Unione Reno Galliera

Provincia di Bologna

Comune di
CASTELLO D'ARGILE

PSC
ELABORATO IN FORMA ASSOCIATA

Variante in materia di rischio sismico

Co-pianificazione ai sensi dell'art.21 L.R 20/2000 con variante al PTCP in materia di riduzione del rischio sismico

PERICOLOSITA E MICROZONAZIONE SISMICA (DAL 112/2007)

Archivio prove geognostiche e geofisiche di riferimento

Sindaco
Michele Giovannini

Segretario comunale
D.ssa Marilia Moschetta

Responsabile Ufficio Pianificazione Territoriale
Arch. Piero Vignali

Per il Comune di Castello d'Argile
Ing. Fabio Ferioli
Arch. Elena Chiarelli

Elaborazione
Studio Sangiorgi: Dott. Geol. Samuel Sangiorgi
Dott. Geol. Venusia Ferrari

ORDINE DEI GEOLOGI REGIONE EMILIA ROMAGNA
DOTT. SAMUEL SANGIORGI
GEOLOGO
SEZ.A
N. 990 ALBO I.°

adozione	delib. C.C n.	del
approvazione	delib. C.C n.	del

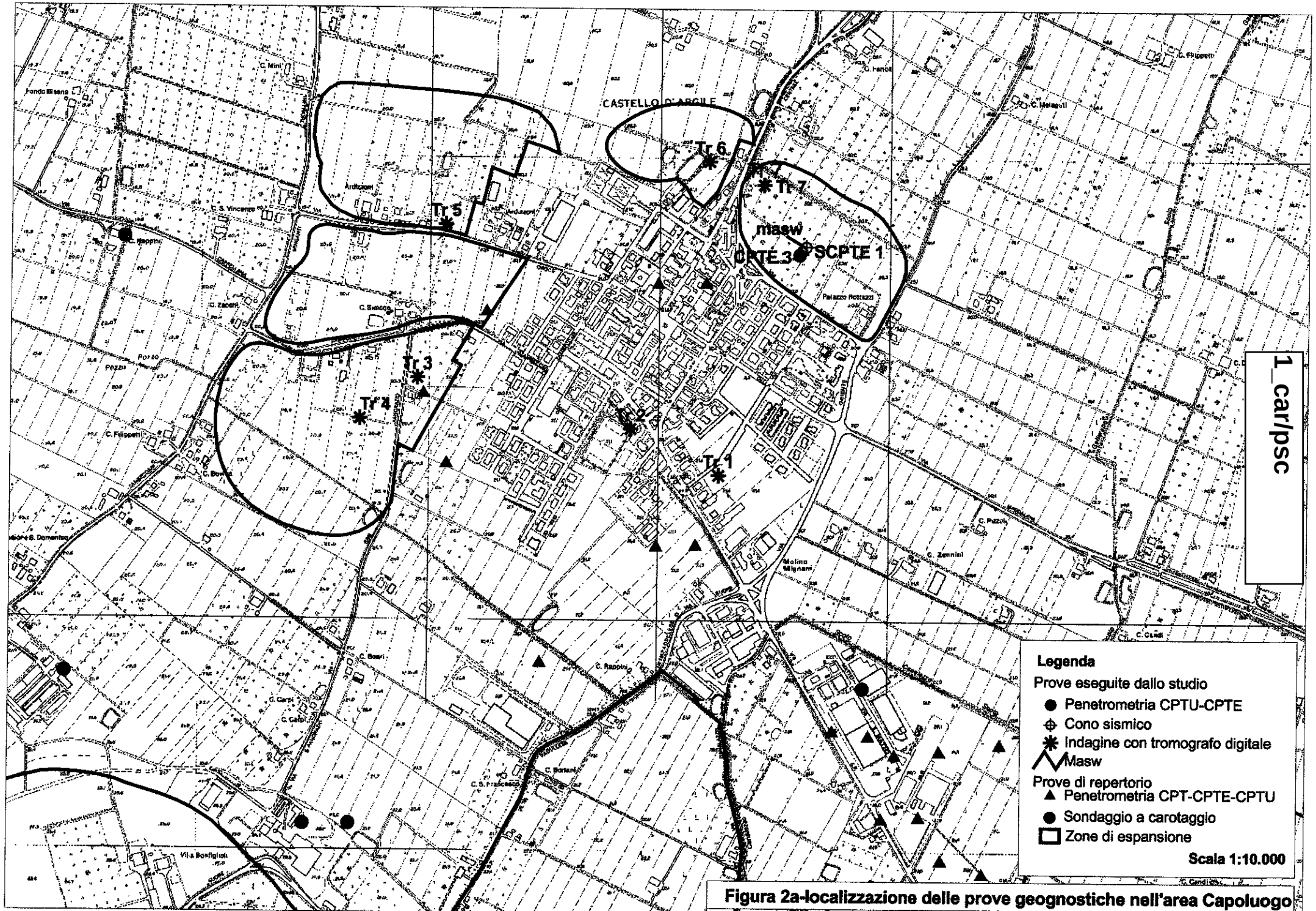


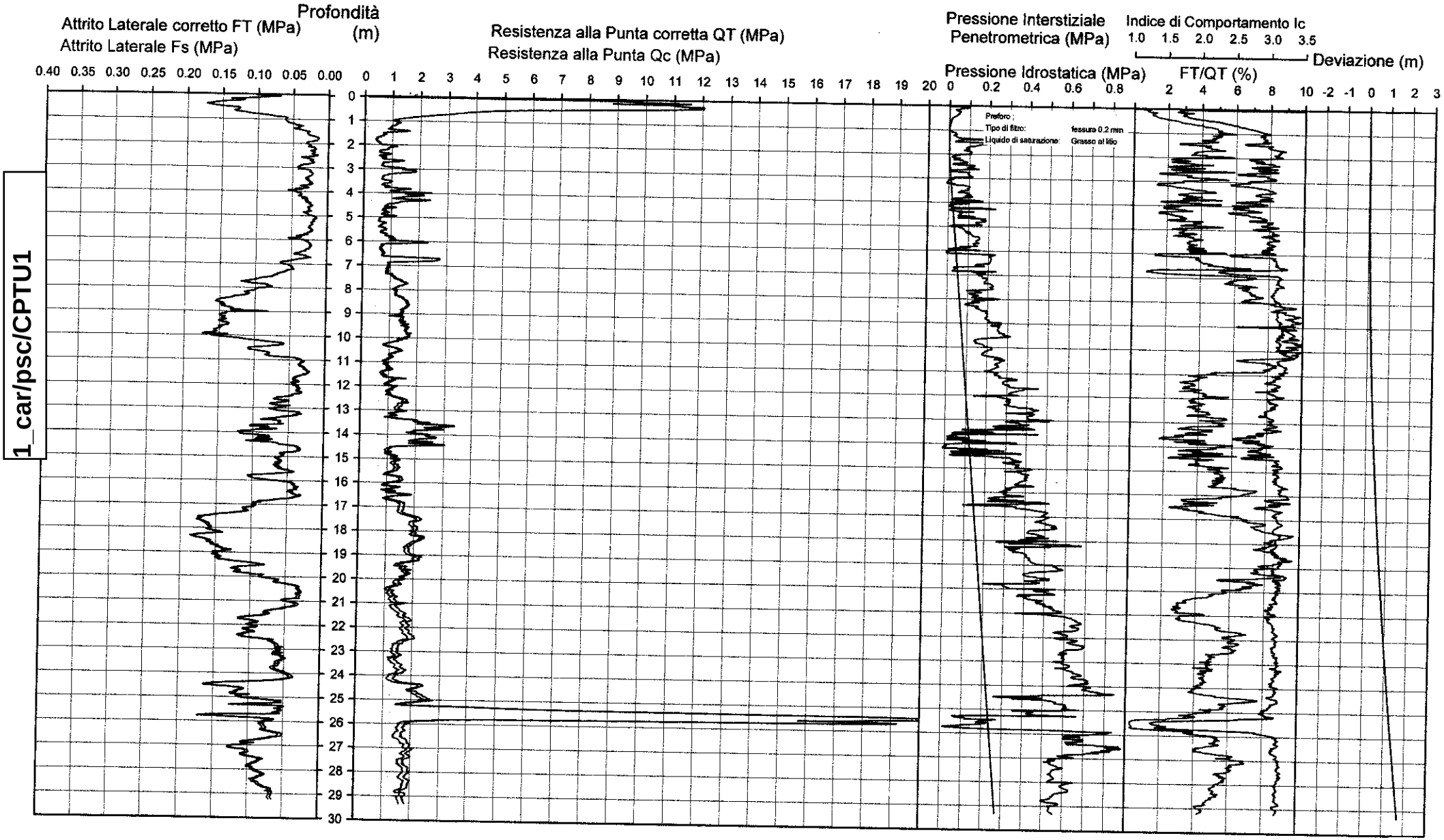
Figura 2a-localizzazione delle prove geognostiche nell'area Capoluogo

Comune	castello d'argile
Via	scuola
Localita'	scuola di castello d'argile
Committente	studio viel
Data	06-lug-07

Falda 2.1 m

Sigla della Punta	Tecnopenta 161006
Azzeramento	Inizio prova
Ultimo taratura guadagno	24-mag-2007
Ultimo taratura per deriva termica	24-mag-2007

CPTU 1



Comune	Castello d'Argile
Via	Oriente
Localita'	Castello d'Argile
Committente	Viel & Sangiorgi
Data	14-apr-08

Falda 1.8 m

Sigla della Punta	Tecnopenta 100707
Azzeramento	Inizio prova
Ultimo taratura guadagno	7-gen-2008
Ultimo taratura per deriva termica	7-gen-2008

SGT Società di Geologia Territoriale
S.G.T. sas
di Van Zutphen Albert & C.
Via Matteotti 50
48012 Bagnacavallo (RA)
www.geo55.com

CPTU 3

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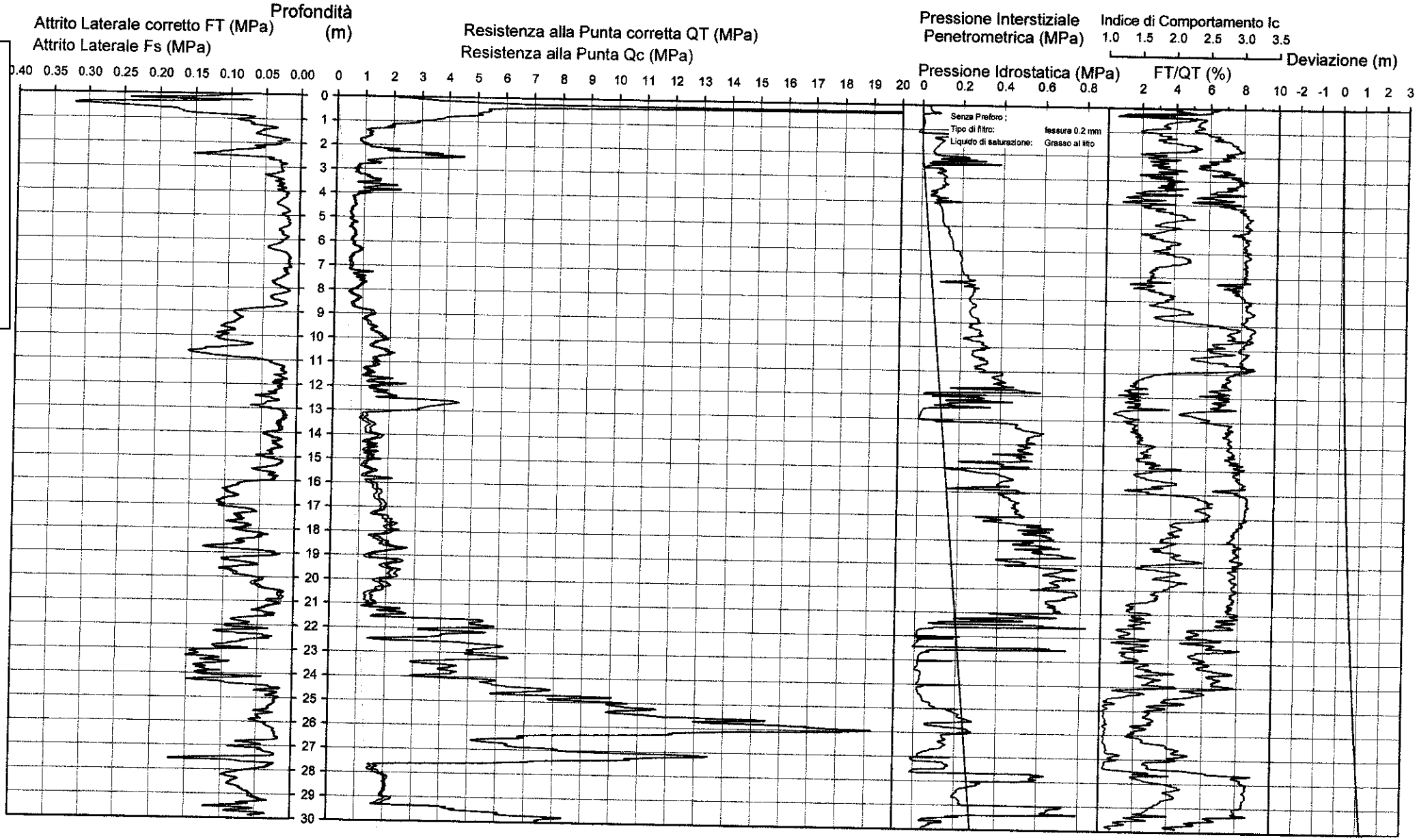

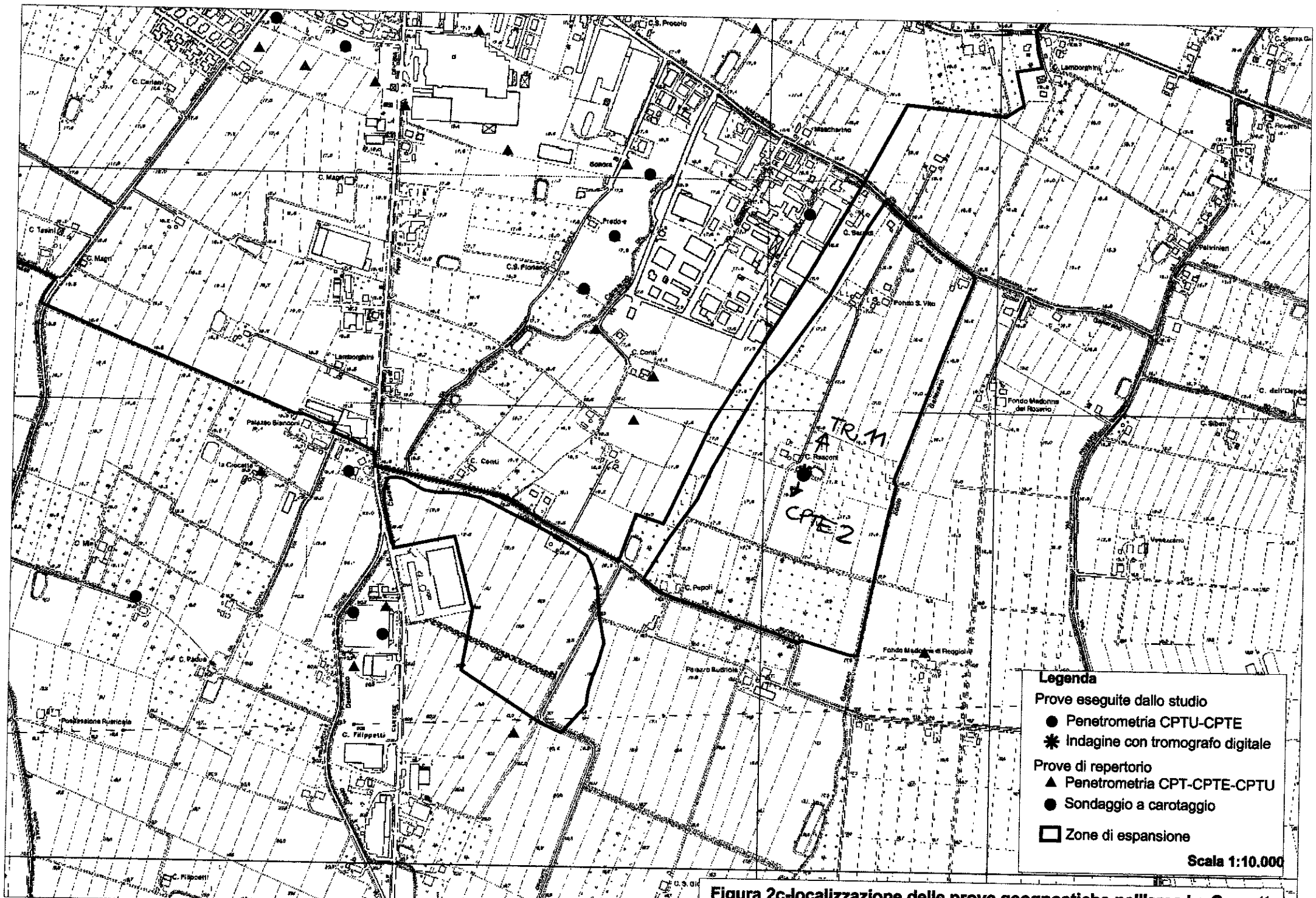

Figura 2c-localizzazione delle prove geognostiche nell'area Le Crocette

Comune	Castello d'Argile
Via	Budriola 4
Localita'	Castello d'Argile
Committente	Viel & Sangiorgi
Data	11-apr-08

Falda 2.3 m

Sigla della Punta	Tecnopenta 100707
Azzeramento	Inizio prova
Ultimo taratura guadagno	7-gen-2008
Ultimo taratura per deriva termica	7-gen-2008

SGT Società di Geologia Territoriale

S.G.T. sas
di Van Zutphen Albert & C.
Via Matteotti 50
48012 Bagnacavallo (RA)
www.geo55.com

CPTU 2

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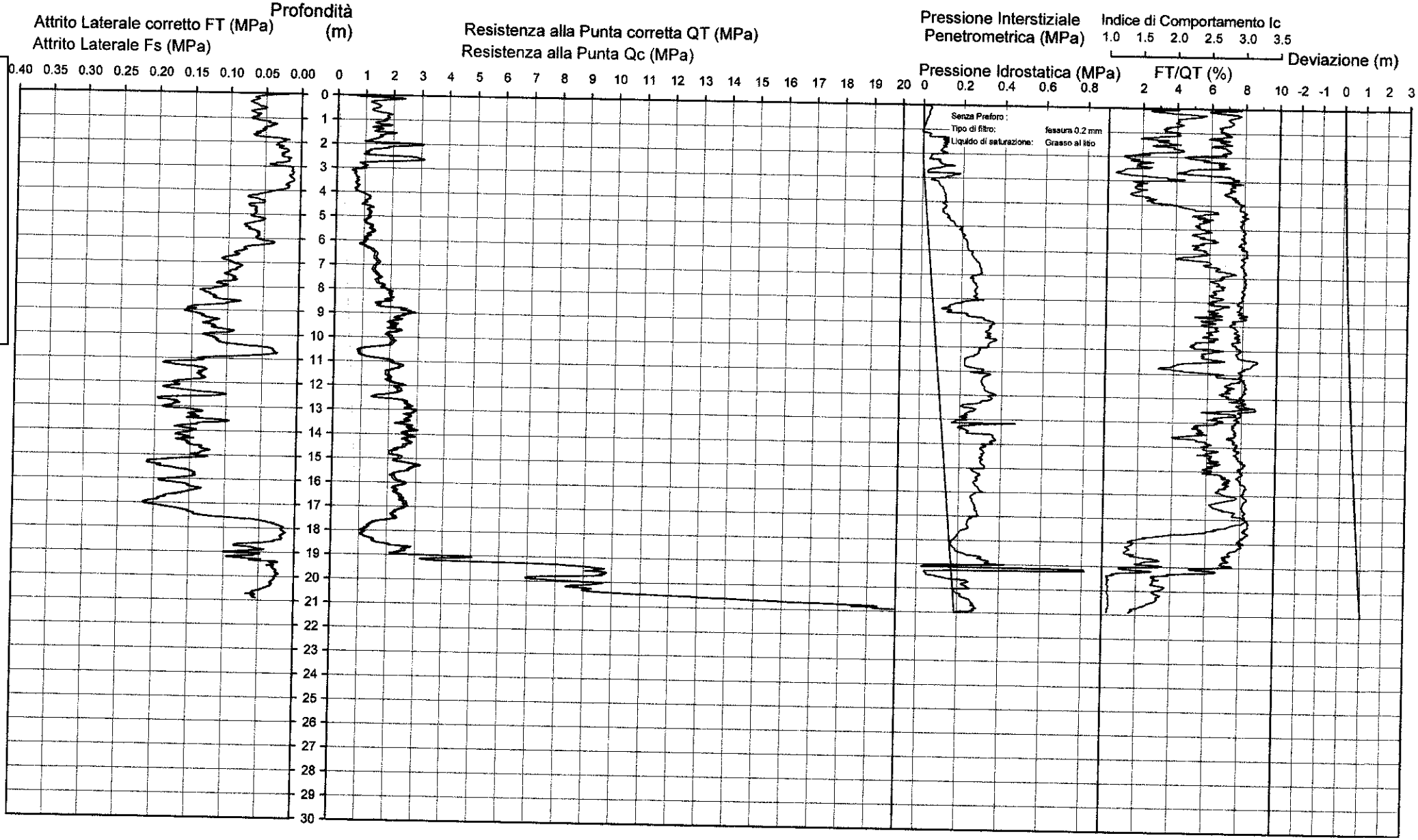

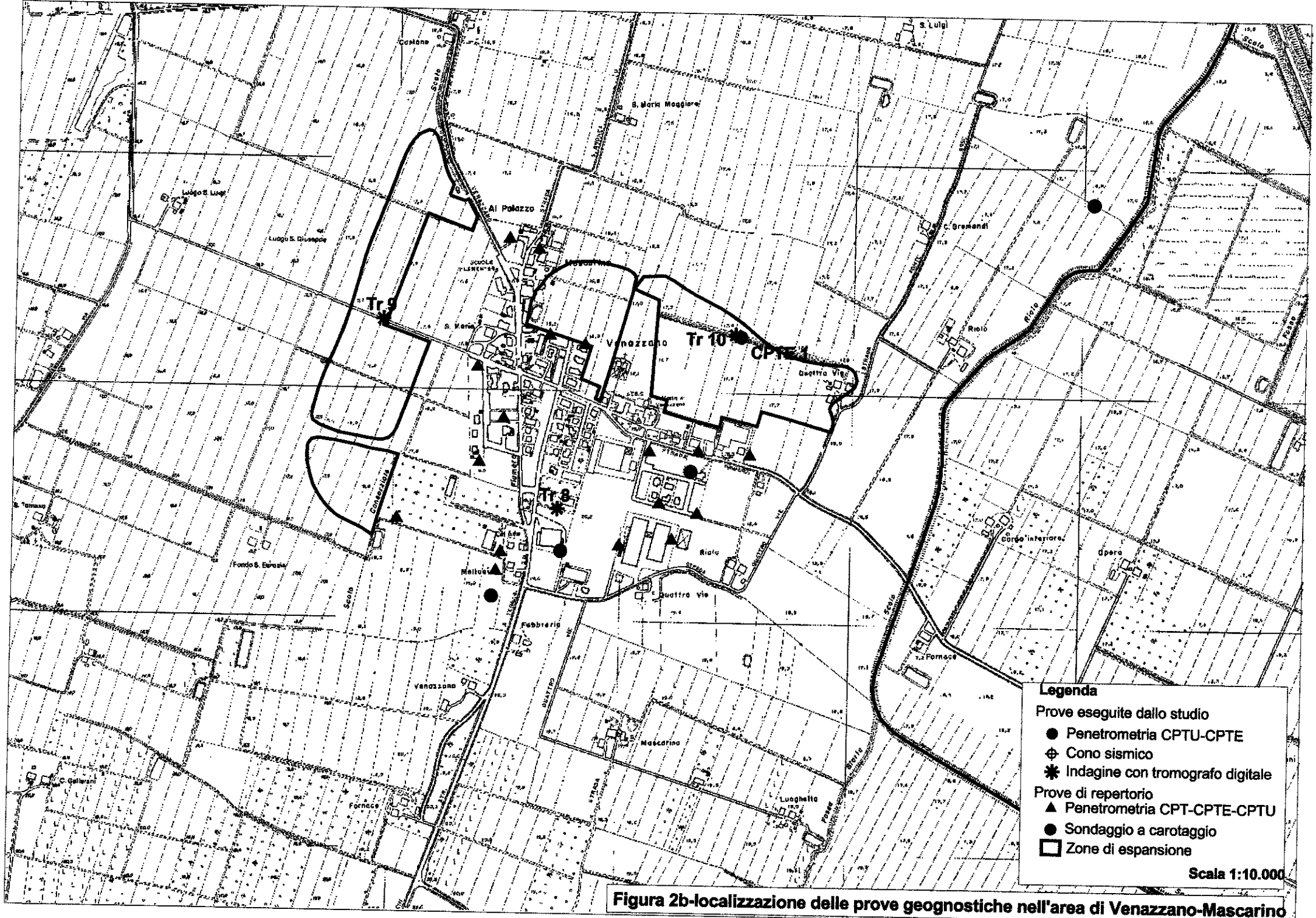

Figura 2b-localizzazione delle prove geognostiche nell'area di Venazzano-Mascarino

Comune	Castello d'Argile
Via	Ponte Assa
Localita'	Mascerino - Venezzano
Committente	Viel & Sangiorgi
Data	11-apr-08

Falda	1.5 m
Sigla della Punta	Tecnopenta 100707
Azzeramento	Inizio prova
Ultimo taratura guadagno	7-gen-2008
Ultimo taratura per deriva termica	7-gen-2008

SGT Società di Geologia Territoriale
S.G.T. sas
di Van Zutphen Albert & C.
Via Matteotti 50
48012 Bagnacavallo (RA)
www.geo55.com

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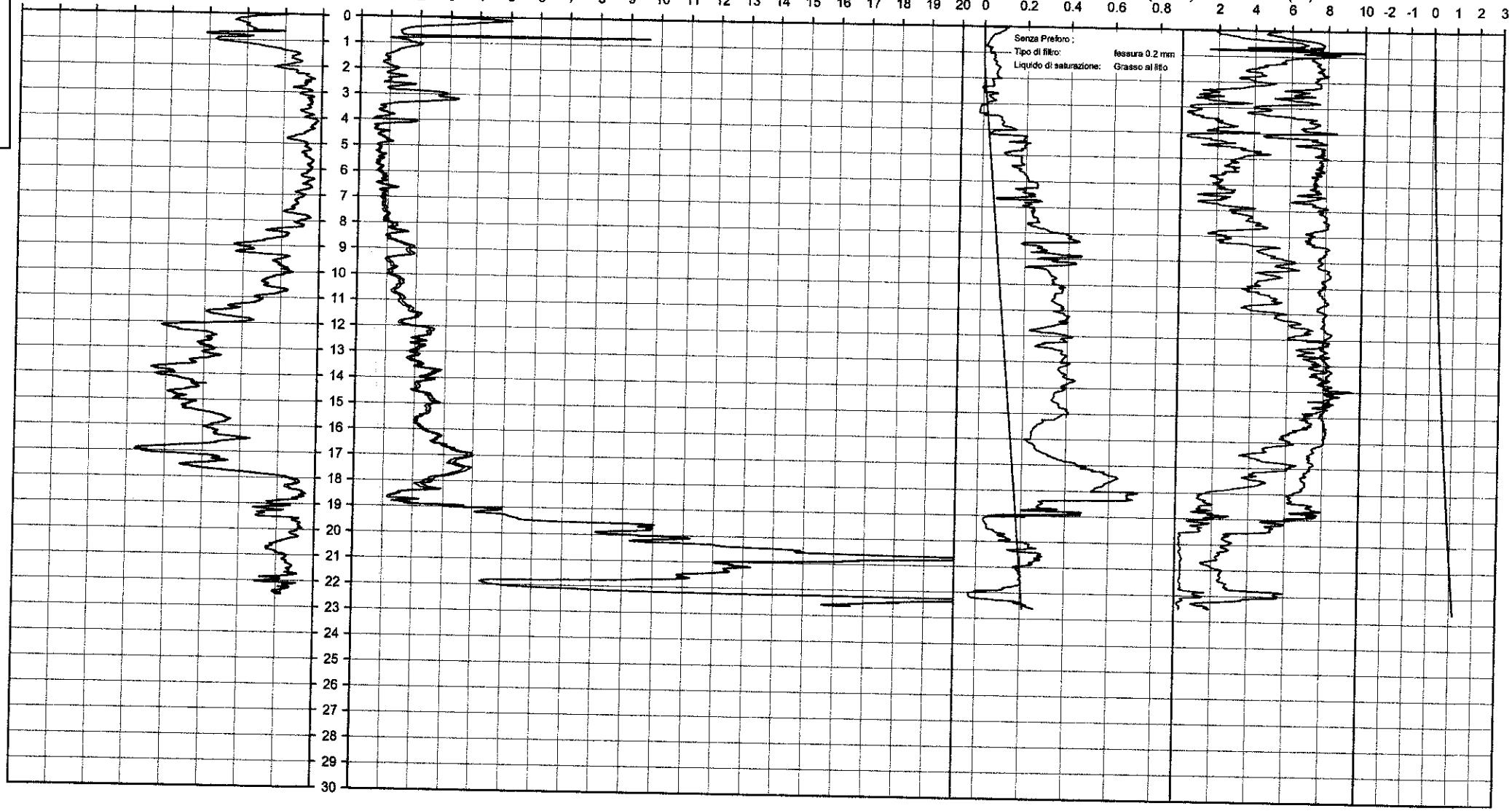
CPTU



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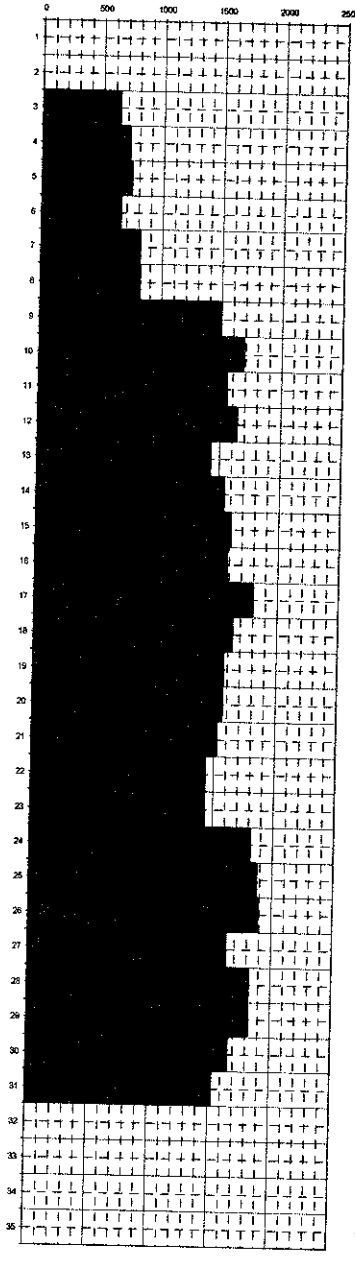
COMMITTENTE	St. Viel & Ass.
CONO SISMICO	CPT N°1
Località	CASTELLO D'ARGILE
Data acquisizione	14/04/08

Codice lavoro 509-27

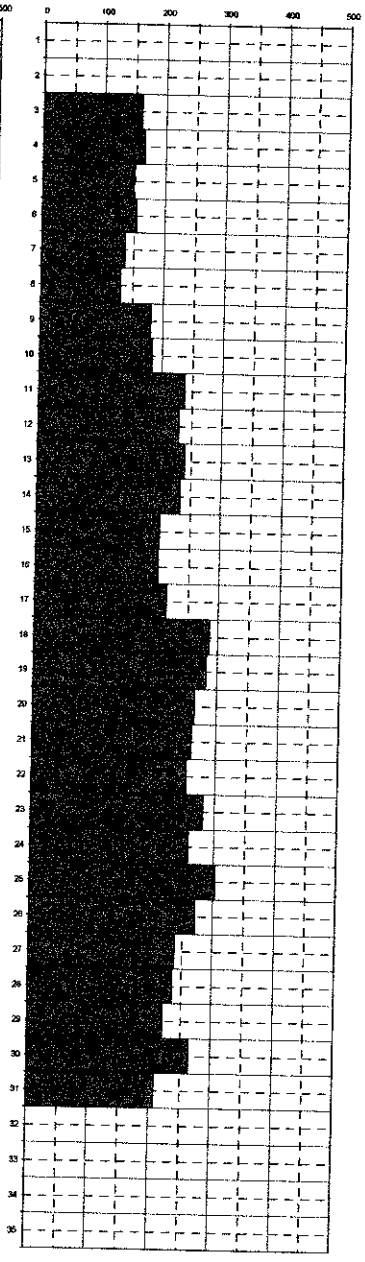
PROGEO S.r.l.
Via Talete 10/6 - 47100 Forlì
tel. 0543 / 723580
fax. 0543 / 721488
e-mail: progeo@tin.it

Profondità	Vp m/sec.	Vs m/sec.	v	γ T/m³	Edin Kg/cm²	Gdin Kg/cm²	Kdin Kg/cm²
0							
1							
2							
3	637	161	0.47	1.74	1339	457	6587
4	721	165	0.47	1.78	1463	497	8782
5	742	149	0.48	1.79	1204	407	9503
6	653	154	0.47	1.75	1236	420	7028
7	815	136	0.49	1.82	1026	345	11894
8	819	130	0.49	1.82	935	314	12039
9	1497	180	0.49	2.05	2024	678	45800
10	1682	184	0.49	2.09	2152	720	59329
11	1551	238	0.49	2.06	3552	1194	48894
12	1640	229	0.49	2.08	3323	1115	55579
13	1426	240	0.49	2.03	3533	1189	40414
14	1549	234	0.49	2.06	3409	1145	48869
15	1608	201	0.49	2.07	2548	854	53517
16	1583	199	0.49	2.07	2489	834	51739
17	1802	215	0.49	2.12	2979	998	68810
18	1637	286	0.48	2.08	5157	1737	54543
19	1567	281	0.48	2.06	4944	1666	49419
20	1564	264	0.49	2.06	4367	1470	49468
21	1522	260	0.48	2.05	4210	1418	46587
22	1429	252	0.48	2.03	3902	1315	40467
23	1430	281	0.48	2.03	4831	1632	40121
24	1817	258	0.49	2.12	4295	1441	69488
25	1873	303	0.49	2.13	5939	1998	73660
26	1892	272	0.49	2.14	4798	1611	75874
27	1632	239	0.49	2.08	3605	1211	54819
28	1821	236	0.49	2.12	3581	1201	70149
29	1821	221	0.49	2.12	3164	1060	70400
30	1658	265	0.49	2.09	4429	1489	56474
31	1529	209	0.49	2.05	2720	913	47714
32							
33							
34							
35							

VELOCITA' ONDE DI COMPRESSIONE
m/sec



VELOCITA' ONDE DI TAGLIO
m/sec



Legenda parametri dinamici

Tp	Tempi onde di compressione	millisecondi	γ	Peso di volume	T/m³
Ts	Tempi onde di taglio	millisecondi	Edin	Modulo di Elasticità dinamico	Kg/cm²
Vp	Velocità onde di compressione	m/sec	Gdin	Modulo di Taglio dinamico	Kg/cm²
Vs	Velocità onde di taglio	m/sec	Kdin	Modulo di Compressibilità dinamico	Kg/cm²
v	Coefficiente di Poisson	-			

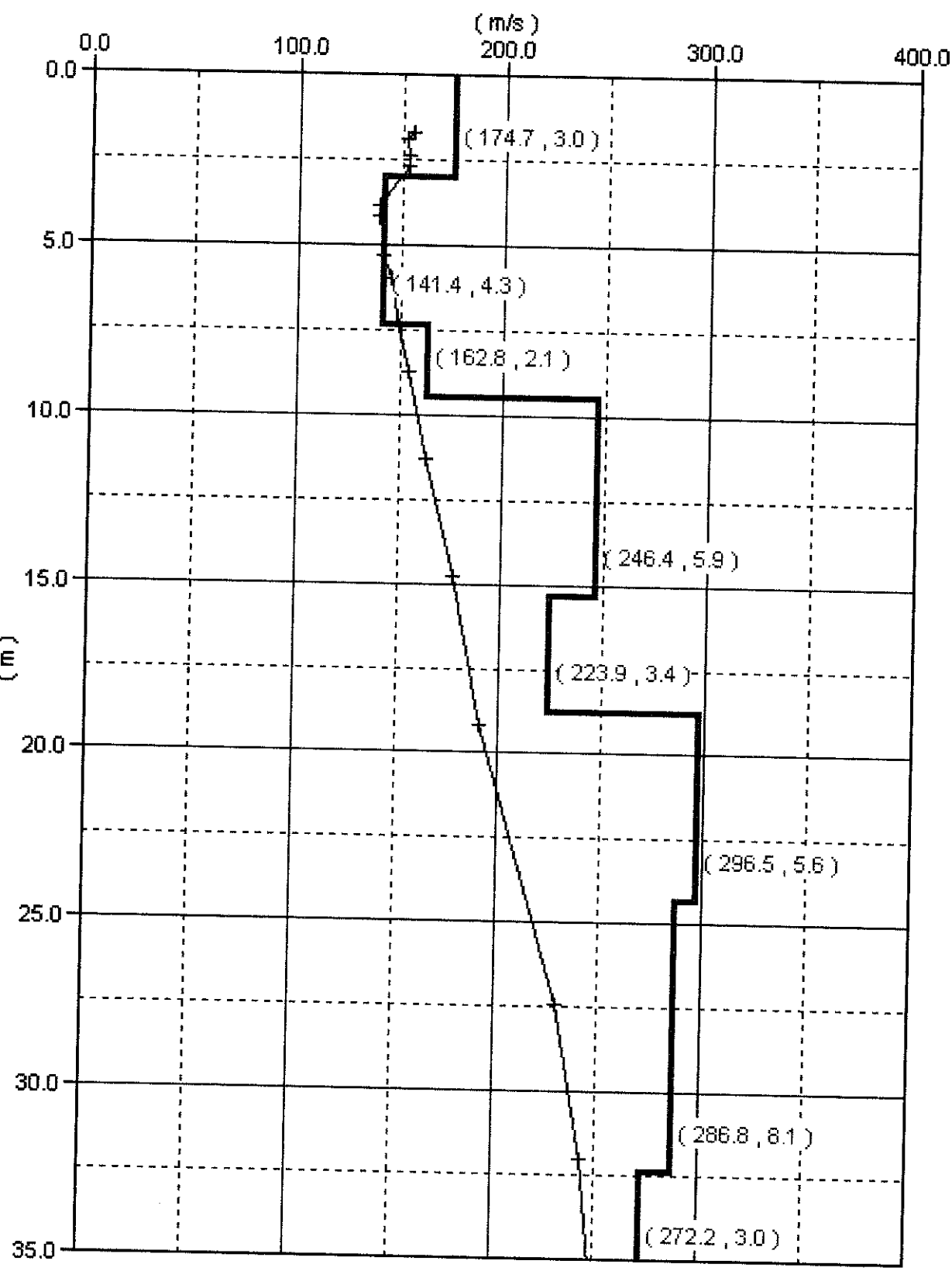
CLASSIFICAZIONE SISMICA DEI SUOLI
(NORME TECNICHE PER LE COSTRUZIONI P.C.M. n° 3341 del 14/09/2005)

$$Vs_{30} = \frac{30}{\sum_{i=1,N} \frac{h_i}{V_i}}$$

Vs_{30} = 211 m/sec

G_0 = 898 Kg/cm²

CATEGORIA SUOLO = **C**



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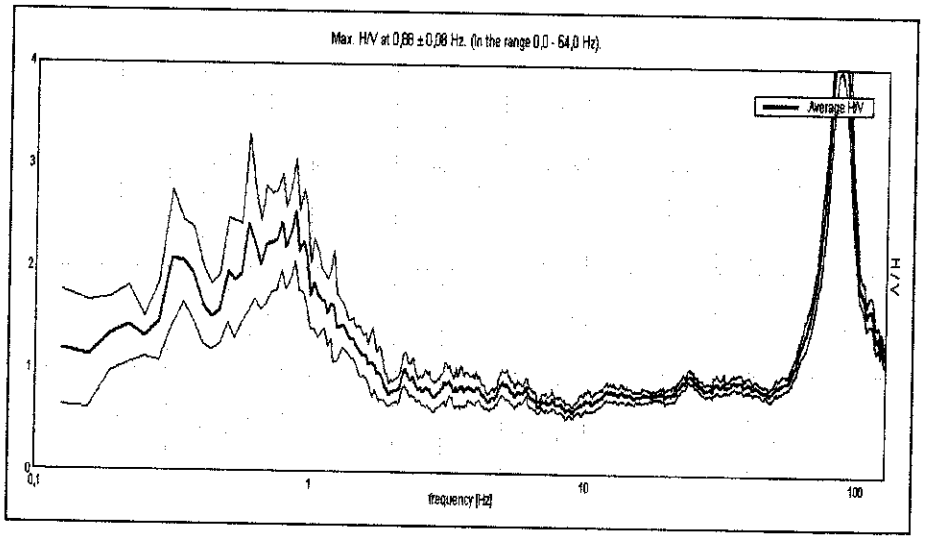
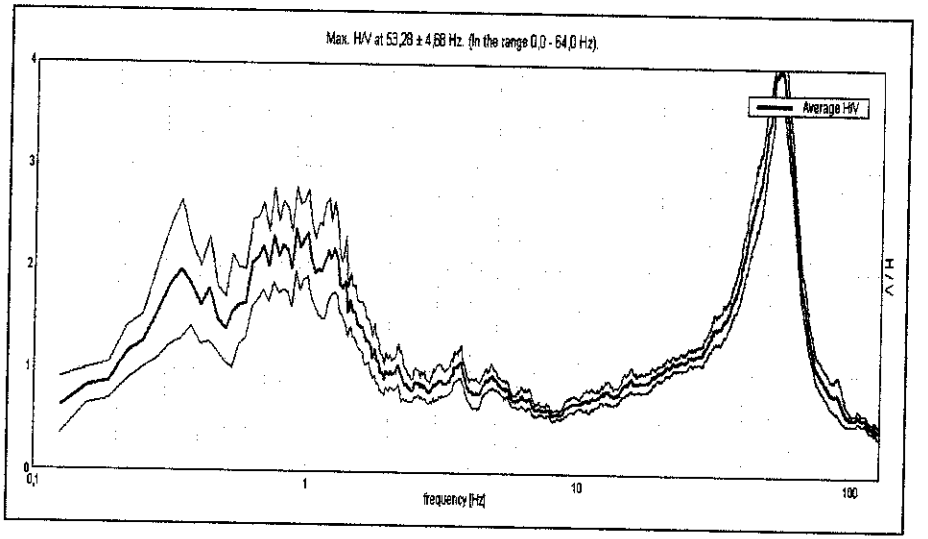
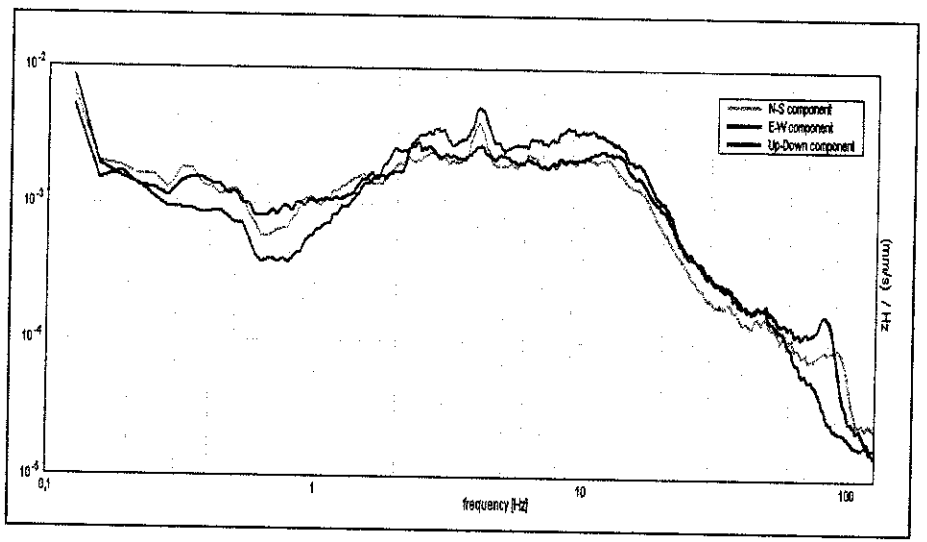
COMUNE DI CASTELLO D'ARGILE







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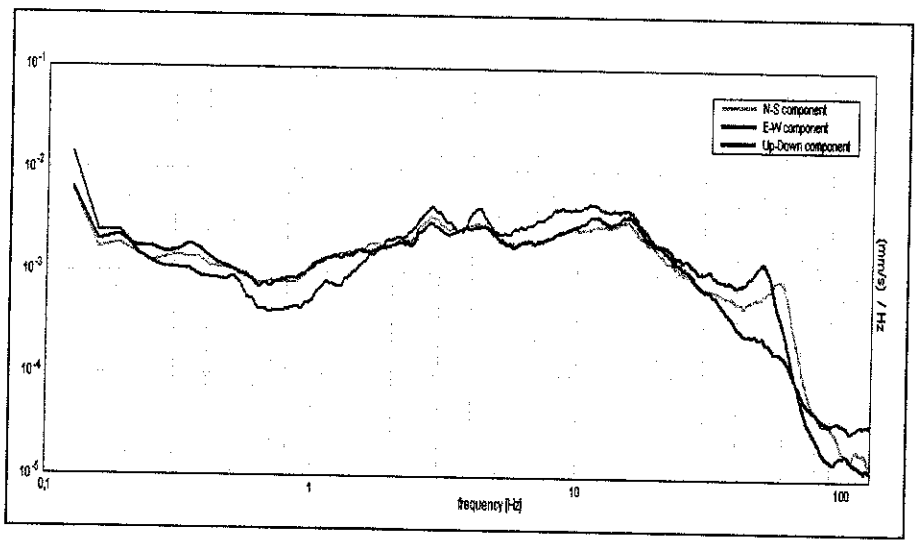

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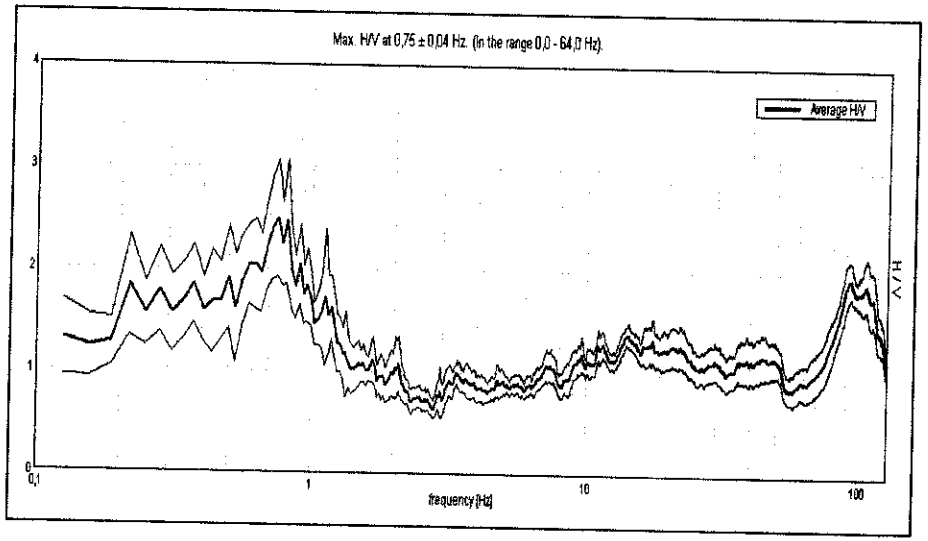

