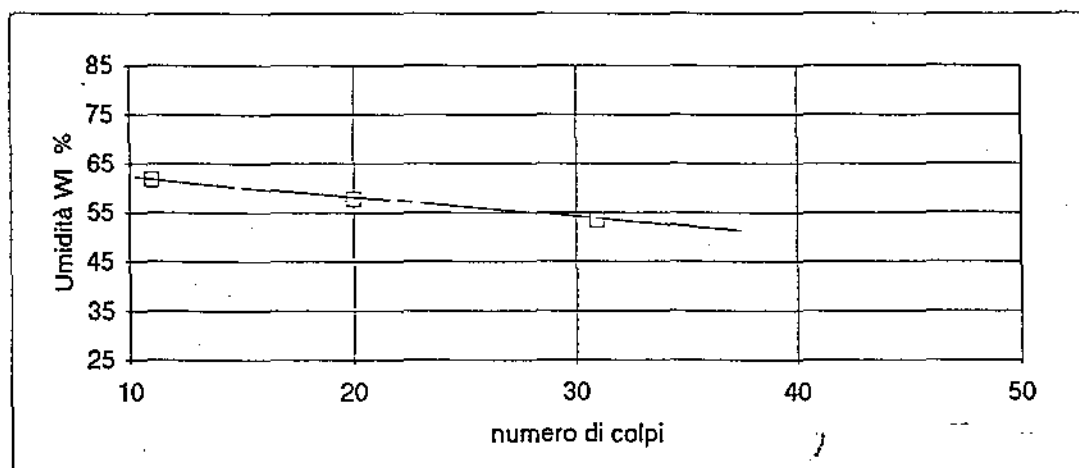
Peso di volume	1,73
Umidità naturale	32,68



LABORATORIO GEOTECNICO		LIMITI DI ATTERBERG	Dott. G. DELLA CRUCE
Comm.te:		Campione	S1 C5 7,80-8,20 m
Località:	Poggio Adorno	Data	12/03/96

LIMITE DI LIQUIDITA'	Wl	56 %
LIMITE DI PLASTICITA'	Wp	33,72 %
LIMITE DI RITIRO	Wr	%
INDICE DI PLASTICITA'	IP	22,28
INDICE DI CONSISTENZA	Ic	1,05

DATI CAMPIONE:		4344
Peso di volume		1,87
Umidità naturale		32,57



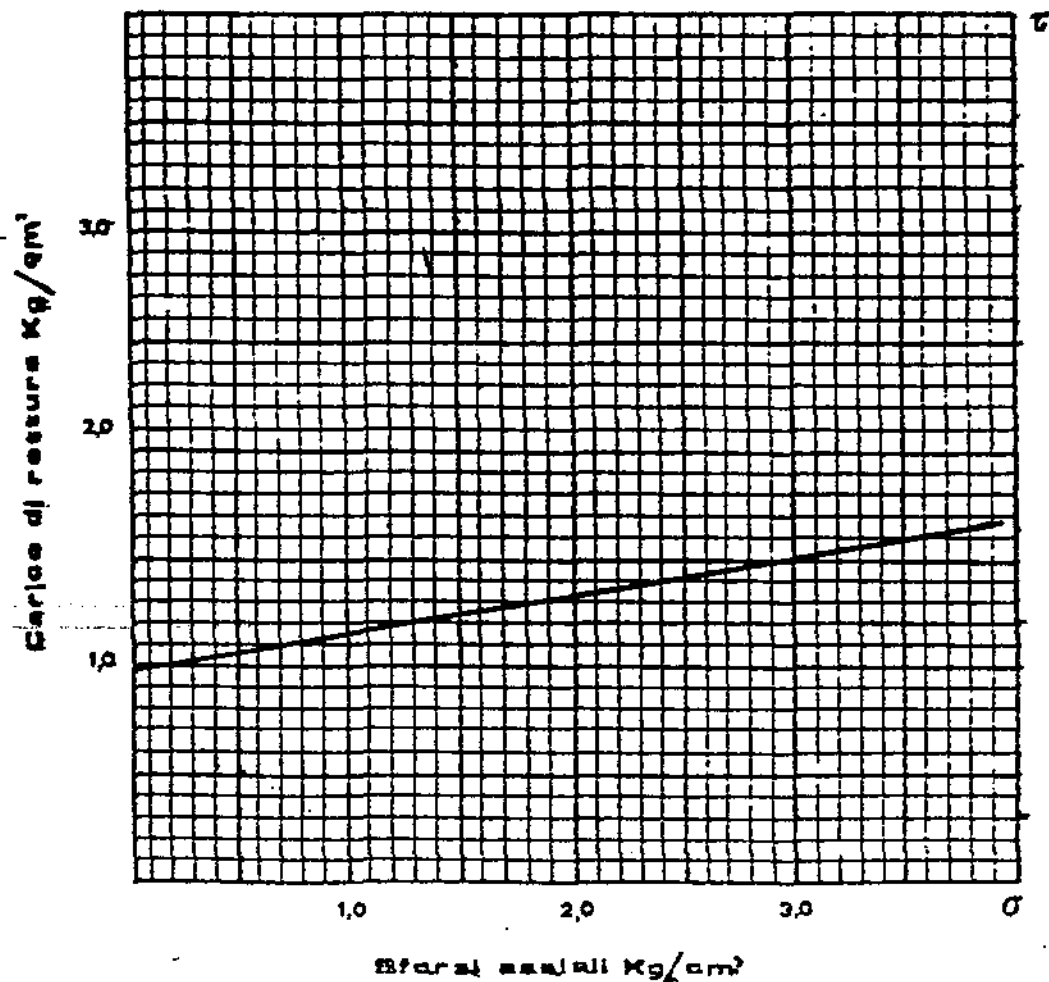
SONDAGGIO N° 10

4345

da mt.	0.00	a mt.	1.00	terreno di riporto
" "	1.00	" "	6.10	argilla marrone compatta con concrez. calcaree
" "	6.10	" "	9.50	argilla grigia leggermente plastica
" "	9.50	" "	9.70	limo grigio
" "	9.70	" "	10.00	argilla grigia plastica

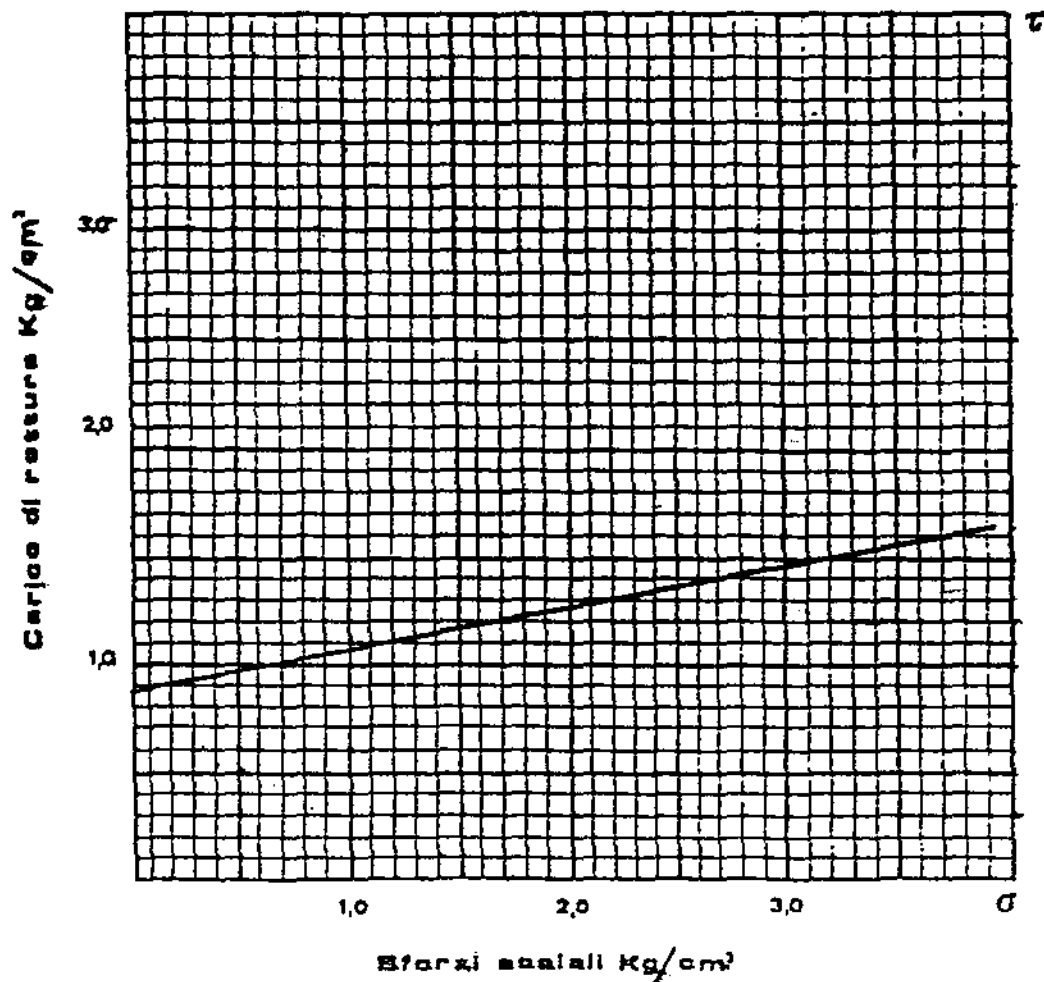
Bondeg. n°10		Densità	τ σ $U\%$			$\varphi = 10^\circ$
Camp. n°1			1.16	1.00		
Posiz. strat. 1.00 - 1.50			Assettam.	1.32	2.00	$e = 0.980$
Peso spec. 2.06 t/mc.						Kg/cm ³
Frez. int.			1.50	3.00	$U = 25\%$	
		Condizioni di prova: Taglio rapido non drenato non consolidato velocità di taglio = 1.27 mm/min. Descrizione: Argilla marrone molto compatta, minime cren. coll. alt. mio. Fe.				

4345



		Densità	τ	σ	U _s	$\varphi = 11^\circ$
Bondag.	n° 10	Assesam.	1.08	1.00		$\mu = 0.880$
Camp.	n° 2		1.32	2.00		Kg/cm ²
Posiz. ped.	2.10 - 2.60		1.46	3.00		U _s = 27
Peso spez.	2.05 t/m ²	Condizioni di prova: Togliu Kopido mare deposito nei cavi di dolo velocità di Togliu = 1.27 mm/min. Descrizione: Arg. llo normale molto compatto, con. calc. e dt. in on. Fec H.N.				
Fraz. int.						

4345



SONDAGGI N°11

4346

da mt. 0.00 a mt. 0.30

terreno di riporto

" " 0.30 " " 6.00

argilla marrone molto compatta con
concrezioni calcaree

" " 6.00 " " 9.00

argilla grigia mediamente plastica

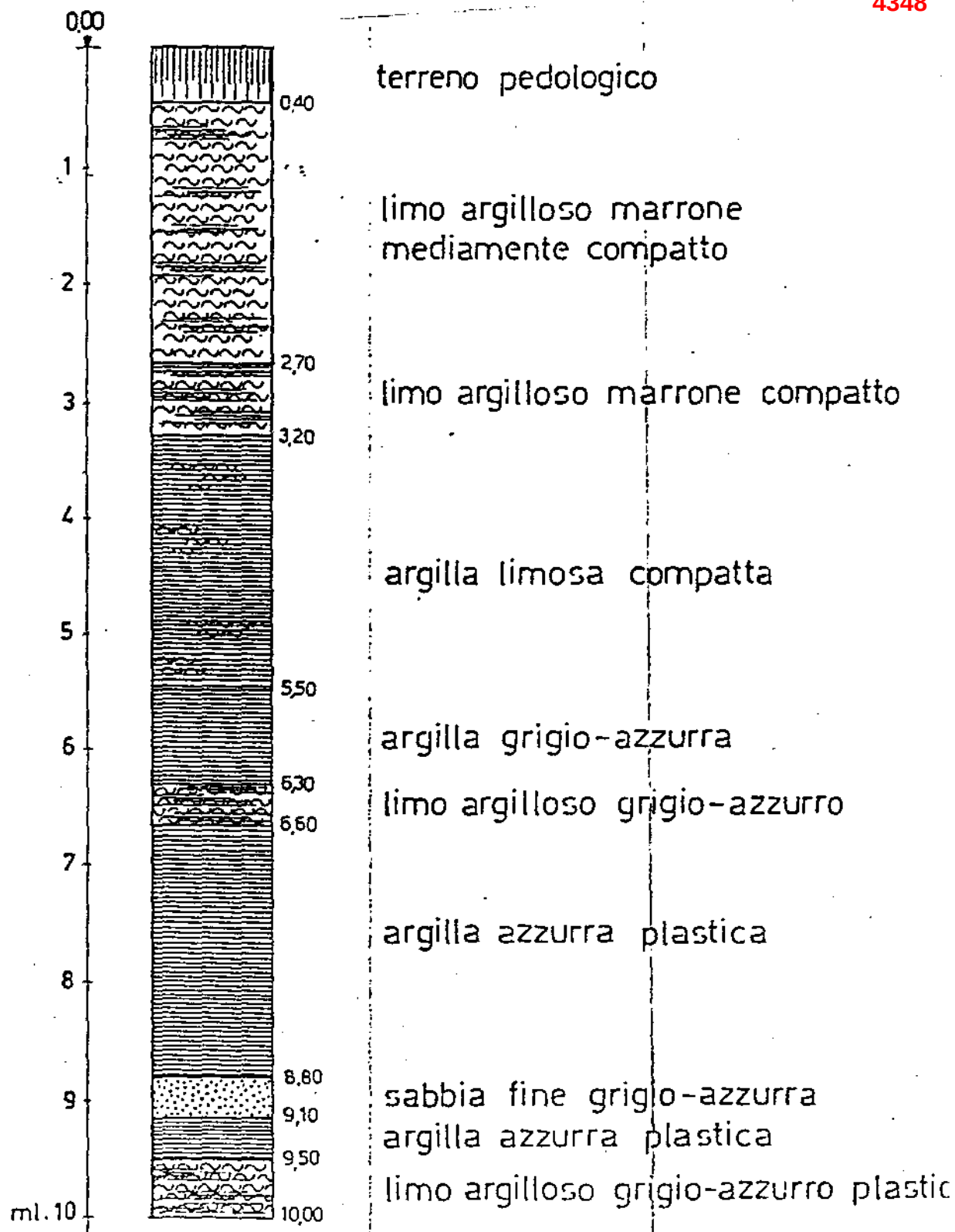
" " 9.00 " " 9.30

limo grigio

" " 9.30 " " 10.00

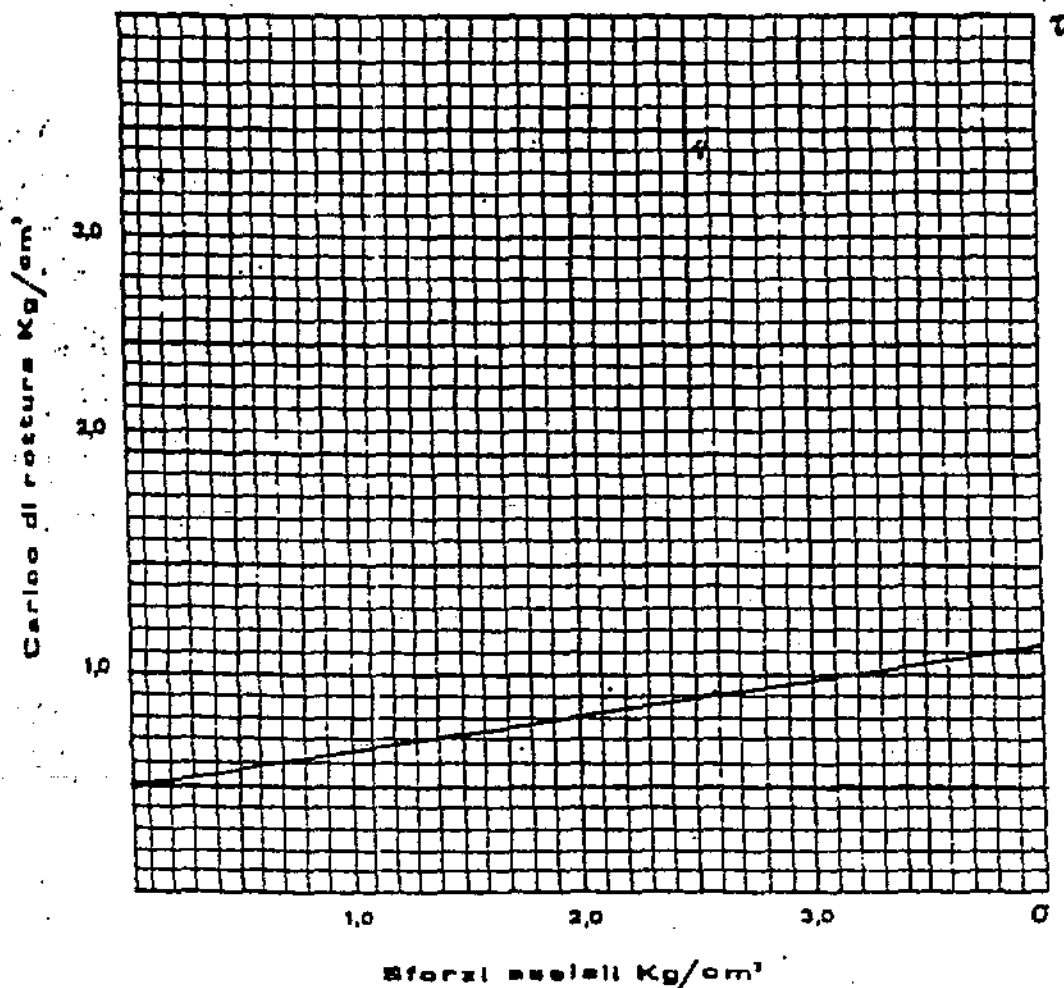
argilla grigia plastica

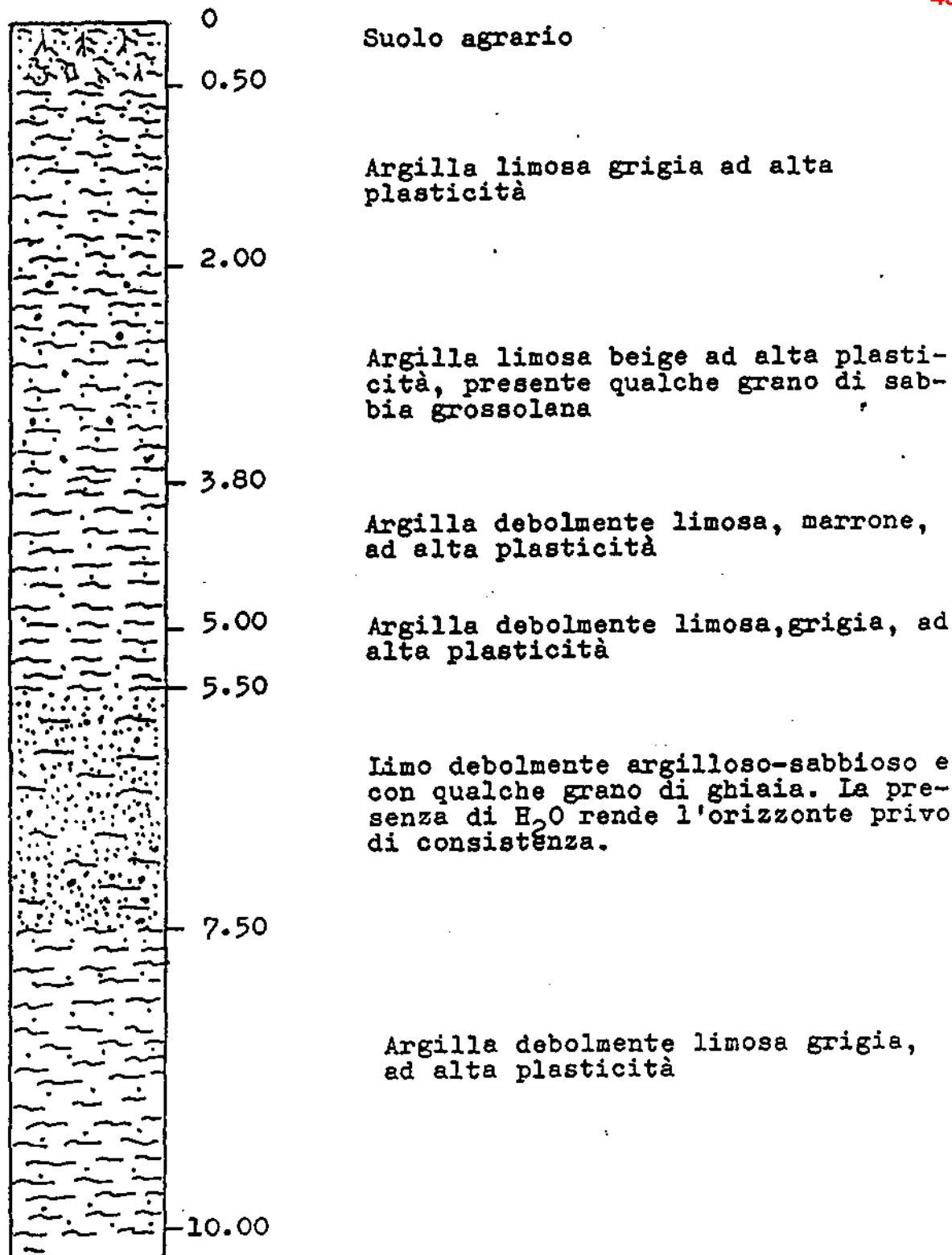
da mt. 0.00	a mt. 0.20	terreno di riporto
" " 0.20	" " 6.10	argilla marrone compatta, numerose concrezioni calcaree
" " 6.10	" " 6.80	argilla grigio-marrone mediamente compatta, concrez. calcaree
" " 6.80	" " 7.60	argilla grigia mediamente plastica
" " 7.60	" " 8.00	limo argilloso grigio
" " 8.00	" " 8.80	argilla limosa grigia mediamente plastica
" " 8.80	" " 10.00	argilla grigia plastica



Sondaggio	M. 13	Densità	τ	σ	$U\%$	φ g°
Comp.		Assesstem.	0.65	1		$\alpha = 0.500$
Analiz. anal.	m. 3.30-3.70		0.81	2		kg/cmq.
Peso speso	1.96 kg/dm.c.		0.97	3		$U\% = 28$
Press. ind.		Condizioni di prova:				

Taglio rapido non drenato



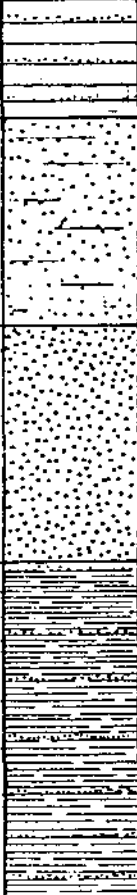


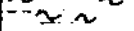
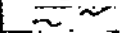
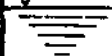
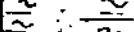
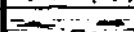
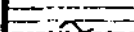
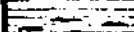
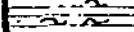
Ø mm	Quote s.l.m.	Prof. p.c.	Spessore strati	Colonna stratig.	TERRENO ATTRAVERSATO	liv. falda	PROVE PERMEABILITÀ IN SITU assorbimenti (l/min metro)												K coefficiente permeabilità in situ cm/s	NOTE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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4350

Profondità prelievo campioni indisturbati:
 A (1,50 - 2,00)
 B (4,20 - 4,70)
 C

[illegible]

ϕ nm	Quote s.l.m.	Prof. p.c.	Spessore strati	Colonna stratig.	TERRENO ATTRAVERSAJO	liv. falda	PROVE PERMEABILITÀ IN SITU assorbimenti (l/min metro)			K coefficiente permeabilità in situ cm/s	NOTE	
							2 atm	4 atm	caduta libera			
							0 2 4 6 8	0 2 4 6 8				
120			1,50		Limo sabbioso							Profondità prelievo campioni indisturbati: A (1,00 - 1,50) B (3,50 - 4,00) C
	1											
	2		2,70		Sabbia limosa							
	3											
	4					3,90						
	5											
	6		3,00		Sabbia							
	7											
	8											
	9		5,80		Argilla sabbiosa							
	10											
11												

Quote s.l.m.	Prof. p.c.	Spessore strati	Colonna stratig.	TERRENO ATTRAVERSAŦO	liv. falda dal p.d.c.	PROVE PERMEABILITA IN SITU assorbimenti (l/min metro)															K coefficiente permeabilita in situ cm/s	K coefficiente di permeabilit� in laboratorio (cm/s)
						2 atm					4 atm					caduta libera						
						0	2	4	6	8	0	2	4	6	8							
		0,30		Terreno vegetale																		
1		3,00		Limo argilloso giallastro	-1,80												4353					
2																						
3																						
4		3,50		Sabbia limosa celeste																		
5																						
6																						
7		3,00		Argilla limosa celeste con li- velletti sparsi di torba																		
8																						
9																						
10		3,00		Sabbia limosa celeste																		
11																						
																	K =4,1x10 ⁻⁸ cm/s					





[illegible]

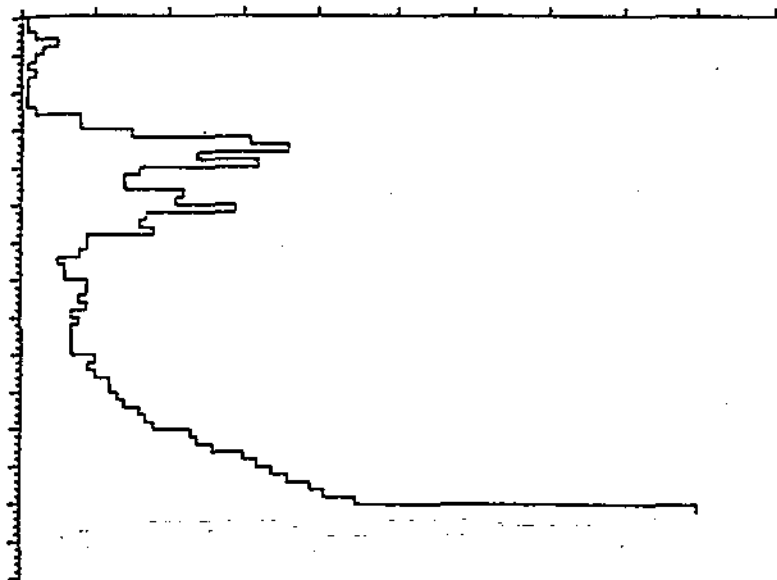
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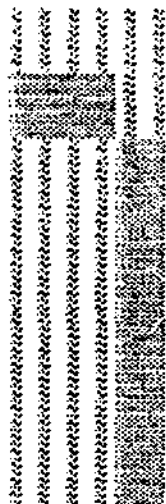
COLONNA
LITOLÓGICA

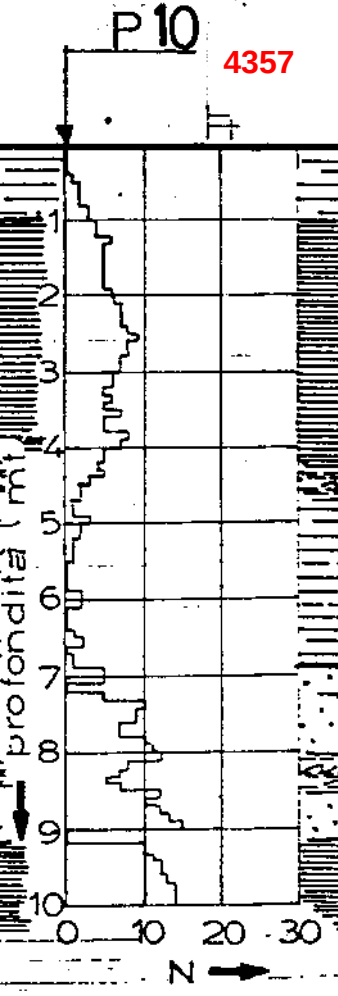
58

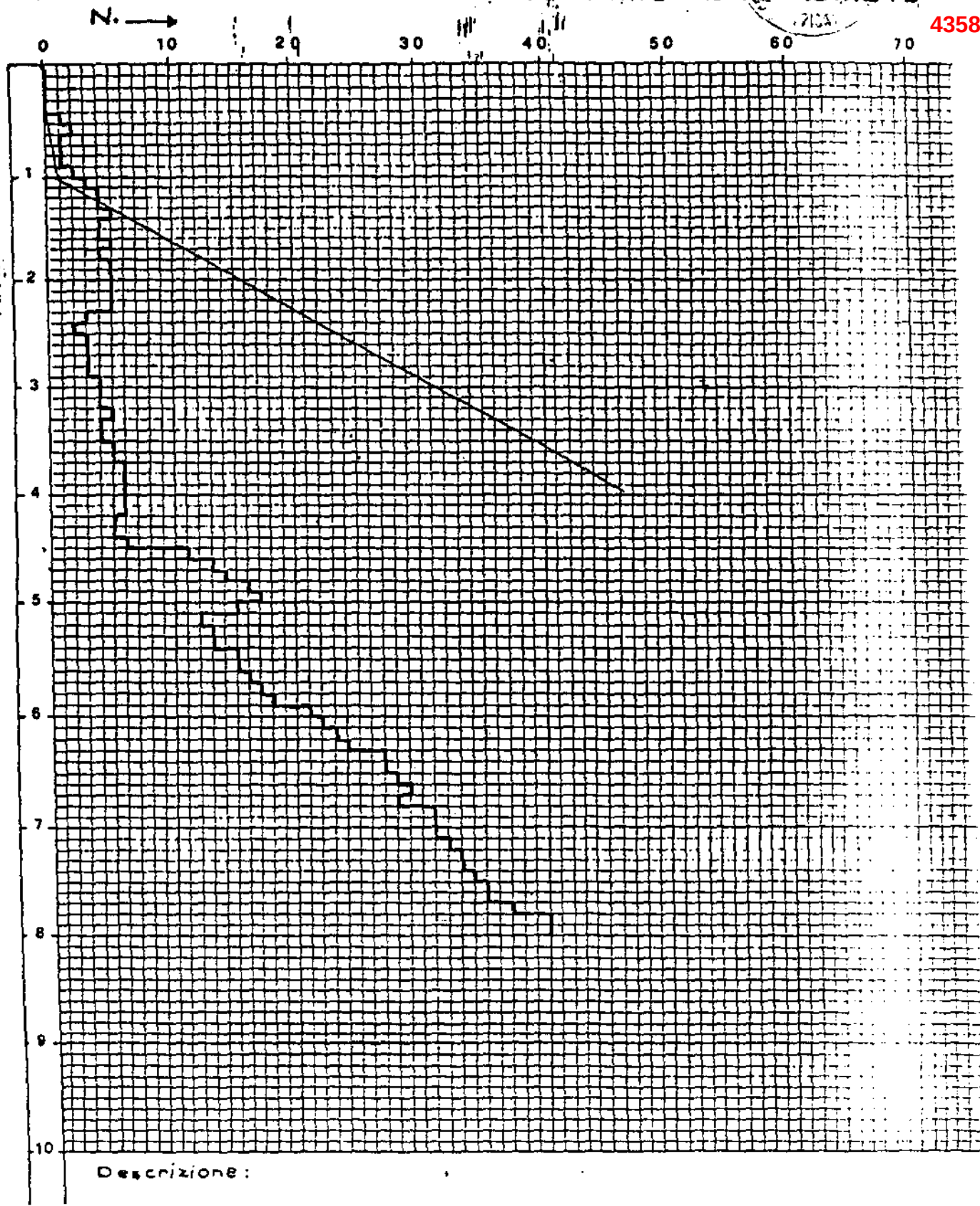
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104









Numero di colpi

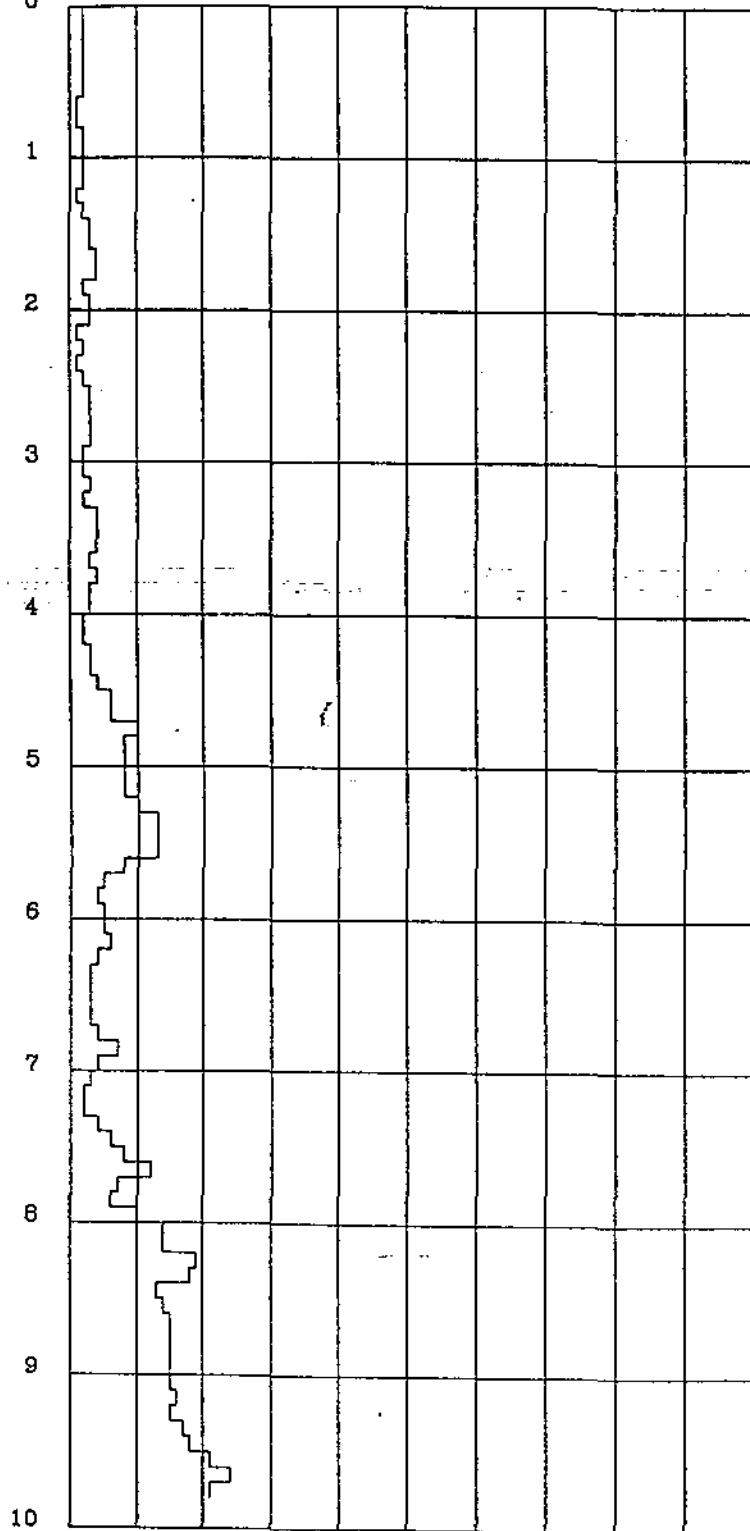
4359

Rd(MN/MQ)

PROFONDITÀ (metri)

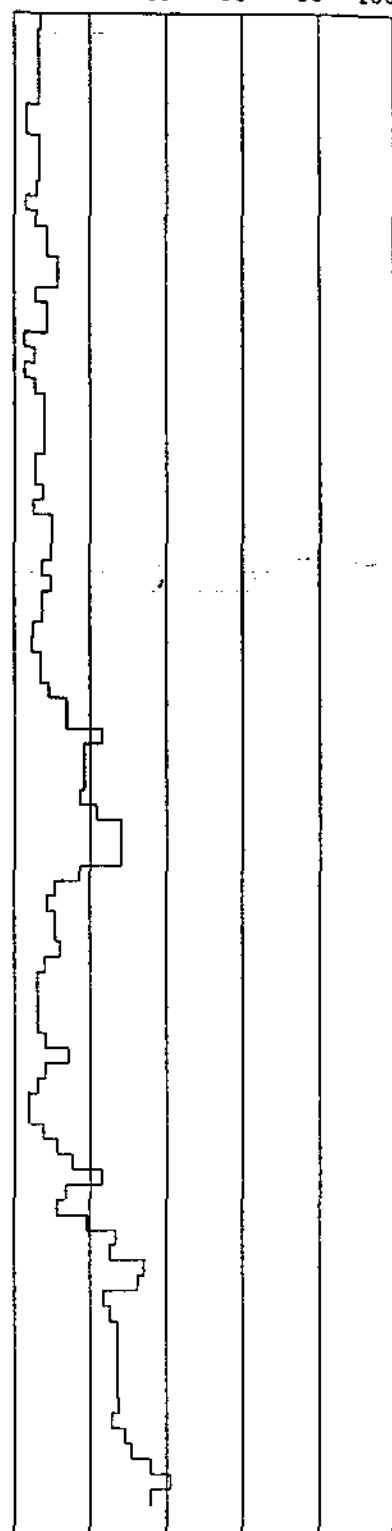
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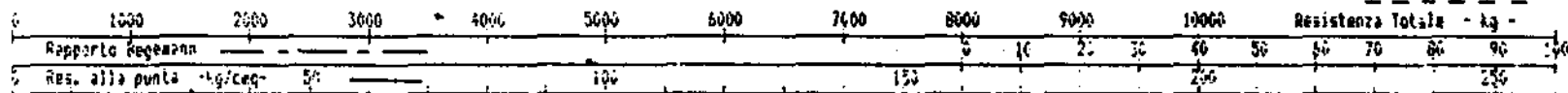
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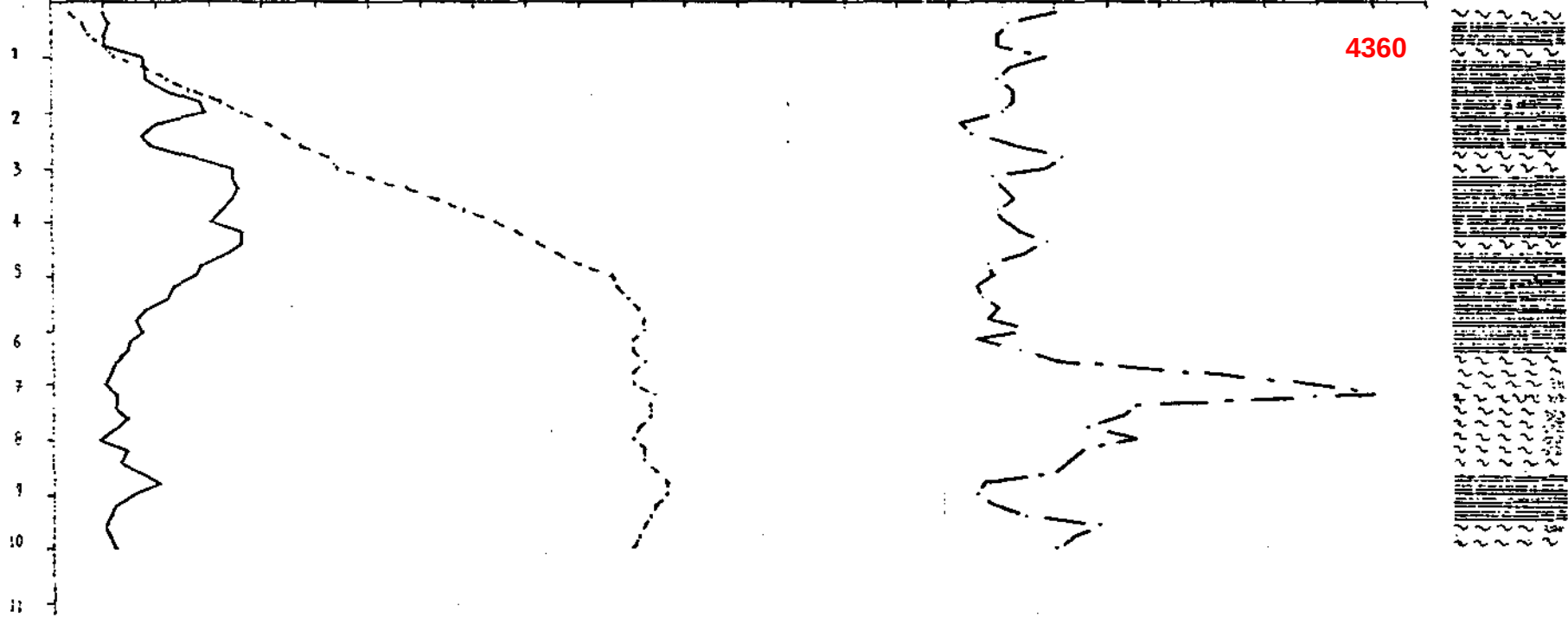
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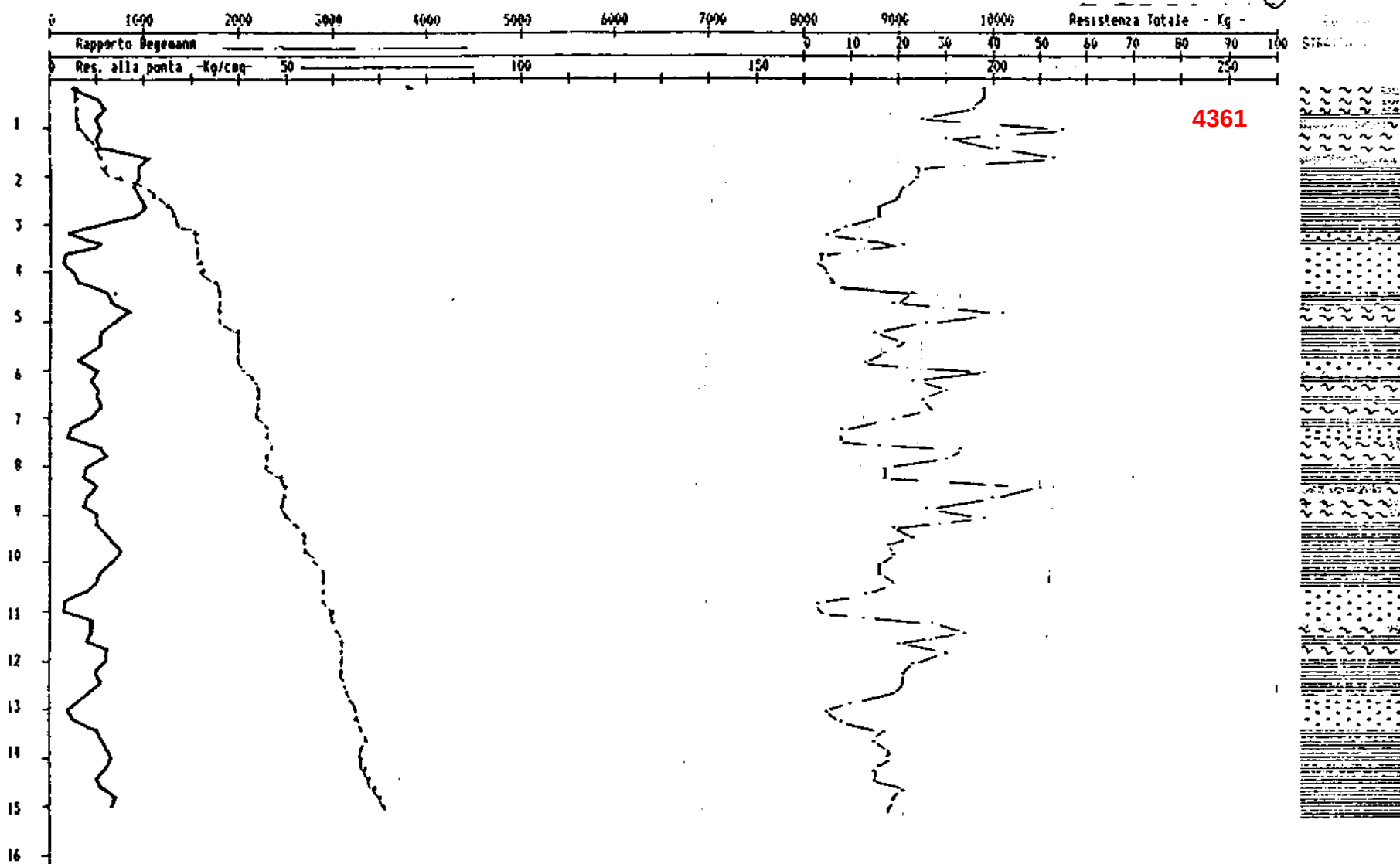
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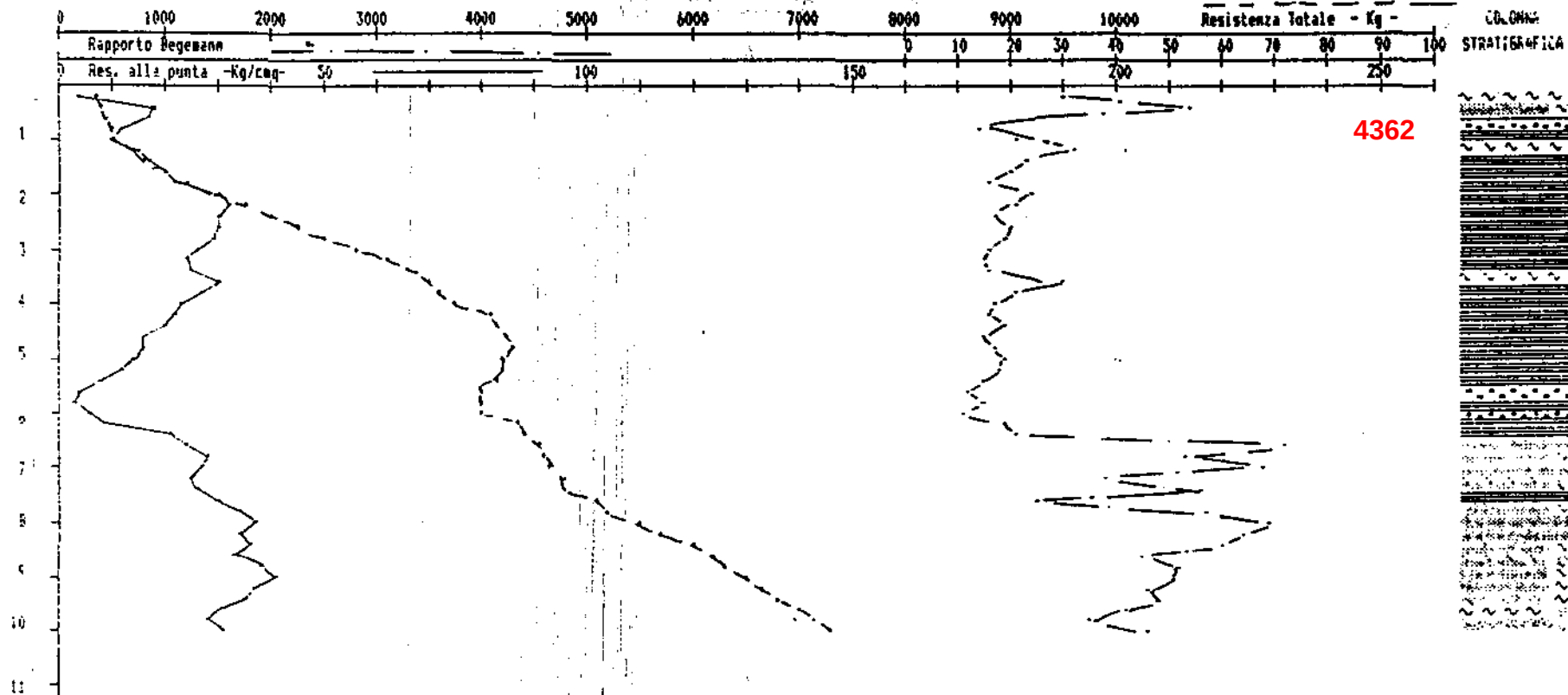


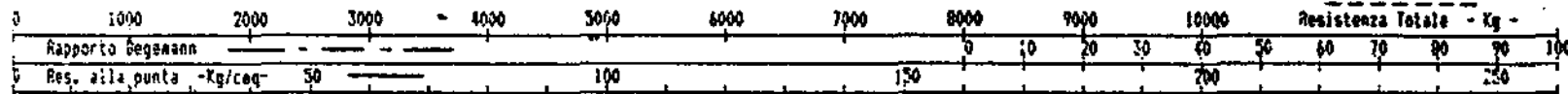


COLONNA
STRATIGRAFICA





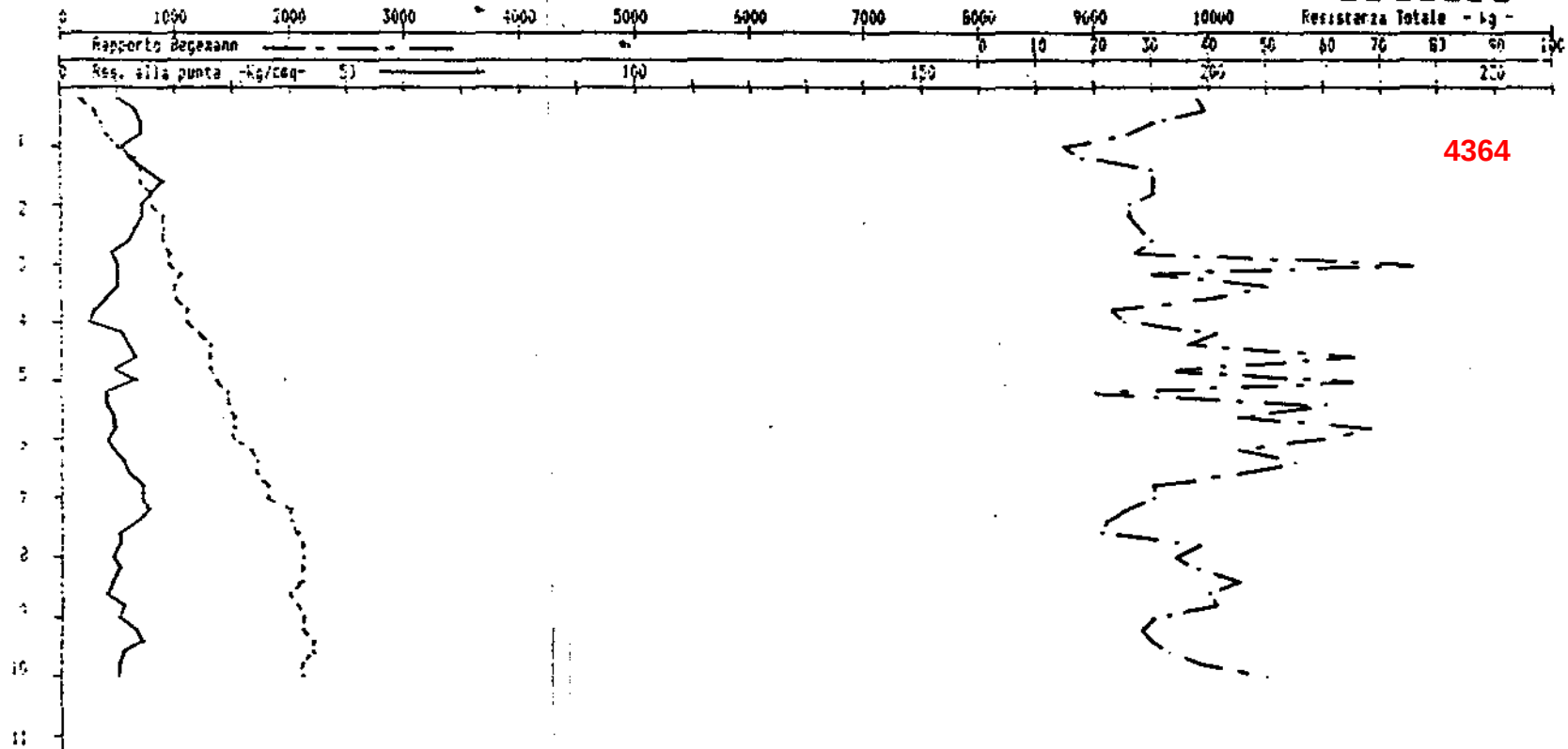




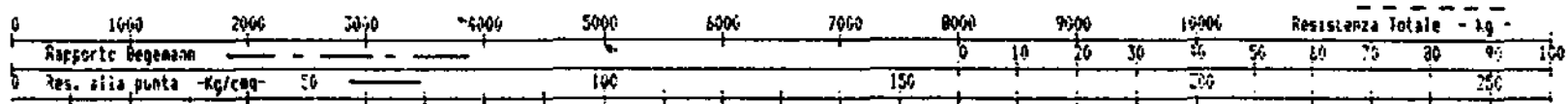
4363

COLONIA
STRATIGRAFICA

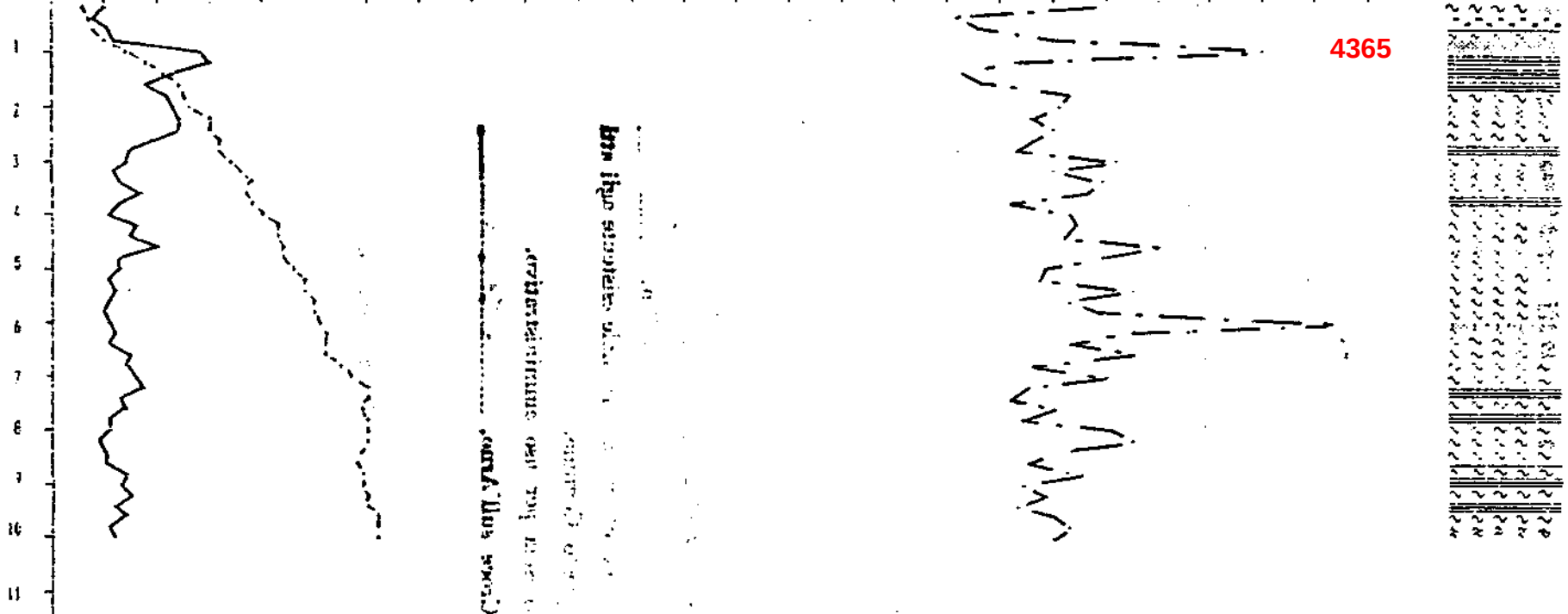


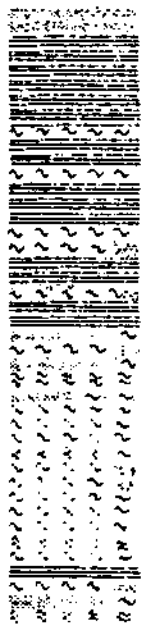
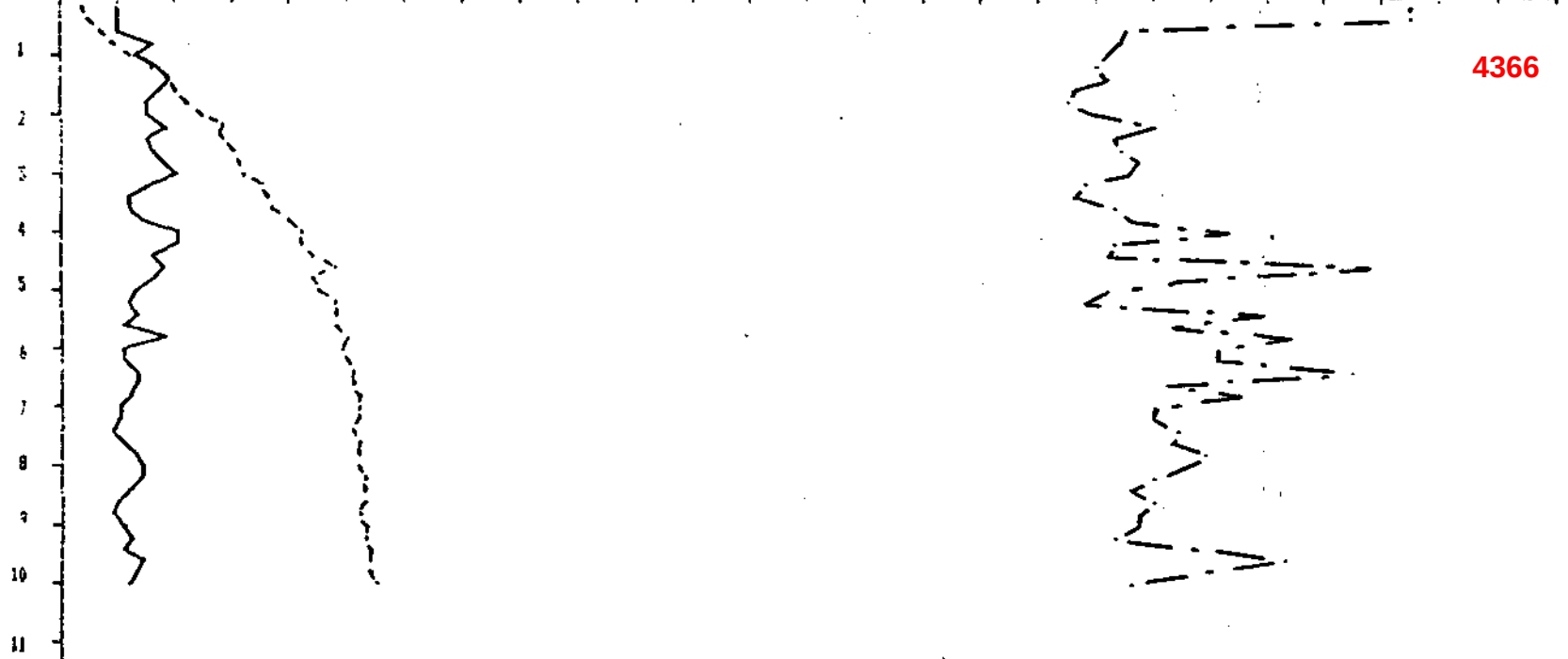
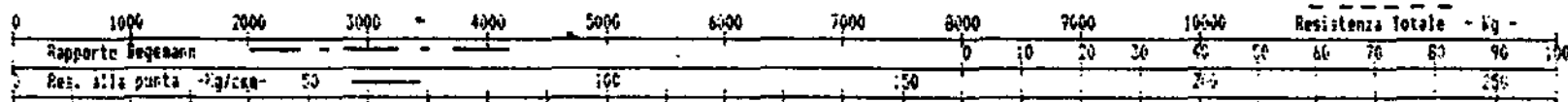