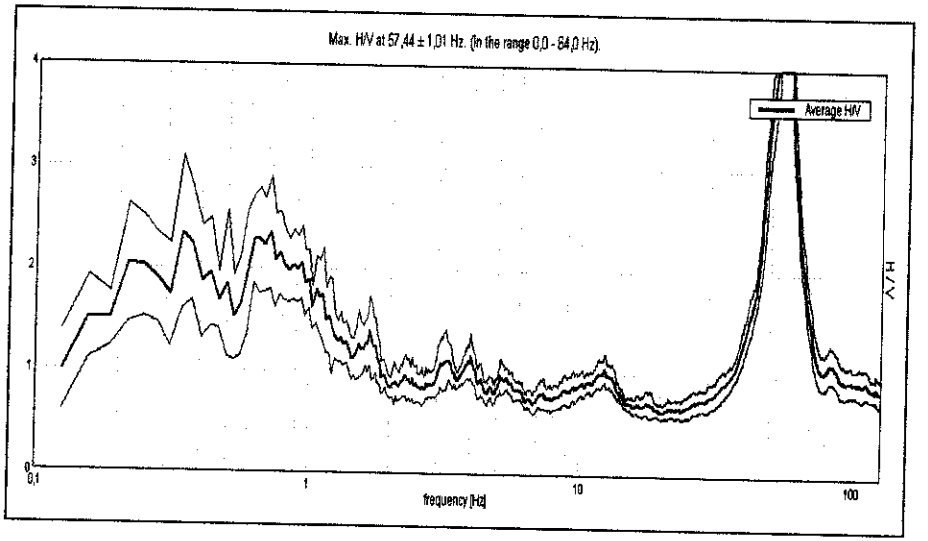

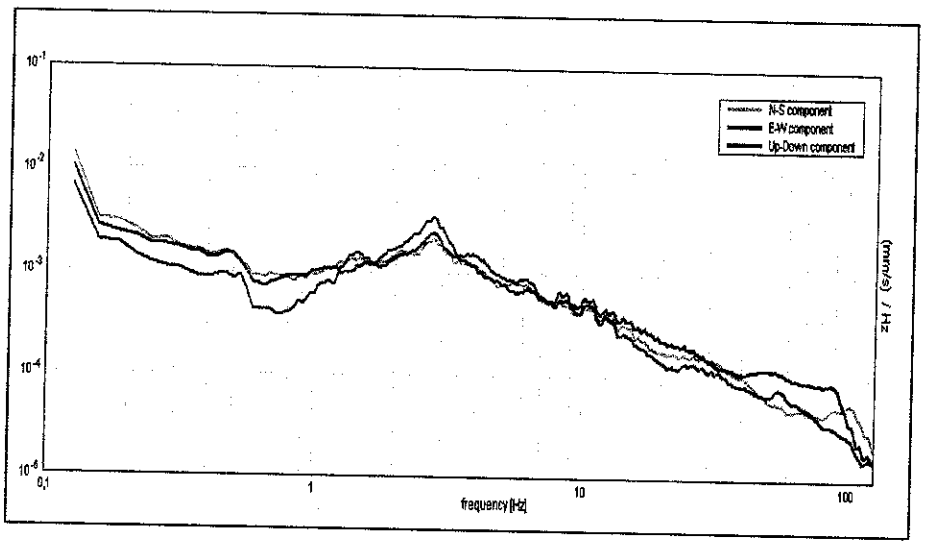

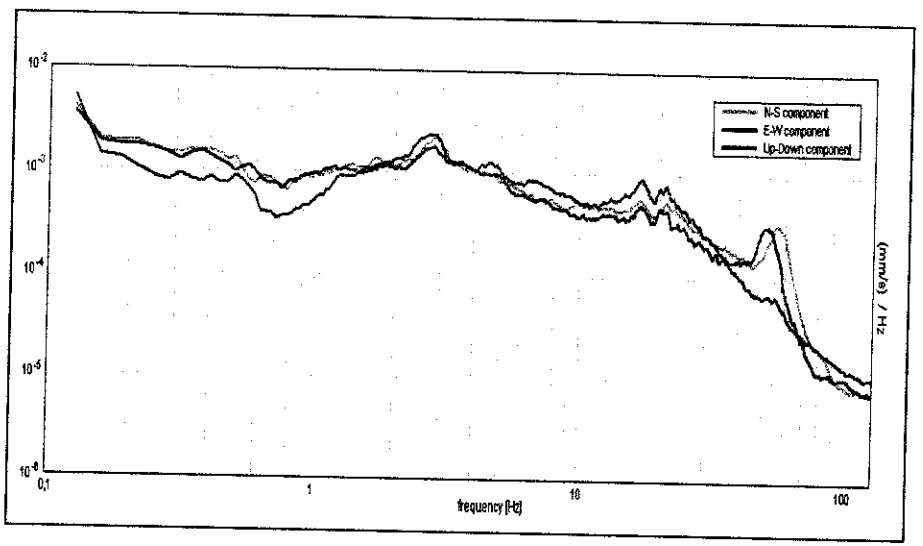

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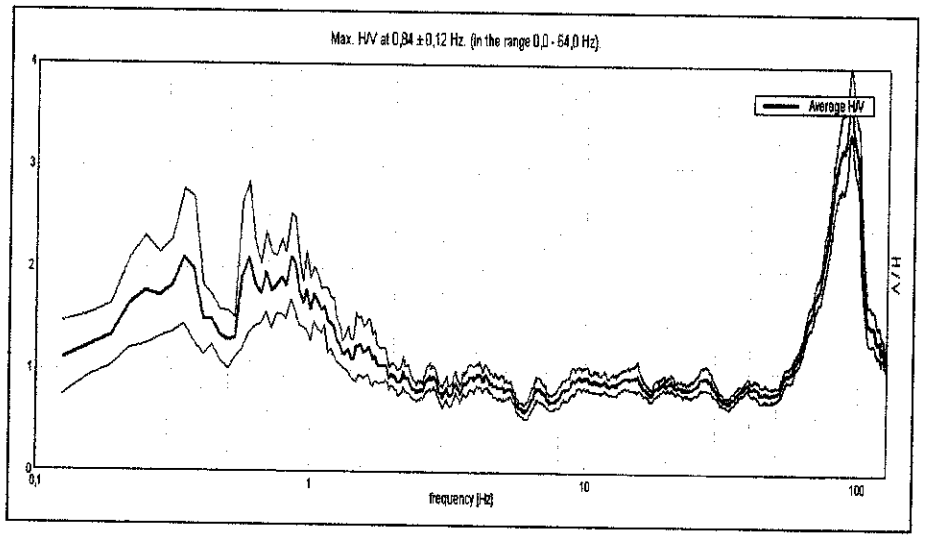

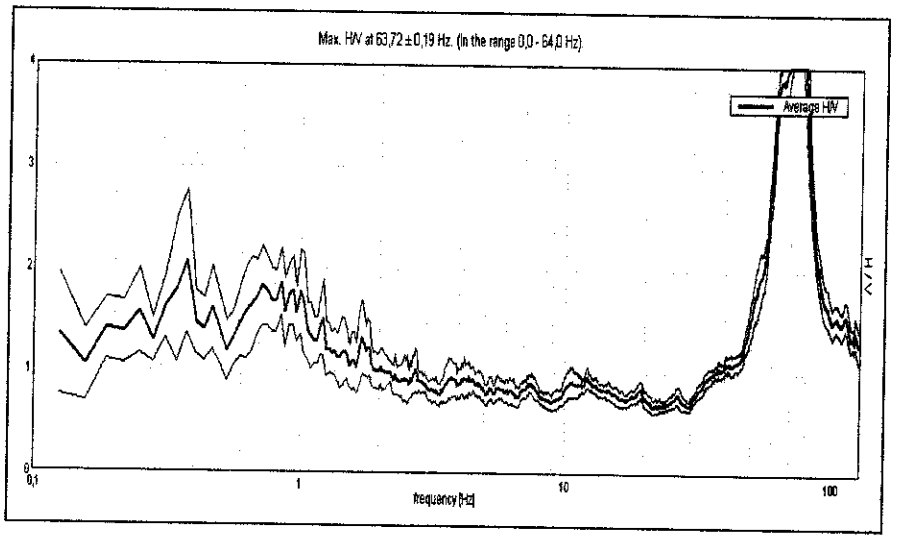

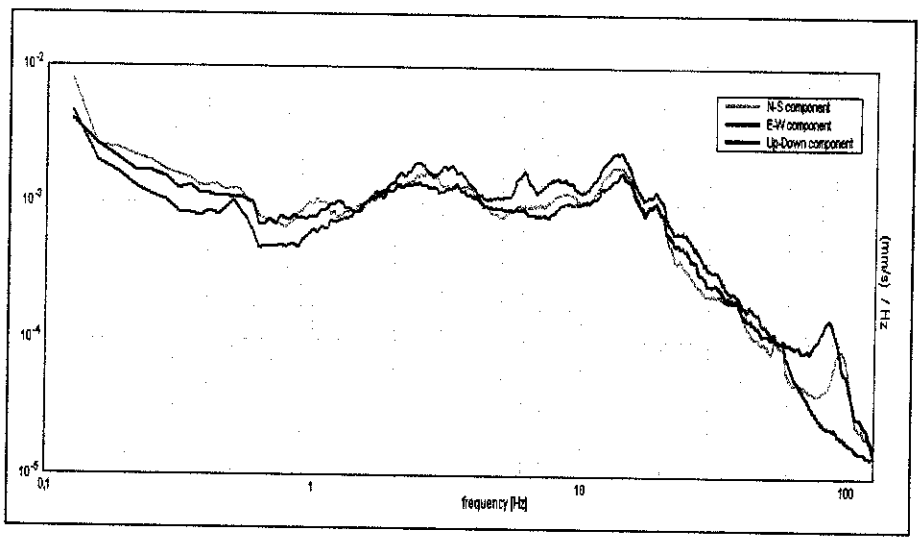

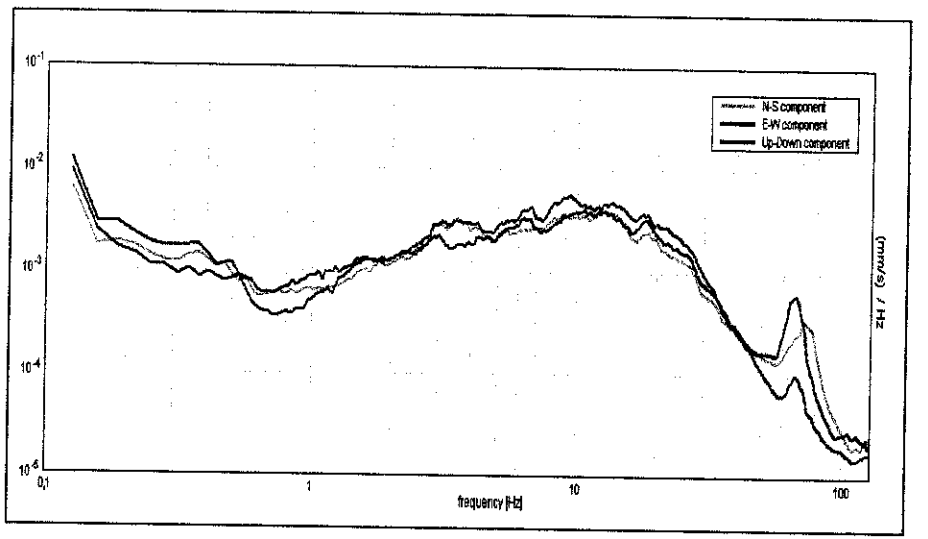

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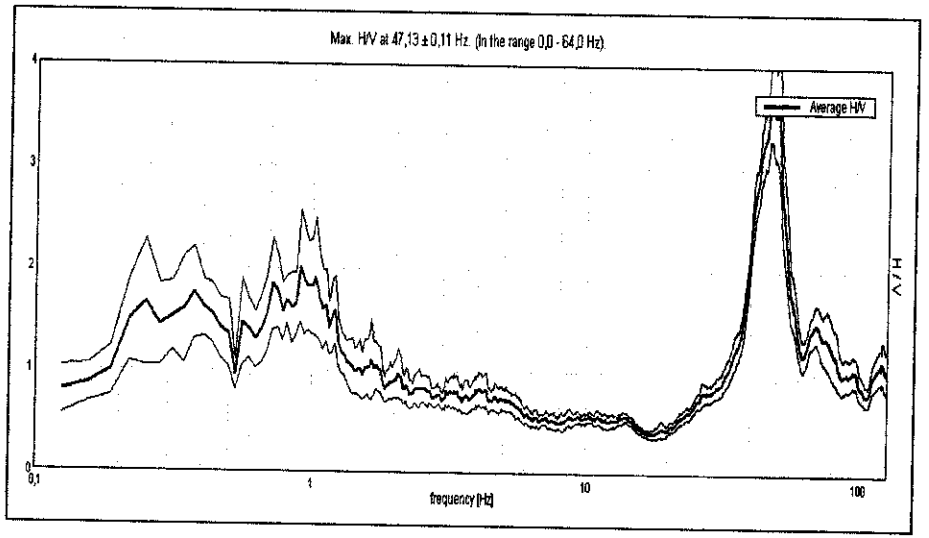

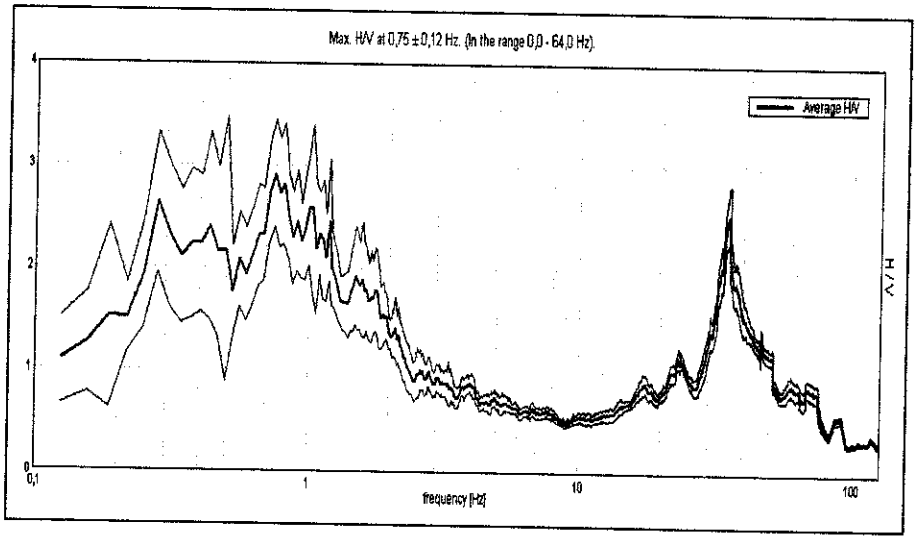

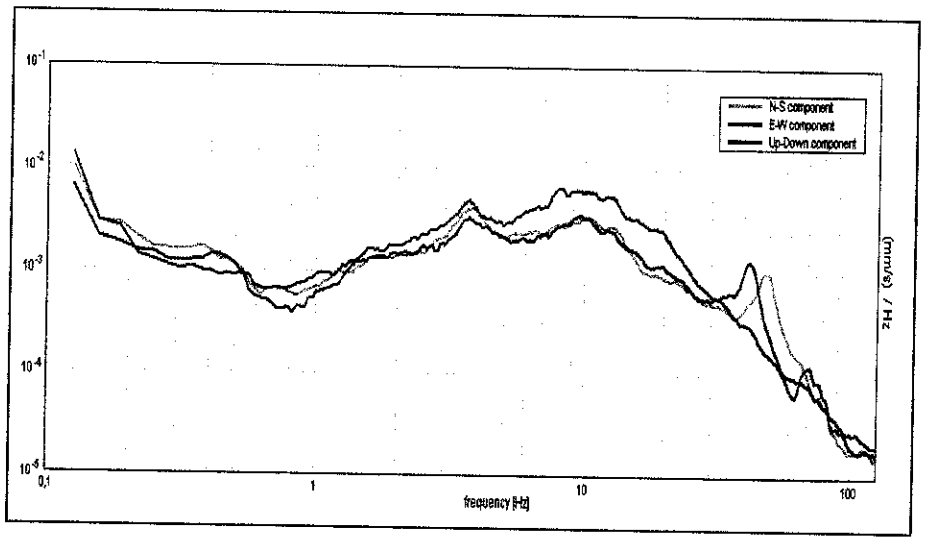

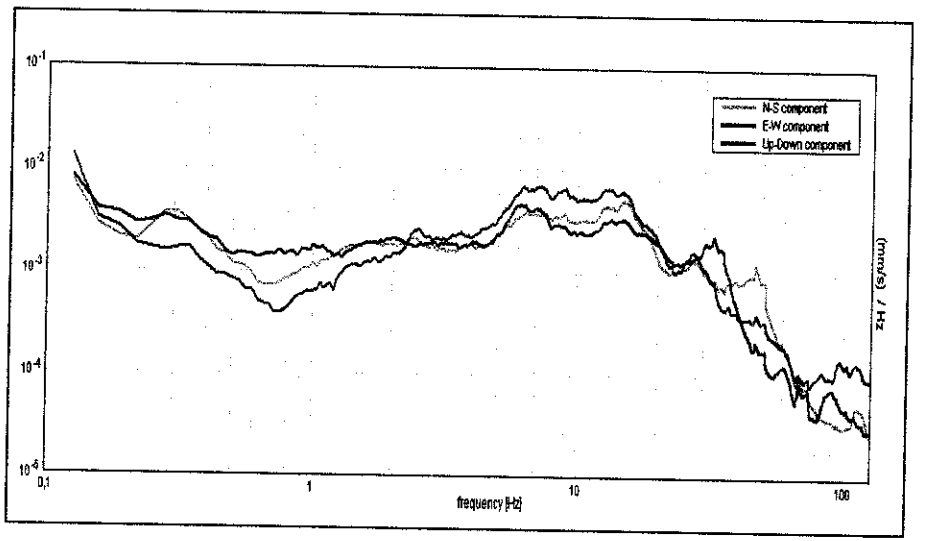

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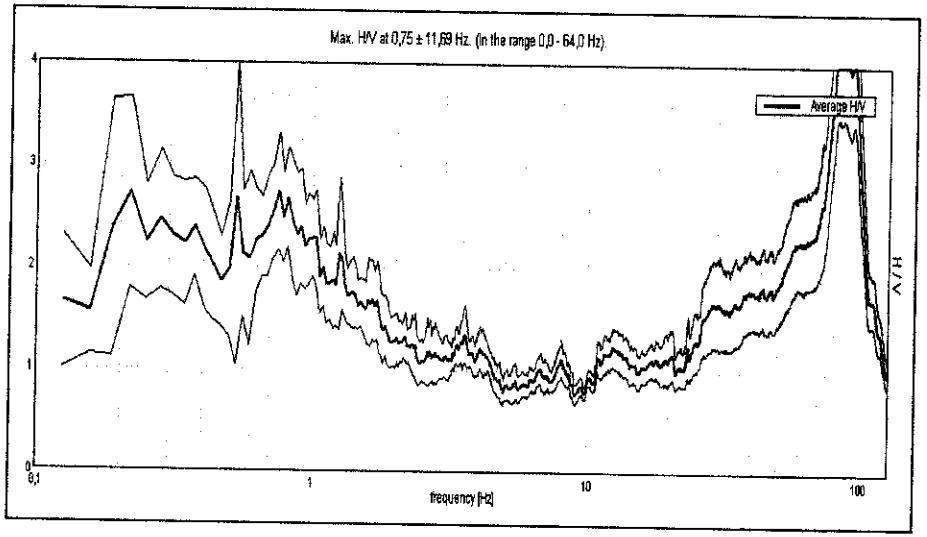

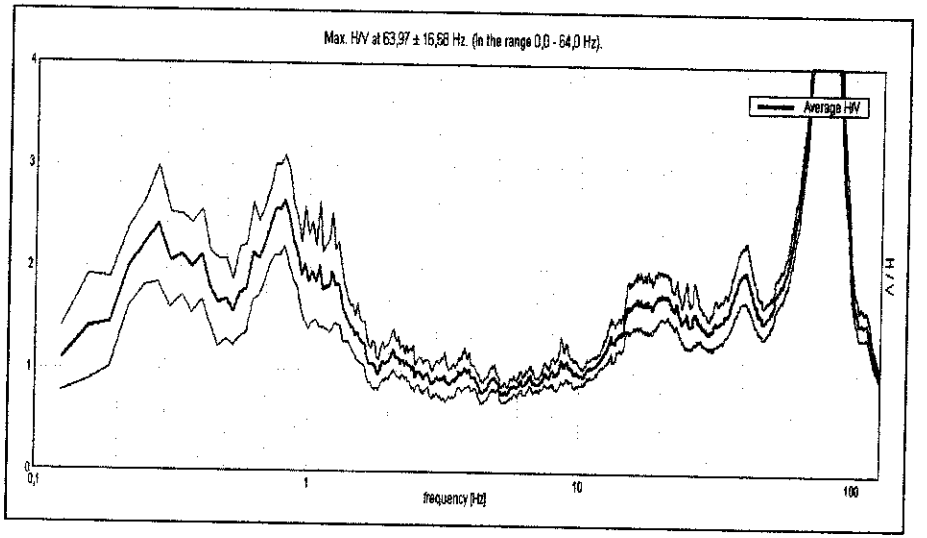

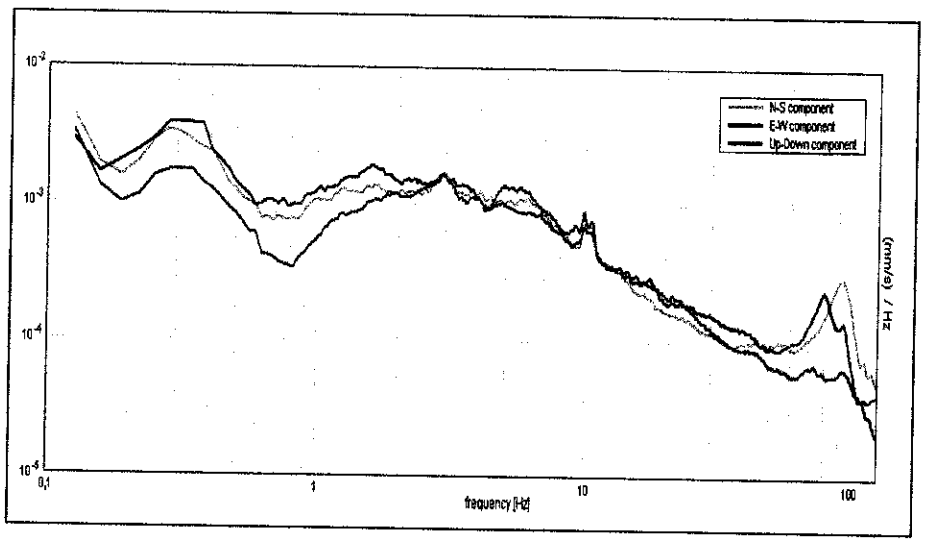

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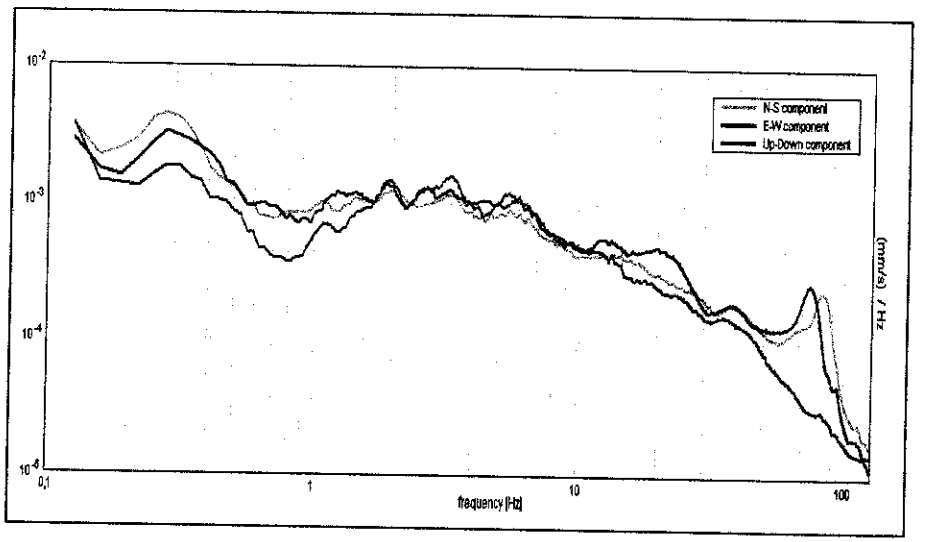

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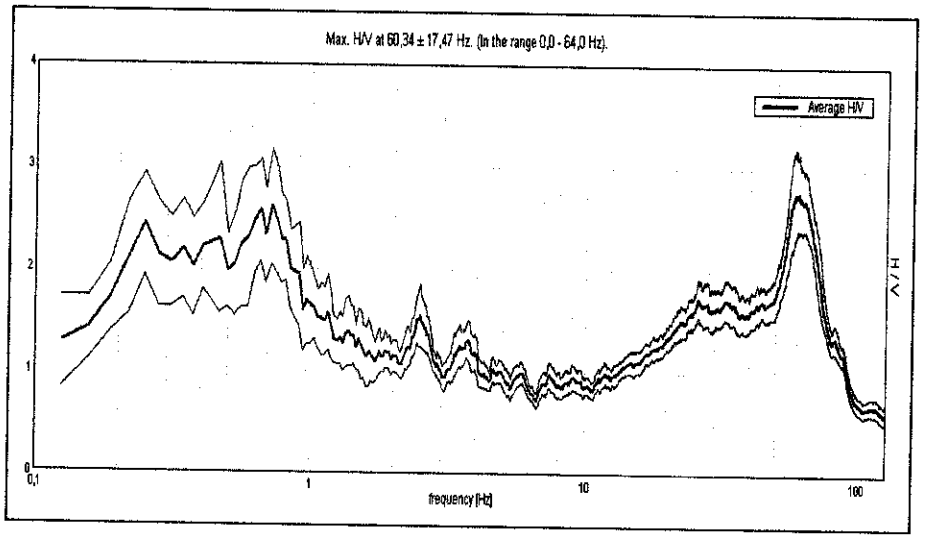

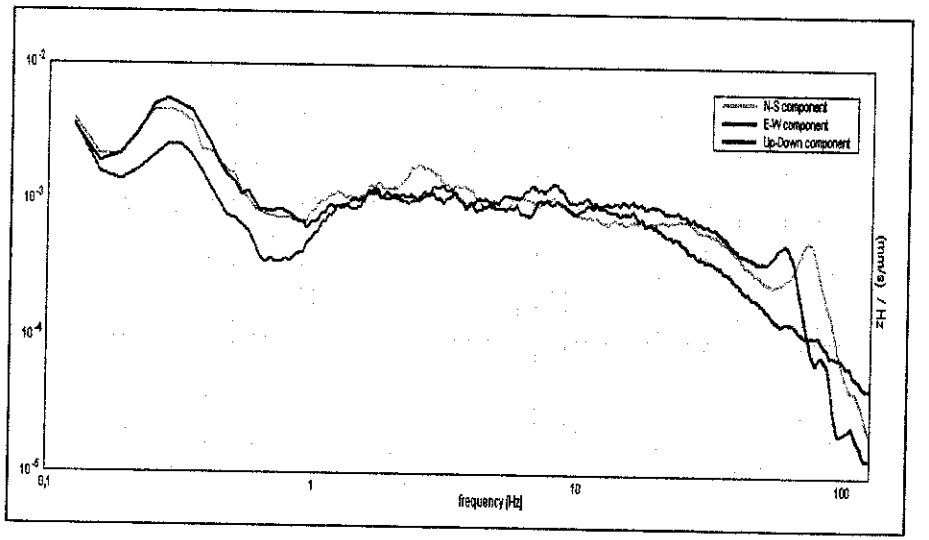

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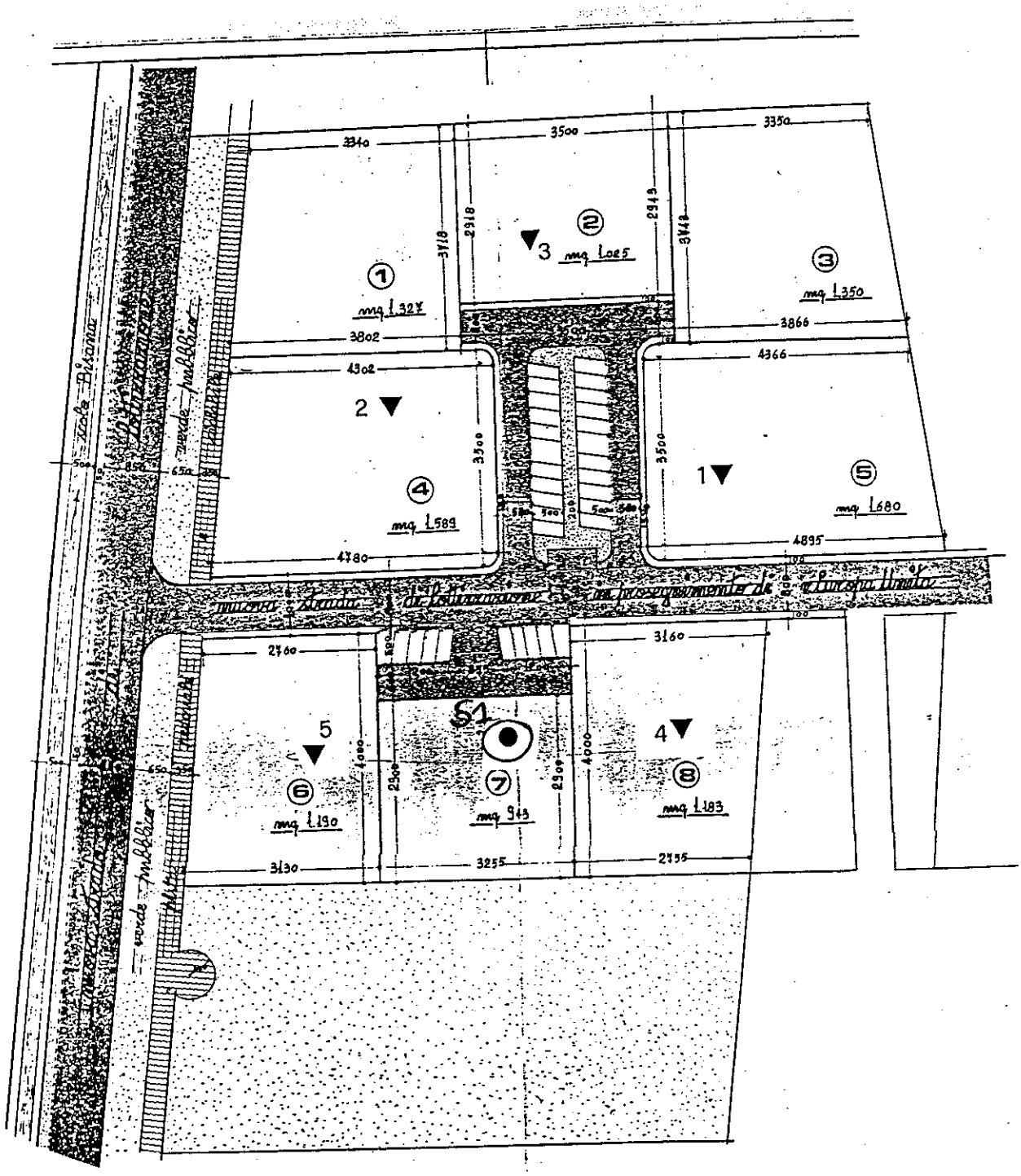
Via Grieco, 7 - BOLOGNA - Telefono (051) 614.53.60

2_car/rep

2002.088/RG

TAV. 2 - UBICAZIONE INDAGINE GEOGNOSTICA



▼ Penetrometrie statiche

● Trivellazione a secco

Scala 1: 1.000

STUDIO GEOLOGICO ASSOCIATO

GEO-PROBE S.r.l. Indagini Geognostiche

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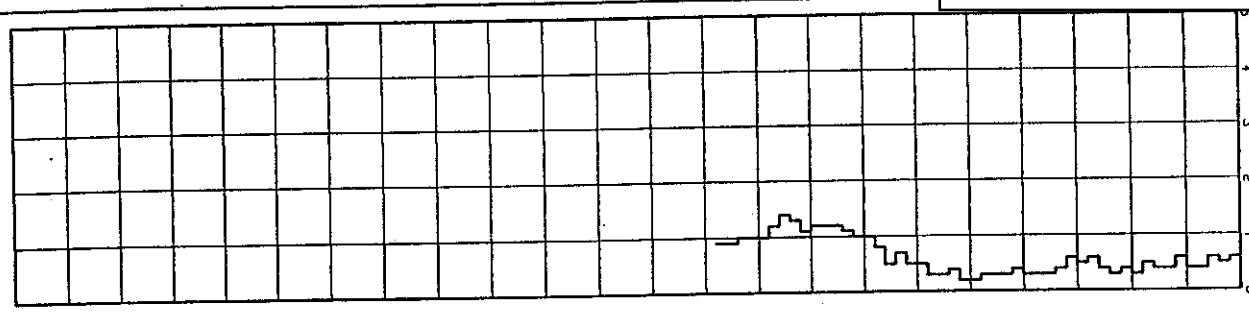
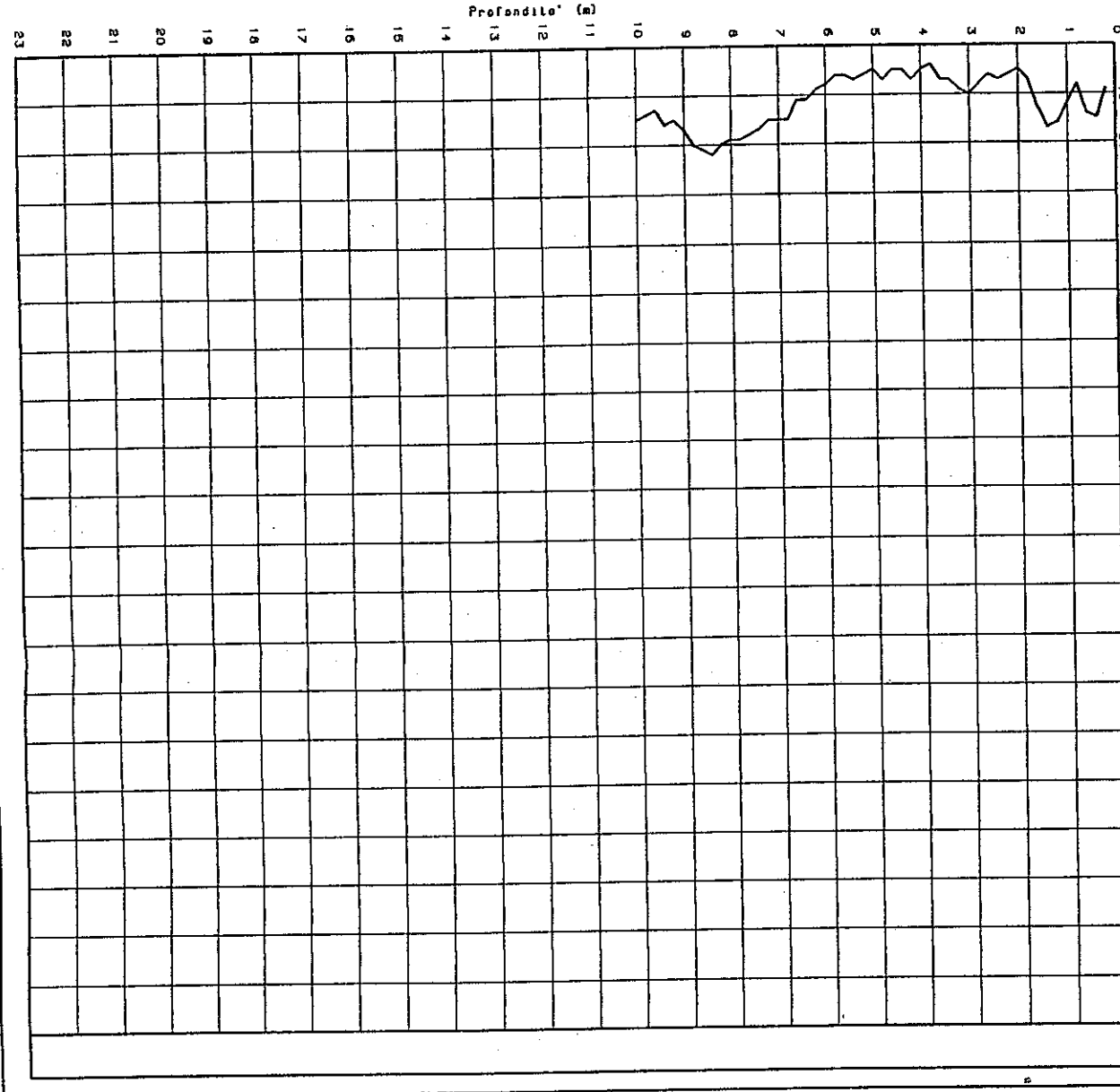
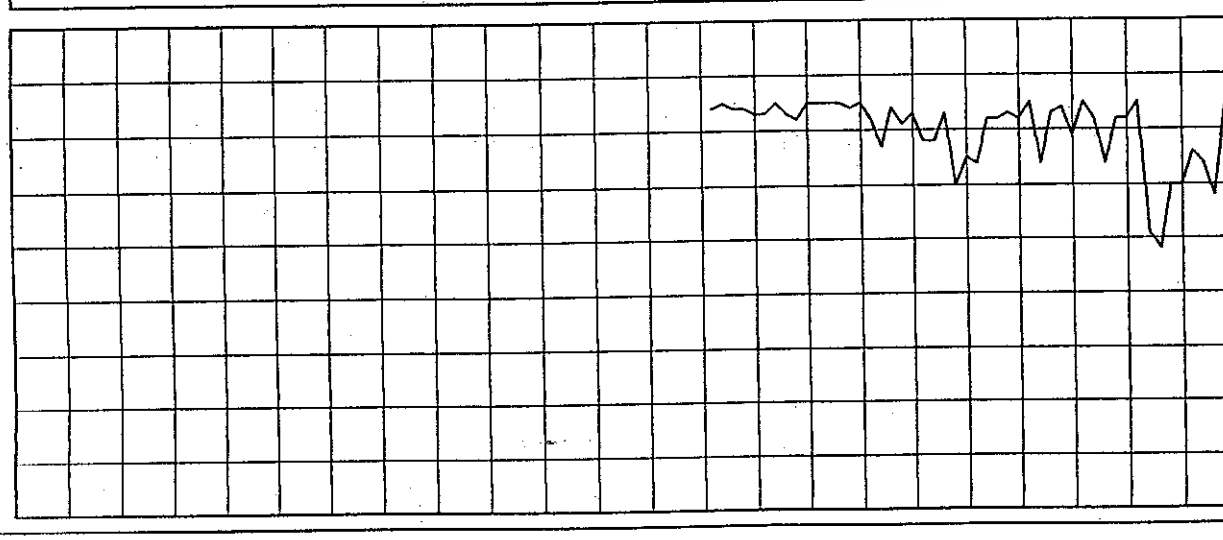




Livello acqua da p.c.: foro chiuso a -1.00 m



GEO-PROBE

40133 BOLOGNA

Via R. Grieco, 7 - Tel. 051/61.45.360

CPT (CONE PENETRATION TEST) N.1

Committente: Geom. Gavina

Localita': Castello d'Argile (BO) Via Europa Unita

N. Certificato: 02165001

Data: 17/05/2002

2_car/rep/CPT2

GEO-PROBE
40133 BOLOGNA
Via R. Grieco, 7 - Tel. 051/61.45.360

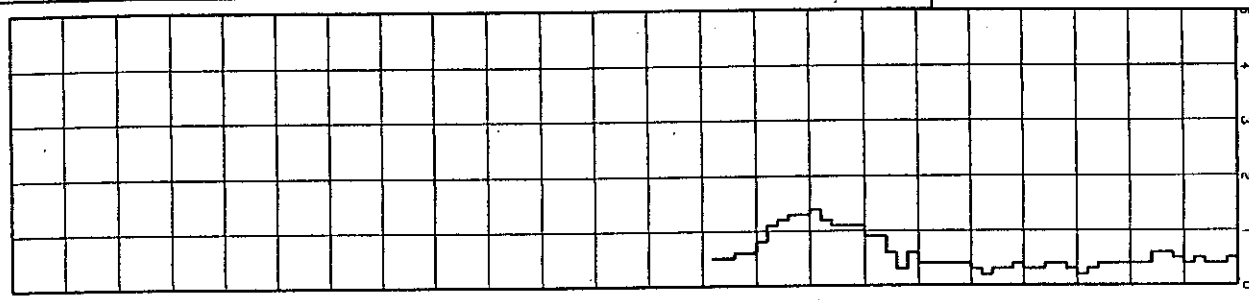
CPT (CONE PENETRATION TEST) N.2

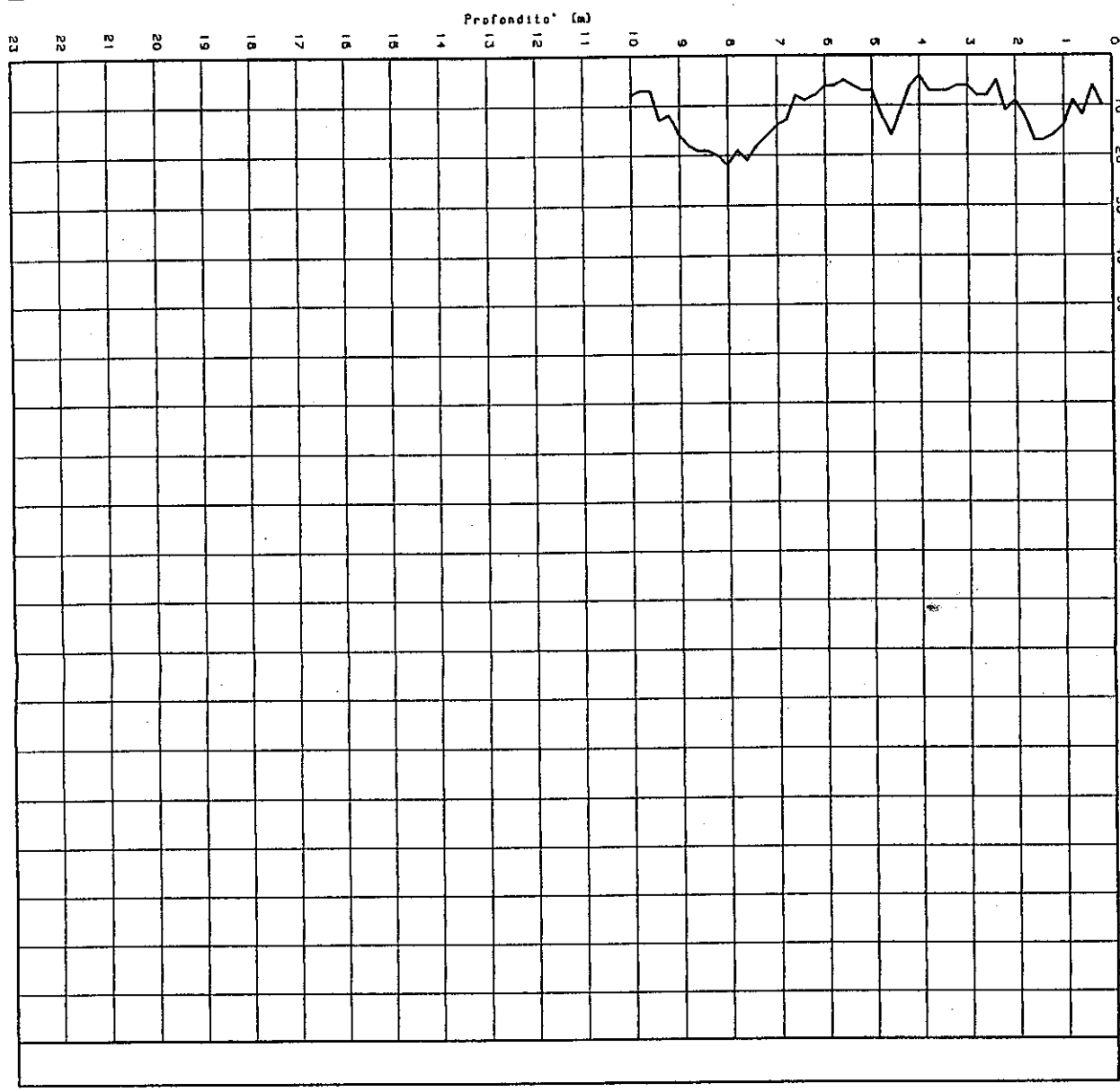
Committente: Geom. Gavina

Localita': Castello d'Argile (BO) Via Europa Unita

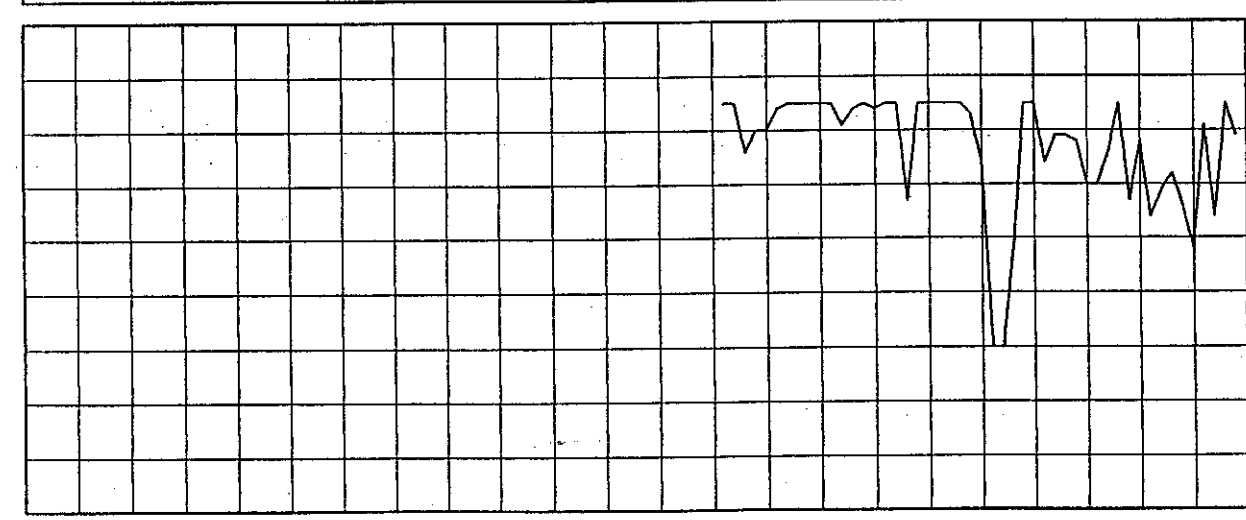
N. Certificato: 02166002

Data: 17/05/2002





Livello acque da p.c.: foro chiuso a -1.00 m



GEO-PROBE S.r.l. Indagini Geognostiche

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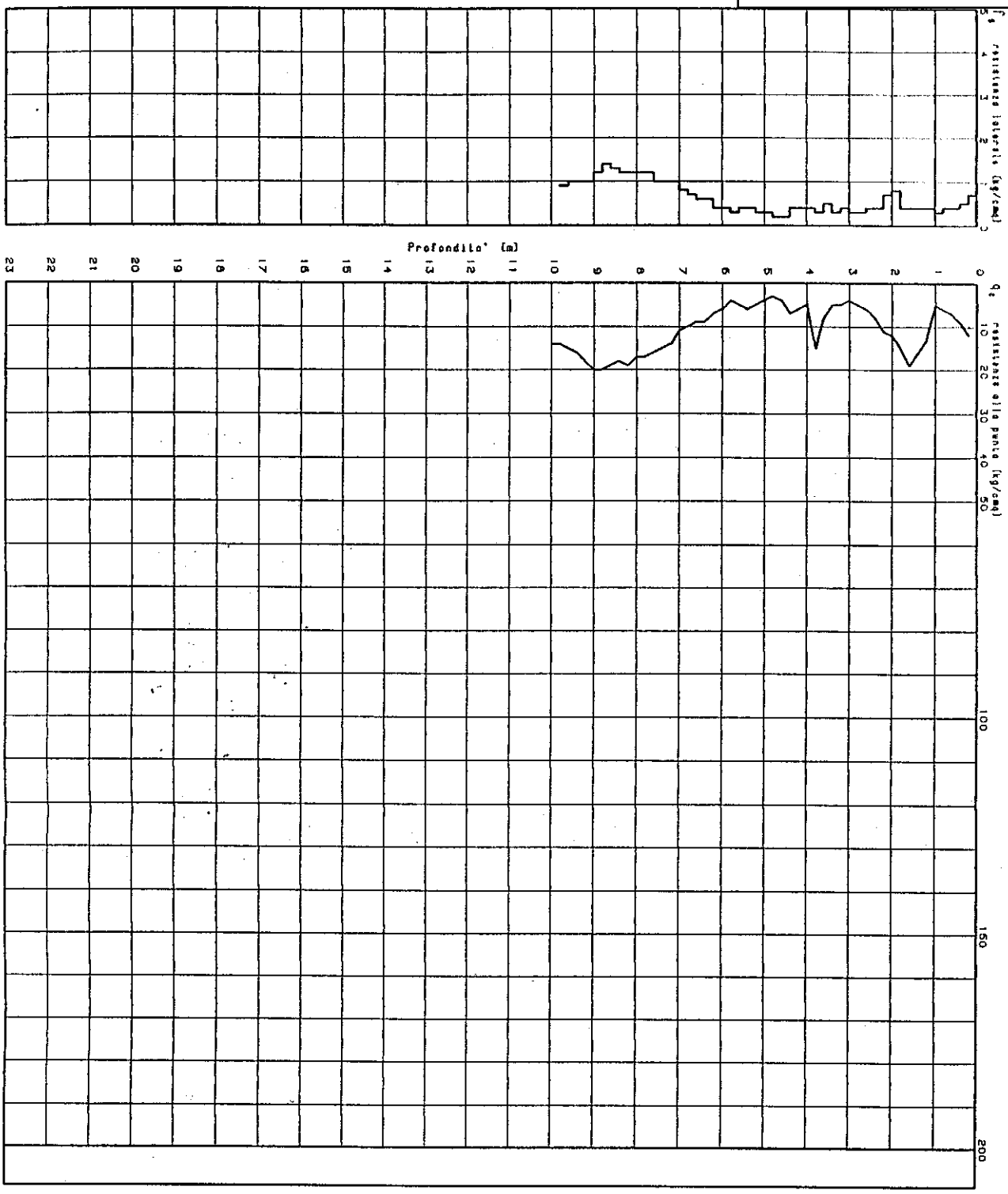
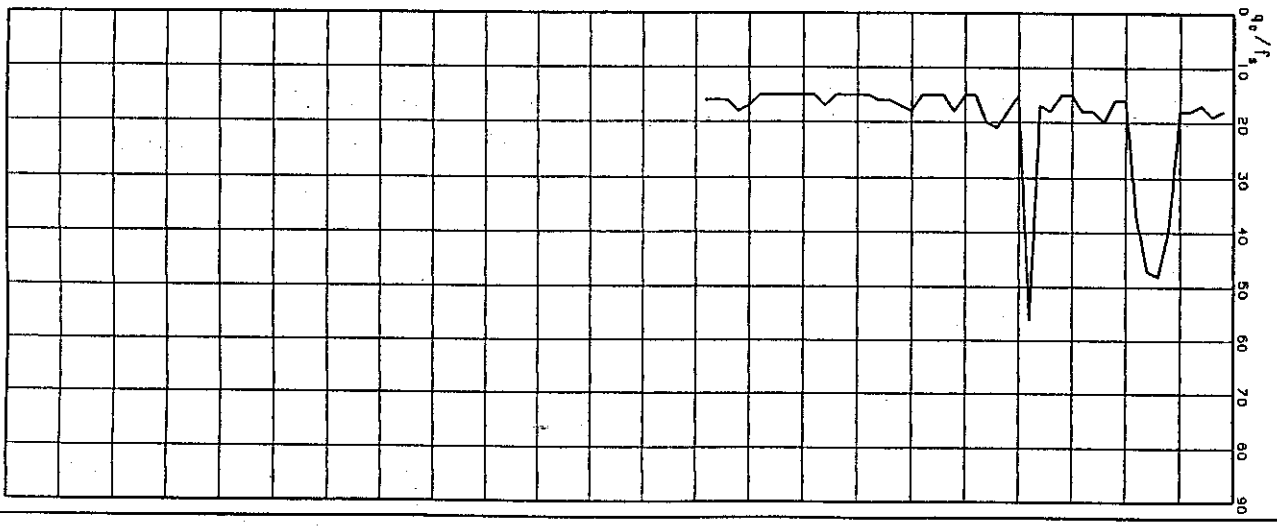