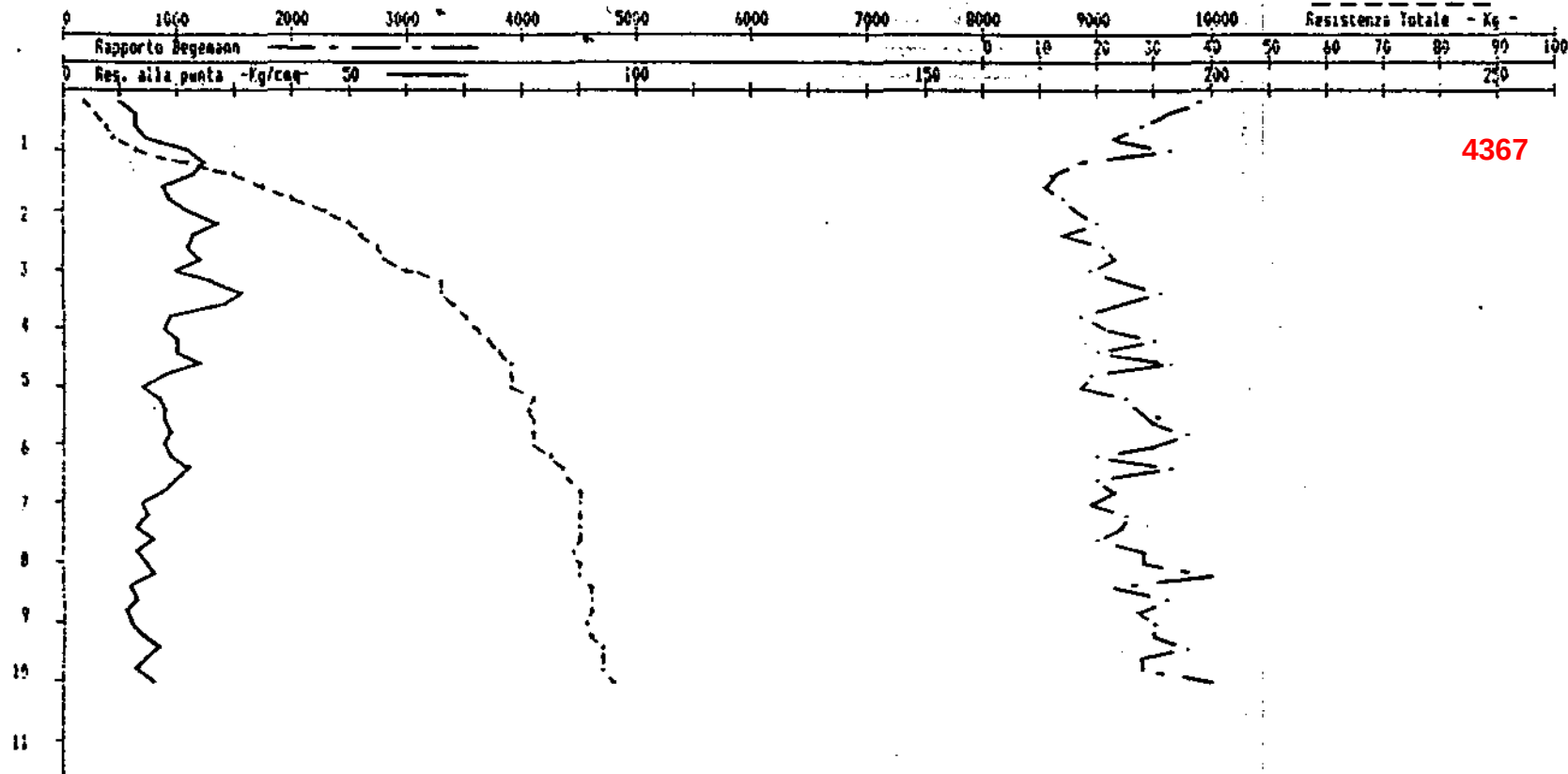
CLL/CNLA
STATALE/CF



COL. GAWG
E. R. A. 1644511

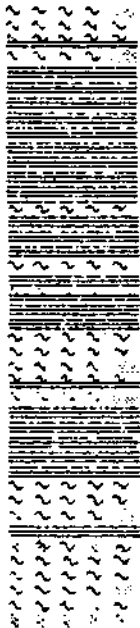


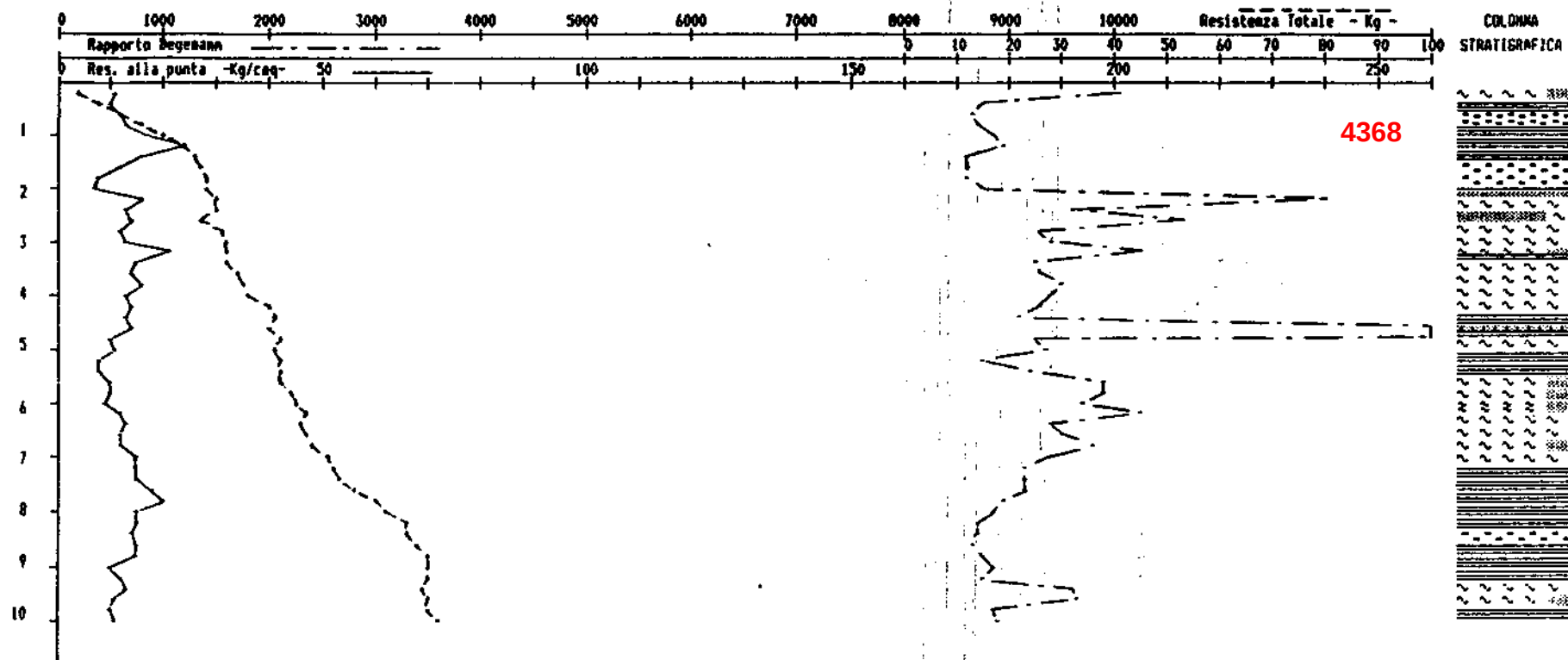


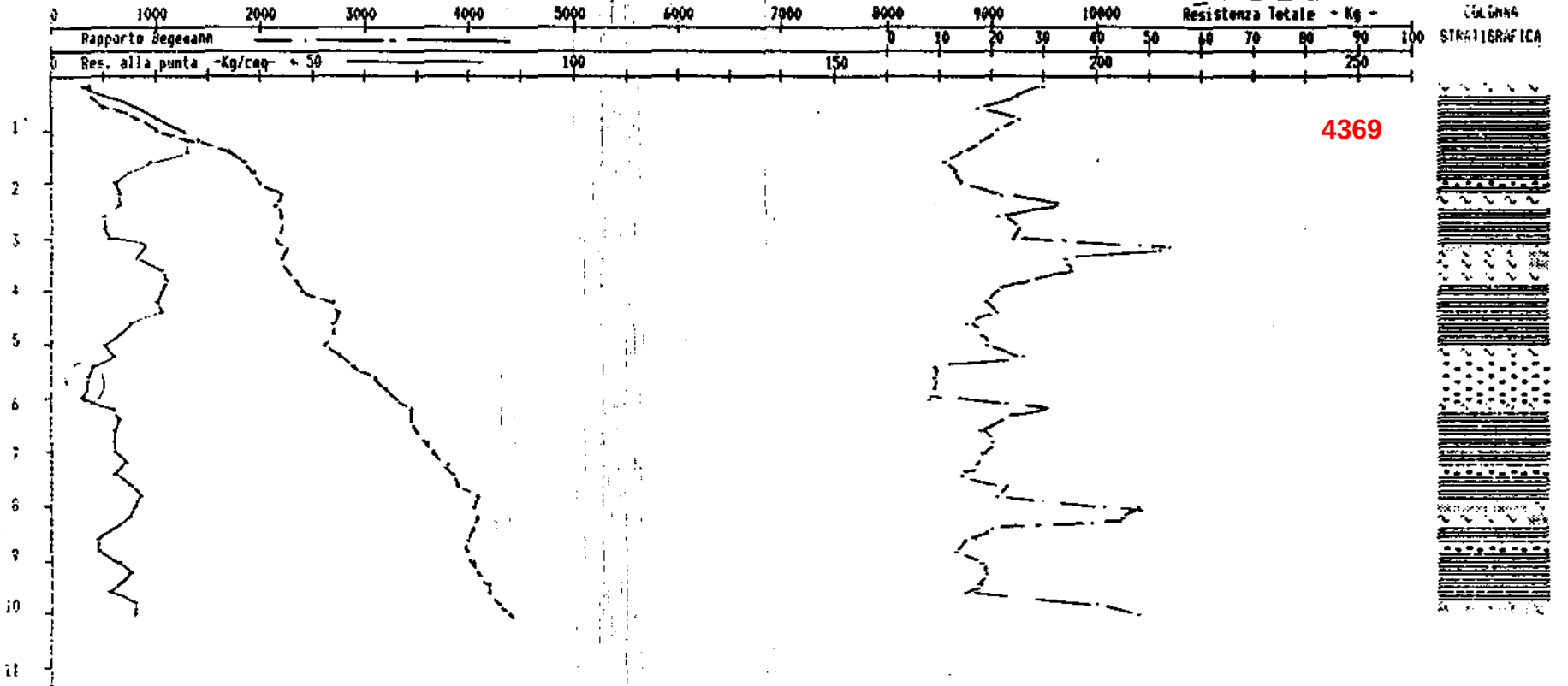


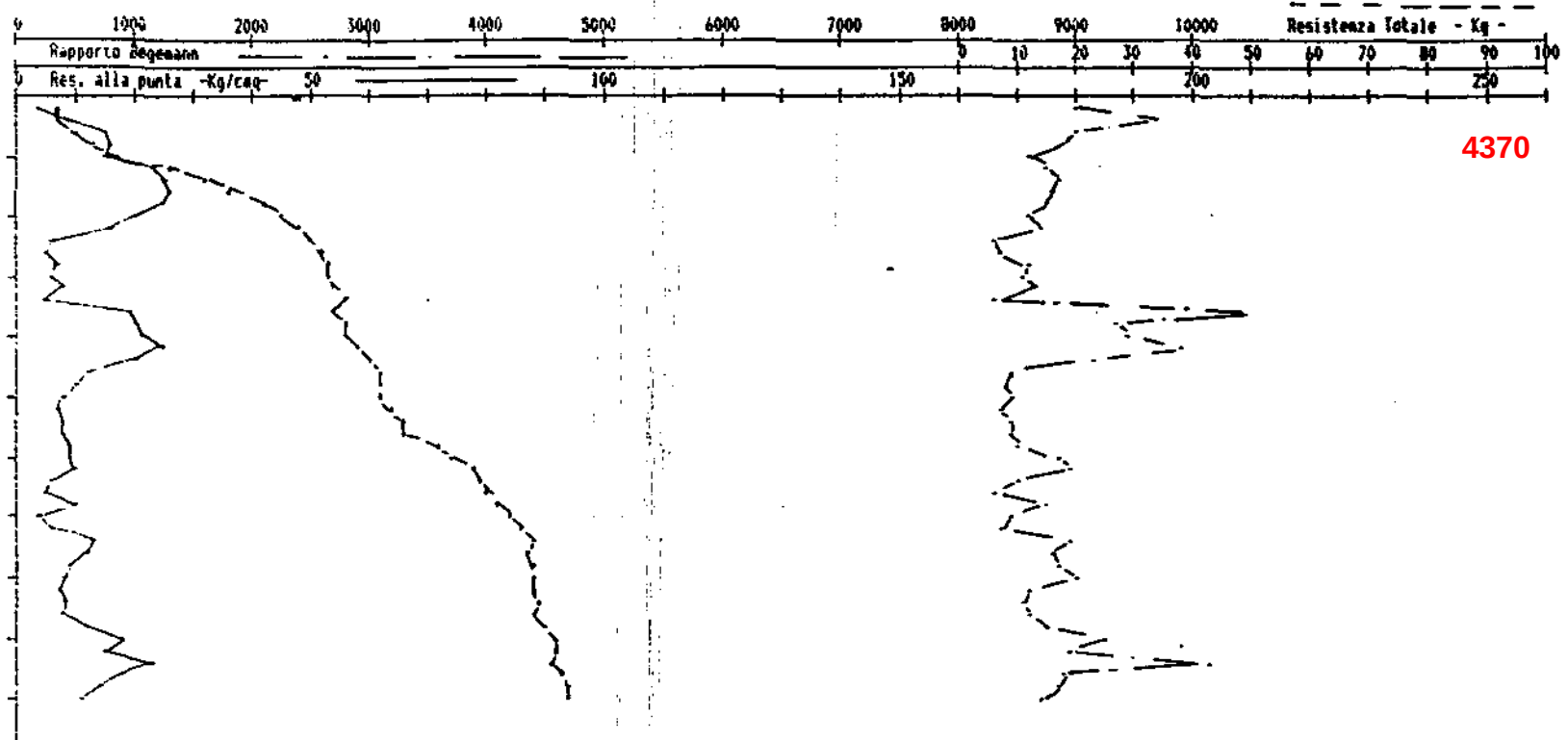
CELONAR
STRATIGRAFICA

4367





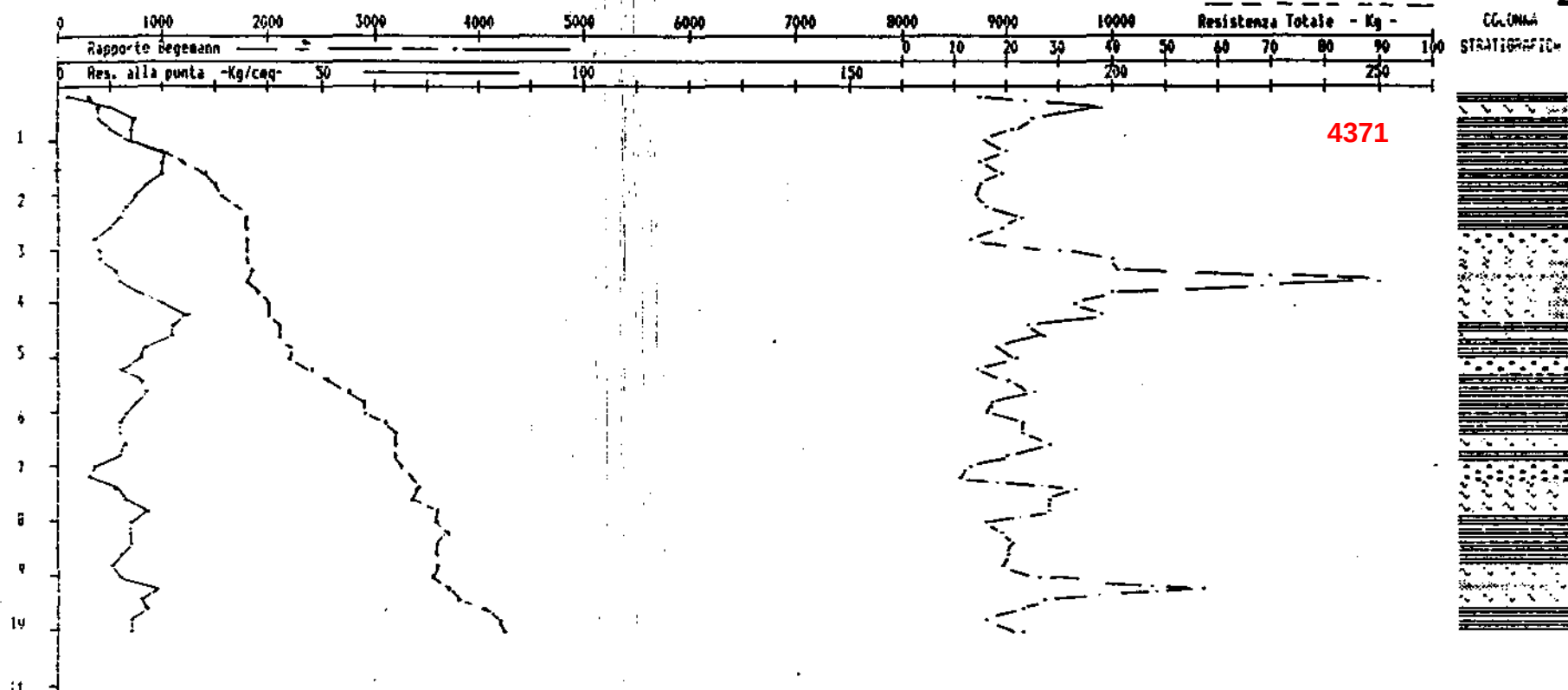


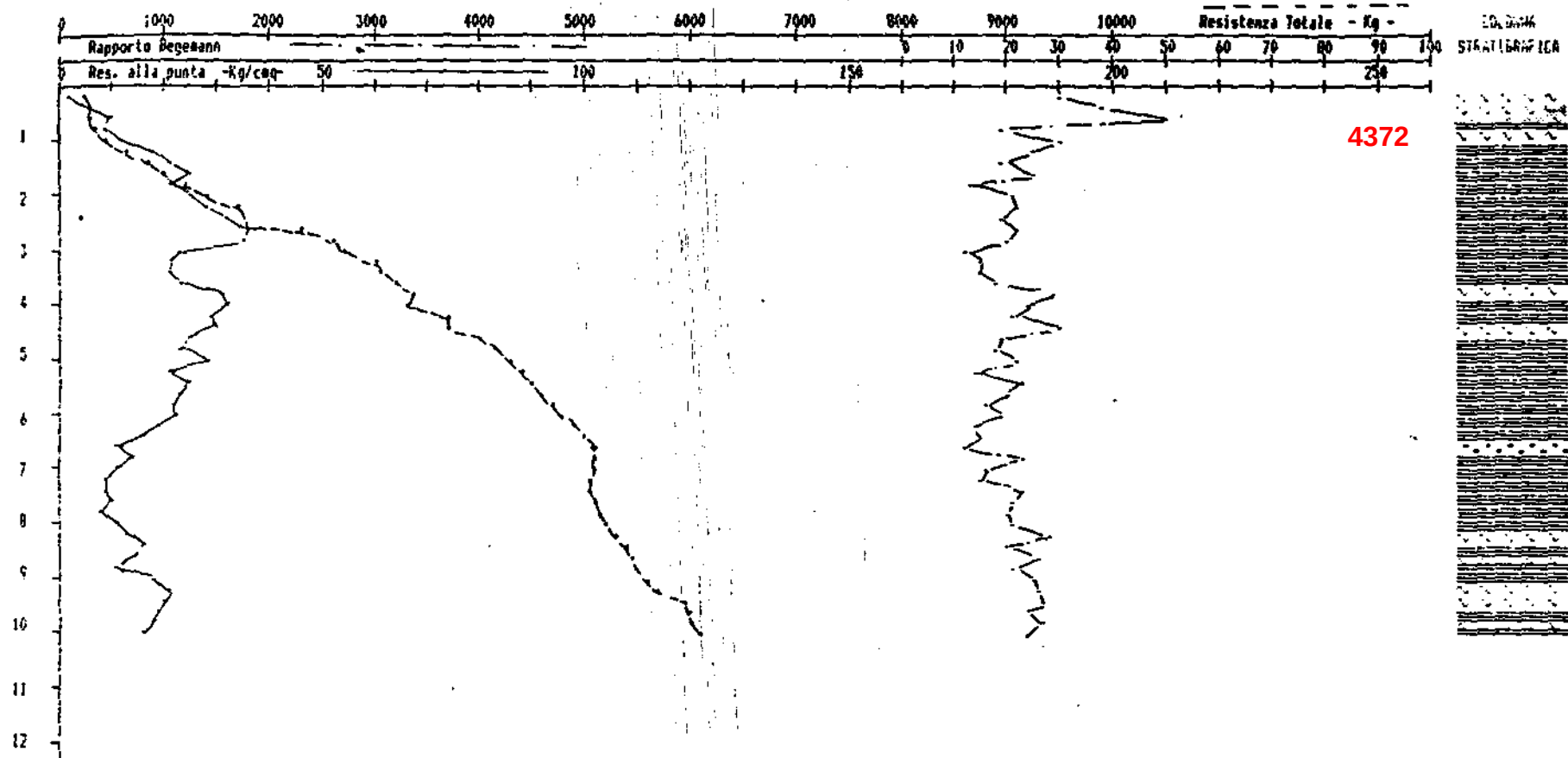


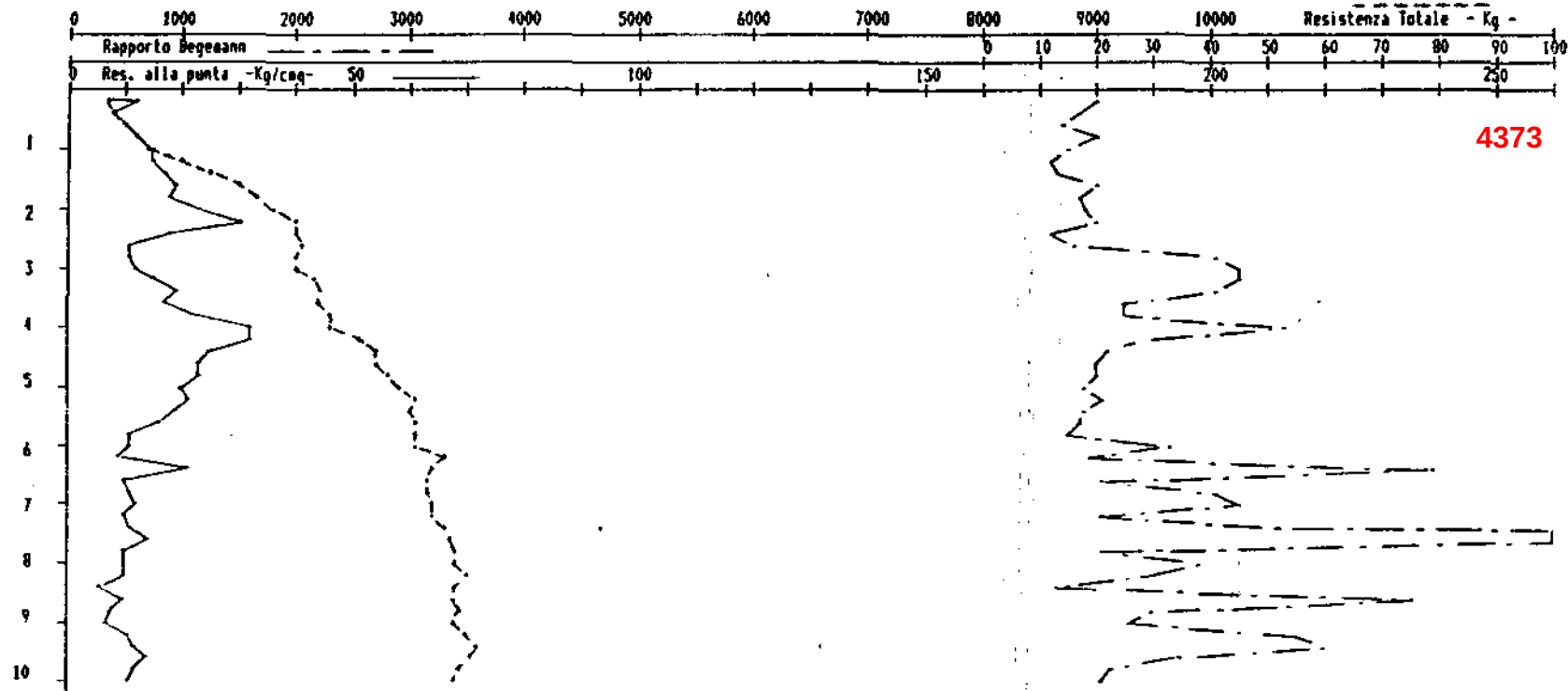
4370



COLUMBA
STRATIGRAFICA







4373

COLONNA
STRATIGRAFICA



Sonda			CMV 420	foglio:		2 di 2		6513								
Carotiere tipo/Φ :			SEMPLICE- WIDIA Φ 101mm	Data inizio/fine:		02/12-03/12/02										
Rivestimento Φ :			PESANTE Φ 140	Quota boccaforo:												
Scala metrica	Profondità mt.	Simbologia	Descrizione litostratigrafica-geotecnica	Pocket Kg/cmq	Vane Kg/cmq	Campioni	Campioni per an.	Chimiche	Falda stabilizzata l.a. inferiore	Falda stabilizzata l.a. superiore	Permeabilità Lefranc	Profondità rivestimento	Cassetta n.	Profondità battute	Scala metrica	
20,00			Limo argilloso, grigio chiaro, localmente interessato da sottili laminazioni limoso sabbiose, omogeneo, con sparse puntinature carboniose nerastre. Umido, plastico, da consistente a molto consistente. Da 25,00m diventa di colore marrone chiaro ocraceo, ossidato e con sparsi calcinelli calcarei.	1,8		20,30			lettura del 18-dic 24,89			20,90			20,00	
21,00				2,0	0,90	20,90									21,00	21,00
22,00				2,1												22,00
23,00				2,1												23,00
24,00				1,8												24,00
25,00				1,7												25,00
26,00				1,7												26,00
27,00				1,6												27,00
28,00				1,6												28,00
29,00				1,7												29,00
30,00				2,2												30,00
31,00				1,9												31,00
32,00				1,8												32,00
33,00				2,0												33,00
34,00				1,4												34,00
35,00		1,7						35,00								
36,00		nr						36,00								
37,00		nr						37,00								
38,00		nr						38,00								
39,00		nr						39,00								
40,00		nr						40,00								
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39,00																
40,00																

note: I due piezometri sono installati in due fori adiacenti denominati BH2A e BH2B.

Il campione di ghiaia della zona in ciro

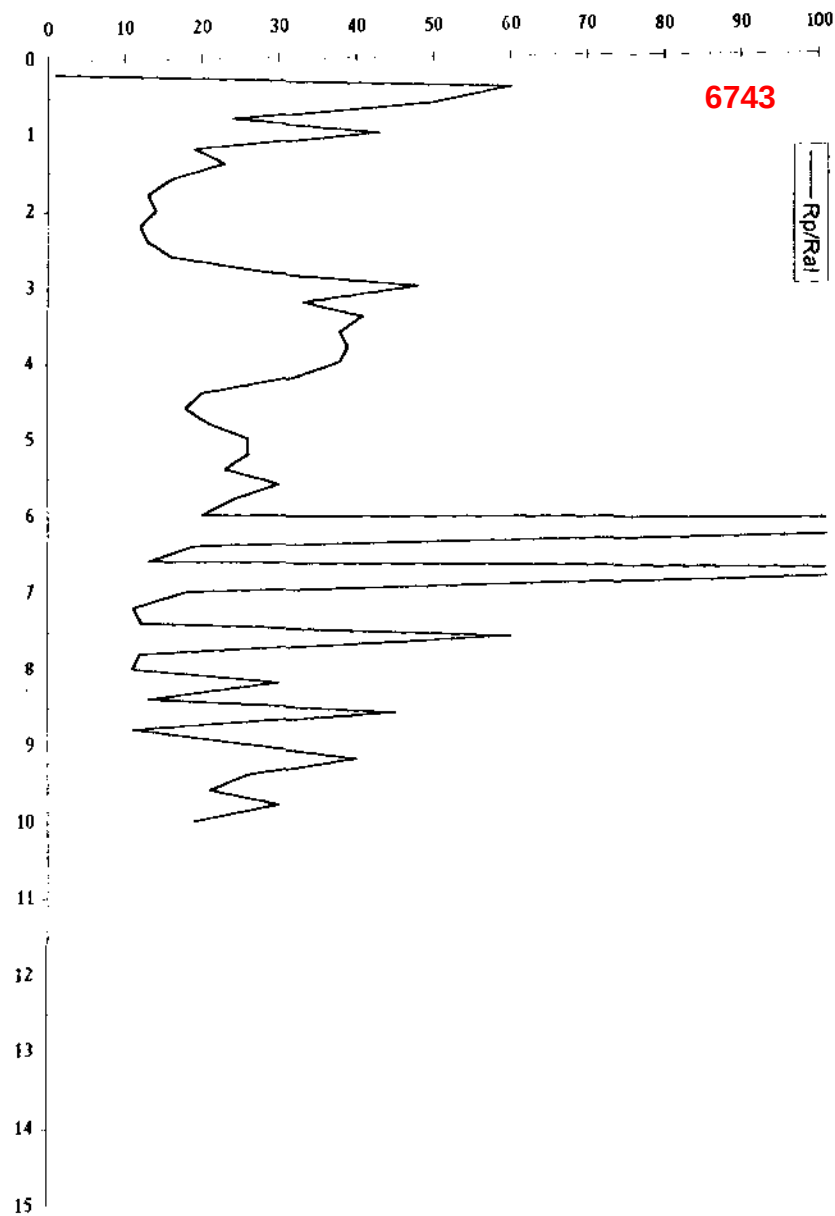
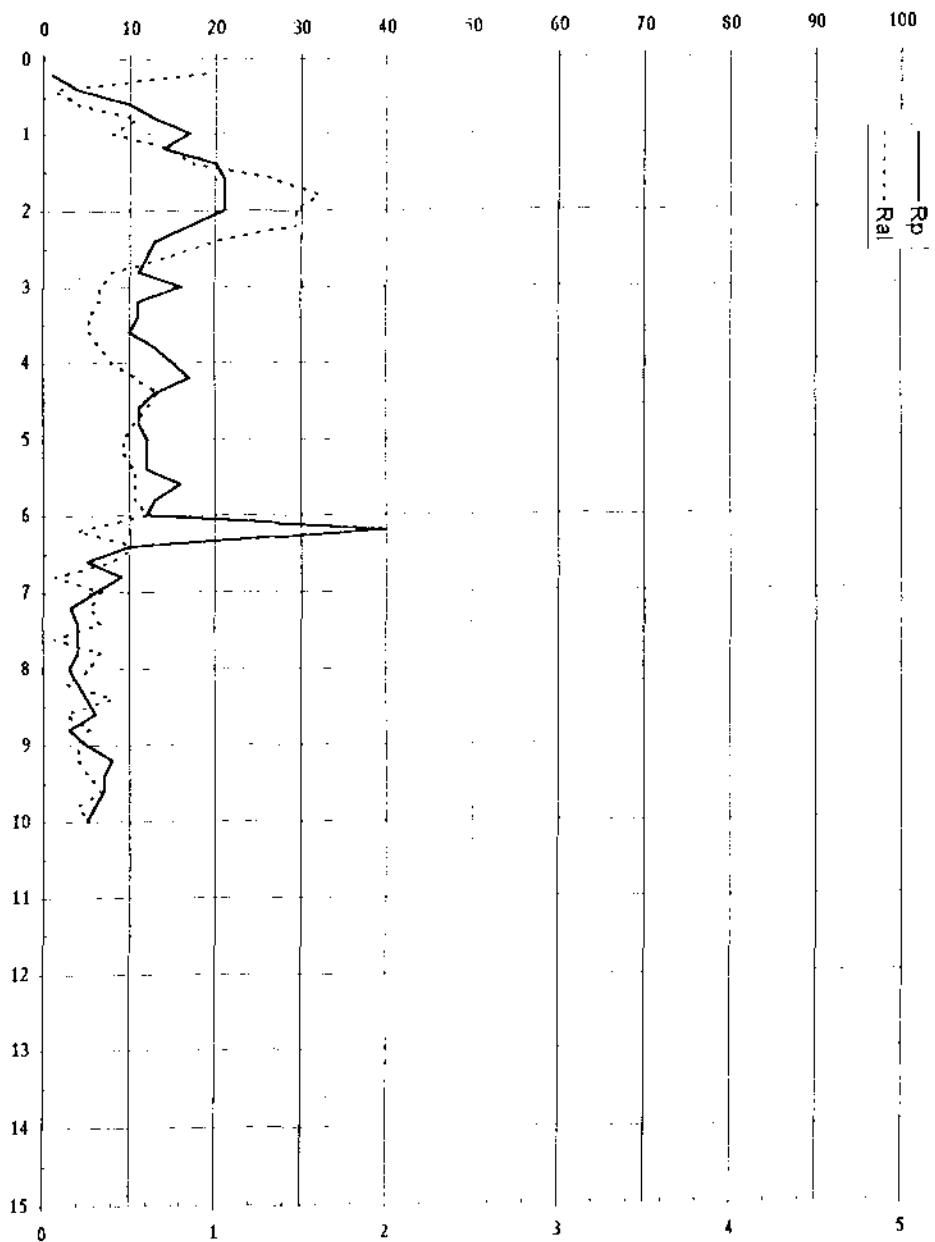
Il Direttore dell'Laboratorio

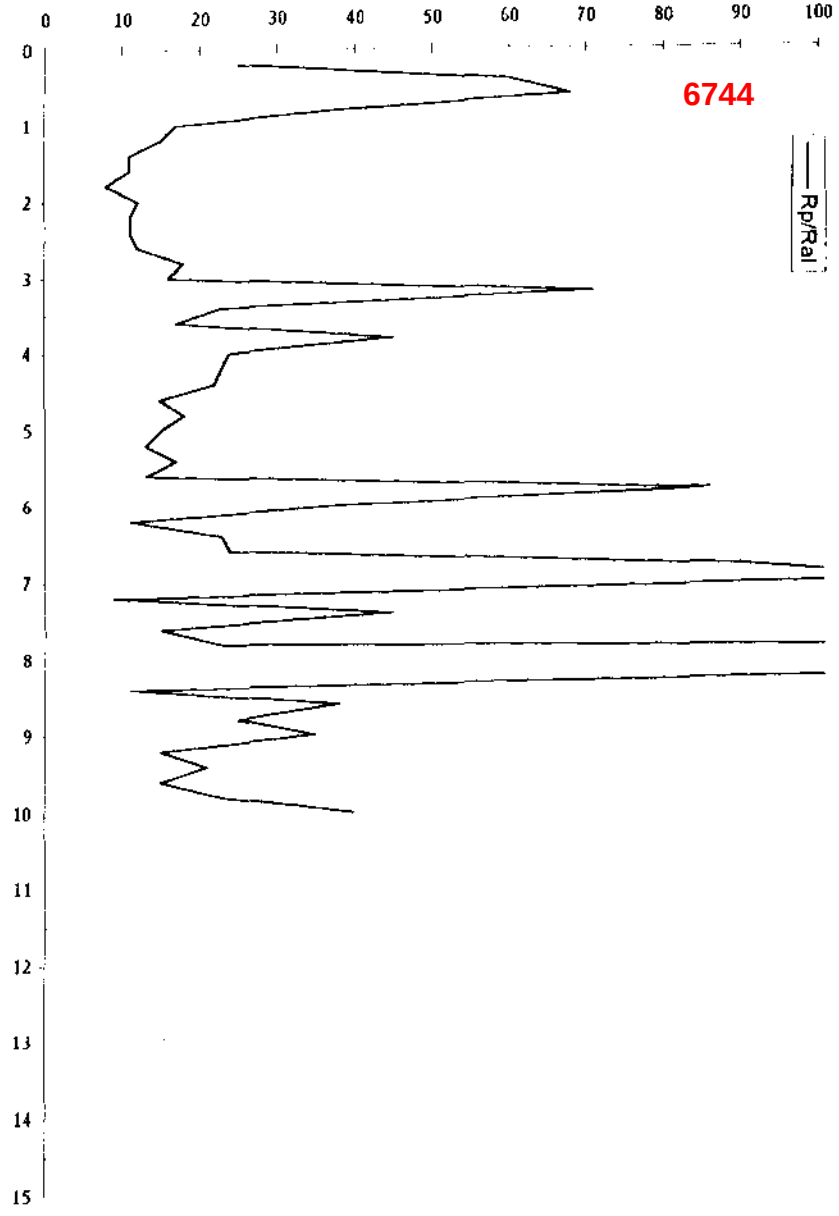
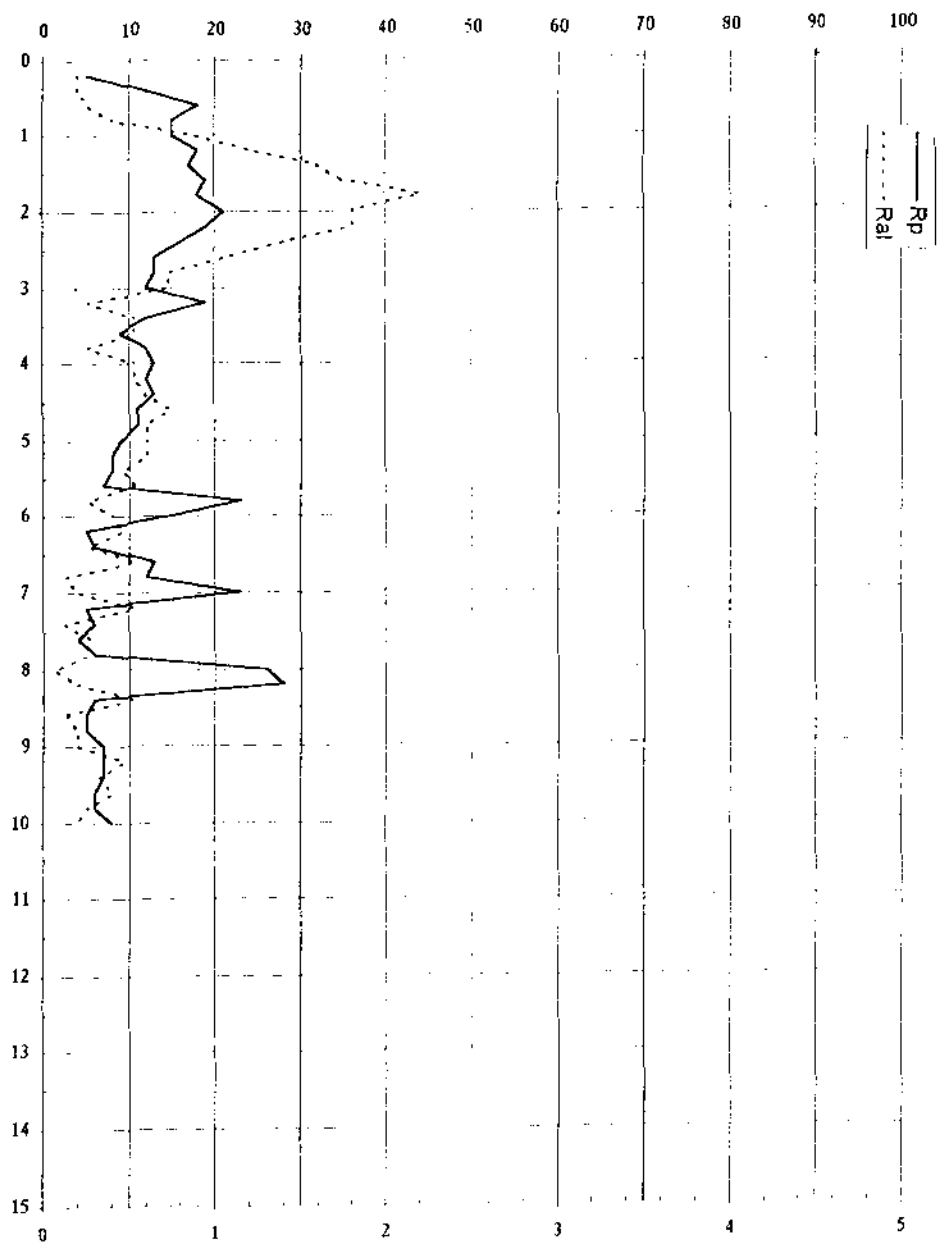
490mm di - Base

DATI DI CAMPAGNA			DATI ELABOR.		STRATIGRAFIA		PARAMETRI GEOTECNICI		
Profond.	Rp Kg/cm ²	Rl Kg/cm ²	Ral	Rp/Ral	Lito- logia	Stratig. Simbol.	Φ	Cu Kg/cm ²	σ-a Kg/cm ²
** PROVA PENETROMETRICA STATICA :PP2									
0.40-->	36.00	50.00	0.93	33.75	Sa	:::::=	35	2.113	4.040
0.60-->	54.00	70.00	1.07	40.50	Sa	:::::=	35	3.170	6.061
0.80-->	50.00	70.00	1.33	37.50	Sa	:::::=	34	2.932	5.621
1.00-->	44.00	64.00	1.33	22.00	La	≈≈≈≈≈	32	2.191	4.221
1.20-->	60.00	90.00	2.00	21.43	La	≈≈≈≈≈	33	2.989	5.749
1.40-->	48.00	90.00	2.80	15.65	Al	==≈≈≈≈	31	2.274	4.403
1.60-->	24.00	70.00	3.07	10.91	A	=====	27	1.031	2.053
1.80-->	15.00	48.00	2.20	18.75	La	≈≈≈≈≈	23	0.734	1.501
2.00-->	20.00	32.00	0.80	30.00	Ls	≈:≈:≈:≈	25	1.034	2.083
2.20-->	12.00	22.00	0.67	45.00	Sl	:::::=	21	0.726	1.510
2.40-->	9.00	13.00	0.27	27.00	Ls	≈:≈:≈:≈	19	0.451	0.999
2.60-->	12.00	17.00	0.33	30.00	Ls	≈:~::~~	20	0.607	1.308
2.80-->	18.00	24.00	0.40	16.87	Al	==≈≈≈≈	22	0.833	1.749
3.00-->	20.00	36.00	1.07	18.75	La	≈≈≈≈≈	22	0.973	2.027
3.20-->	17.00	33.00	1.07	19.62	La	≈≈≈≈≈	21	0.821	1.751
3.40-->	12.00	25.00	0.87	18.00	La	≈≈≈≈≈	18	0.570	1.286
3.60-->	12.00	22.00	0.67	10.00	A	=====	18	0.494	1.154
3.80-->	10.00	28.00	1.20	15.00	Al	==≈≈≈≈	16	0.444	1.071
4.00-->	10.00	20.00	0.67	12.50	Al	==≈≈≈≈	16	0.442	1.080
4.20-->	9.00	21.00	0.80	27.00	Ls	≈:~::~~	15	0.434	1.075
4.40-->	7.00	12.00	0.33	10.50	A	=====	13	0.270	0.773
4.60-->	10.00	20.00	0.67	18.75	La	≈≈≈≈≈	15	0.459	1.145
4.80-->	9.00	17.00	0.53	13.50	Al	==≈≈≈≈	14	0.388	1.021
5.00-->	13.00	23.00	0.67	19.50	La	≈≈≈≈≈	16	0.606	1.445
5.20-->	20.00	30.00	0.67	21.43	La	≈≈≈≈≈	19	0.955	2.115
5.40-->	19.00	33.00	0.93	20.36	La	≈≈≈≈≈	18	0.904	2.024
5.60-->	21.00	35.00	0.93	19.69	La	≈≈≈≈≈	19	1.003	2.219
5.80-->	20.00	36.00	1.07	18.75	La	≈≈≈≈≈	19	0.952	2.129
6.00-->	26.00	42.00	1.07	19.50	La	≈≈≈≈≈	20	1.251	2.704
6.20-->	24.00	44.00	1.33	20.00	La	≈≈≈≈≈	20	1.151	2.517
6.40-->	17.00	35.00	1.20	15.94	Al	==≈≈≈≈	17	0.762	1.781
6.60-->	20.00	36.00	1.07	16.67	Al	==≈≈≈≈	18	0.904	2.058
6.80-->	20.00	38.00	1.20	16.67	Al	==≈≈≈≈	18	0.903	2.062
7.00-->	20.00	38.00	1.20	23.08	Ls	≈:~::~~	18	0.997	2.248
7.20-->	19.00	32.00	0.87	21.92	La	≈≈≈≈≈	18	0.896	2.061
7.40-->	16.00	29.00	0.87	21.82	La	≈≈≈≈≈	16	0.746	1.781
7.60-->	10.00	21.00	0.73	21.43	La	≈≈≈≈≈	13	0.445	1.216
7.80-->	5.00	12.00	0.47	15.00	Al	==≈≈≈≈	6	0.184	0.726
8.00-->	9.00	14.00	0.33	19.29	La	≈≈≈≈≈	12	0.393	1.130
8.20-->	8.00	15.00	0.47	24.00	Ls	≈:~::~~	11	0.359	1.072
8.40-->	9.00	14.00	0.33	22.50	La	≈≈≈≈≈	12	0.391	1.140
8.60-->	8.00	14.00	0.40	24.00	Ls	≈:~::~~	11	0.357	1.082
8.80-->	8.00	13.00	0.33	20.00	La	≈≈≈≈≈	11	0.339	1.052
9.00-->	13.00	19.00	0.40	27.86	Ls	≈:~::~~	14	0.619	1.589
9.20-->	12.00	19.00	0.47	20.00	La	≈≈≈≈≈	14	0.537	1.440
9.40-->	8.00	17.00	0.60	20.00	La	≈≈≈≈≈	11	0.336	1.065
9.60-->	7.00	13.00	0.40	26.25	Ls	≈:~::~~	9	0.300	1.003
9.80-->	7.00	11.00	0.27	26.25	Ls	≈:~::~~	9	0.299	1.006
10.00-->	7.00	11.00	0.27	26.25	Ls	≈:~::~~	9	0.298	1.010

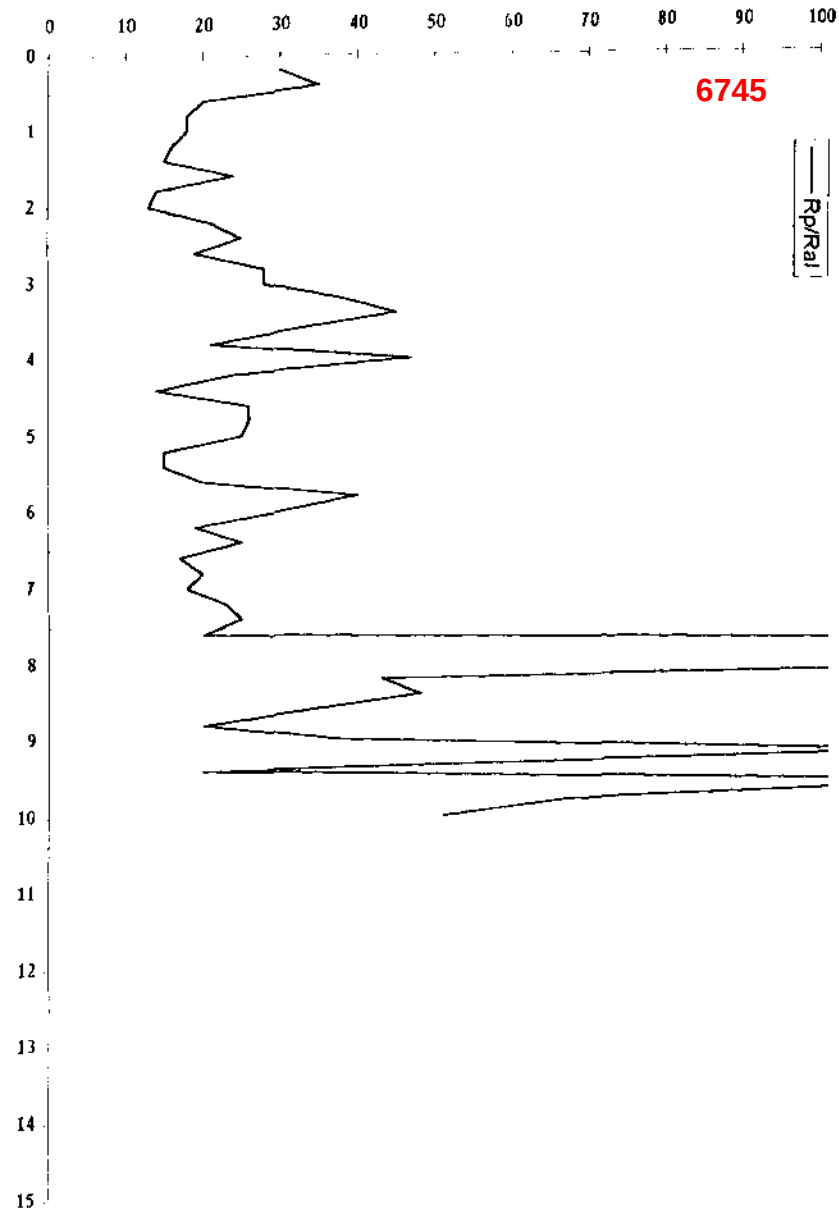
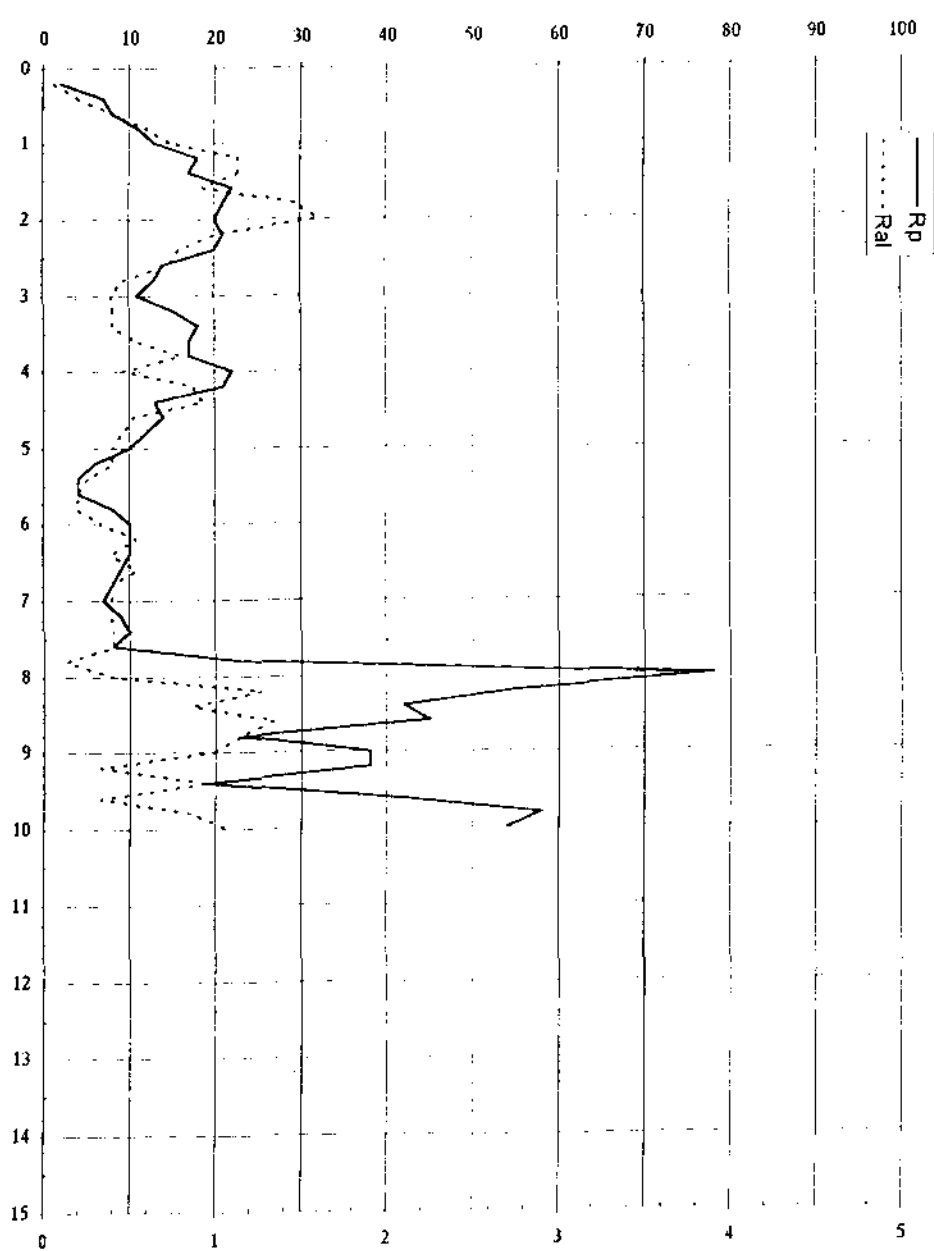
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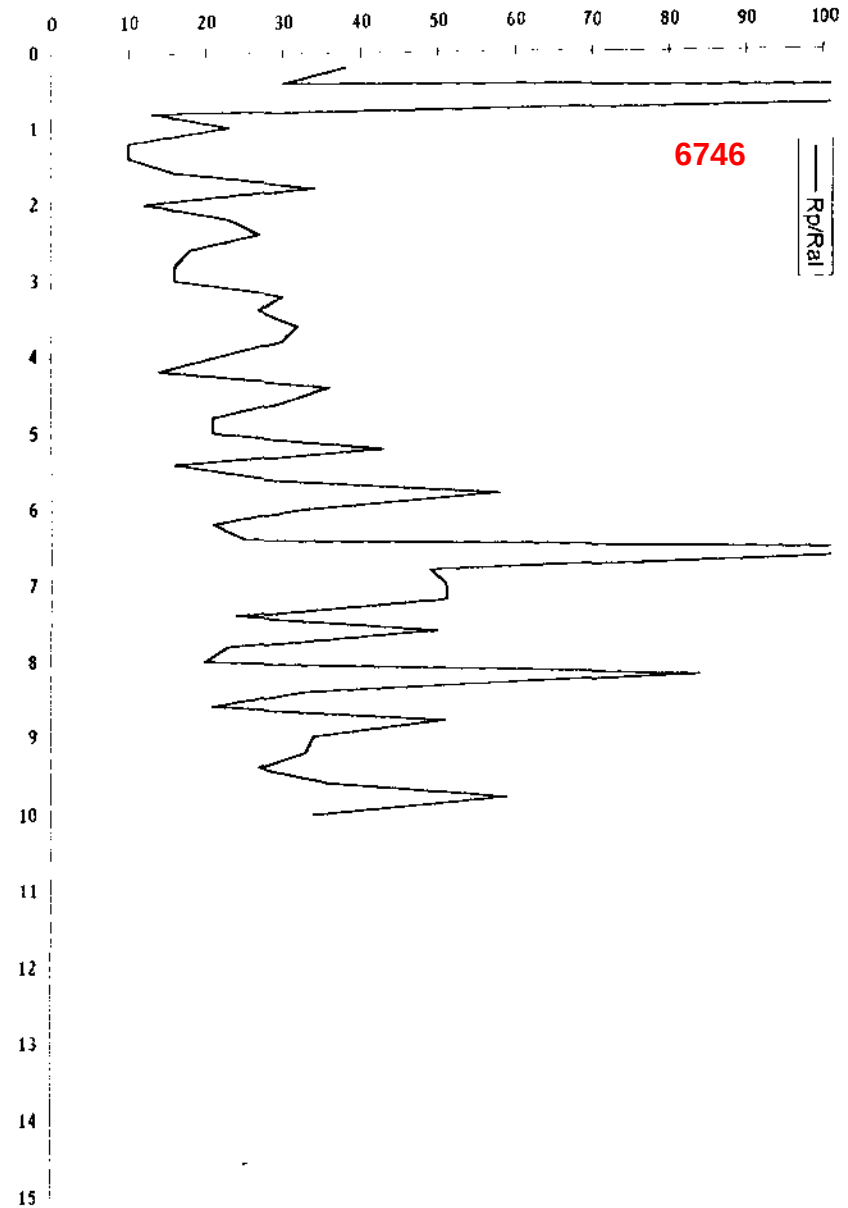
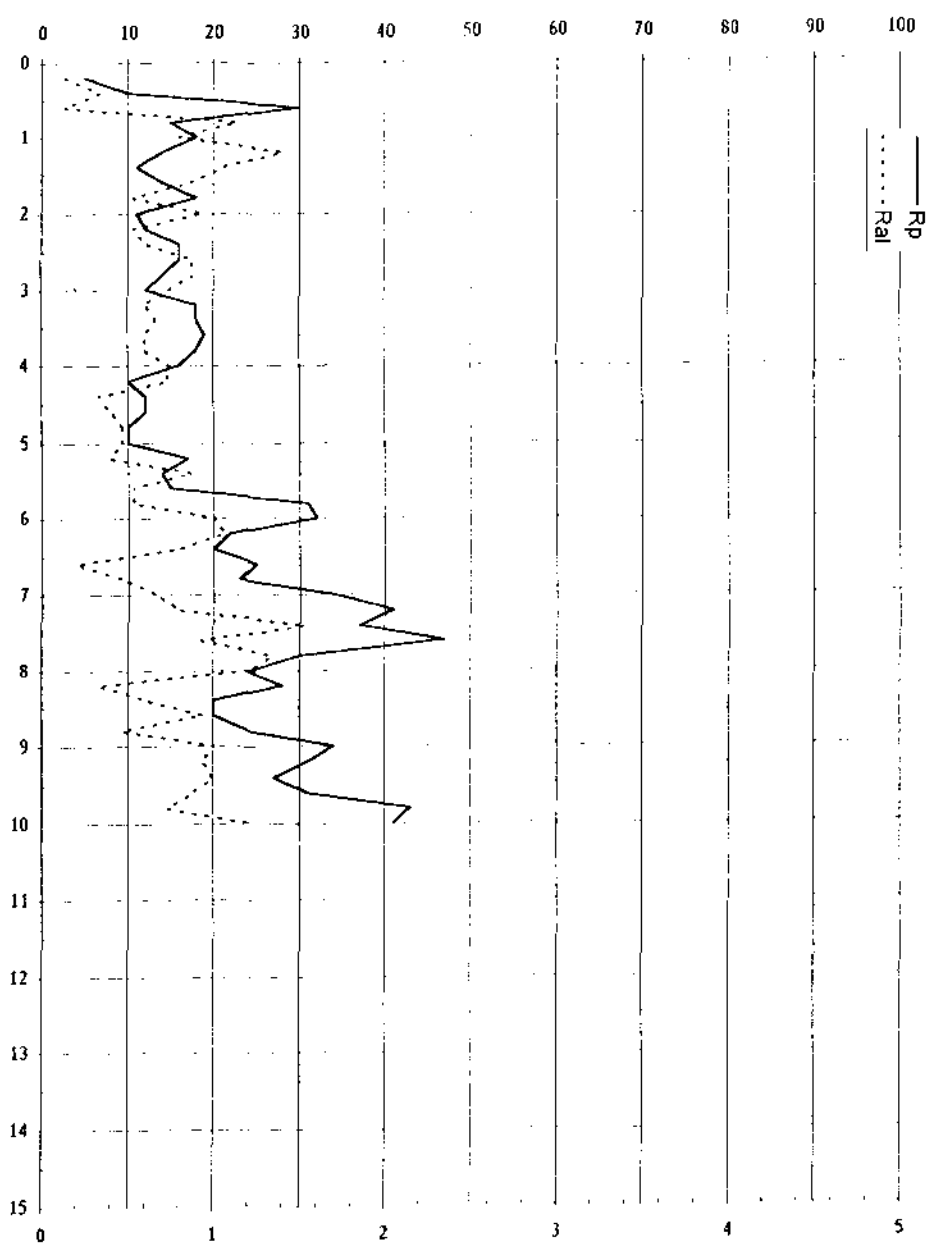
DATI DI CAMPAGNA			DATI ELABOR.		STRATIGRAFIA		PARAMETRI GEOTECNICI		
Profond.	Rp Kg/cm ²	Rl Kg/cm ²	Ral	Rp/Ral	Lito_ logia	Stratig. Simbol.	Φ	Cu Kg/cm ²	σ-a Kg/cm ²
** PROVA PENETROMETRICA STATICA : PP1									6742
0.40-->	18.00	20.00	0.13	27.00	Ls	~::~~	32	0.943	1.817
0.60-->	16.00	26.00	0.67	30.00	Ls	~::~~	29	0.836	1.626
0.80-->	6.00	14.00	0.53	45.00	Sl	::::~~	23	0.366	0.746
1.00-->	34.00	36.00	0.13	85.00	S+gh	::::~~	31	0.000	3.383
1.20-->	24.00	30.00	0.40	25.71	Ls	~::~~	28	1.252	2.449
1.40-->	14.00	28.00	0.93	35.00	Sa	::::~~	25	0.809	1.619
1.60-->	14.00	20.00	0.40	35.00	Sa	::::~~	24	0.807	1.628
1.80-->	12.00	18.00	0.40	18.00	La	~::~~	22	0.584	1.216
2.00-->	16.00	26.00	0.67	40.00	Sa	::::~~	23	0.920	1.866
2.20-->	13.00	19.00	0.40	48.75	Sl	::::~~	22	0.788	1.628
2.40-->	9.00	13.00	0.27	33.75	Sa	::::~~	19	0.504	1.100
2.60-->	9.00	13.00	0.27	19.29	La	~::~~	18	0.427	0.966
2.80-->	15.00	22.00	0.47	18.75	La	~::~~	21	0.725	1.544
3.00-->	21.00	33.00	0.80	24.23	Ls	~::~~	22	1.077	2.225
3.20-->	18.00	31.00	0.87	27.00	Ls	~::~~	21	0.917	1.933
3.40-->	12.00	22.00	0.67	22.50	La	~::~~	18	0.570	1.286
3.60-->	12.00	20.00	0.53	25.71	Ls	~::~~	18	0.598	1.352
3.80-->	10.00	17.00	0.47	21.43	La	~::~~	16	0.466	1.113
4.00-->	12.00	19.00	0.47	30.00	Ls	~::~~	17	0.594	1.369
4.20-->	11.00	17.00	0.40	20.63	La	~::~~	16	0.513	1.225
4.40-->	16.00	24.00	0.53	18.46	La	~::~~	18	0.761	1.706
4.60-->	21.00	34.00	0.87	24.23	Ls	~::~~	20	1.062	2.291
4.80-->	20.00	33.00	0.87	15.79	Al	==::~~	19	0.912	2.016
5.00-->	25.00	44.00	1.27	19.74	La	~::~~	21	1.206	2.585
5.20-->	22.00	41.00	1.27	20.62	La	~::~~	20	1.055	2.305
5.40-->	18.00	34.00	1.07	19.29	La	~::~~	18	0.854	1.929
5.60-->	16.00	30.00	0.93	17.14	La	~::~~	17	0.753	1.744
5.80-->	19.00	33.00	0.93	15.83	Al	==::~~	18	0.859	1.952
6.00-->	24.00	42.00	1.20	17.14	La	~::~~	20	1.151	2.514
6.20-->	27.00	48.00	1.40	19.29	La	~::~~	20	1.301	2.802
6.40-->	19.00	40.00	1.40	17.81	La	~::~~	18	0.900	2.043
6.60-->	16.00	32.00	1.07	16.00	Al	==::~~	17	0.713	1.695
6.80-->	15.00	30.00	1.00	16.07	Al	==::~~	16	0.665	1.610
7.00-->	19.00	33.00	0.93	21.92	La	~::~~	18	0.897	2.058
7.20-->	16.00	29.00	0.87	24.00	Ls	~::~~	16	0.786	1.852
7.40-->	15.00	25.00	0.67	25.00	Ls	~::~~	16	0.732	1.754
7.60-->	14.00	23.00	0.60	21.00	La	~::~~	15	0.645	1.596
7.80-->	12.00	22.00	0.67	18.00	La	~::~~	14	0.544	1.410
8.00-->	13.00	23.00	0.67	48.75	Sl	::::~~	15	0.741	1.791
8.20-->	6.00	10.00	0.27	30.00	Ls	~::~~	8	0.254	0.873
8.40-->	8.00	11.00	0.20	24.00	Ls	~::~~	11	0.358	1.077
8.60-->	7.00	12.00	0.33	17.50	La	~::~~	10	0.290	0.954
8.80-->	8.00	14.00	0.40	17.14	La	~::~~	11	0.339	1.052
9.00-->	17.00	24.00	0.47	25.50	Ls	~::~~	16	0.829	1.988
9.20-->	17.00	27.00	0.67	23.18	Ls	~::~~	16	0.828	1.993
9.40-->	16.00	27.00	0.73	24.00	Ls	~::~~	15	0.775	1.899
9.60-->	10.00	20.00	0.67	21.43	La	~::~~	12	0.435	1.260
9.80-->	8.00	15.00	0.47	24.00	Ls	~::~~	11	0.352	1.107
10.00-->	7.00	12.00	0.33	21.00	La	~::~~	9	0.284	0.983





6744





prf m	LP Kg/cm ²	LL Kg/cm ²	Rp Kg/cm ²	RL Kg/cm ²	Rp/RI	prf m	LP Kg/cm ²	LL Kg/cm ²	Rp Kg/cm ²	RL Kg/cm ²	7658
0,20	3,0	3,0	6,0	0,47	13,0	7,60	19,0	32,0	38,0	1,33	28,0
0,40	2,5	6,0	5,0	0,53	9,0	7,80	22,0	32,0	44,0	1,20	37,0
0,60	3,5	7,5	7,0	0,40	17,0	8,00	8,0	17,0	16,0	1,33	12,0
0,80	5,0	8,0	10,0	0,60	17,0	8,20	9,0	19,0	18,0	1,87	10,0
1,00	5,5	10,0	11,0	0,73	15,0	8,40	6,0	20,0	12,0	0,93	13,0
1,20	4,5	10,0	9,0	0,73	12,0	8,60	15,0	22,0	30,0	1,47	20,0
1,40	5,0	10,5	10,0	1,07	9,0	8,80	17,0	28,0	34,0	1,60	21,0
1,60	9,0	17,0	18,0	1,80	10,0	9,00	17,0	29,0	34,0	1,47	23,0
1,80	10,5	24,0	21,0	2,40	9,0	9,20	14,0	25,0	28,0	1,60	17,0
2,00	11,0	29,0	22,0	2,47	9,0	9,40	11,0	23,0	22,0	1,73	13,0
2,20	10,5	29,0	21,0	2,53	8,0	9,60	14,0	27,0	28,0	1,73	16,0
2,40	8,0	27,0	16,0	1,73	9,0	9,80	7,0	20,0	14,0	1,40	10,0
2,60	7,0	20,0	14,0	1,47	10,0	10,00	8,5	19,0	17,0	1,87	9,0
2,80	6,0	17,0	12,0	1,27	9,0	10,20	11,0	25,0	22,0	0,80	27,0
3,00	4,5	14,0	9,0	1,27	7,0	10,40	16,0	22,0	32,0	1,13	28,0
3,20	6,5	16,0	13,0	1,60	8,0	10,60	16,5	25,0	33,0	1,47	22,0
3,40	9,0	21,0	18,0	1,93	9,0	10,80	25,0	36,0	50,0	2,13	23,0
3,60	8,5	23,0	17,0	2,20	8,0	11,00	10,0	26,0	20,0	1,93	10,0
3,80	10,5	27,0	21,0	2,40	9,0	11,20	5,5	20,0	11,0	1,53	7,0
4,00	8,0	26,0	16,0	2,20	7,0	11,40	14,5	26,0	29,0	2,00	14,0
4,20	10,5	27,0	21,0	2,13	10,0	11,60	9,0	24,0	18,0	1,47	12,0
4,40	7,0	23,0	14,0	1,80	8,0	11,80	24,0	35,0	48,0	1,47	33,0
4,60	5,5	19,0	11,0	1,47	7,0	12,00	24,0	35,0	48,0	2,07	23,0
4,80	5,0	16,0	10,0	1,73	6,0	12,20	8,5	24,0	17,0	1,80	9,0
5,00	4,0	17,0	8,0	0,87	9,0	12,40	6,5	20,0	13,0	1,20	11,0
5,20	3,5	10,0	7,0	1,13	6,0	12,60	8,0	17,0	16,0	1,87	9,0
5,40	5,0	13,5	10,0	1,00	10,0	12,80	26,0	40,0	52,0	1,47	35,0
5,60	4,5	12,0	9,0	1,33	7,0	13,00	36,0	47,0	72,0	1,73	42,0
5,80	6,0	16,0	12,0	1,20	10,0	13,20	26,0	39,0	52,0	1,87	28,0
6,00	6,0	15,0	12,0	1,27	9,0	13,40	24,0	38,0	48,0	2,00	24,0
6,20	5,0	14,5	10,0	1,27	8,0	13,60	18,0	33,0	36,0	1,47	25,0
6,40	7,0	16,5	14,0	1,53	9,0	13,80	23,0	34,0	46,0	1,33	34,0
6,60	6,5	18,0	13,0	1,60	8,0	14,00	12,0	22,0	24,0	1,40	17,0
6,80	10,0	22,0	20,0	1,87	11,0	14,20	14,5	25,0	29,0	1,60	18,0
7,00	12,0	26,0	24,0	1,60	15,0	14,40	9,0	21,0	18,0	1,20	15,0
7,20	14,0	26,0	28,0	2,00	14,0	14,60	7,5	16,5	15,0	1,07	14,0
7,40	19,0	34,0	38,0	1,73	22,0	14,80	7,0	15,0	14,0	—	—

• PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
 • COSTANTE DI TRASFORMAZIONE $C_t = 20$ - Velocità Avanzamento punta 2 cm/s
 • punta meccanica tipo Begemann $\phi = 35.7$ mm (area punta 10 cm² - apertura 60°)
 • manicotto laterale (superficie 150 cm²)

prf	LP	LL	Rp	RL	Rp/RL	prf	LP	LL	Rp	RL	
m	Kg/cm²	Kg/cm²	Kg/cm²	Kg/cm²	-	m	Kg/cm²	Kg/cm²	Kg/cm²	Kg/cm²	
0,20	3,0	3,0	6,0	0,27	22,0	6,00	3,0	8,0	6,0	0,73	8,0
0,40	4,0	6,0	8,0	0,20	40,0	6,20	4,0	9,5	8,0	0,67	12,0
0,60	6,0	7,5	12,0	0,07	180,0	6,40	12,0	17,0	24,0	1,00	24,0
0,80	8,0	8,5	16,0	0,13	120,0	6,60	11,5	19,0	23,0	0,80	29,0
1,00	7,0	8,0	14,0	0,33	42,0	6,80	10,0	16,0	20,0	1,07	19,0
1,20	6,0	8,5	12,0	0,20	60,0	7,00	11,0	19,0	22,0	0,80	27,0
1,40	6,5	8,0	13,0	0,33	39,0	7,20	9,0	15,0	18,0	1,07	17,0
1,60	5,0	7,5	10,0	0,33	30,0	7,40	3,0	11,0	6,0	0,87	7,0
1,80	7,5	10,0	15,0	0,53	28,0	7,60	4,5	11,0	9,0	0,87	10,0
2,00	8,5	12,5	17,0	0,20	85,0	7,80	3,5	10,0	7,0	0,80	9,0
2,20	4,0	5,5	8,0	0,13	60,0	8,00	2,5	8,5	5,0	0,60	8,0
2,40	4,0	5,0	8,0	0,20	40,0	8,20	2,5	7,0	5,0	0,47	11,0
2,60	3,5	5,0	7,0	0,20	35,0	8,40	2,5	6,0	5,0	0,20	25,0
2,80	6,0	7,5	12,0	0,13	90,0	8,60	2,5	4,0	5,0	0,40	12,0
3,00	7,0	8,0	14,0	0,20	70,0	8,80	3,0	6,0	6,0	0,80	7,0
3,20	6,5	8,0	13,0	0,33	39,0	9,00	3,0	9,0	6,0	0,27	22,0
3,40	5,5	8,0	11,0	0,20	55,0	9,20	2,0	4,0	4,0	0,33	12,0
3,60	6,0	7,5	12,0	0,47	26,0	9,40	3,5	6,0	7,0	0,67	10,0
3,80	6,5	10,0	13,0	0,73	18,0	9,60	23,0	28,0	46,0	1,47	31,0
4,00	4,0	9,5	8,0	0,67	12,0	9,80	24,0	35,0	48,0	1,07	45,0
4,20	3,0	8,0	6,0	0,53	11,0	10,00	16,0	24,0	32,0	1,47	22,0
4,40	2,0	6,0	4,0	0,47	9,0	10,20	20,0	31,0	40,0	2,13	19,0
4,60	2,0	5,5	4,0	0,47	9,0	10,40	24,0	40,0	48,0	1,73	28,0
4,80	2,0	5,5	4,0	0,33	12,0	10,60	22,0	35,0	44,0	2,00	22,0
5,00	1,5	4,0	3,0	0,40	7,0	10,80	25,0	40,0	50,0	2,00	25,0
5,20	8,0	11,0	16,0	0,67	24,0	11,00	40,0	55,0	80,0	2,40	33,0
5,40	5,0	10,0	10,0	0,60	17,0	11,20	30,0	48,0	60,0	2,13	28,0
5,60	6,0	10,5	12,0	0,73	16,0	11,40	27,0	43,0	54,0	2,13	25,0
5,80	8,5	14,0	17,0	0,67	25,0	11,60	32,0	48,0	64,0	—	—

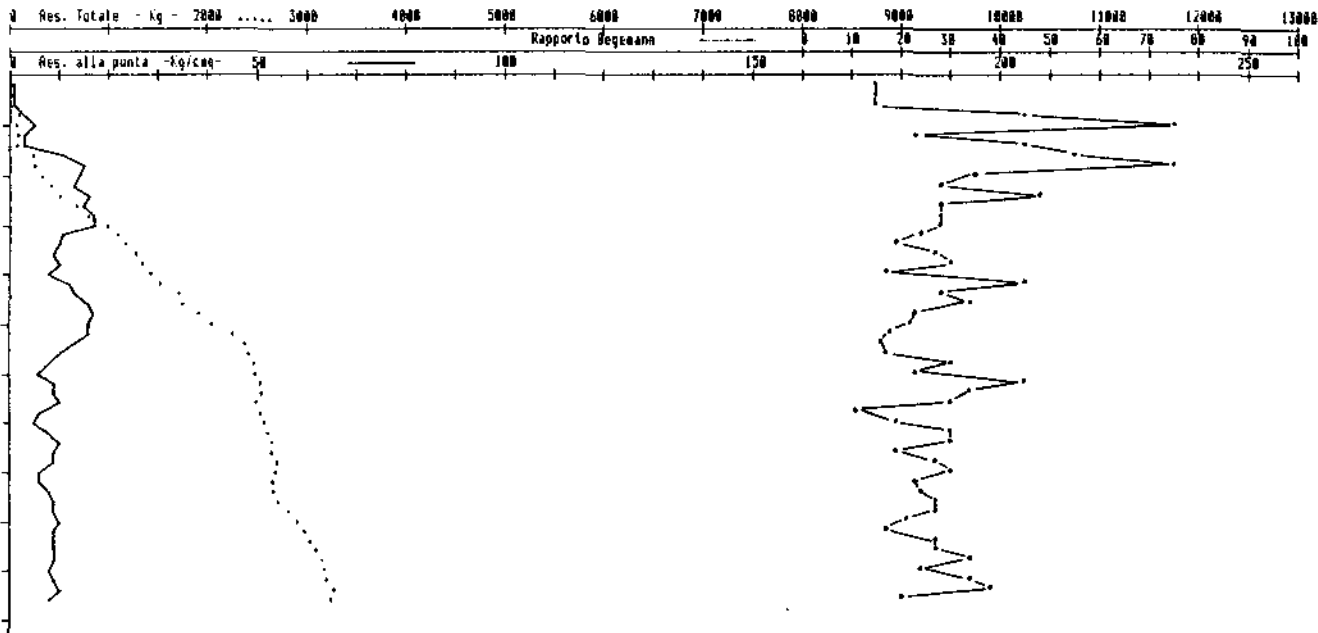
7659

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
 - COSTANTE DI TRASFORMAZIONE $C_t = 20$ - Velocità Avanzamento punta 2 cm/s
 - punta meccanica tipo Bagemann $\phi = 35.7$ mm (area punta 10 cm² - apertura 60°)
 - manicotto laterale (superficie 150 cm²)

Legenda campioni:				-rimaneggiato	-S.P.T.	-da vane test	-a percussione	-indisturbato a pressione	-indisturbato rotativo		
Spa cavo ro	Prof. (m)	Strati grafici	Cala pl col	DESCRIZIONE				Diametro rivest mento (mm)	Diametro cavo duro (mm)	Pondici (kg/cm²)	Falda
1,10	1,10		2,10	materiale di riporto starogeno (ghiaia, laterizi)							
1,20	1,20			sabbie poco argillose grigie						2	
1,80	1,80		5,10	argilla limo sabbiosa nocciola compatta							
2,80	2,80			sabbie argillose compatte							
4,20	4,20			sabbie nocciola più o meno argillose						1,5	
5,80	5,80		7,20	sabbie fine argillose nocciola						1	
6,80	6,80										
7,20	7,20										
7,80	7,80		18,00	sabbie grigio azzurre							
18,00	18,00										

prof. (m)	Letture di campagna			Rp	RL	Rp/RL	Rt
	punta	later.	totale	kg/cm²	kg/cm²	-	kg
0.20	-	-	-	-	0.73	-	-
0.40	42.0	53.0	-	42	1.40	30	-
0.60	39.0	60.0	-	39	1.07	37	-
0.80	14.0	30.0	-	14	0.73	19	-
1.00	15.0	26.0	-	15	0.67	23	-
1.20	14.0	24.0	-	14	0.73	19	-
1.40	9.0	20.0	-	9	0.47	19	-
1.60	12.0	19.0	-	12	0.87	14	-
1.80	14.0	27.0	-	14	0.93	15	-
2.00	14.0	28.0	-	14	0.73	19	-
2.20	9.0	20.0	-	9	0.47	19	-
2.40	12.0	19.0	-	12	0.47	26	-
2.60	19.0	26.0	-	19	0.80	24	-
2.80	21.0	33.0	-	21	0.93	23	-
3.00	20.0	34.0	-	20	0.93	21	-
3.20	20.0	34.0	-	20	0.87	23	-
3.40	27.0	40.0	-	27	1.13	24	-
3.60	27.0	44.0	-	27	1.33	20	-
3.80	22.0	42.0	-	22	1.00	22	-
4.00	22.0	37.0	-	22	0.67	33	-
4.20	21.0	31.0	-	21	0.80	26	-
4.40	21.0	33.0	-	21	0.93	23	-
4.60	24.0	38.0	-	24	0.93	26	-
4.80	23.0	37.0	-	23	0.93	25	-

prof. (m)	Letture di campagna			Rp	RL	Rp/RL	
	punta	later.	totale	kg/cm²	kg/cm²	-	
5.00	22.0	36.0	-	22	0.93	24	-
5.20	20.0	34.0	-	20	0.87	23	-
5.40	17.0	30.0	-	17	0.67	26	-
5.60	18.0	28.0	-	18	0.73	25	-
5.80	16.0	27.0	-	16	0.80	20	-
6.00	11.0	23.0	-	11	0.60	18	-
6.20	9.0	18.0	-	9	0.67	14	-
6.40	10.0	20.0	-	10	0.60	17	-
6.60	13.0	22.0	-	13	0.53	24	-
6.80	14.0	22.0	-	14	0.67	21	-
7.00	12.0	22.0	-	12	0.67	18	-
7.20	10.0	20.0	-	10	0.47	21	-
7.40	13.0	20.0	-	13	0.60	22	-
7.60	13.0	22.0	-	13	0.67	20	-
7.80	13.0	23.0	-	13	0.47	28	-
8.00	10.0	17.0	-	10	0.33	30	-
8.20	14.0	19.0	-	14	0.73	19	-
8.40	17.0	28.0	-	17	0.67	26	-
8.60	15.0	25.0	-	15	0.60	25	-
8.80	8.0	17.0	-	8	0.33	24	-
9.00	8.0	13.0	-	8	0.27	30	-
9.20	10.0	14.0	-	10	0.40	25	-
9.40	7.0	13.0	-	7	0.33	21	-
9.60	10.0	15.0	-	10	-	-	-



7912

FS (MN/MQ)

QC (MN/MQ)

7918

QC/FS

0.6 0.4 0.20

5 10 15 20

20 40 60 80 100

0

1

2

3

4

5

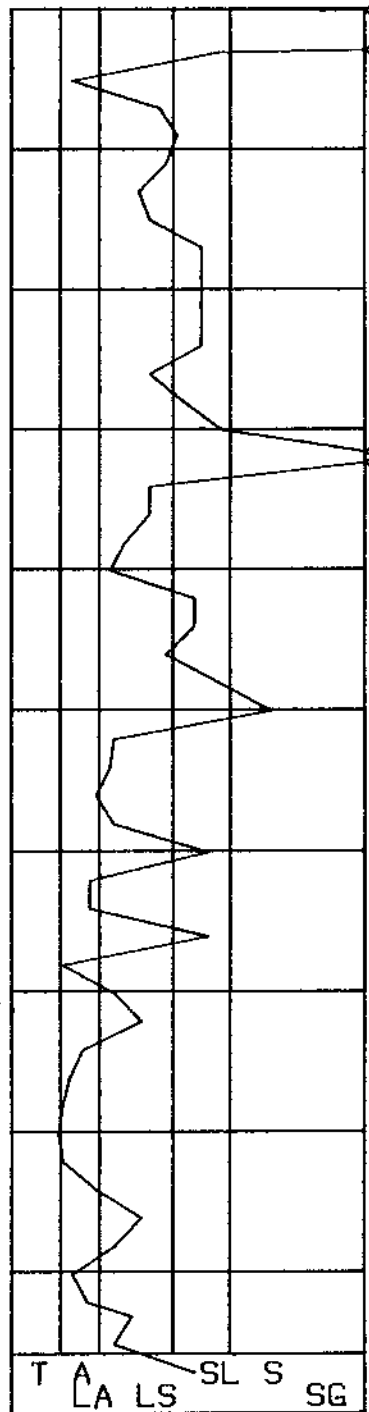
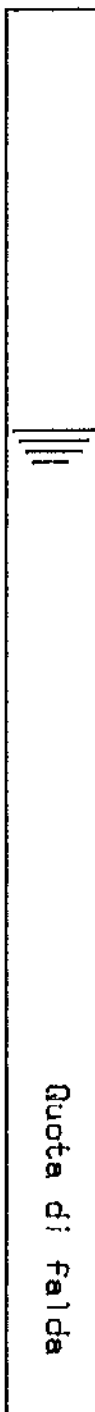
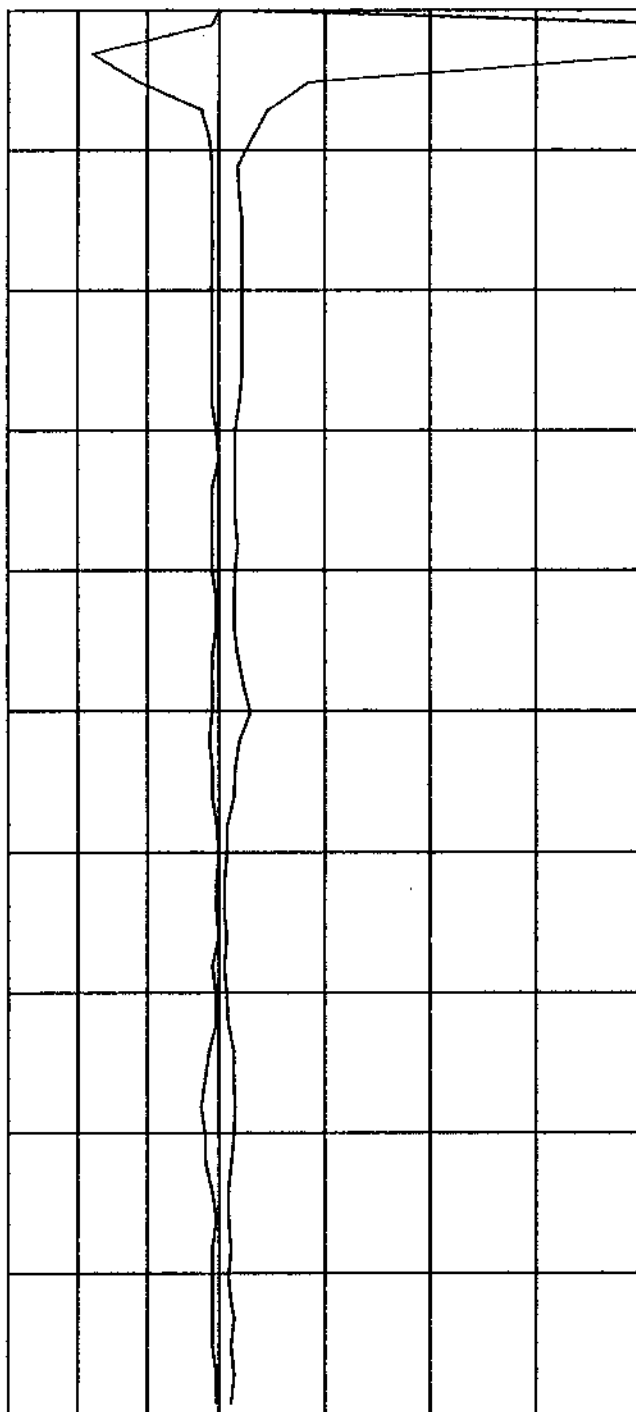
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8

9

10



Quota di falda

T A LA LS SL S SG

PENETROMETRO STATICO tipo GOUDA da 10 t

Cantiere : COSTRUZIONE FABBRICATI PER CIVILE ABITAZIONE

Località : SANTA CROCE

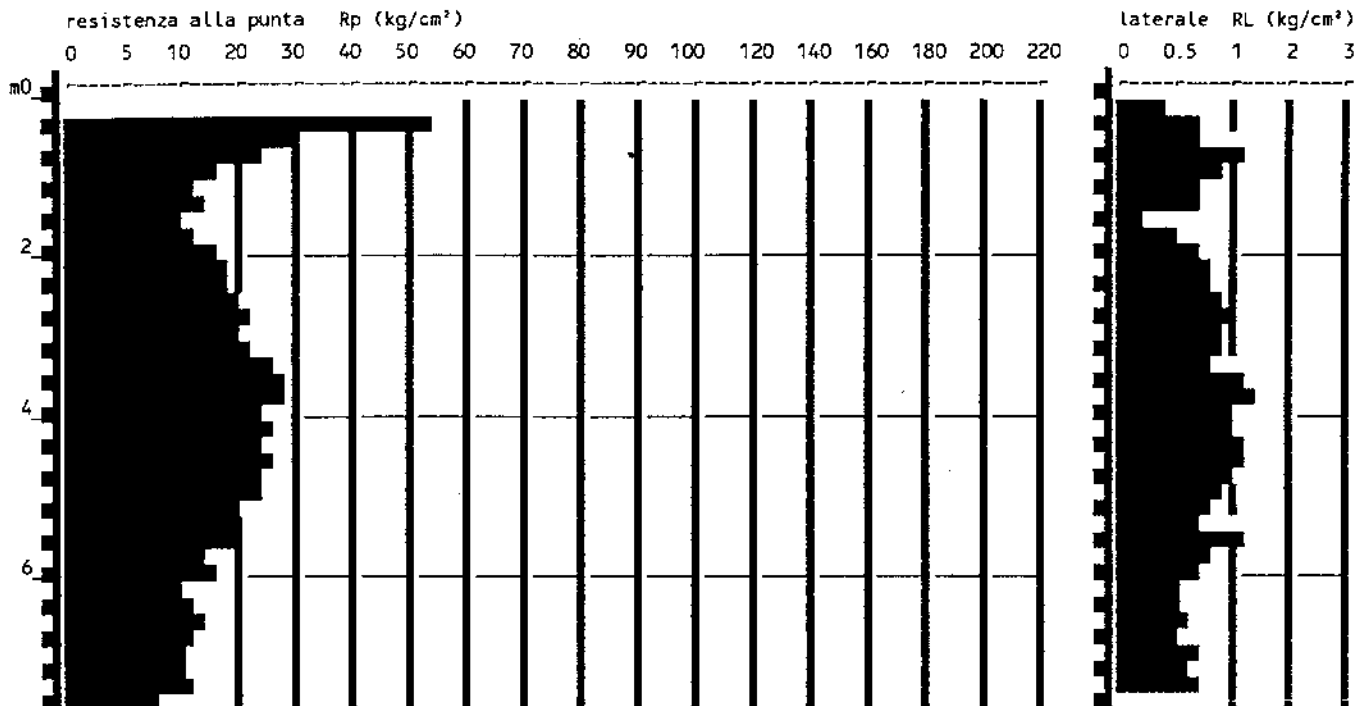
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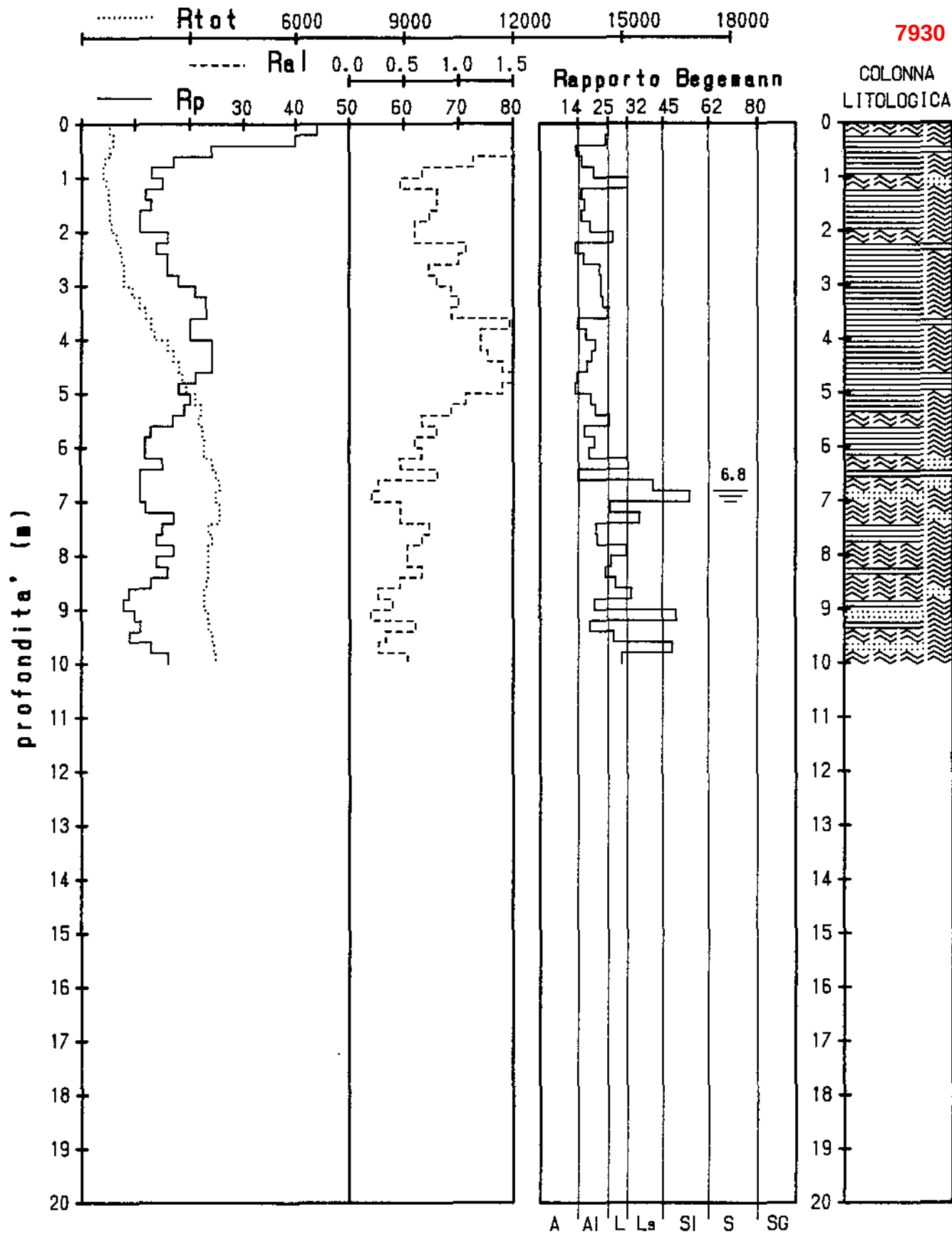
quota inizio : PIANO CAMPAGNA

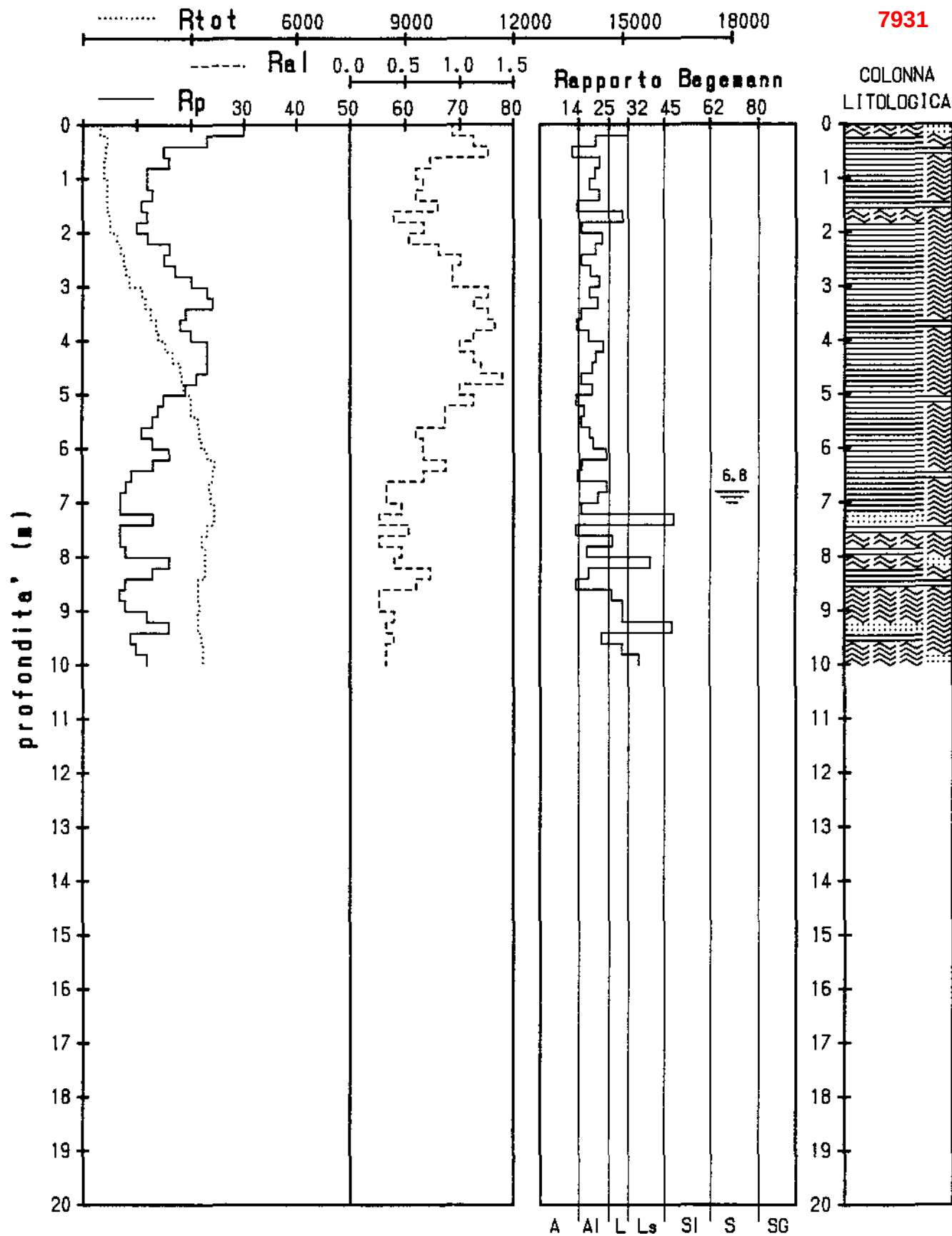
prof. falda =

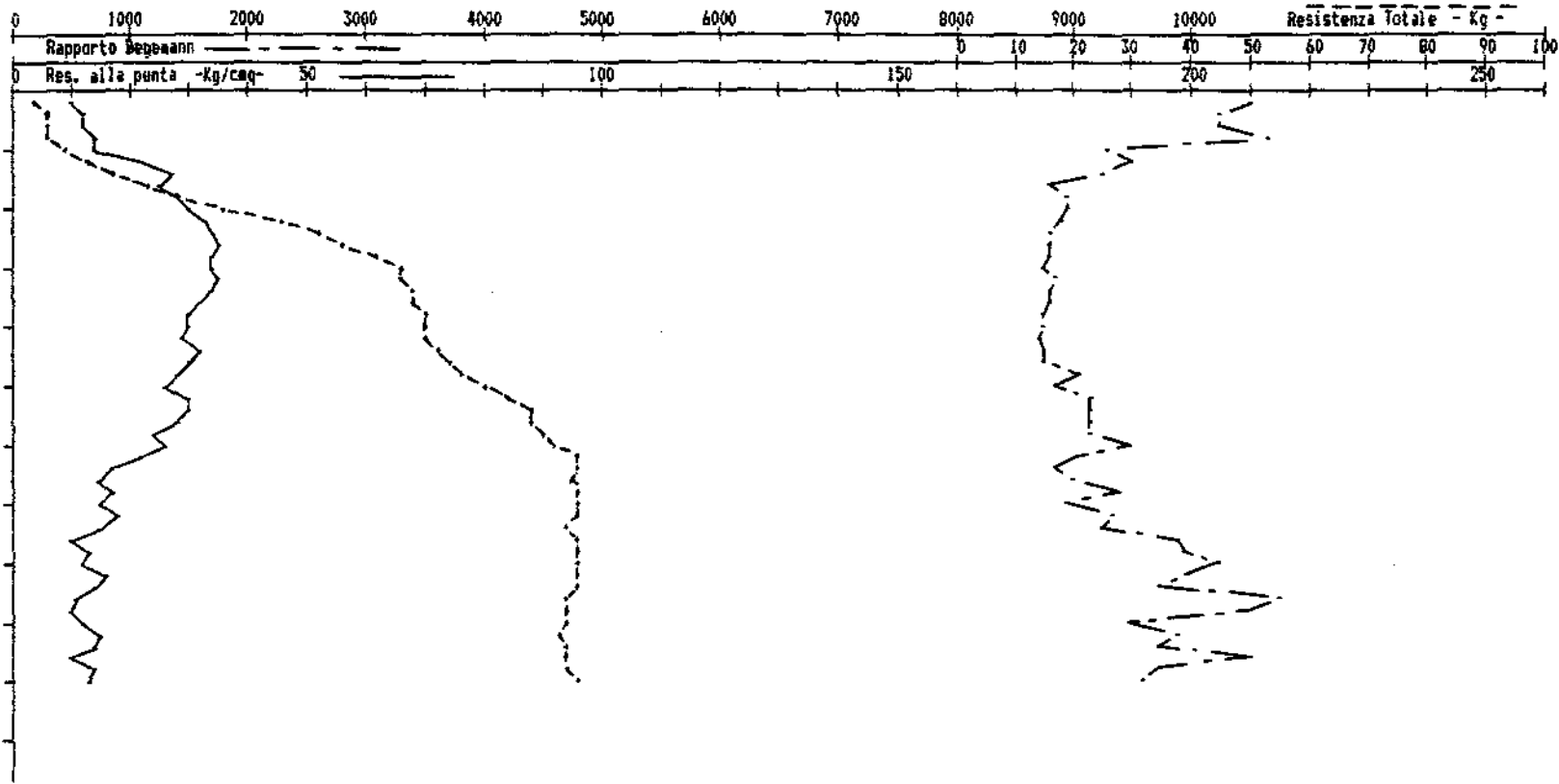
scala profondità = 1 : 100

7927









7934



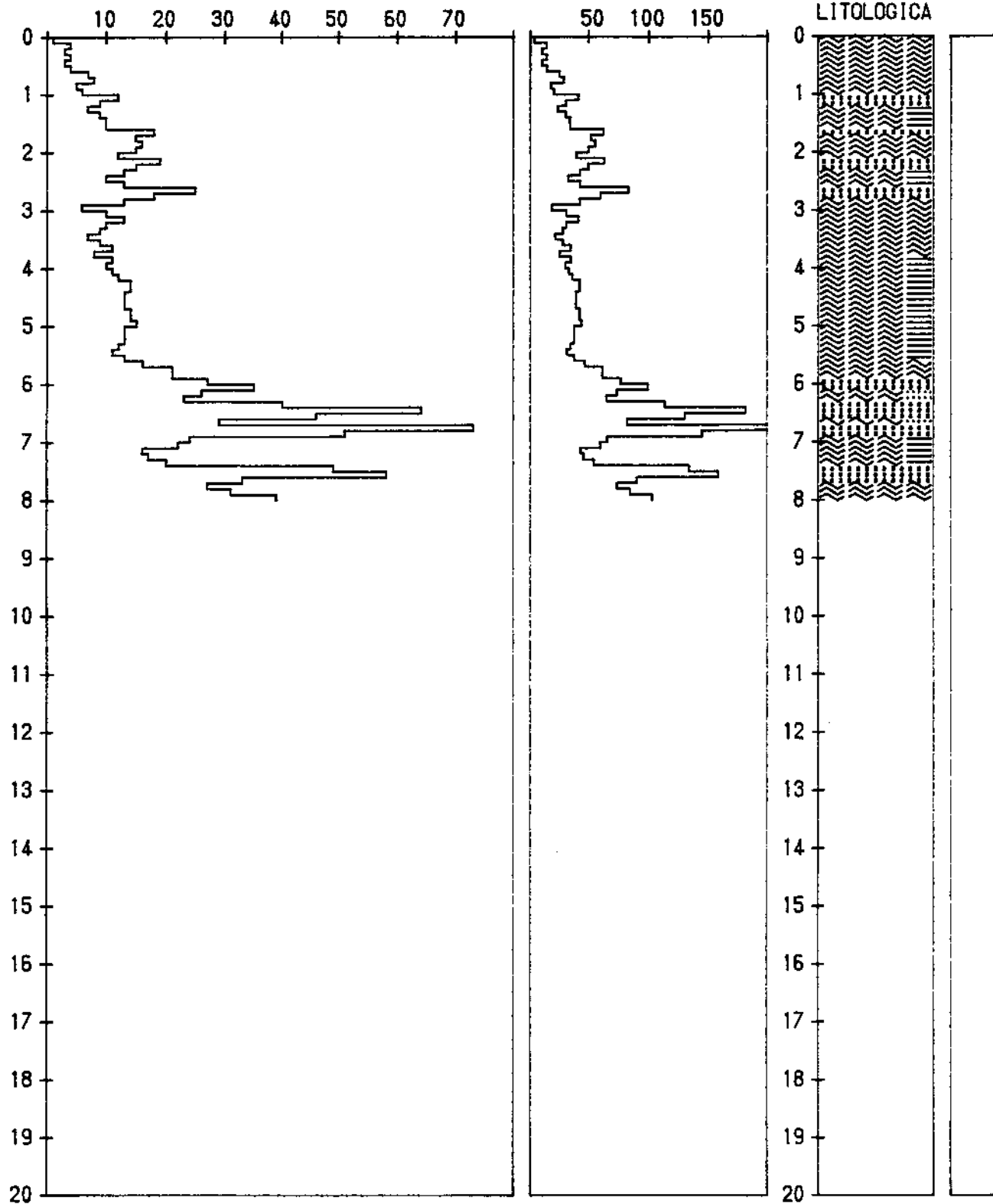
N

Rd

COLONNA 7938

LITOLOGICA

profondità (m)



7939

LITOLOGIA : T=TORBE A=ARGILLE LA=LIMI ARGILLOSI LS=LIMI SABBIOSI SL=SABBIE LIMOSE
 S=SABBIE SG=SABBIE E GHIAIE AG=COPERTURA SUPERFICIALE

I	PROF.	QC	RL.	FS.	X	I	PROF.	QC	RL.	FS.	X	I	PROF.	QC	RL.	FS.	X
I	0.20	6	7	0.07	85.71	I	10.20	13	16	0.20	65.00	I					
I	0.40	6	9	0.20	30.00	I	10.40	13	16	0.20	65.00	I					
I	0.60	8	9	0.07	114.29	I	10.60	12	16	0.27	44.44	I					
I	0.80	15	19	0.27	55.56	I	10.80	10	13	0.20	50.00	I					
I	1.00	10	13	0.20	50.00	I	11.00	10	12	0.13	76.92	I					
I	1.20	18	27	0.60	30.00	I	11.20	11	14			I					
I	1.40	21	40	1.27	16.54	I						I					
I	1.60	21	41	1.33	15.79	I						I					
I	1.80	20	39	1.27	15.75	I						I					
I	2.00	17	35	1.20	14.17	I						I					
I	2.20	16	34	1.20	13.33	I						I					
I	2.40	18	39	1.40	12.86	I						I					
I	2.60	17	38	1.40	12.14	I						I					
I	2.80	21	42	1.40	15.00	I						I					
I	3.00	22	40	1.20	18.33	I						I					
I	3.20	19	36	1.13	16.81	I						I					
I	3.40	18	30	0.80	22.50	I						I					
I	3.60	18	32	0.93	19.35	I						I					
I	3.80	21	36	1.00	21.00	I						I					
I	4.00	19	33	0.93	20.43	I						I					
I	4.20	17	29	0.80	21.25	I						I					
I	4.40	15	28	0.87	17.24	I						I					
I	4.60	13	24	0.73	17.81	I						I					
I	4.80	13	23	0.67	19.40	I						I					
I	5.00	10	17	0.47	21.28	I						I					
I	5.20	10	14	0.27	37.04	I						I					
I	5.40	13	17	0.27	48.15	I						I					
I	5.60	14	21	0.47	29.79	I						I					
I	5.80	13	21	0.53	24.53	I						I					
I	6.00	15	24	0.60	25.00	I						I					
I	6.20	13	18	0.33	39.39	I						I					
I	6.40	29	38	0.60	48.33	I						I					
I	6.60	21	32	0.73	28.77	I						I					
I	6.80	13	19	0.40	32.50	I						I					
I	7.00	20	27	0.47	42.55	I						I					
I	7.20	23	39	1.07	21.50	I						I					
I	7.40	18	30	0.80	22.50	I						I					
I	7.60	15	21	0.40	37.50	I						I					
I	7.80	16	21	0.33	48.48	I						I					
I	8.00	12	16	0.27	44.44	I						I					
I	8.20	14	18	0.27	51.85	I						I					
I	8.40	14	21	0.47	29.79	I						I					
I	8.60	13	19	0.40	32.50	I						I					
I	8.80	13	18	0.33	39.39	I						I					
I	9.00	12	15	0.20	60.00	I						I					
I	9.20	13	18	0.33	39.39	I						I					
I	9.40	12	17	0.33	36.36	I						I					
I	9.60	12	16	0.27	44.44	I						I					
I	9.80	11	15	0.27	40.74	I						I					
I	10.00	11	16	0.33	33.33	I						I					

7940

LEGENDA : PROF. = PROFONDITA' DI INFISSIONE cm. FS = RESISTENZA SPECIFICA AL MANICOTTO daN/cmq
 QC = RESISTENZA SPECIFICA ALLA PUNTA daN/cmq X = RAPPORTO QC/FS %
 RL = RESISTENZA LATERALE LOCALE daN/cmq

LITOLOGIA : T=TORBE A=ARGILLE LA=LIMI ARGILLOSI LS=LIMI SABBIOSI SL=SABBIE LIMOSE
 S=SABBIE SG=SABBIE E GHIAIE AG=COPERTURA SUPERFICIALE

I	PROF.	QC	RL	FS.	X	I	PROF.	QC	RL	FS.	X	I	PROF.	QC	RL	FS.	X
I	0.00	1	2	0.07	14.29	I	10.00	10	15	0.33	30.30	I					
I	0.20	8	12	0.27	29.63	I	10.20	11	15	0.27	40.74	I					
I	0.40	7	10	0.20	35.00	I	10.40	12	15	0.20	60.00	I					
I	0.60	10	14	0.27	37.04	I	10.60	11	16	0.33	33.33	I					
I	0.80	16	22	0.40	40.00	I	10.80	10	14	0.27	37.04	I					
I	1.00	11	17	0.10	27.50	I	11.00	10	13	0.20	50.00	I					
I	1.20	17	26	0.60	28.33	I	11.20	12	15	0.20	60.00	I					
I	1.40	18	35	1.13	15.93	I						I					
I	1.60	20	39	1.27	15.75	I						I					
I	1.80	17	36	1.27	13.39	I						I					
I	2.00	17	36	1.27	13.39	I						I					
I	2.20	16	38	1.33	13.53	I						I					
I	2.40	18	39	1.40	12.86	I						I					
I	2.60	23	43	1.33	17.29	I						I					
I	2.80	21	38	1.13	18.58	I						I					
I	3.00	19	34	1.00	19.00	I						I					
I	3.20	20	36	1.07	18.69	I						I					
I	3.40	19	32	0.87	21.84	I						I					
I	3.60	20	32	0.80	25.00	I						I					
I	3.80	23	39	1.07	21.50	I						I					
I	4.00	21	37	1.07	19.63	I						I					
I	4.20	17	30	0.87	19.54	I						I					
I	4.40	16	28	0.80	20.00	I						I					
I	4.60	13	23	0.67	19.40	I						I					
I	4.80	12	20	0.53	22.64	I						I					
I	5.00	10	16	0.40	25.00	I						I					
I	5.20	10	13	0.20	50.00	I						I					
I	5.40	12	16	0.27	44.44	I						I					
I	5.60	15	21	0.40	37.50	I						I					
I	5.80	14	23	0.60	23.33	I						I					
I	6.00	15	26	0.73	20.55	I						I					
I	6.20	12	17	0.33	36.36	I						I					
I	6.40	23	30	0.47	48.94	I						I					
I	6.60	33	43	0.67	49.25	I						I					
I	6.80	15	23	0.53	28.30	I						I					
I	7.00	20	28	0.53	37.74	I						I					
I	7.20	18	32	0.93	19.35	I						I					
I	7.40	17	27	0.67	25.37	I						I					
I	7.60	14	19	0.33	42.42	I						I					
I	7.80	15	21	0.40	37.50	I						I					
I	8.00	14	20	0.40	35.00	I						I					
I	8.20	15	21	0.40	37.50	I						I					
I	8.40	14	21	0.47	29.79	I						I					
I	8.60	13	20	0.47	27.66	I						I					
I	8.80	13	19	0.40	32.50	I						I					
I	9.00	12	17	0.33	36.36	I						I					
I	9.20	13	19	0.40	32.50	I						I					
I	9.40	11	16	0.33	33.33	I						I					
I	9.60	10	16	0.40	25.00	I						I					
I	9.80	11	16	0.33	33.33	I						I					

7941

LEGENDA : PROF. = PROFONDITA' DI INFISSIONE CM. FS = RESISTENZA SPECIFICA AL MANICOTTO dN/cmq
 QC = RESISTENZA SPECIFICA ALLA PUNTA dN/cmq X = RAPPORTO QC/FS %
 RL = RESISTENZA LATERALE TOTALE dN/cmq

LITOLOGIA : T-TORBE A-ARGILLA LA-LIMI ARGILLOSI LS-LIMI SABBIOSI SL-SABBIE LIMOSE
 S-SABBIE SG-SABBIE E GHIAIA AG-TERRENO AGRICOLO

FS (MN/MQ)

QC (MN/MQ)