Livello acqua da p.c.: fore chiuse a -0.40 m



GEO-PROBE

40133 BOLOGNA

Via R. Grieco, 7 - Tel. 051/61.45.360

CPT (CONE PENETRATION TEST) N.3

Committente: Geom. Govino

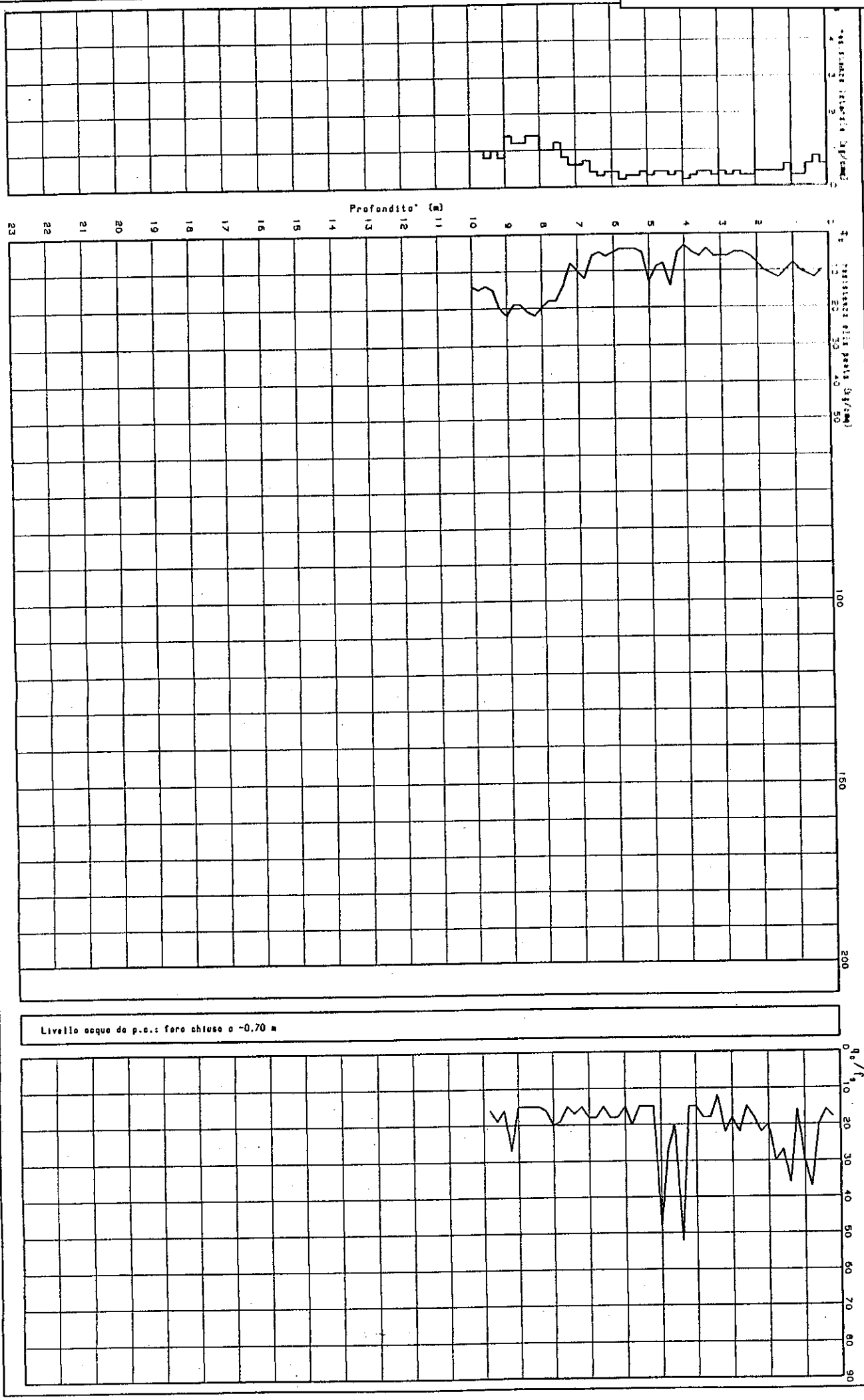
Localita': Castello d'Argile (BO) via Europa Unita

N. Certificato: 02166003

Data: 17/05/2002

GEO-PROBE S.r.l. Indagini Geognostiche

2_car/rep/CPT4



GEO-PROBE

40.33 BOLOGNA

Via [illegible] - Tel. 051/[illegible]

Committente: Sacm. Savina

Cantiere: Castello d'Argile (BO) Via Europa Unita

CPT (CONE PENETRATION TEST) N.4

N. Certificato: 02166004

Data: 17/05/2002

GEO-PROBE
40133 BOLOGNA
Via R. Grieco, 7 - Tel. 051/61.45.350

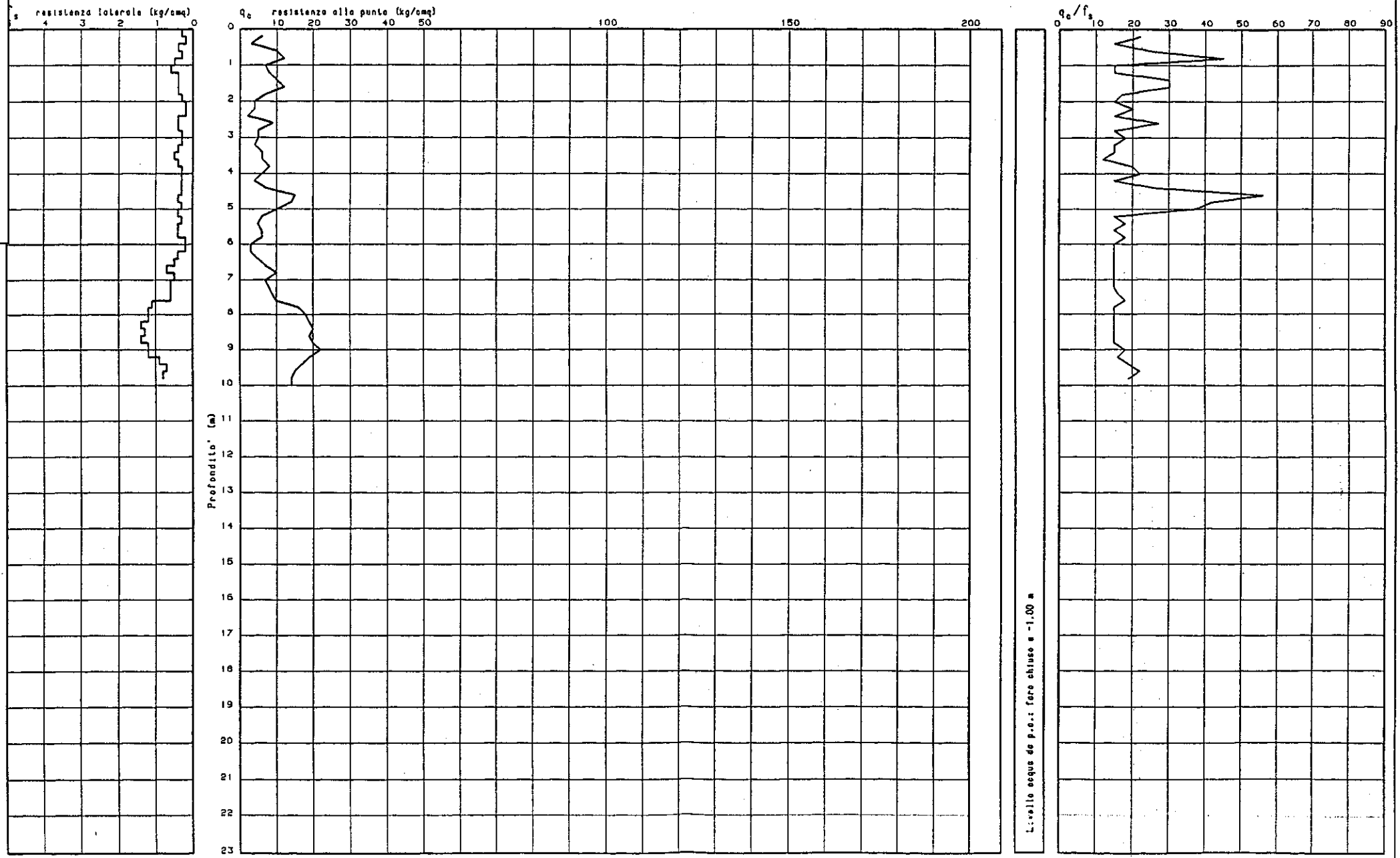
CPT (CONE PENETRATION TEST) N.5

N. Certificato: 02166005

Committente: Geom. Gavina

Localita': Castello d'Argile (BO) via Europa Unita

Data: 17/05/2002



GEO-PROBE
40133 BOLOGNA
Via R. Grieco, 7 - Tel. 051/61.45.360

SONDAGGIO N. 1

N. Certificato: 02166001

Committente: Geom. Gavina

Località: Castello d'Argile (BO) viale Europa unita

Data: 17/05/2002

Profondità (m)	Colonna stratigr.	Descrizione stratigrafica
		Terreno pedogenizzato.
0.40		Alternanza di sabbie limose e/o argillose di colore grigio marrone; - terreno a consistenza da scarsa a media scarsa ed umidità elevata.
1.60		Sabbia limosa e/o viceversa di colore grigiastro; - terreno a consistenza molto scarsa, in totale saturazione idrica.
4.50		Sabbia variabilmente limosa di colore grigio; - terreno ad addensamento scarso, saturo.
5.00		

Falda: Profondità acqua da p.c.: -1.20 m

Campioni			Pocket penetrometer	Torvane	S.P.T.		Piezometro	
Profondità (m)	n.	Tipo	(kg/cmq)	(kg/cmq)	Profondità (m)	N.	Profondità (m)	Schema

Trivellazione a secco ø mm 100

GEO-PROBE S.r.l. Indagini Geognostiche

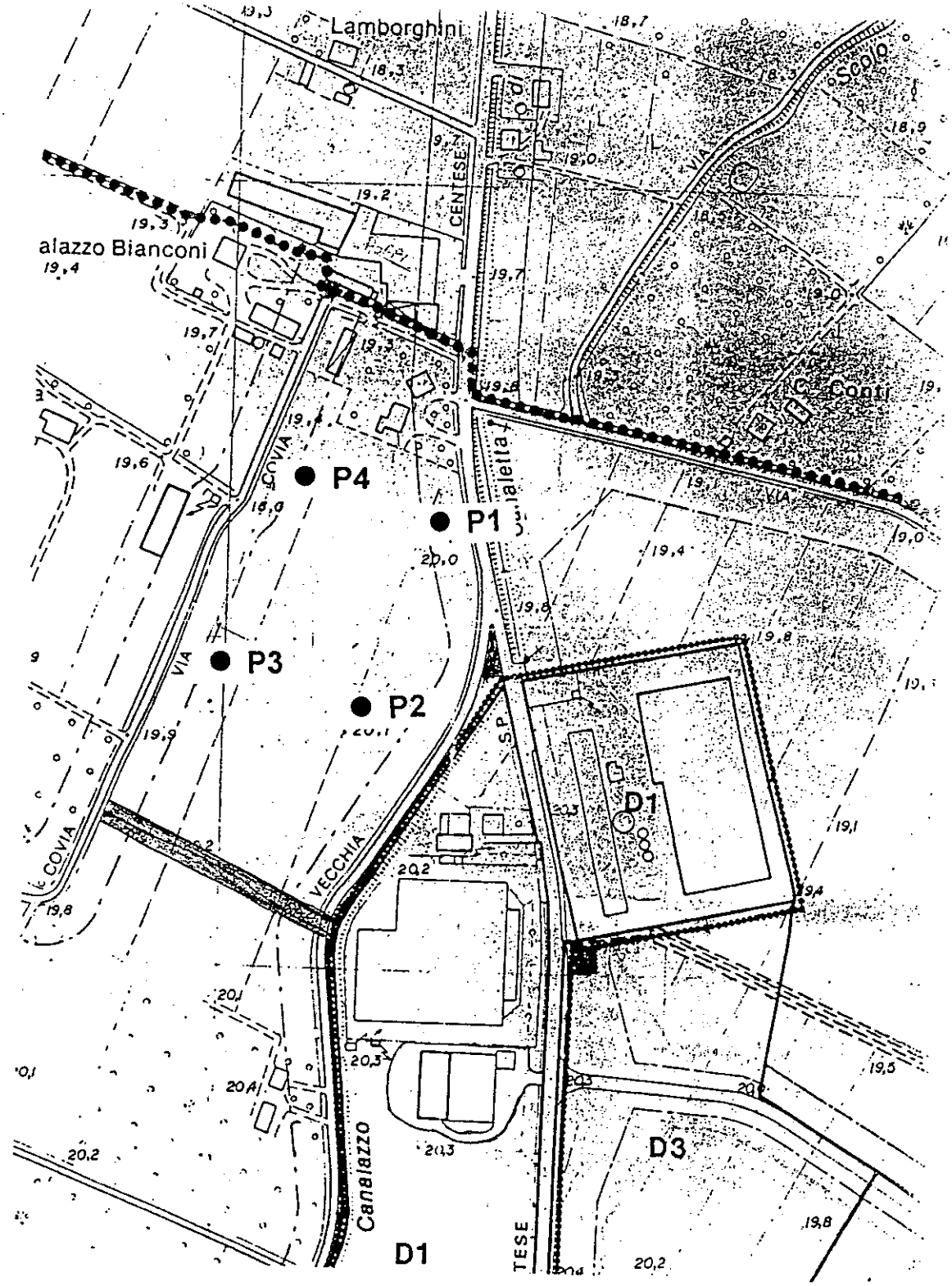
2_car/rep/CS1

CASTELLO D'ARGILE

3_car/rep

9 - *SCHIZZO PLANIMETRICO CON UBICAZIONE DELLE PROVE*

● **P1** prova penetrometrica



Dott. Enrico Taddia - Via Statale n. 140 - 44047 Sant'Agostino (FE) tel/fax 0532-846537

pergeo s.n.c. di Condotta, Stevanin & C.
sede legale: 44034 Copparo - FE - Viale P.Togliatti n. 6
unità locale: 44030 Corlo - FE - Via Canalazzi n. 13/b - telefono e fax 0532-42602

3_car/rep/CPT1

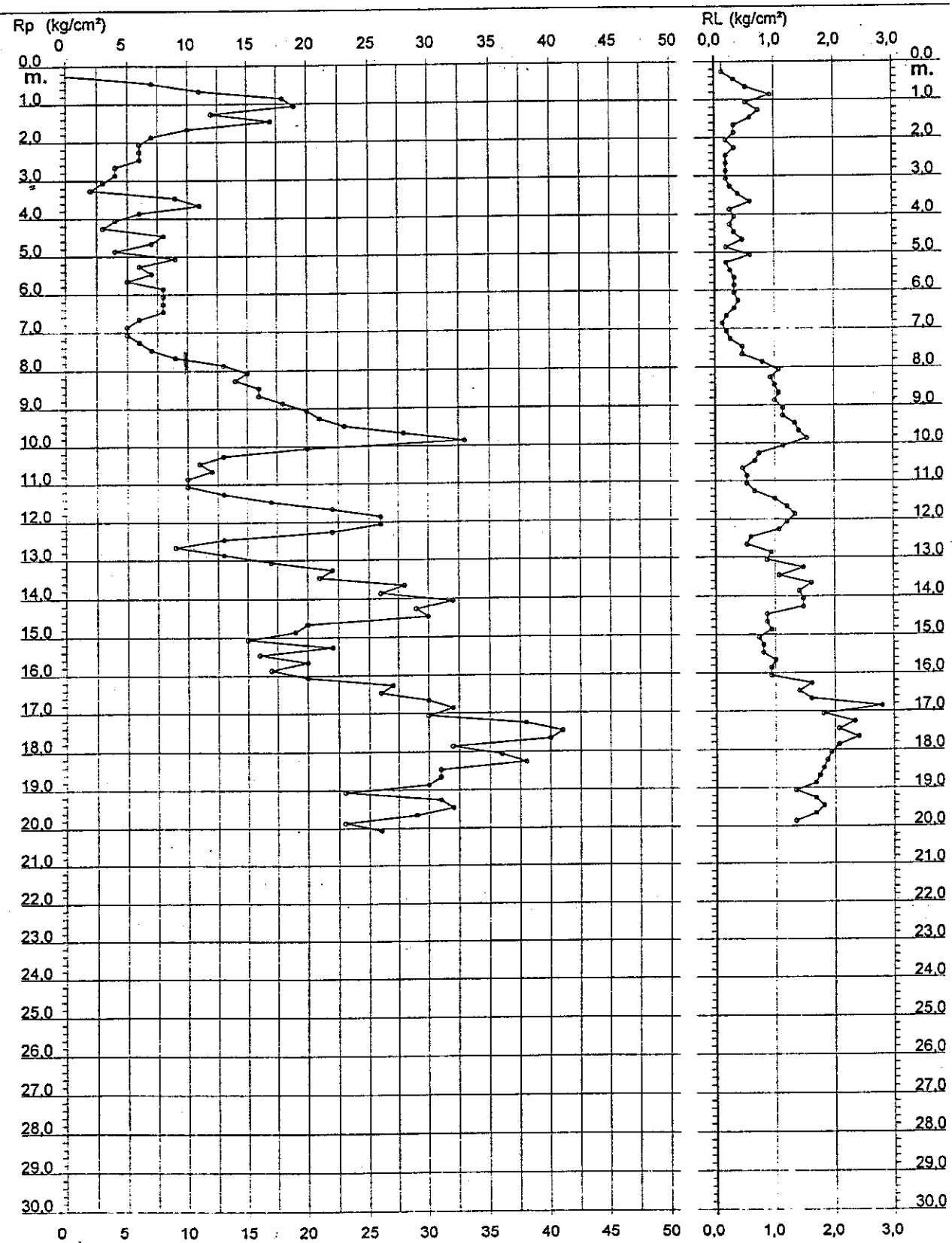
PROVA PENETROMETRICA STATICA
DIAGRAMMA DI RESISTENZA

CPT 1

2.010496-001

- committente : POPPI ELETTROSTAMPERIE - Castello d'Argile
- lavoro : Indagini Dr. Taddia
- località : Pieve di Cento
- note : Falda non rilevata - foro chiuso a mt 1.00

- data : 10/04/2000
- quota inizio : p.c.
- prof. falda : Falda non rilevata
- scala vert.: 1 : 150



pergeo s.n.c. di Condotta, Stevanin & C.
sede legale: 44034 Copparo - FE - Viale P.Togliatti n. 6
unità locale: 44030 Corlo - FE - Via Canalazzi n. 13/b - telefono e fax 0532-426021

3_car/rep/CPT1

PROVA PENETROMETRICA STATICA — CPT 1
LETTURE DI CAMPAGNA / VALORI DI RESISTENZA

2.010496-001

- committente : POPPI ELETTROSTAMPERIE - Castello d'Argile
- lavoro : Indagini Dr. Taddia
- località : Pieve di Cento
- note : Falda non rilevata - foro chiuso a mt 1.00
- data : 10/04/2000
- quota inizio : p.c.
- prof. falda : Falda non rilevata
- pagina : 1

prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -	prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -
0,20	----	----	--	0,13	----	10,20	13,0	30,0	13,0	0,73	18,0
0,40	7,0	9,0	7,0	0,33	21,0	10,40	11,0	22,0	11,0	0,67	16,0
0,60	11,0	16,0	11,0	0,53	21,0	10,60	12,0	22,0	12,0	0,47	26,0
0,80	18,0	26,0	18,0	0,93	19,0	10,80	10,0	17,0	10,0	0,53	19,0
1,00	19,0	33,0	19,0	0,53	36,0	11,00	10,0	18,0	10,0	0,53	19,0
1,20	12,0	20,0	12,0	0,73	16,0	11,20	13,0	21,0	13,0	0,67	19,0
1,40	17,0	28,0	17,0	0,60	28,0	11,40	17,0	27,0	17,0	1,00	17,0
1,60	10,0	19,0	10,0	0,33	30,0	11,60	22,0	37,0	22,0	1,20	18,0
1,80	7,0	12,0	7,0	0,33	21,0	11,80	26,0	44,0	26,0	1,33	19,0
2,00	6,0	11,0	6,0	0,20	30,0	12,00	26,0	46,0	26,0	1,20	22,0
2,20	6,0	9,0	6,0	0,33	18,0	12,20	22,0	40,0	22,0	1,07	21,0
2,40	6,0	11,0	6,0	0,20	30,0	12,40	13,0	29,0	13,0	0,60	22,0
2,60	4,0	7,0	4,0	0,20	20,0	12,60	9,0	18,0	9,0	0,53	17,0
2,80	4,0	7,0	4,0	0,20	20,0	12,80	13,0	21,0	13,0	0,93	14,0
3,00	3,0	6,0	3,0	0,20	15,0	13,00	17,0	31,0	17,0	0,87	20,0
3,20	2,0	5,0	2,0	0,27	7,0	13,20	22,0	35,0	22,0	1,47	15,0
3,40	9,0	13,0	9,0	0,40	22,0	13,40	21,0	43,0	21,0	1,07	20,0
3,60	11,0	17,0	11,0	0,60	18,0	13,60	28,0	44,0	28,0	1,60	17,0
3,80	6,0	15,0	6,0	0,27	22,0	13,80	26,0	50,0	26,0	1,40	19,0
4,00	4,0	8,0	4,0	0,33	12,0	14,00	32,0	53,0	32,0	1,47	22,0
4,20	3,0	8,0	3,0	0,27	11,0	14,20	29,0	51,0	29,0	1,47	20,0
4,40	8,0	12,0	8,0	0,33	24,0	14,40	30,0	52,0	30,0	0,87	35,0
4,60	7,0	12,0	7,0	0,47	15,0	14,60	20,0	33,0	20,0	0,87	23,0
4,80	4,0	11,0	4,0	0,20	20,0	14,80	19,0	32,0	19,0	0,93	20,0
5,00	9,0	12,0	9,0	0,60	15,0	15,00	15,0	29,0	15,0	0,73	20,0
5,20	6,0	15,0	6,0	0,20	30,0	15,20	22,0	33,0	22,0	0,80	27,0
5,40	7,0	10,0	7,0	0,27	26,0	15,40	16,0	28,0	16,0	0,80	20,0
5,60	5,0	9,0	5,0	0,33	15,0	15,60	20,0	32,0	20,0	1,00	20,0
5,80	8,0	13,0	8,0	0,33	24,0	15,80	17,0	32,0	17,0	0,93	18,0
6,00	8,0	13,0	8,0	0,33	24,0	16,00	20,0	34,0	20,0	0,93	21,0
6,20	8,0	13,0	8,0	0,40	20,0	16,20	27,0	41,0	27,0	1,60	17,0
6,40	8,0	14,0	8,0	0,33	24,0	16,40	26,0	50,0	26,0	1,40	19,0
6,60	6,0	11,0	6,0	0,20	30,0	16,60	30,0	51,0	30,0	1,60	19,0
6,80	5,0	8,0	5,0	0,13	37,0	16,80	32,0	56,0	32,0	2,80	11,0
7,00	5,0	7,0	5,0	0,20	25,0	17,00	30,0	72,0	30,0	1,80	17,0
7,20	6,0	9,0	6,0	0,27	22,0	17,20	38,0	65,0	38,0	2,33	16,0
7,40	7,0	11,0	7,0	0,47	15,0	17,40	41,0	76,0	41,0	2,07	20,0
7,60	9,0	16,0	9,0	0,47	19,0	17,60	40,0	71,0	40,0	2,40	17,0
7,80	13,0	20,0	13,0	0,80	16,0	17,80	32,0	68,0	32,0	2,07	15,0
8,00	15,0	27,0	15,0	1,07	14,0	18,00	36,0	67,0	36,0	1,93	19,0
8,20	14,0	30,0	14,0	0,93	15,0	18,20	38,0	67,0	38,0	1,87	20,0
8,40	16,0	30,0	16,0	1,00	16,0	18,40	31,0	59,0	31,0	1,80	17,0
8,60	16,0	31,0	16,0	1,07	15,0	18,60	31,0	58,0	31,0	1,73	18,0
8,80	18,0	34,0	18,0	1,00	18,0	18,80	30,0	56,0	30,0	1,67	18,0
9,00	20,0	35,0	20,0	1,13	18,0	19,00	23,0	48,0	23,0	1,33	17,0
9,20	21,0	38,0	21,0	1,13	19,0	19,20	31,0	51,0	31,0	1,67	19,0
9,40	23,0	40,0	23,0	1,33	17,0	19,40	32,0	57,0	32,0	1,80	18,0
9,60	28,0	48,0	28,0	1,40	20,0	19,60	29,0	56,0	29,0	1,67	17,0
9,80	33,0	54,0	33,0	1,53	22,0	19,80	23,0	48,0	23,0	1,33	17,0
10,00	20,0	43,0	20,0	1,13	18,0	20,00	26,0	46,0	26,0	----	----

- 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)

pergeo s.n.c. di Condotta, Stevanin & C.
sede legale: 44034 Copparo - FE - Viale P.Togliatti n. 6
unità locale: 44030 Corlo - FE - Via Canalazzi n. 13/b - telefono e fax 0532-426021

3_car/rep/CPT2

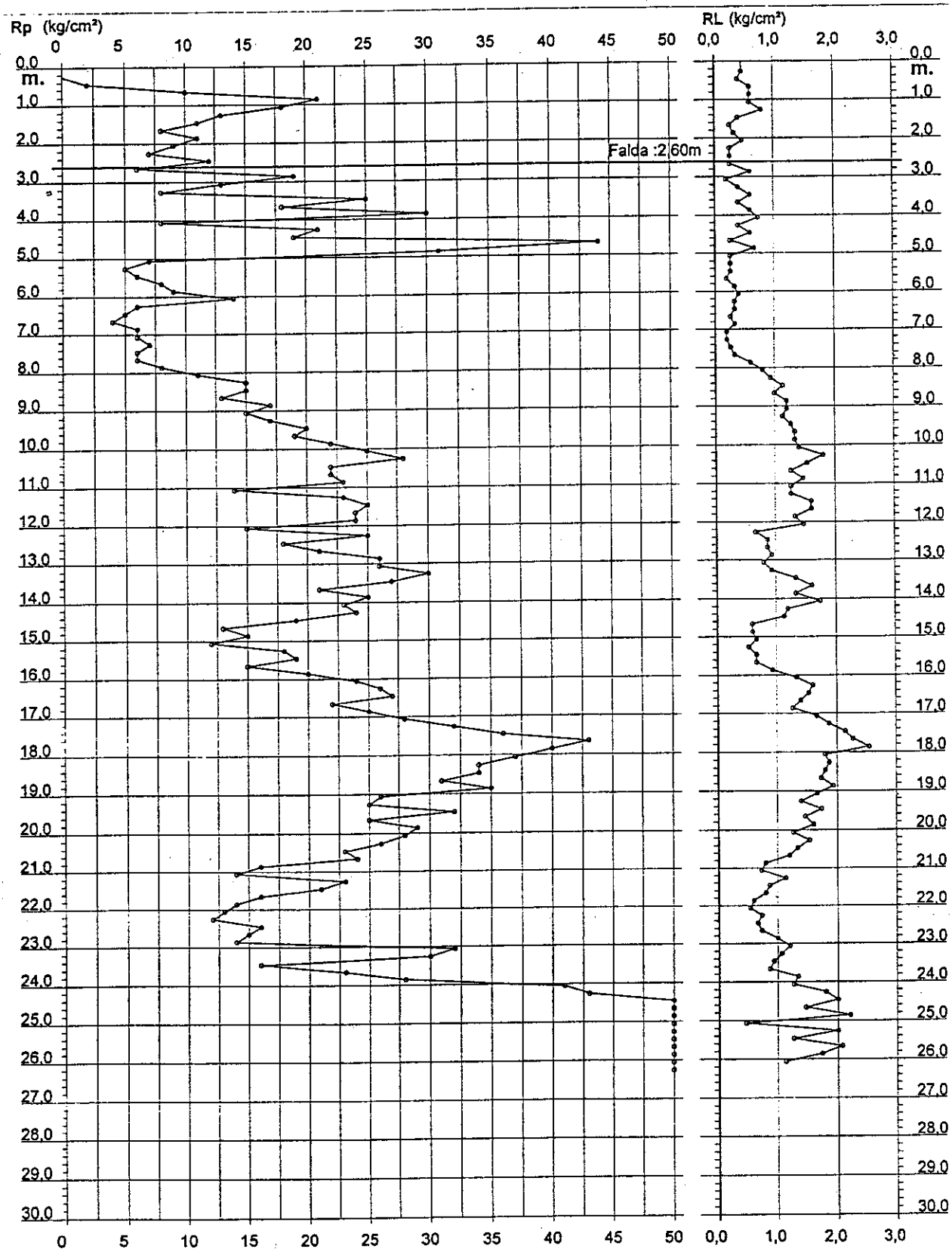
PROVA PENETROMETRICA STATICA
DIAGRAMMA DI RESISTENZA

CPT 2

2.010496-001

- committente : POPPI ELETTROSTAMPERIE - Castello d'Argile
- lavoro : Indagini Dr. Taddia
- località : Pieve di Cento

- data : 10/04/2000
- quota inizio : p.c.
- prof. falda : 2,60 m da quota inizio
- scala vert.: 1 : 150



pergeo s.n.c. di Condotta, Stevanin & C.
sede legale: 44034 Copparo - FE - Viale P.Togliatti n. 6
unità locale: 44030 Corlo - FE - Via Canalazzi n. 13/b - telefono e fax 0532-426021

3_car/rep/CPT2

PROVA PENETROMETRICA STATICA
LETTURE DI CAMPAGNA / VALORI DI RESISTENZA

CPT 2

2.010496-001

- committente : POPPI ELETTROSTAMPERIE - Castello d'Argile
- lavoro : Indagini Dr. Taddia
- località : Pieve di Cento
- note :

- data : 10/04/2000
- quota inizio : p.c.
- prof. falda : 2,60 m da quota inizio
- pagina : 1

prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -	prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -
0,20	----	----	--	0,47	----	10,20	28,0	49,0	28,0	1,80	16,0
0,40	2,0	9,0	2,0	0,40	5,0	10,40	22,0	49,0	22,0	1,53	14,0
0,60	10,0	16,0	10,0	0,60	17,0	10,60	22,0	45,0	22,0	1,27	17,0
0,80	21,0	30,0	21,0	0,60	35,0	10,80	23,0	42,0	23,0	1,47	16,0
1,00	18,0	27,0	18,0	0,60	30,0	11,00	14,0	36,0	14,0	1,27	11,0
1,20	13,0	22,0	13,0	0,80	16,0	11,20	23,0	42,0	23,0	1,27	18,0
1,40	11,0	23,0	11,0	0,40	27,0	11,40	25,0	44,0	25,0	1,60	16,0
1,60	8,0	14,0	8,0	0,27	30,0	11,60	24,0	48,0	24,0	1,60	15,0
1,80	11,0	15,0	11,0	0,33	33,0	11,80	24,0	48,0	24,0	1,33	18,0
2,00	9,0	14,0	9,0	0,47	19,0	12,00	15,0	35,0	15,0	1,47	10,0
2,20	7,0	14,0	7,0	0,27	26,0	12,20	25,0	47,0	25,0	0,67	37,0
2,40	12,0	16,0	12,0	0,27	45,0	12,40	18,0	28,0	18,0	0,87	21,0
2,60	6,0	10,0	6,0	0,27	22,0	12,60	21,0	34,0	21,0	0,87	24,0
2,80	19,0	23,0	19,0	0,60	32,0	12,80	26,0	39,0	26,0	0,93	28,0
3,00	13,0	22,0	13,0	0,20	65,0	13,00	26,0	40,0	26,0	0,80	32,0
3,20	8,0	11,0	8,0	0,40	20,0	13,20	30,0	42,0	30,0	0,93	32,0
3,40	25,0	31,0	25,0	0,60	42,0	13,40	27,0	41,0	27,0	1,33	20,0
3,60	18,0	27,0	18,0	0,40	45,0	13,60	21,0	41,0	21,0	1,60	13,0
3,80	30,0	36,0	30,0	0,60	50,0	13,80	25,0	49,0	25,0	1,33	19,0
4,00	8,0	17,0	8,0	0,73	11,0	14,00	23,0	43,0	23,0	1,73	13,0
4,20	21,0	32,0	21,0	0,40	52,0	14,20	24,0	50,0	24,0	1,20	20,0
4,40	19,0	25,0	19,0	0,60	32,0	14,40	19,0	37,0	19,0	1,13	17,0
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4,80	31,0	35,0	31,0	0,67	46,0	14,80	15,0	24,0	15,0	0,60	25,0
5,00	7,0	17,0	7,0	0,27	26,0	15,00	12,0	21,0	12,0	0,67	18,0
5,20	5,0	9,0	5,0	0,27	19,0	15,20	18,0	28,0	18,0	0,53	34,0
5,40	6,0	10,0	6,0	0,27	22,0	15,40	19,0	27,0	19,0	0,67	28,0
5,60	8,0	12,0	8,0	0,20	40,0	15,60	15,0	25,0	15,0	0,67	22,0
5,80	9,0	12,0	9,0	0,33	27,0	15,80	20,0	30,0	20,0	0,93	21,0
6,00	14,0	19,0	14,0	0,40	35,0	16,00	24,0	38,0	24,0	1,33	18,0
6,20	6,0	12,0	6,0	0,33	18,0	16,20	26,0	46,0	26,0	1,60	16,0
6,40	5,0	10,0	5,0	0,33	15,0	16,40	27,0	51,0	27,0	1,53	18,0
6,60	4,0	9,0	4,0	0,27	15,0	16,60	22,0	45,0	22,0	1,40	16,0
6,80	6,0	10,0	6,0	0,33	18,0	16,80	25,0	46,0	25,0	1,27	20,0
7,00	6,0	11,0	6,0	0,20	30,0	17,00	28,0	47,0	28,0	1,67	17,0
7,20	7,0	10,0	7,0	0,20	35,0	17,20	32,0	57,0	32,0	1,87	17,0
7,40	6,0	9,0	6,0	0,27	22,0	17,40	36,0	64,0	36,0	2,13	17,0
7,60	6,0	10,0	6,0	0,33	18,0	17,60	43,0	75,0	43,0	2,27	19,0
7,80	8,0	13,0	8,0	0,60	13,0	17,80	40,0	74,0	40,0	2,53	16,0
8,00	11,0	20,0	11,0	0,80	14,0	18,00	37,0	75,0	37,0	1,80	21,0
8,20	15,0	27,0	15,0	0,93	16,0	18,20	34,0	61,0	34,0	1,87	18,0
8,40	15,0	29,0	15,0	1,13	13,0	18,40	34,0	62,0	34,0	1,80	19,0
8,60	13,0	30,0	13,0	1,00	13,0	18,60	31,0	58,0	31,0	1,73	18,0
8,80	17,0	32,0	17,0	1,20	14,0	18,80	35,0	61,0	35,0	1,93	18,0
9,00	15,0	33,0	15,0	1,20	12,0	19,00	26,0	55,0	26,0	1,67	16,0
9,20	17,0	35,0	17,0	1,13	15,0	19,20	25,0	50,0	25,0	1,40	18,0
9,40	20,0	37,0	20,0	1,27	16,0	19,40	32,0	53,0	32,0	1,73	18,0
9,60	19,0	38,0	19,0	1,33	14,0	19,60	25,0	51,0	25,0	1,47	17,0
9,80	22,0	42,0	22,0	1,33	16,0	19,80	29,0	51,0	29,0	1,60	18,0
10,00	25,0	45,0	25,0	1,40	18,0	20,00	28,0	52,0	28,0	1,27	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)

pergeo s.n.c. di Condotta, Stevanin & C.
sede legale: 44034 Copparo - FE - Viale P.Togliatti n. 6
unità locale: 44030 Corlo - FE - Via Canalazzi n. 13/b - telefono e fax 0532-426021

3_car/rep/CPT2

PROVA PENETROMETRICA STATICA — CPT 2
LETTURE DI CAMPAGNA / VALORI DI RESISTENZA

2.010496-001

- committente : POPPI ELETTROSTAMPERIE - Castello d'Argile
- lavoro : Indagini Dr. Taddia
- località : Pieve di Cento
- note :

- data : 10/04/2000
- quota inizio : p.c.
- prof. falda : 2,60 m da quota inizio
- pagina : 2

prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -	prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -
20,20	26,0	45,0	26,0	1,53	17,0	23,40	16,0	32,0	16,0	0,93	17,0
20,40	23,0	46,0	23,0	1,33	17,0	23,60	23,0	37,0	23,0	0,87	27,0
20,60	24,0	44,0	24,0	1,20	20,0	23,80	28,0	41,0	28,0	1,33	21,0
20,80	16,0	34,0	16,0	0,80	20,0	24,00	41,0	61,0	41,0	1,27	32,0
21,00	14,0	26,0	14,0	0,73	19,0	24,20	43,0	62,0	43,0	1,80	24,0
21,20	23,0	34,0	23,0	1,13	20,0	24,40	97,0	124,0	97,0	2,00	48,0
21,40	21,0	38,0	21,0	0,87	24,0	24,60	85,0	115,0	85,0	1,47	58,0
21,60	16,0	29,0	16,0	0,80	20,0	24,80	79,0	101,0	79,0	2,20	36,0
21,80	14,0	26,0	14,0	0,60	23,0	25,00	103,0	136,0	103,0	0,47	221,0
22,00	13,0	22,0	13,0	0,53	24,0	25,20	135,0	142,0	135,0	2,00	68,0
22,20	12,0	20,0	12,0	0,73	16,0	25,40	115,0	145,0	115,0	1,27	91,0
22,40	16,0	27,0	16,0	0,67	24,0	25,60	108,0	127,0	108,0	2,07	52,0
22,60	15,0	25,0	15,0	0,73	20,0	25,80	80,0	111,0	80,0	1,73	46,0
22,80	14,0	25,0	14,0	1,00	14,0	26,00	110,0	136,0	110,0	1,13	97,0
23,00	32,0	47,0	32,0	1,20	27,0	26,20	150,0	167,0	150,0	----	----
23,20	30,0	48,0	30,0	1,07	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 ø = 35.7 mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

pergeo s.n.c. di Condotta, Stevanin & C.
sede legale: 44034 Copparo - FE - Viale P.Togliatti n. 6
unità locale: 44030 Corlo - FE - Via Canalazzi n. 13/b - telefono e fax 0532-426021

3_car/rep/CPT3

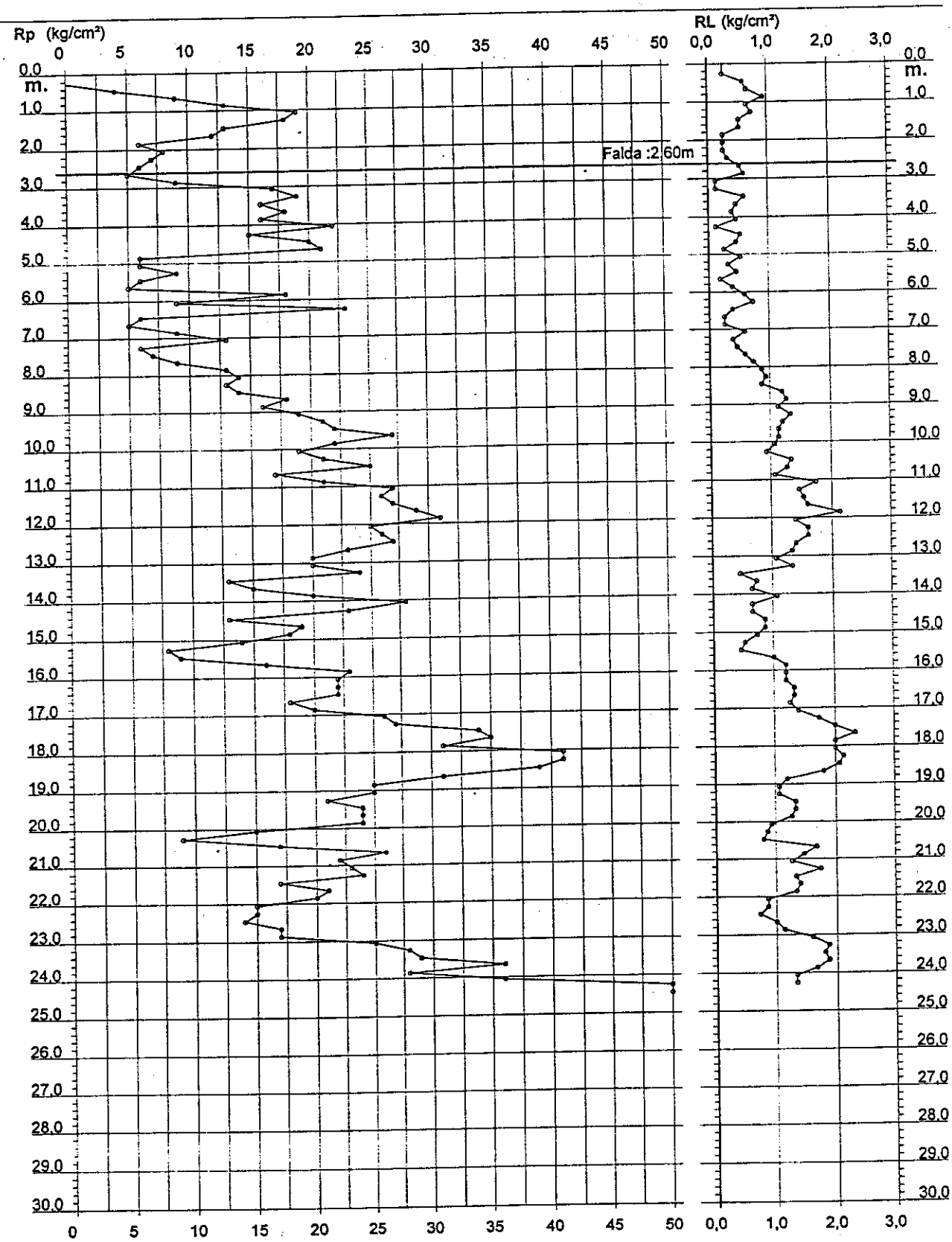
PROVA PENETROMETRICA STATICA
DIAGRAMMA DI RESISTENZA

CPT 3

2.010496-001

- committente : POPPI ELETTROSTAMPERIE - Castello d'Argile
- lavoro : Indagini Dr. Taddia
- località : Pieve di Cento