7942

QC/FS

0.6 0.4 0.20

5 10 15 20

1 20 40 60 80 100

0

1

2

3

4

5

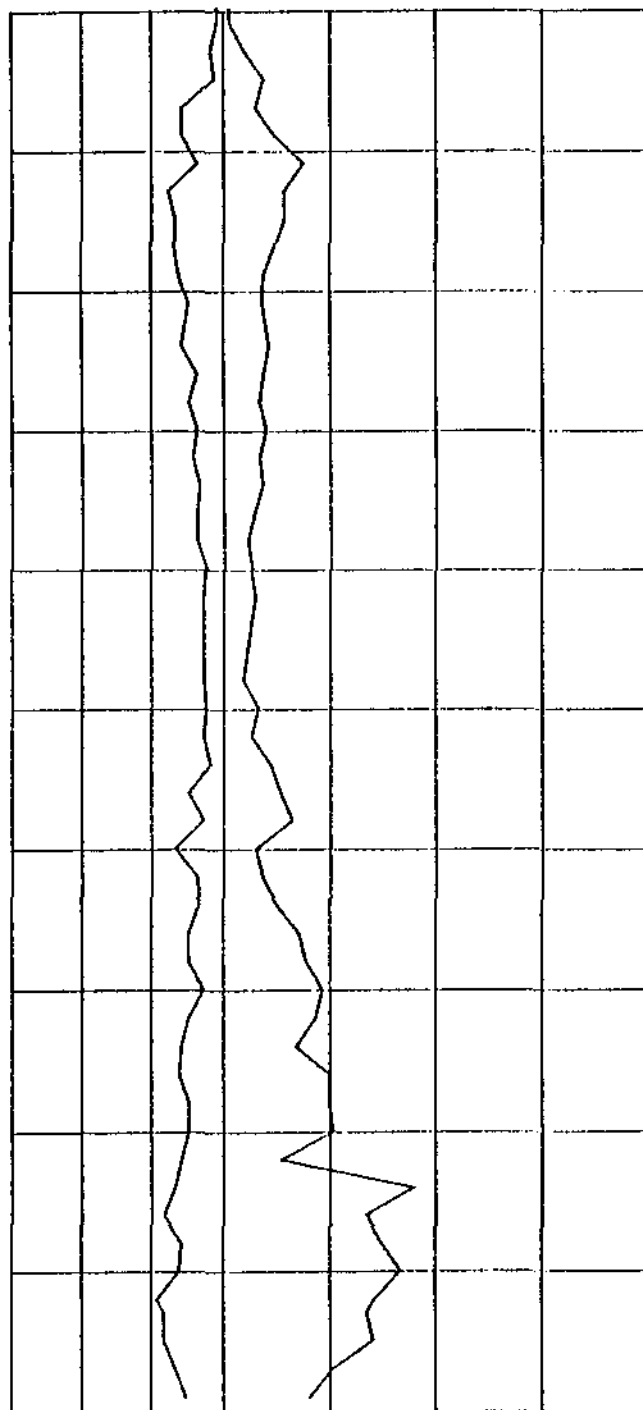
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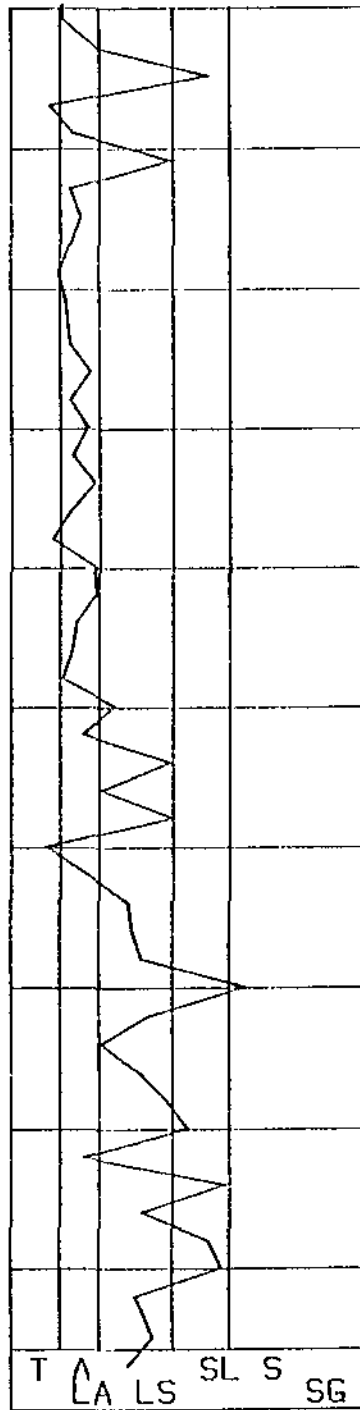
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9

10



Quota di falda



FS (MN/MQ)

QC (MN/MQ)

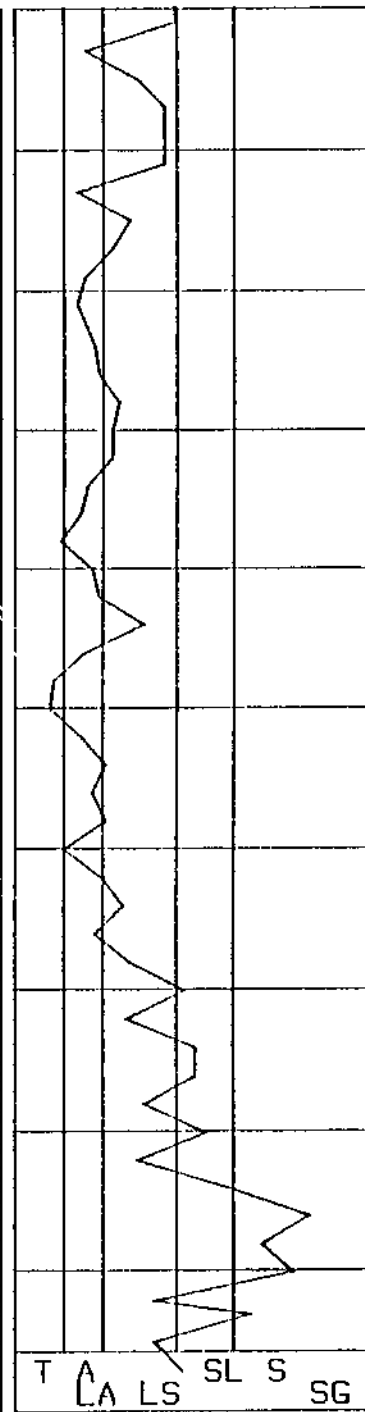
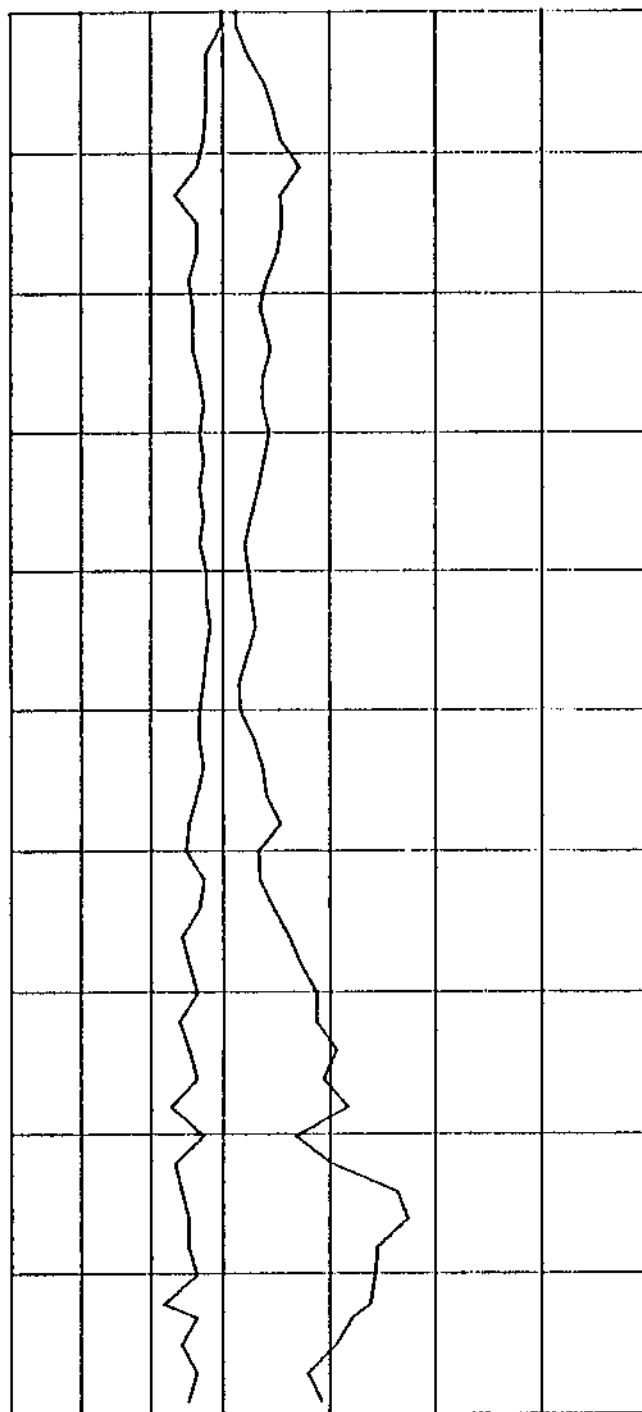
7943

QC/FS

0.6 0.4 0.20

5 10 15 20

) 20 40 60 80 100

0
1
2
3
4
5
6
7
8
9
10

T A LS SL S SG

I	PROF.	QC	RL	FS.	X	I	PROF.	QC	RL	FS.	X	I	PROF.	QC	RL	FS.	X
I	0.00	1	1	0.00	0.00	I						I					
I	0.20	21	22	0.07	300.00	I						I					8144
I	0.40	45	49	0.27	166.67	I						I					
I	0.60	26	30	0.27	96.30	I						I					
I	0.80	57	63	0.40	142.50	I						I					
I	1.00	57	72	1.00	57.00	I						I					
I	1.20	45	60	1.00	45.00	I						I					
I	1.40	90	114	1.60	56.25	I						I					
I	1.60	81	114	2.20	36.82	I						I					
I	1.80	48	84	2.40	20.00	I						I					
I	2.00	49	73	1.60	30.62	I						I					
I	2.20	48	78	2.00	24.00	I						I					
I	2.40	39	67	1.87	20.86	I						I					
I	2.60	30	55	1.67	17.96	I						I					
I	2.80	31	48	1.13	27.43	I						I					
I	3.00	27	45	1.20	22.50	I						I					
I	3.20	21	31	0.67	31.34	I						I					
I	3.40	32	45	0.87	36.78	I						I					
I	3.60	33	48	1.00	33.00	I						I					
I	3.80	35	54	1.27	27.56	I						I					
I	4.00	35	57	1.47	23.81	I						I					
I	4.20	49	75	1.73	28.32	I						I					
I	4.40	60	90	2.00	30.00	I						I					
I	4.60	68	99	2.07	32.85	I						I					
I	4.80	74	108	2.27	32.60	I						I					
I	5.00	63	96	2.20	28.64	I						I					
I	5.20	54	82	1.87	28.88	I						I					
I	5.40	74	108	2.27	32.60	I						I					
I	5.60	183	228	3.00	61.00	I						I					
I	5.80	187	254	4.47	41.83	I						I					
I	6.00	162	200	2.53	64.03	I						I					
I	6.20	124	161	2.47	50.20	I						I					
I	6.40	98	121	1.53	64.05	I						I					
I	6.60	84	106	1.47	57.14	I						I					
I	6.80	73	104	2.07	35.27	I						I					
I	7.00	66	93	1.80	36.67	I						I					
I	7.20	52	80	1.87	27.81	I						I					
I	7.40	32	59	1.80	17.78	I						I					
I	7.60	47	78	2.07	22.71	I						I					
I	7.80	52	84	2.13	24.41	I						I					
I	8.00	66	102	2.40	27.50	I						I					

LEGENDA : PROF. = PROFONDITA' DI INFISSIONE

CM.

FS = RESISTENZA SPECIFICA AL MANICOTTO

dN/cm²

QC = RESISTENZA SPECIFICA ALLA PUNTA

dN/cm²

X = RAPPORTO QC/FS

%

RL = RESISTENZA LATERALE TOTALE

dN/cm²

LITOLOGIA : T=TORBE

A=ARGILLA

LA=LIMI ARGILLOSI

LS=LIMI SABBIOSI

SL=SABBIE LIMOSE

S=SABBIE

SG=SABBIE E GHIAIA

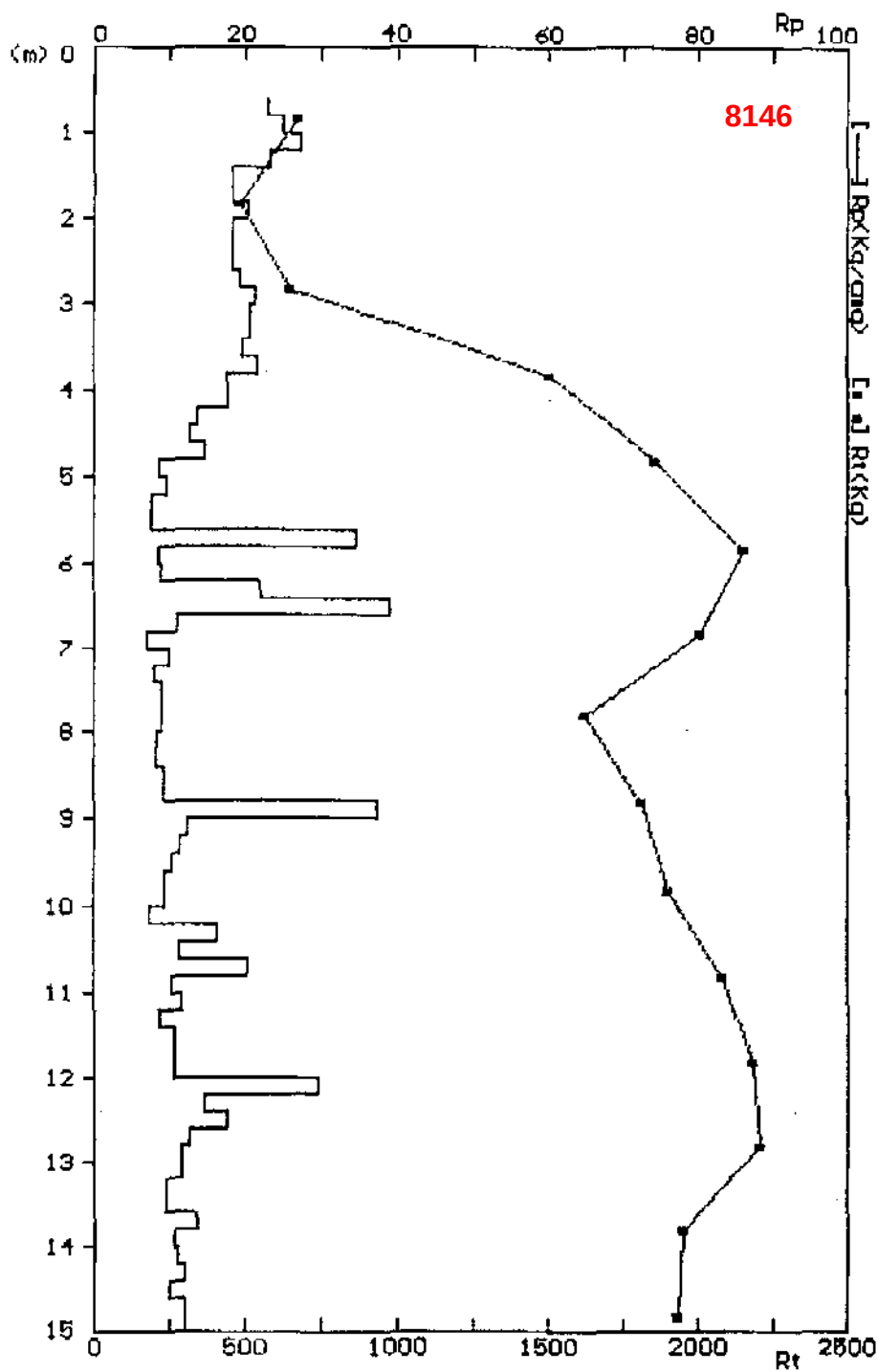
AG=TERRENO AGRICOLO

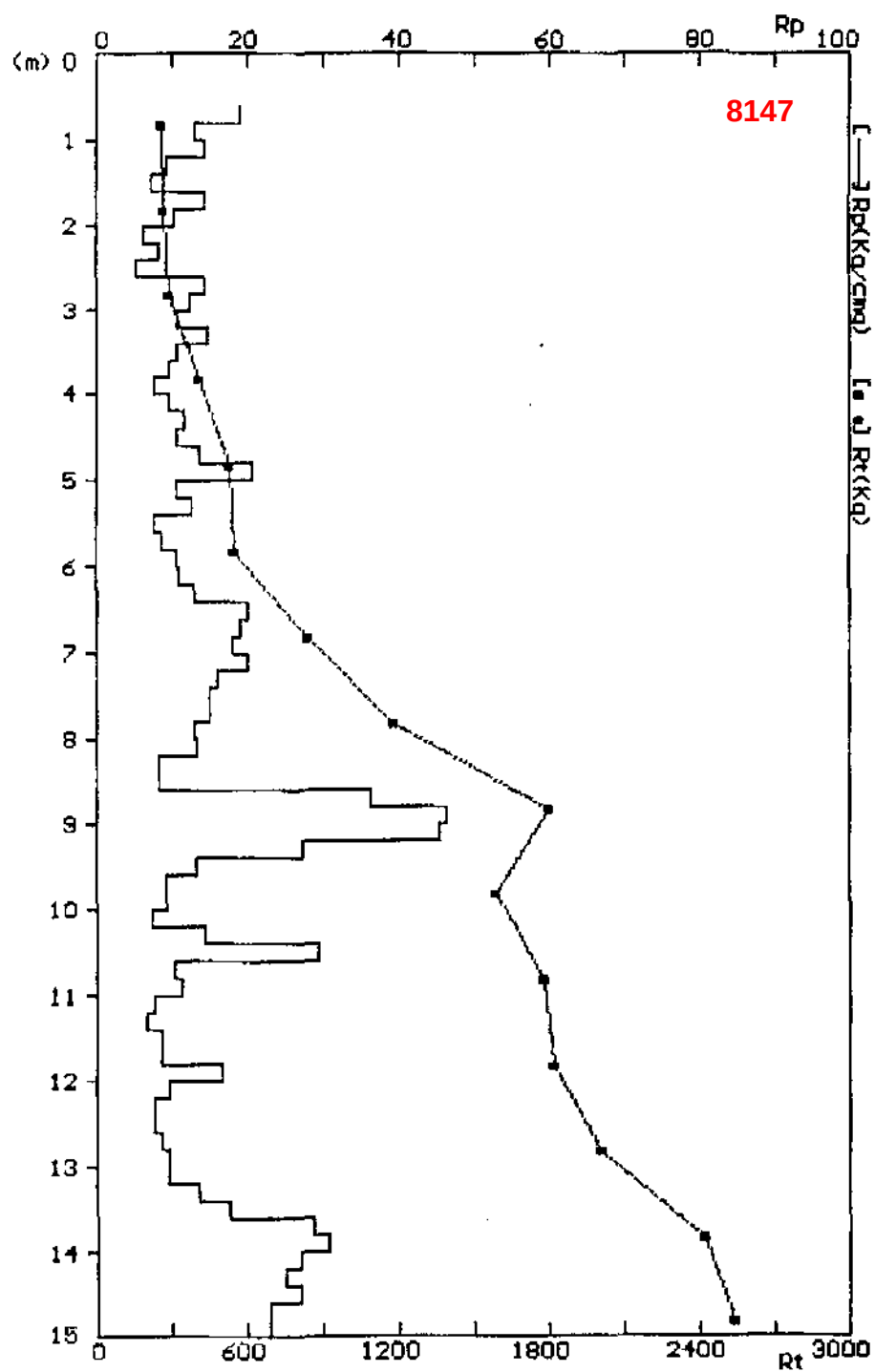
I	PROF.	QC	RL	FS.	X	I	PROF.	QC	RL	FS.	X	I	PROF.	QC	RL	FS.	X
I	0.00	1	1	0.00	0.00	I						I					
I	0.20	24	25	0.07	342.86	I						I					
I	0.40	37	39	0.13	284.62	I						I					
I	0.60	24	29	0.33	72.73	I						I					
I	0.80	14	16	0.13	107.69	I						I					
I	1.00	26	29	0.20	130.00	I						I					
I	1.20	19	21	0.13	146.15	I						I					
I	1.40	9	12	0.20	45.00	I						I					
I	1.60	4	5	0.07	57.14	I						I					
I	1.80	16	17	0.07	228.57	I						I					
I	2.00	66	76	0.67	98.51	I						I					
I	2.20	27	45	1.20	22.50	I						I					
I	2.40	26	54	1.87	13.90	I						I					
I	2.60	25	50	1.67	14.97	I						I					
I	2.80	22	42	1.33	16.54	I						I					
I	3.00	17	29	0.80	21.25	I						I					
I	3.20	17	26	0.60	28.33	I						I					
I	3.40	40	67	1.80	22.22	I						I					
I	3.60	40	72	2.13	18.78	I						I					
I	3.80	46	81	2.33	19.74	I						I					
I	4.00	53	86	2.20	24.09	I						I					
I	4.20	55	88	2.20	25.00	I						I					
I	4.40	52	82	2.00	26.00	I						I					
I	4.60	54	83	1.93	27.98	I						I					
I	4.80	66	94	1.87	35.29	I						I					
I	5.00	87	128	2.73	31.87	I						I					
I	5.20	72	106	2.27	31.72	I						I					
I	5.40	80	112	2.13	37.56	I						I					
I	5.60	98	136	2.53	38.74	I						I					
I	5.80	114	162	3.20	35.62	I						I					
I	6.00	138	194	3.73	37.00	I						I					
I	6.20	102	147	3.00	34.00	I						I					
I	6.40	86	110	1.60	53.75	I						I					
I	6.60	58	97	2.60	22.31	I						I					
I	6.80	63	102	2.60	24.23	I						I					
I	7.00	47	89	2.80	16.79	I						I					
I	7.20	36	58	1.47	24.49	I						I					
I	7.40	41	69	1.87	21.93	I						I					
I	7.60	68	91	1.53	44.44	I						I					
I	7.80	77	103	1.73	44.51	I						I					
I	8.00	70	100	2.00	35.00	I						I					

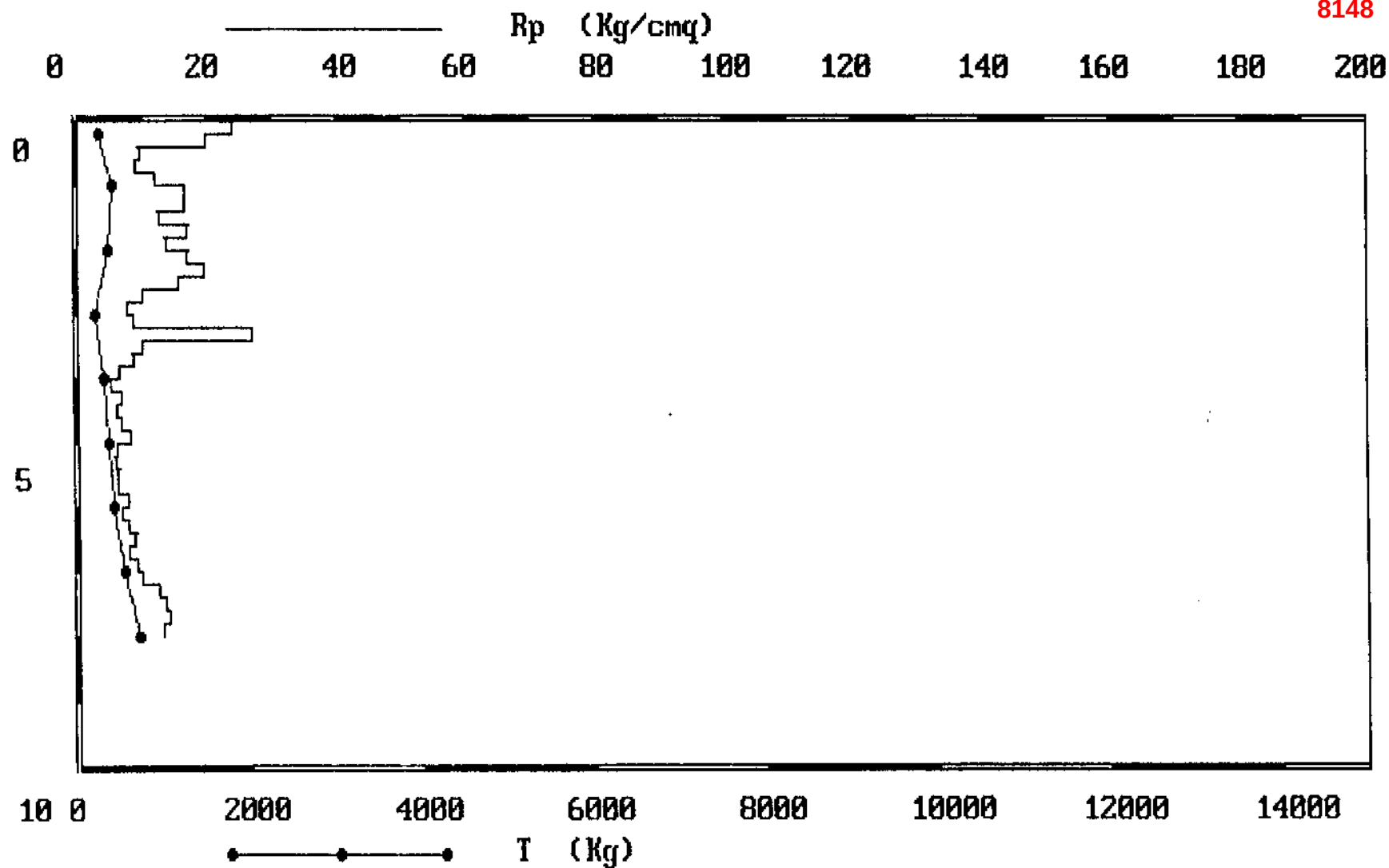
8145

LEGENDA : PROF. = PROFONDITA' DI INFESSIONE CM. FS = RESISTENZA SPECIFICA AL MANICOTTO dN/cm²
 QC = RESISTENZA SPECIFICA ALLA PUNTA dN/cm² X = RAPPORTO QC/FS %
 RL = RESISTENZA LATERALE TOTALE dN/cm²

LITOLOGIA : T=TORBE A=ARGILLA LA=LIMI ARGILLOSI LS=LIMI SABBIOSI SL=SABBIE LIMOSE
 S=SABBIE SG=SABBIE E GHIAIA AG=TERRENO AGRICOLO







z	qc	fs	rf	qt	Dr	fi'	Cu	Nv	
40	12.0	0.80	6.67	23.0	0.0	0.0	0.54	0.042	ARGILLA LIMOSA
60	11.0	0.73	6.67	33.0	0.0	0.0	0.50	0.045	ARGILLA LIMOSA
80	14.0	0.73	5.24	35.0	0.0	0.0	0.50	0.036	LIMO ARGILLOSO
100	12.0	1.00	8.33	33.0	0.0	0.0	0.68	0.042	ARGILLA LIMOSA
120	16.0	0.93	5.83	44.0	0.0	0.0	0.63	0.031	LIMO ARGILLOSO
140	23.0	1.20	5.22	59.0	0.0	0.0	0.82	0.014	LIMO ARGILLOSO
160	23.0	1.20	5.22	71.0	0.0	0.0	0.82	0.014	LIMO ARGILLOSO
180	18.0	0.73	4.07	82.0	42.5	24.0	0.00	0.019	LIMO SABBIOSO
200	16.0	0.73	4.58	85.0	0.0	0.0	0.50	0.031	LIMO ARGILLOSO
220	17.0	0.67	3.92	93.0	40.8	24.3	0.00	0.020	LIMO SABBIOSO
240	15.0	0.67	4.44	100.0	40.8	24.0	0.00	0.022	LIMO SABBIOSO
260	14.0	0.60	4.29	108.0	38.8	24.0	0.00	0.024	LIMO SABBIOSO
280	18.0	1.00	5.56	120.0	0.0	0.0	0.68	0.028	LIMO ARGILLOSO
300	23.0	0.93	4.06	128.0	47.0	24.4	0.00	0.014	LIMO SABBIOSO
320	21.0	1.13	5.40	134.0	0.0	0.0	0.77	0.016	LIMO ARGILLOSO
340	20.0	1.00	5.00	149.0	0.0	0.0	0.68	0.017	LIMO ARGILLOSO
360	17.0	0.93	5.49	160.0	0.0	0.0	0.63	0.029	LIMO ARGILLOSO
380	16.0	0.93	5.83	178.0	0.0	0.0	0.63	0.031	LIMO ARGILLOSO
400	15.0	0.80	5.33	185.0	0.0	0.0	0.54	0.033	LIMO ARGILLOSO
420	13.0	0.73	5.64	187.0	0.0	0.0	0.50	0.038	LIMO ARGILLOSO
440	13.0	0.60	4.62	205.0	0.0	0.0	0.41	0.038	LIMO ARGILLOSO
460	13.0	0.53	4.10	215.0	36.6	24.0	0.00	0.026	LIMO SABBIOSO
480	11.0	0.53	4.85	224.0	0.0	0.0	0.36	0.045	LIMO ARGILLOSO
500	6.0	0.20	3.33	220.0	18.3	24.5	0.00	0.056	LIMO SABBIOSO
520	6.0	0.13	2.22	219.0	10.7	27.4	0.00	0.056	SABBIA LIMOSA
540	5.0	0.40	8.00	233.0	0.0	0.0	0.27	0.100	ARGILLA LIMOSA
560	14.0	0.27	1.90	247.0	23.6	29.1	0.00	0.024	SABBIA LIMOSA
580	7.0	0.33	4.76	245.0	0.0	0.0	0.23	0.071	LIMO ARGILLOSO
600	9.0	0.47	5.19	263.0	0.0	0.0	0.32	0.056	LIMO ARGILLOSO
620	8.0	0.40	5.00	252.0	0.0	0.0	0.27	0.063	LIMO ARGILLOSO
640	6.0	0.33	5.56	259.0	0.0	0.0	0.23	0.083	LIMO ARGILLOSO
660	6.0	0.33	5.56	260.0	0.0	0.0	0.23	0.083	LIMO ARGILLOSO
680	9.0	0.47	5.19	265.0	0.0	0.0	0.32	0.056	LIMO ARGILLOSO
700	8.0	0.47	5.83	263.0	0.0	0.0	0.32	0.063	LIMO ARGILLOSO
720	11.0	0.60	5.45	266.0	0.0	0.0	0.41	0.045	LIMO ARGILLOSO
740	14.0	0.67	4.76	273.0	0.0	0.0	0.45	0.036	LIMO ARGILLOSO
760	12.0	0.67	5.56	270.0	0.0	0.0	0.45	0.042	LIMO ARGILLOSO

z	qc	fs	rf	Qt	Dr	fi'	Cu	Mv	
780	10.0	0.53	5.33	278.0	0.0	0.0	0.36	0.050	LIMO ARGILLOSO
800	10.0	0.53	5.33	279.0	0.0	0.0	0.36	0.050	LIMO ARGILLOSO
820	10.0	0.53	5.33	286.0	0.0	0.0	0.36	0.050	LIMO ARGILLOSO
840	12.0	0.67	5.56	295.0	0.0	0.0	0.45	0.042	LIMO ARGILLOSO
860	12.0	0.73	6.11	298.0	0.0	0.0	0.50	0.042	ARGILLA LIMOSA
880	13.0	0.73	5.64	298.0	0.0	0.0	0.50	0.038	LIMO ARGILLOSO
900	13.0	0.27	2.05	305.0	23.6	28.6	0.00	0.026	SABBIA LIMOSA
920	19.0	0.53	2.81	313.0	36.6	27.3	0.00	0.018	SABBIA LIMOSA
940	12.0	0.60	5.00	322.0	0.0	0.0	0.41	0.042	LIMO ARGILLOSO
960	10.0	0.53	5.33	316.0	0.0	0.0	0.36	0.050	LIMO ARGILLOSO
980	9.0	0.67	7.41	316.0	0.0	0.0	0.45	0.056	ARGILLA LIMOSA
1000	14.0	0.00	0.00	330.0	0.0	0.0	0.00	0.000	-----

TABELLA PARAMETRI

--- Simboli utilizzati ---

z profondità dal piano di campagna - in cm.-

qc resistenza alla punta - in Kg/cmq -

Rf rapporto delle resistenze fs/qc - in % -

Dr densità relativa %

Cu resistenza al taglio non drenata - in Kg/cmq -

Mv coeff. Compr. volum.- in cmq/kg -

fs resist. unitaria attrito lat. - in Kg/cmq -

Qt pressione totale di spinta - in Kg/cmq -

fi' ang. attrito efficace - in gradi -

-- Note:

*) La interpretazione stratigrafica (basata sul digramma proposto da SEARLE (1979)) è da considerarsi una stima di massima

z	qc	fs	rf	qt	Dr	fi'	Cu	Mv	
40	8.0	0.67	8.33	20.0	0.0	0.0	0.45	0.063	ARGILLA LIMOSA
60	13.0	0.73	5.64	34.0	0.0	0.0	0.50	0.038	LIMO ARGILLOSO
80	24.0	1.53	6.39	50.0	0.0	0.0	1.04	0.014	ARGILLA LIMOSA
100	27.0	2.13	7.90	68.0	0.0	0.0	1.45	0.012	ARGILLA LIMOSA
120	27.0	2.00	7.41	90.0	0.0	0.0	1.36	0.012	ARGILLA LIMOSA
140	29.0	2.13	7.36	106.0	0.0	0.0	1.45	0.011	ARGILLA LIMOSA
160	25.0	1.67	6.67	123.0	0.0	0.0	1.13	0.013	ARGILLA LIMOSA
180	24.0	1.53	6.39	128.0	0.0	0.0	1.04	0.014	ARGILLA LIMOSA
200	15.0	1.07	7.11	130.0	0.0	0.0	0.73	0.033	ARGILLA LIMOSA
220	12.0	0.80	6.67	134.0	0.0	0.0	0.54	0.042	ARGILLA LIMOSA
240	13.0	0.73	5.64	139.0	0.0	0.0	0.50	0.038	LIMO ARGILLOSO
260	14.0	0.80	5.71	146.0	0.0	0.0	0.54	0.036	LIMO ARGILLOSO
280	13.0	0.60	4.62	145.0	0.0	0.0	0.41	0.038	LIMO ARGILLOSO
300	19.0	1.13	5.96	150.0	0.0	0.0	0.77	0.026	LIMO ARGILLOSO
320	22.0	1.40	6.36	165.0	0.0	0.0	0.95	0.015	ARGILLA LIMOSA
340	25.0	1.53	6.13	177.0	0.0	0.0	1.04	0.013	ARGILLA LIMOSA
360	25.0	1.40	5.60	183.0	0.0	0.0	0.95	0.013	LIMO ARGILLOSO
380	24.0	1.33	5.56	206.0	0.0	0.0	0.91	0.014	LIMO ARGILLOSO
400	22.0	1.07	4.85	222.0	0.0	0.0	0.73	0.015	LIMO ARGILLOSO
420	21.0	1.13	5.40	246.0	0.0	0.0	0.77	0.016	LIMO ARGILLOSO
440	17.0	0.80	4.71	262.0	0.0	0.0	0.54	0.029	LIMO ARGILLOSO
460	16.0	1.00	6.25	266.0	0.0	0.0	0.68	0.031	ARGILLA LIMOSA
480	11.0	0.60	5.45	277.0	0.0	0.0	0.41	0.045	LIMO ARGILLOSO
500	13.0	0.67	5.13	297.0	0.0	0.0	0.45	0.038	LIMO ARGILLOSO
520	13.0	0.40	3.08	306.0	31.2	26.3	0.00	0.026	SABBIA LIMOSA
540	12.0	0.53	4.44	284.0	36.6	24.0	0.00	0.028	LIMO SABBIOSO
560	6.0	0.20	3.33	286.0	18.3	24.5	0.00	0.056	LIMO SABBIOSO
580	7.0	0.20	2.86	286.0	18.3	26.1	0.00	0.048	SABBIA LIMOSA
600	9.0	0.33	3.70	298.0	27.8	24.0	0.00	0.037	LIMO SABBIOSO
620	7.0	0.27	3.81	289.0	23.6	24.0	0.00	0.048	LIMO SABBIOSO
640	7.0	0.33	4.76	297.0	0.0	0.0	0.23	0.071	LIMO ARGILLOSO
660	9.0	0.40	4.44	295.0	31.2	24.0	0.00	0.037	LIMO SABBIOSO
680	8.0	0.33	4.17	287.0	27.8	24.0	0.00	0.042	LIMO SABBIOSO
700	7.0	0.47	6.67	286.0	0.0	0.0	0.32	0.071	ARGILLA LIMOSA
720	8.0	0.53	6.67	284.0	0.0	0.0	0.36	0.063	ARGILLA LIMOSA
740	12.0	0.80	6.67	289.0	0.0	0.0	0.54	0.042	ARGILLA LIMOSA
760	13.0	0.80	6.15	300.0	0.0	0.0	0.54	0.038	ARGILLA LIMOSA

z	qc	fs	rf	qt	Dr	fi'	Cu	Nv	
780	13.0	0.73	5.64	300.0	0.0	0.0	0.50	0.038	LIMO ARGILLOSO
800	11.0	0.27	2.42	328.0	23.6	27.6	0.00	0.030	SABBIA LIMOSA
820	16.0	0.60	3.75	339.0	38.8	24.7	0.00	0.021	LIMO SABBIOSO
840	11.0	0.60	5.45	343.0	0.0	0.0	0.41	0.045	LIMO ARGILLOSO
860	12.0	0.47	3.89	350.0	34.1	24.0	0.00	0.028	LIMO SABBIOSO
880	13.0	0.73	5.64	347.0	0.0	0.0	0.50	0.038	LIMO ARGILLOSO
900	12.0	0.87	7.22	348.0	0.0	0.0	0.59	0.042	ARGILLA LIMOSA
920	13.0	0.87	6.67	359.0	0.0	0.0	0.59	0.038	ARGILLA LIMOSA
940	13.0	0.53	4.10	366.0	36.6	24.0	0.00	0.026	LIMO SABBIOSO
960	22.0	1.00	4.55	362.0	0.0	0.0	0.68	0.015	LIMO ARGILLOSO
980	13.0	0.53	4.10	362.0	36.6	24.0	0.00	0.026	LIMO SABBIOSO
1000	13.0	0.60	4.62	384.0	0.0	0.0	0.41	0.038	LIMO ARGILLOSO
1020	13.0	0.53	4.10	379.0	36.6	24.0	0.00	0.026	LIMO SABBIOSO
1040	10.0	0.53	5.33	396.0	0.0	0.0	0.36	0.050	LIMO ARGILLOSO
1060	7.0	0.40	5.71	407.0	0.0	0.0	0.27	0.071	LIMO ARGILLOSO
1080	9.0	0.47	5.19	400.0	0.0	0.0	0.32	0.056	LIMO ARGILLOSO
1100	9.0	0.40	4.44	403.0	31.2	24.0	0.00	0.037	LIMO SABBIOSO
1120	6.0	0.27	4.44	394.0	23.6	24.0	0.00	0.056	LIMO SABBIOSO
1140	8.0	0.40	5.00	394.0	0.0	0.0	0.27	0.063	LIMO ARGILLOSO
1160	7.0	0.47	6.67	382.0	0.0	0.0	0.32	0.071	ARGILLA LIMOSA
1180	11.0	0.53	4.85	381.0	0.0	0.0	0.36	0.045	LIMO ARGILLOSO
1200	16.0	0.80	5.00	390.0	0.0	0.0	0.54	0.031	LIMO ARGILLOSO
1220	12.0	1.40	11.67	391.0	0.0	0.0	0.95	0.042	ARGILLA
1240	20.0	3.80	19.00	379.0	0.0	0.0	2.58	0.017	ARGILLA
1260	20.0	0.00	0.00	0.0	0.0	0.0	0.00	0.000	-----

z	qc	fs	rf	Qt	Dr	fi'	Cu	Nv	
40	13.0	0.53	4.10	27.0	36.6	24.0	0.00	0.026	LIMO SABBIOSO
60	15.0	1.07	7.11	29.0	0.0	0.0	0.73	0.033	ARGILLA LIMOSA
80	9.0	1.27	14.07	36.0	0.0	0.0	0.86	0.056	ARGILLA
100	17.0	1.00	5.88	45.0	0.0	0.0	0.68	0.029	LIMO ARGILLOSO
120	21.0	1.53	7.30	59.0	0.0	0.0	1.04	0.016	ARGILLA LIMOSA
140	21.0	1.60	7.62	71.0	0.0	0.0	1.09	0.016	ARGILLA LIMOSA
160	24.0	1.73	7.22	80.0	0.0	0.0	1.18	0.014	ARGILLA LIMOSA
180	19.0	1.07	5.61	84.0	0.0	0.0	0.73	0.026	LIMO ARGILLOSO
200	16.0	0.73	4.58	87.0	0.0	0.0	0.50	0.031	LIMO ARGILLOSO
220	14.0	0.60	4.29	95.0	38.8	24.0	0.00	0.024	LIMO SABBIOSO
240	13.0	0.47	3.59	102.0	34.1	24.9	0.00	0.026	LIMO SABBIOSO
260	11.0	0.60	5.45	104.0	0.0	0.0	0.41	0.045	LIMO ARGILLOSO
280	11.0	0.40	3.64	105.0	31.2	24.5	0.00	0.030	LIMO SABBIOSO
300	13.0	0.67	5.13	104.0	0.0	0.0	0.45	0.038	LIMO ARGILLOSO
320	13.0	0.67	5.13	112.0	0.0	0.0	0.45	0.038	LIMO ARGILLOSO
340	16.0	0.87	5.42	120.0	0.0	0.0	0.59	0.031	LIMO ARGILLOSO
360	19.0	1.13	5.96	130.0	0.0	0.0	0.77	0.026	LIMO ARGILLOSO
380	18.0	1.00	5.56	140.0	0.0	0.0	0.68	0.028	LIMO ARGILLOSO
400	17.0	0.93	5.49	144.0	0.0	0.0	0.63	0.029	LIMO ARGILLOSO
420	14.0	0.80	5.71	150.0	0.0	0.0	0.54	0.036	LIMO ARGILLOSO
440	15.0	0.80	5.33	157.0	0.0	0.0	0.54	0.033	LIMO ARGILLOSO
460	12.0	0.60	5.00	160.0	0.0	0.0	0.41	0.042	LIMO ARGILLOSO
480	12.0	0.67	5.56	167.0	0.0	0.0	0.45	0.042	LIMO ARGILLOSO
500	13.0	0.93	7.18	170.0	0.0	0.0	0.63	0.038	ARGILLA LIMOSA
520	17.0	1.13	6.67	184.0	0.0	0.0	0.77	0.029	ARGILLA LIMOSA
540	17.0	0.53	3.14	188.0	36.6	26.4	0.00	0.020	SABBIA LIMOSA
560	28.0	1.00	3.57	198.0	48.3	26.0	0.00	0.012	LIMO SABBIOSO
580	12.0	0.60	5.00	200.0	0.0	0.0	0.41	0.042	LIMO ARGILLOSO
600	13.0	0.47	3.59	200.0	34.1	24.9	0.00	0.026	LIMO SABBIOSO
620	12.0	1.00	8.33	190.0	0.0	0.0	0.68	0.042	ARGILLA LIMOSA
640	29.0	0.53	1.84	218.0	36.6	30.3	0.00	0.011	SABBIA LIMOSA
660	35.0	1.00	2.86	200.0	48.3	27.9	0.00	0.010	SABBIA LIMOSA
680	10.0	0.07	0.67	200.0	10.0	34.5	0.00	0.033	GHIAIA SABBIOSA
700	12.0	0.53	4.44	189.0	36.6	24.0	0.00	0.028	LIMO SABBIOSO
720	9.0	0.53	5.93	174.0	0.0	0.0	0.36	0.056	LIMO ARGILLOSO
740	12.0	0.40	3.33	186.0	31.2	25.5	0.00	0.028	LIMO SABBIOSO
760	12.0	0.67	5.56	183.0	0.0	0.0	0.45	0.042	LIMO ARGILLOSO

z	qc	fs	rf	Qt	Dr	fi'	Cu	Mv	
780	26.0	0.00	0.00	204.0	0.0	0.0	0.00	0.000	-----

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TABELLA PARAMETRI

--- Simboli utilizzati ---

z profondità dal piano di campagna - in cm.-

qc resistenza alla punta - in Kg/cm² -

Rf rapporto delle resistenze fs/qc - in % -

Dr densità relativa %

Cu resistenza al taglio non drenata - in Kg/cm² -Mv coeff. Compr. volum.- in cm³/kg -fs resist. unitaria attrito lat. - in Kg/cm² -Qt pressione totale di spinta - in Kg/cm² -

fi' ang. attrito efficace - in gradi -

-- Note:

*) La interpretazione stratigrafica (basata sul digramma proposto da SEARLE (1979)) è da considerarsi una stima di massima

z	qc	fs	rf	Qt	Dr	fi'	Cu	Mv	
40	7.0	0.80	11.43	12.0	0.0	0.0	0.54	0.071	ARGILLA
60	10.0	0.93	9.33	22.0	0.0	0.0	0.63	0.050	ARGILLA
80	17.0	0.93	5.49	31.0	0.0	0.0	0.63	0.029	LIMO ARGILLOSO
100	16.0	0.87	5.42	30.0	0.0	0.0	0.59	0.031	LIMO ARGILLOSO
120	19.0	1.07	5.61	32.0	0.0	0.0	0.73	0.026	LIMO ARGILLOSO
140	22.0	1.33	6.06	38.0	0.0	0.0	0.91	0.015	LIMO ARGILLOSO
160	17.0	1.00	5.88	37.0	0.0	0.0	0.68	0.029	LIMO ARGILLOSO
180	18.0	1.07	5.93	33.0	0.0	0.0	0.73	0.028	LIMO ARGILLOSO
200	20.0	0.73	3.67	36.0	42.5	25.3	0.00	0.017	LIMO SABBIOSO
220	24.0	0.13	0.56	35.0	10.7	37.5	0.00	0.014	GHIATA
240	25.0	0.67	2.67	27.0	40.8	27.9	0.00	0.013	SABBIA LIMOSA
260	11.0	0.60	5.45	21.0	0.0	0.0	0.41	0.045	LIMO ARGILLOSO
280	11.0	0.53	4.85	20.0	0.0	0.0	0.36	0.045	LIMO ARGILLOSO
300	11.0	0.53	4.85	19.0	0.0	0.0	0.36	0.045	LIMO ARGILLOSO
320	12.0	0.67	5.56	20.0	0.0	0.0	0.45	0.042	LIMO ARGILLOSO
340	16.0	0.73	4.58	26.0	0.0	0.0	0.50	0.031	LIMO ARGILLOSO
360	18.0	0.80	4.44	29.0	44.2	24.0	0.00	0.019	LIMO SABBIOSO
380	20.0	1.07	5.33	32.0	0.0	0.0	0.73	0.017	LIMO ARGILLOSO
400	18.0	0.93	5.19	34.0	0.0	0.0	0.63	0.028	LIMO ARGILLOSO
420	15.0	1.73	11.56	29.0	0.0	0.0	1.18	0.033	ARGILLA
440	13.0	0.67	5.13	39.0	0.0	0.0	0.45	0.038	LIMO ARGILLOSO
460	10.0	0.53	5.33	20.0	0.0	0.0	0.36	0.050	LIMO ARGILLOSO
480	12.0	0.53	4.44	20.0	36.6	24.0	0.00	0.028	LIMO SABBIOSO
500	14.0	0.53	3.81	22.0	36.6	24.3	0.00	0.024	LIMO SABBIOSO
520	19.0	1.73	9.12	27.0	0.0	0.0	1.18	0.026	ARGILLA
540	18.0	0.53	2.96	44.0	36.6	26.9	0.00	0.019	SABBIA LIMOSA
560	46.0	0.67	1.45	54.0	40.8	32.6	0.00	0.007	SABBIA
580	37.0	0.00	0.00	47.0	0.0	0.0	0.00	0.000	-----

letture di campagna

valori derivati

PROFONDITA' [metri]	Rpt [Kg]	Rat [Kg]	Rt [Kg]	Rat-Rpt [Kg]	Ral [Kg/cm]	Rp/Ral	Rt-Rpt [Kg]	FI [gradi]	B [%]	Cu [Kg/cm]	av [cm/t]
.2	180	250	300	70	.46	39	120			.72	17.6
.4	250	340	400	90	.6	42	350			1	16.83
.6	250	390	750	140	.93	27	500			1	16.83
.8	180	320	1000	140	.93	19	820			.72	17.6
1	260	430	1100	170	1.13	23	840			1.04	16.72
1.2	280	550	1500	270	1.8	16	1220			1.12	16.48
1.4	280	620	1600	340	2.26	12	1320			1.12	16.48
1.6	250	610	1600	360	2.4	10	1350			1	16.83
1.8	240	530	1650	290	1.93	12	1410			.94	16.94
2	250	510	1850	260	1.73	14	1600			1	16.83
2.2	200	460	1950	260	1.73	12	1750			.8	17.36
2.4	120	340	2000	220	1.46	8	1880			.48	19.13
2.6	90	240	2050	150	1	9	1960			.36	21.16
2.8	110	190	2150	80	.53	21	2040			.44	19.64
3	100	160	2250	60	.4	23	2150			.4	20.3
3.2	140	220	2350	80	.53	26	2210			.56	18.4
3.4	140	220	2400	80	.53	26	2260			.56	18.4
3.6	160	250	2500	90	.6	27	2340			.64	17.93
3.8	190	310	2450	120	.8	24	2260			.76	17.47
4	220	350	2450	110	.73	30	2230			.88	17.15
4.2	190	360	2600	170	1.13	17	2410			.76	17.47
4.4	180	330	2600	150	1	18	2420			.72	17.6
4.6	120	270	2750	150	1	12	2630			.48	19.13
4.8	110	200	2900	90	.6	18	2790			.44	19.64
5	70	90	3000	20	.13	53	2930	25	7		23.81
5.2	110	190	3200	80	.53	21	3090			.44	19.64
5.4	110	180	3100	70	.46	24	2790			.44	19.64
5.6	120	190	3050	70	.46	26	2930			.48	19.13
5.8	130	210	3000	80	.53	24	2870			.52	18.72
6	150	210	2900	60	.4	38	2750			.6	18.14
6.2	130	240	2900	110	.73	18	2770			.52	18.72
6.4	170	260	2850	90	.6	28	2680			.68	17.75
6.6	130	200	2900	80	.53	23	2680			.48	19.13
6.8	80	130	2800	50	.33	24	2720			.32	22.29
7	70	110	2750	40	.26	26	2680			.28	23.81
7.2	110	230	2900	120	.8	14	2790			.44	19.64
7.4	100	180	2950	80	.53	19	2850			.4	20.3
7.6	60	100	3050	40	.26	23	2990			.24	25.93
7.8	80	130	3100	50	.33	24	3020			.32	22.29
8	70	110	3200	40	.26	26	3130			.28	23.81

PROFONDITA' [metri]	Rpt [Kg]	Rat [Kg]	Rt [Kg]	Rat-Rpt [Kg]	Ral [Kg/cm ²]	Rp/Ral	Rt-Rpt [Kg]	FI [gradi]	Dr [%]	Cu [Kg/cm ²]	av [ccq/t]
8.2	100	150	3400	50	.33	30	3300			.4	20.3
8.4	90	140	3450	50	.33	27	3360			.36	21.16
8.6	60	90	3400	30	.2	30	3340			.24	23.93
8.8	100	140	3400	40	.26	38	3300			.4	20.3
9	120	180	3400	60	.4	30	3280			.48	19.13
9.2	100	170	3400	70	.46	21	3300			.4	20.3
9.4	120	190	3400	70	.46	26	3280			.48	19.13
9.6	110	180	3500	70	.46	24	3390			.44	19.64
9.8	80	140	3500	60	.4	20	3420			.32	22.29
10	90	150	3500	60	.4	23	3410			.36	21.16

LEGENDA : Rpt = res. totale di punta Rat = res. lat. totale del manicotto + res. totale di punta Rt = res. totale Ral = res. laterale Rp = res. di punta
 Rp/Ral = rapporto Bege mann FI = angolo di attrito Dr = densita' relativa Cu = coesione utile av = coeff. di compressibilita' volumetrica

I	PROF.	QC	RL.	FS.	X	I	PROF.	QC	RL.	FS.	X	I	PROF.	QC	RL.	FS.	X	I
I	0.00	1	1	0.00		I	10.00	15	26	0.73	20.55	I						I
I	0.20	10	27	1.13	8.85	I						I						I
I	0.40	14	24	0.67	20.90	I						I						I
I	0.60	11	21	0.67	16.42	I						I						I
I	0.80	10	18	0.53	18.87	I						I						I
I	1.00	8	17	0.60	13.33	I						I						I
I	1.20	15	24	0.60	25.00	I						I						I
I	1.40	19	33	0.93	20.43	I						I						I
I	1.60	16	33	1.13	14.16	I						I						I
I	1.80	18	34	1.07	16.82	I						I						I
I	2.00	18	34	1.07	16.82	I						I						I
I	2.20	16	35	1.27	12.60	I						I						I
I	2.40	19	38	1.27	14.96	I						I						I
I	2.60	23	42	1.27	18.11	I						I						I
I	2.80	28	45	1.13	24.78	I						I						I
I	3.00	23	46	1.53	15.03	I						I						I
I	3.20	24	44	1.33	18.05	I						I						I
I	3.40	15	36	1.40	10.71	I						I						I
I	3.60	18	32	0.93	19.35	I						I						I
I	3.80	21	33	0.80	26.25	I						I						I
I	4.00	23	35	0.80	28.75	I						I						I
I	4.20	23	37	0.93	24.73	I						I						I
I	4.40	29	43	0.93	31.18	I						I						I
I	4.60	24	45	1.40	17.14	I						I						I
I	4.80	20	35	1.00	20.00	I						I						I
I	5.00	18	36	1.20	15.00	I						I						I
I	5.20	22	36	0.93	23.66	I						I						I
I	5.40	18	33	1.00	18.00	I						I						I
I	5.60	20	38	1.20	16.67	I						I						I
I	5.80	22	37	1.00	22.00	I						I						I
I	6.00	21	38	1.13	18.58	I						I						I
I	6.20	21	37	1.07	19.63	I						I						I
I	6.40	24	38	0.93	25.81	I						I						I
I	6.60	21	37	1.07	19.63	I						I						I
I	6.80	19	35	1.07	17.76	I						I						I
I	7.00	17	34	1.13	15.04	I						I						I
I	7.20	17	25	0.53	32.08	I						I						I
I	7.40	18	29	0.73	24.66	I						I						I
I	7.60	24	37	0.87	27.59	I						I						I
I	7.80	21	38	1.13	18.58	I						I						I
I	8.00	17	33	1.07	15.89	I						I						I
I	8.20	21	28	0.47	44.68	I						I						I
I	8.40	17	35	1.20	14.17	I						I						I
I	8.60	20	32	0.80	25.00	I						I						I
I	8.80	16	28	0.80	20.00	I						I						I
I	9.00	15	25	0.67	22.39	I						I						I
I	9.20	15	25	0.67	22.39	I						I						I
I	9.40	14	25	0.73	19.18	I						I						I
I	9.60	15	26	0.73	20.55	I						I						I
I	9.80	14	25	0.73	19.18	I						I						I

8521

LEGENDA : PROF. = PROFONDITA' DI INFISSIONE CM. FS = RESISTENZA SPECIFICA AL MANICOTTO dN/cmq
 QC = RESISTENZA SPECIFICA ALLA PUNTA dN/cmq X = RAPPORTO QC/FS
 RL = RESISTENZA LATERALE TOTALE dN/cmq

LITOLOGIA : T=TORBE A=ARGILLA LA=LIMI ARGILLOSI LS=LIMI SABBIOSI SL=SABBIE LIMOSE
 S=SABBIE SG=SABBIE E GHIAIA AG=TERRENO AGRICOLO

I	PROF.	QC	RL	FS.	X	I	PROF.	QC	RL	FS.	X	I	PROF.	QC	RL	FS.	X	I
I	0.00	1	1	0.00	0.00	I	10.00	20	32	0.80	25.00	I						I
I	0.20	10	20	0.67	14.93	I						I						I
I	0.40	7	18	0.73	9.59	I						I						I
I	0.60	7	16	0.60	11.67	I						I						I
I	0.80	3	11	0.53	5.66	I						I						I
I	1.00	4	11	0.47	8.51	I						I						I
I	1.20	10	16	0.40	25.00	I						I						I
I	1.40	17	24	0.47	36.17	I						I						I
I	1.60	23	34	0.73	31.51	I						I						I
I	1.80	23	37	0.93	24.73	I						I						I
I	2.00	17	37	1.33	12.78	I						I						I
I	2.20	22	38	1.07	20.56	I						I						I
I	2.40	23	43	1.33	17.29	I						I						I
I	2.60	25	47	1.47	17.01	I						I						I
I	2.80	29	54	1.67	17.37	I						I						I
I	3.00	31	54	1.53	20.26	I						I						I
I	3.20	19	43	1.60	11.87	I						I						I
I	3.40	18	36	1.20	15.00	I						I						I
I	3.60	21	34	0.87	24.14	I						I						I
I	3.80	22	36	0.93	23.66	I						I						I
I	4.00	28	41	0.87	32.18	I						I						I
I	4.20	27	45	1.20	22.50	I						I						I
I	4.40	25	39	0.93	26.88	I						I						I
I	4.60	20	35	1.00	20.00	I						I						I
I	4.80	18	34	1.07	16.82	I						I						I
I	5.00	19	33	0.93	20.43	I						I						I
I	5.20	16	30	0.93	17.20	I						I						I
I	5.40	18	31	0.87	20.69	I						I						I
I	5.60	17	33	1.07	15.89	I						I						I
I	5.80	13	29	1.07	12.15	I						I						I
I	6.00	14	24	0.67	20.90	I						I						I
I	6.20	14	24	0.67	20.90	I						I						I
I	6.40	17	28	0.73	23.29	I						I						I
I	6.60	19	32	0.87	21.84	I						I						I
I	6.80	19	33	0.93	20.43	I						I						I
I	7.00	18	32	0.93	19.35	I						I						I
I	7.20	17	29	0.80	21.25	I						I						I
I	7.40	19	30	0.73	26.03	I						I						I
I	7.60	25	38	0.87	28.74	I						I						I
I	7.80	23	40	1.13	20.35	I						I						I
I	8.00	19	35	1.07	17.76	I						I						I
I	8.20	22	30	0.53	41.51	I						I						I
I	8.40	18	33	1.00	18.00	I						I						I
I	8.60	22	34	0.80	27.50	I						I						I
I	8.80	17	29	0.80	21.25	I						I						I
I	9.00	19	27	0.53	35.85	I						I						I
I	9.20	16	27	0.73	21.92	I						I						I
I	9.40	16	25	0.60	26.67	I						I						I
I	9.60	17	29	0.80	21.25	I						I						I
I	9.80	18	30	0.80	22.50	I						I						I

8522

LEGENDA : PROF. = PROFONDITA' DI INFISSIONE

CM.