- data : 10/04/2000
- quota inizio : p.c.
- prof. falda : 2,60 m da quota inizio
- scala vert.: 1 : 150



pergeo s.n.c. di Condotta, Stevanin & C.
sede legale: 44034 Copparo - FE - Viale P.Togliatti n. 6
unità locale: 44030 Corlo - FE - Via Canalazzi n. 13/b - telefono e fax 0532-426021

3_car/rep/CPT3

PROVA PENETROMETRICA STATICA
LETTURE DI CAMPAGNA / VALORI DI RESISTENZA

CPT 3

2.010496-001

- committente : POPPI ELETTROSTAMPERIE - Castello d'Argile
- lavoro : Indagini Dr. Taddia
- località : Pieve di Cento
- note :

- data : 10/04/2000
- quota inizio : p.c.
- prof. falda : 2,60 m da quota inizio
- pagina : 1

prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -	prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -
0,20	----	----	--	0,27	----	10,20	21,0	37,0	21,0	0,93	22,0
0,40	4,0	8,0	4,0	0,60	7,0	10,40	25,0	39,0	25,0	1,33	19,0
0,60	9,0	18,0	9,0	0,67	13,0	10,60	17,0	37,0	17,0	1,27	13,0
0,80	13,0	23,0	13,0	0,93	14,0	10,80	21,0	40,0	21,0	1,07	20,0
1,00	19,0	33,0	19,0	0,67	28,0	11,00	27,0	43,0	27,0	1,73	16,0
1,20	18,0	28,0	18,0	0,73	25,0	11,20	26,0	52,0	26,0	1,47	18,0
1,40	13,0	24,0	13,0	0,53	24,0	11,40	27,0	49,0	27,0	1,53	18,0
1,60	12,0	20,0	12,0	0,53	22,0	11,60	29,0	52,0	29,0	1,60	18,0
1,80	6,0	14,0	6,0	0,27	22,0	11,80	31,0	55,0	31,0	2,13	15,0
2,00	8,0	12,0	8,0	0,27	30,0	12,00	25,0	57,0	25,0	1,40	18,0
2,20	7,0	11,0	7,0	0,27	26,0	12,20	26,0	47,0	26,0	1,60	16,0
2,40	6,0	10,0	6,0	0,33	18,0	12,40	27,0	51,0	27,0	1,60	17,0
2,60	5,0	10,0	5,0	0,53	9,0	12,60	23,0	47,0	23,0	1,40	16,0
2,80	9,0	17,0	9,0	0,60	15,0	12,80	20,0	41,0	20,0	1,33	15,0
3,00	17,0	26,0	17,0	0,13	127,0	13,00	20,0	40,0	20,0	1,07	19,0
3,20	19,0	21,0	19,0	0,13	142,0	13,20	24,0	40,0	24,0	1,33	18,0
3,40	16,0	18,0	16,0	0,60	27,0	13,40	13,0	33,0	13,0	0,47	28,0
3,60	18,0	27,0	18,0	0,47	39,0	13,60	15,0	22,0	15,0	0,73	20,0
3,80	16,0	23,0	16,0	0,40	40,0	13,80	20,0	31,0	20,0	0,67	30,0
4,00	22,0	28,0	22,0	0,47	47,0	14,00	28,0	38,0	28,0	1,07	26,0
4,20	15,0	22,0	15,0	0,13	112,0	14,20	23,0	39,0	23,0	0,67	34,0
4,40	20,0	22,0	20,0	0,53	37,0	14,40	13,0	23,0	13,0	0,67	19,0
4,60	21,0	29,0	21,0	0,47	45,0	14,60	19,0	29,0	19,0	0,87	22,0
4,80	6,0	13,0	6,0	0,27	22,0	14,80	18,0	31,0	18,0	0,87	21,0
5,00	6,0	10,0	6,0	0,53	11,0	15,00	14,0	27,0	14,0	0,73	19,0
5,20	9,0	17,0	9,0	0,33	27,0	15,20	8,0	19,0	8,0	0,53	15,0
5,40	6,0	11,0	6,0	0,47	13,0	15,40	9,0	17,0	9,0	0,47	19,0
5,60	5,0	12,0	5,0	0,20	25,0	15,60	16,0	23,0	16,0	1,00	16,0
5,80	18,0	21,0	18,0	0,40	45,0	15,80	23,0	38,0	23,0	1,20	19,0
6,00	9,0	15,0	9,0	0,60	15,0	16,00	22,0	40,0	22,0	1,20	18,0
6,20	23,0	32,0	23,0	0,73	31,0	16,20	22,0	40,0	22,0	1,20	18,0
6,40	6,0	17,0	6,0	0,40	15,0	16,40	22,0	40,0	22,0	1,33	16,0
6,60	5,0	11,0	5,0	0,27	19,0	16,60	18,0	38,0	18,0	1,33	13,0
6,80	9,0	13,0	9,0	0,27	34,0	16,80	20,0	40,0	20,0	1,27	16,0
7,00	13,0	17,0	13,0	0,60	22,0	17,00	26,0	45,0	26,0	1,40	19,0
7,20	6,0	15,0	6,0	0,40	15,0	17,20	27,0	48,0	27,0	1,73	16,0
7,40	7,0	13,0	7,0	0,47	15,0	17,40	34,0	60,0	34,0	2,00	17,0
7,60	9,0	16,0	9,0	0,60	15,0	17,60	35,0	65,0	35,0	2,33	15,0
7,80	13,0	22,0	13,0	0,73	18,0	17,80	31,0	66,0	31,0	2,00	16,0
8,00	14,0	25,0	14,0	0,87	16,0	18,00	41,0	71,0	41,0	2,00	20,0
8,20	13,0	26,0	13,0	0,93	14,0	18,20	41,0	71,0	41,0	2,13	19,0
8,40	14,0	28,0	14,0	0,87	16,0	18,40	39,0	71,0	39,0	2,07	19,0
8,60	18,0	31,0	18,0	1,20	15,0	18,60	31,0	62,0	31,0	1,80	17,0
8,80	16,0	34,0	16,0	1,27	13,0	18,80	25,0	52,0	25,0	1,20	21,0
9,00	19,0	38,0	19,0	1,13	17,0	19,00	25,0	43,0	25,0	1,07	23,0
9,20	21,0	38,0	21,0	1,33	16,0	19,20	21,0	37,0	21,0	1,07	20,0
9,40	22,0	42,0	22,0	1,20	18,0	19,40	24,0	40,0	24,0	1,33	18,0
9,60	27,0	45,0	27,0	1,13	24,0	19,60	24,0	44,0	24,0	1,33	18,0
9,80	22,0	39,0	22,0	1,13	19,0	19,80	24,0	44,0	24,0	1,27	19,0
10,00	19,0	36,0	19,0	1,07	18,0	20,00	15,0	34,0	15,0	0,93	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)

pergeo s.n.c. di Condotta, Stevanin & C.
sede legale: 44034 Copparo - FE - Viale P.Togliatti n. 6
unità locale: 44030 Corlo - FE - Via Canalazzi n. 13/b - telefono e fax 0532-426021

3_car/rep/CPT3

PROVA PENETROMETRICA STATICA
LETTURE DI CAMPAGNA / VALORI DI RESISTENZA

CPT 3

2.010496-001

- committente : POPPI ELETTROSTAMPERIE - Castello d'Argile
- lavoro : Indagini Dr. Taddia
- località : Pieve di Cento
- note :

- data : 10/04/2000
- quota inizio : p.c.
- prof. falda : 2,60 m da quota inizio
- pagina : 2

prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -	prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -
20,20	9,0	23,0	9,0	0,87	10,0	22,40	14,0	27,0	14,0	0,73	19,0
20,40	17,0	30,0	17,0	0,80	21,0	22,60	17,0	28,0	17,0	1,00	17,0
20,60	26,0	38,0	26,0	1,67	16,0	22,80	17,0	32,0	17,0	1,13	15,0
20,80	22,0	47,0	22,0	1,47	15,0	23,00	25,0	42,0	25,0	1,60	16,0
21,00	23,0	45,0	23,0	1,27	18,0	23,20	28,0	52,0	28,0	1,87	15,0
21,20	24,0	43,0	24,0	1,73	14,0	23,40	29,0	57,0	29,0	1,80	16,0
21,40	17,0	43,0	17,0	1,33	13,0	23,60	36,0	63,0	36,0	1,87	19,0
21,60	21,0	41,0	21,0	1,40	15,0	23,80	28,0	56,0	28,0	1,67	17,0
21,80	20,0	41,0	20,0	1,33	15,0	24,00	36,0	61,0	36,0	1,33	27,0
22,00	15,0	35,0	15,0	0,87	17,0	24,20	51,0	71,0	51,0	1,33	38,0
22,20	15,0	28,0	15,0	0,87	17,0	24,40	53,0	73,0	53,0	——	——

- 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)

pergeo s.n.c. di Condotta, Stevanin & C.
sede legale: 44034 Copparo - FE - Viale P.Togliatti n. 6
unità locale: 44030 Corlo - FE - Via Canalazzi n. 13/b - telefono e fax 0532-426021

3_car/rep/CPT4

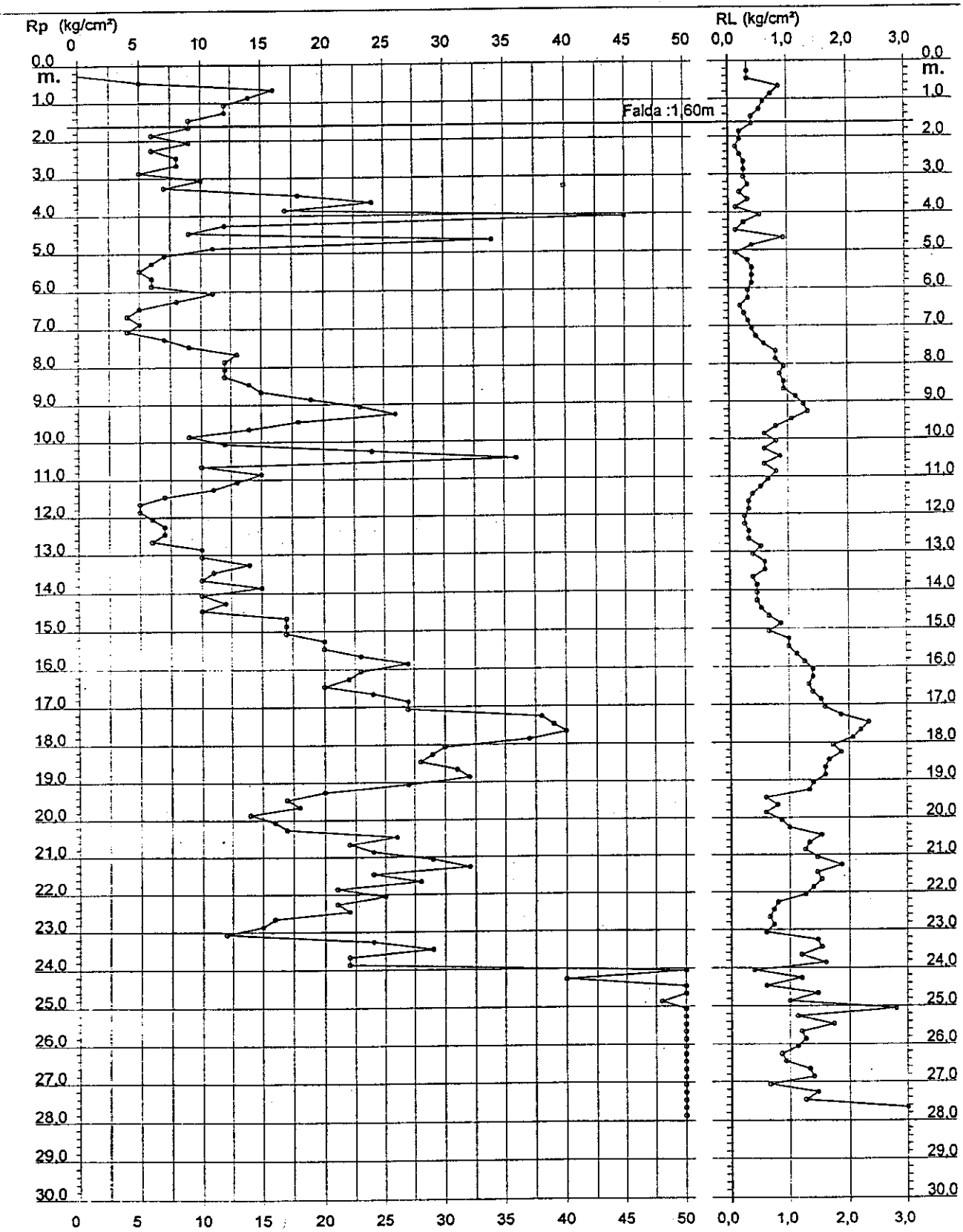
PROVA PENETROMETRICA STATICA
DIAGRAMMA DI RESISTENZA

CPT 4

2.010496-001

- committente : POPPI ELETTROSTAMPERIE - Castello d'Argile
- lavoro : Indagini Dr. Taddia
- località : Pieve di Cento

- data : 10/04/2000
- quota inizio : p.c.
- prof. falda : 1,60 m da quota inizio
- scala vert.: 1 : 150



pergeo s.n.c. di Condotta, Stevanin & C.
sede legale: 44034 Copparo - FE - Viale P.Togliatti n. 6
unità locale: 44030 Corlo - FE - Via Canalazzi n. 13/b - telefono e fax 0532-426021

3_car/rep/CPT4

PROVA PENETROMETRICA STATICA — CPT 4
LETTURE DI CAMPAGNA / VALORI DI RESISTENZA

2.010496-001

- committente : POPPI ELETTROSTAMPERIE - Castello d'Argile
- lavoro : Indagini Dr. Taddia
- località : Pieve di Cento
- note :

- data : 10/04/2000
- quota inizio : p.c.
- prof. falda : 1,60 m da quota inizio
- pagina : 1

prf	LP	LL	Rp	RL	Rp/Rl	prf	LP	LL	Rp	RL	Rp/Rl
m	Kg/cm²	Kg/cm²	Kg/cm²	Kg/cm²	-	m	Kg/cm²	Kg/cm²	Kg/cm²	Kg/cm²	-
0,20	----	----	--	0,33	----	10,20	24,0	36,0	24,0	0,60	40,0
0,40	5,0	10,0	5,0	0,33	15,0	10,40	36,0	45,0	36,0	0,87	42,0
0,60	16,0	21,0	16,0	0,87	18,0	10,60	10,0	23,0	10,0	0,60	17,0
0,80	14,0	27,0	14,0	0,73	19,0	10,80	15,0	24,0	15,0	0,80	19,0
1,00	12,0	23,0	12,0	0,60	20,0	11,00	13,0	25,0	13,0	0,67	19,0
1,20	12,0	21,0	12,0	0,53	22,0	11,20	11,0	21,0	11,0	0,53	21,0
1,40	9,0	17,0	9,0	0,40	22,0	11,40	7,0	15,0	7,0	0,40	17,0
1,60	9,0	15,0	9,0	0,40	22,0	11,60	5,0	11,0	5,0	0,33	15,0
1,80	6,0	12,0	6,0	0,20	30,0	11,80	5,0	10,0	5,0	0,33	15,0
2,00	9,0	12,0	9,0	0,20	45,0	12,00	6,0	11,0	6,0	0,27	22,0
2,20	6,0	9,0	6,0	0,13	45,0	12,20	7,0	11,0	7,0	0,27	26,0
2,40	8,0	10,0	8,0	0,20	40,0	12,40	7,0	11,0	7,0	0,33	21,0
2,60	8,0	11,0	8,0	0,27	30,0	12,60	6,0	11,0	6,0	0,33	18,0
2,80	5,0	9,0	5,0	0,27	19,0	12,80	10,0	15,0	10,0	0,53	19,0
3,00	10,0	14,0	10,0	0,27	37,0	13,00	10,0	18,0	10,0	0,40	25,0
3,20	7,0	11,0	7,0	0,33	21,0	13,20	14,0	20,0	14,0	0,60	23,0
3,40	18,0	23,0	18,0	0,20	90,0	13,40	11,0	20,0	11,0	0,60	18,0
3,60	24,0	27,0	24,0	0,33	72,0	13,60	10,0	19,0	10,0	0,40	25,0
3,80	17,0	22,0	17,0	0,13	127,0	13,80	15,0	21,0	15,0	0,47	32,0
4,00	45,0	47,0	45,0	0,53	84,0	14,00	10,0	17,0	10,0	0,47	21,0
4,20	12,0	20,0	12,0	0,27	45,0	14,20	12,0	19,0	12,0	0,47	26,0
4,40	9,0	13,0	9,0	0,13	67,0	14,40	10,0	17,0	10,0	0,53	19,0
4,60	34,0	36,0	34,0	0,93	36,0	14,60	17,0	25,0	17,0	0,67	25,0
4,80	11,0	25,0	11,0	0,40	27,0	14,80	17,0	27,0	17,0	0,87	20,0
5,00	7,0	13,0	7,0	0,13	52,0	15,00	17,0	30,0	17,0	0,67	25,0
5,20	6,0	8,0	6,0	0,33	18,0	15,20	20,0	30,0	20,0	1,00	20,0
5,40	5,0	10,0	5,0	0,40	12,0	15,40	20,0	35,0	20,0	1,00	20,0
5,60	6,0	12,0	6,0	0,40	15,0	15,60	23,0	38,0	23,0	1,13	20,0
5,80	6,0	12,0	6,0	0,40	15,0	15,80	27,0	44,0	27,0	1,27	21,0
6,00	11,0	17,0	11,0	0,33	33,0	16,00	23,0	42,0	23,0	1,40	16,0
6,20	8,0	13,0	8,0	0,33	24,0	16,20	22,0	43,0	22,0	1,40	16,0
6,40	5,0	10,0	5,0	0,20	25,0	16,40	20,0	41,0	20,0	1,33	15,0
6,60	4,0	7,0	4,0	0,27	15,0	16,60	24,0	44,0	24,0	1,40	17,0
6,80	5,0	9,0	5,0	0,33	15,0	16,80	27,0	48,0	27,0	1,53	18,0
7,00	4,0	9,0	4,0	0,40	10,0	17,00	27,0	50,0	27,0	1,60	17,0
7,20	7,0	13,0	7,0	0,47	15,0	17,20	38,0	62,0	38,0	1,87	20,0
7,40	9,0	16,0	9,0	0,60	15,0	17,40	39,0	67,0	39,0	2,33	17,0
7,60	13,0	22,0	13,0	0,80	16,0	17,60	40,0	75,0	40,0	2,20	18,0
7,80	12,0	24,0	12,0	0,80	15,0	17,80	37,0	70,0	37,0	2,07	18,0
8,00	12,0	24,0	12,0	0,93	13,0	18,00	30,0	61,0	30,0	1,73	17,0
8,20	12,0	26,0	12,0	0,87	14,0	18,20	29,0	55,0	29,0	1,87	16,0
8,40	14,0	27,0	14,0	0,93	15,0	18,40	28,0	56,0	28,0	1,67	17,0
8,60	15,0	29,0	15,0	0,93	16,0	18,60	31,0	56,0	31,0	1,60	19,0
8,80	19,0	33,0	19,0	1,13	17,0	18,80	32,0	56,0	32,0	1,60	20,0
9,00	23,0	40,0	23,0	1,27	18,0	19,00	27,0	51,0	27,0	1,40	19,0
9,20	26,0	45,0	26,0	1,33	19,0	19,20	20,0	41,0	20,0	1,33	15,0
9,40	18,0	38,0	18,0	1,07	17,0	19,40	17,0	37,0	17,0	0,60	28,0
9,60	14,0	30,0	14,0	0,80	17,0	19,60	18,0	27,0	18,0	0,80	22,0
9,80	9,0	21,0	9,0	0,60	15,0	19,80	14,0	26,0	14,0	0,60	23,0
10,00	12,0	21,0	12,0	0,80	15,0	20,00	16,0	25,0	16,0	0,87	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 ø = 35.7 mm (area punta 10 cm² - apertura 60°)
- manicotto laterale (superficie 150 cm²)

pergeo s.n.c. di Condotta, Stevanin & C.
sede legale: 44034 Copparo - FE - Viale P.Togliatti n. 6
unità locale: 44030 Corlo - FE - Via Canalazzi n. 13/b - telefono e fax 0532-426021

3_car/rep/CPT4

PROVA PENETROMETRICA STATICA
LETTURE DI CAMPAGNA / VALORI DI RESISTENZA

CPT 4

2.010496-001

- committente : POPPI ELETTROSTAMPERIE - Castello d'Argile
- lavoro : Indagini Dr. Taddia
- località : Pieve di Cento
- note :

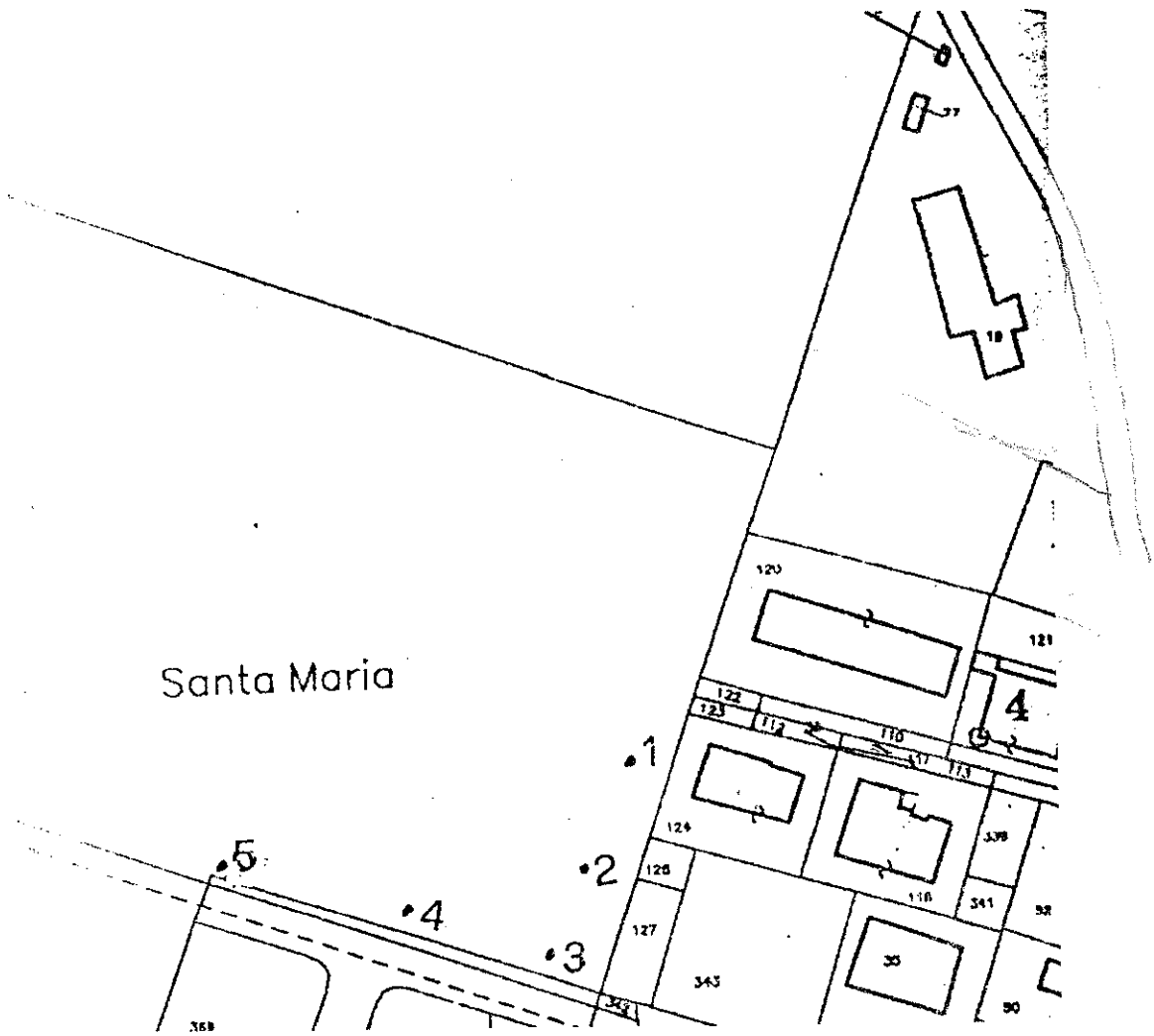
- data : 10/04/2000
- quota inizio : p.c.
- prof. falda : 1,60 m da quota inizio
- pagina : 2

prf	LP	LL	Rp	RL	Rp/Rl
m	Kg/cm²	Kg/cm²	Kg/cm²	Kg/cm²	-
20,20	17,0	30,0	17,0	1,00	17,0
20,40	26,0	41,0	26,0	1,53	17,0
20,60	22,0	45,0	22,0	1,33	16,0
20,80	24,0	44,0	24,0	1,27	19,0
21,00	29,0	48,0	29,0	1,47	20,0
21,20	32,0	54,0	32,0	1,87	17,0
21,40	24,0	52,0	24,0	1,47	16,0
21,60	28,0	50,0	28,0	1,53	18,0
21,80	21,0	44,0	21,0	1,40	15,0
22,00	25,0	46,0	25,0	1,27	20,0
22,20	21,0	40,0	21,0	0,80	26,0
22,40	22,0	34,0	22,0	0,73	30,0
22,60	16,0	27,0	16,0	0,67	24,0
22,80	15,0	25,0	15,0	0,73	20,0
23,00	12,0	23,0	12,0	0,60	20,0
23,20	24,0	33,0	24,0	1,47	16,0
23,40	29,0	51,0	29,0	1,53	19,0
23,60	22,0	45,0	22,0	1,20	18,0
23,80	22,0	40,0	22,0	1,60	14,0
24,00	51,0	75,0	51,0	0,40	127,0
24,20	40,0	46,0	40,0	1,20	33,0
24,40	68,0	86,0	68,0	0,60	113,0
24,60	100,0	109,0	100,0	1,47	68,0
24,80	48,0	70,0	48,0	1,00	48,0
25,00	122,0	137,0	122,0	2,80	44,0
25,20	83,0	125,0	83,0	1,13	73,0
25,40	68,0	85,0	68,0	1,73	39,0
25,60	105,0	131,0	105,0	1,20	87,0
25,80	89,0	107,0	89,0	1,27	70,0
26,00	61,0	80,0	61,0	1,13	54,0
26,20	104,0	121,0	104,0	0,87	120,0
26,40	75,0	88,0	75,0	0,93	80,0
26,60	80,0	94,0	80,0	1,33	60,0
26,80	77,0	97,0	77,0	1,40	55,0
27,00	92,0	113,0	92,0	0,67	138,0
27,20	140,0	150,0	140,0	1,47	95,0
27,40	89,0	111,0	89,0	1,27	70,0
27,60	129,0	148,0	129,0	4,00	32,0
27,80	190,0	250,0	190,0	----	----

- 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)

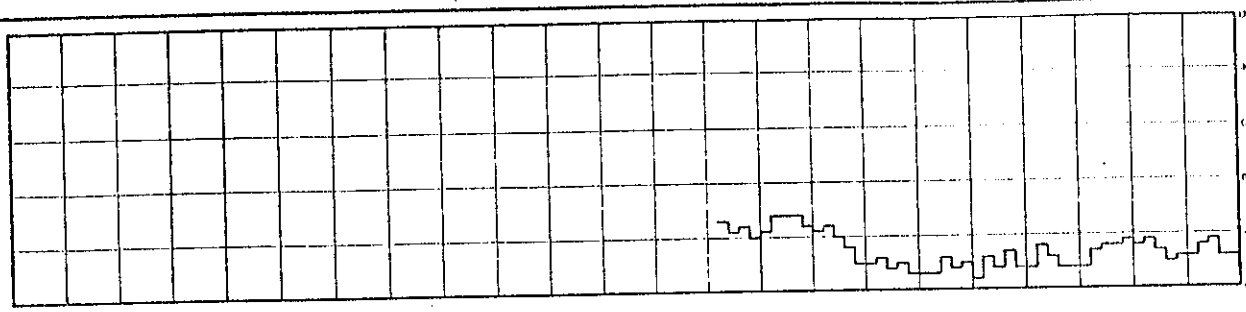
4_car/rep

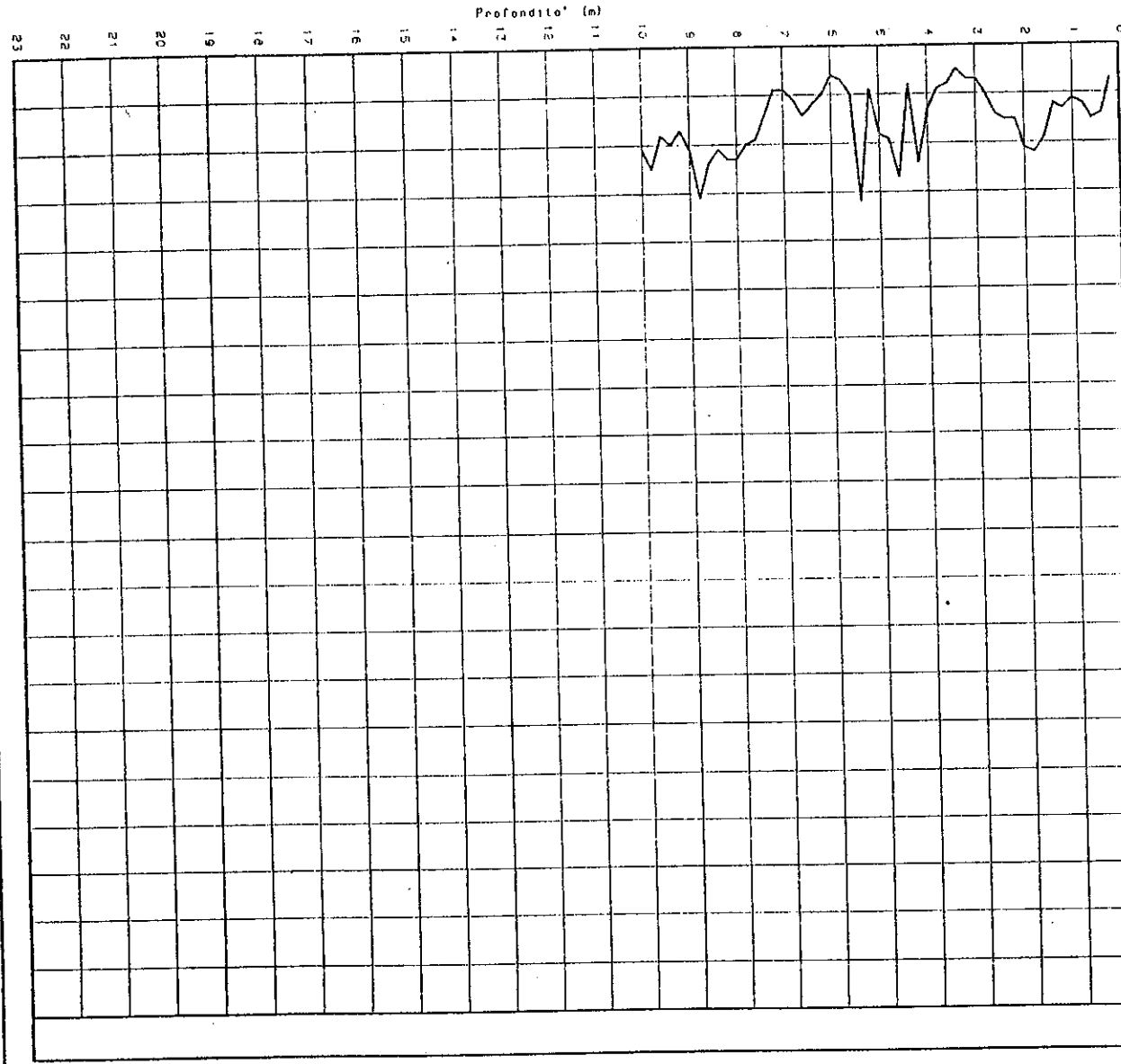
UBICAZIONE PROVE PENETROMETRICHE



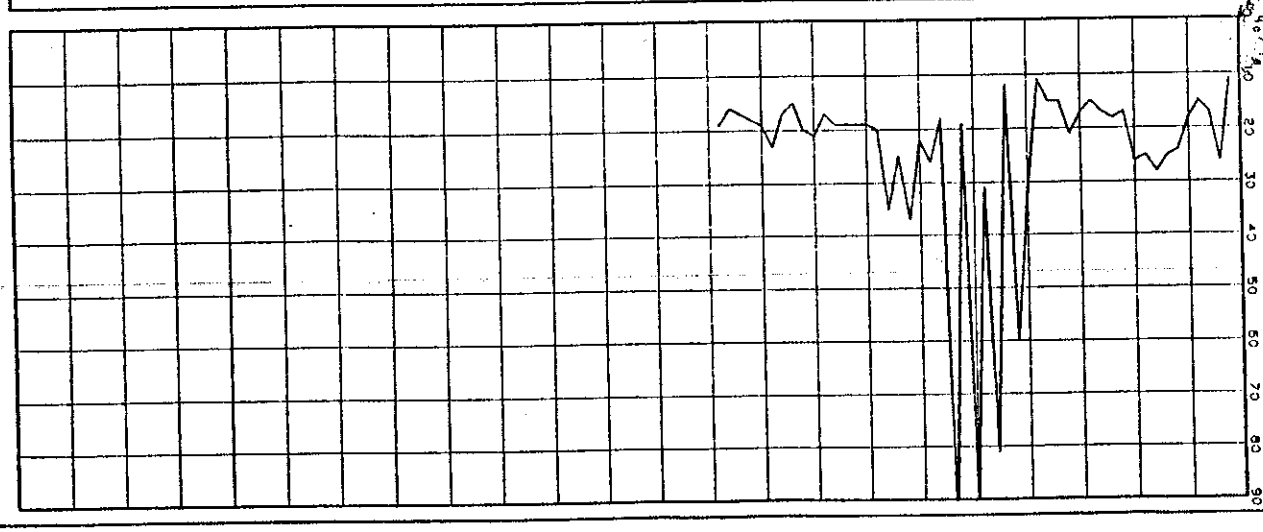
4_car/rep/CPT1

GEO-PROBE s.n.c. Indagini Geognostiche





Quota di falda: -1.80 m



GEO-PROBE

40133 BOLOGNA

Via R. Grieco, 7 - Tel. 051/61.45.350

CPT (CONE PENETRATION TEST) N.1

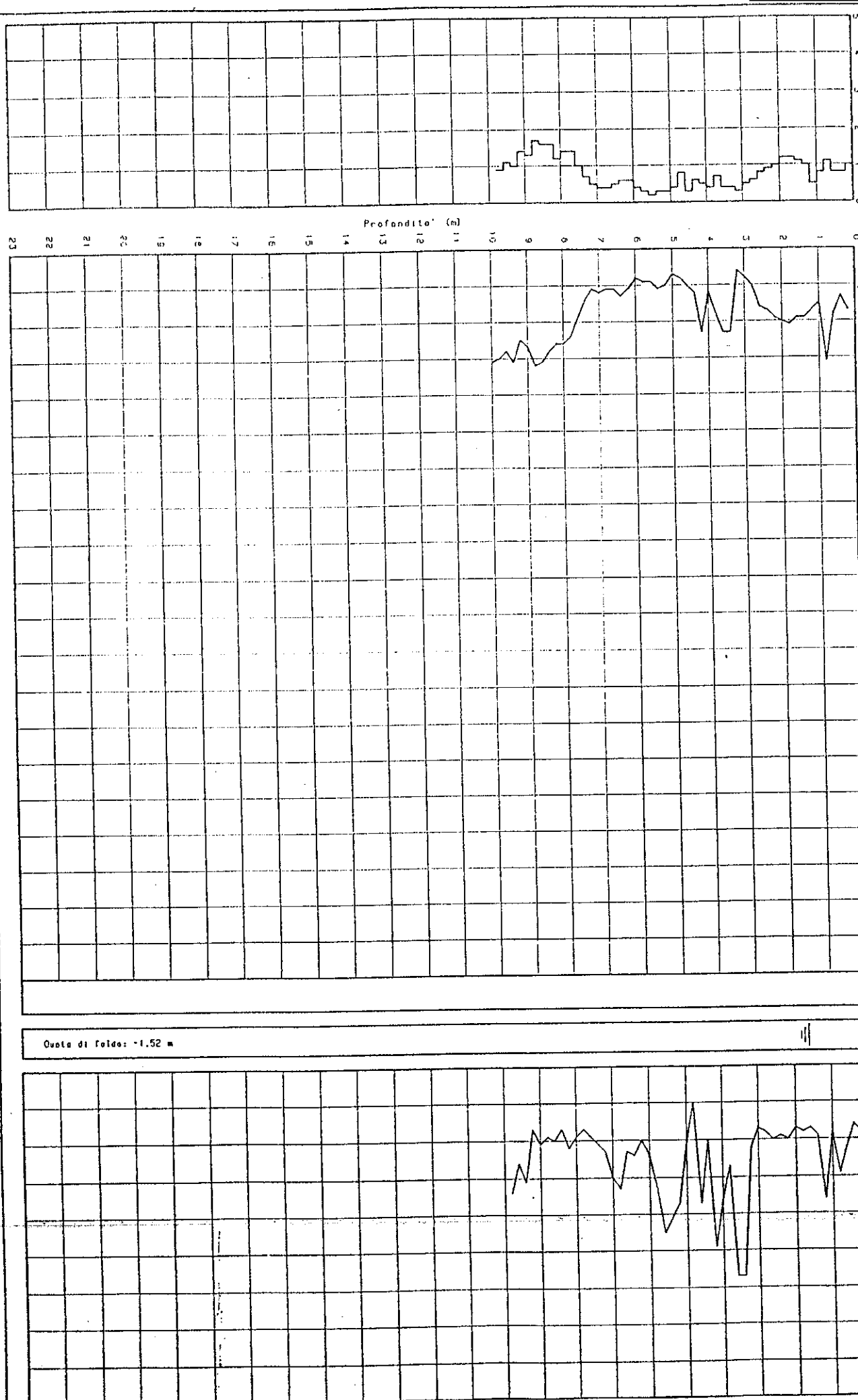
Committente: Edilizia Geom. Zaniboni Otello & c. s.a.s.

Localita': Castello d'Argile (BO) Mascarino

N. Certificato: 98043001

Data: 27/02/1998

GEO-PROBE s.n.c. Indagini Geognostiche



GEO-PROBE
40133 BOLOGNA
Via R. Grieco, 7 - Tel. 051/61.45.360

CPT (CONE PENETRATION TEST) N.2

Committente: Edilizia Geom. Zanboni Otello & c. s.n.c.

Localita': Castello d'Argile (BO) Moscarino

N. Certificato: 98043002

Data: 27/02/1998

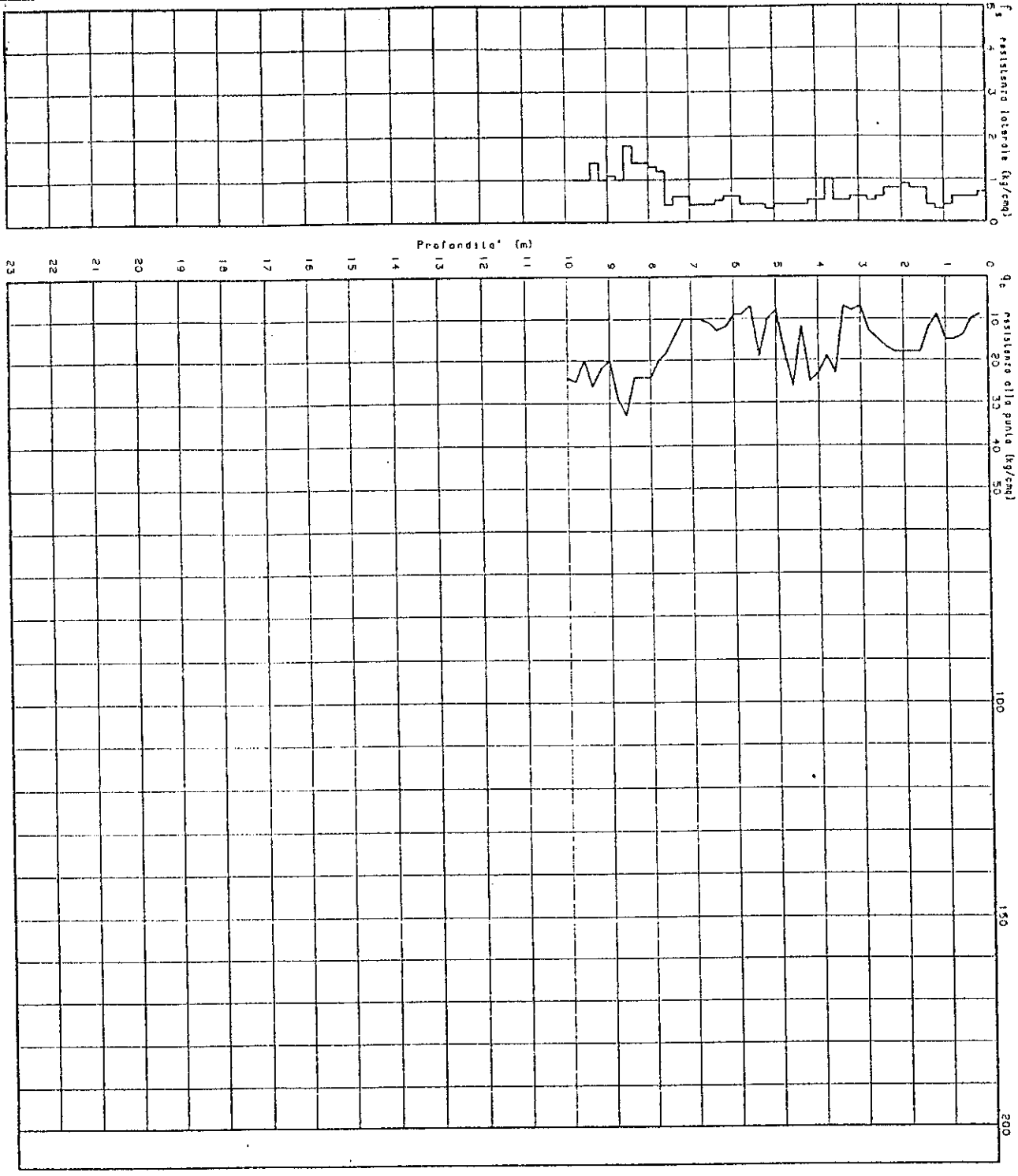
GEO-PROBE s.n.c. Indagini Geognostiche

GEO-PROBE
40133 BOLOGNA
Via R. Grieco, 7 - Tel. 051/61.45.360

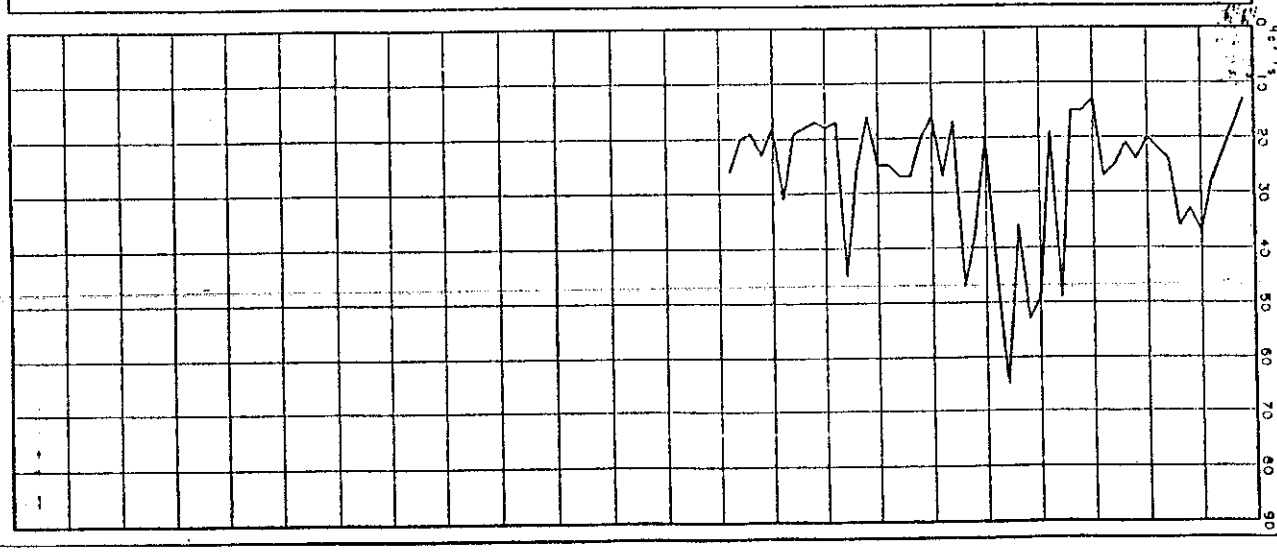
CPT (CONE PENETRATION TEST) N.3

Committente: Edilizia Geom. Zanlboni Otello & c. s.a.s.
Localita': Castello d'Argile (BO) Mascarino

N. Certificato: 98043003
Data: 27/02/1998

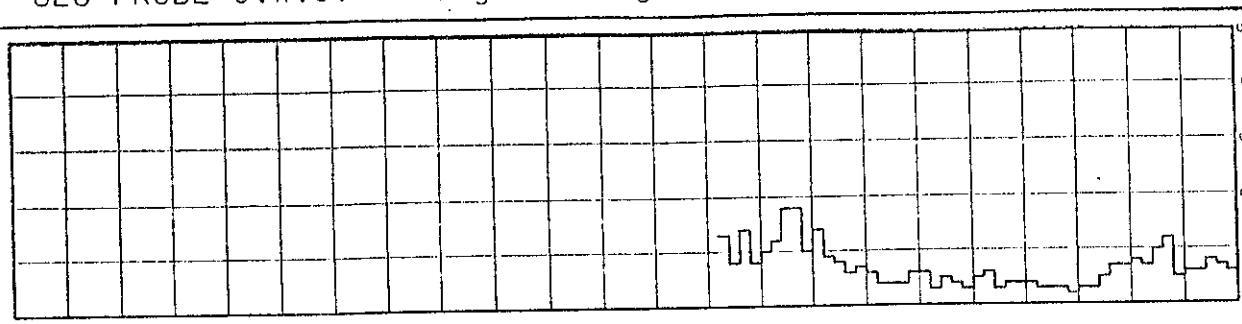


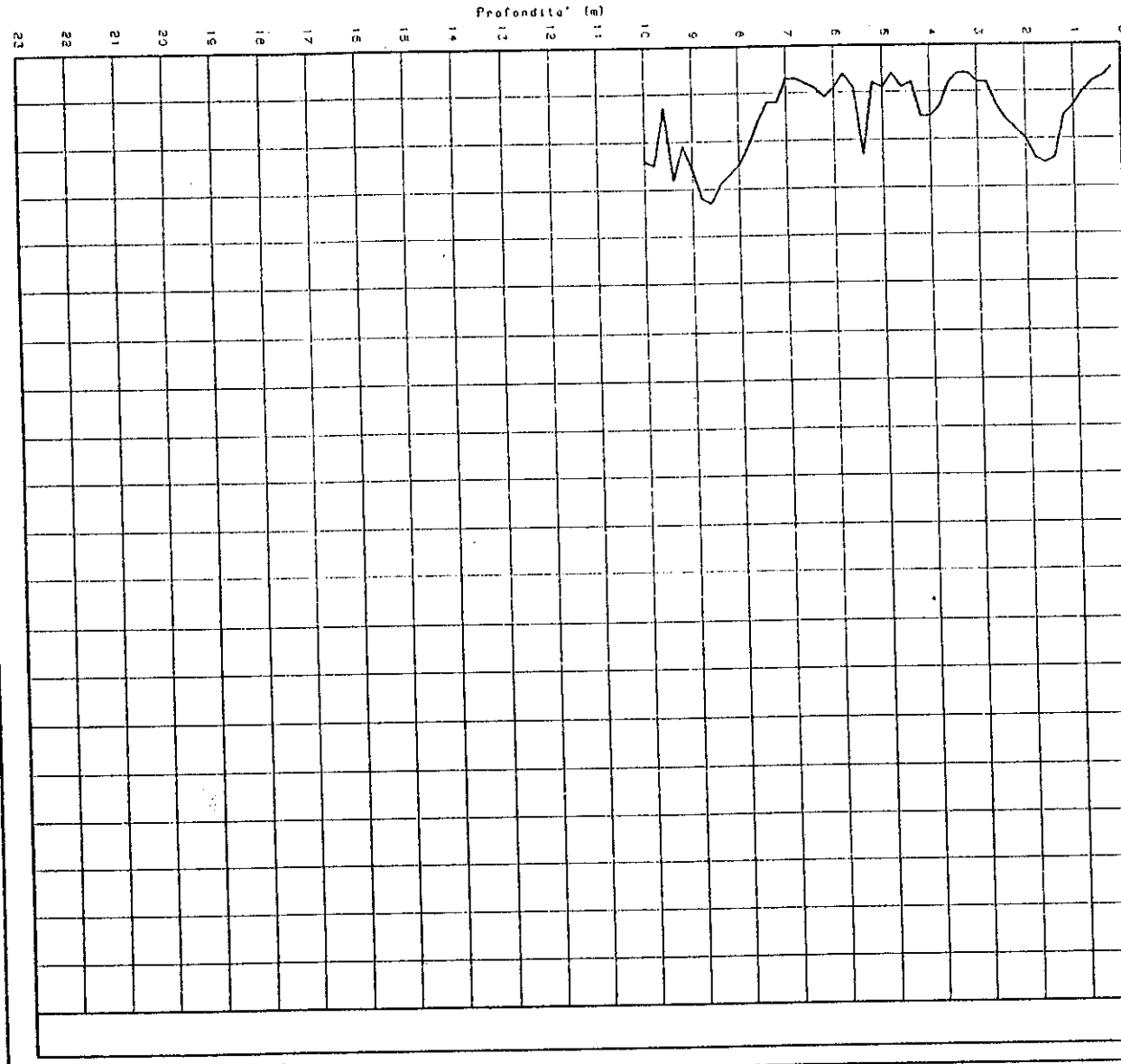
Quota di falda: -1.32 m



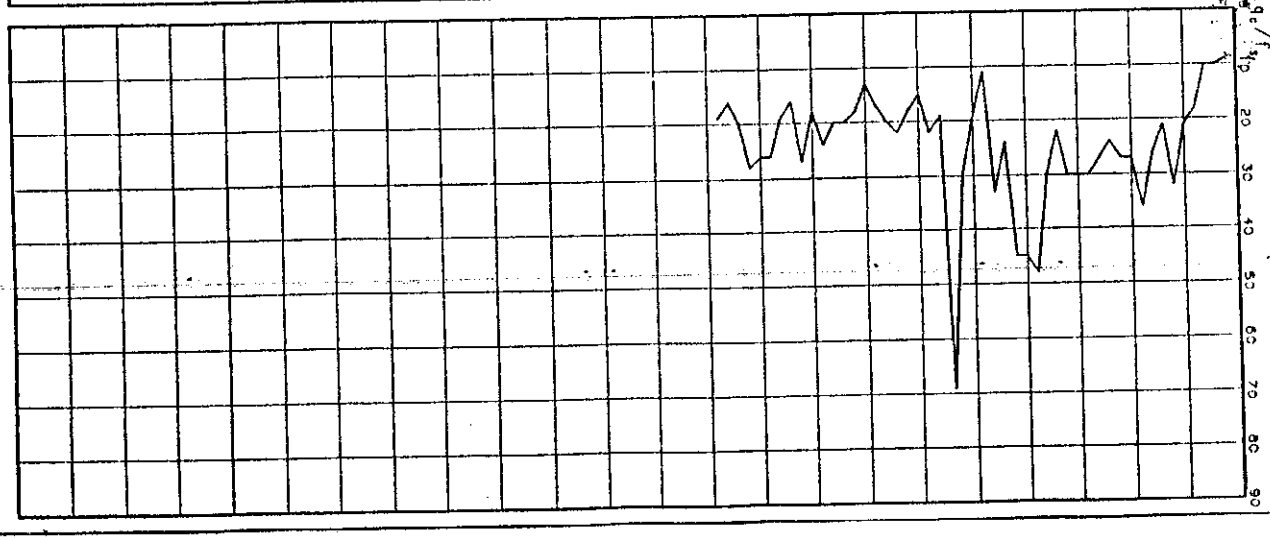
4_car/rep/CPT4

GEO-PROBE s.n.c. Indagini Geognostiche





Quota di falda: -1.40 m



GEO-PROBE

40133 BOLOGNA

Via R. Grieco, 7 - Tel. 051/61.45.360

CPT (CONE PENETRATION TEST) N.4

Committente: Edilizia Geom. Zanibani Otello & c. s.a.s.

Localita': Castello d'Argile (BO) Mascarino

N. Certificato: 98043004

Data: 27/02/1998

4_car/rep/CPT5

GEO-PROBE s.n.c. Indagini Geognostiche

GEO-PROBE
40133 BOLOGNA
Via R. Grieco, 7 - Tel. 051/51.45.360

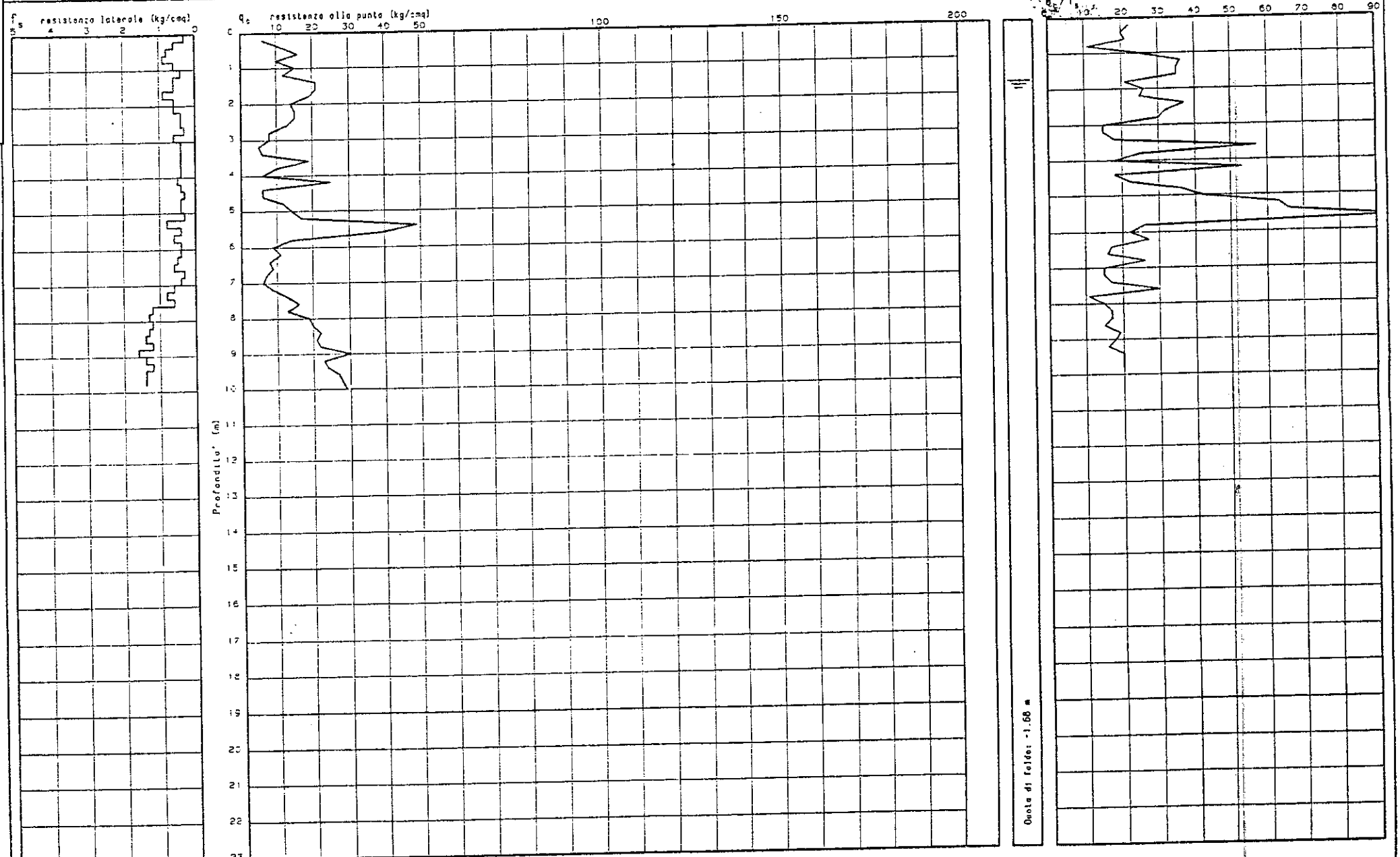
CPT (CONE PENETRATION TEST) N.5

N. Certificato: 98043005

Committente: Edilizia Geom. Zanboni Otello & c.

Data: 27/02/1998

Localita': Castello d'Argile (BO) Mascarino

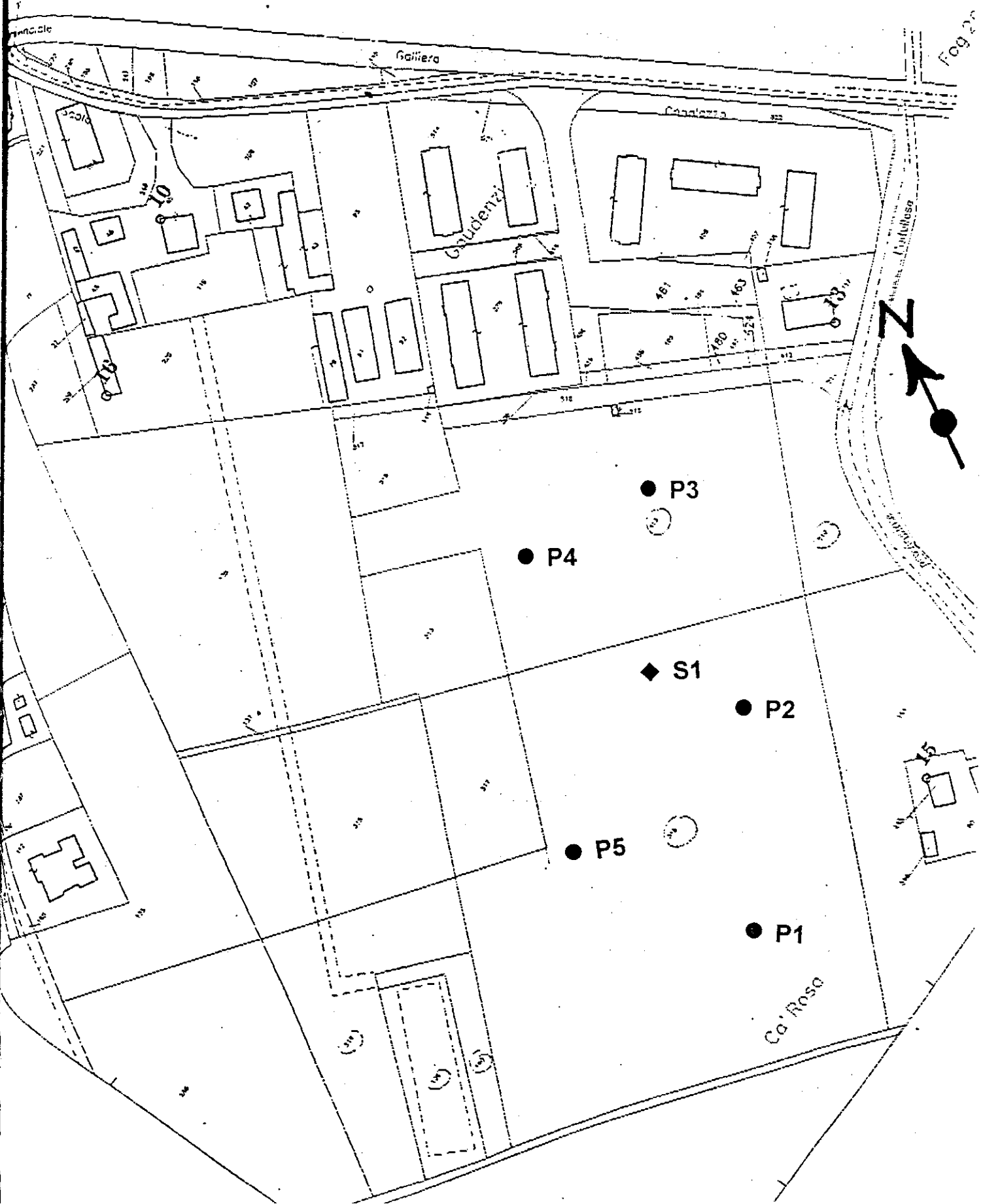


CASTELLO D'ARGILE

5_car/rep

SCHIZZO PLANIMETRICO CON UBICAZIONE DELLE PROVE

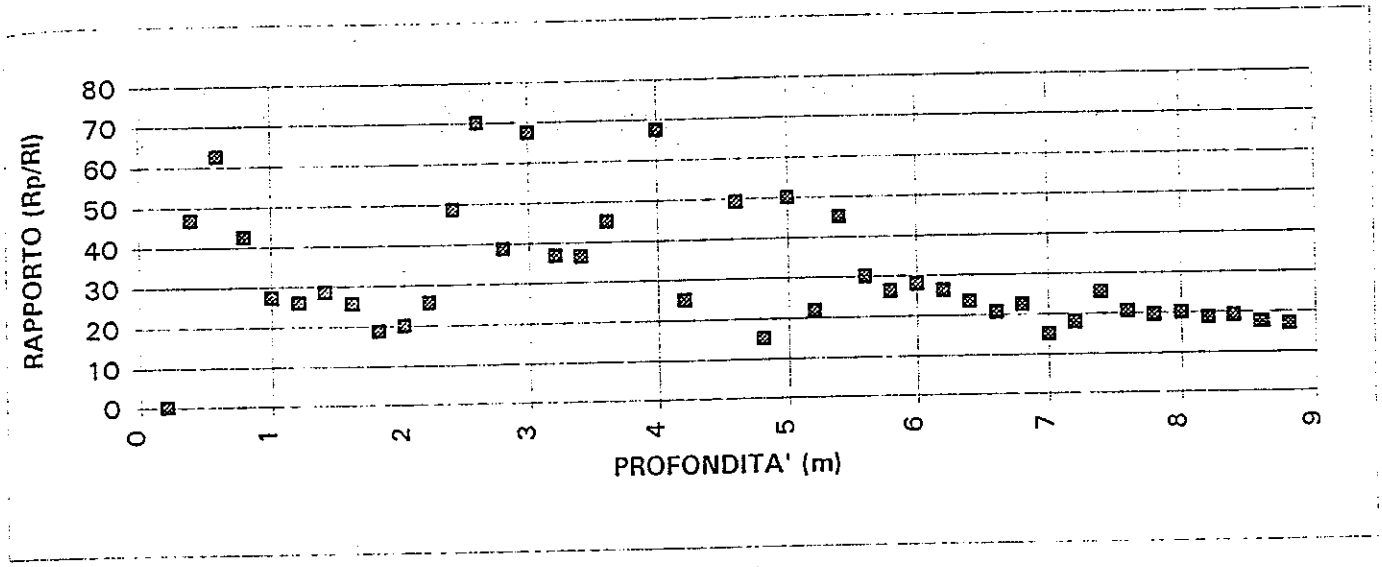
● **P1** prova penetrometrica ◆ **S1** sondaggio geognostico

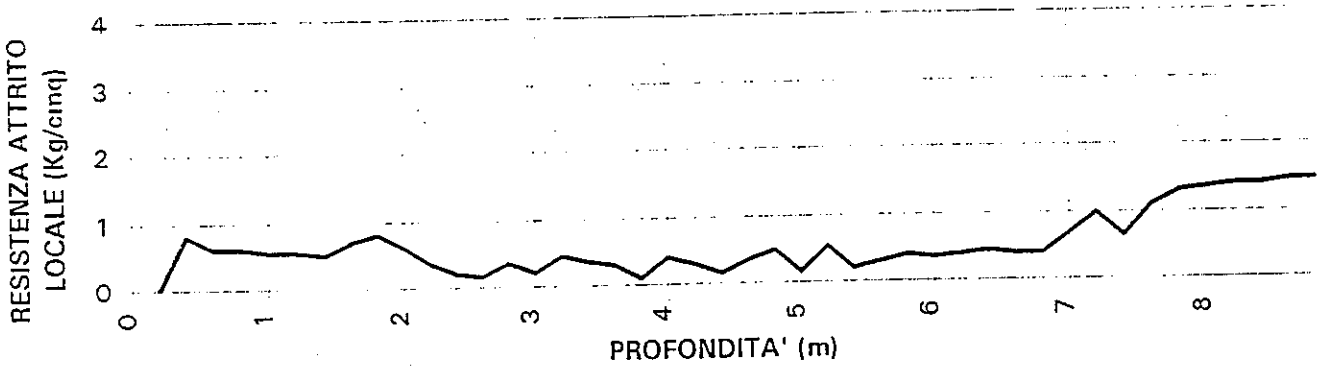


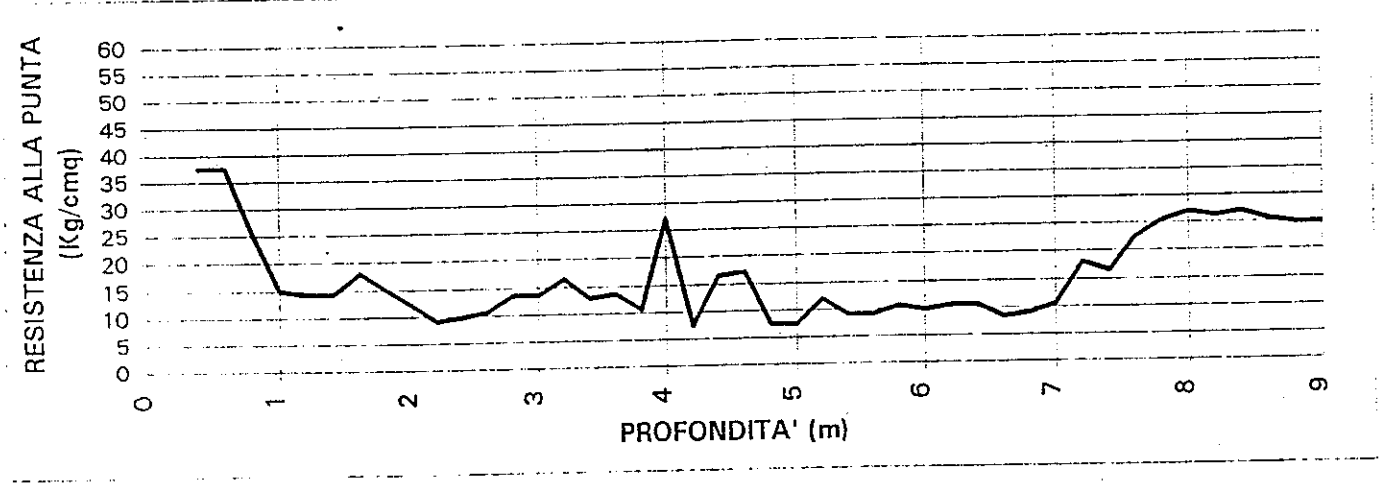
5_car/rep/CPT1

PENETROMETRIA N. 1
CASTELLO D'ARGILE

07.09.2000







Dott. Geol. Enrico Taddia - Via Statale, 140 - Sant'Agostino (FE) - Tel. 0532-846537

5_car/rep/CPT1

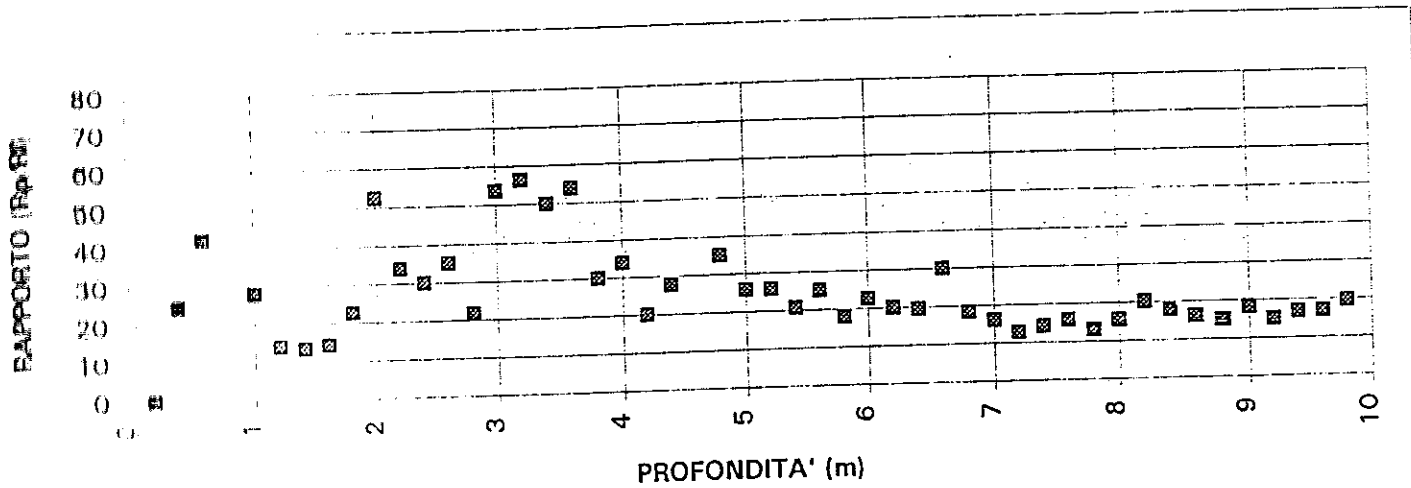
PENETROMETRIA N. 1
COMMITTENTE: IMMOBILIARE RIGONE
LOCALITA': CASTELLO D'ARGILE
PROGETTO: LOTTIZZAZIONE RIGONE 2
DATA: 07.09.2000
Livello di riferimento: p.c.
Quota foro: p.c. *Livello statico: m. -*

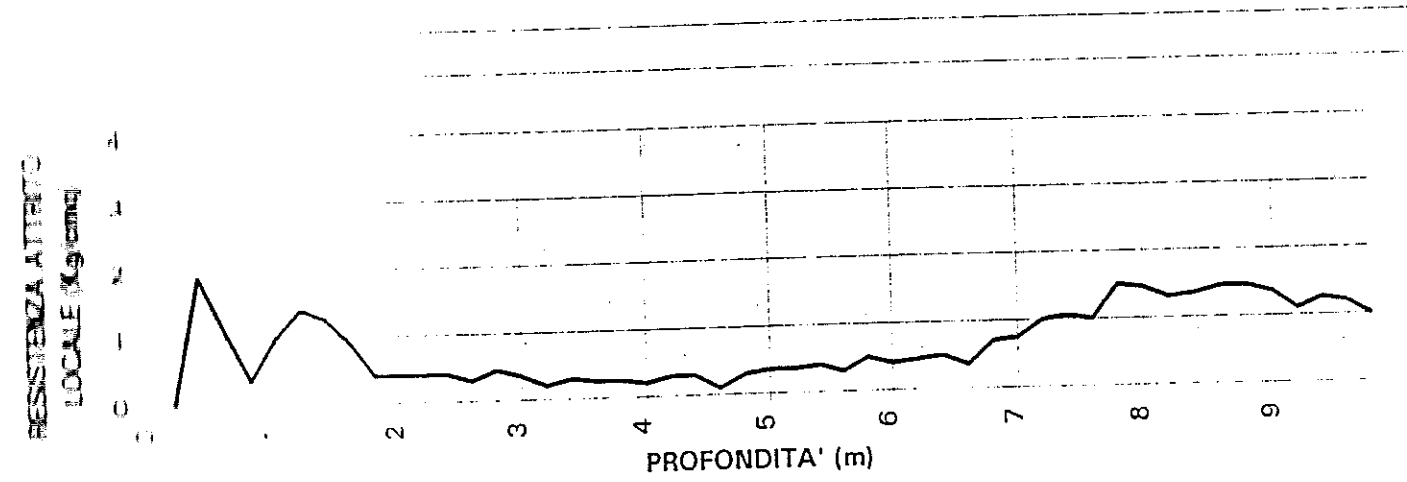
Prof. m	Rp Kg/cmq	Rl Kg/cmq	R tot Kg	Rp/Rl	Rl/Rp
0					
0,2					
0,4	37,5	0,80		46,9	2,13%
0,6	37,5	0,60		62,5	1,60%
0,8	25,5	0,60		42,5	2,35%
1	15,0	0,55	255	27,3	3,67%
1,2	14,3	0,55		25,9	3,86%
1,4	14,3	0,50		28,5	3,51%
1,6	18,0	0,70		25,7	3,89%
1,8	15,0	0,80		18,8	5,33%
2	12,0	0,60	570	20,0	5,00%
2,2	9,0	0,35		25,7	3,89%
2,4	9,8	0,20		48,8	2,05%
2,6	10,5	0,15		70,0	1,43%
2,8	13,5	0,35		38,6	2,59%
3	13,5	0,20	510	67,5	1,48%
3,2	16,5	0,45		36,7	2,73%
3,4	12,8	0,35		36,4	2,75%
3,6	13,5	0,30		45,0	2,22%
3,8	10,5	0,10		105,0	0,95%
4	27,0	0,40	630	67,5	1,48%
4,2	7,5	0,30		25,0	4,00%
4,4	16,5	0,15		110,0	0,91%
4,6	17,3	0,35		49,3	2,03%
4,8	7,5	0,50		15,0	6,67%
5	7,5	0,15	675	50,0	2,00%
5,2	12,0	0,55		21,8	4,58%
5,4	9,0	0,20		45,0	2,22%
5,6	9,0	0,30		30,0	3,33%
5,8	10,5	0,40		26,3	3,81%
6	9,8	0,35	780	27,9	3,59%
6,2	10,5	0,40		26,3	3,81%
6,4	10,5	0,45		23,3	4,29%
6,6	8,3	0,40		20,6	4,85%
6,8	9,0	0,40		22,5	4,44%
7	10,5	0,70	900	15,0	6,67%
7,2	18,0	1,00		18,0	5,56%
7,4	16,5	0,65		25,4	3,94%
7,6	22,5	1,10		20,5	4,89%
7,8	25,5	1,30		19,6	5,10%
8	27,0	1,35	1425	20,0	5,00%
8,2	26,3	1,40		18,8	5,33%
8,4	27,0	1,40		19,3	5,19%
8,6	25,5	1,45		17,6	5,69%
8,8	24,8	1,45		17,1	5,86%
9	24,8				

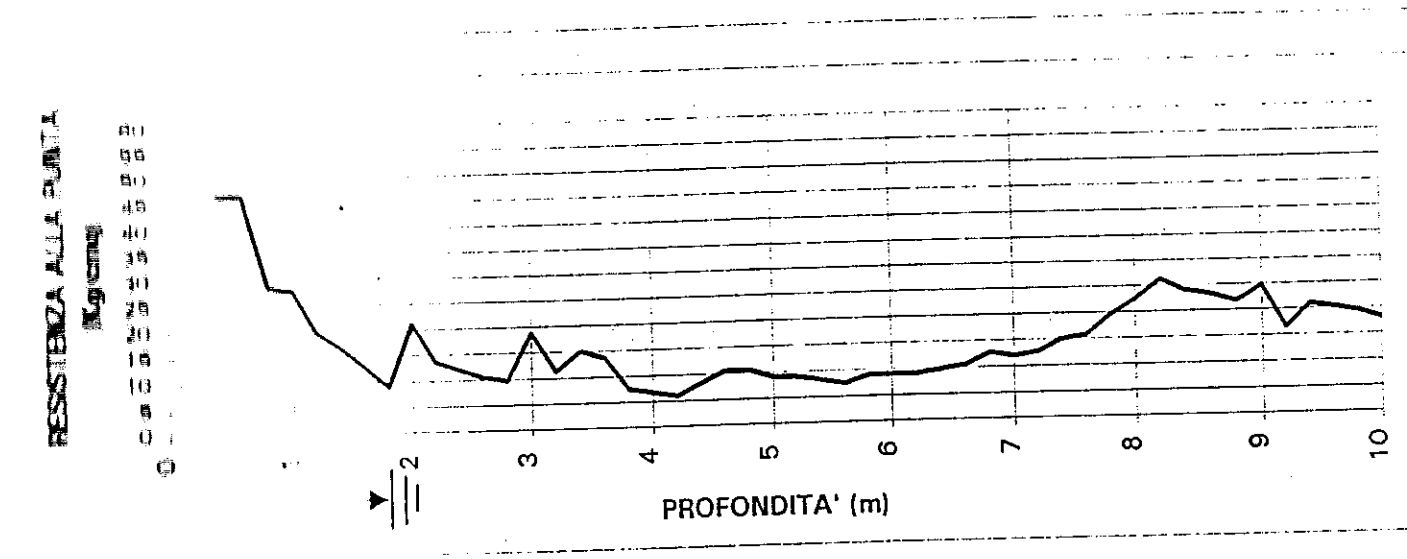
5_car/rep/CPT2

PENETROMETRIA N. 2
CASTELLO D'ARGILE

07.09.2000







5_car/rep/CPT2

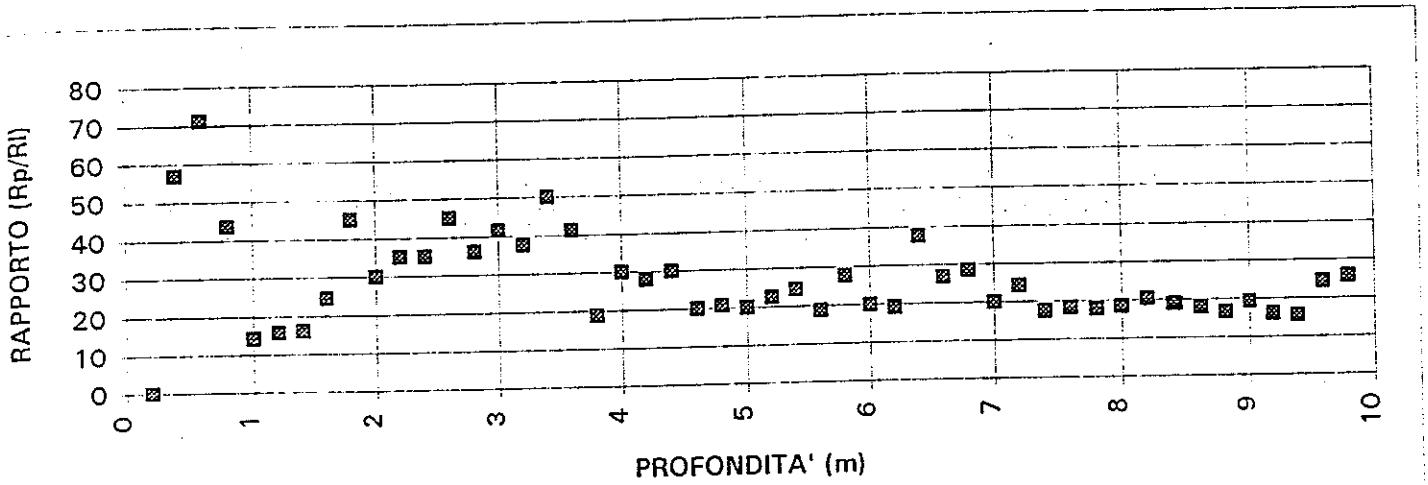
PENETROMETRIA N. 2
COMMITTENTE: IMMOBILIARE RIGONE
LOCALITA': CASTELLO D'ARGILE
PROGETTO: LOTTIZZAZIONE RIGONE 2
DATA: 07.09.2000
Livello di riferimento: p.c.
Quota foro: p.c. *Livello statico: m. -* 1,80

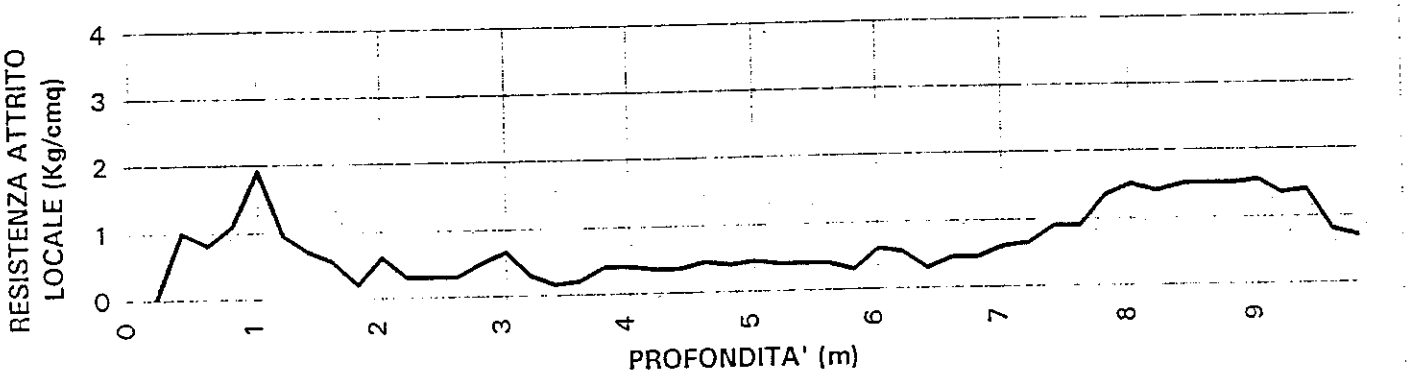
Prof. m	Rp Kg/cmq	Rl Kg/cmq	R tot Kg	Rp/Rl	Rl/Rp
0					
0,2					
0,4	46,5	1,90		24,5	4,09%
0,6	46,5	1,10		42,3	2,37%
0,8	28,5	0,35		81,4	1,23%
1	27,8	1,00	390	27,8	3,60%
1,2	19,5	1,40		13,9	7,18%
1,4	16,5	1,25		13,2	7,58%
1,6	12,8	0,90		14,2	7,06%
1,8	9,0	0,40		22,5	4,44%
2	21,0	0,40	600	52,5	1,90%
2,2	13,5	0,40		33,8	2,96%
2,4	12,0	0,40		30,0	3,33%
2,6	10,5	0,30		35,0	2,86%
2,8	9,8	0,45		21,7	4,62%
3	18,8	0,35	525	53,6	1,87%
3,2	11,3	0,20		56,3	1,78%
3,4	15,0	0,30		50,0	2,00%
3,6	13,5	0,25		54,0	1,85%
3,8	7,5	0,25		30,0	3,33%
4	6,8	0,20	315	33,8	2,96%
4,2	6,0	0,30		20,0	5,00%
4,4	8,3	0,30		27,5	3,64%
4,6	10,5	0,10		105,0	0,95%
4,8	10,5	0,30		35,0	2,86%
5	9,0	0,35	300	25,7	3,89%
5,2	9,0	0,35		25,7	3,89%
5,4	8,3	0,40		20,6	4,85%
5,6	7,5	0,30		25,0	4,00%
5,8	9,0	0,50		18,0	5,56%
6	9,0	0,40	308	22,5	4,44%
6,2	9,0	0,45		20,0	5,00%
6,4	9,8	0,50		19,5	5,13%
6,6	10,5	0,35		30,0	3,33%
6,8	12,8	0,70		18,2	5,49%
7	12,0	0,75	495	16,0	6,25%
7,2	12,8	1,00		12,8	7,84%
7,4	15,0	1,05		14,3	7,00%
7,6	15,8	1,00		15,8	6,35%
7,8	19,5	1,50		13,0	7,69%
8	22,5	1,45	1125	15,5	6,44%
8,2	26,3	1,30		20,2	4,95%
8,4	24,0	1,35		17,8	5,63%
8,6	23,3	1,45		16,0	6,24%
8,8	21,8	1,45		15,0	6,67%
9	24,8	1,35	1800	18,3	5,45%
9,2	16,5	1,10		15,0	6,67%
9,4	21,0	1,25		16,8	5,95%
9,6	20,3	1,20		16,9	5,93%
9,8	19,5	1,00		19,5	5,13%
10	18,0		2100		

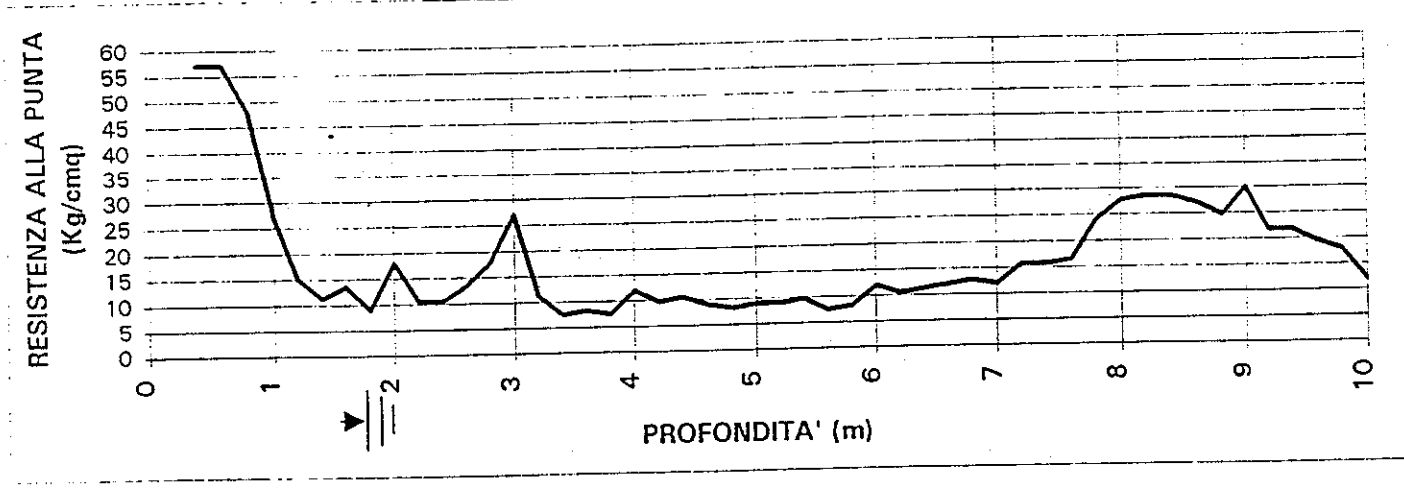
5_car/rep/CPT3

PENETROMETRIA N. 3
CASTELLO D'ARGILE

07.09.2000







Dott. Geol. Enrico Taddia - Via Statale, 140 - Sant'Agostino (FE) - Tel. 0532-846537

5_car/rep/CPT3

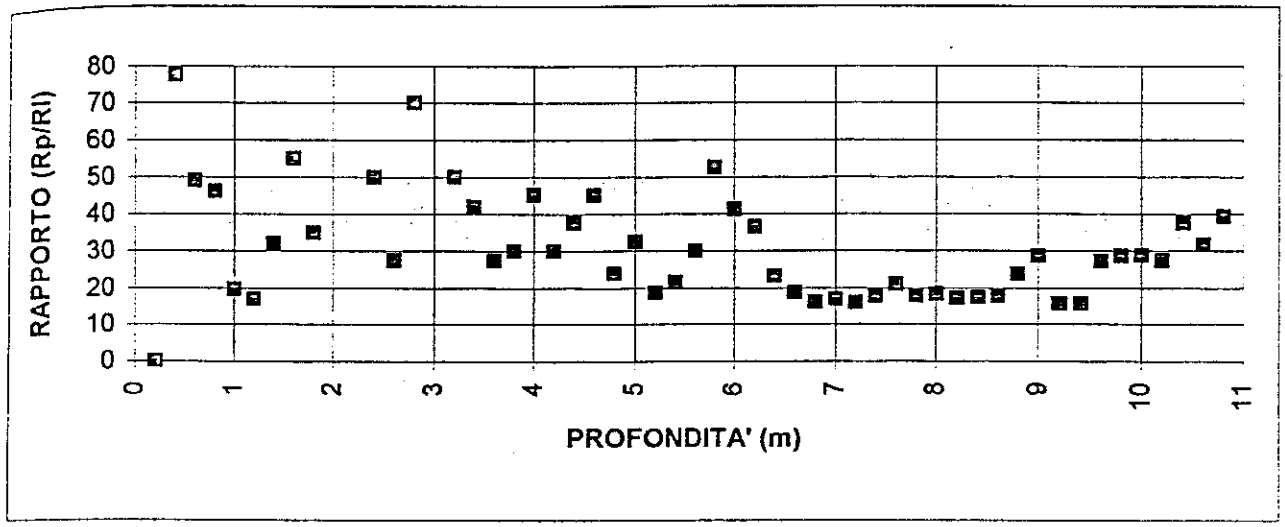
PENETROMETRIA N. 3
COMMITTENTE: IMMOBILIARE RIGONE
LOCALITA': CASTELLO D'ARGILE
PROGETTO: LOTTIZZAZIONE RIGONE 2
DATA: 07.09.2000
Livello di riferimento: p.c.
Quota foro: p.c. *Livello statico: m. -* 1,70

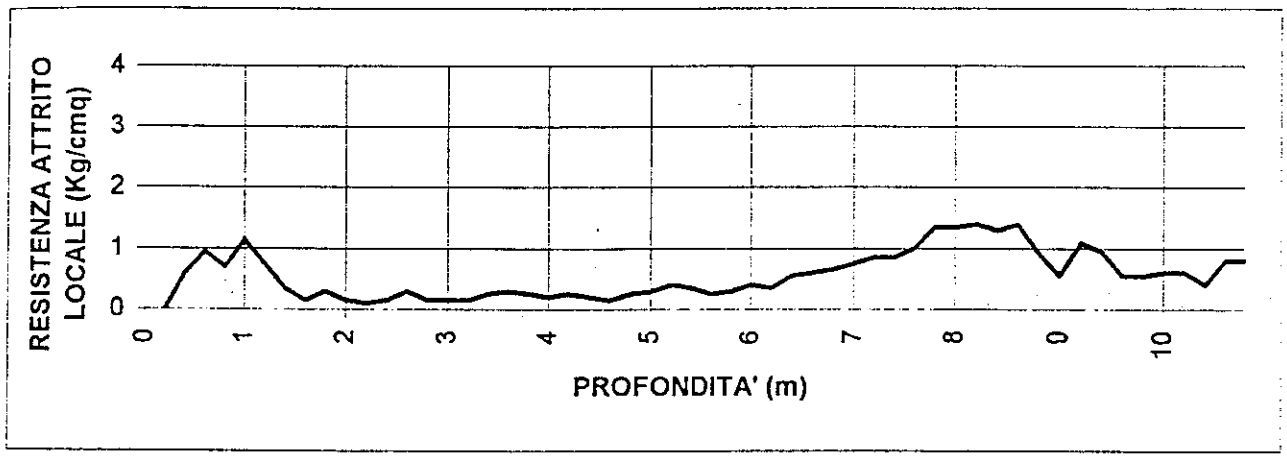
Prof. m	Rp Kg/cmq	Rl Kg/cmq	R tot Kg	Rp/Rl	Rl/Rp
0					
0,2					
0,4	57,0	1,00		57,0	1,75%
0,6	57,0	0,80		71,3	1,40%
0,8	48,0	1,10		43,6	2,29%
1	27,0	1,90	540	14,2	7,04%
1,2	15,0	0,95		15,8	6,33%
1,4	11,3	0,70		16,1	6,22%
1,6	13,5	0,55		24,5	4,07%
1,8	9,0	0,20		45,0	2,22%
2	18,0	0,60	495	30,0	3,33%
2,2	10,5	0,30		35,0	2,86%
2,4	10,5	0,30		35,0	2,86%
2,6	13,5	0,30		45,0	2,22%
2,8	18,0	0,50		36,0	2,78%
3	27,0	0,65	600	41,5	2,41%
3,2	11,3	0,30		37,5	2,67%
3,4	7,5	0,15		50,0	2,00%
3,6	8,3	0,20		41,3	2,42%
3,8	7,5	0,40		18,8	5,33%
4	12,0	0,40	450	30,0	3,33%
4,2	9,8	0,35		27,9	3,59%
4,4	10,5	0,35		30,0	3,33%
4,6	9,0	0,45		20,0	5,00%
4,8	8,3	0,40		20,6	4,85%
5	9,0	0,45	525	20,0	5,00%
5,2	9,0	0,40		22,5	4,44%
5,4	9,8	0,40		24,4	4,10%
5,6	7,5	0,40		18,8	5,33%
5,8	8,3	0,30		27,5	3,64%
6	12,0	0,60	480	20,0	5,00%
6,2	10,5	0,55		19,1	5,24%
6,4	11,3	0,30		37,5	2,67%
6,6	12,0	0,45		26,7	3,75%
6,8	12,8	0,45		28,3	3,53%
7	12,0	0,60	600	20,0	5,00%
7,2	15,8	0,65		24,2	4,13%
7,4	15,8	0,90		17,5	5,71%
7,6	16,5	0,90		18,3	5,45%
7,8	24,0	1,35		17,8	5,63%
8	27,8	1,50	1200	18,5	5,41%
8,2	28,5	1,40		20,4	4,91%
8,4	28,5	1,50		19,0	5,26%
8,6	27,0	1,50		18,0	5,56%
8,8	24,8	1,50		16,5	6,06%
9	30,0	1,55	1800	19,4	5,17%
9,2	21,8	1,35		16,1	6,21%
9,4	21,8	1,40		15,5	6,44%
9,6	19,5	0,80		24,4	4,10%
9,8	18,0	0,70		25,7	3,89%
10	12,0		2100		