FS = RESISTENZA SPECIFICA AL MANICOTTO

dN/cm²

QC = RESISTENZA SPECIFICA ALLA PUNTA

dN/cm²

X = RAPPORTO QC/FS

%

RL = RESISTENZA LATERALE TOTALE

dN/cm²

LITOLOGIA : T=TORBE

A=ARGILLA

LA=LIMI ARGILLOSI

LS=LIMI SABBIOSI

SL=SABBIE LIMOSE

S=SABBIE

SG=SABBIE E GHIAIA

AG=TERRENO AGRICOLO

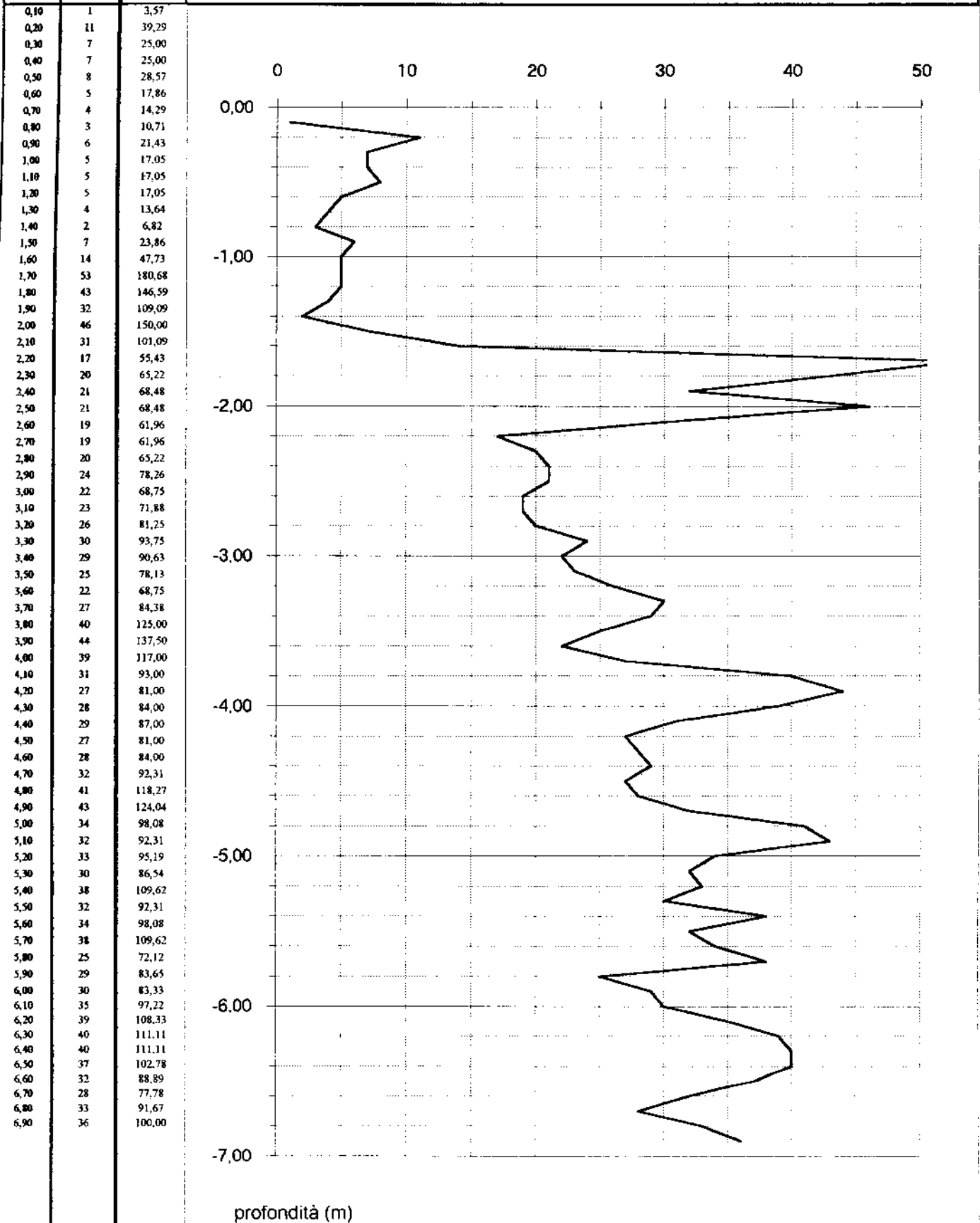
PROFONDITA' [metri]	Qc [Kg/cmq]	Fs [Kg/cmq]	Qc/Fs	Qt [Kgf]	Gamma [Kg/dmc]	Sigma IVO [Kg/cmq]	Fi [gradi]	Dp [°]	Cu [Kg/cmq]	Bv [cmq/t]	Colonna Stratig.
0.2					1,80	,04	-	-	-	-	
0.4					1,80	,07	-	-	-	-	
0.6	29,1	1,9	15	800	1,94	,11	-	-	1,16	13,7	A
0.8	26,3	1,5	17	730	1,94	,15	-	-	1,05	15,2	A
1.0	41,3	1,1	36	760	1,81	,19	30	-	-	8,1	SL
1.2	31,3	,8	39	570	1,76	,22	29	-	-	10,6	SL
1.4	13,3	,5	25	540	1,91	,26	-	-	,52	20,4	A
1.6	7,3	,7	10	340	1,50	,29	-	-	,28	44,9	T
1.8	8,4	,7	13	210	1,51	,32	-	-	,32	40,9	T
2.0	8,4	,5	16	140	1,51	,35	-	-	,32	40,9	T
2.2	9,4	,2	47	100	1,65	,38	-	-	,36	23,2	L
2.4	5,4	,3	20	110	1,67	,42	-	-	,20	36,3	A
2.6	6,4	,3	19	100	1,72	,45	-	-	,24	31,8	A
2.8	6,5	,4	16	230	1,50	,48	-	-	,24	48,8	T
3.0	16,5	,4	41	350	1,68	,51	-	-	,64	17,2	L
3.2	16,5	,6	28	340	1,91	,55	-	-	,64	19,4	AL
3.4	9,5	,5	20	360	1,88	,59	-	-	,36	24,1	A
3.6	9,5	,5	20	370	1,88	,63	-	-	,35	24,1	A
3.8	12,6	,5	27	380	1,91	,67	-	-	,48	20,8	AL
4.0	6,6	,5	14	380	1,50	,70	-	-	,24	48,2	T
4.2	7,6	,3	23	430	1,78	,73	-	-	,27	28,0	A
4.4	9,6	,4	24	410	1,88	,77	-	-	,35	24,0	A
4.6	15,6	,4	39	400	1,68	,80	-	-	,59	17,5	L
4.8	10,7	,6	18	360	1,90	,84	-	-	,39	22,5	A
5.0	7,7	,8	10	360	1,51	,87	-	-	,27	43,3	T
5.2	11,7	,3	35	390	1,66	,90	-	-	,43	20,1	L
5.4	16,7	,5	36	440	1,68	,92	-	-	,63	17,1	L
5.6	12,7	,5	27	650	1,91	,94	-	-	,47	20,7	AL
5.8	32,9	,4	82	470	1,76	,95	31	31	-	10,1	SS
6.0	17,9	,5	34	450	1,69	,96	-	-	,68	16,9	L
6.2	6,9	,5	15	350	1,50	,97	-	-	,24	46,7	T
6.4	5,9	,3	22	300	1,70	,99	-	-	,20	33,9	A
6.6	6,9	,3	21	290	1,75	1,00	-	-	,24	30,0	A
6.8	7	,3	26	290	1,75	1,02	-	-	,24	29,7	A
7.0	4	,2	20	330	1,60	1,03	-	-	,12	46,8	A
7.2	9	,2	45	310	1,65	1,04	-	-	,32	23,9	L
7.4	5	,2	25	320	1,65	1,06	-	-	,16	38,7	A
7.6	7	,5	15	360	1,50	1,07	-	-	,24	46,2	T
7.8	9,2	,5	20	420	1,86	1,08	-	-	,32	24,6	A
8.0	13,2	,6	22	480	1,91	1,10	-	-	,48	20,4	A
8.2	12,2	,7	18	570	1,90	1,12	-	-	,44	21,1	A
8.4	12,2	,8	15	670	1,90	1,14	-	-	,44	21,1	A
8.6	14,2	,8	18	750	1,91	1,16	-	-	,52	19,9	A
8.8	10,3	,9	11	810	1,53	1,17	-	-	,37	36,0	T
9.0	8,3	,7	11	860	1,51	1,18	-	-	,28	41,2	T
9.2	8,3	,5	18	880	1,82	1,19	-	-	,28	26,3	A
9.4	11,3	,7	15	910	1,90	1,21	-	-	,40	21,9	A
9.6	13,3	,9	14	920	1,56	1,22	-	-	,48	27,8	T
9.8	9,4	,8	12	1000	1,52	1,23	-	-	,33	38,3	T
10.0	21,4	,5	46	1020	1,71	1,25	-	-	,81	15,6	L

PROFONDITA' [metri]	Qc [Kg/cmq]	Fs [Kg/cmq]	Qc/Fs	Qt [Kgf]	Gamma [Kg/dmc]	Sigma Ivo [Kg/cmq]	Pi [gradi]	Dp [%]	Cu [Kg/cmq]	mv [cmq/t]	Colonna Stratig.
10.2	14,4	,2	72	1000	1,67	1,26	28	2	-	16,7	SS
10.4	9,4	,3	28	1020	1,87	1,28	-	-	,32	24,3	AL
10.6	8,4	,4	21	1010	1,82	1,30	-	-	,28	26,1	A
10.8	9,6	,7	14	1030	1,53	1,31	-	-	,33	37,9	T
11.0	9,6	,5	18	1050	1,88	1,33	-	-	,33	24,0	A
11.2	22,6	,3	85	1040	1,71	1,34	28	11	-	14,7	SS
11.4	8,6	,5	16	1120	1,83	1,36	-	-	,29	25,7	A
11.6	10,6	,4	27	1190	1,90	1,37	-	-	,37	22,6	A
11.8	6,7	,3	25	1220	1,74	1,39	-	-	,21	30,7	A
12.0	16,7	,3	63	1140	1,68	1,40	28	2	-	16,7	SS
12.2	9,7	,5	21	1210	1,89	1,42	-	-	,33	23,8	A
12.4	22,7	,9	26	1130	1,93	1,44	-	-	,85	17,6	AL
12.6	14,7	,6	25	1230	1,91	1,46	-	-	,53	19,8	A
12.8	11,8	,5	22	1220	1,90	1,48	-	-	,41	21,4	A
13.0	8,8	,6	15	1210	1,52	1,49	-	-	,29	39,8	T
13.2	11,8	,5	25	1180	1,90	1,50	-	-	,41	21,4	A
13.4	9,8	,5	18	1180	1,89	1,52	-	-	,33	23,7	A
13.6	9,8	,5	18	1220	1,89	1,54	-	-	,33	23,7	A
13.8	8,9	,5	17	1310	1,85	1,56	-	-	,29	25,1	A
14.0	10,9	,5	20	1480	1,90	1,57	-	-	,37	22,3	A
14.2	37,9	,4	95	1360	1,79	1,59	29	25	-	8,8	SS
14.4	11,9	,5	22	1820	1,90	1,61	-	-	,41	21,3	A
14.6	38,9	,3	146	1570	1,99	1,63	29	25	-	8,6	SS
14.8	13,1	,9	15	1560	1,91	1,65	-	-	,46	20,5	A
15.0	11,1	,4	28	1380	1,90	1,66	-	-	,38	22,1	AL
15.2	13,1	,8	16	1320	1,91	1,68	-	-	,46	20,5	A
15.4	11,1	,5	24	1360	1,90	1,70	-	-	,38	22,1	A
15.6	13,1	,7	20	1490	1,91	1,72	-	-	,46	20,5	A
15.8	22,2	,5	42	1470	1,71	1,73	-	-	,82	15,0	L
16.0	39,2	1	39	1810	1,80	1,75	30	-	-	8,5	SL
16.2	36,2	,5	68	1610	1,78	1,76	28	21	-	9,2	SS
16.4	12,2	1,3	10	1660	1,55	1,78	-	-	,42	30,4	T
16.6	12,2	,5	23	1540	1,90	1,79	-	-	,42	21,1	A
16.8	13,3	,7	18	1530	1,91	1,81	-	-	,46	20,4	A
17.0	13,3	,8	17	1550	1,91	1,83	-	-	,46	20,4	A
17.2	15,3	,8	19	1590	1,91	1,85	-	-	,54	19,6	A
17.4	17,3	,7	24	1640	1,92	1,87	-	-	,62	19,4	A
17.6	17,3	1,1	16	1780	1,92	1,88	-	-	,62	19,4	A
17.8	21,5	,8	27	1860	1,93	1,90	-	-	,78	18,6	AL
18.0	20,5	,1	154	1940	1,90	1,92	28	2	-	16,3	SS
18.2	19,5	1,2	16	1990	1,92	1,94	-	-	,70	19,8	A
18.4	15,5	1,1	14	2040	1,59	1,95	-	-	,54	23,9	T
18.6	14,5	1,1	13	2140	1,58	1,96	-	-	,50	25,5	T
18.8	9,6	,3	36	2180	1,65	1,98	-	-	,30	22,8	L
19.0	15,6	,9	18	2200	1,91	1,99	-	-	,54	19,5	A
19.2	16,6	,8	21	2220	1,91	2,01	-	-	,58	19,4	A
19.4	17,6	1,1	17	2220	1,92	2,03	-	-	,62	19,4	A
19.6	17,6	1,1	16	2310	1,92	2,05	-	-	,62	19,4	A
19.8	18,7	1,1	18	2380	1,92	2,07	-	-	,67	19,6	A
20.0	18,7	1,1	17	2400	1,92	2,09	-	-	,66	19,6	A

PROFONDITA' [metri]	Qc [Kg/cmq]	Fs [Kg/cmq]	Qc/Fs	Qt [Kgf]	Gamma [Kg/dmc]	Sigma IVO [Kg/cmq]	Pi [gradi]	Dp [%]	Cu [Kg/cmq]	Nv [cmq/t]	Colonna Stratig.
0.2					1,80	,04	-	-	-	-	
0.4					1,80	,07	-	-	-	-	
0.6	9,1	,4	23	250	1,86	,11	-	-	,36	24,8	A
0.8	11,3	,4	28	180	1,90	,15	-	-	,45	21,9	AL
1.0	10,3	,2	52	150	1,65	,18	34	29	-	16,7	SS
1.2	5,3	,4	13	200	1,48	,21	-	-	,20	57,0	T
1.4	9,3	,3	28	200	1,87	,25	-	-	,36	24,4	AL
1.6	7,3	,3	22	170	1,77	,28	-	-	,28	28,8	A
1.8	3,4	,3	13	200	1,46	,31	-	-	,12	82,7	T
2.0	5,4	,2	27	170	1,67	,35	-	-	,20	36,3	A
2.2	3,4	,3	13	150	1,46	,37	-	-	,12	82,7	T
2.4	3,4	,2	17	150	1,46	,40	-	-	,12	82,7	T
2.6	8,4	,3	32	220	1,82	,44	-	-	,32	26,1	AL
2.8	13,5	,5	25	280	1,91	,48	-	-	,52	20,3	A
3.0	12,5	,7	17	360	1,91	,52	-	-	,48	20,9	A
3.2	12,5	,7	19	310	1,91	,55	-	-	,48	20,9	A
3.4	10,5	,5	23	400	1,90	,59	-	-	,40	22,7	A
3.6	8,5	,4	21	420	1,83	,63	-	-	,31	25,9	A
3.8	7,6	,4	19	470	1,78	,66	-	-	,28	28,0	A
4.0	10,6	,6	18	470	1,90	,70	-	-	,40	22,6	A
4.2	7,6	,3	23	460	1,78	,74	-	-	,27	28,0	A
4.4	7,6	,4	19	470	1,78	,77	-	-	,27	28,0	A
4.6	9,6	,5	18	510	1,88	,81	-	-	,35	24,0	A
4.8	9,7	,4	24	530	1,89	,85	-	-	,35	23,8	A
5.0	14,7	,5	32	580	1,91	,89	-	-	,55	19,8	AL
5.2	17,7	,9	20	800	1,92	,93	-	-	,67	19,4	A
5.4	39,7	,7	60	880	1,80	,94	32	38	-	8,4	SMA
5.6	28,7	,3	108	720	1,74	,96	30	27	-	11,6	SS
5.8	7,9	,7	12	650	1,51	,97	-	-	,28	42,6	T
6.0	5,9	,3	18	540	1,70	,98	-	-	,20	33,9	A
6.2	6,9	,3	26	470	1,75	1,00	-	-	,24	30,0	A
6.4	5,9	,3	22	460	1,70	1,01	-	-	,20	33,9	A
6.6	11,9	,3	36	470	1,66	1,02	-	-	,44	19,9	L
6.8	6	,4	15	480	1,49	1,03	-	-	,20	51,8	T
7.0	6	,3	18	490	1,70	1,05	-	-	,20	33,4	A
7.2	7	,3	21	500	1,75	1,06	-	-	,24	29,7	A
7.4	7	,5	13	530	1,50	1,07	-	-	,24	46,2	T
7.6	11	,6	18	650	1,90	1,09	-	-	,40	22,2	A
7.8	17,2	,7	26	730	1,92	1,11	-	-	,64	19,4	AL
8.0	15,2	1,2	13	810	1,58	1,12	-	-	,56	24,4	T
8.2	16,2	1,1	15	930	1,91	1,14	-	-	,60	19,4	A
8.4	17,2	1,1	15	990	1,92	1,16	-	-	,64	19,4	A
8.6	15,2	1	15	1090	1,91	1,17	-	-	,56	19,6	A
8.8	12,3	1	12	1160	1,55	1,19	-	-	,44	30,1	T
9.0	14,3	,9	17	1220	1,91	1,20	-	-	,52	19,9	A
9.2	13,3	,9	15	1220	1,91	1,22	-	-	,48	20,4	A
9.4	10,3	,9	11	1360	1,53	1,23	-	-	,36	36,0	T
9.6	31,3	,2	157	1450	1,96	1,25	29	24	-	10,6	SS
9.8	26,4	,5	57	1520	1,73	1,27	28	17	-	12,6	SS
10.0	21,4	,6	36	1600	1,71	1,28	-	-	,80	15,6	L

Qc [g/cmq]	Ps [Kg/cmq]	Qc/Ps	Qt [Kgf]	Gamma [Kg/dmc]	Sigma IVO [Kg/cmq]	Pi [gradi]	Dr [%]	Cu [Kg/cmq]	w _v [cmq/t]	Colonna Stratig.
				1,80	,04	-	-	-	-	
				1,80	,07	-	-	-	-	
5,1	,5	11	200	1,48	,10	-	-	,20	58,8	T
7,3	,5	14	390	1,50	,13	-	-	,29	44,9	T
11,3	,7	17	510	1,90	,17	-	-	,45	21,9	A
13,3	,6	22	580	1,91	,21	-	-	,52	20,4	A
12,3	,6	21	730	1,91	,25	-	-	,48	21,0	A
12,3	,6	21	830	1,91	,26	-	-	,48	21,0	A
14,4	,8	18	870	1,91	,28	-	-	,56	19,9	A
11,4	,7	17	860	1,90	,30	-	-	,44	21,8	A
12,4	,6	21	940	1,91	,32	-	-	,48	20,9	A
19,4	,5	36	910	1,70	,33	-	-	,76	16,7	L
15,4	1	15	920	1,91	,35	-	-	,60	19,6	A
12,5	,7	17	920	1,91	,37	-	-	,49	20,9	A
14,5	,7	20	940	1,91	,39	-	-	,56	19,8	A
18,5	,7	28	1010	1,92	,41	-	-	,72	19,5	AL
18,5	,8	23	1090	1,92	,42	-	-	,72	19,5	A
15,5	,8	19	1160	1,91	,44	-	-	,60	19,6	A
9,6	,4	24	1300	1,88	,46	-	-	,37	24,0	A
25,6	,5	55	1360	1,73	,47	34	38	-	13,0	SMA
10,6	,7	14	1420	1,54	,48	-	-	,40	34,9	T
16,6	,7	23	1470	1,91	,50	-	-	,64	19,4	A
14,6	,9	16	1600	1,91	,52	-	-	,56	19,8	A
13,7	,9	16	1680	1,91	,54	-	-	,53	20,2	A
16,7	,6	28	1790	1,91	,56	-	-	,65	19,4	AL
16,7	,9	19	1830	1,91	,58	-	-	,64	19,4	A
12,7	,7	19	1880	1,91	,59	-	-	,48	20,7	A
8,7	,6	15	1980	1,52	,60	-	-	,32	40,1	T
10,9	,8	14	2000	1,54	,62	-	-	,41	34,0	T
8,9	,8	11	2030	1,52	,63	-	-	,33	39,5	T
8,9	,7	12	2090	1,52	,64	-	-	,33	39,5	T
11,9	,7	18	2140	1,90	,65	-	-	,45	21,3	A
9,9	,8	12	2200	1,53	,66	-	-	,37	37,2	T
9	,5	19	2290	1,85	,68	-	-	,33	24,9	A
13	,7	18	2420	1,91	,70	-	-	,49	20,5	A
16	1,1	15	2500	1,91	,72	-	-	,61	19,5	A
14	1,2	12	2580	1,57	,73	-	-	,53	26,5	T
14	1,1	13	2750	1,57	,74	-	-	,53	26,5	T
18,2	1	18	2820	1,92	,76	-	-	,70	19,5	A
17,2	1,2	14	2900	1,92	,78	-	-	,66	19,4	A
15,2	1,1	13	2960	1,58	,79	-	-	,58	24,4	T
12,2	1	12	3030	1,55	,80	-	-	,46	30,4	T
14,2	1	14	3160	1,91	,82	-	-	,54	19,9	A
12,3	1	12	3220	1,55	,83	-	-	,46	30,1	T
10,3	,7	14	3270	1,53	,84	-	-	,38	36,0	T
10,3	,7	15	3280	1,90	,86	-	-	,38	23,0	A
8,3	,5	16	3360	1,51	,87	-	-	,30	41,2	T
14,3	,5	27	3470	1,91	,89	-	-	,54	19,9	AL
11,4	,5	24	3420	1,90	,90	-	-	,42	21,8	A
5,4	,2	27	3420	1,67	,92	-	-	,18	36,3	A

Qc [Kg/cmq]	Ps [Kg/cmq]	Qc/Ps	Qt [Kgf]	Gamma [Kg/dmc]	Sigma Ivo [Kg/cmq]	Pi [gradi]	Dp [%]	Cu [Kg/cmq]	m _v [cmq/t]	Colonna Stratig.
10,4	,4	26	3570	1,90	,94	-	-	,38	22,9	A
18,4	,4	46	3540	1,69	,95	-	-	,70	16,8	L
10,4	,7	16	3670	1,90	,97	-	-	,38	22,9	A
11,6	,7	17	3740	1,90	,99	-	-	,42	21,6	A
12,6	,7	19	3840	1,91	1,01	-	-	,46	20,8	A
12,6	,8	16	3920	1,91	1,02	-	-	,46	20,8	A
9,6	,9	11	4200	1,53	1,03	-	-	,34	37,9	T
41,6	,7	62	4140	1,81	1,05	32	37	-	8,0	SMA
11,7	,7	18	4080	1,90	1,07	-	-	,43	21,5	A
7,7	,7	11	4030	1,51	1,08	-	-	,26	43,3	T
9,7	,6	16	4160	1,89	1,10	-	-	,34	23,8	A
13,7	,7	19	4210	1,91	1,11	-	-	,50	20,2	A
10,7	1	11	4310	1,54	1,13	-	-	,38	34,6	T
10,8	,9	12	4360	1,54	1,14	-	-	,39	34,3	T
9,8	,7	13	4420	1,53	1,15	-	-	,35	37,4	T
21,8	,6	36	4510	1,71	1,16	-	-	,83	15,3	L
25,8	,5	55	4690	1,73	1,18	28	18	-	12,9	SS
17,8	,5	33	4630	1,69	1,19	-	-	,66	16,9	L
12,9	,9	15	4570	1,91	1,21	-	-	,47	20,6	A
10,9	,6	18	4610	1,90	1,23	-	-	,39	22,3	A
13,9	,7	21	4670	1,91	1,24	-	-	,51	20,1	A
11,9	,6	20	4730	1,90	1,26	-	-	,43	21,3	A
11,9	,7	18	4860	1,90	1,28	-	-	,42	21,3	A
12,1	,6	20	4930	1,90	1,30	-	-	,43	21,2	A
16,1	,9	19	4950	1,91	1,32	-	-	,59	19,5	A



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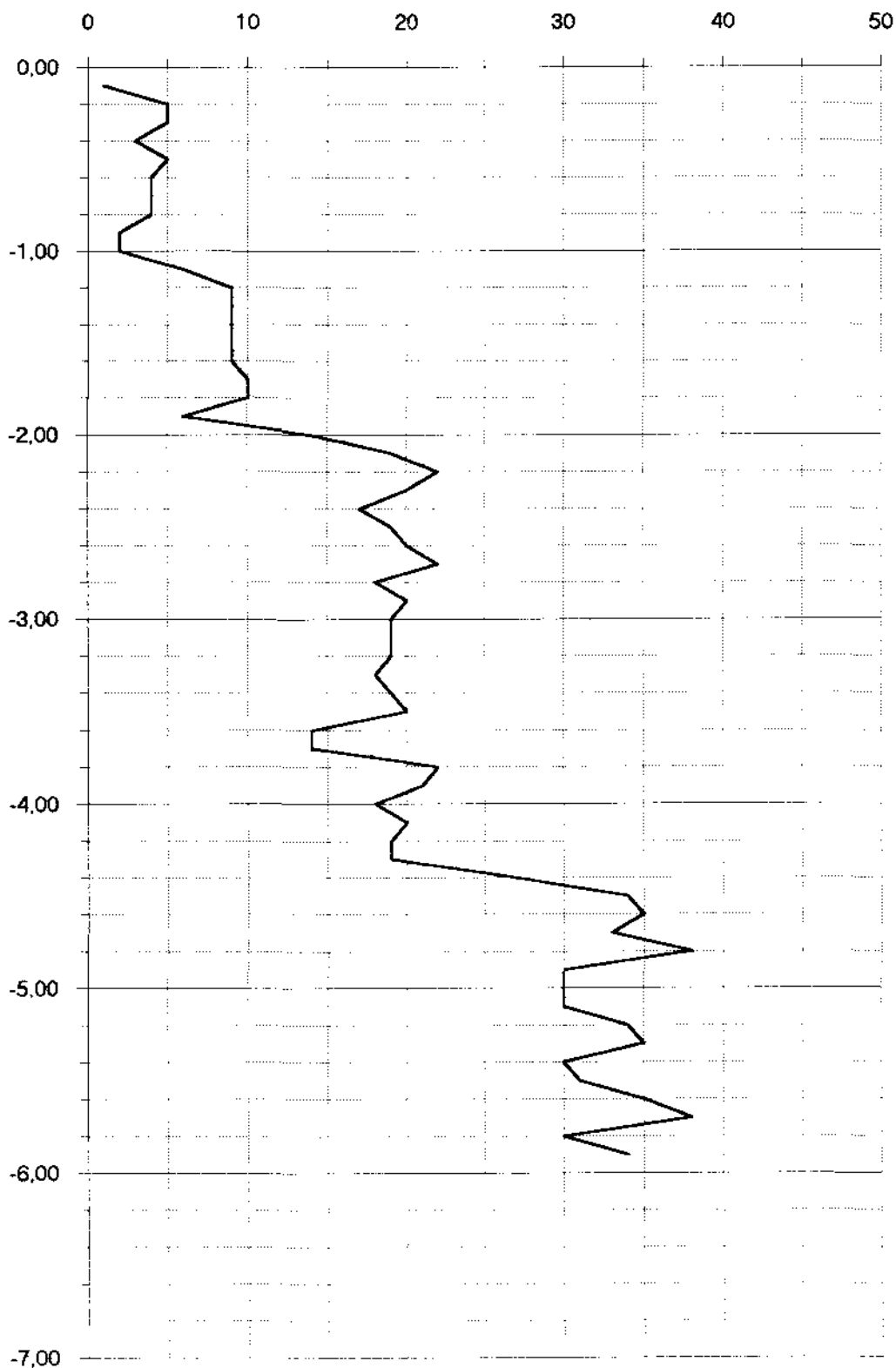
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PROVA PENETROMETRICA DINAMICA
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0,10	1	3,57
0,20	5	17,86
0,30	5	17,86
0,40	3	10,71
0,50	5	17,86
0,60	4	14,29
0,70	4	14,29
0,80	4	14,29
0,90	2	7,14
1,00	2	6,82
1,10	6	20,45
1,20	9	30,68
1,30	9	30,68
1,40	9	30,68
1,50	9	30,68
1,60	9	30,68
1,70	10	34,09
1,80	10	34,09
1,90	6	20,45
2,00	14	45,65
2,10	19	61,96
2,20	22	71,74
2,30	20	65,22
2,40	17	55,43
2,50	19	61,96
2,60	20	65,22
2,70	22	71,74
2,80	18	58,70
2,90	20	65,22
3,00	19	59,38
3,10	19	59,38
3,20	19	59,38
3,30	18	56,25
3,40	19	59,38
3,50	20	62,50
3,60	14	43,75
3,70	14	43,75
3,80	22	68,75
3,90	21	65,63
4,00	18	54,00
4,10	20	60,00
4,20	19	57,00
4,30	19	57,00
4,40	27	81,00
4,50	34	102,00
4,60	35	105,00
4,70	33	95,19
4,80	38	109,62
4,90	30	86,54
5,00	30	86,54
5,10	30	86,54
5,20	34	98,08
5,30	35	100,96
5,40	30	86,54
5,50	31	89,42
5,60	35	100,96
5,70	38	109,62
5,80	30	86,54
5,90	34	98,08
6,00		
6,10		
6,20		
6,30		
6,40		
6,50		
6,60		
6,70		
6,80		
6,90		



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PROFONDITA' [metri]	Qc [Kg/cmq]	Fs [Kg/cmq]	Qc/Fs	Qt [Kgf]	Gamma [Kg/dmc]	Sigma IVO [Kg/cmq]	Fi [gradi]	D _R [%]	Cu [Kg/cmq]	m _v [cmq/t]	Colonna Stratig.
0.2					1,80	,04	-	-	-	-	
0.4					1,80	,07	-	-	-	-	
0.6	28,1	1,6	18	670	1,94	,11	-	-	1,12	14,2	A
0.8	22,3	1,3	18	790	1,93	,15	-	-	,89	17,9	A
1.0	24,3	1,8	14	740	1,93	,19	-	-	,96	16,5	A
1.2	23,3	1,5	16	770	1,93	,23	-	-	,92	17,2	A
1.4	25,3	1,7	15	750	1,93	,27	-	-	1,00	15,8	A
1.6	28,3	2	14	740	1,94	,30	-	-	1,12	14,1	A
1.8	26,4	1,5	17	770	1,94	,34	-	-	1,04	15,2	A
2.0	31,4	2,1	15	790	1,95	,38	-	-	1,24	12,7	A
2.2	34,4	2,1	17	860	1,95	,42	-	-	1,36	11,6	A
2.4	34,4	1,9	18	920	1,95	,46	-	-	1,36	11,6	A
2.6	29,4	2,1	14	1070	1,94	,50	-	-	1,16	13,6	A
2.8	21,5	1,3	16	1240	1,93	,54	-	-	,84	18,6	A
3.0	23,5	1,5	16	1410	1,93	,58	-	-	,92	17,0	A
3.2	25,5	1,3	20	1590	1,93	,61	-	-	1,00	15,7	A
3.4	27,5	1,7	17	1670	1,94	,65	-	-	1,07	14,5	A
3.6	30,5	1,3	24	1770	1,95	,69	-	-	1,19	13,1	AL
3.8	26,6	1,9	14	1840	1,94	,73	-	-	1,03	15,0	A
4.0	22,6	1,7	14	1930	1,93	,77	-	-	,87	17,7	A
4.2	21,6	1,3	17	2030	1,93	,81	-	-	,83	18,5	A
4.4	17,6	1,3	13	2180	1,61	,84	-	-	,67	21,0	T
4.6	15,6	1,5	11	2320	1,59	,87	-	-	,59	23,7	T
4.8	20,7	1,3	16	2500	1,92	,91	-	-	,79	19,3	A
5.0	23,7	1,4	17	2640	1,93	,95	-	-	,91	16,9	A
5.2	22,7	1,5	15	2720	1,93	,99	-	-	,87	17,6	A
5.4	20,7	1,5	14	2760	1,92	1,03	-	-	,79	19,3	A
5.6	21,7	1,3	16	2850	1,93	1,06	-	-	,83	18,4	A
5.8	17,9	1,2	15	2900	1,92	1,10	-	-	,67	19,4	A
6.0	19,9	1,3	16	2910	1,92	1,14	-	-	,75	20,0	A
6.2	13,9	,7	21	2940	1,91	1,18	-	-	,51	20,1	A
6.4	10,9	,7	16	2880	1,90	1,22	-	-	,39	22,3	A
6.6	10,9	,5	20	2890	1,90	1,26	-	-	,39	22,3	A
6.8	12	,6	20	2830	1,90	1,29	-	-	,43	21,2	A
7.0	30	,7	41	3000	1,75	1,33	29	-	-	11,1	SL
7.2	21	,7	29	3030	1,92	1,37	-	-	,79	19,0	AL
7.4	8	,8	10	3000	1,51	1,40	-	-	,26	42,2	T
7.6	9	,3	27	2920	1,85	1,43	-	-	,30	24,9	AL
7.8	11,2	,6	19	2890	1,90	1,47	-	-	,39	22,0	A
8.0	7,2	,4	18	2930	1,76	1,51	-	-	,23	29,1	A
8.2	6,2	,3	23	2950	1,71	1,54	-	-	,19	32,6	A
8.4	7,2	,3	22	2950	1,76	1,58	-	-	,22	29,1	A
8.6	6,2	,3	19	2950	1,71	1,61	-	-	,18	32,6	A
8.8	6,3	,3	24	2880	1,72	1,65	-	-	,19	32,2	A
9.0	6,3	,3	19	2870	1,72	1,68	-	-	,18	32,2	A
9.2	13,3	,1	100	2900	1,67	1,71	28	2	-	16,7	SS
9.4	15,3	,1	115	2890	1,68	1,75	28	2	-	16,7	SS
9.6	11,3	,3	34	2810	1,90	1,78	-	-	,38	21,9	AL
9.8	11,4	,7	16	2940	1,90	1,82	-	-	,38	21,8	A
10.0	13,4	,7	20	2970	1,91	1,86	-	-	,46	20,3	A

PROFONDITA' [metri]	Qc [Kg/cmq]	Ps [Kg/cmq]	Qc/Ps	Qt [Kgf]	Gamma [Kg/dmc]	Sigma Ivo [Kg/cmq]	Fi [gradi]	D _p [%]	C _u [Kg/cmq]	m _v [cmq/t]	Colonna Stratig.
10.2	13,4	,7	18	2990	1,91	1,90	-	-	,46	20,3	A
10.4	13,4	,7	20	2990	1,91	1,94	-	-	,46	20,3	A
10.6	12,4	,7	19	2990	1,91	1,97	-	-	,42	20,9	A
10.8	8,6	,5	16	2040	1,83	2,01	-	-	,26	25,7	A
11.0	10,6	,5	23	3120	1,90	2,05	-	-	,34	22,6	A
11.2	12,6	,6	21	3230	1,91	2,09	-	-	,42	20,8	A
11.4	14,6	,7	22	3310	1,91	2,13	-	-	,50	19,8	A
11.6	15,6	,8	20	3380	1,91	2,16	-	-	,54	19,5	A
11.8	15,7	,9	18	3420	1,91	2,20	-	-	,54	19,5	A
12.0	28,7	1	29	3470	1,94	2,24	-	-	1,06	13,9	AL
12.2	26,7	1,7	16	3830	1,94	2,28	-	-	,98	15,0	A
12.4	56,7	1,1	50	4110	1,88	2,32	29	30	-	5,9	SS
12.6	68,7	1,5	45	3830	1,94	2,36	32	-	-	4,9	SL
12.8	17,8	1,8	10	3790	1,61	2,39	-	-	,62	20,8	T
13.0	13,8	,9	16	3460	1,91	2,43	-	-	,45	20,1	A
13.2	11,8	,6	20	3430	1,90	2,46	-	-	,37	21,4	A
13.4	11,8	,5	25	3480	1,90	2,50	-	-	,37	21,4	A
13.6	16,8	,6	28	3580	1,92	2,54	-	-	,57	19,4	AL
13.8	13,9	,9	16	3590	1,91	2,58	-	-	,45	20,1	A
14.0	9,9	,7	14	3890	1,53	2,61	-	-	,29	37,2	T
14.2	34,9	,4	87	4130	1,77	2,65	28	11	-	9,6	SS
14.4	51,9	1,3	41	4050	1,86	2,68	31	-	-	6,4	SL
14.6	40,9	1,9	22	4200	1,97	2,72	-	-	1,53	9,8	AL
14.8	24,1	,6	40	3820	1,72	2,76	-	-	,85	13,8	L
15.0	14,1	1,2	12	3790	1,57	2,79	-	-	,45	26,3	T

PROFONDITA' [metri]	Qc [Kg/cmq]	Fs [Kg/cmq]	Qc/Fs	Qt [Kgf]	Gamma [Kg/dmc]	Sigma IVO [Kg/cmq]	Fi [gradi]	D _r [%]	Cu [Kg/cmq]	m _v [cmq/t]	Colonna Stratig.
0.2					1,80	,04	-	-	-	-	
0.4					1,80	,07	-	-	-	-	
0.6	22,1	1,5	15	640	1,93	,11	-	-	,88	18,1	A
0.8	22,3	1,3	18	600	1,93	,15	-	-	,89	17,9	A
1.0	22,3	1,3	18	610	1,93	,19	-	-	,88	17,9	A
1.2	25,3	1,6	16	670	1,93	,23	-	-	1,00	15,8	A
1.4	26,3	1,8	15	730	1,94	,27	-	-	1,04	15,2	A
1.6	28,3	1,9	15	850	1,94	,30	-	-	1,12	14,1	A
1.8	30,4	2,1	14	940	1,95	,34	-	-	1,20	13,2	A
2.0	32,4	2,1	15	1060	1,95	,38	-	-	1,28	12,3	A
2.2	39,4	2,1	18	1190	1,97	,42	-	-	1,56	10,2	A
2.4	33,4	2,1	16	1260	1,95	,46	-	-	1,32	12,0	A
2.6	24,4	1,5	17	1410	1,93	,50	-	-	,96	16,4	A
2.8	23,5	1,3	18	1630	1,93	,54	-	-	,92	17,0	A
3.0	27,5	1,3	21	1840	1,94	,58	-	-	1,08	14,5	A
3.2	32,5	1,5	21	2030	1,95	,62	-	-	1,28	12,3	A
3.4	36,5	1,6	23	2160	1,96	,65	-	-	1,43	11,0	AL
3.6	36,5	2	18	2430	1,96	,69	-	-	1,43	11,0	A
3.8	38,6	1,5	26	2590	1,96	,73	-	-	1,51	10,4	AL
4.0	33,6	1,8	19	2660	1,95	,77	-	-	1,31	11,9	A
4.2	28,6	1,7	17	2800	1,94	,81	-	-	1,11	14,0	A
4.4	25,6	1,7	15	2990	1,93	,85	-	-	,99	15,6	A
4.6	24,6	1,5	16	3260	1,93	,89	-	-	,95	16,3	A
4.8	27,7	1,7	17	3520	1,94	,93	-	-	1,07	14,4	A
5.0	28,7	1,6	18	3720	1,94	,97	-	-	1,11	13,9	A
5.2	23,7	1,7	14	3900	1,93	1,00	-	-	,91	16,9	A
5.4	22,7	1,6	14	4080	1,93	1,04	-	-	,87	17,6	A
5.6	19,7	1,7	12	4170	1,63	1,08	-	-	,74	18,8	T
5.8	15,9	1,3	12	4280	1,59	1,11	-	-	,59	23,3	T
6.0	20,9	,8	26	4320	1,92	1,15	-	-	,79	19,1	AL
6.2	21,9	,5	41	4320	1,71	1,18	-	-	,83	15,2	L
6.4	12,9	,6	22	4270	1,91	1,22	-	-	,47	20,6	A
6.6	8,9	,5	17	4200	1,85	1,25	-	-	,31	25,1	A
6.8	10	,5	21	4230	1,90	1,29	-	-	,35	23,4	A
7.0	22	1,2	18	4240	1,93	1,33	-	-	,83	18,2	A
7.2	23	,8	29	4240	1,93	1,37	-	-	,87	17,4	L
7.4	11	,7	15	4140	1,90	1,41	-	-	,38	22,2	A
7.6	7	,5	13	4080	1,50	1,44	-	-	,22	46,2	T
7.8	9,2	,4	23	4040	1,86	1,48	-	-	,31	24,6	A
8.0	13,2	,5	28	4120	1,91	1,51	-	-	,47	20,4	AL
8.2	30,2	,7	41	4220	1,75	1,55	29	-	-	11,0	SL
8.4	37,2	,7	51	4350	1,79	1,58	29	24	-	9,0	SS
8.6	29,2	1,3	23	4170	1,94	1,62	-	-	1,10	13,7	AL
8.8	20,3	1,2	17	4210	1,92	1,66	-	-	,75	19,7	A
9.0	25,3	,3	76	4250	1,73	1,70	28	9	-	13,2	SS
9.2	17,3	1,3	13	4310	1,60	1,73	-	-	,62	21,4	T
9.4	29,3	,3	110	4410	1,75	1,76	28	14	-	11,4	SS
9.6	40,3	1,1	38	4430	1,80	1,80	30	-	-	8,3	SL
9.8	39,4	1,1	37	4350	1,80	1,83	30	-	-	8,5	SL
10.0	27,4	1,5	19	4240	1,94	1,87	-	-	1,02	14,6	A

PROFONDITA' [metri]	Qc [Kg/cmq]	Fs [Kg/cmq]	Qc/Fs	Qt [Kgf]	Gamma [Kg/dmc]	Sigma Ivo [Kg/cmq]	Fi [gradi]	D _p [%]	C _u [Kg/cmq]	m _v [cmq/t]	Colonna Stratig.
10.2	39,4	1,2	33	4030	1,80	1,91	30	-	-	8,5	SL
10.4	47,4	1,1	42	4120	1,84	1,94	30	-	-	7,0	SL
10.6	48,4	1	48	4210	1,84	1,98	29	28	-	6,9	SS
10.8	47,6	1,3	38	4340	1,84	2,02	30	-	-	7,0	SL
11.0	44,6	1,3	35	4320	1,82	2,05	30	-	-	7,5	SL
11.2	44,6	,9	48	4070	1,82	2,09	30	-	-	7,5	SL
11.4	30,6	1,4	22	4070	1,95	2,13	-	-	1,14	13,1	A
11.6	37,6	,6	63	3680	1,79	2,16	28	18	-	8,9	SS
11.8	18,7	1,5	12	3960	1,62	2,20	-	-	,66	19,8	T
12.0	40,7	,6	68	3870	1,80	2,23	28	20	-	8,2	SS
12.2	44,7	1,2	37	4080	1,82	2,27	30	-	-	7,5	SL
12.4	45,7	,9	49	4170	1,83	2,31	28	23	-	7,3	SS
12.6	57,7	1,7	35	4320	1,89	2,34	31	-	-	5,8	SL
12.8	60,8	1,3	48	4400	1,90	2,38	29	32	-	5,5	SS
13.0	46,8	1,5	32	4390	1,83	2,42	30	-	-	7,1	SL
13.2	52,8	1,7	32	4330	1,86	2,46	31	-	-	6,3	SL
13.4	53,8	1,3	40	4160	1,87	2,49	31	-	-	6,2	SL
13.6	51,8	1,3	39	4320	1,86	2,53	31	-	-	6,4	SL
13.8	53,9	1,6	34	4200	1,87	2,57	31	-	-	6,2	SL
14.0	52,9	1,6	33	4090	1,86	2,60	31	-	-	6,3	SL
14.2	50,9	1,7	31	4010	1,85	2,64	31	-	-	6,5	SL
14.4	51,9	1,7	30	3950	1,86	2,68	31	-	-	6,4	SL
14.6	42,9	1,4	31	3810	1,81	2,71	30	-	-	7,8	SL
14.8	26,1	1,5	17	3470	1,94	2,75	-	-	,93	15,3	A
15.0	17,1	1,2	14	3420	1,92	2,79	-	-	,57	19,4	A

PENETROMETRO DINAMICO tipo MEDIO - (DPM) uso rivestimento/fanghi iniezione : NO

M = 30.0 kg - H = 0.20 m - A = 10.00 cm - D = 35.7 mm N = N(10) [= 10 cm]

Cantiere : Via Castellare quota inizio : p.c.

Localit : S. Croce sull'Arno prof. falda = ---

note : - data : Maggio 1997

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prof.(m)	N (colpi)	Rpd(kg/cm)	asta	prof.(m)	N (colpi)	Rpd(kg/cm)	asta
0.00- 0.10	1.0	5.6	1	2.80- 2.90	4.0	18.2	4
0.10- 0.20	2.0	11.1	1	2.90- 3.00	4.0	18.2	4
0.20- 0.30	2.0	11.1	1	3.00- 3.10	5.0	22.7	4
0.30- 0.40	1.0	5.6	1	3.10- 3.20	4.0	18.2	4
0.40- 0.50	3.0	16.7	1	3.20- 3.30	6.0	27.3	4
0.50- 0.60	3.0	16.7	1	3.30- 3.40	8.0	36.4	4
0.60- 0.70	2.0	11.1	1	3.40- 3.50	12.0	54.5	4
0.70- 0.80	4.0	22.2	1	3.50- 3.60	10.0	45.5	4
0.80- 0.90	3.0	15.5	2	3.60- 3.70	10.0	45.5	4
0.90- 1.00	5.0	25.9	2	3.70- 3.80	15.0	68.2	4
1.00- 1.10	4.0	20.7	2	3.80- 3.90	10.0	42.9	5
1.10- 1.20	5.0	25.9	2	3.90- 4.00	9.0	38.6	5
1.20- 1.30	4.0	20.7	2	4.00- 4.10	9.0	38.6	5
1.30- 1.40	3.0	15.5	2	4.10- 4.20	15.0	64.3	5
1.40- 1.50	4.0	20.7	2	4.20- 4.30	20.0	85.7	5
1.50- 1.60	5.0	25.9	2	4.30- 4.40	15.0	64.3	5
1.60- 1.70	6.0	31.0	2	4.40- 4.50	15.0	64.3	5
1.70- 1.80	5.0	25.9	2	4.50- 4.60	16.0	68.6	5
1.80- 1.90	4.0	19.4	3	4.60- 4.70	14.0	60.0	5
1.90- 2.00	4.0	19.4	3	4.70- 4.80	12.0	51.4	5
2.00- 2.10	3.0	14.5	3	4.80- 4.90	14.0	56.8	6
2.10- 2.20	5.0	24.2	3	4.90- 5.00	12.0	48.6	6
2.20- 2.30	4.0	19.4	3	5.00- 5.10	14.0	56.8	6
2.30- 2.40	6.0	29.0	3	5.10- 5.20	14.0	56.8	6
2.40- 2.50	7.0	33.9	3	5.20- 5.30	18.0	73.0	6
2.50- 2.60	8.0	38.7	3	5.30- 5.40	14.0	56.8	6
2.60- 2.70	8.0	38.7	3	5.40- 5.50	15.0	60.8	6
2.70- 2.80	5.0	24.2	3				

PROFONDITA' [metri]	Qc [Kg/cmq]	Ps [Kg/cmq]	Qc/Ps	Qt [Kg]	Gamma [Kg/dmc]	Sigma IVO [Kg/cmq]	Pi [gradi]	Dp [%]	Cu [Kg/cmq]	mv [cmq/t]	Colonna Stratig.
0.2					1,80	,04	-	-	-	-	
0.4					1,80	,07	-	-	-	-	
0.6	10,1	1,4	7	420	1,53	,10	-	-	,40	36,7	T
0.8	10,3	1,1	10	370	1,53	,13	-	-	,41	36,0	T
1.0	9,3	1,1	8	780	1,52	,16	-	-	,37	38,5	T
1.2	65,3	1,1	61	770	1,93	,20	42	90	-	5,1	SG
1.4	29,3	1,1	26	1030	1,94	,24	-	-	1,16	13,7	AL
1.6	22,3	,9	24	700	1,93	,28	-	-	,88	17,9	AL
1.8	19,4	1,8	11	670	1,62	,31	-	-	,76	19,1	T
2.0	17,4	1,9	9	620	1,60	,34	-	-	,68	21,3	T
2.2	16,4	1,6	10	590	1,59	,38	-	-	,64	22,6	T
2.4	18,4	1,4	13	610	1,61	,41	-	-	,72	20,1	T
2.6	22,4	1,3	18	720	1,93	,45	-	-	,88	17,9	A
2.8	24,5	1,5	16	790	1,93	,49	-	-	,96	16,3	A
3.0	21,5	1,6	13	800	1,93	,52	-	-	,84	18,6	A
3.2	16,5	1,3	13	800	1,60	,56	-	-	,64	22,4	T
3.4	16,5	,7	23	770	1,91	,59	-	-	,64	19,4	A
3.6	13,5	,7	18	830	1,91	,63	-	-	,51	20,3	A
3.8	18,6	,7	25	940	1,92	,67	-	-	,72	19,6	AL
4.0	17,6	,9	19	1090	1,92	,71	-	-	,68	19,4	A
4.2	22,6	1	23	1160	1,93	,75	-	-	,87	17,7	A
4.4	26,6	,9	29	1230	1,94	,79	-	-	1,03	15,0	AL
4.6	20,6	1,4	15	1380	1,92	,82	-	-	,79	19,4	A
4.8	21,7	1,4	16	1460	1,93	,86	-	-	,83	18,4	A
5.0	22,7	1,3	18	1620	1,93	,90	-	-	,87	17,6	A
5.2	23,7	1,1	22	1690	1,93	,94	-	-	,91	16,9	A
5.4	16,7	1,3	13	1800	1,60	,97	-	-	,63	22,2	T
5.6	14,7	1,3	11	1900	1,58	1,00	-	-	,55	25,2	T
5.8	14,9	1,1	13	2090	1,58	1,04	-	-	,55	24,9	T
6.0	15,9	1	16	2210	1,91	1,07	-	-	,59	19,5	A
6.2	12,9	1,1	12	2260	1,56	1,11	-	-	,47	28,7	T
6.4	10,9	,9	13	2290	1,54	1,14	-	-	,39	34,0	T
6.6	9,9	,7	15	2310	1,53	1,17	-	-	,35	37,2	T
6.8	12	,5	26	2300	1,90	1,20	-	-	,43	21,2	A
7.0	9	,4	23	2330	1,85	1,24	-	-	,31	24,9	A
7.2	12	,4	30	2350	1,90	1,28	-	-	,43	21,2	AL
7.4	10	,5	21	2460	1,90	1,32	-	-	,35	23,4	A
7.6	16	,2	80	2420	1,68	1,35	28	2	-	16,7	SS
7.8	10,2	,5	19	2560	1,90	1,39	-	-	,35	23,1	A
8.0	20,2	,3	61	2440	1,70	1,42	28	6	-	16,5	SS
8.2	16,2	,7	24	2630	1,91	1,46	-	-	,59	19,4	A
8.4	19,2	1	19	2730	1,92	1,50	-	-	,71	19,7	A
8.6	31,2	1,1	29	2770	1,95	1,54	-	-	1,19	12,8	AL
8.8	37,3	1,3	29	2670	1,79	1,57	30	-	-	8,9	SL
9.0	11,3	1,1	10	2570	1,54	1,61	-	-	,39	32,8	T
9.2	11,3	1	11	2520	1,54	1,64	-	-	,39	32,8	T
9.4	24,3	,1	182	2760	1,92	1,67	28	8	-	13,7	SS
9.6	49,3	,9	57	2910	1,85	1,71	30	32	-	6,8	SS
9.8	53,4	,9	62	3090	1,87	1,75	30	34	-	6,2	SS
10.0	47,4	,9	55	3100	1,84	1,79	29	30	-	7,0	SS

PROFONDITA' [metri]	Qc [Kg/cmq]	Fs [Kg/cmq]	Qc/Fs	Qt [Kgf]	Gamma [Kg/dmc]	Sigma I _{VO} [Kg/cmq]	Fi [gradi]	D _R [%]	C _u [Kg/cmq]	m _y [cmq/t]	Colonna Stratig.
0.2					1,80	,04	-	-	-	-	
0.4					1,80	,07	-	-	-	-	
0.6	5,1	,6	9	310	1,48	,10	-	-	,20	58,8	T
0.8	7,3	,3	22	210	1,77	,14	-	-	,29	28,8	A
1.0	16,3	,7	24	850	1,91	,18	-	-	,64	19,4	A
1.2	83,3	,9	89	860	2,02	,22	43	97	-	4,0	SG
1.4	32,3	2,9	11	1020	1,95	,25	-	-	1,28	12,4	A
1.6	21,3	1,1	20	620	1,93	,29	-	-	,84	18,8	A
1.8	14,4	1,1	14	500	1,57	,32	-	-	,56	25,7	T
2.0	17,4	1,5	12	550	1,60	,36	-	-	,68	21,3	T
2.2	19,4	1,5	13	710	1,92	,40	-	-	,76	19,8	A
2.4	21,4	1,3	16	850	1,93	,43	-	-	,84	18,7	A
2.6	19,4	2,1	9	840	1,62	,47	-	-	,76	19,1	T
2.8	18,5	2,1	9	810	1,62	,50	-	-	,72	20,0	T
3.0	17,5	1,6	11	890	1,61	,53	-	-	,68	21,2	T
3.2	24,5	1,5	17	1030	1,93	,57	-	-	,96	16,3	A
3.4	26,5	2	13	1150	1,94	,61	-	-	1,04	15,1	A
3.6	23,5	1,4	17	1230	1,93	,65	-	-	,91	17,0	A
3.8	25,6	1,7	15	1370	1,93	,69	-	-	1,00	15,6	A
4.0	26,6	1,8	15	1570	1,94	,72	-	-	1,04	15,0	A
4.2	26,6	1,9	14	1750	1,94	,76	-	-	1,03	15,0	A
4.4	24,6	1,7	14	1960	1,93	,80	-	-	,95	16,3	A
4.6	22,6	1,6	14	2070	1,93	,84	-	-	,87	17,7	A
4.8	21,7	1,5	14	2210	1,93	,88	-	-	,83	18,4	A
5.0	16,7	1,3	13	2330	1,60	,91	-	-	,63	22,2	T
5.2	18,7	1,4	13	2440	1,92	,95	-	-	,71	19,6	A
5.4	15,7	1,3	12	2510	1,59	,98	-	-	,59	23,6	T
5.6	10,7	1,1	9	2490	1,54	1,01	-	-	,39	34,6	T
5.8	13,9	,9	16	2600	1,91	1,05	-	-	,51	20,1	A
6.0	13,9	,9	15	2710	1,91	1,09	-	-	,51	20,1	A
6.2	14,9	1	15	2850	1,91	1,13	-	-	,55	19,7	A
6.4	14,9	1,1	13	2950	1,58	1,16	-	-	,55	24,9	T
6.6	13,9	,6	23	2990	1,91	1,20	-	-	,51	20,1	A
6.8	12	1,1	11	3010	1,55	1,23	-	-	,43	30,9	T
7.0	11	1	11	3060	1,54	1,26	-	-	,39	33,7	T
7.2	14	,6	23	3160	1,91	1,30	-	-	,51	20,0	A
7.4	20	,7	27	3200	1,92	1,33	-	-	,75	20	AL
7.6	14	,9	16	3160	1,91	1,37	-	-	,51	20,0	A
7.8	15,2	1	15	3300	1,91	1,41	-	-	,55	19,6	A
8.0	28,2	,4	71	3290	1,74	1,45	28	17	-	11,8	SS
8.2	20,2	1,3	16	3400	1,92	1,48	-	-	,75	19,8	A
8.4	24,2	,5	52	3200	1,72	1,52	28	10	-	13,8	SS
8.6	7,2	,9	8	3130	1,50	1,55	-	-	,23	45,3	T
8.8	10,3	,9	11	3020	1,53	1,58	-	-	,35	36,0	T
9.0	10,3	,5	19	3010	1,90	1,62	-	-	,35	23,0	A
9.2	10,3	,5	19	3010	1,90	1,65	-	-	,35	23,0	A
9.4	9,3	,6	16	3110	1,87	1,69	-	-	,30	24,4	A
9.6	22,3	,3	67	3210	1,71	1,73	28	5	-	14,9	SS
9.8	28,4	,8	36	3230	1,74	1,76	28	-	-	11,7	SL
10.0	23,4	,9	27	3250	1,93	1,80	-	-	,86	17,1	AL

I	PROF.	QC	RL	FS.	X	I	PROF.	QC	RL	FS.	X	I	PROF.	QC	RL	FS.	X	I
I	0.00	1	1	0.00	0.00	I	10.00	9	14	0.33	27.27	I						I
I	0.20	72	83	0.73	98.63	I	10.20	8	13	0.33	24.24	I						I
	0.40	87	94	0.47	185.11	I	10.40	9	15	0.40	22.50	I						I
	0.60	24	43	1.27	18.90	I	10.60	9	16	0.47	19.15	I						I
I	0.80	13	32	1.27	10.24	I						I						I
I	1.00	37	43	0.40	92.50	I						I						I
	1.20	8	18	0.67	11.94	I						I						I
	1.40	12	22	0.67	17.91	I						I						I
I	1.60	15	26	0.73	20.55	I						I						I
	1.80	10	23	0.87	11.49	I						I						I
	2.00	10	22	0.80	12.50	I						I						I
I	2.20	15	27	0.80	18.75	I						I						I
	2.40	17	32	1.00	17.00	I						I						I
	2.60	17	33	1.07	15.89	I						I						I
I	2.80	14	32	1.20	11.67	I						I						I
I	3.00	18	33	1.00	18.00	I						I						I
	3.20	22	40	1.20	18.33	I						I						I
	3.40	20	40	1.33	15.04	I						I						I
I	3.60	19	38	1.27	14.96	I						I						I
	3.80	16	35	1.27	12.60	I						I						I
	4.00	17	34	1.13	15.04	I						I						I
I	4.20	17	36	1.27	13.39	I						I						I
	4.40	20	36	1.07	18.69	I						I						I
	4.60	21	43	1.47	14.29	I						I						I
	4.80	23	41	1.20	19.17	I						I						I
I	5.00	24	43	1.27	18.90	I						I						I
	5.20	24	46	1.47	16.33	I						I						I
	5.40	26	48	1.47	17.69	I						I						I
I	5.60	24	46	1.47	16.33	I						I						I
	5.80	23	42	1.27	18.11	I						I						I
	6.00	20	36	1.07	18.69	I						I						I
I	6.20	16	32	1.07	14.95	I						I						I
I	6.40	16	30	0.93	17.20	I						I						I
	6.60	14	26	0.80	17.50	I						I						I
	6.80	13	26	0.87	14.94	I						I						I
I	7.00	14	24	0.67	20.90	I						I						I
	7.20	13	25	0.80	16.25	I						I						I
	7.40	13	25	0.80	16.25	I						I						I
I	7.60	12	23	0.73	16.44	I						I						I
	7.80	13	22	0.60	21.67	I						I						I
	8.00	15	24	0.60	25.00	I						I						I
I	8.20	17	28	0.73	23.29	I						I						I
I	8.40	17	29	0.80	21.25	I						I						I
	8.60	17	29	0.80	21.25	I						I						I
I	8.80	15	27	0.80	18.75	I						I						I
I	9.00	11	20	0.60	18.33	I						I						I
	9.20	7	13	0.40	17.50	I						I						I
	9.40	6	10	0.27	22.22	I						I						I
	9.60	8	11	0.20	40.00	I						I						I
I	9.80	9	14	0.33	27.27	I						I						I

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LEGENDA : PROF. = PROFONDITA' DI INFISSIONE CM. FS = RESISTENZA SPECIFICA AL MANICOTTO dN/cm
 QC = RESISTENZA SPECIFICA ALLA PUNTA dN/cm X = RAPPORTO QC/FS %
 RL = RESISTENZA LATERALE TOTALE dN/cm

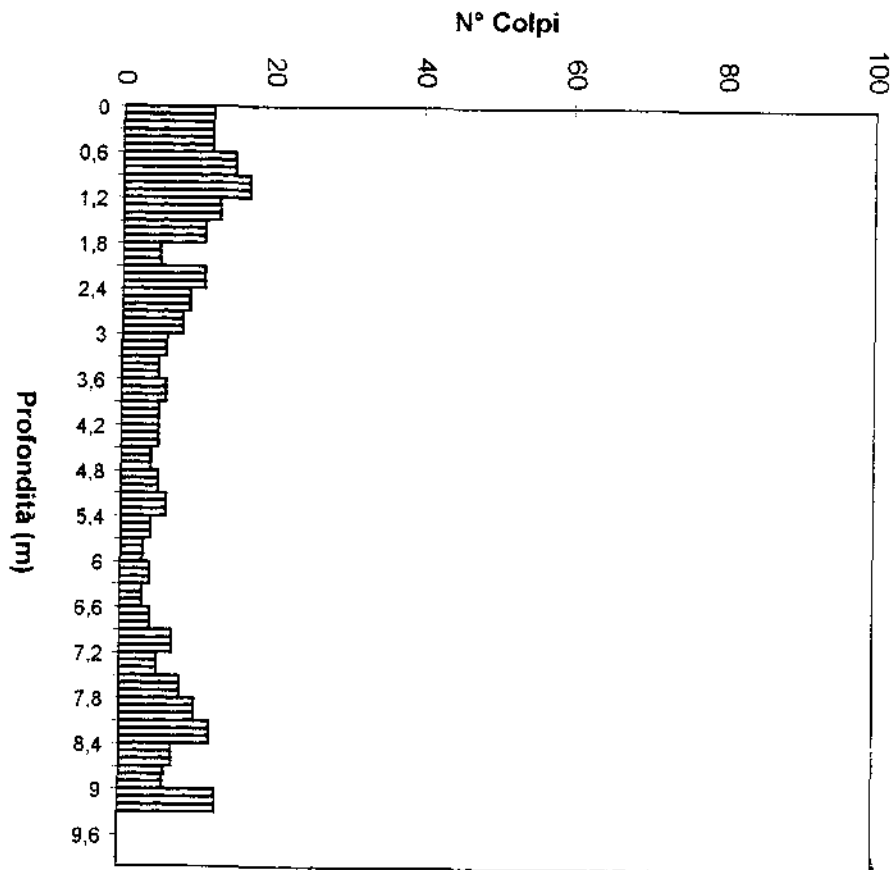
LITOLOGIA : T=TORBE A=ARGILLA LA=LIMI ARGILLOSI LS=LIMI SABBIOSI SL=SABBIE LIMOSE
 S=SABBIE SG=SABBIE E GHIAIA AG=TERRENO AGRICOLO

I	PROF.	QC	RL	FS.	X	I	PROF.	QC	RL	FS.	X	I	PROF.	QC	RL	FS.	X	I
I	0.00	1	1	0.00	0.00	I	10.00	15	31	1.07	14.02	I						I
I	0.20	94	106	0.80	117.50	I	10.20	10	23	0.87	11.49	I						I
I	0.40	103	121	1.20	85.83	I	10.40	10	16	0.40	25.00	I						I
I	0.60	36	60	1.60	22.50	I	10.60	13	19	0.40	32.50	I						I
I	0.80	35	69	2.27	15.42	I						I						I
I	1.00	23	33	0.67	34.33	I						I						I
I	1.20	11	20	0.60	18.33	I						I						I
I	1.40	15	26	0.73	20.55	I						I						I
I	1.60	11	23	0.80	13.75	I						I						I
I	1.80	10	19	0.60	16.67	I						I						I
I	2.00	15	25	0.67	22.39	I						I						I
I	2.20	19	33	0.93	20.43	I						I						I
I	2.40	22	38	1.07	20.56	I						I						I
I	2.60	23	42	1.27	18.11	I						I						I
I	2.80	24	42	1.20	20.00	I						I						I
I	3.00	23	41	1.20	19.17	I						I						I
I	3.20	20	38	1.20	16.67	I						I						I
I	3.40	16	32	1.07	14.95	I						I						I
I	3.60	18	33	1.00	18.00	I						I						I
I	3.80	24	38	0.93	25.81	I						I						I
I	4.00	25	43	1.20	20.83	I						I						I
I	4.20	27	45	1.20	22.50	I						I						I
I	4.40	26	46	1.33	19.55	I						I						I
I	4.60	28	45	1.13	24.78	I						I						I
I	4.80	27	47	1.33	20.30	I						I						I
I	5.00	27	48	1.40	19.29	I						I						I
I	5.20	25	44	1.27	19.69	I						I						I
I	5.40	25	40	1.00	25.00	I						I						I
I	5.60	20	37	1.13	17.70	I						I						I
I	5.80	16	31	1.00	16.00	I						I						I
I	6.00	15	28	0.87	17.24	I						I						I
I	6.20	16	28	0.80	20.00	I						I						I
I	6.40	13	26	0.87	14.94	I						I						I
I	6.60	10	22	0.80	12.50	I						I						I
I	6.80	12	21	0.60	20.00	I						I						I
I	7.00	12	23	0.73	16.44	I						I						I
I	7.20	12	22	0.67	17.91	I						I						I
I	7.40	11	21	0.67	16.42	I						I						I
I	7.60	12	22	0.67	17.91	I						I						I
I	7.80	13	23	0.67	19.40	I						I						I
I	8.00	16	28	0.80	20.00	I						I						I
I	8.20	17	29	0.80	21.25	I						I						I
I	8.40	12	23	0.73	16.44	I						I						I
I	8.60	9	18	0.60	15.00	I						I						I
I	8.80	7	13	0.40	17.50	I						I						I
I	9.00	8	12	0.27	29.63	I						I						I
I	9.20	8	13	0.33	24.24	I						I						I
I	9.40	8	12	0.27	29.63	I						I						I
I	9.60	9	15	0.40	22.50	I						I						I
I	9.80	12	31	1.27	9.45	I						I						I

8917

LEGENDA :		PROF. = PROFONDITA' DI INFISSIONE	CM.	FS = RESISTENZA SPECIFICA AL MANICOTTO	dN/caq
		QC = RESISTENZA SPECIFICA ALLA PUNTA	dN/caq	X = RAPPORTO QC/FS	%
		RL = RESISTENZA LATERALE TOTALE	dN/caq		
LITOLOGIA :	T=TORBE	A=ARGILLA	LA=LIMI ARGILLOSI	LS=LIMI SABBIOSI	SL=SABBIE LIMOSE
	S=SABBIE	SG=SABBIE E GHIAIA	AG=TERRENO AGRICOLO		

Profondità	N° colpi
0,0—0,3	12
0,3—0,6	12
0,6—0,9	15
0,9—1,2	17
1,2—1,5	13
1,5—1,8	11
1,8—2,1	5
2,1—2,4	11
2,4—2,7	9
2,7—3,0	8
3,0—3,3	6
3,3—3,6	5
3,6—3,9	6
3,9—4,2	5
4,2—4,5	5
4,5—4,8	4
4,8—5,1	5
5,1—5,4	6
5,4—5,7	4
5,7—6,0	3
6,0—6,3	4
6,3—6,6	3
6,6—6,9	4
6,9—7,2	7
7,2—7,5	5
7,5—7,8	8
7,8—8,1	10
8,1—8,4	12
8,4—8,7	7
8,7—9,0	6
9,0—9,3	13
9,3—9,6	
9,6—9,9	
9,9—10,2	



prof. cm	σ_0	σ_w	σ'_0	Qc	Fs	FR	Cu	Dr	ϕ gradi	E Kg/cmq	Cc/1+eo
	Kg/cmq						Kg/cmq				
60	0.110	0.00	0.110	14.0	0.53	26.3	0.64	0.00	0.0	35.0	.05
80	0.147	0.00	0.147	18.0	0.60	30.0	0.82	0.00	0.0	45.0	.05
100	0.184	0.00	0.184	23.0	0.73	31.4	1.05	0.00	0.0	103.5	.05
120	0.221	0.01	0.211	24.0	1.13	21.2	1.10	0.00	0.0	108.0	.05
140	0.259	0.03	0.229	25.0	1.00	25.0	1.15	0.00	0.0	112.5	.05
160	0.296	0.05	0.246	23.0	0.80	28.8	1.06	0.00	0.0	103.5	.05
180	0.333	0.07	0.263	17.0	0.53	31.9	0.78	0.00	0.0	42.5	.10
200	0.370	0.09	0.280	15.0	0.33	45.0	0.00	32.10	33.4	45.0	.00
220	0.406	0.11	0.296	12.0	0.27	45.0	0.00	23.05	32.2	36.0	.00
240	0.443	0.13	0.313	16.0	0.47	34.3	0.00	31.83	32.5	48.0	.00
260	0.480	0.15	0.330	17.0	0.20	85.0	0.00	32.75	36.6	51.0	.00
280	0.516	0.17	0.346	13.0	0.53	24.4	0.60	0.00	0.0	32.5	.10
300	0.553	0.19	0.363	15.0	0.40	37.5	0.00	26.23	32.0	45.0	.00
320	0.590	0.21	0.380	16.0	0.47	34.3	0.00	27.46	31.9	48.0	.00
340	0.626	0.23	0.396	14.0	0.27	52.5	0.00	21.84	32.7	42.0	.00
360	0.663	0.25	0.413	17.0	0.53	31.9	0.79	0.00	0.0	42.5	.10
380	0.700	0.27	0.430	21.0	0.73	28.6	0.98	0.00	0.0	94.5	.10
400	0.737	0.29	0.447	19.0	0.67	28.5	0.89	0.00	0.0	47.5	.10
420	0.774	0.31	0.464	14.0	0.47	30.0	0.66	0.00	0.0	35.0	.10
440	0.810	0.33	0.480	11.0	0.40	27.5	0.52	0.00	0.0	27.5	.10
460	0.846	0.35	0.496	12.0	0.33	36.0	0.00	11.36	29.8	36.0	.00
480	0.883	0.37	0.513	13.0	0.53	24.4	0.61	0.00	0.0	32.5	.10
500	0.919	0.39	0.529	15.0	0.60	25.0	0.71	0.00	0.0	37.5	.10
520	0.955	0.41	0.545	11.0	0.27	41.3	0.00	6.19	29.7	33.0	.00
540	0.991	0.43	0.561	10.0	0.27	37.5	0.00	2.22	28.8	30.0	.00
560	1.027	0.45	0.577	10.0	0.27	37.5	0.00	1.58	28.7	30.0	.00
580	1.063	0.47	0.593	9.0	0.27	33.8	0.00	0.00	27.7	27.0	.00
600	1.098	0.49	0.608	8.0	0.33	24.0	0.38	0.00	0.0	20.0	.15
620	1.134	0.51	0.624	9.0	0.33	27.0	0.43	0.00	0.0	22.5	.15
640	1.170	0.53	0.640	9.0	0.33	27.0	0.43	0.00	0.0	22.5	.15
660	1.205	0.55	0.655	9.0	0.40	22.5	0.43	0.00	0.0	22.5	.15
680	1.241	0.57	0.671	10.0	0.33	30.0	0.48	0.00	0.0	25.0	.15
700	1.277	0.59	0.687	10.0	0.27	37.5	0.00	0.00	28.1	30.0	.00
720	1.313	0.61	0.703	8.0	0.13	60.0	0.00	0.00	30.2	24.0	.00
740	1.347	0.63	0.717	4.0	0.20	20.0	0.19	0.00	0.0	10.0	.30
760	1.382	0.65	0.732	6.0	0.20	30.0	0.29	0.00	0.0	15.0	.30
780	1.417	0.67	0.747	7.0	0.20	35.0	0.00	0.00	25.9	21.0	.00
800	1.453	0.69	0.763	7.0	0.20	35.0	0.00	0.00	25.8	21.0	.00
820	1.488	0.71	0.778	6.0	0.20	30.0	0.29	0.00	0.0	15.0	.30
840	1.523	0.73	0.793	9.0	0.53	16.9	0.43	0.00	0.0	22.5	.15
860	1.560	0.75	0.810	17.0	0.67	25.5	0.82	0.00	0.0	42.5	.10
880	1.598	0.77	0.828	22.0	0.53	41.3	0.00	20.90	31.6	66.0	.00
900	1.635	0.79	0.845	25.0	0.27	93.8	0.00	24.88	36.6	75.0	.00
920	1.673	0.81	0.863	23.0	0.47	49.3	0.00	21.51	32.4	69.0	.00
940	1.709	0.83	0.879	11.0	0.27	41.3	0.00	0.00	28.3	33.0	.00

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs
0,20	---	---	---	---	---
0,40	---	---	---	---	---
0,60	---	---	---	0,93	---
0,80	23,0	37,0	23,0	2,13	11,0
1,00	147,0	179,0	147,0	1,07	138,0
1,20	57,0	73,0	57,0	1,53	37,0
1,40	24,0	47,0	24,0	0,67	36,0
1,60	15,0	25,0	15,0	0,93	16,0
1,80	13,0	27,0	13,0	1,00	13,0
2,00	14,0	29,0	14,0	1,07	13,0
2,20	19,0	35,0	19,0	1,07	18,0
2,40	30,0	46,0	30,0	2,00	15,0
2,60	28,0	58,0	28,0	2,47	11,0
2,80	30,0	67,0	30,0	2,40	12,0
3,00	28,0	64,0	28,0	2,00	14,0
3,20	23,0	53,0	23,0	1,33	17,0
3,40	21,0	41,0	21,0	0,73	29,0
3,60	23,0	34,0	23,0	1,27	18,0
3,80	18,0	37,0	18,0	1,00	18,0
4,00	13,0	28,0	13,0	0,67	19,0
4,20	9,0	19,0	9,0	0,60	15,0
4,40	18,0	27,0	18,0	0,60	30,0
4,60	12,0	21,0	12,0	0,73	16,0
4,80	16,0	27,0	16,0	0,67	24,0
5,00	19,0	29,0	19,0	0,93	20,0

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs
5,20	17,0	31,0	17,0	0,80	21,0
5,40	11,0	23,0	11,0	0,47	24,0
5,60	10,0	17,0	10,0	0,53	19,0
5,80	19,0	27,0	19,0	0,40	47,0
6,00	10,0	16,0	10,0	0,27	37,0
6,20	19,0	23,0	19,0	0,47	41,0
6,40	14,0	21,0	14,0	0,40	35,0
6,60	12,0	18,0	12,0	0,47	26,0
6,80	13,0	20,0	13,0	0,73	18,0
7,00	13,0	24,0	13,0	0,53	24,0
7,20	22,0	30,0	22,0	0,47	47,0
7,40	10,0	17,0	10,0	0,47	21,0
7,60	10,0	17,0	10,0	0,53	19,0
7,80	13,0	21,0	13,0	0,33	39,0
8,00	8,0	13,0	8,0	0,40	20,0
8,20	31,0	37,0	31,0	0,33	93,0
8,40	9,0	14,0	9,0	0,27	34,0
8,60	5,0	9,0	5,0	0,53	9,0
8,80	8,0	16,0	8,0	0,73	11,0
9,00	29,0	40,0	29,0	0,73	40,0
9,20	40,0	51,0	40,0	1,27	32,0
9,40	52,0	71,0	52,0	1,07	49,0
9,60	46,0	62,0	46,0	1,40	33,0
9,80	27,0	48,0	27,0	1,07	25,0
10,00	23,0	39,0	23,0	---	---

- PENETROMETRO STATICO tipo GOUDA da 10 t - (con anello allargatore) -
 - COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
 - punta meccanica tipo Begemann ø = 35.7 mm (area punta 10 cm² - apertura 60°)
 - manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs
											8934
0,20	---	---	--	---	---	5,20	14,0	20,0	14,0	0,67	21,0
0,40	---	---	--	---	---	5,40	15,0	25,0	15,0	0,67	22,0
0,60	---	---	--	0,73	---	5,60	16,0	26,0	16,0	0,67	24,0
0,80	27,0	38,0	27,0	2,20	12,0	5,80	18,0	28,0	18,0	0,60	30,0
1,00	64,0	97,0	64,0	1,40	46,0	6,00	16,0	25,0	16,0	0,60	27,0
1,20	38,0	59,0	38,0	0,67	57,0	6,20	11,0	20,0	11,0	0,67	16,0
1,40	26,0	36,0	26,0	0,53	49,0	6,40	9,0	19,0	9,0	1,00	9,0
1,60	8,0	16,0	8,0	0,53	15,0	6,60	18,0	33,0	18,0	0,47	39,0
1,80	12,0	20,0	12,0	0,53	22,0	6,80	22,0	29,0	22,0	1,07	21,0
2,00	14,0	22,0	14,0	0,67	21,0	7,00	23,0	39,0	23,0	1,07	22,0
2,20	22,0	32,0	22,0	0,73	30,0	7,20	26,0	42,0	26,0	1,00	26,0
2,40	25,0	36,0	25,0	0,73	34,0	7,40	22,0	37,0	22,0	0,93	24,0
2,60	21,0	32,0	21,0	0,47	45,0	7,60	16,0	30,0	16,0	0,53	30,0
2,80	19,0	26,0	19,0	0,60	32,0	7,80	38,0	46,0	38,0	1,13	34,0
3,00	19,0	28,0	19,0	0,73	26,0	8,00	40,0	57,0	40,0	1,20	33,0
3,20	19,0	30,0	19,0	0,80	24,0	8,20	31,0	49,0	31,0	1,27	24,0
3,40	19,0	31,0	19,0	0,73	26,0	8,40	36,0	55,0	36,0	1,20	30,0
3,60	20,0	31,0	20,0	0,73	27,0	8,60	31,0	49,0	31,0	1,13	27,0
3,80	17,0	28,0	17,0	0,60	28,0	8,80	27,0	44,0	27,0	0,93	29,0
4,00	16,0	25,0	16,0	0,60	27,0	9,00	23,0	37,0	23,0	0,80	29,0
4,20	22,0	31,0	22,0	0,87	25,0	9,20	21,0	33,0	21,0	0,67	31,0
4,40	19,0	32,0	19,0	0,87	22,0	9,40	11,0	21,0	11,0	0,60	18,0
4,60	17,0	30,0	17,0	0,67	25,0	9,60	15,0	24,0	15,0	0,47	32,0
4,80	17,0	27,0	17,0	0,53	32,0	9,80	38,0	45,0	38,0	0,93	41,0
5,00	15,0	23,0	15,0	0,40	37,0	10,00	27,0	41,0	27,0	---	---

- PENETROMETRO STATICO tipo GOUDA da 10 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann $\phi = 35.7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	Letture di campagna		Rp kg/cm ²	RL	Rp/RL	Prof. m	Letture di campagna		Rp kg/cm ²	RL	Rp/RL
	punta	laterale					punta	laterale			8936
0,20	5,5	7,0	11,0	0,13	82,0	3,40	7,5	15,0	15,0	0,87	17,0
0,40	5,5	6,5	11,0	0,93	12,0	3,60	9,0	15,5	18,0	1,07	17,0
0,60	7,0	14,0	14,0	0,40	35,0	3,80	10,0	18,0	20,0	1,20	17,0
0,80	12,0	15,0	24,0	0,27	90,0	4,00	9,0	18,0	18,0	1,27	14,0
1,00	11,0	13,0	22,0	0,47	47,0	4,20	10,0	19,5	20,0	1,07	19,0
1,20	6,5	10,0	13,0	0,67	19,0	4,40	10,0	18,0	20,0	1,13	18,0
1,40	7,5	12,5	15,0	0,67	22,0	4,60	11,0	19,5	22,0	1,20	18,0
1,60	7,0	12,0	14,0	0,60	23,0	4,80	11,0	20,0	22,0	1,33	16,0
1,80	5,5	10,0	11,0	0,47	24,0	5,00	11,0	21,0	22,0	1,40	16,0
2,00	5,5	9,0	11,0	0,60	18,0	5,20	11,5	22,0	23,0	1,40	16,0
2,20	7,0	11,5	14,0	0,73	19,0	5,40	11,0	21,5	22,0	1,27	17,0
2,40	8,5	14,0	17,0	0,87	20,0	5,60	12,0	21,5	24,0	1,27	19,0
2,60	8,5	15,0	17,0	0,93	18,0	5,80	8,5	18,0	17,0	1,07	16,0
2,80	8,5	15,5	17,0	1,07	16,0	6,00	8,0	16,0	16,0	1,07	15,0
3,00	7,5	15,5	15,0	0,93	16,0	6,20	8,5	16,5	17,0	—	—
3,20	8,5	15,5	17,0	1,00	17,0						

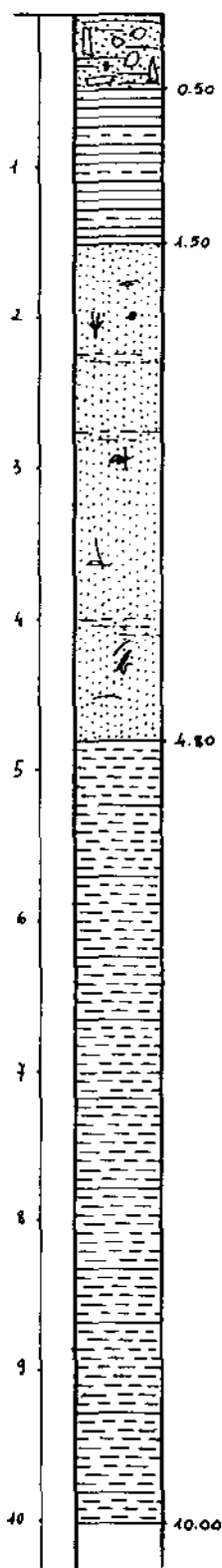
- PENETROMETRO STATICO tipo GOUDA da 8 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 20 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann ø = 35,7 mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	Lettture di campagna		Rp kg/cm ²	RL	Rp/RL
	punta	laterale			
0,20	2,0	3,0	4,0	0,20	20,0
0,40	4,5	6,0	9,0	0,27	34,0
0,60	5,0	7,0	10,0	0,40	25,0
0,80	5,5	8,5	11,0	0,53	21,0
1,00	8,0	12,0	16,0	0,93	17,0
1,20	8,0	15,0	16,0	0,87	18,0
1,40	7,0	13,5	14,0	0,80	17,0
1,60	7,0	13,0	14,0	0,87	16,0
1,80	7,0	13,5	14,0	0,67	21,0
2,00	9,0	14,0	18,0	1,07	17,0
2,20	10,0	18,0	20,0	1,40	14,0
2,40	9,0	19,5	18,0	1,07	17,0
2,60	8,0	16,0	16,0	0,93	17,0
2,80	6,0	13,0	12,0	0,60	20,0
3,00	5,0	9,5	10,0	0,80	12,0
3,20	5,0	11,0	10,0	0,67	15,0
3,40	6,5	11,5	13,0	0,80	16,0
3,60	7,0	13,0	14,0	1,07	13,0

Prof. m	Lettture di campagna		Rp kg/cm ²	RL	
	punta	laterale			
3,80	8,5	16,5	17,0	1,40	12,0
4,00	11,0	21,5	22,0	1,47	15,0
4,20	11,5	22,5	23,0	1,53	15,0
4,40	11,5	23,0	23,0	1,40	16,0
4,60	12,5	23,0	25,0	1,60	16,0
4,80	10,0	22,0	20,0	1,67	12,0
5,00	11,5	24,0	23,0	1,73	13,0
5,20	10,0	23,0	20,0	1,40	14,0
5,40	8,5	19,0	17,0	0,93	18,0
5,60	9,0	16,0	18,0	1,07	17,0
5,80	7,0	15,0	14,0	1,27	11,0
6,00	7,5	17,0	15,0	1,07	14,0
6,20	9,0	17,0	18,0	1,27	14,0
6,40	7,5	17,0	15,0	1,07	14,0
6,60	7,0	15,0	14,0	0,87	16,0
6,80	6,0	12,5	12,0	1,07	11,0
7,00	7,0	15,0	14,0	—	—

- PENETROMETRO STATICO tipo GOUDA da 8 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 20 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann $\phi = 35,7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Profondità	Rp	Rf	Rp/Rf	FR %	Litotipo (cl. secondo Searle)	Simb.	Comp.
(m)	(Kg/cmq)	(Kg/cmq)					
							8938
0,2	-	-	-	-	-		
0,4	-	-	-	-	-		
0,6	14	0,5	27	4	LIMO ARGILLOSO-SABBIOSO		
0,8	11	0,9	12	8	ARGILLA LIMOSA		
1,0	8	1,0	8	12	ARGILLA		
1,2	8	0,7	11	9	ARGILLA		
1,4	8	0,8	10	10	ARGILLA		
1,6	11	0,6	19	5	LIMO ARGILLOSO		
1,8	15	1,0	15	6	ARGILLA LIMOSA		
2,0	17	0,9	19	5	LIMO ARGILLOSO		
2,2	16	1,1	15	6	ARGILLA LIMOSA		
2,4	18	1,1	15	6	ARGILLA LIMOSA		
2,6	23	1,3	17	6	LIMO ARGILLOSO		
2,8	24	1,1	21	5	LIMO ARGILLOSO		
3,0	20	1,4	14	7	ARGILLA LIMOSA		
3,2	19	1,1	16	6	LIMO ARGILLOSO		
3,4	19	1,1	16	6	LIMO ARGILLOSO		
3,6	20	1,0	20	5	LIMO ARGILLOSO		
3,8	21	1,1	18	5	LIMO ARGILLOSO		
4,0	15	1,1	14	7	ARGILLA LIMOSA		
4,2	16	1,1	15	7	ARGILLA LIMOSA		
4,4	16	1,1	15	7	ARGILLA LIMOSA		
4,6	16	0,9	18	5	LIMO ARGILLOSO		
4,8	14	0,7	19	5	LIMO ARGILLOSO		
5,0	11	0,9	13	8	ARGILLA LIMOSA		
5,2	13	0,8	16	6	LIMO ARGILLOSO		
5,4	15	1,0	15	7	ARGILLA LIMOSA		
5,6	19	1,1	18	6	LIMO ARGILLOSO		
5,8	19	1,2	16	6	ARGILLA LIMOSA		
6,0	14	1,1	13	8	ARGILLA LIMOSA		
6,2	23	0,9	27	4	LIMO ARGILLOSO-SABBIOSO		
6,4	26	0,7	36	3	SABBIA ARGILLOSO-LIMOSA		
6,6	21	0,8	26	4	LIMO ARGILLOSO-SABBIOSO		
6,8	23	0,7	35	3	SABBIA ARGILLOSO-LIMOSA		
7,0	16	1,0	16	6	LIMO ARGILLOSO		
7,2	19	1,1	18	6	LIMO ARGILLOSO		
7,4	18	1,0	18	5	LIMO ARGILLOSO		
7,6	18	0,9	21	5	LIMO ARGILLOSO		
7,8	18	0,9	21	5	LIMO ARGILLOSO		
8,0	12	1,2	10	10	ARGILLA		
8,2	12	1,1	11	9	ARGILLA		
8,4	16	1,1	14	7	ARGILLA LIMOSA		
8,6	15	1,1	14	7	ARGILLA LIMOSA		
8,8	15	1,1	14	7	ARGILLA LIMOSA		
9,0	14	1,1	13	8	ARGILLA LIMOSA		
9,2	16	1,3	12	8	ARGILLA LIMOSA		
9,4	14	1,2	12	8	ARGILLA LIMOSA		
9,6	10	0,9	10	10	ARGILLA		
9,8	10	0,6	16	6	ARGILLA LIMOSA		
10,0	11	0,8	13	8	ARGILLA LIMOSA		

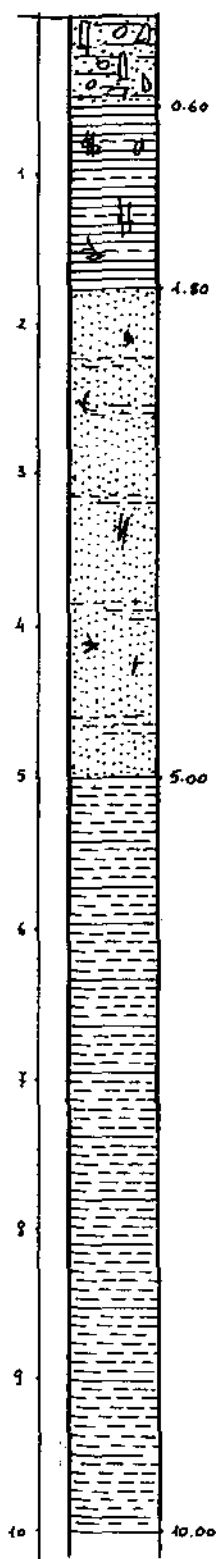


Materiale di riporto

Argilla leggermente limosa
marrone plastica

Sabbia fine leggermente
limosa con tracce di
torba, marrone, legger-
mente compattata

Limo appena argilloso
azzurro, plastico

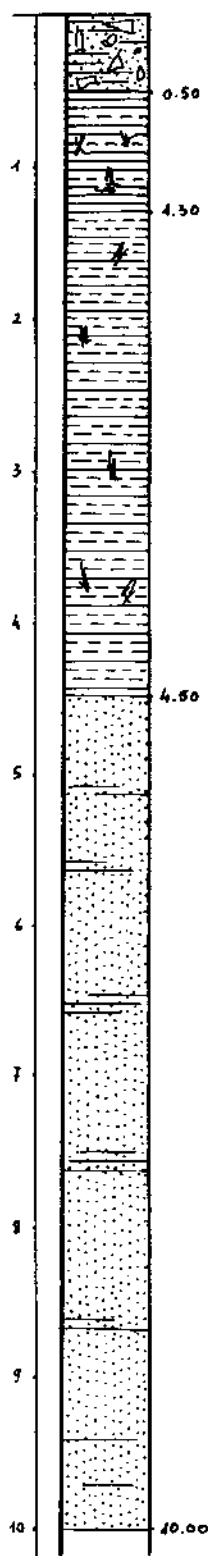


Materiali di riporto

Argilla limosa marrone
con tracce di torba, dura

Sabbia fine marrone, legger-
mente limosa, con tracce
di torba, leggermente com-
pattata

Limos appena argilloso
azzurro, plastico, con
tracce di torba



Materiale di riporto

Argilla limosa marrone
con tracce di torba, plastica

Limo argilloso marrone
duro, con tracce di torba

Sabbia fine leggermente ar-
gillosa, mediamente com-
pattata, azzurra, con rare
concrezioni calcaree

Prof.	H ₂ O	Rpt	Rat	Rt	Rat-Rpt	Ral	Rp/Ral	Rt-Rpt	fi	Dr	Cu	mv	Tipo litologico
0,20		60	110	140	50	0,33	18	80			0,30	25,93	Argilla
0,40		140	300	630	160	1,07	13	490			0,70	18,40	Argilla
0,60		400	460	720	60	0,40	100	320	31	32		14,50	Sabbia con ghiaia
0,80		410	650	800	240	1,60	26	390			1,37	14,30	Limo
1,00		370	390	950	20	0,13	278	580	31	30		15,06	Sabbia con ghiaia
1,20		440	570	1180	130	0,87	51	740	36	35		13,72	Sabbia limosa
1,40		460	690	1700	230	1,53	30	1240			1,53	13,33	Limo
1,60		380	620	1930	240	1,60	24	1550			1,52	14,87	Argilla
1,80		280	660	2080	380	2,53	11	1800			1,12	16,48	Argilla
2,00		210	580	2030	370	2,47	9	1820			0,84	17,25	Argilla
2,20		180	500	2040	320	2,13	8	1860			0,90	17,60	Argilla
2,40		130	430	2090	300	2,00	7	1960			0,65	18,72	Argilla
2,60		180	480	2070	300	2,00	9	1890			0,90	17,60	Argilla
2,80	#	230	540	2100	310	2,07	11	1870			0,92	17,04	Argilla
3,00		180	400	2150	220	1,47	12	1970			0,90	17,60	Argilla
3,20		230	520	2150	290	1,93	12	1920			0,92	17,04	Argilla
3,40		240	480	2230	240	1,60	15	1990			0,96	16,94	Argilla
3,60		280	630	2310	350	2,33	12	2030			1,12	16,48	Argilla
3,80		290	600	2380	310	2,07	14	2090			1,16	16,35	Argilla
4,00		190	420	2520	230	1,53	12	2330			0,95	17,47	Argilla
4,20		170	400	2670	230	1,53	11	2500			0,85	17,75	Argilla
4,40		190	460	2820	270	1,80	11	2630			0,95	17,47	Argilla
4,60		200	520	2900	320	2,13	9	2700			1,00	17,36	Argilla
4,80		180	480	2910	300	2,00	9	2730			0,90	17,60	Argilla
5,00		150	380	2880	230	1,53	10	2730			0,75	18,14	Argilla
5,20		130	340	2920	210	1,40	9	2790			0,65	18,72	Argilla
5,40		140	380	2960	240	1,60	9	2820			0,70	18,40	Argilla
5,60		200	460	2920	260	1,73	12	2720			1,00	17,36	Argilla
5,80		200	490	3040	290	1,93	10	2840			1,00	17,36	Argilla
6,00		170	440	3130	270	1,80	9	2960			0,85	17,75	Argilla
6,20		210	440	3140	230	1,53	14	2930			0,84	17,25	Argilla
6,40		200	490	3290	290	1,93	10	3090			1,00	17,36	Argilla
6,60		200	490	2500	290	1,93	10	3300			1,00	17,36	Argilla
6,80		240	520	3710	280	1,87	13	3470			0,96	16,94	Argilla
7,00		230	470	3800	240	1,60	14	3570			0,92	17,04	Argilla
7,20		160	370	3860	210	1,40	11	3700			0,80	17,93	Argilla
7,40		230	400	3960	170	1,13	20	3730			0,92	17,04	Argilla
7,60		240	530	3920	290	1,93	12	3680			0,96	16,94	Argilla
7,80		260	550	3910	290	1,93	13	3650			1,04	16,72	Argilla
8,00		230	570	3930	340	2,27	10	3700			0,92	17,04	Argilla
8,20		170	380	4080	210	1,40	12	3830			0,85	17,75	Argilla
8,40		180	430	4110	250	1,67	11	3930			0,90	17,60	Argilla
8,60		180	440	4080	260	1,73	10	3900			0,90	17,60	Argilla
8,80		150	410	4080	260	1,73	9	3930			0,75	18,14	Argilla
9,00		130	360	4140	230	1,53	8	4010			0,65	18,72	Argilla
9,20		140	340	4160	200	1,33	11	4020			0,70	18,40	Argilla
9,40		140	400	4200	260	1,73	8	4060			0,70	18,40	Argilla
9,60		130	340	4190	210	1,40	9	4060			0,65	18,72	Argilla
9,80		120	320	4210	200	1,33	9	4090			0,60	19,13	Argilla
10,00		40	90	4200	50	0,33	12	4160			0,20	33,74	Argilla
10,20													
10,40													
10,60													
10,80													
11,00													

[illegible]

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs
0,20	---	---	---	---	---	10,20	5,0	8,0	5,0	0,40	12,0
0,40	---	---	---	0,27	---	10,40	4,0	10,0	4,0	0,33	12,0
0,60	7,0	11,0	7,0	0,53	13,0	10,60	4,0	9,0	4,0	0,27	15,0
0,80	13,0	21,0	13,0	1,07	12,0	10,80	10,0	14,0	10,0	0,53	19,0
1,00	15,0	31,0	15,0	1,07	14,0	11,00	5,0	13,0	5,0	0,47	11,0
1,20	20,0	36,0	20,0	1,13	18,0	11,20	5,0	12,0	5,0	0,60	8,0
1,40	21,0	38,0	21,0	1,00	21,0	11,40	21,0	30,0	21,0	0,67	31,0
1,60	20,0	35,0	20,0	0,73	27,0	11,60	15,0	25,0	15,0	0,67	22,0
1,80	16,0	27,0	16,0	0,60	27,0	11,80	34,0	44,0	34,0	0,33	102,0
2,00	17,0	26,0	17,0	0,60	28,0	12,00	7,0	12,0	7,0	0,27	26,0
2,20	16,0	25,0	16,0	0,60	27,0	12,20	10,0	14,0	10,0	0,47	21,0
2,40	12,0	21,0	12,0	0,60	20,0	12,40	4,0	11,0	4,0	0,40	10,0
2,60	8,0	17,0	8,0	0,53	15,0	12,60	29,0	35,0	29,0	0,40	72,0
2,80	9,0	17,0	9,0	0,67	13,0	12,80	7,0	13,0	7,0	0,53	13,0
3,00	8,0	18,0	8,0	0,60	13,0	13,00	8,0	16,0	8,0	0,67	12,0
3,20	8,0	17,0	8,0	0,47	17,0	13,20	25,0	35,0	25,0	0,80	31,0
3,40	7,0	14,0	7,0	0,73	10,0	13,40	29,0	41,0	29,0	0,73	40,0
3,60	7,0	18,0	7,0	0,67	10,0	13,60	9,0	20,0	9,0	0,53	17,0
3,80	10,0	20,0	10,0	0,47	21,0	13,80	5,0	13,0	5,0	0,40	12,0
4,00	19,0	26,0	19,0	0,67	28,0	14,00	4,0	10,0	4,0	0,40	10,0
4,20	6,0	16,0	6,0	0,47	13,0	14,20	4,0	10,0	4,0	0,53	7,0
4,40	4,0	11,0	4,0	0,33	12,0	14,40	5,0	13,0	5,0	0,33	15,0
4,60	4,0	9,0	4,0	0,47	9,0	14,60	6,0	11,0	6,0	0,27	22,0
4,80	6,0	13,0	6,0	0,47	13,0	14,80	6,0	10,0	6,0	0,40	15,0
5,00	7,0	14,0	7,0	0,40	17,0	15,00	6,0	12,0	6,0	0,27	22,0
5,20	3,0	9,0	3,0	0,33	9,0	15,20	6,0	10,0	6,0	0,33	18,0
5,40	2,0	7,0	2,0	0,27	7,0	15,40	7,0	12,0	7,0	0,40	17,0
5,60	3,0	7,0	3,0	0,27	11,0	15,60	6,0	12,0	6,0	0,40	15,0
5,80	7,0	11,0	7,0	0,27	26,0	15,80	7,0	13,0	7,0	0,47	15,0
6,00	4,0	8,0	4,0	0,27	15,0	16,00	5,0	12,0	5,0	0,47	11,0
6,20	4,0	8,0	4,0	0,27	15,0	16,20	7,0	14,0	7,0	0,53	13,0
6,40	5,0	9,0	5,0	0,33	15,0	16,40	6,0	14,0	6,0	0,40	15,0
6,60	5,0	10,0	5,0	0,40	12,0	16,60	2,0	8,0	2,0	0,27	7,0
6,80	7,0	13,0	7,0	0,53	13,0	16,80	5,0	9,0	5,0	0,20	25,0
7,00	7,0	15,0	7,0	0,80	12,0	17,00	5,0	8,0	5,0	0,20	25,0
7,20	8,0	17,0	8,0	0,60	13,0	17,20	6,0	9,0	6,0	0,27	22,0
7,40	10,0	19,0	10,0	0,67	15,0	17,40	5,0	9,0	5,0	0,27	19,0
7,60	11,0	21,0	11,0	0,60	18,0	17,60	5,0	9,0	5,0	0,27	19,0
7,80	9,0	18,0	9,0	0,47	19,0	17,80	4,0	8,0	4,0	0,20	20,0
8,00	5,0	12,0	5,0	0,40	12,0	18,00	6,0	9,0	6,0	0,27	22,0
8,20	3,0	9,0	3,0	0,33	9,0	18,20	7,0	11,0	7,0	0,33	21,0
8,40	5,0	10,0	5,0	0,67	7,0	18,40	8,0	13,0	8,0	0,40	20,0
8,60	20,0	30,0	20,0	0,80	25,0	18,60	8,0	14,0	8,0	0,40	20,0
8,80	25,0	37,0	25,0	0,53	47,0	18,80	8,0	14,0	8,0	0,47	17,0
9,00	20,0	28,0	20,0	0,53	37,0	19,00	7,0	14,0	7,0	0,47	15,0
9,20	9,0	17,0	9,0	0,27	34,0	19,20	9,0	16,0	9,0	0,53	17,0
9,40	4,0	8,0	4,0	0,40	10,0	19,40	10,0	18,0	10,0	0,47	21,0
9,60	4,0	10,0	4,0	0,40	10,0	19,60	13,0	20,0	13,0	0,53	24,0
9,80	4,0	10,0	4,0	0,40	10,0	19,80	14,0	22,0	14,0	0,53	26,0
10,00	5,0	11,0	5,0	0,20	25,0	20,00	12,0	20,0	12,0	0,53	22,0

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann s = 35.7 mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc
20,20	13,0	21,0	13,0	0,73	18,0	25,20	17,0	26,0	17,0	0,53	32,0
20,40	14,0	25,0	14,0	0,73	19,0	25,40	16,0	24,0	16,0	0,40	40,0
20,60	15,0	26,0	15,0	0,60	25,0	25,60	19,0	25,0	19,0	0,47	41,0
20,80	17,0	26,0	17,0	0,67	25,0	25,80	21,0	28,0	21,0	0,53	39,0
21,00	17,0	27,0	17,0	0,60	28,0	26,00	25,0	33,0	25,0	0,80	42,0
21,20	16,0	25,0	16,0	0,53	30,0	26,20	24,0	33,0	24,0	0,67	36,0
21,40	17,0	25,0	17,0	0,67	25,0	26,40	24,0	34,0	24,0	0,80	30,0
21,60	17,0	27,0	17,0	0,53	32,0	26,60	23,0	35,0	23,0	0,67	34,0
21,80	17,0	25,0	17,0	0,67	25,0	26,80	20,0	30,0	20,0	0,80	25,0
22,00	17,0	27,0	17,0	0,40	42,0	27,00	24,0	36,0	24,0	0,93	26,0
22,20	19,0	25,0	19,0	0,73	26,0	27,20	24,0	38,0	24,0	0,87	28,0
22,40	22,0	33,0	22,0	0,73	30,0	27,40	20,0	33,0	20,0	0,80	33,0
22,60	26,0	37,0	26,0	0,53	49,0	27,60	27,0	36,0	27,0	0,53	51,0
22,80	26,0	34,0	26,0	0,47	56,0	27,80	26,0	34,0	26,0	0,80	32,0
23,00	26,0	33,0	26,0	0,67	39,0	28,00	24,0	36,0	24,0	1,00	24,0
23,20	21,0	31,0	21,0	0,93	22,0	28,20	23,0	38,0	23,0	0,93	25,0
23,40	21,0	35,0	21,0	0,60	35,0	28,40	22,0	36,0	22,0	0,80	27,0
23,60	22,0	31,0	22,0	0,53	41,0	28,60	22,0	34,0	22,0	0,93	24,0
23,80	19,0	27,0	19,0	0,73	26,0	28,80	24,0	38,0	24,0	0,80	30,0
24,00	22,0	33,0	22,0	0,73	30,0	29,00	25,0	37,0	25,0	0,87	29,0
24,20	14,0	25,0	14,0	0,40	35,0	29,20	23,0	36,0	23,0	1,13	20,0
24,40	12,0	18,0	12,0	0,40	30,0	29,40	30,0	47,0	30,0	0,60	50,0
24,60	6,0	12,0	6,0	0,40	15,0	29,60	29,0	38,0	29,0	0,33	87,0
24,80	13,0	19,0	13,0	0,33	39,0	29,80	27,0	32,0	27,0	—	—

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann $\phi = 35,7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	8980
0,20	—	—	—	—	—	10,20	12,0	19,0	12,0	0,33	36,0	
0,40	—	—	—	0,53	—	10,40	12,0	17,0	12,0	0,53	22,0	
0,60	14,0	22,0	14,0	0,60	23,0	10,60	5,0	13,0	5,0	0,33	15,0	
0,80	14,0	23,0	14,0	1,13	12,0	10,80	5,0	10,0	5,0	0,27	19,0	
1,00	18,0	35,0	18,0	1,27	14,0	11,00	6,0	10,0	6,0	0,33	18,0	
1,20	16,0	35,0	16,0	1,00	16,0	11,20	7,0	12,0	7,0	0,33	21,0	
1,40	20,0	35,0	20,0	0,80	25,0	11,40	6,0	11,0	6,0	0,33	18,0	
1,60	19,0	31,0	19,0	0,73	26,0	11,60	9,0	14,0	9,0	0,47	19,0	
1,80	16,0	27,0	16,0	0,67	24,0	11,80	6,0	13,0	6,0	0,47	13,0	
2,00	17,0	27,0	17,0	0,53	32,0	12,00	7,0	14,0	7,0	0,47	15,0	
2,20	13,0	21,0	13,0	0,53	24,0	12,20	10,0	17,0	10,0	0,27	37,0	
2,40	11,0	19,0	11,0	0,53	21,0	12,40	7,0	11,0	7,0	0,53	13,0	
2,60	9,0	17,0	9,0	0,47	19,0	12,60	10,0	18,0	10,0	0,27	37,0	
2,80	8,0	15,0	8,0	0,33	24,0	12,80	3,0	7,0	3,0	0,20	15,0	
3,00	10,0	15,0	10,0	0,33	30,0	13,00	2,0	5,0	2,0	0,20	10,0	
3,20	10,0	15,0	10,0	0,33	30,0	13,20	5,0	8,0	5,0	0,20	25,0	
3,40	7,0	12,0	7,0	0,33	21,0	13,40	4,0	7,0	4,0	0,20	20,0	
3,60	8,0	13,0	8,0	0,40	20,0	13,60	4,0	7,0	4,0	0,20	20,0	
3,80	10,0	16,0	10,0	0,53	19,0	13,80	2,0	5,0	2,0	0,20	10,0	
4,00	16,0	24,0	16,0	0,60	27,0	14,00	3,0	6,0	3,0	0,27	11,0	
4,20	13,0	22,0	13,0	0,67	19,0	14,20	5,0	9,0	5,0	0,27	19,0	
4,40	10,0	20,0	10,0	0,47	21,0	14,40	6,0	10,0	6,0	0,40	15,0	
4,60	11,0	18,0	11,0	0,47	24,0	14,60	7,0	13,0	7,0	0,67	10,0	
4,80	15,0	22,0	15,0	0,40	37,0	14,80	8,0	18,0	8,0	0,60	13,0	
5,00	4,0	10,0	4,0	0,07	60,0	15,00	7,0	16,0	7,0	0,33	21,0	
5,20	5,0	6,0	5,0	0,20	25,0	15,20	10,0	15,0	10,0	0,60	17,0	
5,40	4,0	7,0	4,0	0,73	5,0	15,40	9,0	18,0	9,0	0,47	19,0	
5,60	10,0	21,0	10,0	0,20	50,0	15,60	11,0	18,0	11,0	0,53	21,0	
5,80	5,0	8,0	5,0	0,33	15,0	15,80	6,0	14,0	6,0	0,53	11,0	
6,00	6,0	11,0	6,0	0,33	18,0	16,00	7,0	15,0	7,0	0,27	26,0	
6,20	5,0	10,0	5,0	0,33	15,0	16,20	9,0	13,0	9,0	0,40	22,0	
6,40	4,0	9,0	4,0	0,33	12,0	16,40	10,0	16,0	10,0	0,27	37,0	
6,60	3,0	8,0	3,0	0,33	9,0	16,60	8,0	12,0	8,0	0,40	20,0	
6,80	5,0	10,0	5,0	0,40	12,0	16,80	10,0	16,0	10,0	0,47	21,0	
7,00	9,0	15,0	9,0	0,87	10,0	17,00	10,0	17,0	10,0	0,33	30,0	
7,20	10,0	23,0	10,0	0,73	14,0	17,20	8,0	13,0	8,0	0,33	24,0	
7,40	12,0	23,0	12,0	0,73	16,0	17,40	6,0	11,0	6,0	0,27	22,0	
7,60	11,0	22,0	11,0	0,67	16,0	17,60	7,0	11,0	7,0	0,40	17,0	
7,80	9,0	19,0	9,0	0,53	17,0	17,80	7,0	13,0	7,0	0,33	21,0	
8,00	6,0	14,0	6,0	0,33	18,0	18,00	8,0	13,0	8,0	0,33	24,0	
8,20	3,0	8,0	3,0	0,20	15,0	18,20	8,0	13,0	8,0	0,33	24,0	
8,40	9,0	12,0	9,0	0,40	22,0	18,40	8,0	13,0	8,0	0,33	24,0	
8,60	10,0	16,0	10,0	0,47	21,0	18,60	10,0	15,0	10,0	0,47	21,0	
8,80	12,0	19,0	12,0	0,47	26,0	18,80	11,0	18,0	11,0	0,47	24,0	
9,00	4,0	11,0	4,0	0,27	15,0	19,00	11,0	18,0	11,0	0,47	24,0	
9,20	5,0	9,0	5,0	0,27	19,0	19,20	11,0	18,0	11,0	0,40	27,0	
9,40	4,0	8,0	4,0	0,27	15,0	19,40	13,0	19,0	13,0	0,47	28,0	
9,60	3,0	7,0	3,0	0,27	11,0	19,60	16,0	23,0	16,0	0,60	27,0	
9,80	4,0	8,0	4,0	0,33	12,0	19,80	14,0	23,0	14,0	0,60	23,0	
10,00	6,0	11,0	6,0	0,47	13,0	20,00	13,0	22,0	13,0	0,60	22,0	

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann $\phi = 35.7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc
20,20	14,0	23,0	14,0	0,67	21,0	25,20	16,0	25,0	16,0	0,60	27,0
20,40	14,0	24,0	14,0	0,73	19,0	25,40	19,0	28,0	19,0	0,60	32,0
20,60	16,0	27,0	16,0	0,67	24,0	25,60	23,0	32,0	23,0	0,53	43,0
20,80	15,0	25,0	15,0	0,93	16,0	25,80	23,0	31,0	23,0	0,87	27,0
21,00	18,0	32,0	18,0	0,73	25,0	26,00	23,0	36,0	23,0	1,13	20,0
21,20	17,0	28,0	17,0	0,67	25,0	26,20	21,0	38,0	21,0	0,93	22,0
21,40	16,0	26,0	16,0	0,87	18,0	26,40	22,0	36,0	22,0	0,73	30,0
21,60	15,0	28,0	15,0	0,73	20,0	26,60	23,0	34,0	23,0	1,07	22,0
21,80	14,0	25,0	14,0	0,53	26,0	26,80	33,0	49,0	33,0	1,00	33,0
22,00	18,0	26,0	18,0	0,80	22,0	27,00	23,0	38,0	23,0	0,93	25,0
22,20	18,0	30,0	18,0	0,93	19,0	27,20	25,0	39,0	25,0	1,00	25,0
22,40	22,0	36,0	22,0	1,13	19,0	27,40	26,0	41,0	26,0	0,73	35,0
22,60	25,0	42,0	25,0	0,93	27,0	27,60	24,0	35,0	24,0	0,73	33,0
22,80	22,0	36,0	22,0	0,93	24,0	27,80	22,0	33,0	22,0	0,73	30,0
23,00	20,0	34,0	20,0	1,00	20,0	28,00	23,0	34,0	23,0	1,07	22,0
23,20	17,0	32,0	17,0	0,93	18,0	28,20	31,0	47,0	31,0	1,07	29,0
23,40	18,0	32,0	18,0	0,73	25,0	28,40	41,0	57,0	41,0	0,60	68,0
23,60	21,0	32,0	21,0	0,60	35,0	28,60	28,0	37,0	28,0	0,87	32,0
23,80	21,0	30,0	21,0	0,87	24,0	28,80	20,0	33,0	20,0	0,80	25,0
24,00	23,0	36,0	23,0	0,53	43,0	29,00	22,0	34,0	22,0	0,73	30,0
24,20	22,0	30,0	22,0	0,93	24,0	29,20	21,0	32,0	21,0	0,87	24,0
24,40	14,0	28,0	14,0	0,47	30,0	29,40	20,0	33,0	20,0	0,73	27,0
24,60	18,0	25,0	18,0	1,07	17,0	29,60	25,0	36,0	25,0	0,73	34,0
24,80	21,0	37,0	21,0	0,80	26,0	29,80	27,0	38,0	27,0	—	—

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Segemann $s = 35.7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs
0,20	—	—	—	—	—	10,20	5,0	9,0	5,0	0,20	25,0
0,40	—	—	—	1,00	—	10,40	4,0	7,0	4,0	0,20	20,0
0,60	10,0	25,0	10,0	1,00	10,0	10,60	5,0	8,0	5,0	0,60	8,0
0,80	11,0	26,0	11,0	0,80	14,0	10,80	9,0	18,0	9,0	0,60	15,0
1,00	13,0	25,0	13,0	0,60	22,0	11,00	12,0	21,0	12,0	0,53	22,0
1,20	11,0	20,0	11,0	0,53	21,0	11,20	18,0	26,0	18,0	0,47	39,0
1,40	11,0	19,0	11,0	0,47	24,0	11,40	8,0	15,0	8,0	0,40	20,0
1,60	8,0	15,0	8,0	0,40	20,0	11,60	4,0	10,0	4,0	0,27	15,0
1,80	12,0	18,0	12,0	0,47	26,0	11,80	6,0	10,0	6,0	0,33	18,0
2,00	13,0	20,0	13,0	0,40	32,0	12,00	12,0	17,0	12,0	0,27	45,0
2,20	9,0	15,0	9,0	0,40	22,0	12,20	4,0	8,0	4,0	0,20	20,0
2,40	7,0	13,0	7,0	0,40	17,0	12,40	3,0	6,0	3,0	0,27	11,0
2,60	8,0	14,0	8,0	0,73	11,0	12,60	3,0	7,0	3,0	0,20	15,0
2,80	10,0	21,0	10,0	0,27	37,0	12,80	3,0	6,0	3,0	0,20	15,0
3,00	20,0	24,0	20,0	0,67	30,0	13,00	4,0	7,0	4,0	0,27	15,0
3,20	26,0	36,0	26,0	0,73	35,0	13,20	4,0	8,0	4,0	0,20	20,0
3,40	11,0	22,0	11,0	0,40	27,0	13,40	3,0	6,0	3,0	0,20	15,0
3,60	10,0	16,0	10,0	0,40	25,0	13,60	3,0	6,0	3,0	0,20	15,0
3,80	5,0	11,0	5,0	0,40	12,0	13,80	6,0	9,0	6,0	0,20	30,0
4,00	4,0	10,0	4,0	0,33	12,0	14,00	3,0	6,0	3,0	0,20	15,0
4,20	4,0	9,0	4,0	0,27	15,0	14,20	2,0	5,0	2,0	0,20	10,0
4,40	7,0	11,0	7,0	0,33	21,0	14,40	2,0	5,0	2,0	0,27	7,0
4,60	7,0	12,0	7,0	0,33	21,0	14,60	5,0	9,0	5,0	0,33	15,0
4,80	10,0	15,0	10,0	0,27	37,0	14,80	5,0	10,0	5,0	0,27	19,0
5,00	4,0	8,0	4,0	0,20	20,0	15,00	5,0	9,0	5,0	0,27	19,0
5,20	4,0	7,0	4,0	0,27	15,0	15,20	6,0	10,0	6,0	0,27	22,0
5,40	4,0	8,0	4,0	0,20	20,0	15,40	7,0	11,0	7,0	0,33	21,0
5,60	5,0	8,0	5,0	0,20	25,0	15,60	7,0	12,0	7,0	0,33	21,0
5,80	5,0	8,0	5,0	0,20	25,0	15,80	9,0	14,0	9,0	0,40	22,0
6,00	4,0	7,0	4,0	0,27	15,0	16,00	9,0	15,0	9,0	0,47	19,0
6,20	5,0	9,0	5,0	0,33	15,0	16,20	8,0	15,0	8,0	0,53	15,0
6,40	6,0	11,0	6,0	0,47	13,0	16,40	8,0	16,0	8,0	0,40	20,0
6,60	8,0	15,0	8,0	0,47	17,0	16,60	8,0	14,0	8,0	0,47	17,0
6,80	10,0	17,0	10,0	0,60	17,0	16,80	6,0	13,0	6,0	0,27	22,0
7,00	10,0	19,0	10,0	0,53	19,0	17,00	5,0	9,0	5,0	0,40	12,0
7,20	10,0	18,0	10,0	0,67	15,0	17,20	5,0	11,0	5,0	0,33	15,0
7,40	10,0	20,0	10,0	0,67	15,0	17,40	8,0	13,0	8,0	0,40	20,0
7,60	8,0	18,0	8,0	0,53	15,0	17,60	7,0	13,0	7,0	0,27	26,0
7,80	4,0	12,0	4,0	0,33	12,0	17,80	7,0	11,0	7,0	0,33	21,0
8,00	2,0	7,0	2,0	0,27	7,0	18,00	10,0	15,0	10,0	0,40	25,0
8,20	3,0	7,0	3,0	0,53	6,0	18,20	10,0	16,0	10,0	0,40	25,0
8,40	9,0	17,0	9,0	0,27	34,0	18,40	10,0	16,0	10,0	0,40	25,0
8,60	20,0	24,0	20,0	0,47	43,0	18,60	10,0	16,0	10,0	0,40	25,0
8,80	3,0	10,0	3,0	0,13	22,0	18,80	11,0	17,0	11,0	0,40	27,0
9,00	2,0	4,0	2,0	0,20	10,0	19,00	11,0	17,0	11,0	0,60	18,0
9,20	2,0	5,0	2,0	0,13	15,0	19,20	13,0	22,0	13,0	0,53	24,0
9,40	2,0	4,0	2,0	0,13	15,0	19,40	13,0	21,0	13,0	0,60	22,0
9,60	2,0	4,0	2,0	0,13	15,0	19,60	12,0	21,0	12,0	0,40	30,0
9,80	5,0	7,0	5,0	0,40	12,0	19,80	12,0	18,0	12,0	0,60	20,0
10,00	15,0	21,0	15,0	0,27	56,0	20,00	12,0	21,0	12,0	0,73	16,0