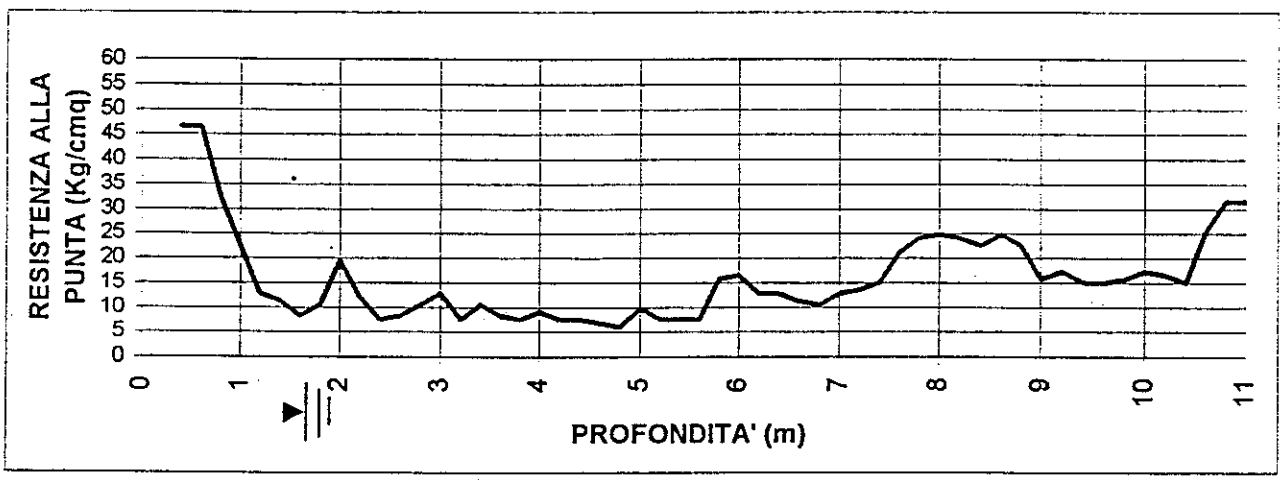
5_car/rep/CPT4

PENETROMETRIA N. 4
CASTELLO D'ARGILE

08.09.2000







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5_car/rep/CPT4

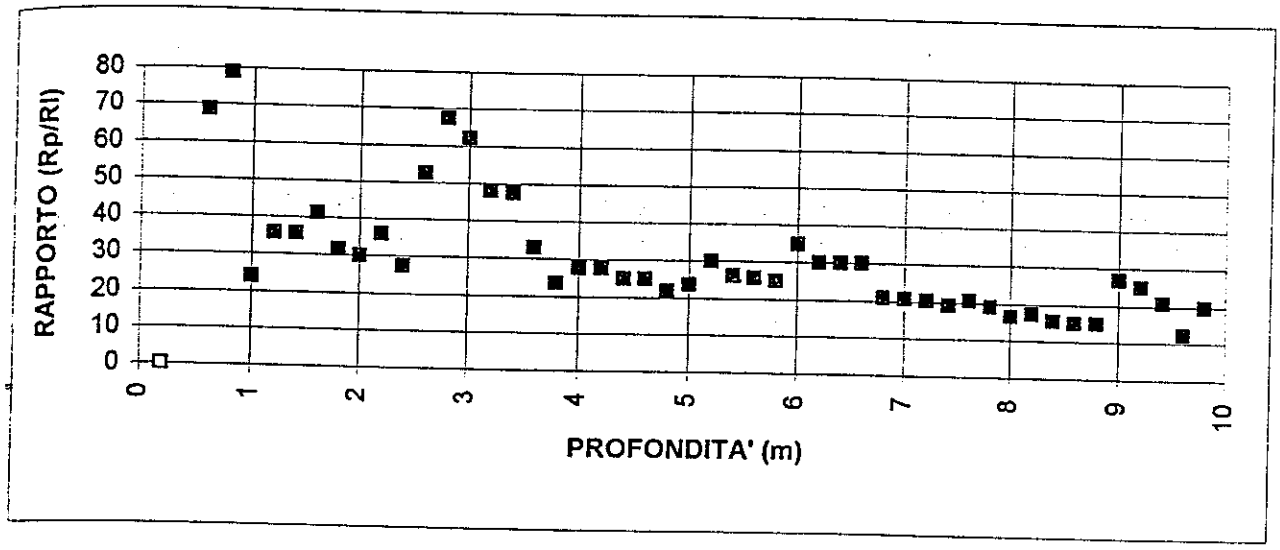
PENETROMETRIA N. 4
COMMITTENTE: IMMOBILIARE RIGONE
LOCALITA': CASTELLO D'ARGILE
PROGETTO: LOTTIZZAZIONE RIGONE 2
DATA: 08.09.2000
Livello di riferimento: p.c.
Quota foro: p.c. *Livello statico: m. -* 1,60

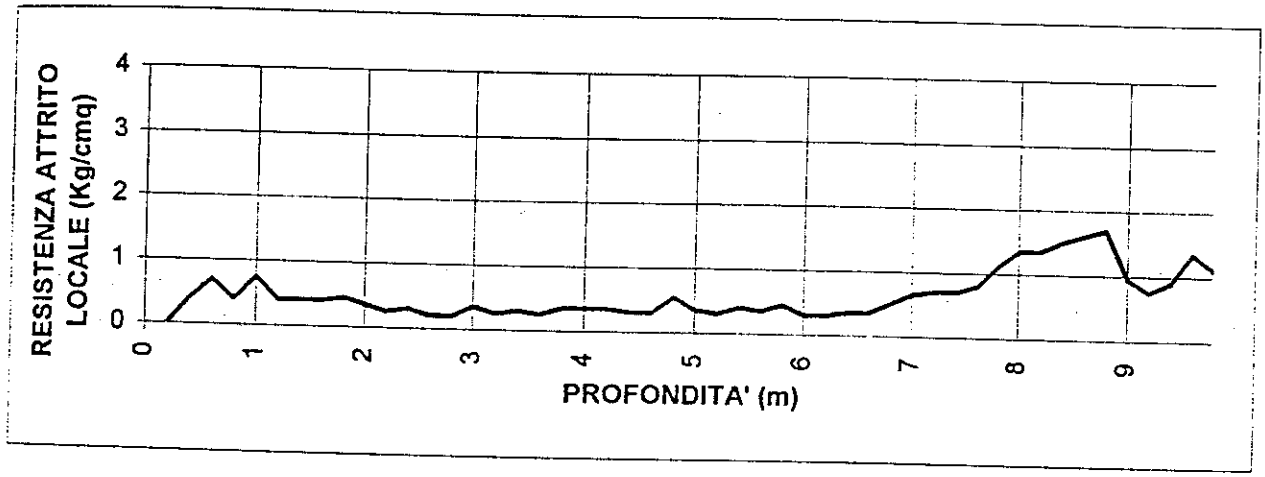
Prof. m	Rp Kg/cmq	Rl Kg/cmq	R tot Kg	Rp/Rl	Rl/Rp
0					
0,2					
0,4	46,5	0,60		77,5	1,29%
0,6	46,5	0,95		48,9	2,04%
0,8	32,3	0,70		46,1	2,17%
1	22,5	1,15	375	19,6	5,11%
1,2	12,8	0,75		17,0	5,88%
1,4	11,3	0,35		32,1	3,11%
1,6	8,3	0,15		55,0	1,82%
1,8	10,5	0,30		35,0	2,86%
2	19,5	0,15	525	130,0	0,77%
2,2	12,0	0,10		120,0	0,83%
2,4	7,5	0,15		50,0	2,00%
2,6	8,3	0,30		27,5	3,64%
2,8	10,5	0,15		70,0	1,43%
3	12,8	0,15	300	85,0	1,18%
3,2	7,5	0,15		50,0	2,00%
3,4	10,5	0,25		42,0	2,38%
3,6	8,3	0,30		27,5	3,64%
3,8	7,5	0,25		30,0	3,33%
4	9,0	0,20	420	45,0	2,22%
4,2	7,5	0,25		30,0	3,33%
4,4	7,5	0,20		37,5	2,67%
4,6	6,8	0,15		45,0	2,22%
4,8	6,0	0,25		24,0	4,17%
5	9,8	0,30	405	32,5	3,08%
5,2	7,5	0,40		18,8	5,33%
5,4	7,5	0,35		21,4	4,67%
5,6	7,5	0,25		30,0	3,33%
5,8	15,8	0,30		52,5	1,90%
6	16,5	0,40	525	41,3	2,42%
6,2	12,8	0,35		36,4	2,75%
6,4	12,8	0,55		23,2	4,31%
6,6	11,3	0,60		18,8	5,33%
6,8	10,5	0,65		16,2	6,19%
7	12,8	0,75	750	17,0	5,88%
7,2	13,5	0,85		15,9	6,30%
7,4	15,0	0,85		17,6	5,67%
7,6	21,0	1,00		21,0	4,76%
7,8	24,0	1,35		17,8	5,63%
8	24,8	1,35	1200	18,3	5,45%
8,2	24,0	1,40		17,1	5,83%
8,4	22,5	1,30		17,3	5,78%
8,6	24,8	1,40		17,7	5,66%
8,8	22,5	0,95		23,7	4,22%
9	15,8	0,55	1575	28,6	3,49%
9,2	17,3	1,10		15,7	6,38%
9,4	15,0	0,95		15,8	6,33%
9,6	15,0	0,55		27,3	3,67%
9,8	15,8	0,55		28,6	3,49%
10	17,3	0,60	2025	28,8	3,48%
10,2	16,5	0,60		27,5	3,64%
10,4	15,0	0,40		37,5	2,67%
10,6	25,5	0,80		31,9	3,14%
10,8	31,5	0,80	2250	39,4	2,54%
11	31,5				

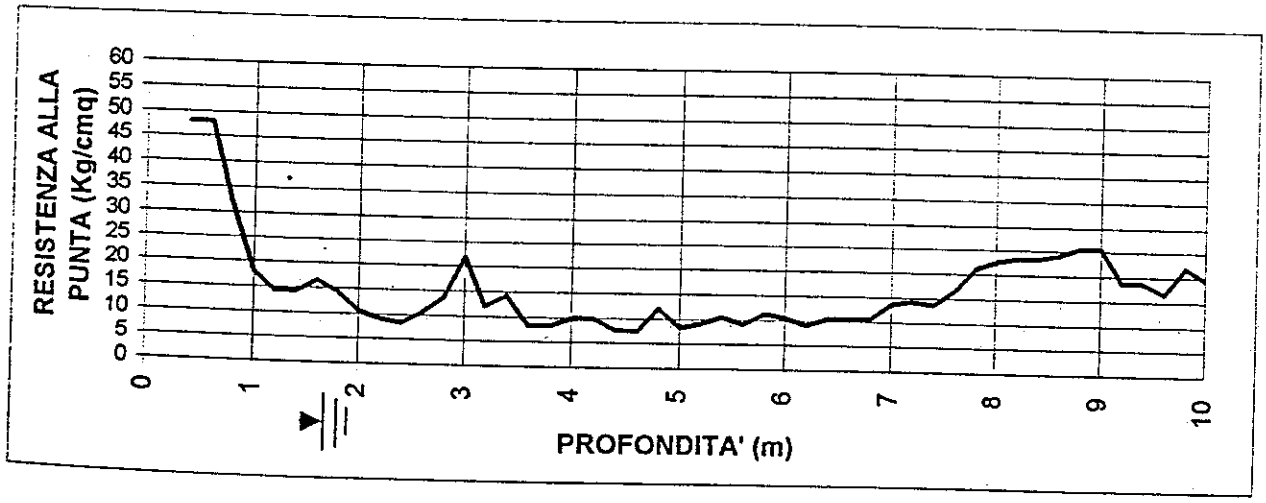
5_car/rep/CPT5

08.09.2000

PENETROMETRIA N. 5
CASTELLO D'ARGILE





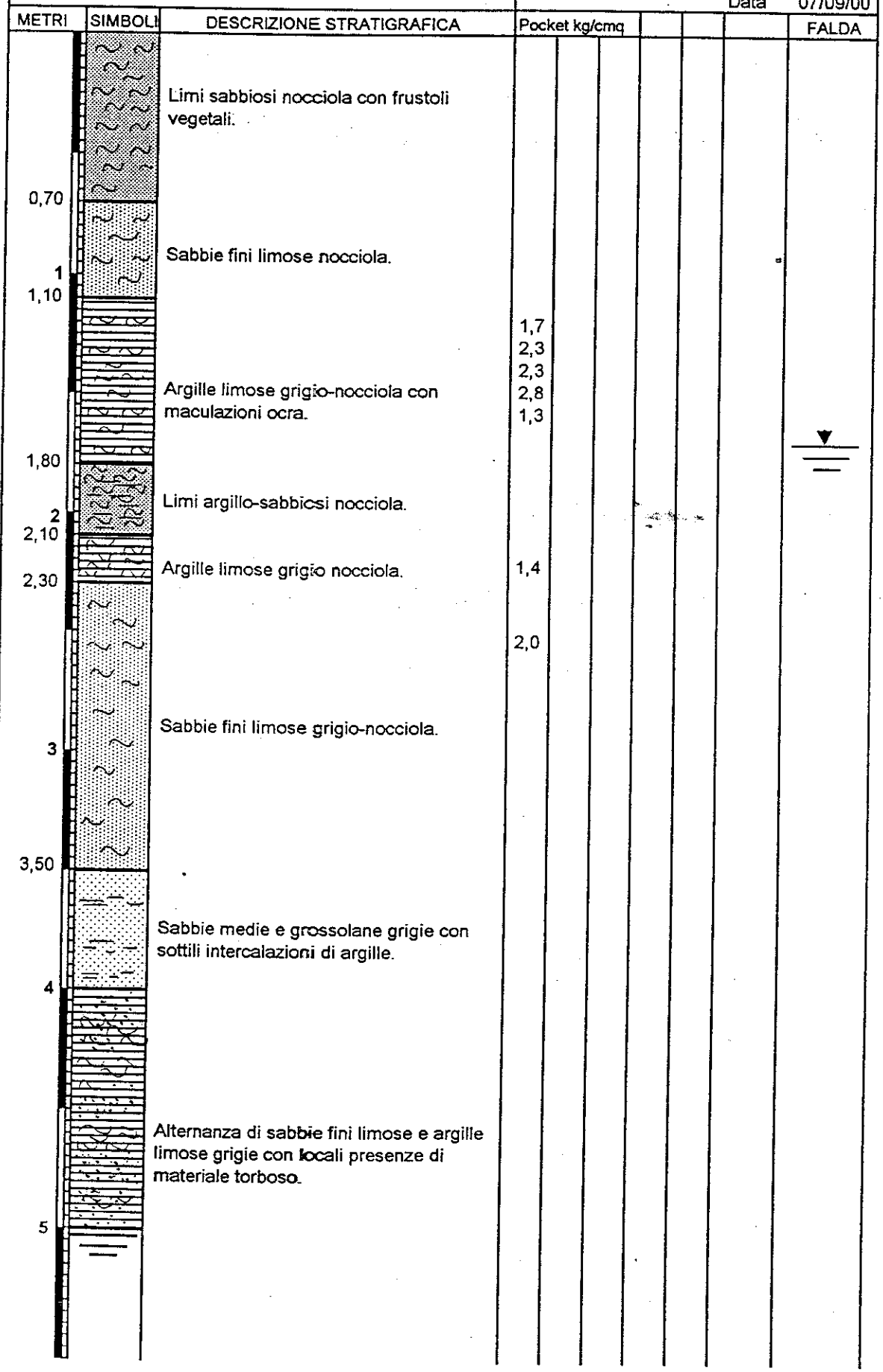


Dott. Geol. Enrico Taddia - Via Statale, 140 - Sant'Agostino (FE) - Tel. 0532-846537

5_car/rep/S1

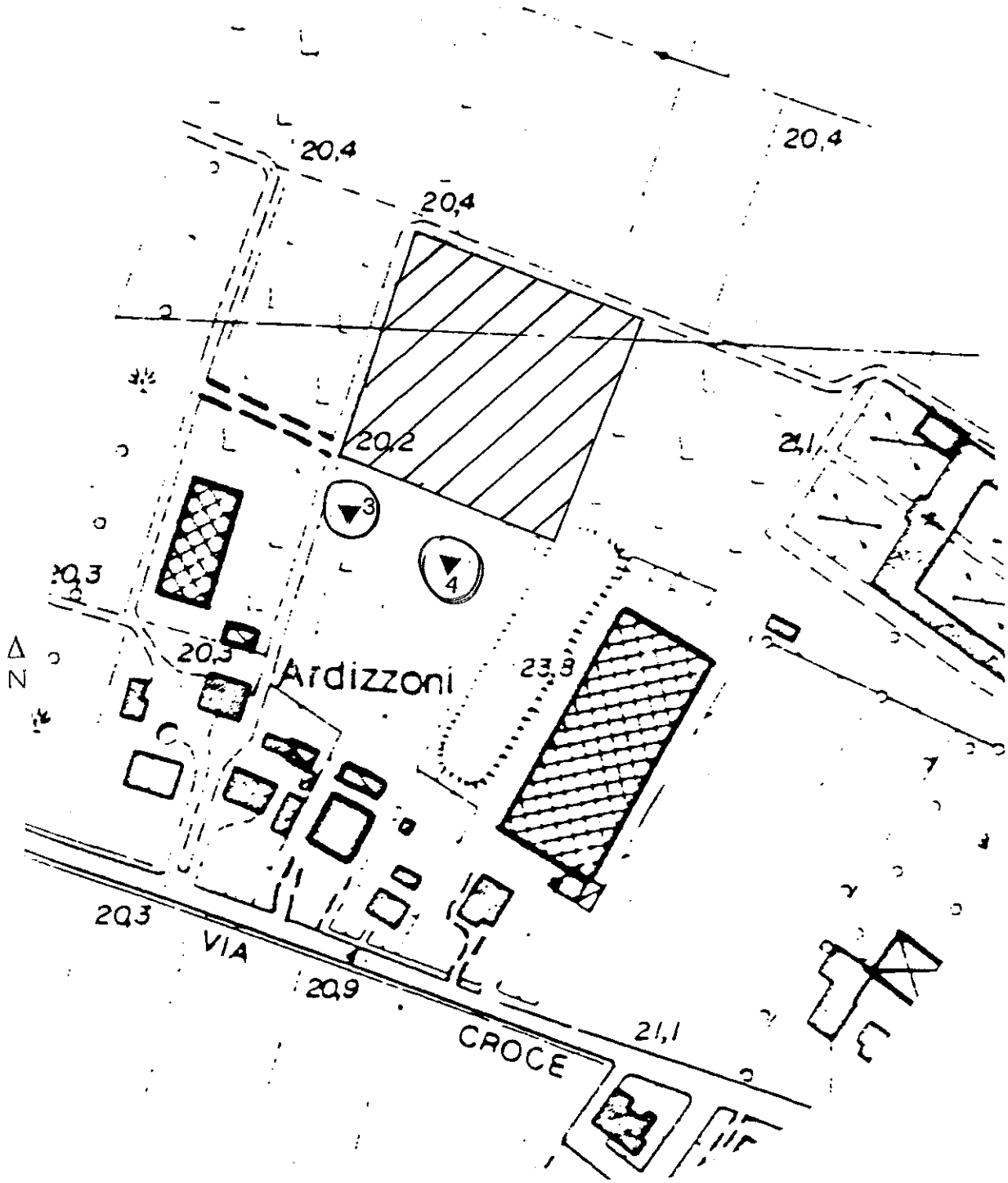
Dott. ENRICO TADDIA
GEOLOGO
44047 Sant'Agostino (FE)
Via Statale, 140 - tel/fax 0532 . 846537

SONDAGGIO MECCANICO N. 1
Committente IMMOBILIARE RIGONE
Località CASTELLO D'ARGILE
Quota foro p.c. Livello falda 1,70 m
Data 07/09/00



6_car/rep

TAV. 2 - UBICAZIONE INDAGINE GEOGNOSTICA



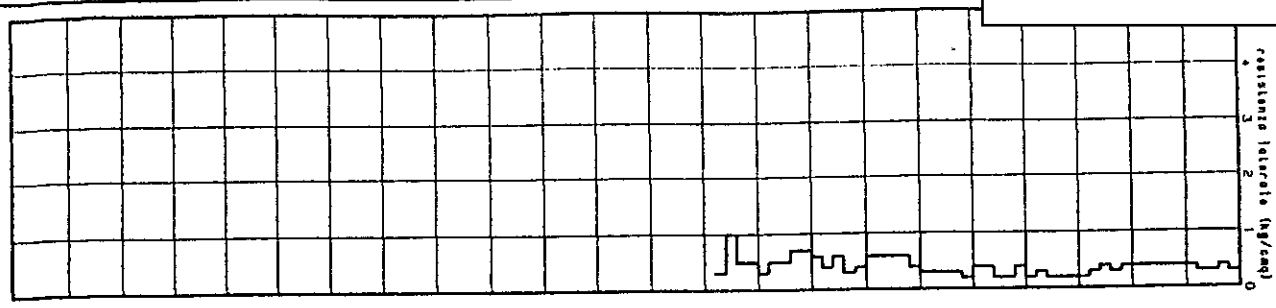
▨ Area oggetto di intervento

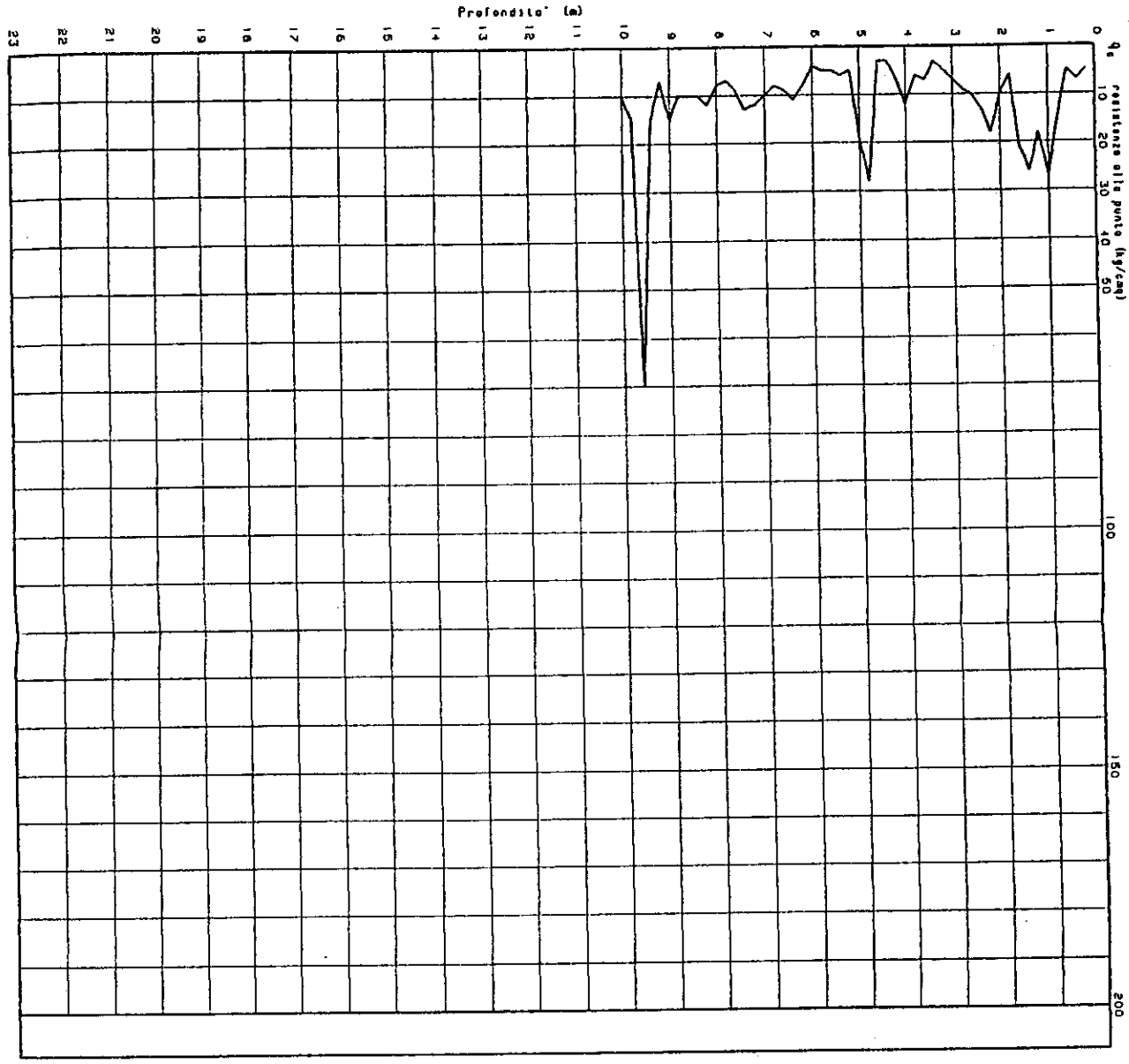
▼ Penetrometrie statiche

Scala 1: 2.000

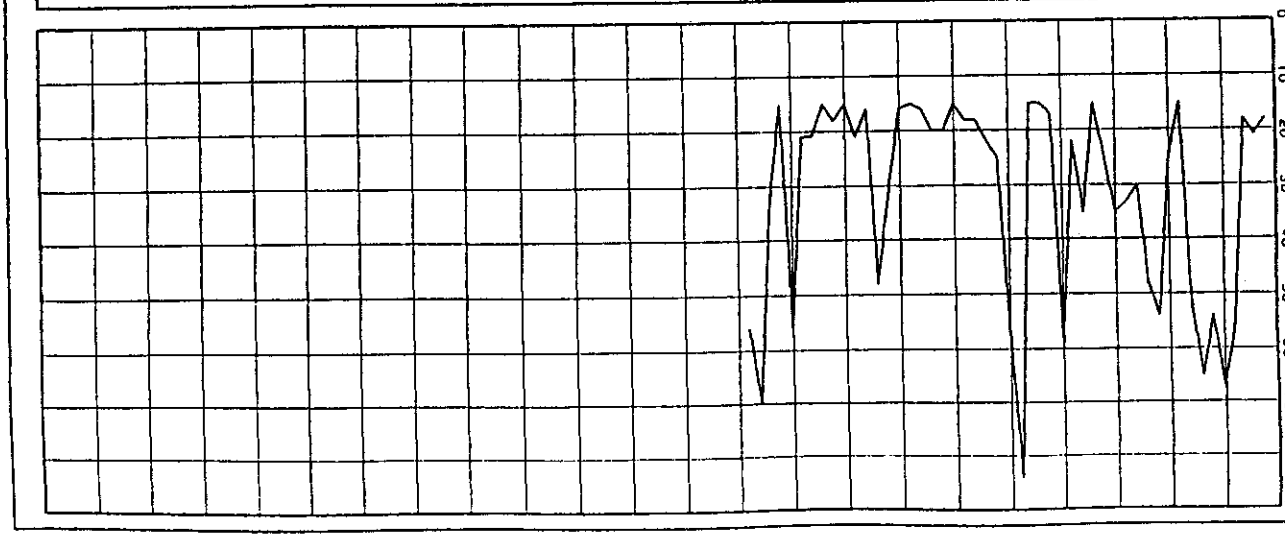
GEO-PROBE S.r.l. Indagini Geognostiche

6_car/rep/CPT3





Livello acqua da p.c.: -1.05 m



Via R. Grieco, 7 - Tel. 051/61.15.360 40133 BOLOGNA

Committente: Ing. Monlognini

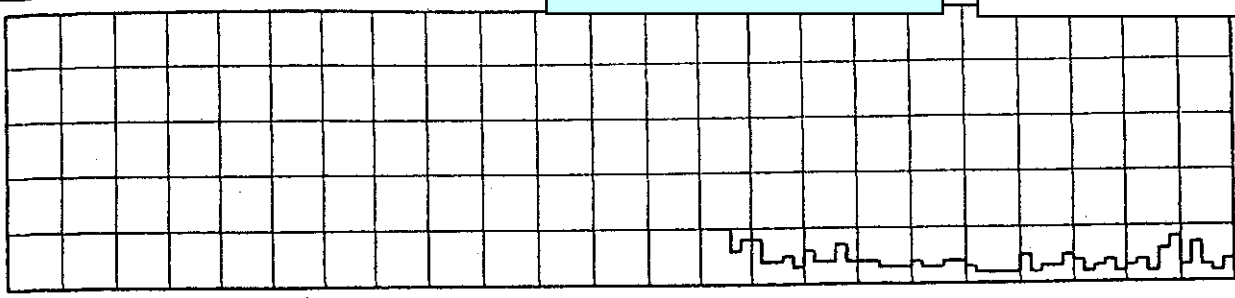
Localita': Castello d'Argile (BO) via Croce

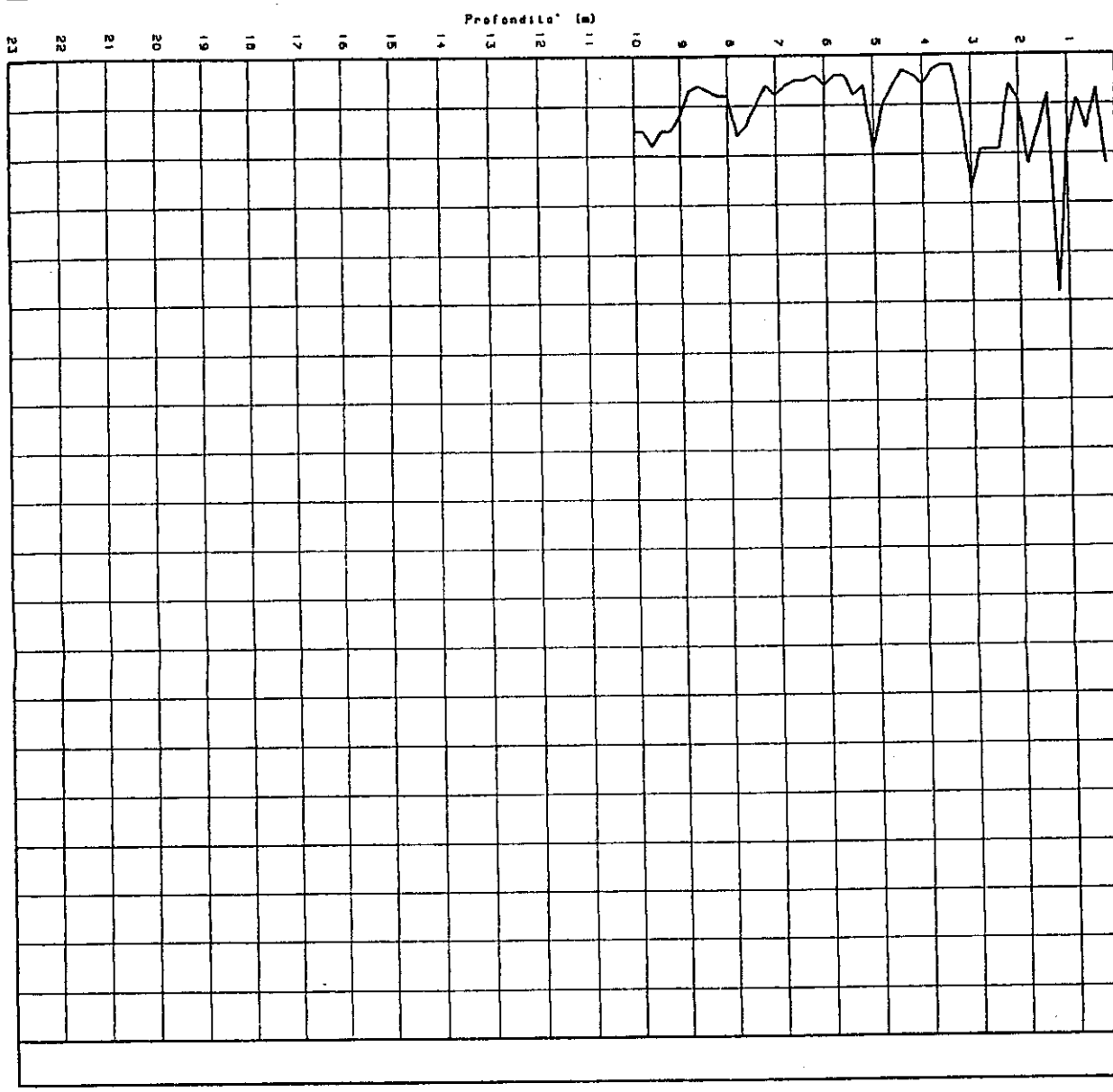
Data: 27/05/2002

GEO-PROBE S.r.l. Indagini

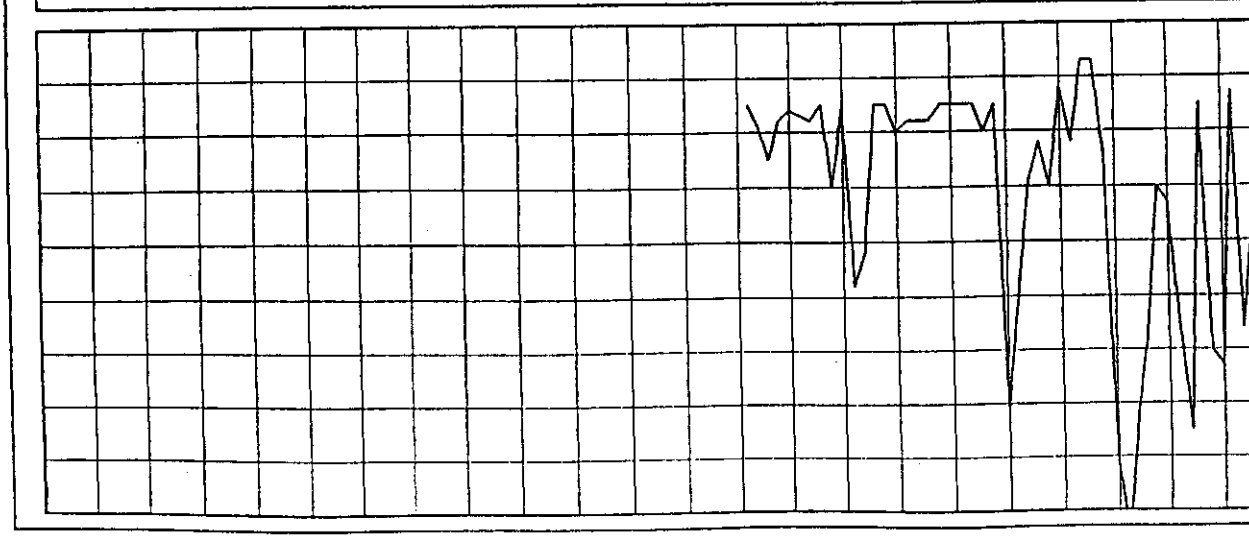
6_car/rep/CPT4

6_car/rep/CPT3





Livello acque da p.c.: -1.00 m



Committente: Ing. Montagnini

Localita': Castello d'Argile (BO) via Croce

Data: 27/05/2002

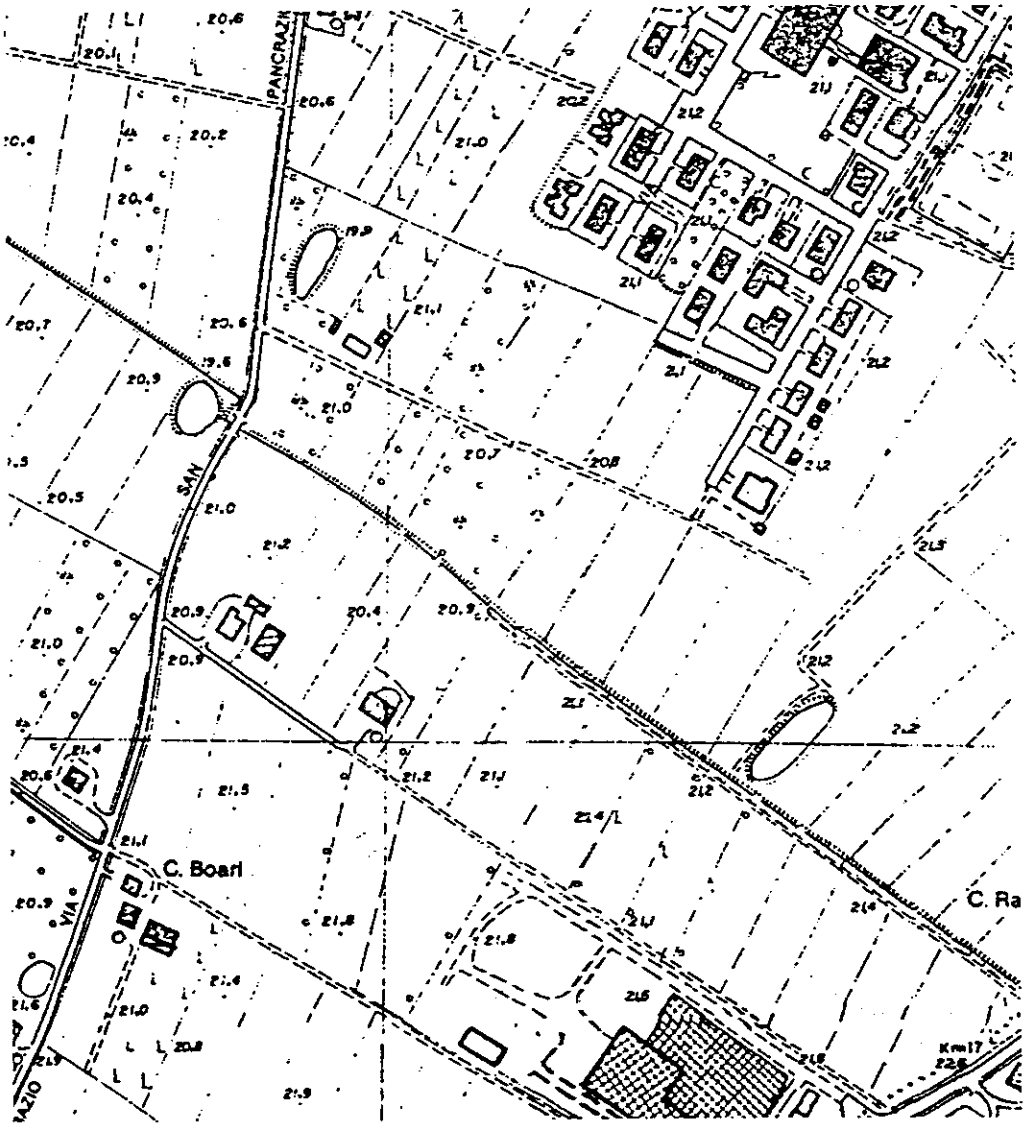
40133 BOLOGNA

Via R. Grieco, 7 - Tel. 051/61.45.350

CASTELLO DI ARGILLE

7_car/rep

Ubicazione Topografica
Scala 1:5.000

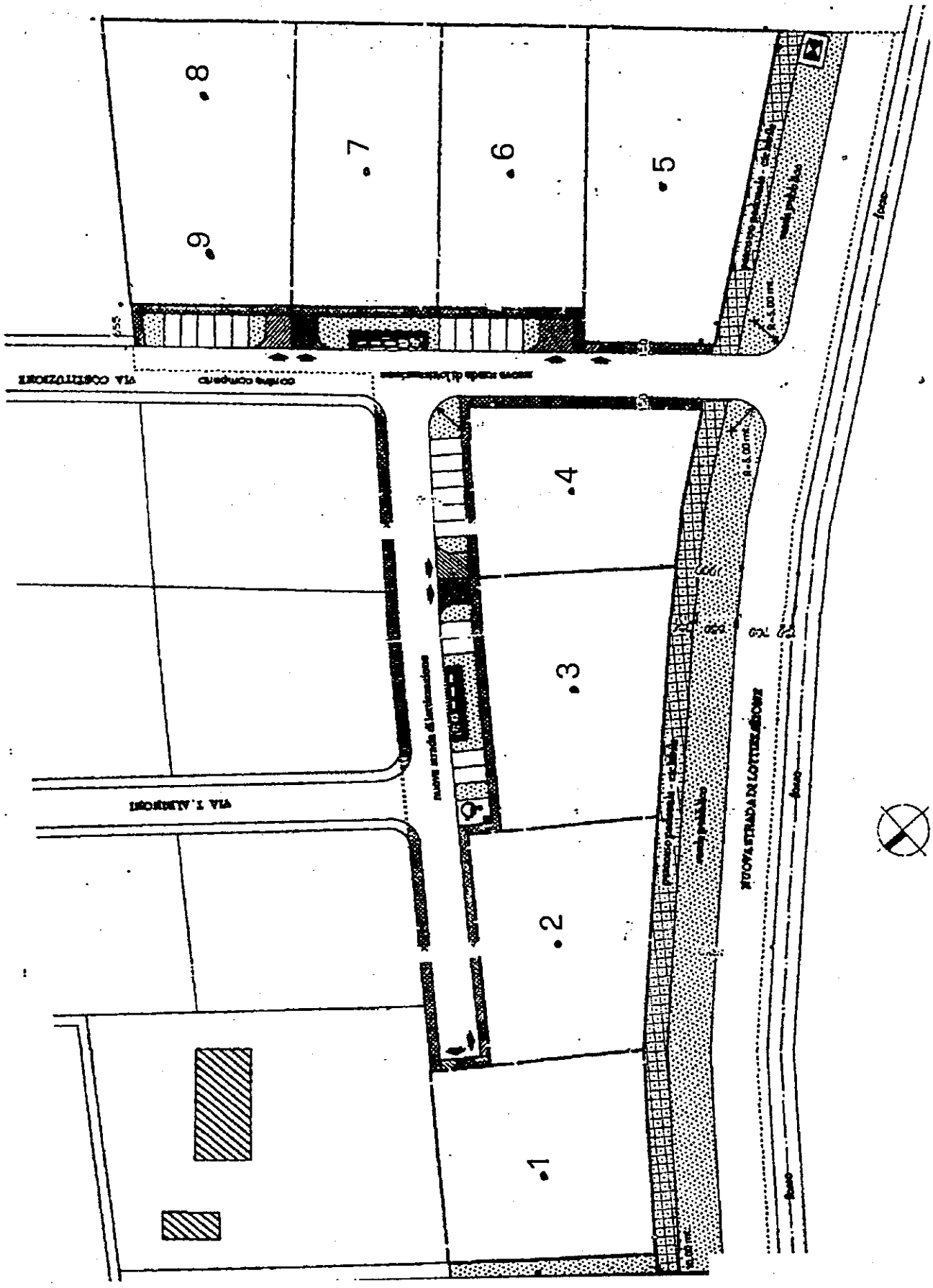


7_car/rep

Mappa Catastale
Scala 1:2.000

7_car/rep

Ubicazione Prove Penetrometriche



GEO-PROBE

40133 BOLOGNA

Via R. Grieco, 7 - Tel. 051/61.45.360

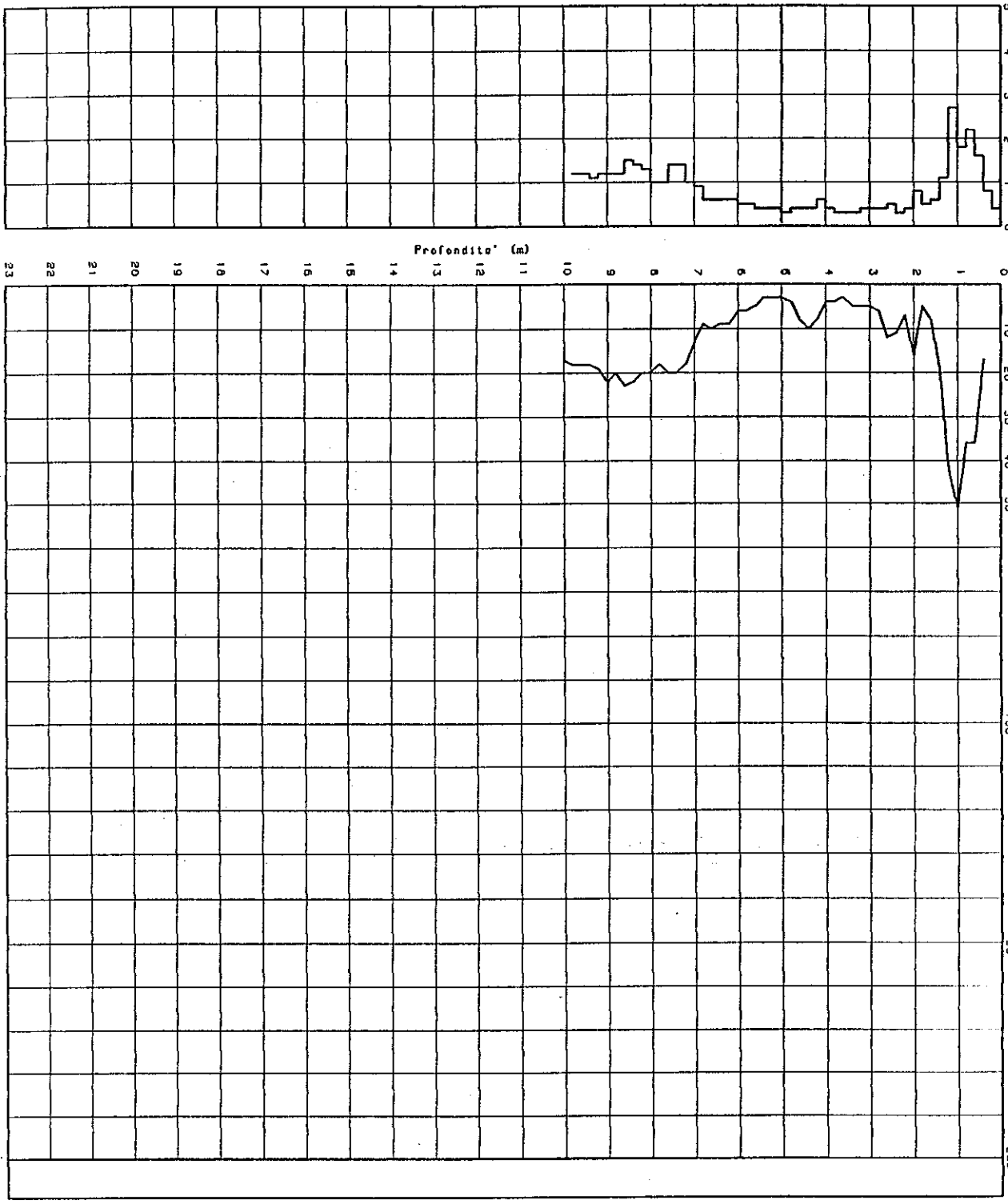
CPT (CONE PENETRATION TEST) N.1

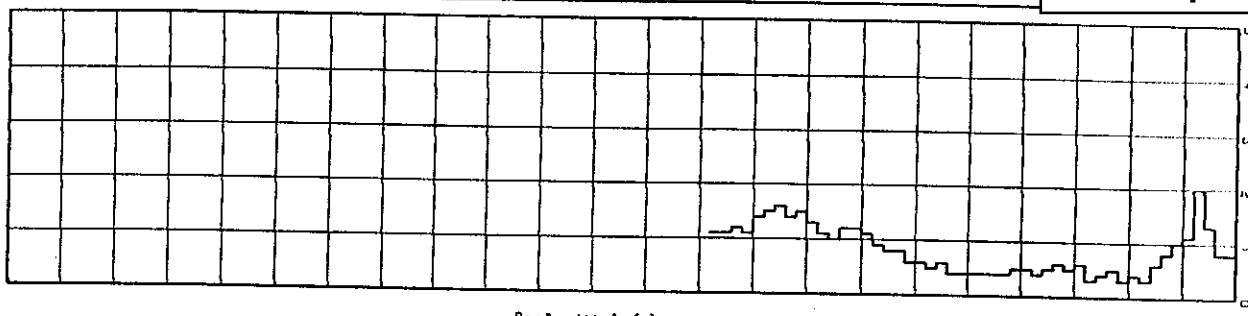
Committente: P.E. Taddia Roberto

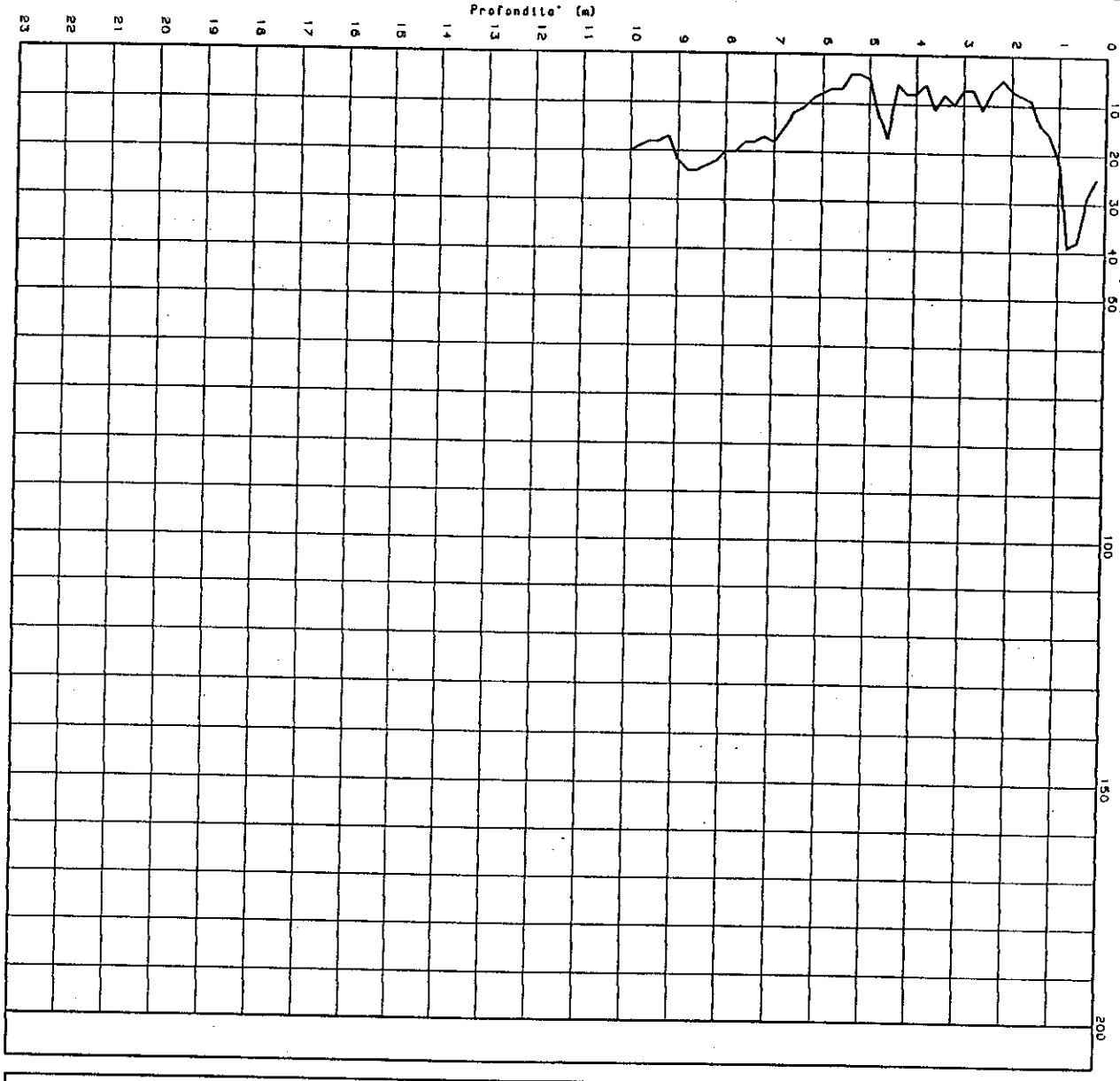
Localita': Castello d'Argile (BO) Comparto C 11

N. Certificato: 0025200

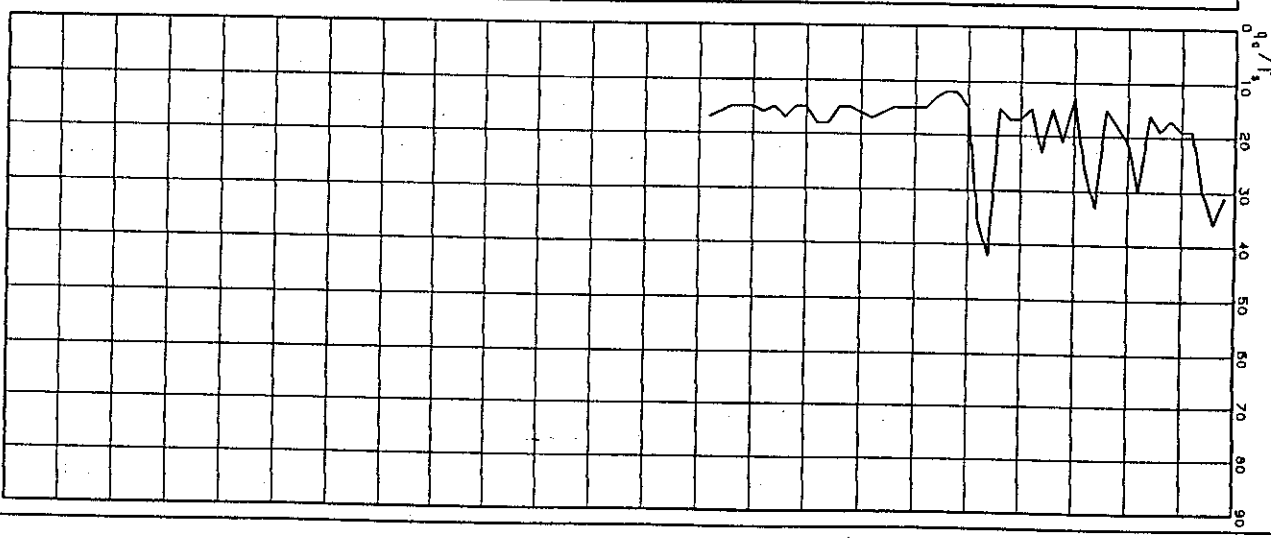
Data: 05/09/2000







Livello acqua da p.c.: foro chiuso a -1.95 m



GEO-PROBE
40133 BOLOGNA
Via R. Grieco, 7 - Tel. 051/61.45.360

CPT (CONE PENETRATION TEST) N.2

Committente: P.E. Taddia Roberto

Localita': Castello d'Argile (BO) Comparto C 11

N. Certificato: 00252002

Data: 05/09/2000

GEO-PROBE
40133 BOLOGNA
Via R. Grieco, 7 - Tel. 051/61.45.360

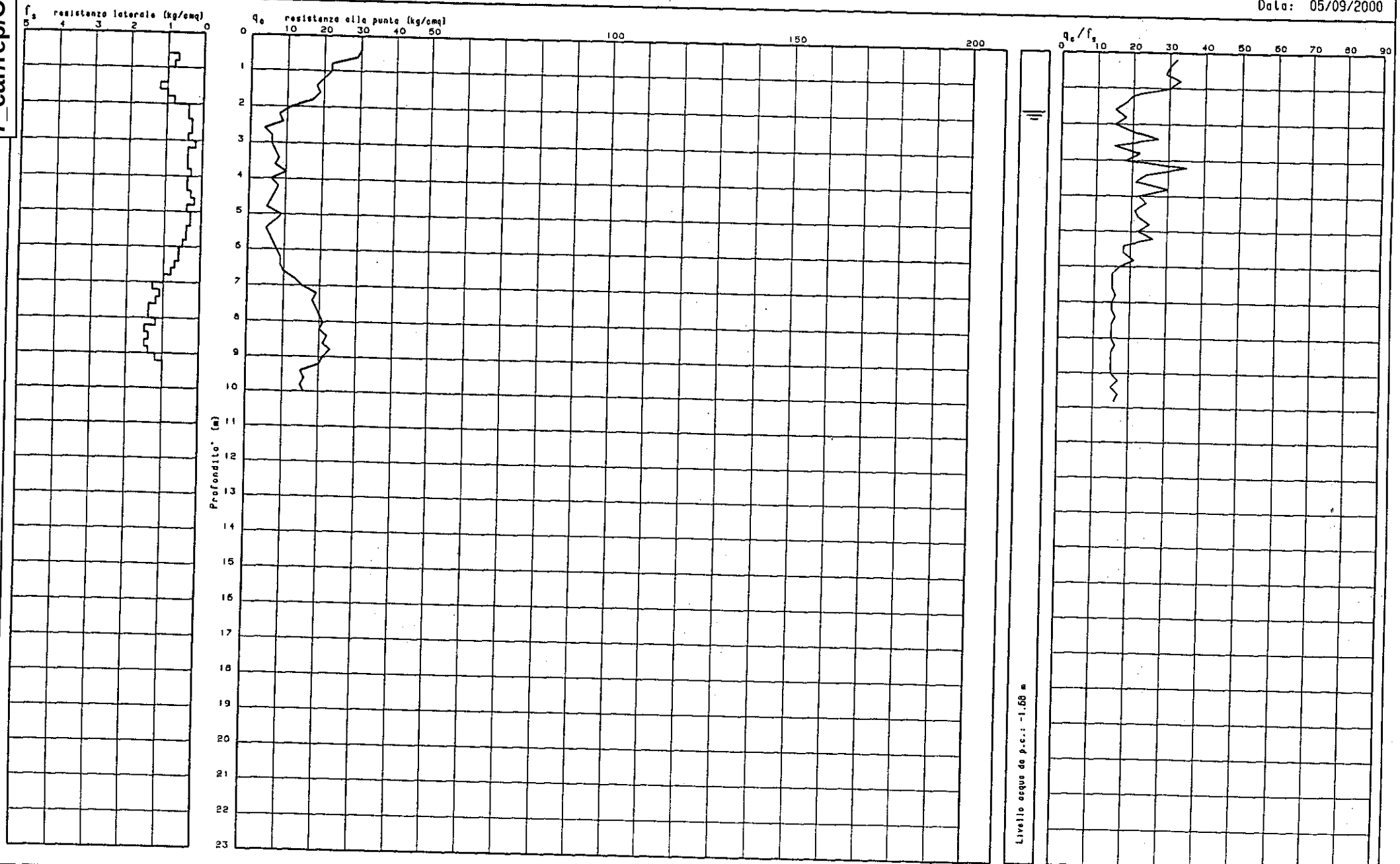
CPT (CONE PENETRATION TEST) N.4

N. Certificato: 00252004

Committente: P.E. Taddia Roberto

Localita': Castello d'Argile (BO) Comparto C 11

Data: 05/09/2000



7_car/rep/CPT4

GEO-PROBE s.n.c. Indagini Geognostiche

7_car/rep/CPT5

GEO-PROBE s.n.c. Indagini Geognostiche

GEO-PROBE

40133 BOLOGNA

Via R. Grieco, 7 - Tel. 051/61.45.360

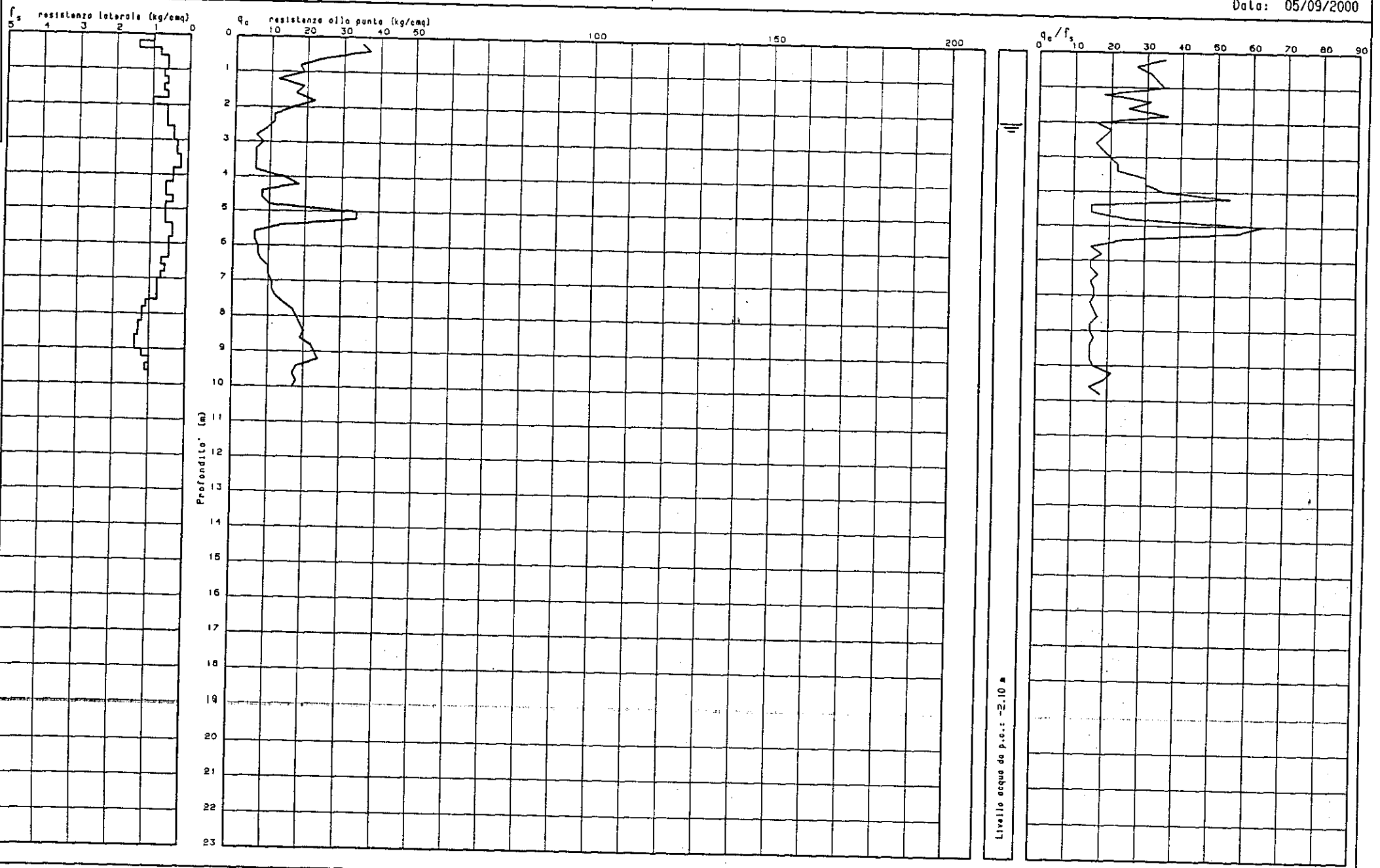
CPT (CONE PENETRATION TEST) N.5

N. Certificato: 00252005

Committente: P.E. Taddia Roberto

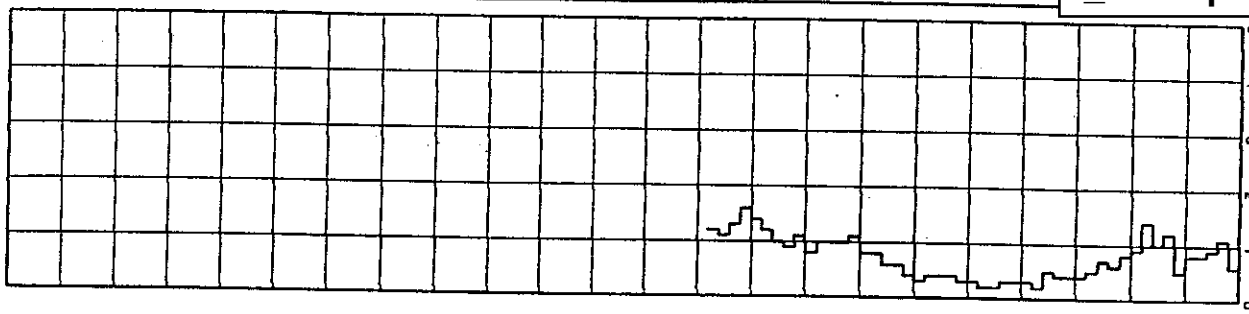
Località: Castello d'Argile (BO) Comparto C 11

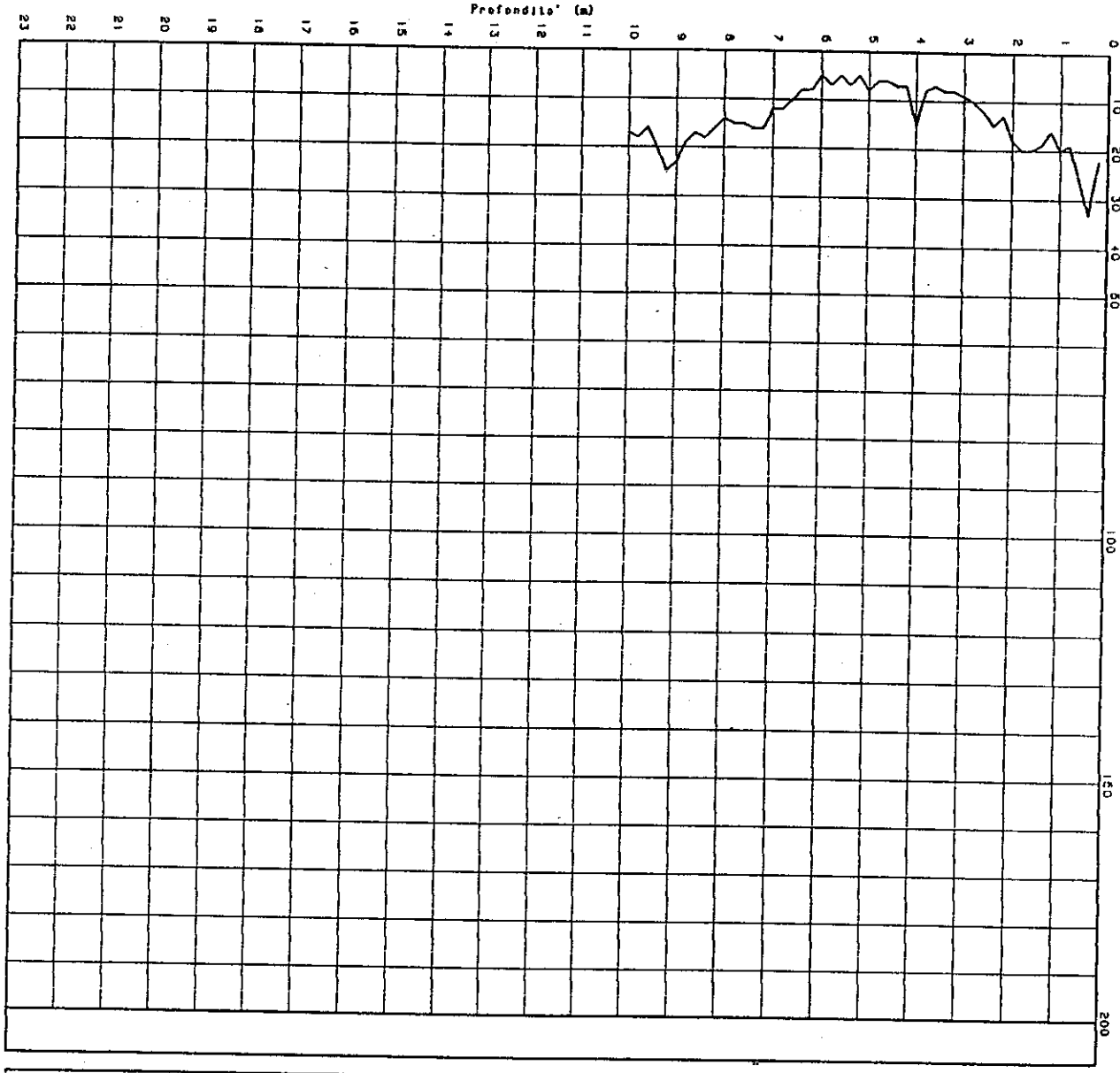
Data: 05/09/2000



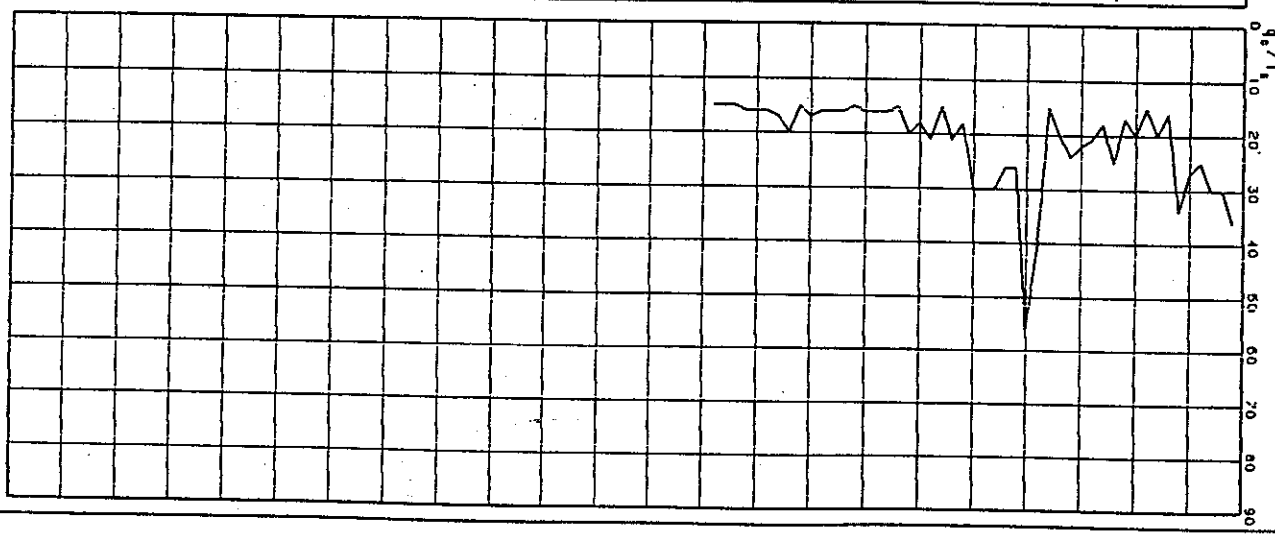
GEO-PROBE s.n.c. Indagini Geognostiche

7_car/rep/CPT6





Livello acque da p.c.: -2.39 m



GEO-PROBE

40133 BOLOGNA

Via R. Grieco, 7 - Tel. 051/61.45.360

CPT (CONE PENETRATION TEST) N.6

Committente: P.E. Taddia Roberto

Localita': Castello d'Argile (BO) Comparto C 11

N. Certificato: 00252006

Data: 05/09/2000

7_car/rep/CPT7

GEO-PROBE

40133 BOLOGNA

Via R. Grieco, 7 - Tel. 051/61.45.360

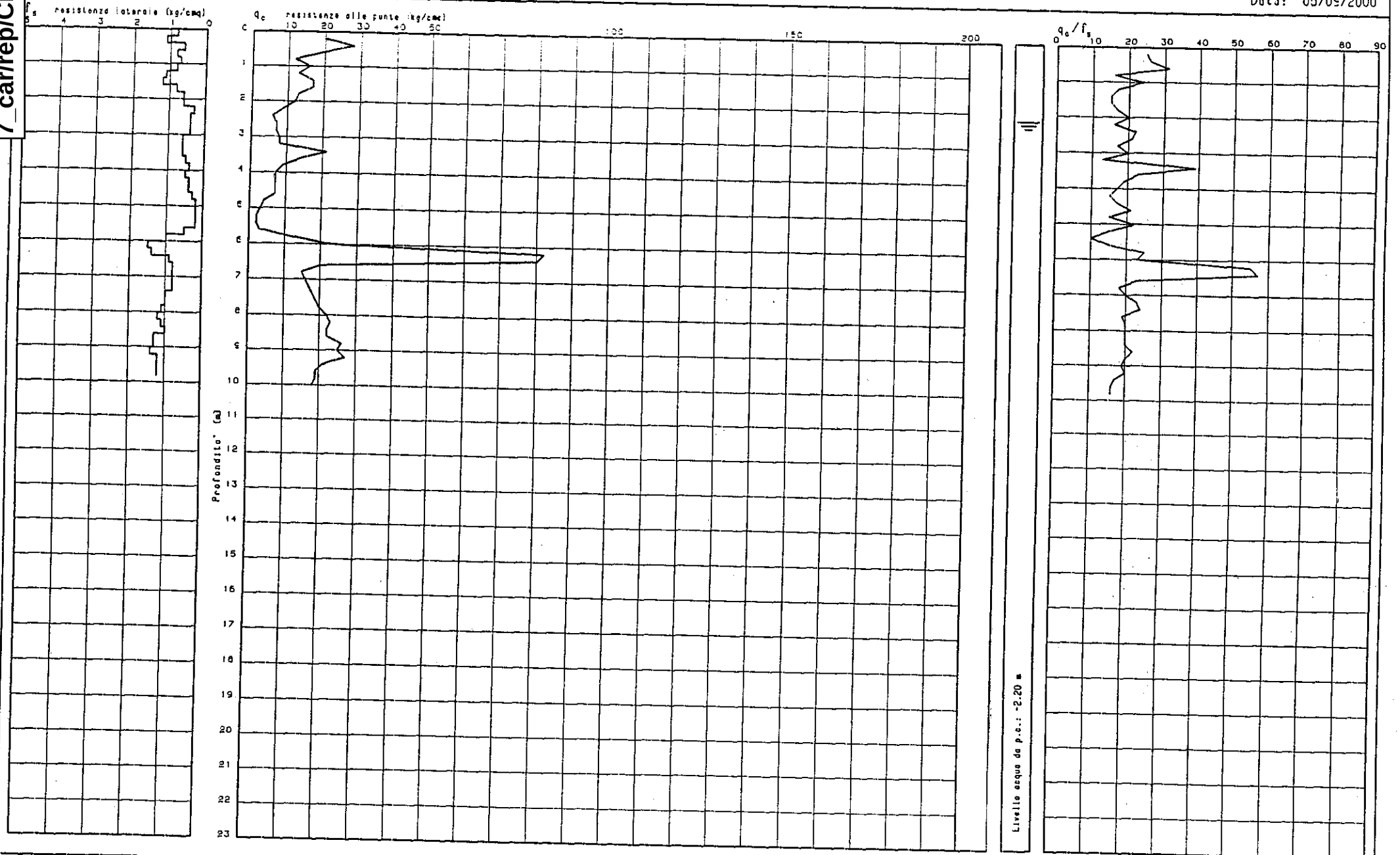
CPT (CONE PENETRATION TEST) N.7

N. Certificato: 00252007

Committente: P.E. Taddia Roberto

Località: Castello d'Argile (BO) Comparto C "1

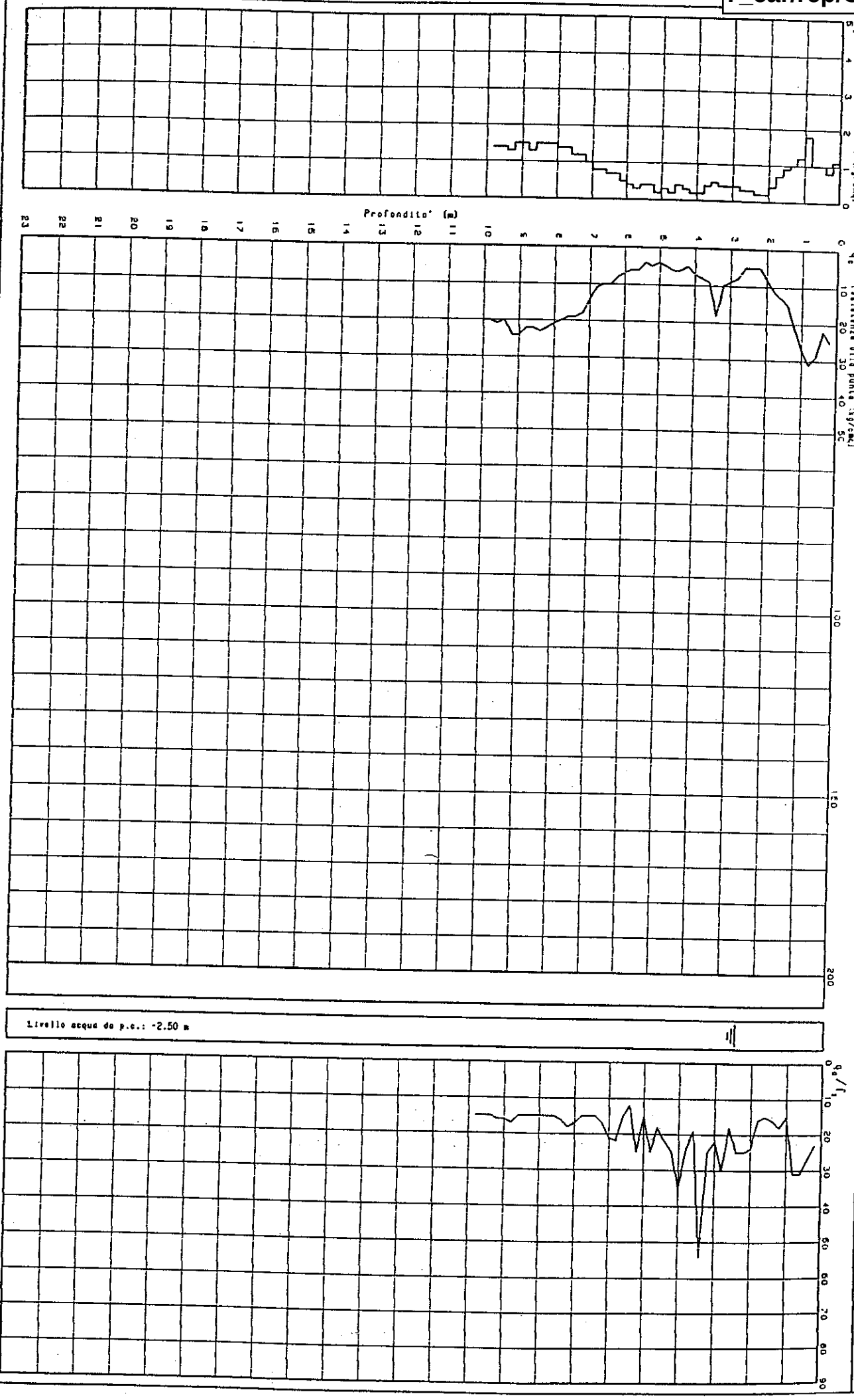
Data: 05/09/2000



GEO-PROBE s.n.c. Indagini Geognostiche

GEO-PROBE s.n.c. Indagini Geognostiche

7_car/rep/CPT8



GEO-PROBE

40133 BOLOGNA

Via R. Grieco, 7 - Tel. 051/61.45.360

CPT (CONE PENETRATION TEST) N.8

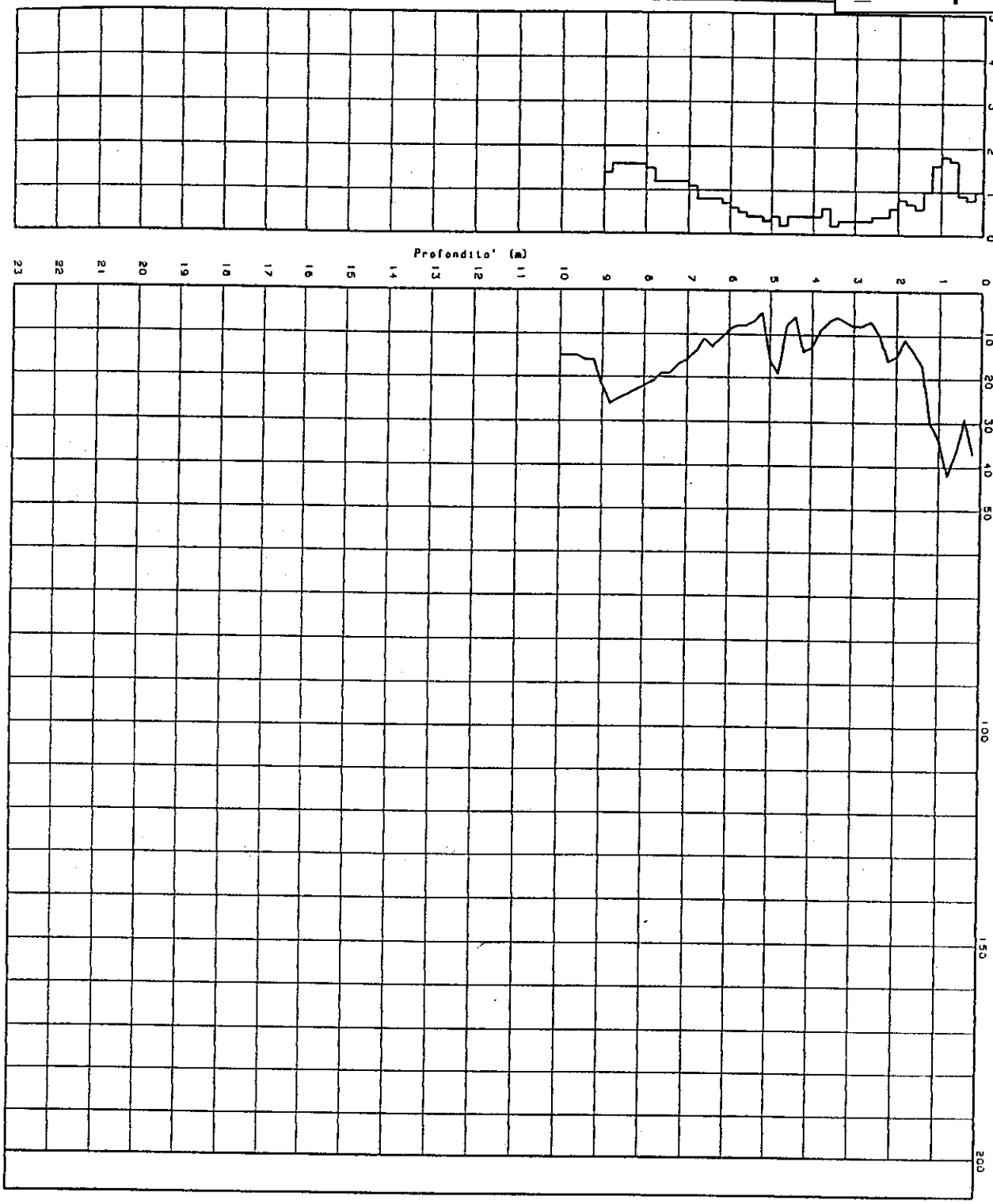
Committente: P.E. Taddia Roberto

Localita': Castello d'Argile (BO) Comparto C 1

N. Cert.ficato: 00252003

Data: 05/05/2000

7_car/rep/CPT9



GEO-PROBE
40133 BOLOGNA
Via R. Grieco, 7 - Tel. 051/61.45.360

Committente: P.E. Taddia Roberto

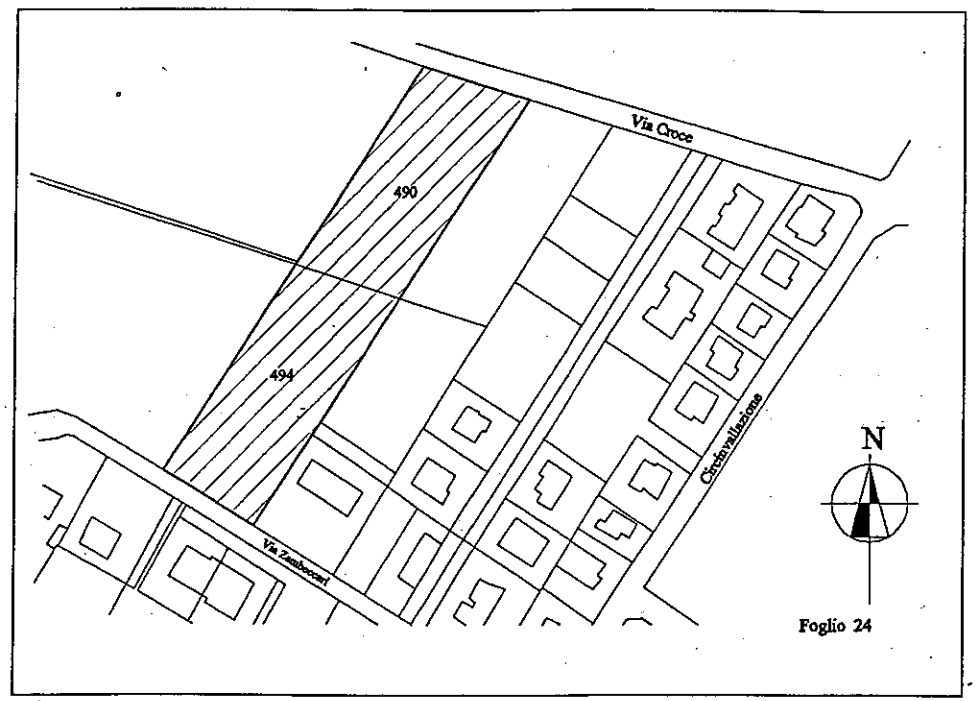
Localita': Castello d'Argile (BO) Comparto C 11

CPT (CONE PENETRATION TEST) N.9

N. Certificato: 0025009

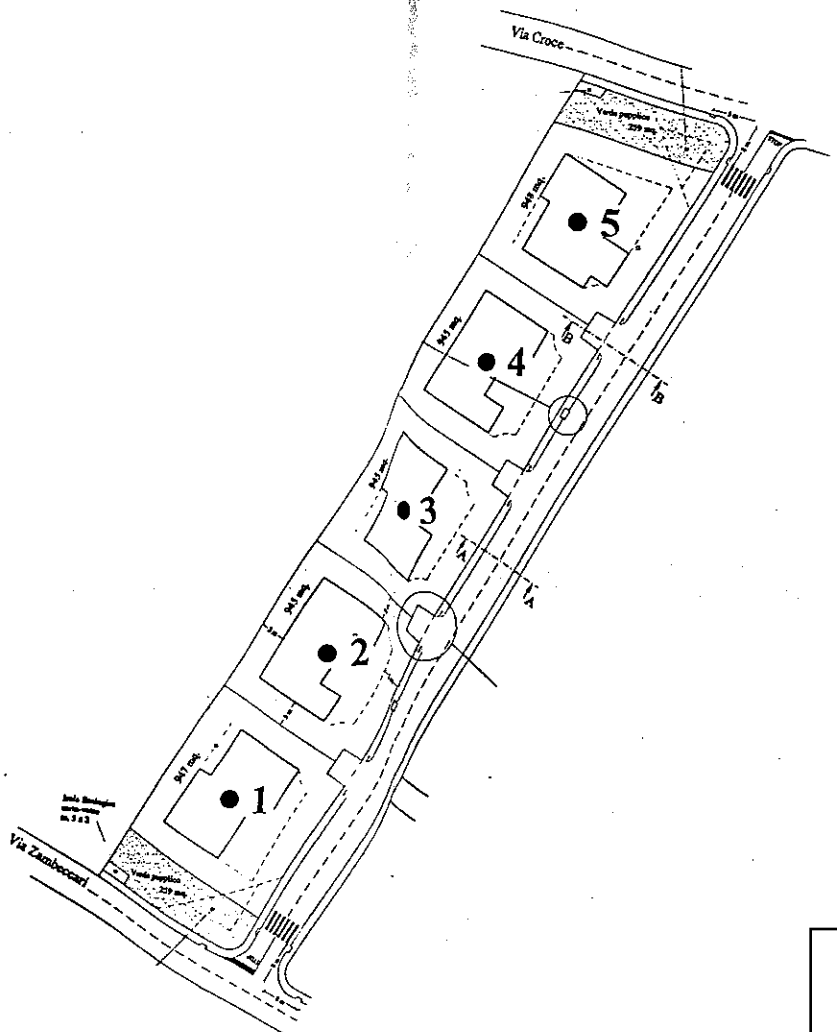
Data: 05/09/2000

CASTELLO D'ARGILE 33/37



Planimetria catastale
Comune di Castello D'Argile
Foglio 24 - Mapp. 490 e 494

sc. 1 : 2.000



CARTA UBICAZIONE PROVE *scala 1 : 1.000*

● 1 prova penetrometrica statica - *CPT* e numerazione Lotto

8_car/rep

GEOHYDRODATA S.a.s.
sistemi e metodi per investigare il sottosuolo
45100 ROVIGO Via Porta Mare 9 Tel. & Fax 0425 - 490494

8_car/rep/CPT1

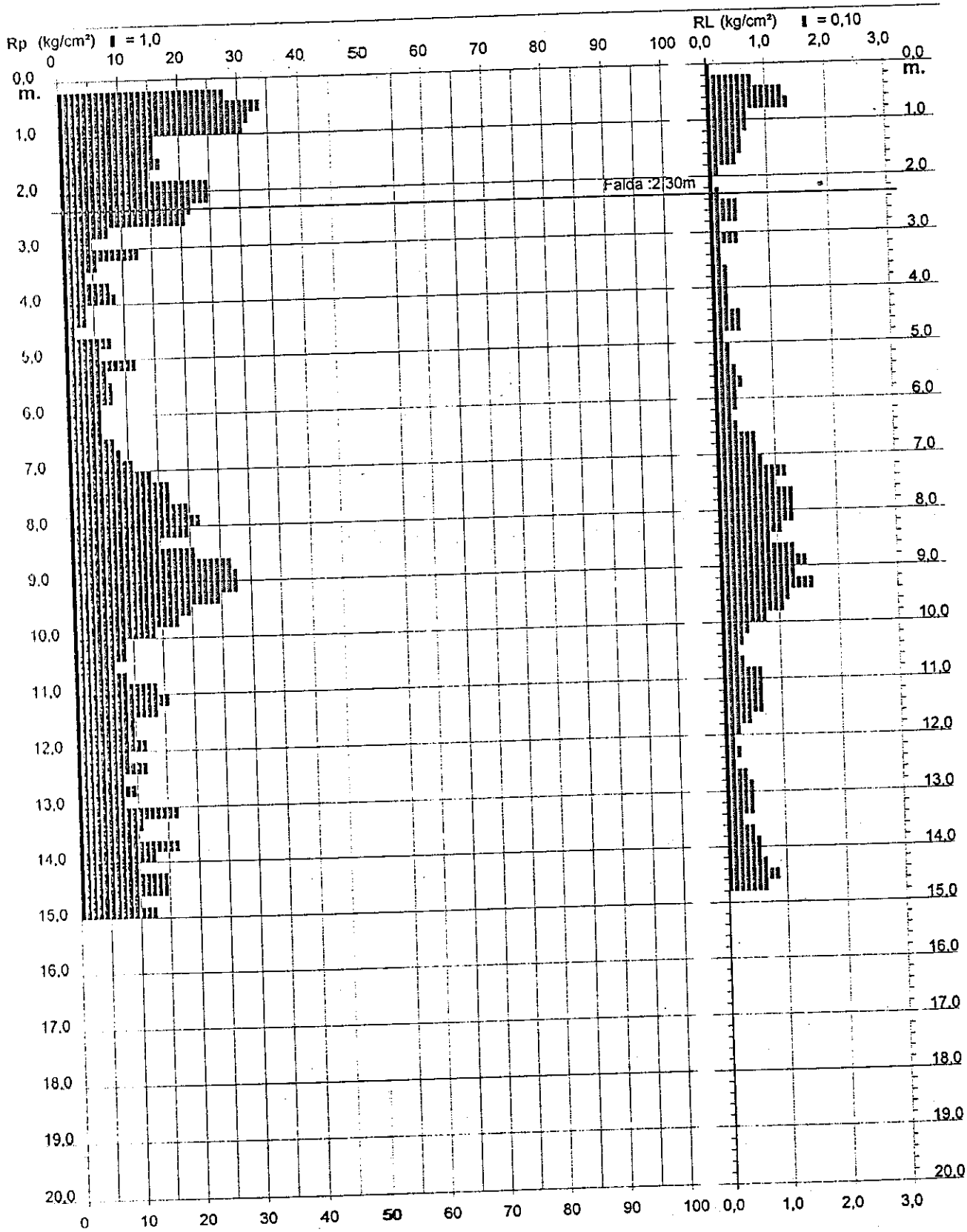
PROVA PENETROMETRICA STATICA
DIAGRAMMA DI RESISTENZA

CPT 1

2.010496-003

- committente : Sigg. RESCA Guerrino - RESCA Franco
- lavoro : Piano Particolareggiato
- località : Castel d'Argile (Bologna) - V. Zambeccari / V. Croce

- data : 30/09/2000
- quota inizio : Piano Campagna
- prof. falda : 2,30 m da quota inizio
- scala vert.: 1 : 100



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8_car/rep/CPT1

PROVA PENETROMETRICA STATICA
LETTURE DI CAMPAGNA / VALORI DI RESISTENZA

CPT 1

2.010496-003

- committente : Sigg. RESCA Guerrino - RESCA Franco
- lavoro : Piano Particolareggiato
- località : Castel d'Argile (Bologna) - V. Zambeccari / V. Croce
- note :
- data : 30/09/2000
- quota inizio : Piano Campagna
- prof. falda : 2,30 m da quota inizio
- pagina : 1

prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -
0,20	---	---	--	0,13	---
0,40	14,0	15,0	28,0	0,80	35,0
0,60	17,0	23,0	34,0	1,33	25,0
0,80	16,0	26,0	32,0	1,40	23,0
1,00	15,5	26,0	31,0	0,67	46,0
1,20	8,0	13,0	16,0	0,73	22,0
1,40	8,0	13,5	16,0	0,60	27,0
1,60	8,5	13,0	17,0	0,60	28,0
1,80	7,5	12,0	15,0	0,53	28,0
2,00	12,5	16,5	25,0	0,20	125,0
2,20	12,5	14,0	25,0	0,13	187,0
2,40	11,0	12,0	22,0	0,20	110,0
2,60	10,5	12,0	21,0	0,47	45,0
2,80	4,0	7,5	8,0	0,47	17,0
3,00	2,5	6,0	5,0	0,20	25,0
3,20	6,5	8,0	13,0	0,47	28,0
3,40	3,0	6,5	6,0	0,20	30,0
3,60	2,0	3,5	4,0	0,20	20,0
3,80	4,0	5,5	8,0	0,27	30,0
4,00	4,5	6,5	9,0	0,27	34,0
4,20	2,0	4,0	4,0	0,33	12,0
4,40	2,0	4,5	4,0	0,27	15,0
4,60	1,0	3,0	2,0	0,47	4,0
4,80	4,0	7,5	8,0	0,53	15,0
5,00	3,0	7,0	6,0	0,20	30,0
5,20	6,0	7,5	12,0	0,33	36,0
5,40	3,5	6,0	7,0	0,33	21,0
5,60	4,0	6,5	8,0	0,40	20,0
5,80	4,0	7,0	8,0	0,47	17,0
6,00	3,0	6,5	6,0	0,40	15,0
6,20	3,0	6,0	6,0	0,40	15,0
6,40	3,0	6,0	6,0	0,33	18,0
6,60	4,0	6,5	8,0	0,40	20,0
6,80	4,5	7,5	9,0	0,67	13,0
7,00	5,5	10,5	11,0	0,67	16,0
7,20	7,0	12,0	14,0	0,80	17,0
7,40	8,5	14,5	17,0	1,20	14,0
7,60	8,5	17,5	17,0	1,00	17,0
7,80	10,0	17,5	20,0	1,33	15,0
8,00	11,0	21,0	22,0	1,33	16,0
8,20	10,0	20,0	20,0	1,27	16,0
8,40	7,5	17,0	15,0	1,07	14,0
8,60	10,5	18,5	21,0	0,87	24,0
8,80	13,5	20,0	27,0	1,33	20,0
9,00	14,0	24,0	28,0	1,47	19,0
9,20	14,0	25,0	28,0	1,27	22,0
9,40	12,5	22,0	25,0	1,60	16,0
9,60	10,0	22,0	20,0	1,20	17,0
9,80	9,0	18,0	18,0	1,07	17,0
10,00	7,0	15,0	14,0	0,80	17,0
10,20	4,5	10,5	9,0	0,53	17,0
10,40	4,5	8,5	9,0	0,40	22,0
10,60	3,5	6,5	7,0	0,33	21,0
10,80	4,5	7,0	9,0	0,40	22,0
11,00	7,0	10,0	14,0	0,73	19,0
11,20	8,0	13,5	16,0	0,73	22,0
11,40	7,0	12,5	14,0	0,67	21,0
11,60	5,0	10,0	10,0	0,67	15,0
11,80	5,0	10,0	10,0	0,47	21,0
12,00	6,0	9,5	12,0	0,33	36,0
12,20	4,5	7,0	9,0	0,20	45,0
12,40	6,0	7,5	12,0	0,33	36,0
12,60	4,0	6,5	8,0	0,20	40,0
12,80	5,0	6,5	10,0	0,40	25,0
13,00	4,0	7,0	8,0	0,47	17,0
13,20	8,5	12,0	17,0	0,47	36,0
13,40	5,5	9,0	11,0	0,47	24,0
13,60	5,0	8,5	10,0	0,27	37,0
13,80	8,5	10,5	17,0	0,47	36,0
14,00	6,5	10,0	13,0	0,60	22,0
14,20	5,0	9,5	10,0	0,60	17,0
14,40	7,5	12,0	15,0	0,73	20,0
14,60	7,5	13,0	15,0	0,93	16,0
14,80	5,0	12,0	10,0	0,73	14,0
15,00	6,5	12,0	13,0	---	---