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann ø = 35.7 mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs
20,20	12,0	23,0	12,0	0,93	13,0	25,20	12,0	19,0	12,0	0,40	30,0
20,40	13,0	27,0	13,0	0,67	19,0	25,40	14,0	20,0	14,0	0,47	30,0
20,60	14,0	24,0	14,0	0,67	21,0	25,60	14,0	21,0	14,0	0,53	26,0
20,80	12,0	22,0	12,0	0,73	16,0	25,80	16,0	24,0	16,0	0,67	24,0
21,00	13,0	24,0	13,0	0,87	15,0	26,00	19,0	29,0	19,0	0,80	24,0
21,20	17,0	30,0	17,0	0,93	18,0	26,20	22,0	34,0	22,0	0,80	27,0
21,40	16,0	30,0	16,0	0,80	20,0	26,40	19,0	31,0	19,0	0,80	24,0
21,60	15,0	27,0	15,0	0,80	19,0	26,60	23,0	35,0	23,0	0,73	31,0
21,80	15,0	27,0	15,0	0,67	22,0	26,80	22,0	33,0	22,0	0,73	30,0
22,00	19,0	29,0	19,0	0,67	28,0	27,00	24,0	35,0	24,0	0,60	40,0
22,20	24,0	34,0	24,0	0,80	30,0	27,20	26,0	35,0	26,0	0,80	32,0
22,40	26,0	38,0	26,0	1,00	26,0	27,40	28,0	40,0	28,0	1,07	26,0
22,60	28,0	43,0	28,0	0,87	32,0	27,60	27,0	43,0	27,0	1,27	21,0
22,80	25,0	38,0	25,0	1,00	25,0	27,80	21,0	40,0	21,0	0,67	31,0
23,00	21,0	36,0	21,0	1,07	20,0	28,00	19,0	29,0	19,0	0,47	41,0
23,20	19,0	35,0	19,0	1,00	19,0	28,20	19,0	26,0	19,0	0,40	47,0
23,40	18,0	33,0	18,0	0,73	25,0	28,40	17,0	23,0	17,0	0,47	36,0
23,60	17,0	28,0	17,0	0,67	25,0	28,60	19,0	26,0	19,0	0,40	47,0
23,80	11,0	21,0	11,0	0,47	24,0	28,80	20,0	26,0	20,0	0,60	33,0
24,00	13,0	20,0	13,0	0,33	39,0	29,00	19,0	28,0	19,0	0,53	36,0
24,20	18,0	23,0	18,0	0,47	39,0	29,20	22,0	30,0	22,0	0,53	41,0
24,40	18,0	25,0	18,0	0,73	25,0	29,40	21,0	29,0	21,0	0,53	39,0
24,60	25,0	36,0	25,0	0,40	62,0	29,60	19,0	27,0	19,0	0,60	32,0
24,80	16,0	22,0	16,0	0,67	24,0	29,80	21,0	30,0	21,0	—	—

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE $C_t = 10$ - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann $\phi = 35.7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	8982
0,20	—	—	—	—	—	10,20	7,0	12,0	7,0	0,33	21,0	
0,40	—	—	—	—	—	10,40	17,0	22,0	17,0	0,40	42,0	
0,60	—	—	—	0,73	—	10,60	5,0	11,0	5,0	0,13	37,0	
0,80	12,0	23,0	12,0	0,80	15,0	10,80	6,0	8,0	6,0	0,20	30,0	
1,00	12,0	24,0	12,0	0,80	15,0	11,00	4,0	7,0	4,0	0,27	15,0	
1,20	11,0	23,0	11,0	0,60	18,0	11,20	8,0	12,0	8,0	0,73	11,0	
1,40	12,0	21,0	12,0	0,33	36,0	11,40	17,0	28,0	17,0	0,53	32,0	
1,60	15,0	20,0	15,0	0,53	28,0	11,60	32,0	40,0	32,0	0,53	60,0	
1,80	13,0	21,0	13,0	0,53	24,0	11,80	8,0	16,0	8,0	0,40	20,0	
2,00	11,0	19,0	11,0	0,53	21,0	12,00	4,0	10,0	4,0	0,20	20,0	
2,20	11,0	19,0	11,0	0,40	27,0	12,20	9,0	12,0	9,0	0,40	22,0	
2,40	12,0	18,0	12,0	0,53	22,0	12,40	12,0	18,0	12,0	0,47	26,0	
2,60	9,0	17,0	9,0	0,60	15,0	12,60	7,0	14,0	7,0	0,20	35,0	
2,80	7,0	16,0	7,0	0,60	12,0	12,80	4,0	7,0	4,0	0,20	20,0	
3,00	6,0	15,0	6,0	0,53	11,0	13,00	4,0	7,0	4,0	0,33	12,0	
3,20	17,0	25,0	17,0	0,53	32,0	13,20	7,0	12,0	7,0	0,27	26,0	
3,40	7,0	15,0	7,0	0,33	21,0	13,40	10,0	14,0	10,0	0,40	25,0	
3,60	13,0	18,0	13,0	0,53	24,0	13,60	7,0	13,0	7,0	0,27	26,0	
3,80	12,0	20,0	12,0	0,80	15,0	13,80	23,0	27,0	23,0	0,40	57,0	
4,00	13,0	25,0	13,0	0,53	24,0	14,00	7,0	13,0	7,0	0,47	15,0	
4,20	7,0	15,0	7,0	0,27	26,0	14,20	5,0	12,0	5,0	0,40	12,0	
4,40	5,0	9,0	5,0	0,20	25,0	14,40	7,0	13,0	7,0	0,33	21,0	
4,60	4,0	7,0	4,0	0,27	15,0	14,60	8,0	13,0	8,0	0,40	20,0	
4,80	4,0	8,0	4,0	0,13	30,0	14,80	4,0	10,0	4,0	0,13	30,0	
5,00	6,0	8,0	6,0	0,20	30,0	15,00	3,0	5,0	3,0	0,13	22,0	
5,20	5,0	8,0	5,0	0,27	19,0	15,20	3,0	5,0	3,0	0,13	22,0	
5,40	5,0	9,0	5,0	0,20	25,0	15,40	3,0	5,0	3,0	0,20	15,0	
5,60	9,0	12,0	9,0	0,53	17,0	15,60	5,0	8,0	5,0	0,40	12,0	
5,80	18,0	26,0	18,0	0,33	54,0	15,80	7,0	13,0	7,0	0,27	26,0	
6,00	8,0	13,0	8,0	0,27	30,0	16,00	8,0	12,0	8,0	0,40	20,0	
6,20	5,0	9,0	5,0	0,20	25,0	16,20	6,0	12,0	6,0	0,20	30,0	
6,40	4,0	7,0	4,0	0,20	20,0	16,40	7,0	10,0	7,0	0,33	21,0	
6,60	6,0	9,0	6,0	0,27	22,0	16,60	7,0	12,0	7,0	0,27	26,0	
6,80	8,0	12,0	8,0	0,47	17,0	16,80	4,0	8,0	4,0	0,20	20,0	
7,00	9,0	16,0	9,0	0,53	17,0	17,00	5,0	8,0	5,0	0,13	37,0	
7,20	9,0	17,0	9,0	0,67	13,0	17,20	6,0	8,0	6,0	0,20	30,0	
7,40	10,0	20,0	10,0	0,67	15,0	17,40	9,0	12,0	9,0	0,27	34,0	
7,60	12,0	22,0	12,0	0,13	90,0	17,60	7,0	11,0	7,0	0,27	26,0	
7,80	11,0	13,0	11,0	0,67	16,0	17,80	6,0	10,0	6,0	0,27	22,0	
8,00	9,0	19,0	9,0	0,53	17,0	18,00	8,0	12,0	8,0	0,27	30,0	
8,20	7,0	15,0	7,0	0,27	26,0	18,20	7,0	11,0	7,0	0,20	35,0	
8,40	4,0	8,0	4,0	0,20	20,0	18,40	7,0	10,0	7,0	0,20	35,0	
8,60	3,0	6,0	3,0	0,20	15,0	18,60	8,0	11,0	8,0	0,40	20,0	
8,80	6,0	9,0	6,0	0,13	45,0	18,80	10,0	16,0	10,0	0,33	30,0	
9,00	6,0	8,0	6,0	0,20	30,0	19,00	12,0	17,0	12,0	0,47	26,0	
9,20	5,0	8,0	5,0	0,20	25,0	19,20	13,0	20,0	13,0	0,33	39,0	
9,40	5,0	8,0	5,0	0,20	25,0	19,40	12,0	17,0	12,0	0,33	36,0	
9,60	5,0	8,0	5,0	0,20	25,0	19,60	11,0	16,0	11,0	0,40	27,0	
9,80	5,0	8,0	5,0	0,27	19,0	19,80	12,0	18,0	12,0	0,53	22,0	
10,00	5,0	9,0	5,0	0,33	15,0	20,00	13,0	21,0	13,0	0,47	28,0	

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann $\phi = 35.7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/f
20,20	11,0	18,0	11,0	0,53	21,0	25,20	15,0	26,0	15,0	0,47	32,0
20,40	13,0	21,0	13,0	0,53	24,0	25,40	19,0	26,0	19,0	0,53	36,0
20,60	12,0	20,0	12,0	0,60	20,0	25,60	17,0	25,0	17,0	0,67	25,0
20,80	13,0	22,0	13,0	1,00	13,0	25,80	16,0	26,0	16,0	0,53	30,0
21,00	18,0	33,0	18,0	0,73	25,0	26,00	22,0	30,0	22,0	0,80	27,0
21,20	20,0	31,0	20,0	0,67	30,0	26,20	22,0	34,0	22,0	0,67	33,0
21,40	18,0	28,0	18,0	0,73	25,0	26,40	28,0	38,0	28,0	0,67	42,0
21,60	18,0	29,0	18,0	0,73	25,0	26,60	23,0	33,0	23,0	1,07	22,0
21,80	20,0	31,0	20,0	0,93	21,0	26,80	25,0	41,0	25,0	1,20	21,0
22,00	21,0	35,0	21,0	0,80	26,0	27,00	20,0	38,0	20,0	0,60	33,0
22,20	25,0	37,0	25,0	0,87	29,0	27,20	18,0	27,0	18,0	0,47	39,0
22,40	23,0	36,0	23,0	0,87	27,0	27,40	21,0	28,0	21,0	0,67	31,0
22,60	26,0	39,0	26,0	0,87	30,0	27,60	22,0	32,0	22,0	0,60	37,0
22,80	29,0	42,0	29,0	0,67	43,0	27,80	21,0	30,0	21,0	0,60	35,0
23,00	29,0	39,0	29,0	0,80	36,0	28,00	27,0	36,0	27,0	0,53	51,0
23,20	18,0	30,0	18,0	0,53	34,0	28,20	28,0	36,0	28,0	0,67	42,0
23,40	18,0	26,0	18,0	0,67	27,0	28,40	29,0	39,0	29,0	0,73	40,0
23,60	19,0	29,0	19,0	0,67	28,0	28,60	27,0	38,0	27,0	0,73	37,0
23,80	20,0	30,0	20,0	0,73	27,0	28,80	25,0	36,0	25,0	0,60	42,0
24,00	27,0	38,0	27,0	0,67	40,0	29,00	22,0	31,0	22,0	0,60	37,0
24,20	14,0	24,0	14,0	0,47	30,0	29,20	26,0	35,0	26,0	0,73	35,0
24,40	11,0	18,0	11,0	0,47	24,0	29,40	18,0	29,0	18,0	0,67	27,0
24,60	14,0	21,0	14,0	0,47	30,0	29,60	20,0	30,0	20,0	0,60	33,0
24,80	16,0	23,0	16,0	0,53	30,0	29,80	22,0	31,0	22,0	—	—

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann ø = 35.7 mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	8983
0,20	—	—	—	—	—	10,20	4,0	8,0	4,0	0,27	15,0	
0,40	—	—	—	—	—	10,40	4,0	8,0	4,0	0,33	12,0	
0,60	—	—	—	0,53	—	10,60	3,0	8,0	3,0	0,13	22,0	
0,80	24,0	32,0	24,0	1,47	16,0	10,80	5,0	7,0	5,0	0,20	25,0	
1,00	21,0	43,0	21,0	1,07	20,0	11,00	3,0	6,0	3,0	0,47	6,0	
1,20	19,0	35,0	19,0	1,00	19,0	11,20	13,0	20,0	13,0	0,47	28,0	
1,40	17,0	32,0	17,0	0,73	23,0	11,40	21,0	28,0	21,0	0,47	45,0	
1,60	16,0	27,0	16,0	0,73	22,0	11,60	19,0	26,0	19,0	0,53	36,0	
1,80	14,0	25,0	14,0	0,60	23,0	11,80	4,0	12,0	4,0	0,40	10,0	
2,00	14,0	23,0	14,0	0,87	16,0	12,00	15,0	21,0	15,0	0,53	28,0	
2,20	13,0	26,0	13,0	0,53	24,0	12,20	8,0	16,0	8,0	0,53	15,0	
2,40	11,0	19,0	11,0	0,53	21,0	12,40	19,0	27,0	19,0	0,27	71,0	
2,60	9,0	17,0	9,0	0,47	19,0	12,60	6,0	10,0	6,0	0,40	15,0	
2,80	7,0	14,0	7,0	0,33	21,0	12,80	5,0	11,0	5,0	0,47	11,0	
3,00	6,0	11,0	6,0	0,33	18,0	13,00	6,0	13,0	6,0	0,33	18,0	
3,20	8,0	13,0	8,0	0,40	20,0	13,20	4,0	9,0	4,0	0,27	15,0	
3,40	9,0	15,0	9,0	0,47	19,0	13,40	6,0	10,0	6,0	0,20	30,0	
3,60	11,0	18,0	11,0	0,47	24,0	13,60	8,0	11,0	8,0	0,27	30,0	
3,80	9,0	16,0	9,0	0,53	17,0	13,80	4,0	8,0	4,0	0,20	20,0	
4,00	5,0	13,0	5,0	0,13	37,0	14,00	3,0	6,0	3,0	0,13	22,0	
4,20	9,0	11,0	9,0	0,13	67,0	14,20	2,0	4,0	2,0	0,20	10,0	
4,40	14,0	16,0	14,0	0,40	35,0	14,40	2,0	5,0	2,0	0,27	7,0	
4,60	7,0	13,0	7,0	0,27	26,0	14,60	3,0	7,0	3,0	0,47	6,0	
4,80	12,0	16,0	12,0	0,47	26,0	14,80	13,0	20,0	13,0	0,53	24,0	
5,00	10,0	17,0	10,0	0,27	37,0	15,00	25,0	33,0	25,0	0,53	47,0	
5,20	4,0	8,0	4,0	0,27	15,0	15,20	8,0	16,0	8,0	0,33	24,0	
5,40	6,0	10,0	6,0	0,60	10,0	15,40	5,0	10,0	5,0	0,33	15,0	
5,60	6,0	15,0	6,0	0,40	15,0	15,60	6,0	11,0	6,0	0,33	18,0	
5,80	6,0	12,0	6,0	0,33	18,0	15,80	8,0	13,0	8,0	0,40	20,0	
6,00	4,0	9,0	4,0	0,27	15,0	16,00	8,0	14,0	8,0	0,47	17,0	
6,20	5,0	9,0	5,0	0,27	19,0	16,20	9,0	16,0	9,0	0,40	22,0	
6,40	6,0	10,0	6,0	0,40	15,0	16,40	8,0	14,0	8,0	0,40	20,0	
6,60	6,0	12,0	6,0	0,40	15,0	16,60	8,0	14,0	8,0	0,40	20,0	
6,80	8,0	14,0	8,0	0,53	15,0	16,80	5,0	11,0	5,0	0,33	15,0	
7,00	8,0	16,0	8,0	0,60	13,0	17,00	5,0	10,0	5,0	0,27	19,0	
7,20	7,0	16,0	7,0	0,67	10,0	17,20	6,0	10,0	6,0	0,27	22,0	
7,40	9,0	19,0	9,0	0,73	12,0	17,40	6,0	10,0	6,0	0,27	22,0	
7,60	11,0	22,0	11,0	0,67	16,0	17,60	7,0	11,0	7,0	0,53	13,0	
7,80	10,0	20,0	10,0	0,60	17,0	17,80	7,0	15,0	7,0	0,40	17,0	
8,00	8,0	17,0	8,0	0,20	40,0	18,00	7,0	13,0	7,0	0,33	21,0	
8,20	3,0	6,0	3,0	0,33	9,0	18,20	8,0	13,0	8,0	0,60	13,0	
8,40	4,0	9,0	4,0	0,33	12,0	18,40	10,0	19,0	10,0	0,47	21,0	
8,60	9,0	14,0	9,0	0,27	34,0	18,60	10,0	17,0	10,0	0,60	17,0	
8,80	6,0	10,0	6,0	0,27	22,0	18,80	10,0	19,0	10,0	0,47	21,0	
9,00	4,0	8,0	4,0	0,33	12,0	19,00	11,0	18,0	11,0	0,53	21,0	
9,20	4,0	9,0	4,0	0,13	30,0	19,20	12,0	20,0	12,0	0,47	26,0	
9,40	4,0	6,0	4,0	0,20	20,0	19,40	15,0	22,0	15,0	0,47	32,0	
9,60	6,0	9,0	6,0	0,40	15,0	19,60	14,0	21,0	14,0	0,53	26,0	
9,80	12,0	18,0	12,0	0,33	36,0	19,80	13,0	21,0	13,0	0,80	16,0	
10,00	5,0	10,0	5,0	0,27	19,0	20,00	14,0	26,0	14,0	0,53	26,0	

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
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- punta meccanica tipo Begemann $\phi = 35.7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/	8983
20,20	15,0	23,0	15,0	0,53	28,0	25,20	21,0	33,0	21,0	0,60	35,0	
20,40	14,0	22,0	14,0	0,60	23,0	25,40	19,0	28,0	19,0	0,60	32,0	
20,60	15,0	24,0	15,0	0,47	32,0	25,60	17,0	26,0	17,0	0,80	21,0	
20,80	17,0	24,0	17,0	0,47	36,0	25,80	26,0	38,0	26,0	1,33	19,0	
21,00	17,0	24,0	17,0	0,73	23,0	26,00	25,0	45,0	25,0	1,27	20,0	
21,20	16,0	27,0	16,0	0,60	27,0	26,20	24,0	43,0	24,0	1,13	21,0	
21,40	16,0	25,0	16,0	0,60	27,0	26,40	21,0	38,0	21,0	1,13	19,0	
21,60	18,0	27,0	18,0	0,67	27,0	26,60	29,0	46,0	29,0	0,93	31,0	
21,80	17,0	27,0	17,0	0,60	28,0	26,80	28,0	42,0	28,0	0,60	47,0	
22,00	17,0	26,0	17,0	0,60	28,0	27,00	29,0	38,0	29,0	0,60	48,0	
22,20	24,0	33,0	24,0	0,87	28,0	27,20	27,0	36,0	27,0	0,60	45,0	
22,40	22,0	35,0	22,0	0,80	27,0	27,40	23,0	32,0	23,0	0,80	29,0	
22,60	21,0	33,0	21,0	0,93	22,0	27,60	16,0	28,0	16,0	0,33	48,0	
22,80	21,0	35,0	21,0	0,87	24,0	27,80	15,0	20,0	15,0	0,27	56,0	
23,00	26,0	39,0	26,0	0,87	30,0	28,00	18,0	22,0	18,0	0,27	67,0	
23,20	24,0	37,0	24,0	0,80	30,0	28,20	15,0	19,0	15,0	0,53	28,0	
23,40	25,0	37,0	25,0	0,93	27,0	28,40	18,0	26,0	18,0	0,07	270,0	
23,60	22,0	36,0	22,0	0,87	25,0	28,60	18,0	19,0	18,0	0,40	45,0	
23,80	22,0	35,0	22,0	1,00	22,0	28,80	16,0	22,0	16,0	0,40	40,0	
24,00	14,0	29,0	14,0	0,53	26,0	29,00	18,0	24,0	18,0	0,47	39,0	
24,20	13,0	21,0	13,0	0,40	32,0	29,20	17,0	24,0	17,0	0,53	32,0	
24,40	21,0	27,0	21,0	0,60	35,0	29,40	15,0	23,0	15,0	0,53	28,0	
24,60	21,0	30,0	21,0	0,40	52,0	29,60	16,0	24,0	16,0	0,40	40,0	
24,80	16,0	22,0	16,0	0,47	34,0	29,80	17,0	23,0	17,0	---	---	

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann ø = 35.7 mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	8984
0,20	---	---	---	---	---	10,20	3,0	7,0	3,0	0,27	11,0	
0,40	---	---	---	---	---	10,40	2,0	6,0	2,0	0,27	7,0	
0,60	---	---	---	0,93	---	10,60	4,0	8,0	4,0	0,33	12,0	
0,80	16,0	30,0	16,0	0,93	17,0	10,80	6,0	11,0	6,0	0,40	15,0	
1,00	16,0	30,0	16,0	0,67	24,0	11,00	14,0	20,0	14,0	0,60	23,0	
1,20	10,0	20,0	10,0	0,60	17,0	11,20	16,0	25,0	16,0	0,47	34,0	
1,40	13,0	22,0	13,0	0,60	22,0	11,40	6,0	13,0	6,0	0,47	13,0	
1,60	12,0	21,0	12,0	0,67	18,0	11,60	6,0	13,0	6,0	0,87	7,0	
1,80	10,0	20,0	10,0	0,67	15,0	11,80	18,0	31,0	18,0	0,53	34,0	
2,00	9,0	19,0	9,0	0,60	15,0	12,00	6,0	14,0	6,0	0,47	13,0	
2,20	13,0	22,0	13,0	0,47	28,0	12,20	7,0	14,0	7,0	0,53	13,0	
2,40	19,0	26,0	19,0	0,67	28,0	12,40	5,0	13,0	5,0	0,27	19,0	
2,60	10,0	20,0	10,0	0,60	17,0	12,60	6,0	10,0	6,0	0,27	22,0	
2,80	13,0	22,0	13,0	0,53	24,0	12,80	7,0	11,0	7,0	0,40	17,0	
3,00	7,0	15,0	7,0	0,47	15,0	13,00	5,0	11,0	5,0	0,47	11,0	
3,20	17,0	24,0	17,0	0,53	32,0	13,20	16,0	23,0	16,0	0,53	30,0	
3,40	7,0	15,0	7,0	0,47	15,0	13,40	11,0	19,0	11,0	0,53	21,0	
3,60	8,0	15,0	8,0	0,47	17,0	13,60	8,0	16,0	8,0	0,40	20,0	
3,80	7,0	14,0	7,0	0,40	17,0	13,80	11,0	17,0	11,0	0,47	24,0	
4,00	16,0	22,0	16,0	0,67	24,0	14,00	8,0	15,0	8,0	0,33	24,0	
4,20	23,0	33,0	23,0	0,40	57,0	14,20	6,0	11,0	6,0	0,27	22,0	
4,40	16,0	22,0	16,0	0,47	34,0	14,40	10,0	14,0	10,0	0,53	19,0	
4,60	7,0	14,0	7,0	0,33	21,0	14,60	8,0	16,0	8,0	0,53	15,0	
4,80	5,0	10,0	5,0	0,33	15,0	14,80	7,0	15,0	7,0	0,53	13,0	
5,00	5,0	10,0	5,0	0,33	15,0	15,00	7,0	15,0	7,0	0,40	17,0	
5,20	4,0	9,0	4,0	0,27	15,0	15,20	10,0	16,0	10,0	0,53	19,0	
5,40	17,0	21,0	17,0	0,40	42,0	15,40	10,0	18,0	10,0	0,60	17,0	
5,60	7,0	13,0	7,0	0,27	26,0	15,60	8,0	17,0	8,0	0,47	17,0	
5,80	12,0	16,0	12,0	0,20	60,0	15,80	7,0	14,0	7,0	0,33	21,0	
6,00	5,0	8,0	5,0	0,20	25,0	16,00	8,0	13,0	8,0	0,33	24,0	
6,20	5,0	8,0	5,0	0,27	19,0	16,20	6,0	11,0	6,0	0,40	15,0	
6,40	4,0	8,0	4,0	0,33	12,0	16,40	5,0	11,0	5,0	0,40	12,0	
6,60	5,0	10,0	5,0	0,33	15,0	16,60	5,0	11,0	5,0	0,27	19,0	
6,80	8,0	13,0	8,0	0,47	17,0	16,80	6,0	10,0	6,0	0,27	22,0	
7,00	10,0	17,0	10,0	0,67	15,0	17,00	6,0	10,0	6,0	0,27	22,0	
7,20	8,0	18,0	8,0	0,67	12,0	17,20	6,0	10,0	6,0	0,27	22,0	
7,40	10,0	20,0	10,0	0,67	15,0	17,40	6,0	10,0	6,0	0,33	18,0	
7,60	9,0	19,0	9,0	0,60	15,0	17,60	8,0	13,0	8,0	0,33	24,0	
7,80	7,0	16,0	7,0	0,40	17,0	17,80	8,0	13,0	8,0	0,33	24,0	
8,00	4,0	10,0	4,0	0,40	10,0	18,00	10,0	15,0	10,0	0,47	21,0	
8,20	3,0	9,0	3,0	0,27	11,0	18,20	10,0	17,0	10,0	0,53	19,0	
8,40	4,0	8,0	4,0	0,27	15,0	18,40	14,0	22,0	14,0	0,47	30,0	
8,60	3,0	7,0	3,0	0,20	15,0	18,60	12,0	19,0	12,0	0,40	30,0	
8,80	4,0	7,0	4,0	0,27	15,0	18,80	14,0	20,0	14,0	0,40	35,0	
9,00	5,0	9,0	5,0	0,27	19,0	19,00	15,0	21,0	15,0	0,53	28,0	
9,20	6,0	10,0	6,0	0,27	22,0	19,20	13,0	21,0	13,0	0,53	24,0	
9,40	5,0	9,0	5,0	0,27	19,0	19,40	12,0	20,0	12,0	0,60	20,0	
9,60	4,0	8,0	4,0	0,27	15,0	19,60	14,0	23,0	14,0	0,53	26,0	
9,80	3,0	7,0	3,0	0,27	11,0	19,80	13,0	21,0	13,0	0,60	22,0	
10,00	2,0	6,0	2,0	0,27	7,0	20,00	13,0	22,0	13,0	0,60	22,0	

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann $\phi = 35.7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	8984
20,20	14,0	23,0	14,0	0,53	26,0	25,20	17,0	26,0	17,0	0,53	32,0	
20,40	14,0	22,0	14,0	0,60	23,0	25,40	18,0	26,0	18,0	1,20	15,0	
20,60	16,0	25,0	16,0	0,53	30,0	25,60	23,0	41,0	23,0	1,13	20,0	
20,80	16,0	24,0	16,0	0,53	30,0	25,80	25,0	42,0	25,0	0,87	29,0	
21,00	17,0	25,0	17,0	0,60	28,0	26,00	27,0	40,0	27,0	1,13	24,0	
21,20	15,0	24,0	15,0	0,47	32,0	26,20	27,0	44,0	27,0	1,00	27,0	
21,40	15,0	22,0	15,0	0,60	25,0	26,40	26,0	41,0	26,0	0,80	32,0	
21,60	18,0	27,0	18,0	0,53	34,0	26,60	28,0	40,0	28,0	0,80	35,0	
21,80	18,0	26,0	18,0	0,67	27,0	26,80	28,0	40,0	28,0	0,87	32,0	
22,00	20,0	30,0	20,0	0,80	25,0	27,00	22,0	35,0	22,0	0,73	30,0	
22,20	22,0	34,0	22,0	0,87	25,0	27,20	18,0	29,0	18,0	0,67	27,0	
22,40	21,0	34,0	21,0	0,93	22,0	27,40	15,0	25,0	15,0	0,53	28,0	
22,60	20,0	34,0	20,0	0,80	25,0	27,60	18,0	26,0	18,0	0,33	54,0	
22,80	24,0	36,0	24,0	0,73	33,0	27,80	18,0	23,0	18,0	0,33	54,0	
23,00	26,0	37,0	26,0	0,80	32,0	28,00	17,0	22,0	17,0	0,53	32,0	
23,20	26,0	38,0	26,0	0,73	35,0	28,20	18,0	26,0	18,0	0,40	45,0	
23,40	21,0	32,0	21,0	0,53	39,0	28,40	16,0	22,0	16,0	0,33	48,0	
23,60	12,0	20,0	12,0	0,47	26,0	28,60	15,0	20,0	15,0	0,53	28,0	
23,80	16,0	23,0	16,0	0,60	27,0	28,80	16,0	24,0	16,0	0,60	27,0	
24,00	13,0	22,0	13,0	0,60	22,0	29,00	15,0	24,0	15,0	0,47	32,0	
24,20	13,0	22,0	13,0	0,60	22,0	29,20	13,0	20,0	13,0	0,67	19,0	
24,40	16,0	25,0	16,0	0,67	24,0	29,40	14,0	24,0	14,0	0,60	23,0	
24,60	20,0	30,0	20,0	0,67	30,0	29,60	16,0	25,0	16,0	0,60	27,0	
24,80	19,0	29,0	19,0	0,73	26,0	29,80	17,0	26,0	17,0	—	—	

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann $\phi = 35.7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/
0,20	—	—	—	—	—	10,20	5,0	10,0	5,0	0,27	19,0
0,40	—	—	—	—	—	10,40	5,0	9,0	5,0	0,20	25,0
0,60	—	—	—	0,80	—	10,60	4,0	7,0	4,0	0,27	15,0
0,80	14,0	26,0	14,0	0,80	17,0	10,80	5,0	9,0	5,0	0,20	25,0
1,00	11,0	23,0	11,0	0,67	16,0	11,00	4,0	7,0	4,0	0,33	12,0
1,20	12,0	22,0	12,0	0,67	18,0	11,20	8,0	13,0	8,0	0,47	17,0
1,40	9,0	19,0	9,0	0,53	17,0	11,40	9,0	16,0	9,0	0,47	19,0
1,60	11,0	19,0	11,0	0,53	21,0	11,60	6,0	13,0	6,0	0,33	18,0
1,80	11,0	19,0	11,0	0,40	27,0	11,80	5,0	10,0	5,0	0,20	25,0
2,00	11,0	17,0	11,0	0,53	21,0	12,00	5,0	8,0	5,0	0,20	25,0
2,20	10,0	18,0	10,0	0,47	21,0	12,20	4,0	7,0	4,0	0,20	20,0
2,40	10,0	17,0	10,0	0,47	21,0	12,40	4,0	7,0	4,0	0,20	20,0
2,60	9,0	16,0	9,0	0,67	13,0	12,60	5,0	8,0	5,0	0,13	37,0
2,80	22,0	32,0	22,0	0,67	33,0	12,80	5,0	7,0	5,0	0,13	37,0
3,00	5,0	15,0	5,0	0,27	19,0	13,00	5,0	7,0	5,0	0,27	19,0
3,20	5,0	9,0	5,0	0,27	19,0	13,20	6,0	10,0	6,0	0,27	22,0
3,40	4,0	8,0	4,0	0,20	20,0	13,40	5,0	9,0	5,0	0,27	19,0
3,60	6,0	9,0	6,0	0,27	22,0	13,60	4,0	8,0	4,0	0,27	15,0
3,80	4,0	8,0	4,0	0,27	15,0	13,80	5,0	9,0	5,0	0,20	25,0
4,00	6,0	10,0	6,0	0,33	18,0	14,00	5,0	8,0	5,0	0,27	19,0
4,20	6,0	11,0	6,0	0,27	22,0	14,20	8,0	12,0	8,0	0,40	20,0
4,40	5,0	9,0	5,0	0,27	19,0	14,40	7,0	13,0	7,0	0,33	21,0
4,60	3,0	7,0	3,0	0,20	15,0	14,60	5,0	10,0	5,0	0,20	25,0
4,80	3,0	6,0	3,0	0,13	22,0	14,80	7,0	10,0	7,0	0,33	21,0
5,00	3,0	5,0	3,0	0,20	15,0	15,00	7,0	12,0	7,0	0,27	26,0
5,20	4,0	7,0	4,0	0,20	20,0	15,20	10,0	14,0	10,0	0,33	30,0
5,40	5,0	8,0	5,0	0,20	25,0	15,40	10,0	15,0	10,0	0,27	37,0
5,60	5,0	8,0	5,0	0,27	19,0	15,60	9,0	13,0	9,0	0,27	34,0
5,80	6,0	10,0	6,0	0,27	22,0	15,80	13,0	17,0	13,0	0,40	32,0
6,00	5,0	9,0	5,0	0,33	15,0	16,00	10,0	16,0	10,0	0,27	37,0
6,20	4,0	9,0	4,0	0,27	15,0	16,20	5,0	9,0	5,0	0,33	15,0
6,40	5,0	9,0	5,0	0,27	19,0	16,40	6,0	11,0	6,0	0,33	18,0
6,60	8,0	12,0	8,0	0,40	20,0	16,60	6,0	11,0	6,0	0,33	18,0
6,80	10,0	16,0	10,0	0,53	19,0	16,80	5,0	10,0	5,0	0,27	19,0
7,00	7,0	15,0	7,0	0,53	13,0	17,00	5,0	9,0	5,0	0,27	19,0
7,20	8,0	16,0	8,0	0,53	15,0	17,20	7,0	11,0	7,0	0,27	26,0
7,40	9,0	17,0	9,0	0,60	15,0	17,40	5,0	9,0	5,0	0,20	25,0
7,60	10,0	19,0	10,0	0,60	17,0	17,60	5,0	8,0	5,0	0,20	25,0
7,80	8,0	17,0	8,0	0,53	15,0	17,80	7,0	10,0	7,0	0,33	21,0
8,00	7,0	15,0	7,0	0,40	17,0	18,00	8,0	13,0	8,0	0,40	20,0
8,20	6,0	12,0	6,0	0,33	18,0	18,20	10,0	16,0	10,0	0,40	25,0
8,40	4,0	9,0	4,0	0,27	15,0	18,40	9,0	15,0	9,0	0,53	17,0
8,60	4,0	8,0	4,0	0,20	20,0	18,60	11,0	19,0	11,0	0,53	21,0
8,80	5,0	8,0	5,0	0,27	19,0	18,80	19,0	27,0	19,0	0,53	36,0
9,00	4,0	8,0	4,0	0,27	15,0	19,00	14,0	22,0	14,0	0,73	19,0
9,20	5,0	9,0	5,0	0,27	19,0	19,20	14,0	25,0	14,0	0,53	26,0
9,40	4,0	8,0	4,0	0,27	15,0	19,40	12,0	20,0	12,0	0,67	18,0
9,60	4,0	8,0	4,0	0,47	9,0	19,60	13,0	23,0	13,0	1,00	13,0
9,80	7,0	14,0	7,0	0,33	21,0	19,80	13,0	28,0	13,0	0,60	22,0
10,00	8,0	13,0	8,0	0,33	24,0	20,00	13,0	22,0	13,0	0,73	18,0

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann $\phi = 35.7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs
20,20	13,0	24,0	13,0	0,67	19,0
20,40	14,0	24,0	14,0	0,67	21,0
20,60	18,0	28,0	18,0	0,87	21,0
20,80	18,0	31,0	18,0	0,67	27,0
21,00	19,0	29,0	19,0	0,80	24,0
21,20	19,0	31,0	19,0	0,60	32,0
21,40	18,0	27,0	18,0	0,73	25,0
21,60	21,0	32,0	21,0	0,80	26,0
21,80	23,0	35,0	23,0	0,80	29,0
22,00	22,0	34,0	22,0	0,87	25,0
22,20	25,0	38,0	25,0	0,87	29,0
22,40	23,0	36,0	23,0	0,67	34,0
22,60	24,0	34,0	24,0	1,00	24,0
22,80	22,0	37,0	22,0	0,67	33,0
23,00	21,0	31,0	21,0	0,67	31,0
23,20	20,0	30,0	20,0	0,73	27,0
23,40	18,0	29,0	18,0	0,67	27,0
23,60	22,0	32,0	22,0	0,67	33,0
23,80	25,0	35,0	25,0	0,87	29,0
24,00	23,0	36,0	23,0	0,60	38,0
24,20	22,0	31,0	22,0	0,73	30,0
24,40	19,0	30,0	19,0	0,47	41,0
24,60	18,0	25,0	18,0	0,60	30,0
24,80	18,0	27,0	18,0	0,60	30,0

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs
25,20	20,0	30,0	20,0	1,93	10,0
25,40	21,0	50,0	21,0	0,73	29,0
25,60	22,0	33,0	22,0	0,87	25,0
25,80	22,0	35,0	22,0	0,60	37,0
26,00	21,0	30,0	21,0	0,53	39,0
26,20	21,0	29,0	21,0	0,53	39,0
26,40	20,0	28,0	20,0	0,60	33,0
26,60	20,0	29,0	20,0	0,53	37,0
26,80	22,0	30,0	22,0	0,53	41,0
27,00	19,0	27,0	19,0	0,53	36,0
27,20	18,0	26,0	18,0	0,67	27,0
27,40	21,0	31,0	21,0	0,60	35,0
27,60	23,0	32,0	23,0	0,87	27,0
27,80	25,0	38,0	25,0	0,80	31,0
28,00	24,0	36,0	24,0	1,00	24,0
28,20	23,0	38,0	23,0	0,73	31,0
28,40	25,0	36,0	25,0	0,40	62,0
28,60	27,0	33,0	27,0	0,47	58,0
28,80	25,0	32,0	25,0	0,53	47,0
29,00	22,0	30,0	22,0	0,67	33,0
29,20	21,0	31,0	21,0	0,67	31,0
29,40	24,0	34,0	24,0	0,60	40,0
29,60	23,0	32,0	23,0	0,67	34,0
29,80	22,0	32,0	22,0	---	---

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann $\phi = 35,7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	8986
0,20	---	---	---	---	---	10,20	9,0	19,0	9,0	0,60	15,0	
0,40	---	---	---	1,20	---	10,40	9,0	18,0	9,0	0,60	15,0	
0,60	24,0	42,0	24,0	0,60	40,0	10,60	9,0	18,0	9,0	0,60	15,0	
0,80	24,0	33,0	24,0	0,73	33,0	10,80	6,0	15,0	6,0	0,40	15,0	
1,00	16,0	27,0	16,0	0,73	22,0	11,00	3,0	9,0	3,0	0,27	11,0	
1,20	10,0	21,0	10,0	0,53	19,0	11,20	3,0	7,0	3,0	0,33	9,0	
1,40	7,0	15,0	7,0	0,20	35,0	11,40	4,0	9,0	4,0	0,40	10,0	
1,60	4,0	7,0	4,0	0,33	12,0	11,60	5,0	11,0	5,0	0,33	15,0	
1,80	5,0	10,0	5,0	0,33	15,0	11,80	4,0	9,0	4,0	0,33	12,0	
2,00	6,0	11,0	6,0	0,33	18,0	12,00	4,0	9,0	4,0	0,20	20,0	
2,20	6,0	11,0	6,0	0,20	30,0	12,20	3,0	6,0	3,0	0,13	22,0	
2,40	16,0	19,0	16,0	0,60	27,0	12,40	2,0	4,0	2,0	0,27	7,0	
2,60	13,0	22,0	13,0	0,47	28,0	12,60	4,0	8,0	4,0	0,27	15,0	
2,80	14,0	21,0	14,0	0,60	23,0	12,80	5,0	9,0	5,0	0,27	19,0	
3,00	10,0	19,0	10,0	0,53	19,0	13,00	4,0	8,0	4,0	0,20	20,0	
3,20	12,0	20,0	12,0	0,60	20,0	13,20	4,0	7,0	4,0	0,40	10,0	
3,40	10,0	19,0	10,0	0,60	17,0	13,40	10,0	16,0	10,0	0,40	25,0	
3,60	9,0	18,0	9,0	0,67	13,0	13,60	8,0	14,0	8,0	0,20	40,0	
3,80	14,0	24,0	14,0	0,80	17,0	13,80	3,0	6,0	3,0	0,33	9,0	
4,00	17,0	29,0	17,0	0,80	21,0	14,00	6,0	11,0	6,0	0,47	13,0	
4,20	11,0	23,0	11,0	0,40	27,0	14,20	7,0	14,0	7,0	0,47	15,0	
4,40	7,0	13,0	7,0	0,40	17,0	14,40	7,0	14,0	7,0	0,20	35,0	
4,60	6,0	12,0	6,0	0,40	15,0	14,60	3,0	6,0	3,0	0,27	11,0	
4,80	6,0	12,0	6,0	0,47	13,0	14,80	3,0	7,0	3,0	0,27	11,0	
5,00	7,0	14,0	7,0	0,47	15,0	15,00	3,0	7,0	3,0	0,53	6,0	
5,20	8,0	15,0	8,0	0,47	17,0	15,20	17,0	25,0	17,0	0,60	28,0	
5,40	9,0	16,0	9,0	0,67	13,0	15,40	18,0	27,0	18,0	0,40	45,0	
5,60	10,0	20,0	10,0	0,53	19,0	15,60	36,0	42,0	36,0	0,40	90,0	
5,80	24,0	32,0	24,0	1,20	20,0	15,80	7,0	13,0	7,0	0,40	17,0	
6,00	22,0	40,0	22,0	0,80	27,0	16,00	5,0	11,0	5,0	0,40	12,0	
6,20	26,0	38,0	26,0	0,67	39,0	16,20	6,0	12,0	6,0	0,33	18,0	
6,40	16,0	26,0	16,0	0,53	30,0	16,40	8,0	13,0	8,0	0,47	17,0	
6,60	5,0	13,0	5,0	0,40	12,0	16,60	7,0	14,0	7,0	0,40	17,0	
6,80	3,0	9,0	3,0	0,40	7,0	16,80	8,0	14,0	8,0	0,53	15,0	
7,00	4,0	10,0	4,0	0,33	12,0	17,00	8,0	16,0	8,0	0,47	17,0	
7,20	4,0	9,0	4,0	0,27	15,0	17,20	9,0	16,0	9,0	0,40	22,0	
7,40	3,0	7,0	3,0	0,27	11,0	17,40	8,0	14,0	8,0	0,47	17,0	
7,60	19,0	23,0	19,0	0,33	57,0	17,60	9,0	16,0	9,0	0,40	22,0	
7,80	4,0	9,0	4,0	0,20	20,0	17,80	9,0	15,0	9,0	0,80	11,0	
8,00	3,0	6,0	3,0	0,20	15,0	18,00	19,0	31,0	19,0	0,87	22,0	
8,20	4,0	7,0	4,0	0,27	15,0	18,20	36,0	49,0	36,0	0,53	67,0	
8,40	4,0	8,0	4,0	0,27	15,0	18,40	8,0	16,0	8,0	0,33	24,0	
8,60	6,0	10,0	6,0	0,40	15,0	18,60	6,0	11,0	6,0	0,33	18,0	
8,80	9,0	15,0	9,0	0,73	12,0	18,80	5,0	10,0	5,0	0,33	15,0	
9,00	10,0	21,0	10,0	0,67	15,0	19,00	19,0	24,0	19,0	0,73	26,0	
9,20	12,0	22,0	12,0	0,73	16,0	19,20	17,0	28,0	17,0	0,47	36,0	
9,40	11,0	22,0	11,0	0,67	16,0	19,40	7,0	14,0	7,0	0,80	9,0	
9,60	13,0	23,0	13,0	0,87	15,0	19,60	16,0	28,0	16,0	0,67	24,0	
9,80	12,0	25,0	12,0	0,73	16,0	19,80	10,0	20,0	10,0	0,53	19,0	
10,00	9,0	20,0	9,0	0,67	13,0	20,00	10,0	18,0	10,0	0,67	15,0	

- PENETROMETRO STATICO tipo GOUDA da 201 - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann $\phi = 35.7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	8986
20,20	8,0	18,0	8,0	0,53	15,0	25,20	20,0	30,0	20,0	0,60	33,0	
20,40	9,0	17,0	9,0	0,67	13,0	25,40	20,0	29,0	20,0	0,73	27,0	
20,60	9,0	19,0	9,0	0,60	15,0	25,60	19,0	30,0	19,0	0,67	28,0	
20,80	9,0	18,0	9,0	0,67	13,0	25,80	18,0	28,0	18,0	0,47	39,0	
21,00	10,0	20,0	10,0	0,67	15,0	26,00	17,0	24,0	17,0	0,40	42,0	
21,20	11,0	21,0	11,0	0,53	21,0	26,20	20,0	26,0	20,0	0,40	50,0	
21,40	12,0	20,0	12,0	0,60	20,0	26,40	19,0	25,0	19,0	0,20	95,0	
21,60	13,0	22,0	13,0	0,47	28,0	26,60	24,0	27,0	24,0	0,53	45,0	
21,80	14,0	21,0	14,0	0,40	35,0	26,80	22,0	30,0	22,0	0,93	24,0	
22,00	13,0	19,0	13,0	0,53	24,0	27,00	22,0	36,0	22,0	0,47	47,0	
22,20	14,0	22,0	14,0	0,40	35,0	27,20	21,0	28,0	21,0	0,40	52,0	
22,40	15,0	21,0	15,0	0,67	22,0	27,40	19,0	25,0	19,0	0,67	28,0	
22,60	13,0	23,0	13,0	0,80	16,0	27,60	20,0	30,0	20,0	0,53	37,0	
22,80	13,0	25,0	13,0	0,60	22,0	27,80	20,0	28,0	20,0	0,47	43,0	
23,00	18,0	27,0	18,0	0,63	28,0	28,00	22,0	29,0	22,0	0,33	66,0	
23,20	19,5	29,0	20,0	0,60	33,0	28,20	27,0	32,0	27,0	0,47	58,0	
23,40	18,0	27,0	18,0	0,73	25,0	28,40	27,0	34,0	27,0	0,93	29,0	
23,60	16,0	27,0	16,0	0,87	18,0	28,60	25,0	39,0	25,0	0,67	37,0	
23,80	17,0	30,0	17,0	0,80	21,0	28,80	23,0	33,0	23,0	0,53	43,0	
24,00	16,0	28,0	16,0	0,80	20,0	29,00	20,0	28,0	20,0	0,53	37,0	
24,20	18,0	30,0	18,0	0,87	21,0	29,20	24,0	32,0	24,0	0,80	30,0	
24,40	19,0	32,0	19,0	0,73	26,0	29,40	23,0	35,0	23,0	0,67	34,0	
24,60	15,0	26,0	15,0	0,67	22,0	29,60	22,0	32,0	22,0	0,60	37,0	
24,80	18,0	28,0	18,0	0,87	21,0	29,80	21,0	30,0	21,0	—	—	

- PENETROMETRO STATICO tipo GOUDA da 20 t - (con anello allargatore) -
 - COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
 - punta meccanica tipo Begemann ø = 35.7 mm (area punta 10 cm² - apertura 60°)
 - manicotto laterale (superficie 150 cm²)

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs
0,20	—	—	—	—	—
0,40	—	—	—	0,53	—
0,60	10,0	18,0	10,0	0,80	12,0
0,80	17,0	29,0	17,0	1,07	16,0
1,00	16,0	32,0	16,0	1,33	12,0
1,20	15,0	35,0	15,0	0,93	16,0
1,40	13,0	27,0	13,0	0,93	14,0
1,60	18,0	32,0	18,0	0,87	21,0
1,80	18,0	31,0	18,0	0,60	30,0
2,00	16,0	25,0	16,0	0,60	27,0
2,20	14,0	23,0	14,0	0,53	26,0
2,40	14,0	22,0	14,0	0,53	26,0
2,60	12,0	20,0	12,0	0,33	36,0
2,80	11,0	16,0	11,0	0,33	33,0
3,00	10,0	15,0	10,0	0,47	21,0
3,20	10,0	17,0	10,0	0,47	21,0
3,40	9,0	16,0	9,0	0,93	10,0
3,60	17,0	31,0	17,0	0,93	18,0
3,80	25,0	39,0	25,0	0,47	54,0
4,00	9,0	16,0	9,0	0,47	19,0
4,20	11,0	18,0	11,0	0,47	24,0
4,40	11,0	18,0	11,0	0,53	21,0
4,60	12,0	20,0	12,0	0,40	30,0
4,80	11,0	17,0	11,0	0,47	24,0
5,00	11,0	18,0	11,0	0,60	18,0

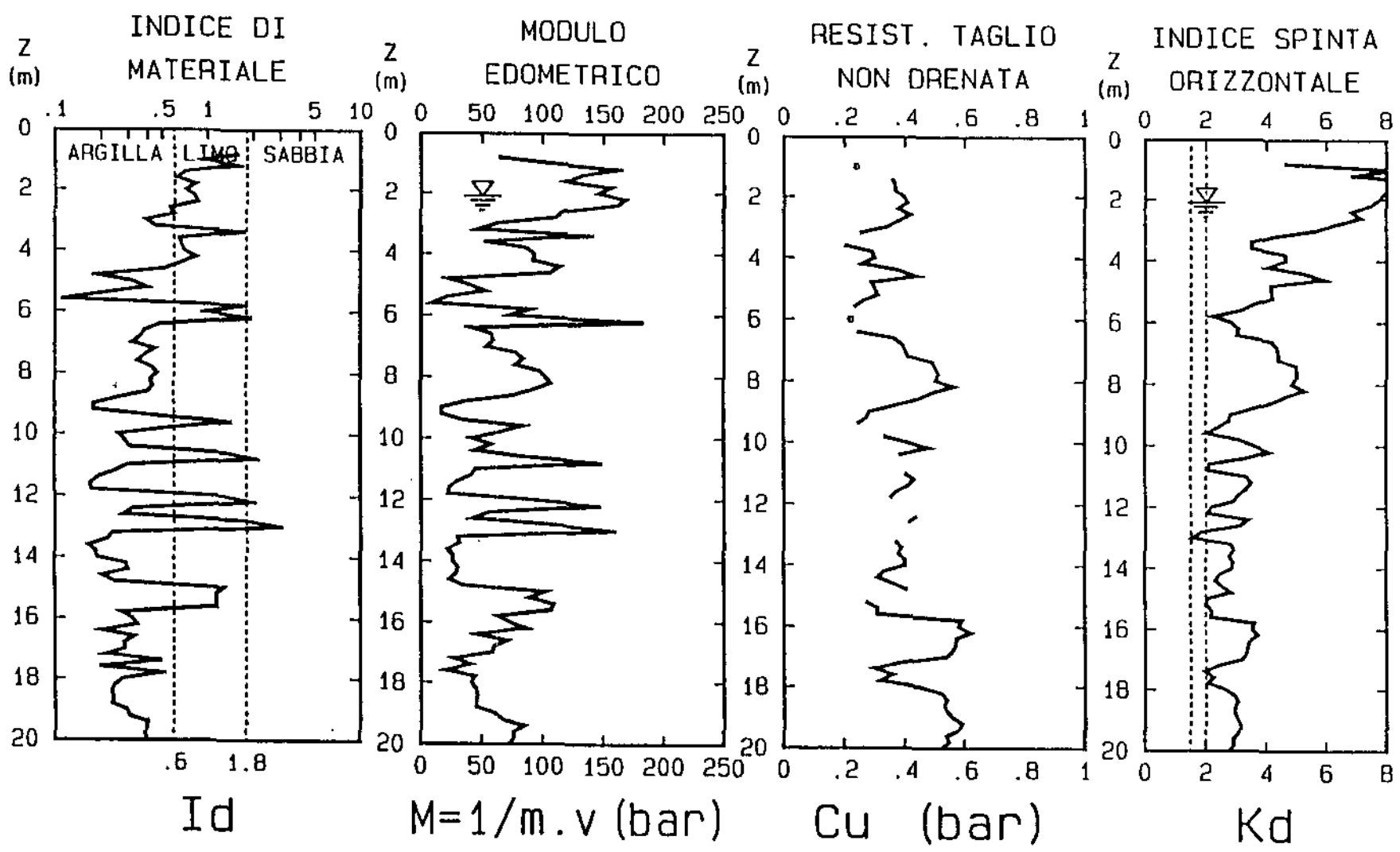
Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Q
5,20	7,0	16,0	7,0	0,33	21,0
5,40	7,0	12,0	7,0	0,40	17,0
5,60	7,0	13,0	7,0	0,40	17,0
5,80	10,0	16,0	10,0	0,40	25,0
6,00	21,0	27,0	21,0	0,67	31,0
6,20	8,0	18,0	8,0	0,73	11,0
6,40	8,0	19,0	8,0	0,40	20,0
6,60	7,0	13,0	7,0	0,47	15,0
6,80	6,0	13,0	6,0	0,47	13,0
7,00	7,0	14,0	7,0	0,27	26,0
7,20	9,0	13,0	9,0	0,33	27,0
7,40	8,0	13,0	8,0	0,47	17,0
7,60	10,0	17,0	10,0	0,67	15,0
7,80	12,0	22,0	12,0	0,80	15,0
8,00	12,0	24,0	12,0	0,67	18,0
8,20	13,0	23,0	13,0	0,80	16,0
8,40	14,0	26,0	14,0	0,80	17,0
8,60	12,0	24,0	12,0	0,60	20,0
8,80	8,0	17,0	8,0	0,40	20,0
9,00	8,0	14,0	8,0	0,40	20,0
9,20	7,0	13,0	7,0	0,27	26,0
9,40	6,0	10,0	6,0	0,20	30,0
9,60	7,0	10,0	7,0	0,27	26,0
9,80	7,0	11,0	7,0	0,20	35,0
10,00	9,0	12,0	9,0	—	—

- PENETROMETRO STATICO tipo GOUDA da 10 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 10 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann ø = 35.7 mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

8989

AMPLIAM. IMPIANTO DEPURAZIONE S. CROCE SULL' ARNO (PI)
PARAMETRI GEOTECNICI INTERPRETATI

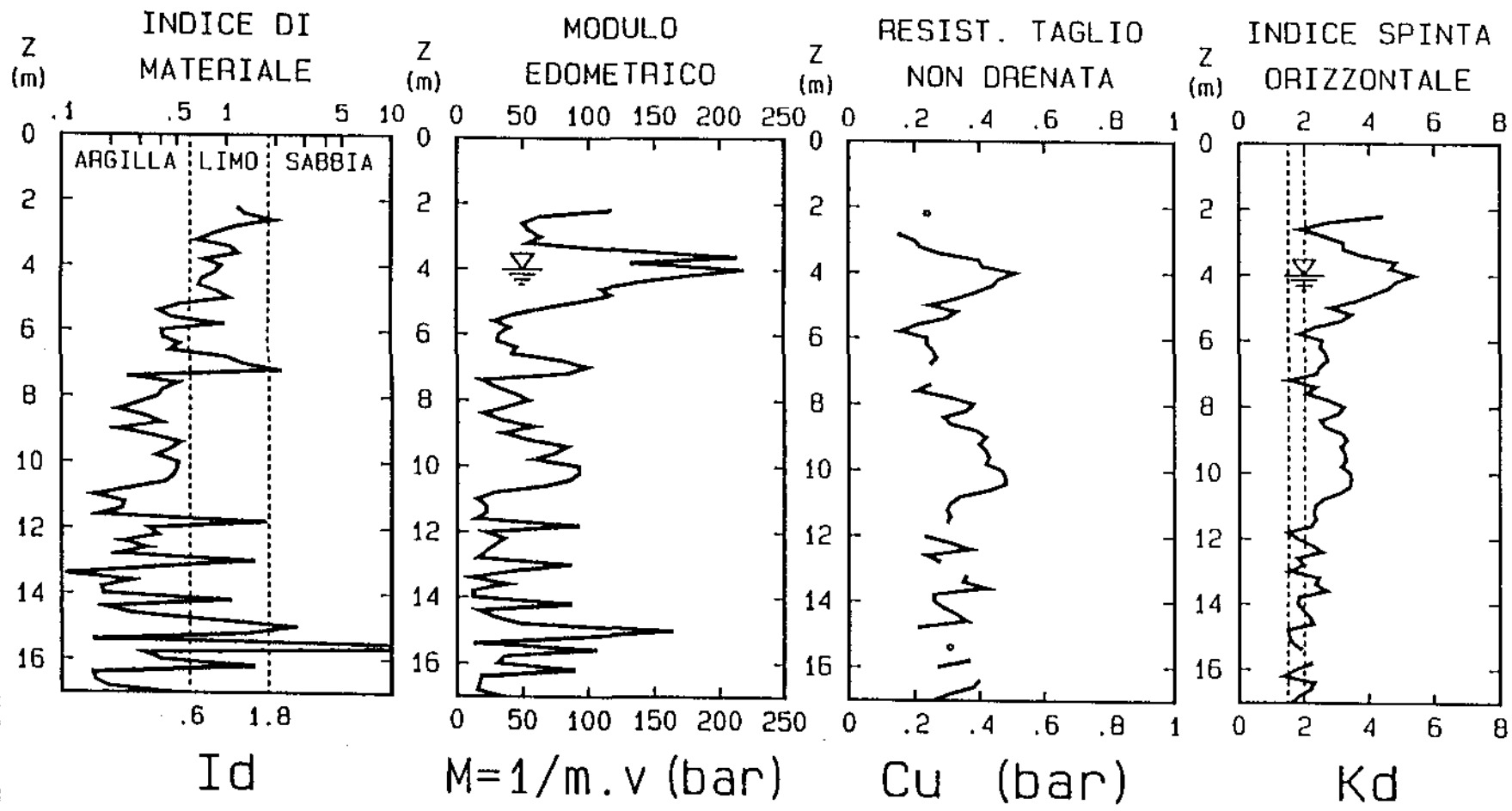
PROVA
D1
18 MAR 1998



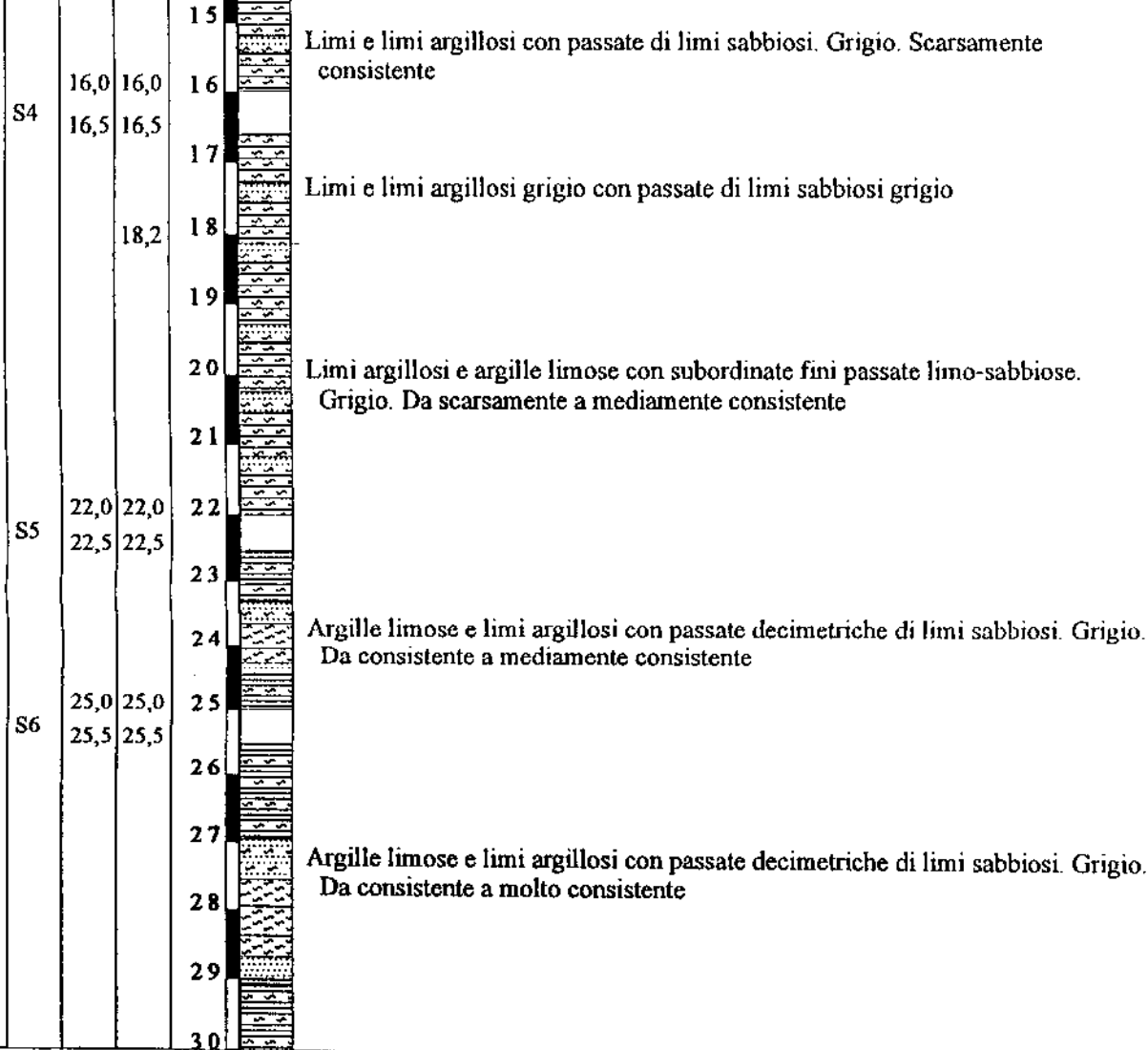
8990

AMPLIAM. IMPIANTO DEPURAZIONE S. CROCE SULL'ARNO (PI)
PARAMETRI GEOTECNICI INTERPRETATI

PROVA
D2
19 MAR 1998



Schema piezom.					Camp. (*)	Prof. (m)	Prof. (m)		Prof. (m)	Descrizione										Carotaggio % recupero
																				
							0,4			Terreno vegetale limoso marrone										
								1												
								2		Limi sabbiosi e sabbie limose marrone. Scarsamente addensato										
					S1	3,0 3,5	3,0 3,5	3												
								4		Limi sabbiosi e sabbie limose marrone e grigio. Scarsamente addensato										
							5,2	5												
								6												
								7		Limi e limi sabbiosi con passate limo-argillose anche decimetriche. Grigio. Scarsamente addensato/consistente										
					S2	7,5 8,0	7,5 8,0	8												
								9		Limi e limi sabbiosi con passate limo-argillose anche decimetriche. Grigio. Scarsamente addensato/consistente										
					S3	10,0 10,5	10,0 10,5	10												
								11												
								12												
								13		Limi e limi sabbiosi alternanti a limi argillosi. Grigio. Scarsamente addensato/consistente										
							14													
						14,6	15													



(*) 1,2,3, ... s = Shelby d = Denison

O = Osterberg a = altro

A, B, C, ... camp. rinosorg.

P.P. = Penetrometro tascabile

Tbr. = Sismometro tascabile

S.P.T. = Standard Penetration Test

V.T. = Vane Test (kg/cm²) max. residuo

R.Q.D. = Rock Quality Designation



Ripporto



Terreno vegetale



Argilla



Limo



Sabbia

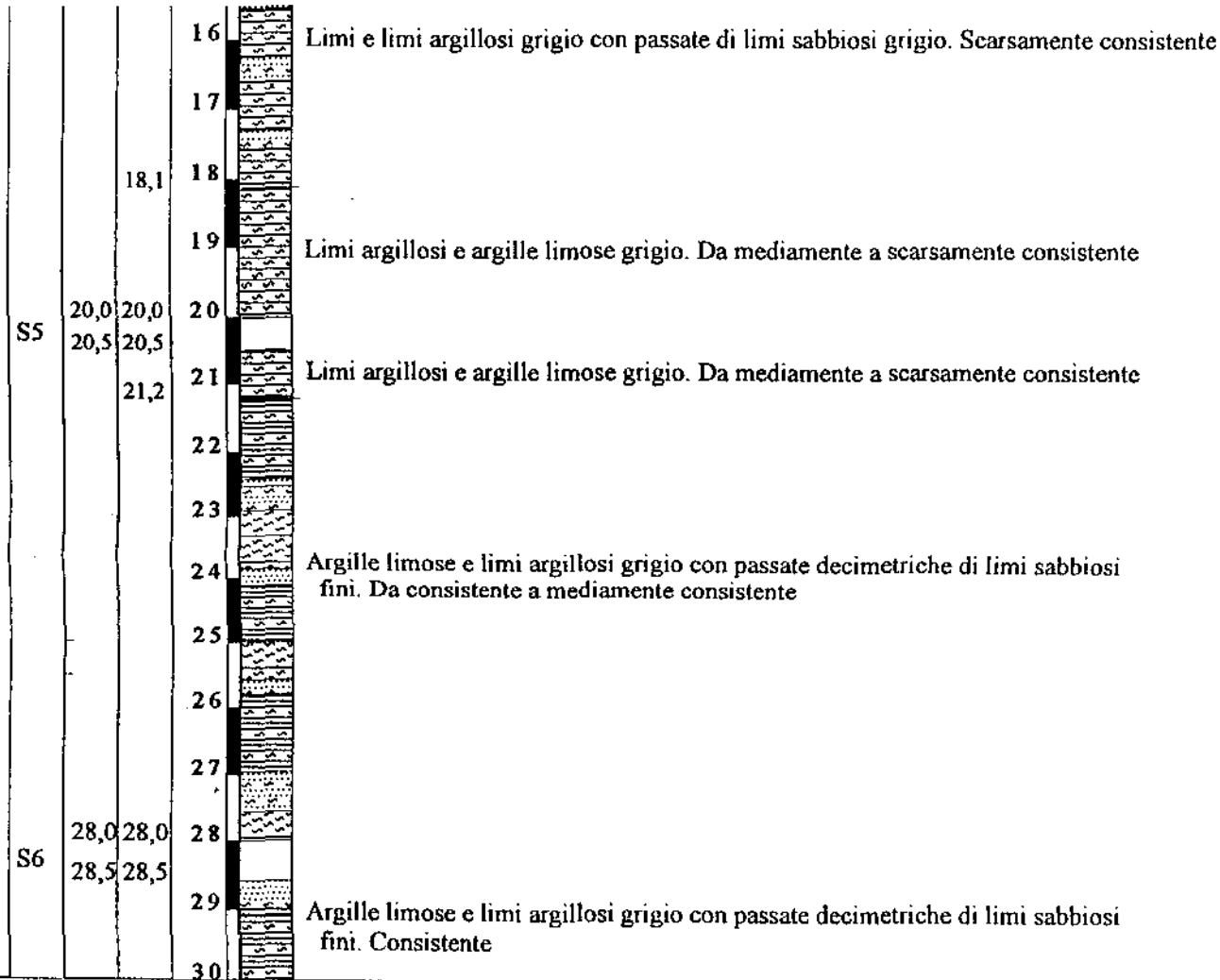


Ghiaia, ciottoli

NOTE:

Cantiere: Depuratore Località: S. Croce sull'Arno (PI) Data inizio: 17/3/98 Data fine: 8992
 Sondaggio n.: 2 Metodo perfor.: carotaggio continuo - carotiere semplice Diamm. (mm): 101/127
 Liv. falda (m da p.c.): - 1,52 Quota p.c. (m s.l.m.): Redattore stratigrafia Dott. Geol. Alessandro Fontanelli

Schema piezom.					Camp. (*)	Prof. (m)	Prof. (m)		Prof. (m)	Descrizione								Carotaggio % recupero
							0,4			Terreno vegetale limoso marrone								
								1										
								2		Limi sabbiosi e sabbie limose marrone. Scarsamente addensato								
					S1	3,0	3,0	3										
						3,5	3,5											
								4		Limi sabbiosi e sabbie fini limose con rare fini passate debolmente argillose marrone variegato grigio. Scarsamente addensato/consistente								
					S2	4,5	4,5											
						5,0	5,0	5										
								6										
								7		Limi sabbiosi e sabbie limose a luoghi argillosi, con intercalazioni decimetriche di limi argillosi grigio. Scarsamente addensato/consistente								
						7,5	7,5											
					S3	8,0	8,0	8										
						8,5	8,5											
								9										
								10										
								11		Limi sabbiosi e sabbie limose a luoghi argillosi, con intercalazioni decimetriche di limi argillosi grigio. Scarsamente addensato/consistente								
								12										
					S4	13,0	13,0	13										
						13,5	13,5											
								14										
								15										
								16		Limi e limi argillosi grigio con passate di limi sabbiosi grigio. Scarsamente consistente								



(*) 1,2,3, ... s = Shelby d = Denison
 O = Osterberg s = altro
 A, B, C, ... camp. rimangono
 P.P. = Penetrometro tascabile
 Tr. = Sclerosimetro tascabile
 S.P.T. = Standard Penetration Test
 V.T. = Vane Test (kg/cm²) max. residuo
 R.Q.D. = Rock Quality Designation



Riporto

Terreno vegetale

Argilla



Limo

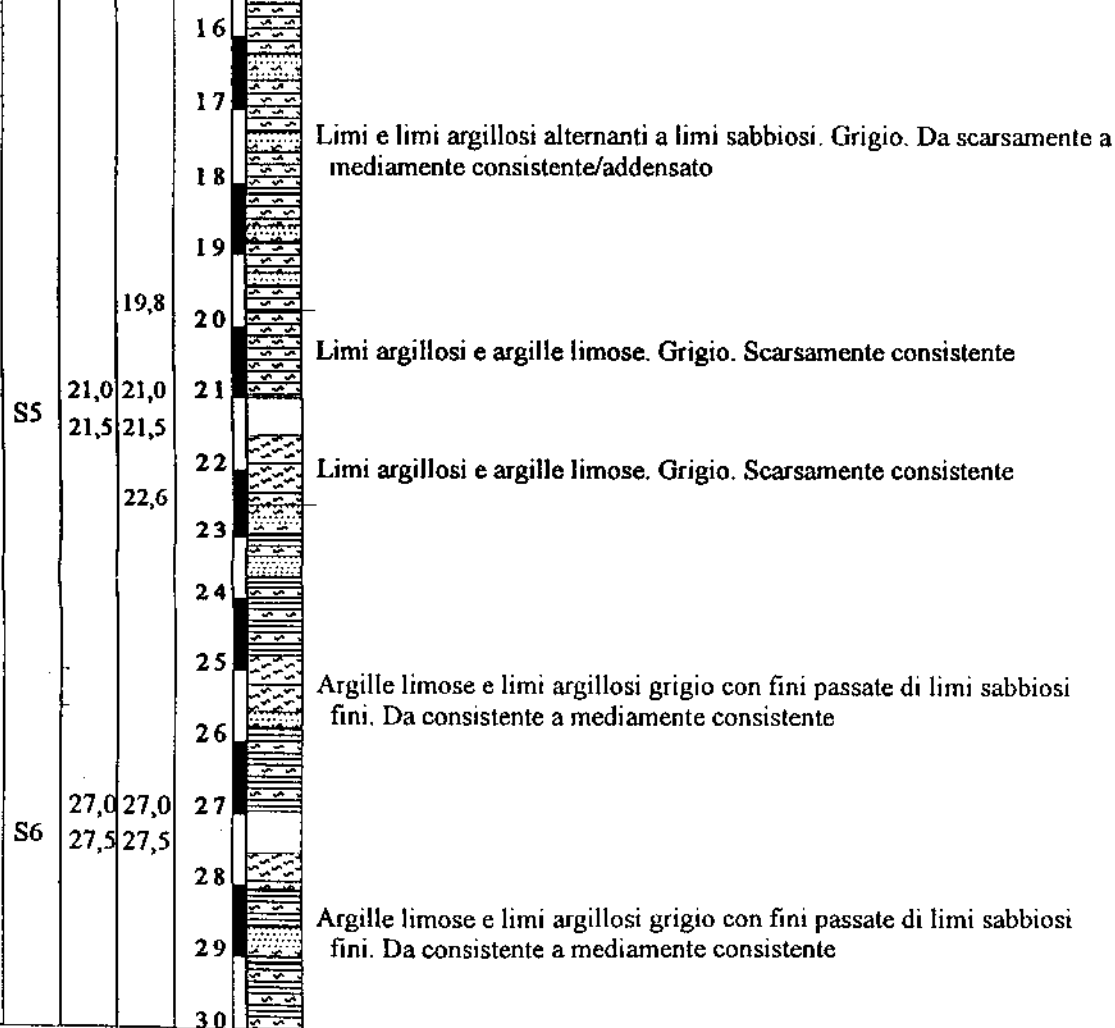
Sabbia

Ghiaia, ciottoli

NOTE:

Cantiere: Depuratore Località: S. Croce sull'Arno (PI) Data inizio: 19/3/98 Data fine: 8993
 Sondaggio n.: 3 Metodo perfor.: carotaggio continuo - carotiere semplice Diamm. (mm): 101/127
 Liv. falda (m da p.c.): - 3,20 Quota p.c. (m s.l.m.): Redattore stratigrafia Dott. Geol. Alessandro Fontanelli

Schema piezom.					Camp. (*)	Prof. (m)	Prof. (m)		Prof. (m)	Descrizione							Carotaggio % recupero
 cieco + cementazione tampone fessurato + pre-filtro							0,2			1	Terreno vegetale limoso marrone						
										2	Riporto eterogeneo a prevalenza limo-sabbiosa e limo-argillosa, con inclusi grossolani nella parte basale. Marrone. Consistente/addensato.						
										3							
										4							
							4,1			5	Limi e limi argillosi con intercalazioni limo-sabbiose. Marrone e grigio. Da scarsamente a mediamente consistente/addensato						
					S1	5,0	5,0			5							
						5,5	5,5			6	Limi e limi argillosi con intercalazioni limo-sabbiose. Marrone e grigio. Scarsamente consistente/addensato						
										7							
							6,8			7	Limi e limi argillosi. Grigio variegato marrone. Mediamente consistente						
					S2	7,5	7,5			8							
						8,0	8,0			9	Limi e limi argillosi alternanti a limi sabbiosi. Grigio. Da scarsamente a mediamente consistente/addensato						
										10							
										11							
					S3	10,5	10,5			12	Limi e limi argillosi alternanti a limi sabbiosi. Grigio. Da scarsamente a mediamente consistente/addensato						
						11,0	11,0			13							
										14							
										15							
					S4	15,0	15,0			15							
						15,5	15,5			16							



(*) 1,2,3, ... s - Shelby d - Denison
 O - Osterberg a - altro
 A, B, C, ... camp. rinascegg.
 P.E. - Penetrometro tascabile
 Tor. - Sismometro tascabile
 S.P.T. - Standard Penetration Test
 V.T. - Vane Test (kg/cm²) max. residuo
 R.Q.D. - Rock Quality Designation



Ripporto

Terreno vegetale

Argilla



Limo

Sabbia

Ghiaia, ciottoli

NOTE:

LEGENDA:

Prof. = profondità in metri

Rpt = Resistenza alla punta (kg/cmq)*10

Rat = Resistenza attrito laterale (Kg/cmq)*150

Rt = Resistenza totale sulle aste (kg)

Begemann = Rapporto Begemann

8995

Prof.	Rpt	Rat	Rt	Begemann	Rp (Kg/cmq)	mv
0,2	40	70	130	20	4	83
0,4	240	251	300	343	24	14
0,6	370	390	500	285	37	9
0,8	240	290	650	73	24	14
1,0	140	160	800	108	14	24
1,2	260	290	1000	130	26	13
1,4	190	210	1100	146	19	18
1,6	90	120	1200	45	9	37
1,8	40	51	1400	57	4	83
2,0	160	171	1600	229	16	21
2,2	660	761	1700	99	66	5
2,4	270	450	1850	23	27	12
2,6	260	541	1950	14	26	13
2,8	250	501	2100	15	25	13
3,0	220	420	2200	17	22	15
3,2	170	290	2300	21	17	20
3,4	170	260	2500	28	17	20
3,6	400	670	2800	22	40	8
3,8	400	720	2950	19	40	8
4,0	460	810	3150	20	46	7
4,2	530	860	3300	24	53	6
4,4	550	880	3400	25	55	6
4,6	520	820	3500	26	52	6
4,8	540	830	3650	28	54	6
5,0	660	941	3800	35	66	5
5,2	870	1.280	4000	32	87	4
5,4	720	1.061	4150	32	72	5
5,6	800	1.120	4300	38	80	4
5,8	980	1.360	4500	39	98	3
6,0	1140	1.620	4800	36	114	3
6,2	1380	1.940	4950	37	138	2
6,4	1020	1.470	5150	34	102	3
6,6	860	1.100	5300	54	86	4
6,8	580	970	5500	22	58	6
7,0	630	1.020	5600	24	63	5
7,2	470	890	5750	17	47	7
7,4	360	581	6000	24	36	9
7,6	410	691	6200	22	41	8
7,8	680	910	6400	44	68	5
8,0	700	960	6600	40	70	5
8,2	-	-	-	-	-	-
8,4	-	-	-	-	-	-
8,6	-	-	-	-	-	-
8,8	-	-	-	-	-	-
9,0	-	-	-	-	-	-
9,2	-	-	-	-	-	-
9,4	-	-	-	-	-	-
9,6	-	-	-	-	-	-
9,8	-	-	-	-	-	-
10,0	-	-	-	-	-	-

Profondità	N
0,0—0,3	1
0,3—0,6	1
0,6—0,9	2
0,9—1,2	2
1,2—1,5	6
1,5—1,8	8
1,8—2,1	6
2,1—2,4	6
2,4—2,7	6
2,7—3,0	6
3,0—3,3	9
3,3—3,6	6
3,6—3,9	5
3,9—4,2	7
4,2—4,5	8
4,5—4,8	8
4,8—5,1	11
5,1—5,4	13
5,4—5,7	17
5,7—6,0	21
6,0—6,3	25
6,3—6,6	25
6,6—6,9	33
6,9—7,2	47
7,2—7,5	60
7,5—7,8	0
7,8—8,1	0
8,1—8,4	0
8,4—8,7	0
8,7—9,0	0
9,0—9,3	0
9,3—9,6	0
9,6—9,9	0
9,9—10,2	0

Profondità	N°
0,0—0,3	1
0,3—0,6	2
0,6—0,9	2
0,9—1,2	3
1,2—1,5	4
1,5—1,8	4
1,8—2,1	12
2,1—2,4	20
2,4—2,7	8
2,7—3,0	4
3,0—3,3	5
3,3—3,6	4
3,6—3,9	7
3,9—4,2	7
4,2—4,5	10
4,5—4,8	13
4,8—5,1	14
5,1—5,4	17
5,4—5,7	21
5,7—6,0	23
6,0—6,3	25
6,3—6,6	32
6,6—6,9	36
6,9—7,2	38
7,2—7,5	41
7,5—7,8	57
7,8—8,1	0
8,1—8,4	0
8,4—8,7	0
8,7—9,0	0
9,0—9,3	0
9,3—9,6	0
9,6—9,9	0
9,9—10,2	0

Profondità	N° 8998
0,0—0,3	1
0,3—0,6	1
0,6—0,9	1
0,9—1,2	2
1,2—1,5	2
1,5—1,8	6
1,8—2,1	9
2,1—2,4	15
2,4—2,7	10
2,7—3,0	7
3,0—3,3	6
3,3—3,6	5
3,6—3,9	4
3,9—4,2	5
4,2—4,5	6
4,5—4,8	8
4,8—5,1	12
5,1—5,4	18
5,4—5,7	21
5,7—6,0	26
6,0—6,3	20
6,3—6,6	21
6,6—6,9	22
6,9—7,2	21
7,2—7,5	26
7,5—7,8	27
7,8—8,1	28
8,1—8,4	21
8,4—8,7	25
8,7—9,0	27
9,0—9,3	30
9,3—9,6	30
9,6—9,9	0
9,9—10,2	0

Profondità	N°	8999
0,0—0,3	1	
0,3—0,6	4	
0,6—0,9	7	
0,9—1,2	6	
1,2—1,5	7	
1,5—1,8	8	
1,8—2,1	8	
2,1—2,4	12	
2,4—2,7	7	
2,7—3,0	4	
3,0—3,3	5	
3,3—3,6	5	
3,6—3,9	5	
3,9—4,2	7	
4,2—4,5	9	
4,5—4,8	10	
4,8—5,1	13	
5,1—5,4	15	
5,4—5,7	19	
5,7—6,0	21	
6,0—6,3	27	
6,3—6,6	27	
6,6—6,9	34	
6,9—7,2	35	
7,2—7,5	37	
7,5—7,8	0	
7,8—8,1	0	
8,1—8,4	0	
8,4—8,7	0	
8,7—9,0	0	
9,0—9,3	0	
9,3—9,6	0	
9,6—9,9	0	
9,9—10,2	0	

PROFONDITA' [metri]	Qc [Kg/cmq]	Fs [Kg/cmq]	Qc/Fs	Qt [Kgf]	Gamma [Kg/dmc]	Sigma IVO [Kg/cmq]	Pi [gradi]	Dp [%]	Cu [Kg/cmq]	nv [cmq/t]	Colonna Stratig.
0.2					1,80	,04	-	-	-	-	
0.4					1,80	,07	-	-	-	-	
0.6	5,1	,3	15	130	1,48	,10	-	-	,20	58,8	T
0.8	7,3	,3	22	200	1,77	,14	-	-	,29	28,8	A
1.0	12,3	,6	21	280	1,91	,18	-	-	,48	21,0	A
1.2	14,3	,9	15	400	1,91	,21	-	-	,56	19,9	A
1.4	19,3	,9	22	550	1,92	,25	-	-	,76	19,7	A
1.6	19,3	1,3	14	720	1,92	,29	-	-	,76	19,7	A
1.8	20,4	1,4	15	760	1,92	,33	-	-	,80	19,6	A
2.0	17,4	1,3	13	990	1,60	,36	-	-	,68	21,3	T
2.2	17,4	1,6	11	1120	1,60	,39	-	-	,68	21,3	T
2.4	19,4	1,4	14	1240	1,92	,43	-	-	,76	19,8	A
2.6	17,4	1,5	12	1430	1,60	,46	-	-	,68	21,3	T
2.8	24,5	1,5	17	1690	1,93	,48	-	-	,96	16,3	A
3.0	24,5	1,4	18	1910	1,93	,50	-	-	,96	16,3	A
3.2	19,5	1,4	14	2090	1,92	,52	-	-	,76	19,8	A
3.4	18,5	1,3	15	2260	1,92	,54	-	-	,72	19,5	A
3.6	20,5	,9	22	2500	1,92	,56	-	-	,80	19,5	A
3.8	23,6	1,1	21	2700	1,93	,57	-	-	,92	16,9	A
4.0	25,6	1,1	24	2670	1,93	,59	-	-	1,00	15,6	AL
4.2	22,6	1,4	16	3100	1,93	,61	-	-	,88	17,7	A
4.4	19,6	1,5	13	3250	1,92	,63	-	-	,76	19,8	A
4.6	16,6	1,1	15	3310	1,91	,65	-	-	,64	19,4	A
4.8	15,7	,9	17	3400	1,91	,67	-	-	,60	19,5	A
5.0	11,7	,9	14	3440	1,55	,68	-	-	,44	31,7	T
5.2	9,7	,5	21	3560	1,89	,70	-	-	,36	23,8	A
5.4	12,7	,5	27	3670	1,91	,71	-	-	,48	20,7	AL
5.6	14,7	,3	44	3760	1,67	,73	-	-	,56	17,9	L
5.8	15,9	,7	24	3830	1,91	,75	-	-	,61	19,5	A
6.0	15,9	,8	20	3810	1,91	,76	-	-	,61	19,5	A
6.2	18,9	,4	47	3770	1,69	,78	-	-	,72	16,7	L
6.4	15,9	,5	30	3840	1,91	,80	-	-	,60	19,5	AL
6.6	22,9	,4	57	3800	1,71	,81	30	23	-	14,6	SS
6.8	15	,6	25	3760	1,91	,83	-	-	,57	19,7	A
7.0	16	,7	24	3780	1,91	,85	-	-	,61	19,5	A
7.2	22	,7	30	3870	1,71	,86	-	-	,85	15,2	L
7.4	25	1,1	22	4010	1,93	,88	-	-	,96	16	A
7.6	18	1,3	14	4020	1,92	,90	-	-	,68	19,5	A
7.8	22,2	,3	83	4190	1,71	,91	29	19	-	15,0	SS
8.0	17,2	,3	64	4100	1,69	,93	28	10	-	16,7	SS
8.2	10,2	,6	17	4130	1,90	,94	-	-	,37	23,1	A
8.4	12,2	,3	37	4070	1,66	,96	-	-	,45	19,7	L
8.6	14,2	,3	43	4090	1,67	,97	-	-	,53	18,2	L
8.8	10,3	,5	22	4200	1,90	,99	-	-	,37	23,0	A
9.0	10,3	,5	22	4260	1,90	1,01	-	-	,37	23,0	A
9.2	10,3	,5	22	4320	1,90	1,02	-	-	,37	23,0	A
9.4	12,3	,3	37	4310	1,66	1,04	-	-	,45	19,6	L
9.6	12,3	,5	23	4300	1,91	1,06	-	-	,45	21,0	A
9.8	9,4	,5	20	4370	1,87	1,07	-	-	,33	24,3	A
10.0	11,4	,4	29	4400	1,90	1,09	-	-	,41	21,8	AL

PROFONDITA' [metri]	Qc [Kg/cmq]	Fs [Kg/cmq]	Qc/Fs	Qt [Kgf]	Gamma [Kg/dmc]	Sigma Ivo [Kg/cmq]	Pi [gradi]	Dp [%]	Cu [Kg/cmq]	Nv [cmq/t]	Colonna Stratig.
10.2	12,4	,3	37	4460	1,66	1,10	-	-	,45	19,5	L
10.4	13,4	,5	29	4530	1,91	1,12	-	-	,49	20,3	AL
10.6	13,4	,5	25	4580	1,91	1,14	-	-	,49	20,3	A
10.8	13,6	,4	34	4560	1,67	1,15	-	-	,50	18,6	L
11.0	13,6	,4	34	4530	1,67	1,17	-	-	,50	18,6	L
11.2	15,6	,4	39	4520	1,68	1,18	-	-	,58	17,5	L
11.4	15,6	,4	39	4530	1,68	1,19	-	-	,58	17,5	L
11.6	18,6	,4	47	4490	1,69	1,21	-	-	,70	16,7	L
11.8	12,7	,7	19	4530	1,91	1,23	-	-	,46	20,7	A
12.0	13,7	,3	41	4560	1,67	1,24	-	-	,50	18,5	L
12.2	19,7	,4	49	4550	1,70	1,25	28	8	-	16,7	SS
12.4	38,7	1	39	4570	1,79	1,27	30	-	-	8,6	SL
12.6	14,7	,7	22	4610	1,91	1,29	-	-	,54	19,8	A
12.8	44,8	,5	84	4580	1,82	1,30	31	35	-	7,4	SMA
13.0	16,8	1,1	15	4550	1,92	1,32	-	-	,62	19,4	A
13.2	16,8	,5	36	4440	1,68	1,34	-	-	,62	17,1	L
13.4	11,8	,1	89	4270	1,66	1,35	28	2	-	16,7	SS
13.6	9,8	,5	21	4260	1,89	1,37	-	-	,34	23,7	A
13.8	10,9	,4	27	4180	1,90	1,38	-	-	,38	22,3	AL
14.0	11,9	,3	36	4230	1,66	1,40	-	-	,42	19,9	L
14.2	12,9	,3	39	4240	1,66	1,41	-	-	,46	19,1	L
14.4	10,9	,5	23	4280	1,90	1,43	-	-	,38	22,3	A
14.6	12,9	,3	48	4280	1,66	1,44	28	2	-	16,7	SS
14.8	14,1	,4	35	4270	1,67	1,46	-	-	,51	18,3	L
15.0	14,1	,4	35	4280	1,67	1,47	-	-	,51	18,3	L

PROFONDITA' [metri]	Qc [Kg/cmq]	Fs [Kg/cmq]	Qc/Fs	Qt [Kgf]	Gamma [Kg/dmc]	Sigma IVO [Kg/cmq]	Pi [gradi]	Dp [%]	Cu [Kg/cmq]	Nv [cmq/t]	Colonna Stratig.
0.2					1,80	,04	-	-	-	-	
0.4					1,80	,07	-	-	-	-	
0.6	3,1	,3	9	130	1,46	,10	-	-	,12	89,7	T
0.8	10,3	,3	31	120	1,90	,14	-	-	,41	23,0	AL
1.0	11,3	,3	42	170	1,66	,17	-	-	,45	20,6	L
1.2	7,3	,5	16	180	1,50	,20	-	-	,28	44,9	T
1.4	9,3	,5	17	260	1,87	,24	-	-	,36	24,4	A
1.6	12,3	,7	17	410	1,91	,28	-	-	,48	21,0	A
1.8	12,4	,5	27	590	1,91	,32	-	-	,48	20,9	AL
2.0	13,4	1,3	11	710	1,56	,35	-	-	,52	27,6	T
2.2	16,4	1,1	14	920	1,91	,39	-	-	,64	19,4	A
2.4	15,4	1,5	11	1180	1,58	,42	-	-	,60	24,1	T
2.6	21,4	1,3	16	1360	1,93	,46	-	-	,84	18,7	A
2.8	23,5	1,7	14	1620	1,93	,47	-	-	,92	17,0	A
3.0	20,5	1,5	14	1700	1,92	,49	-	-	,80	19,5	A
3.2	15,5	1,2	13	1860	1,59	,50	-	-	,60	23,9	T
3.4	19,5	,9	21	2040	1,92	,52	-	-	,76	19,8	A
3.6	22,5	1,1	21	2160	1,93	,54	-	-	,88	17,8	A
3.8	23,6	1,1	21	2300	1,93	,56	-	-	,92	16,9	A
4.0	22,6	1,4	16	2380	1,93	,58	-	-	,88	17,7	A
4.2	18,6	1,2	16	2530	1,92	,60	-	-	,72	19,6	A
4.4	19,6	1,2	16	2710	1,92	,62	-	-	,76	19,8	A
4.6	15,6	1,1	15	2780	1,91	,63	-	-	,60	19,5	A
4.8	14,7	,9	16	2900	1,91	,65	-	-	,56	19,8	A
5.0	13,7	,9	15	3010	1,91	,67	-	-	,52	20,2	A
5.2	13,7	,7	19	3070	1,91	,69	-	-	,52	20,2	A
5.4	13,7	,6	23	3260	1,91	,71	-	-	,52	20,2	A
5.6	15,7	,8	20	3400	1,91	,72	-	-	,60	19,5	A
5.8	18,9	1	19	3550	1,92	,74	-	-	,73	19,6	A
6.0	20,9	1	21	3640	1,92	,76	-	-	,81	19,1	A
6.2	13,9	1,2	12	3680	1,57	,77	-	-	,53	26,6	T
6.4	13,9	,5	26	3740	1,91	,79	-	-	,52	20,1	AL
6.6	13,9	,7	19	3670	1,91	,81	-	-	,52	20,1	A
6.8	15	,5	28	3860	1,91	,83	-	-	,57	19,7	AL
7.0	15	,8	19	3960	1,91	,85	-	-	,57	19,7	A
7.2	22	,7	30	4060	1,71	,86	-	-	,85	15,2	L
7.4	24	1,3	19	4180	1,93	,88	-	-	,92	16,7	A
7.6	20	1,5	14	4210	1,92	,90	-	-	,76	20	A
7.8	11,2	,9	13	4260	1,54	,91	-	-	,41	33,1	T
8.0	10,2	,5	19	4290	1,90	,93	-	-	,37	23,1	A
8.2	14,2	,5	30	4300	1,91	,94	-	-	,53	19,9	AL
8.4	14,2	,5	27	4270	1,91	,96	-	-	,53	19,9	AL
8.6	13,2	,8	17	4280	1,91	,98	-	-	,49	20,4	A
8.8	13,3	,9	15	4330	1,91	1,00	-	-	,49	20,4	A
9.0	13,3	,7	18	4320	1,91	1,02	-	-	,49	20,4	A
9.2	11,3	,7	15	4310	1,90	1,03	-	-	,41	21,9	A
9.4	13,3	,6	22	4320	1,91	1,05	-	-	,49	20,4	A
9.6	14,3	,8	18	4360	1,91	1,07	-	-	,53	19,9	A
9.8	14,4	,7	22	4370	1,91	1,09	-	-	,53	19,9	A
10.0	13,4	,7	18	4390	1,91	1,11	-	-	,49	20,3	A

PROFONDITA' [metri]	Qc [Kg/cmq]	Ps [Kg/cmq]	Qc/Ps	Qt [Kgf]	Gamma [Kg/dmc]	Sigma Ivo [Kg/cmq]	Fi [gradi]	D _p [%]	c _u [Kg/cmq]	m _v [cmq/t]	Colonna Stratig.
10.2	10,4	,8	13	4450	1,53	1,12	-	-	,37	35,6	T
10.4	12,4	,5	23	4480	1,91	1,14	-	-	,45	20,9	A
10.6	12,4	,5	27	4510	1,91	1,16	-	-	,45	20,9	AL
10.8	11,6	,5	25	4570	1,90	1,17	-	-	,42	21,6	A
11.0	11,6	,6	19	4580	1,90	1,19	-	-	,42	21,6	A
11.2	13,6	,6	23	4630	1,91	1,21	-	-	,50	20,2	A
11.4	15,6	,7	23	4730	1,91	1,23	-	-	,57	19,5	A
11.6	15,6	,8	20	4760	1,91	1,25	-	-	,57	19,5	A
11.8	14,7	,6	25	4780	1,91	1,27	-	-	,54	19,8	A
12.0	14,7	,7	22	4810	1,91	1,28	-	-	,54	19,8	A

x (m)	N	Nst	Nc	Ns	Nr
0.1	1	1	1	1	0
0.2	2	2	2	2	0
0.3	5	5	5	5	0
0.4	5	5	5	5	0
0.5	7	7	7	7	0
0.6	5	5	5	5	0
0.7	4	4	4	4	0
0.8	4	4	4	4	0
0.9	5	5	5	5	0
1.0	4	4	4	4	0
1.1	4	4	4	4	0
1.2	4	4	4	4	0
1.3	3	3	3	3	0
1.4	4	4	4	4	0
1.5	5	5	5	5	0
1.6	6	6	6	6	0
1.7	5	5	5	5	0
1.8	4	4	4	4	0
1.9	6	6	6	6	0
2.0	5	5	5	5	0
2.1	5	5	5	5	0
2.2	5	5	5	5	0
2.3	6	6	6	6	0
2.4	4	4	4	4	0
2.5	5	5	4	4	0
2.6	5	5	4	4	0
2.7	6	6	5	4	0
2.8	4	4	3	4	0
2.9	5	5	4	3	0
3.0	4	4	3	3	0
3.1	5	5	3	3	0
3.2	4	4	3	3	0
3.3	5	5	4	3	0
3.4	3	3	2	2	0
3.5	4	4	3	3	0
3.6	4	4	3	3	0
3.7	4	4	3	3	0
3.8	3	3	2	2	0
3.9	4	4	3	3	0
4.0	4	4	3	3	0
4.1	3	3	2	2	0
4.2	4	4	3	2	0
4.3	3	3	2	2	0
4.4	3	3	2	2	0
4.5	2	2	1	1	0
4.6	3	3	2	2	0
4.7	5	5	5	2	0
4.8	2	2	1	1	0
4.9	4	4	4	4	0
5.0	5	5	5	5	0
5.1	6	6	6	5	0
5.2	4	4	4	4	0
5.3	4	4	4	4	0
5.4	4	4	4	4	0
5.5	4	4	4	4	0
5.6	4	4	4	4	0
5.7	4	4	4	4	0
5.8	4	4	4	4	0
5.9	4	4	4	4	0
6.0	4	4	4	4	0
6.1	4	4	4	4	0
6.2	4	4	4	4	0
6.3	4	4	4	4	0
6.4	4	4	4	4	0
6.5	4	4	4	4	0
6.6	5	5	5	5	0
6.7	6	6	6	6	0
6.8	8	8	7	6	0
6.9	6	6	5	5	0
7.0	6	6	5	5	0
7.1	6	6	5	5	0
7.2	6	6	5	5	0
7.3	5	5	5	5	0
7.4	6	6	5	5	0
7.5	7	7	6	6	0
7.6	7	7	6	6	0
7.7	4	4	4	4	0
7.8	6	6	5	4	0
7.9	5	5	4	4	0
8.0	7	7	6	6	0
8.1	7	7	8	5	0
8.2	4	4	4	4	0
8.3	6	6	5	5	0
8.4	6	6	5	5	0
8.5	6	6	5	5	0
8.6	10	10	8	8	0
8.7	10	10	8	8	0
8.8	10	10	8	8	0
8.9	10	10	8	8	0
9.0	10	10	8	8	0
9.1	10	10	8	8	0
9.2	10	10	8	8	0

Z (M)	N	Nst	Nc	Ns	Np
0.1	3	3	3	3	0
0.2	5	5	5	5	0
0.3	5	5	5	5	0
0.4	4	4	4	4	0
0.5	3	3	3	3	0
0.6	5	5	5	5	0
0.7	7	7	7	7	0
0.8	6	6	6	6	0
0.9	10	10	10	8	0
1.0	9	9	9	9	0
1.1	8	8	8	8	0
1.2	7	7	7	7	0
1.3	7	7	7	7	0
1.4	7	7	7	7	0
1.5	7	7	7	7	0
1.6	6	6	6	6	0
1.7	5	5	5	5	0
1.8	6	6	6	6	0
1.9	6	6	6	6	0
2.0	5	5	5	5	0
2.1	4	4	4	4	0
2.2	5	5	5	4	0
2.3	5	5	4	4	0
2.4	4	4	4	4	0
2.5	5	5	4	4	0
2.6	5	5	4	4	0
2.7	6	6	5	5	0
2.8	7	7	6	5	0
2.9	5	5	4	4	0
3.0	4	4	3	3	0
3.1	5	5	4	3	0
3.2	4	4	3	3	0
3.3	5	5	4	3	0
3.4	4	4	3	3	0
3.5	4	4	3	3	0
3.6	3	3	2	2	0
3.7	4	4	3	3	0
3.8	5	5	4	4	0
3.9	6	6	4	4	0
4.0	4	4	3	3	0
4.1	4	4	3	3	0
4.2	3	3	2	2	0
4.3	3	3	2	2	0
4.4	4	4	3	3	0
4.5	5	5	3	3	0
4.6	5	5	3	3	0
4.7	5	5	3	3	0
4.8	4	4	3	3	0
4.9	4	4	4	4	0
5.0	5	5	5	5	0
5.1	5	5	5	5	0
5.2	6	6	6	5	0
5.3	5	5	5	5	0
5.4	5	5	5	5	0
5.5	4	4	4	4	0
5.6	4	4	4	4	0
5.7	5	5	5	5	0
5.8	5	5	5	5	0
5.9	5	5	5	5	0
6.0	4	4	4	4	0
6.1	5	5	5	5	0
6.2	5	5	5	5	0
6.3	4	4	4	4	0
6.4	5	5	5	5	0
6.5	5	5	5	5	0
6.6	4	4	4	4	0
6.7	5	5	5	4	0
6.8	4	4	4	4	0
6.9	5	5	5	4	0
7.0	4	4	4	4	0
7.1	5	5	5	5	0
7.2	5	5	5	5	0
7.3	4	4	4	4	0
7.4	5	5	5	5	0
7.5	6	6	5	5	0
7.6	8	8	7	7	0
7.7	9	9	8	8	0
7.8	12	12	10	9	0
7.9	10	10	9	9	0
8.0	10	10	9	9	0
8.1	9	9	8	8	0
8.2	8	8	7	7	0
8.3	8	8	7	7	0
8.4	9	9	8	8	0
8.5	10	10	8	8	0
8.6	10	10	8	8	0
8.7	11	11	9	9	0
8.8	13	13	11	10	0
8.9	12	12	10	10	0
9.0	16	16	14	14	0
9.1	19	19	15	15	0
9.2	22	22	17	17	0

LEGENDA :

c_u - Coesione non drenata (Schmertmann) - $c_u = (R_p - r_{lt})/N_c$ (Kg/cm²)

R_p - Resistenza alla punta (Kg/cm²) - r_{lt} - Pressione litostatica efficace (Kg/cm²)

ϕ - Angolo di attrito interno (Mitchell) - av = Coeff. di compressibilità volumetrica (cm²/Kg) (Mitchell & Gardner)

$av = 1 / (a \cdot R_p)$ (cm²/Kg)

$av = 1 / (a \cdot R_p)$ dove a - Coefficiente adimensionale funzione della R_p e del rapporto Begemann

Committente.....: CAMPANI ALDO

quota iniz. : P.C.

Per conto

prof. falda =

Località.....: S. CROCE S/ARNO

data : 02/12/1996

Profondità raggiunta...: 10.0 m.

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Tabulato dei valori geotecnici calcolati

prof. m.	R_p Kg/cm ²	c_u Kg/cm ²	ϕ (°)	av cm ² /Kg	prof. m.	R_p Kg/cm ²	c_u Kg/cm ²	ϕ (°)	av cm ² /Kg
0.20	10	0.40	0	0.029	5.20	23	1.13	0	0.012
0.40	11	0.44	0	0.026	5.40	22	1.07	0	0.013
0.60	10	0.40	0	0.029	5.60	19	0.70	0	0.016
0.80	10	0.40	0	0.029	5.80	16	0.62	0	0.013
1.00	17	0.68	0	0.017	6.00	17	0.66	0	0.017
1.20	18	0.72	0	0.016	6.20	15	0.58	0	0.019
1.40	18	0.71	0	0.016	6.40	14	0.54	0	0.020
1.60	22	1.09	0	0.013	6.60	12	0.45	0	0.024
1.80	28	1.39	0	0.010	6.80	11	0.41	0	0.026
2.00	29	1.44	0	0.010	7.00	10	0.37	0	0.029
2.20	20	0.79	0	0.014	7.20	12	0.45	0	0.024
2.40	17	0.67	0	0.017	7.40	12	0.45	0	0.024
2.60	19	0.75	0	0.015	7.60	14	0.53	0	0.020
2.80	27	1.34	0	0.011	7.80	12	0.45	0	0.024
3.00	34	1.69	0	0.010	8.00	9	0.33	0	0.032
3.20	34	1.68	0	0.010	8.20	14	0.53	0	0.020
3.40	35	1.73	0	0.010	8.40	13	0.49	0	0.022
3.60	34	1.68	0	0.010	8.60	16	0.61	0	0.013
3.80	32	1.58	0	0.010	8.80	20	0.77	0	0.014
4.00	30	1.48	0	0.010	9.00	15	0.57	0	0.019
4.20	36	1.78	0	0.009	9.20	12	0.45	0	0.024
4.40	36	1.78	0	0.009	9.40	11	0.40	0	0.026
4.60	33	1.63	0	0.010	9.60	10	0.36	0	0.029
4.80	28	1.38	0	0.010	9.80	11	0.40	0	0.026
5.00	27	1.33	0	0.011	10.00	12	0.44	0	0.024

LEGENDA:

Prof. = profondità in metri

Rpt = Resistenza alla punta (kg/cm²)*10Rat = Resistenza attrito laterale (Kg/cm²)*150

Rt = Resistenza totale sulle aste (kg)

Begemann = Rapporto Begemann

9010

Prof.	Rpt	Rat	Rt	Begemann	Rp (Kg/cm ²)	Cu	mv
0,2	80	120	200	30	8	0,2	42
0,4	130	160	250	65	13	0,4	26
0,6	190	230	300	71	19	0,5	18
0,8	220	410	800	17	22	0,6	15
1,0	610	820	1100	44	61	1,7	5
1,2	650	1050	1600	24	65	1,8	5
1,4	590	1200	1750	15	59	1,6	6
1,6	520	1210	2150	11	52	1,4	6
1,8	630	1380	2800	13	63	1,7	5
2,0	800	1660	3500	14	80	2,2	4
2,2	670	1600	4200	11	67	1,9	5
2,4	490	1420	4750	8	49	1,4	7
2,6	360	1130	5300	7	36	1,0	9
2,8	330	940	5700	8	33	0,9	10
3,0	320	770	6100	11	32	0,9	10
3,2	350	750	6300	13	35	1,0	10
3,4	320	650	6350	15	32	0,9	10
3,6	300	600	6300	15	30	0,8	11
3,8	290	580	6100	15	29	0,8	11
4,0	310	580	5700	17	31	0,9	11
4,2	290	580	5000	15	29	0,8	11
4,4	260	500	4500	16	26	0,7	13
4,6	180	400	4100	12	18	0,5	19
4,8	160	320	4200	15	16	0,4	21
5,0	220	320	4500	33	22	0,6	15
5,2	180	360	5200	15	18	0,5	19
5,4	150	310	5700	14	15	0,4	22
5,6	220	360	6000	24	22	0,6	15
5,8	300	400	6400	45	30	0,8	11
6,0	330	450	6200	41	33	0,9	10
6,2	300	410	6200	41	30	0,8	11
6,4	290	390	6000	44	29	0,8	11
6,6	280	400	6000	35	28	0,8	12
6,8	310	420	5800	42	31	0,9	11
7,0	250	350	5400	38	25	0,7	13
7,2	210	300	5300	35	21	0,6	16
7,4	180	270	5100	30	18	0,5	19
7,6	180	250	4800	39	18	0,5	19
7,8	150	210	4800	38	15	0,4	22
8,0	140	210	4900	30	14	0,4	24
8,2	180	260	4700	34	18	0,5	19
8,4	130	200	4700	28	13	0,4	26
8,6	120	220	4600	18	12	0,3	28
8,8	150	290	4600	16	15	0,4	22
9,0	160	240	4700	30	16	0,4	21
9,2	-	-	-	-	-	-	-
9,4	-	-	-	-	-	-	-
9,6	-	-	-	-	-	-	-
9,8	-	-	-	-	-	-	-
10,0	-	-	-	-	-	-	-

LEGENDA:

Prof. = profondità in metri

Rpt = Resistenza alla punta (kg/cmq)*10

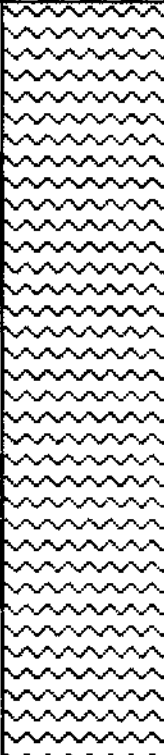
Rat = Resistenza attrito laterale (Kg/cmq)*150

Rt = Resistenza totale sulle aste (kg)

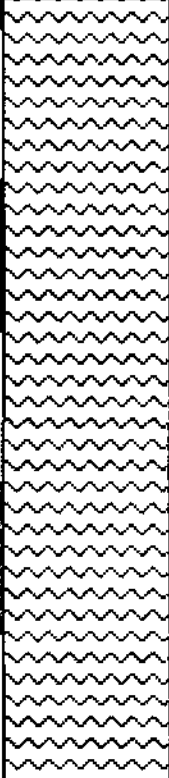
Begemann = Rapporto Begemann

9011

Prof.	Rpt	Rat	Rt	Begemann	Rp (Kg/cmq)	Cu	mv
0,2	110	150	200	41	11	0,3	30
0,4	160	240	350	30	16	0,4	21
0,6	170	320	700	17	17	0,5	20
0,8	550	720	950	49	55	1,5	6
1,0	730	880	1200	73	73	2,0	5
1,2	560	1010	1550	19	56	1,6	6
1,4	520	1110	1800	13	52	1,4	6
1,6	510	1130	2150	12	51	1,4	7
1,8	590	1270	2900	13	59	1,6	6
2,0	610	1410	3350	11	61	1,7	5
2,2	460	1250	4000	9	46	1,3	7
2,4	360	1100	4350	7	36	1,0	9
2,6	360	870	4850	11	36	1,0	9
2,8	380	810	5300	13	38	1,1	9
3,0	360	800	5600	12	36	1,0	9
3,2	370	750	5600	15	37	1,0	9
3,4	340	650	5500	16	34	0,9	10
3,6	320	630	5400	15	32	0,9	10
3,8	340	620	5200	18	34	0,9	10
4,0	320	560	4800	20	32	0,9	10
4,2	320	570	4400	19	32	0,9	10
4,4	290	550	4300	17	29	0,8	11
4,6	220	430	4400	16	22	0,6	15
4,8	200	330	4700	23	20	0,6	17
5,0	200	300	4900	30	20	0,6	17
5,2	180	340	5300	17	18	0,5	19
5,4	170	300	5700	20	17	0,5	20
5,6	130	230	6000	20	13	0,4	26
5,8	160	220	6250	40	16	0,4	21
6,0	280	330	6100	84	28	0,8	12
6,2	180	310	6100	21	18	0,5	19
6,4	80	160	6200	15	8	0,2	42
6,6	60	140	6300	11	6	0,2	56
6,8	130	160	6150	65	13	0,4	26
7,0	90	150	6300	23	9	0,2	37
7,2	210	270	6100	53	21	0,6	16
7,4	150	260	6000	20	15	0,4	22
7,6	350	370	5800	263	35	1,0	10
7,8	270	320	5400	81	27	0,7	12
8,0	190	300	5300	26	19	0,5	18
8,2	140	210	5100	30	14	0,4	24
8,4	110	160	5000	33	11	0,3	30
8,6	150	240	5000	25	15	0,4	22
8,8	170	270	4800	26	17	0,5	20
9,0	130	220	4900	22	13	0,4	26
9,2	-	-	-	-	-	-	-
9,4	-	-	-	-	-	-	-
9,6	-	-	-	-	-	-	-
9,8	-	-	-	-	-	-	-
10,0	-	-	-	-	-	-	-

Prof. (m)	Stratigrafia	Descrizione dei litotipi	9019	Camp. d i	P.P. kg/cm ²
0,50		Terreno di riporto con resti di manufatti (laterizi) e elementi vegetali (radici). colore marrone. Matrice limo argillosa.	-0,20		1,5 1,0
1,00		Terreno prevalentemente limo sabbioso ben addensato. Colore marrone. Scarsa presenza di inclusi a granulometria maggiore (ghiaia).	-0,50		2,5 3,0 f.s. f.s.
3,00			-3,00		
3,50					
4,00					
4,50					
5,00					

Note : Falda non rinvenuta

Prof. (m)	Stratigrafia	Descrizione dei litotipi	9020	Camp. d i	P.P. kg/cm ²
		Terreno di riporto con resti di manufatti (laterizi) e elementi vegetali (radici). colore marrone. Matrice limo argillosa.	-0,20		1,2
0,50			-0,40		1,8
1,00		Terreno prevalentemente limo sabbioso ben addensato. Colore marrone. Scarsa presenza di inclusi a granulometria maggiore (ghiaia).			2,4
1,50					3,2
					f.s.
2,00		— — — Emergenza di acqua — — — — — — — — — —	-1,75		3,8
2,50					
3,00			-3,00		
3,50					
4,00					
4,50					
5,00					

Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs	Prof. m	RP/10 kg/cm ²	RL/10 kg/cm ²	Qc kg/cm ²	fs kg/cm ²	Qc/fs
0,20	---	---	--	---	---	4,20	9,0	15,0	18,0	0,80	22,0
0,40	---	---	--	0,27	---	4,40	8,5	14,5	17,0	0,80	21,0
0,60	4,5	6,5	9,0	0,20	45,0	4,60	8,0	14,0	16,0	0,87	18,0
0,80	7,0	8,5	14,0	0,53	26,0	4,80	8,0	14,5	16,0	0,87	18,0
1,00	8,0	12,0	16,0	0,73	22,0	5,00	8,0	14,5	16,0	0,87	18,0
1,20	8,0	13,5	16,0	0,67	24,0	5,20	7,5	14,0	15,0	0,73	20,0
1,40	10,0	15,0	20,0	0,80	25,0	5,40	6,0	11,5	12,0	0,33	36,0
1,60	11,5	17,5	23,0	0,80	29,0	5,60	15,5	18,0	31,0	0,47	66,0
1,80	9,0	15,0	18,0	0,80	22,0	5,80	12,5	16,0	25,0	0,73	34,0
2,00	8,5	14,5	17,0	0,93	18,0	6,00	8,0	13,5	16,0	0,47	34,0
2,20	9,5	16,5	19,0	1,07	18,0	6,20	5,5	9,0	11,0	0,27	41,0
2,40	11,0	19,0	22,0	1,33	16,0	6,40	4,5	6,5	9,0	0,27	34,0
2,60	10,5	20,5	21,0	1,20	17,0	6,60	5,0	7,0	10,0	0,33	30,0
2,80	8,5	17,5	17,0	0,87	20,0	6,80	5,5	8,0	11,0	0,33	33,0
3,00	7,5	14,0	15,0	0,60	25,0	7,00	4,0	6,5	8,0	0,27	30,0
3,20	6,0	10,5	12,0	0,53	22,0	7,20	12,0	14,0	24,0	0,20	120,0
3,40	6,5	10,5	13,0	0,53	24,0	7,40	10,0	11,5	20,0	0,67	30,0
3,60	8,5	12,5	17,0	0,67	25,0	7,60	11,5	16,5	23,0	0,93	25,0
3,80	8,0	13,0	16,0	0,73	22,0	7,80	13,0	20,0	26,0	0,53	49,0
4,00	9,5	15,0	19,0	0,80	24,0	8,00	11,0	15,0	22,0	---	---

- PENETROMETRO STATICO tipo GOUDA da 5 t - (con anello allargatore) -
- COSTANTE DI TRASFORMAZIONE Ct = 20 - Velocità Avanzamento punta 2 cm/s
- punta meccanica tipo Begemann $\phi = 35.7$ mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)