- PENETROMETRO STATICO tipo GOUDA da 12 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)

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8_car/rep/CPT2

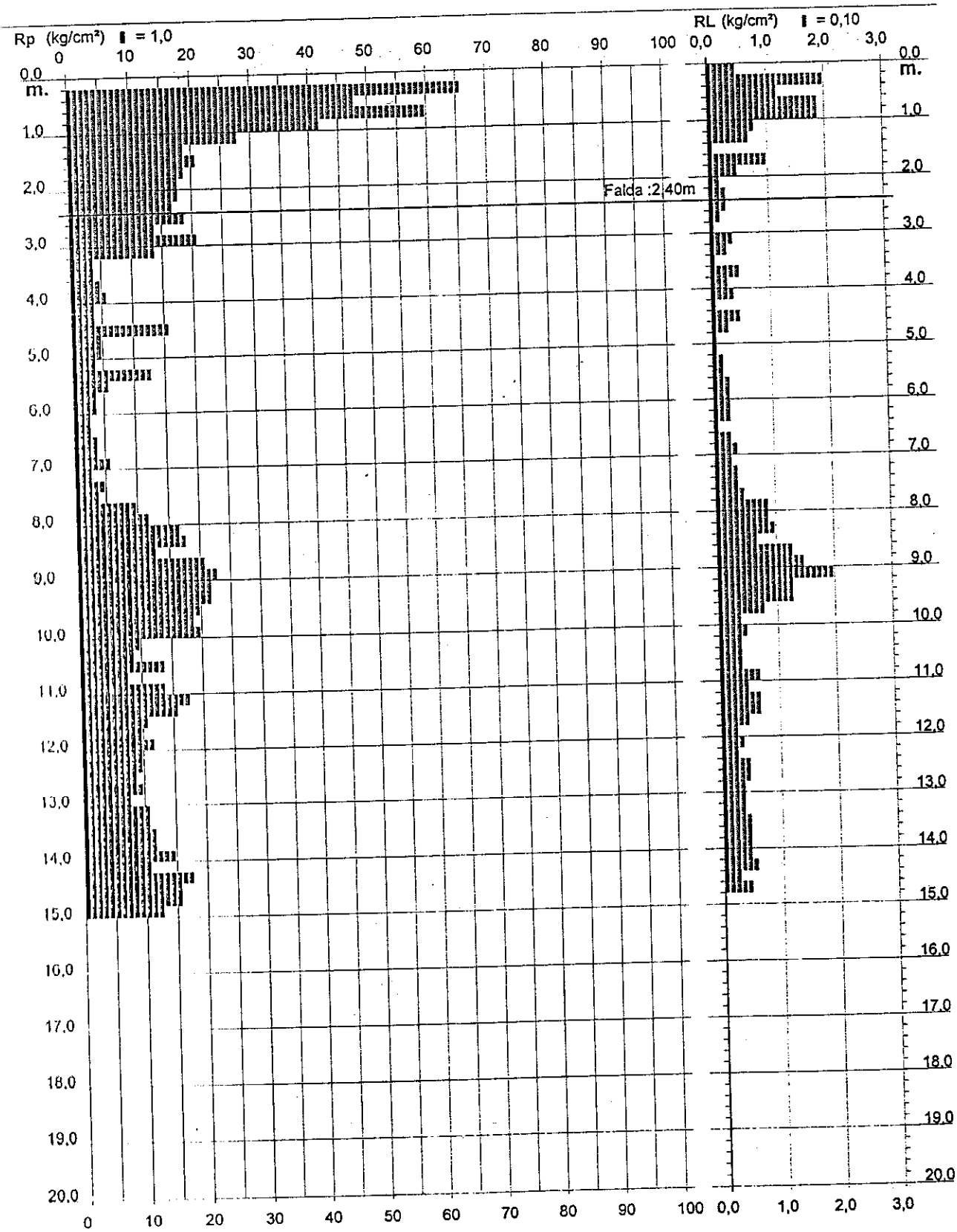
PROVA PENETROMETRICA STATICA
DIAGRAMMA DI RESISTENZA

CPT 2

2.010496-003

- committente : Sigg. RESCA Guerrino - RESCA Franco
- lavoro : Piano Particolareggiato
- località : Castel d'Argile (Bologna) - V. Zambeccari / V. Croce

- data : 30/09/2000
- quota inizio : Piano Campagna
- prof. falda : 2,40 m da quota inizio
- scala vert.: 1 : 100



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sistemi e metodi per investigare il sottosuolo
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PROVA PENETROMETRICA STATICA
LETTURE DI CAMPAGNA / VALORI DI RESISTENZA

CPT 2

2.010496-003

- committente : Sigg. RESCA Guerrino - RESCA Franco
- lavoro : Piano Particolareggiato
- località : Castel d'Argile (Bologna) - V. Zambeccari / V. Croce
- note :

- data : 30/09/2000
- quota inizio : Piano Campagna
- prof. falda : 2,40 m da quota inizio
- pagina : 1

prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -
0,20	----	----	--	0,53	----
0,40	33,0	37,0	66,0	2,00	33,0
0,60	24,0	39,0	48,0	1,20	40,0
0,80	30,0	39,0	60,0	1,87	32,0
1,00	21,0	35,0	42,0	1,87	22,0
1,20	14,0	28,0	28,0	0,80	35,0
1,40	9,5	15,5	19,0	0,67	28,0
1,60	10,5	15,5	21,0	0,13	157,0
1,80	9,5	10,5	19,0	1,00	19,0
2,00	9,0	16,5	18,0	0,47	39,0
2,20	9,0	12,5	18,0	0,20	90,0
2,40	8,5	10,0	17,0	0,33	51,0
2,60	9,5	12,0	19,0	0,27	71,0
2,80	7,0	9,0	14,0	0,20	70,0
3,00	10,5	12,0	21,0	0,07	315,0
3,20	7,0	7,5	14,0	0,40	35,0
3,40	2,0	5,0	4,0	0,27	15,0
3,60	2,0	4,0	4,0	0,07	60,0
3,80	2,5	3,0	5,0	0,53	9,0
4,00	3,0	7,0	6,0	0,33	18,0
4,20	2,0	4,5	4,0	0,40	10,0
4,40	2,0	5,0	4,0	0,13	30,0
4,60	8,0	9,0	16,0	0,47	34,0
4,80	2,5	6,0	5,0	0,27	19,0
5,00	2,5	4,5	5,0	0,13	37,0
5,20	2,0	3,0	4,0	0,07	60,0
5,40	6,5	7,0	13,0	0,20	65,0
5,60	3,0	4,5	6,0	0,20	30,0
5,80	2,0	3,5	4,0	0,27	15,0
6,00	2,0	4,0	4,0	0,27	15,0
6,20	1,5	3,5	3,0	0,27	11,0
6,40	1,5	3,5	3,0	0,27	11,0
6,60	2,0	4,0	4,0	0,13	30,0
6,80	2,0	3,0	4,0	0,27	15,0
7,00	3,0	5,0	6,0	0,40	15,0
7,20	1,5	4,5	3,0	0,27	11,0
7,40	2,5	4,5	5,0	0,40	12,0
7,60	2,0	5,0	4,0	0,40	10,0
7,80	5,0	8,0	10,0	0,53	19,0
8,00	6,0	10,0	12,0	0,87	14,0
8,20	8,5	15,0	17,0	0,93	18,0
8,40	9,0	16,0	18,0	1,00	18,0
8,60	6,5	14,0	13,0	0,67	19,0
8,80	10,5	15,5	21,0	1,27	17,0
9,00	11,5	21,0	23,0	1,47	16,0
9,20	11,0	22,0	22,0	2,00	11,0
9,40	11,0	26,0	22,0	1,33	16,0
9,60	10,0	20,0	20,0	1,27	16,0
9,80	9,5	19,0	19,0	0,80	24,0
10,00	10,0	16,0	20,0	0,40	50,0
10,20	5,0	8,0	10,0	0,53	19,0
10,40	4,5	8,5	9,0	0,40	22,0
10,60	7,0	10,0	14,0	0,40	35,0
10,80	4,0	7,0	8,0	0,40	20,0
11,00	7,0	10,0	14,0	0,67	21,0
11,20	9,0	14,0	18,0	0,47	39,0
11,40	8,0	11,5	16,0	0,67	24,0
11,60	5,5	10,5	11,0	0,67	16,0
11,80	5,0	10,0	10,0	0,47	21,0
12,00	6,0	9,5	12,0	0,33	36,0
12,20	5,0	7,5	10,0	0,40	25,0
12,40	5,0	8,0	10,0	0,27	37,0
12,60	4,5	6,5	9,0	0,47	19,0
12,80	5,0	8,5	10,0	0,47	21,0
13,00	4,0	7,5	8,0	0,40	20,0
13,20	5,5	8,5	11,0	0,40	27,0
13,40	5,5	8,5	11,0	0,40	27,0
13,60	6,0	9,0	12,0	0,47	26,0
13,80	6,0	9,5	12,0	0,47	26,0
14,00	7,5	11,0	15,0	0,53	28,0
14,20	5,5	9,5	11,0	0,53	21,0
14,40	9,0	13,0	18,0	0,60	30,0
14,60	8,0	12,5	16,0	0,27	60,0
14,80	8,0	10,0	16,0	0,53	30,0
15,00	6,5	10,5	13,0	----	----

- PENETROMETRO STATICO tipo GOUDA da 12 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)

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8_car/rep/CPT3

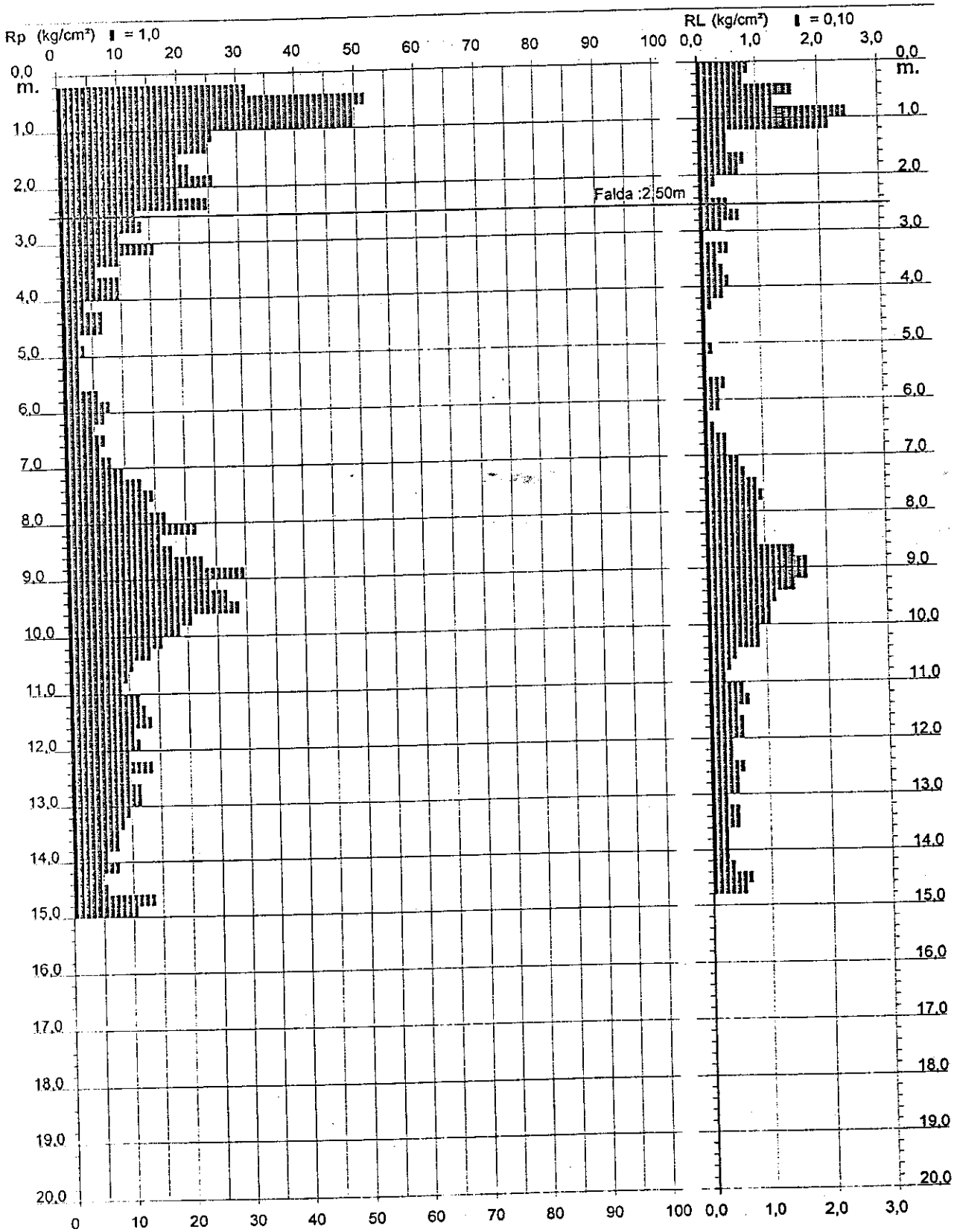
PROVA PENETROMETRICA STATICA
DIAGRAMMA DI RESISTENZA

CPT 3

2.010496-003

- committente : Sigg. RESCA Guerrino - RESCA Franco
- lavoro : Piano Particolareggiato
- località : Castel d'Argile (Bologna) - V. Zambeccari / V. Croce

- data : 30/09/2000
- quota inizio : Piano Campagna
- prof. falda : 2,50 m da quota inizio
- scala vert.: 1 : 100



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Rifer. 37-00

PROVA PENETROMETRICA STATICA
LETTURE DI CAMPAGNA / VALORI DI RESISTENZA

CPT 3

2.010496-003

- committente : Sigg. RESCA Guerrino - RESCA Franco
- lavoro : Piano Particolareggiato
- località : Castel d'Argile (Bologna) - V. Zambeccari / V. Croce
- note :

- data : 30/09/2000
- quota inizio : Piano Campagna
- prof. falda : 2,50 m da quota inizio
- pagina : 1

prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -
0,20	----	----	--	0,93	----
0,40	16,0	23,0	32,0	0,80	40,0
0,60	26,0	32,0	52,0	1,60	32,0
0,80	25,0	37,0	50,0	1,33	37,0
1,00	25,0	35,0	50,0	2,53	20,0
1,20	13,0	32,0	26,0	2,20	12,0
1,40	12,5	29,0	25,0	0,47	54,0
1,60	10,0	13,5	20,0	0,53	37,0
1,80	11,0	15,0	22,0	0,80	27,0
2,00	13,0	19,0	26,0	0,67	39,0
2,20	10,0	15,0	20,0	0,33	60,0
2,40	12,5	15,0	25,0	0,20	125,0
2,60	6,5	8,0	13,0	0,53	24,0
2,80	7,0	11,0	14,0	0,67	21,0
3,00	5,0	10,0	10,0	0,40	25,0
3,20	8,0	11,0	16,0	0,07	240,0
3,40	5,0	5,5	10,0	0,53	19,0
3,60	3,0	7,0	6,0	0,27	22,0
3,80	5,0	7,0	10,0	0,40	25,0
4,00	5,0	8,0	10,0	0,53	19,0
4,20	2,0	6,0	4,0	0,40	10,0
4,40	3,5	6,5	7,0	0,20	35,0
4,60	3,5	5,0	7,0	0,13	52,0
4,80	1,5	2,5	3,0	0,13	22,0
5,00	2,0	3,0	4,0	0,13	30,0
5,20	1,5	2,5	3,0	0,20	15,0
5,40	1,5	3,0	3,0	0,13	22,0
5,60	1,5	2,5	3,0	0,13	22,0
5,80	3,0	4,0	6,0	0,40	15,0
6,00	4,0	7,0	8,0	0,33	24,0
6,20	3,5	6,0	7,0	0,33	21,0
6,40	2,5	5,0	5,0	0,13	37,0
6,60	3,5	4,5	7,0	0,20	35,0
6,80	3,0	4,5	6,0	0,40	15,0
7,00	4,0	7,0	8,0	0,40	20,0
7,20	5,0	8,0	10,0	0,60	17,0
7,40	6,5	11,0	13,0	0,73	18,0
7,60	7,5	13,0	15,0	0,93	16,0
7,80	7,0	14,0	14,0	1,00	14,0
8,00	8,5	16,0	17,0	0,93	18,0
8,20	11,0	18,0	22,0	0,93	24,0
8,40	8,0	15,0	16,0	0,87	18,0
8,60	9,0	15,5	18,0	0,87	21,0
8,80	11,5	18,0	23,0	1,47	16,0
9,00	15,0	26,0	30,0	1,73	17,0
9,20	12,0	25,0	24,0	1,67	14,0
9,40	13,5	26,0	27,0	1,53	18,0
9,60	14,5	26,0	29,0	1,20	24,0
9,80	10,5	19,5	21,0	1,13	19,0
10,00	9,5	18,0	19,0	1,07	18,0
10,20	8,0	16,0	16,0	0,93	17,0
10,40	7,0	14,0	14,0	0,87	16,0
10,60	5,5	12,0	11,0	0,47	24,0
10,80	5,0	8,5	10,0	0,40	25,0
11,00	4,5	7,5	9,0	0,33	27,0
11,20	6,0	8,5	12,0	0,60	20,0
11,40	6,5	11,0	13,0	0,67	19,0
11,60	7,0	12,0	14,0	0,53	26,0
11,80	5,5	9,5	11,0	0,60	18,0
12,00	6,0	10,5	12,0	0,60	20,0
12,20	5,0	9,5	10,0	0,40	25,0
12,40	7,0	10,0	14,0	0,40	35,0
12,60	5,0	8,0	10,0	0,60	17,0
12,80	6,0	10,5	12,0	0,53	22,0
13,00	6,0	10,0	12,0	0,53	22,0
13,20	5,0	9,0	10,0	0,27	37,0
13,40	4,5	6,5	9,0	0,53	17,0
13,60	4,0	8,0	8,0	0,47	17,0
13,80	4,0	7,5	8,0	0,33	24,0
14,00	3,0	5,5	6,0	0,33	18,0
14,20	4,0	6,5	8,0	0,27	30,0
14,40	2,5	4,5	5,0	0,40	12,0
14,60	3,0	6,0	6,0	0,67	9,0
14,80	7,0	12,0	14,0	0,60	23,0
15,00	5,5	10,0	11,0	----	----

- PENETROMETRO STATICO tipo GOUDA da 12 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)

GEOHYDRODATA S.a.s.
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8_car/rep/CPT4

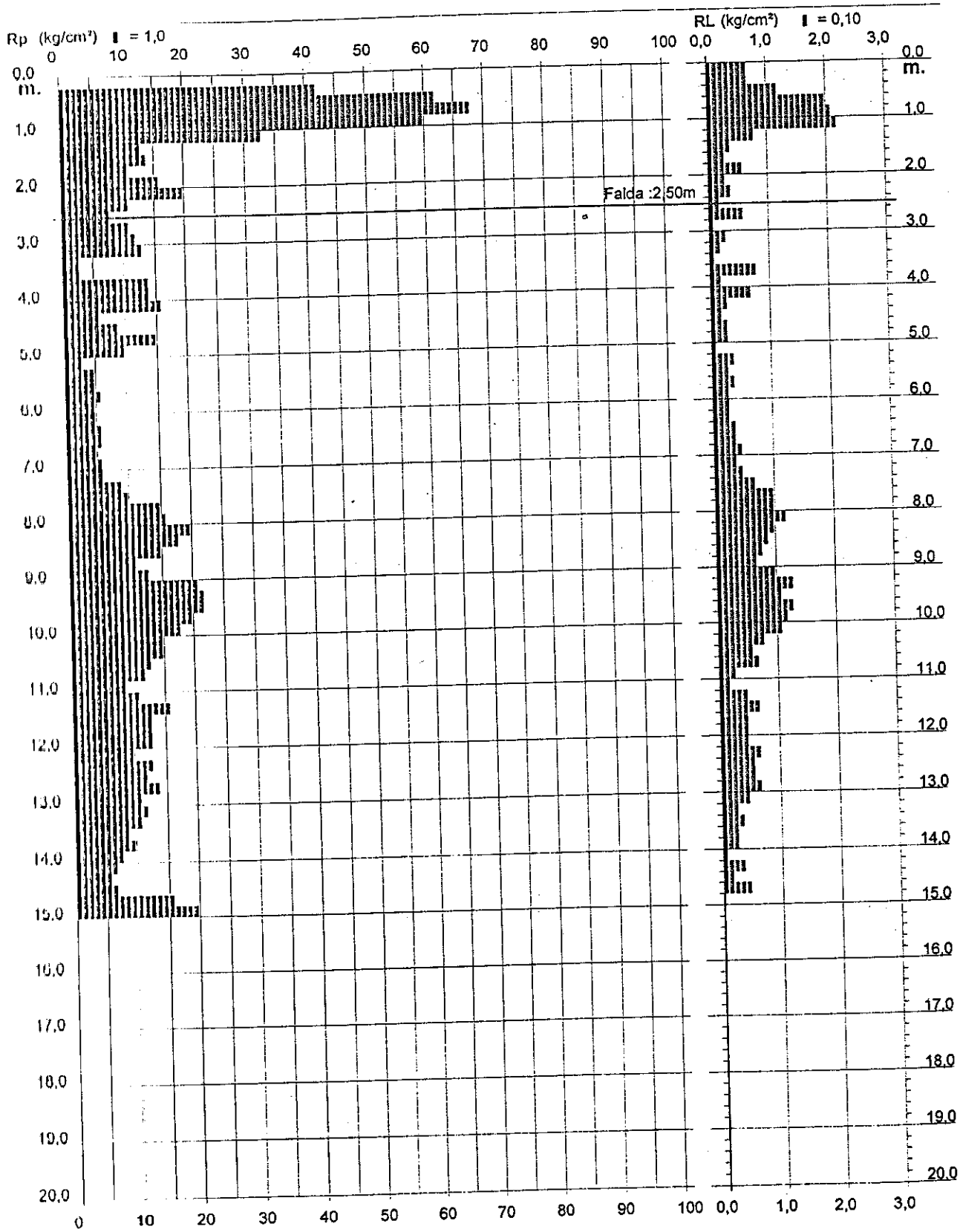
PROVA PENETROMETRICA STATICA
DIAGRAMMA DI RESISTENZA

CPT 4

2.010496-003

- committente : Sigg. RESCA Guerrino - RESCA Franco
- lavoro : Piano Particolareggiato
- località : Castel d'Argile (Bologna) - V. Zambeccari / V. Croce

- data : 30/09/2000
- quota inizio : Piano Campagna
- prof. falda : 2,50 m da quota inizio
- scala vert.: 1 : 100



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sistemi e metodi per investigare il sottosuolo
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8_car/rep/CPT4

PROVA PENETROMETRICA STATICA
LETTURE DI CAMPAGNA / VALORI DI RESISTENZA

CPT 4

2.010496-003

- committente : Sigg. RESCA Guerrino - RESCA Franco
- lavoro : Piano Particolareggiato
- località : Castel d'Argile (Bologna) - V. Zambeccari / V. Croce
- note :

- data : 30/09/2000
- quota inizio : Piano Campagna
- prof. falda : 2,50 m da quota inizio
- pagina : 1

prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -
0,20	----	----	--	0,67	----
0,40	21,0	26,0	42,0	0,67	63,0
0,60	31,0	36,0	62,0	1,20	52,0
0,80	34,0	43,0	68,0	2,00	34,0
1,00	30,0	45,0	60,0	2,07	29,0
1,20	16,5	32,0	33,0	2,20	15,0
1,40	6,5	23,0	13,0	0,80	16,0
1,60	7,0	13,0	14,0	0,40	35,0
1,80	5,5	8,5	11,0	0,33	33,0
2,00	8,0	10,5	16,0	0,60	27,0
2,20	10,0	14,5	20,0	0,27	75,0
2,40	5,5	7,5	11,0	0,40	27,0
2,60	4,0	7,0	8,0	0,20	40,0
2,80	5,5	7,0	11,0	0,60	18,0
3,00	6,0	10,5	12,0	0,13	90,0
3,20	6,5	7,5	13,0	0,27	49,0
3,40	1,5	3,5	3,0	0,20	15,0
3,60	1,5	3,0	3,0	0,07	45,0
3,80	7,0	7,5	14,0	0,80	17,0
4,00	7,0	13,0	14,0	0,20	70,0
4,20	8,0	9,5	16,0	0,73	22,0
4,40	3,0	8,5	6,0	0,33	18,0
4,60	4,5	7,0	9,0	0,20	45,0
4,80	7,5	9,0	15,0	0,27	56,0
5,00	5,0	7,0	10,0	0,27	37,0
5,20	1,5	3,5	3,0	0,13	22,0
5,40	2,5	3,5	5,0	0,40	12,0
5,60	2,5	5,5	5,0	0,27	19,0
5,80	3,0	5,0	6,0	0,40	15,0
6,00	2,5	5,5	5,0	0,33	15,0
6,20	2,5	5,0	5,0	0,27	19,0
6,40	3,0	5,0	6,0	0,33	18,0
6,60	3,0	5,5	6,0	0,40	15,0
6,80	2,5	5,5	5,0	0,40	12,0
7,00	3,0	6,0	6,0	0,47	13,0
7,20	3,0	6,5	6,0	0,40	15,0
7,40	4,5	7,5	9,0	0,53	17,0
7,60	5,0	9,0	10,0	0,67	15,0
7,80	7,5	12,5	15,0	1,00	15,0
8,00	8,0	15,5	16,0	1,00	16,0
8,20	10,0	17,5	20,0	1,20	17,0
8,40	9,0	18,0	18,0	1,00	18,0
8,60	7,5	15,0	15,0	0,87	17,0
8,80	5,5	12,0	11,0	0,80	14,0
9,00	6,5	12,5	13,0	0,67	19,0
9,20	10,5	15,5	21,0	1,00	21,0
9,40	11,0	18,5	22,0	1,33	16,0
9,60	11,0	21,0	22,0	1,13	19,0
9,80	10,0	18,5	20,0	1,33	15,0
10,00	9,0	19,0	18,0	1,20	15,0
10,20	7,5	16,5	15,0	1,07	14,0
10,40	7,5	15,5	15,0	0,80	19,0
10,60	6,5	12,5	13,0	0,60	22,0
10,80	6,0	10,5	12,0	0,67	18,0
11,00	4,5	9,5	9,0	0,33	27,0
11,20	5,5	8,0	11,0	0,20	55,0
11,40	8,0	9,5	16,0	0,47	34,0
11,60	6,5	10,0	13,0	0,73	18,0
11,80	6,5	12,0	13,0	0,53	24,0
12,00	6,5	10,5	13,0	0,53	24,0
12,20	5,0	9,0	10,0	0,53	19,0
12,40	6,5	10,5	13,0	0,67	19,0
12,60	6,0	11,0	12,0	0,60	20,0
12,80	7,0	11,5	14,0	0,60	23,0
13,00	5,5	10,0	11,0	0,67	16,0
13,20	6,0	11,0	12,0	0,53	22,0
13,40	5,5	9,5	11,0	0,27	41,0
13,60	4,5	6,5	9,0	0,40	22,0
13,80	5,0	8,0	10,0	0,33	30,0
14,00	4,0	6,5	8,0	0,27	30,0
14,20	3,5	5,5	7,0	0,13	52,0
14,40	3,0	4,0	6,0	0,40	15,0
14,60	3,5	6,5	7,0	0,20	35,0
14,80	8,0	9,5	16,0	0,47	34,0
15,00	10,0	13,5	20,0	-----	----

- PENETROMETRO STATICO tipo GOUDA da 12 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)

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8_car/rep/CPT5

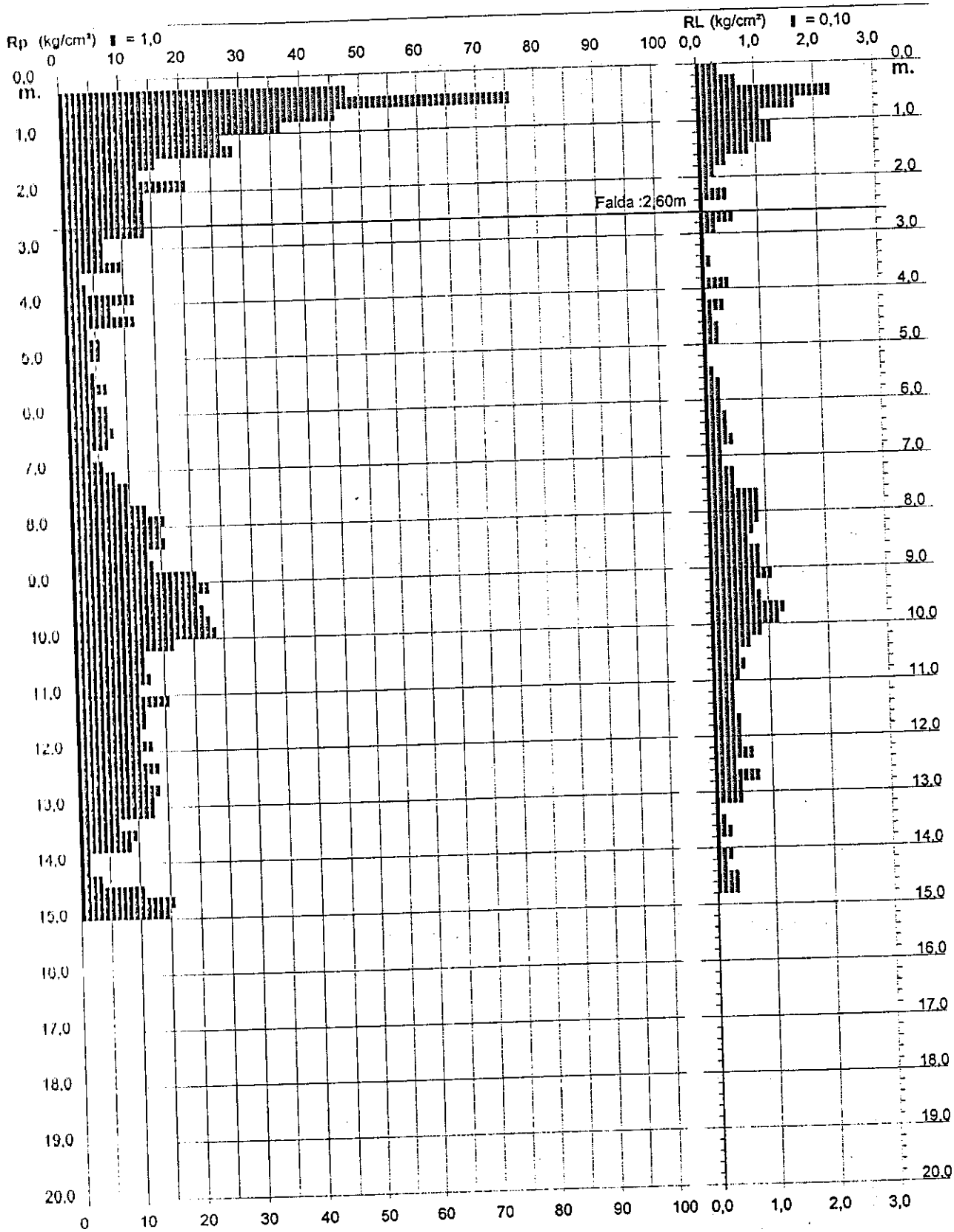
PROVA PENETROMETRICA STATICA
DIAGRAMMA DI RESISTENZA

CPT 5

2.010496-003

- committente : Sigg. RESCA Guerrino - RESCA Franco
- lavoro : Piano Particolareggiato
- località : Castel d'Argile (Bologna) - V. Zambeccari / V. Croce

- data : 30/09/2000
- quota inizio : Piano Campagna
- prof. falda : 2,60 m da quota inizio
- scala vert.: 1 : 100



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PROVA PENETROMETRICA STATICA
LETTURE DI CAMPAGNA / VALORI DI RESISTENZA

CPT 5

2.010496-003

- committente : Sigg. RESCA Guerrino - RESCA Franco
- lavoro : Piano Particolareggiato
- località : Castel d'Argile (Bologna) - V. Zambeccari / V. Croce
- note :

- data : 30/09/2000
- quota inizio : Piano Campagna
- prof. falda : 2,60 m da quota inizio
- pagina : 1

prf m	LP Kg/cm²	LL Kg/cm²	Rp Kg/cm²	RL Kg/cm²	Rp/Rl -
0,20	----	----	--	0,40	----
0,40	24,0	27,0	48,0	0,67	72,0
0,60	38,0	43,0	76,0	2,27	34,0
0,80	23,0	40,0	46,0	1,67	28,0
1,00	18,5	31,0	37,0	1,13	33,0
1,20	13,5	22,0	27,0	1,27	21,0
1,40	14,5	24,0	29,0	1,33	22,0
1,60	8,0	18,0	16,0	0,87	18,0
1,80	6,5	13,0	13,0	0,53	24,0
2,00	10,5	14,5	21,0	0,27	79,0
2,20	7,0	9,0	14,0	0,20	70,0
2,40	7,0	8,5	14,0	0,47	30,0
2,60	7,0	10,5	14,0	0,07	210,0
2,80	7,0	7,5	14,0	0,60	23,0
3,00	3,5	8,0	7,0	0,27	26,0
3,20	3,5	5,5	7,0	0,07	105,0
3,40	5,0	5,5	10,0	0,13	75,0
3,60	1,5	2,5	3,0	0,20	15,0
3,80	2,0	3,5	4,0	0,13	30,0
4,00	6,0	7,0	12,0	0,53	22,0
4,20	4,0	8,0	8,0	0,07	120,0
4,40	6,0	6,5	12,0	0,40	30,0
4,60	2,0	5,0	4,0	0,20	20,0
4,80	3,0	4,5	6,0	0,27	22,0
5,00	3,0	5,0	6,0	0,27	22,0
5,20	2,0	4,0	4,0	0,13	30,0
5,40	2,5	3,5	5,0	0,13	37,0
5,60	3,5	4,5	7,0	0,20	35,0
5,80	2,5	4,0	5,0	0,33	15,0
6,00	3,5	6,0	7,0	0,33	21,0
6,20	3,5	6,0	7,0	0,33	21,0
6,40	4,0	6,5	8,0	0,40	20,0
6,60	3,5	6,5	7,0	0,40	17,0
6,80	2,0	5,0	4,0	0,47	9,0
7,00	3,0	6,5	6,0	0,33	18,0
7,20	4,0	6,5	8,0	0,27	30,0
7,40	5,0	7,0	10,0	0,47	21,0
7,60	5,0	8,5	10,0	0,47	21,0
7,80	6,5	10,0	13,0	0,93	14,0
8,00	8,0	15,0	16,0	0,93	17,0
8,20	7,5	14,5	15,0	0,87	17,0
8,40	8,0	14,5	16,0	0,80	20,0
8,60	6,5	12,5	13,0	0,67	19,0
8,80	7,0	12,0	14,0	0,87	16,0
9,00	10,5	17,0	21,0	0,93	22,0
9,20	11,5	18,5	23,0	1,13	20,0
9,40	10,5	19,0	21,0	0,80	26,0
9,60	11,0	17,0	22,0	0,87	25,0
9,80	11,5	18,0	23,0	1,33	17,0
10,00	12,0	22,0	24,0	1,20	20,0
10,20	8,5	17,5	17,0	0,87	20,0
10,40	6,0	12,5	12,0	0,73	16,0
10,60	6,0	11,5	12,0	0,53	22,0
10,80	6,5	10,5	13,0	0,60	22,0
11,00	5,5	10,0	11,0	0,53	21,0
11,20	8,0	12,0	16,0	0,40	40,0
11,40	6,0	9,0	12,0	0,40	30,0
11,60	6,0	9,0	12,0	0,40	30,0
11,80	5,5	8,5	11,0	0,53	21,0
12,00	6,5	10,5	13,0	0,47	28,0
12,20	5,5	9,0	11,0	0,47	24,0
12,40	7,0	10,5	14,0	0,73	19,0
12,60	6,0	11,5	12,0	0,40	30,0
12,80	7,0	10,0	14,0	0,80	17,0
13,00	6,5	12,5	13,0	0,53	24,0
13,20	6,5	10,5	13,0	0,47	28,0
13,40	3,5	7,0	7,0	0,13	52,0
13,60	5,0	6,0	10,0	0,20	50,0
13,80	4,5	6,0	9,0	0,27	34,0
14,00	1,0	3,0	2,0	0,13	15,0
14,20	1,0	2,0	2,0	0,27	7,0
14,40	2,0	4,0	4,0	0,20	20,0
14,60	5,5	7,0	11,0	0,40	27,0
14,80	8,0	11,0	16,0	0,40	40,0
15,00	7,5	10,5	15,0	----	----

- PENETROMETRO STATICO tipo GOUDA da 12 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)

9_car/rep

Lo Studio scrivente è stato incaricato dall'Amministrazione Comunale di Castel Maggiore di eseguire lo studio geologico propedeutico alla progettazione di interventi di consolidamento del Municipio (figura 1.1), risultato danneggiato dagli eventi sismici del maggio 2012. Lo studio geologico e sismico, impostato ai sensi delle Norme Tecniche per le Costruzioni (NTC 2008), si basa sugli esiti di prove penetrometriche e geofisiche eseguite per questo lavoro. Lo studio è dunque impostato in riferimento alle caratteristiche prestazionali richieste per un manufatto di rilevanza strategica e pubblica quale risulta la sede municipale: tipo di costruzione 2; vita nominale ≥50 anni; classe d'uso IV.

La presente relazione dunque fornisce:

- lo schema geologico ed idrogeologico dell'area interessata dal progetto;
- pericolosità sismica (amplificazione locale; propensione alla liquefazione; cedimenti post-sisma; definizione dei parametri di "azione sismica")
- la caratterizzazione delle unità litotecniche individuate dalle terebrazioni e che costituiscono il "volume significativo" di sottosuolo;
- eventuali prescrizioni

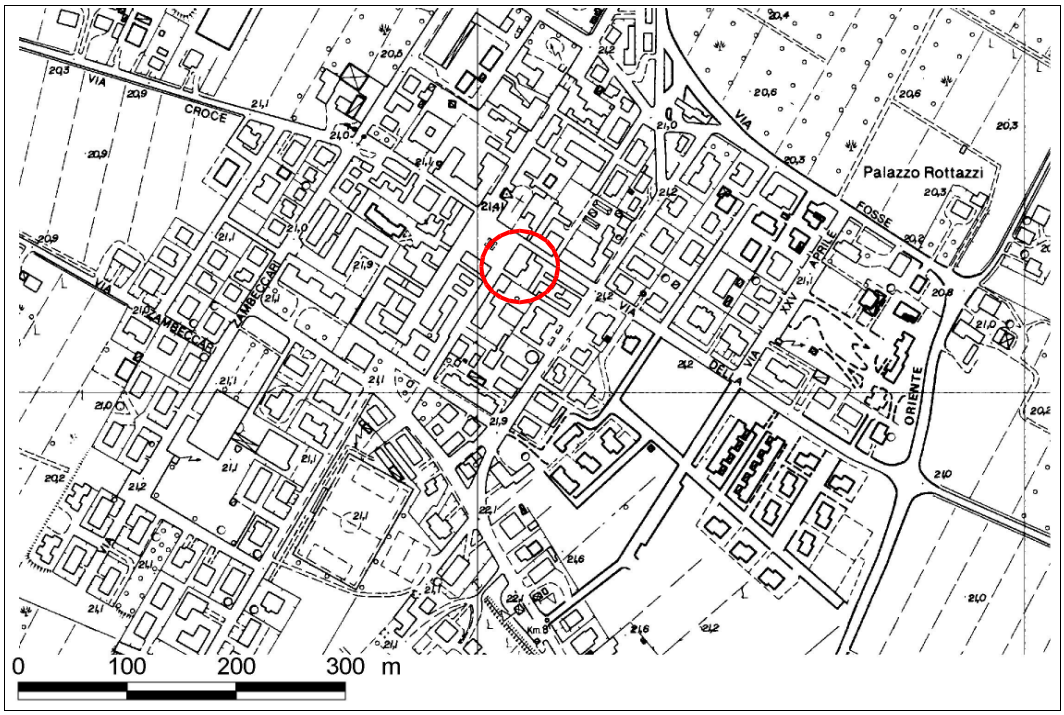

Figura 1.1 – Localizzazione dell'area di studio (stralcio Carta Topografica RER, scala 5.000) cerchiata in rosso

In questo modo, gli esiti delle misure tromografiche, opportunamente calibrati con la stratigrafia direttamente desunta dalle penetrometrie e dai dati di sottosuolo pregressi forniscono un ulteriore e utile supporto alla ricostruzione di sottosuolo ed alla stima della velocità media delle onde di taglio nel volume di sottosuolo investigato; la stima delle frequenze amplificanti del terreno consente anche una preliminare valutazione delle eventuali "doppie risonanze" con le tipologie di manufatti di progetto.

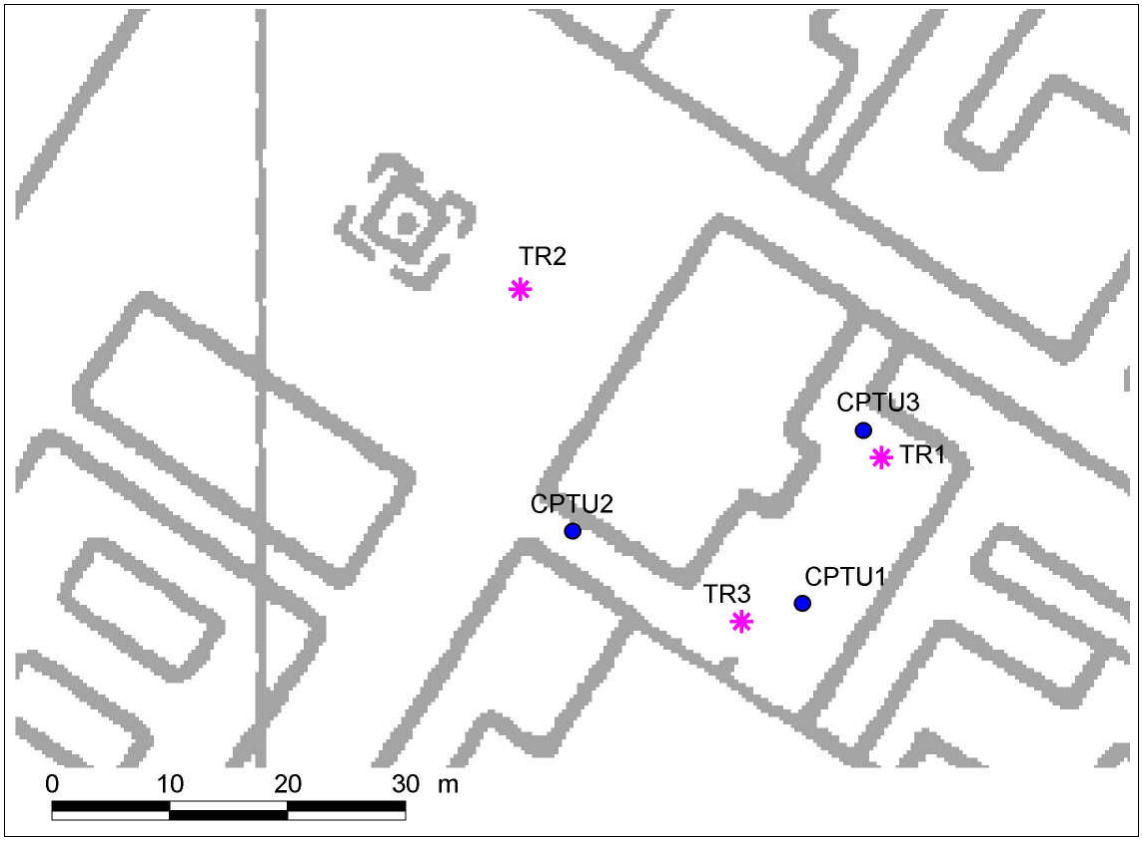

Figura 3.1 – Localizzazione delle prove geognostiche e geofisiche eseguite per questo lavoro (base cartografica: CTR scala 1:5.000)

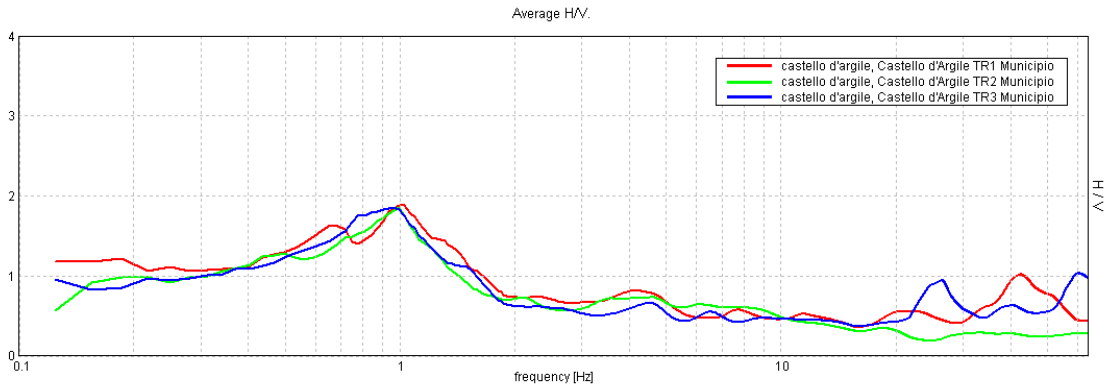

Figura 4.8 – Confronto del rapporto H/V ricavati dalle acquisizioni tromografica TR1, TR2 e TR3

Per quanto detto, le tre tracce H/V ricavate dalle altrettante acquisizioni sono ben correlabili tra loro a dimostrazione della omogenea risposta sismica locale. In particolare, le tracce non rilevano possibilità di amplificazione per un ampio range di frequenze, come peraltro presumibile dal contesto geologico-strutturale profondo (effetti di smorzamento del segnale indotto dal potente spessore della coltre alluvionale). Le misure rilevano possibilità di amplificazione dell'impulso sismico solamente per frequenze molto basse, cioè a frequenze minori di 1 Hz (probabile tetto del “bedrock” sismico locale), tali da indurre effetti di “doppia risonanza” solamente con strutture e manufatti di notevole elevazione (>10÷12 piani).

4.3.3 Parametri sismici di dettaglio (NTC 2008)

Le NTC 2008 adottano un approccio prestazionale alle verifiche di progettazione per le nuove strutture e per quelle esistenti. Per quanto attiene l'”azione sismica”, l'obbiettivo è il controllo del livello di danneggiamento del manufatto a fronte di un sisma che possa verificarsi nell'area di progetto. In questo senso, la pericolosità sismica sito specifica per poter essere adeguata alle NTC vigenti, deve fornire:

- la risposta sismica locale in funzione del contesto stratigrafico del sottosuolo e morfologico;
- i valori di accelerazione orizzontale massima ag e i parametri che definiscono gli spettri di risposta per differenti probabilità di superamento (Pvr) nel periodo di riferimento (Vr), valutati in funzione degli stati limite ultimi (SLV; SLC) e di esercizio (SLO; SLD) dei manufatti e sulla base delle relative caratteristiche prestazionali di progetto. Per quanto detto, l'azione sismica viene calcolata sulla base delle seguenti caratteristiche prestazionali dell'edificio in questione:

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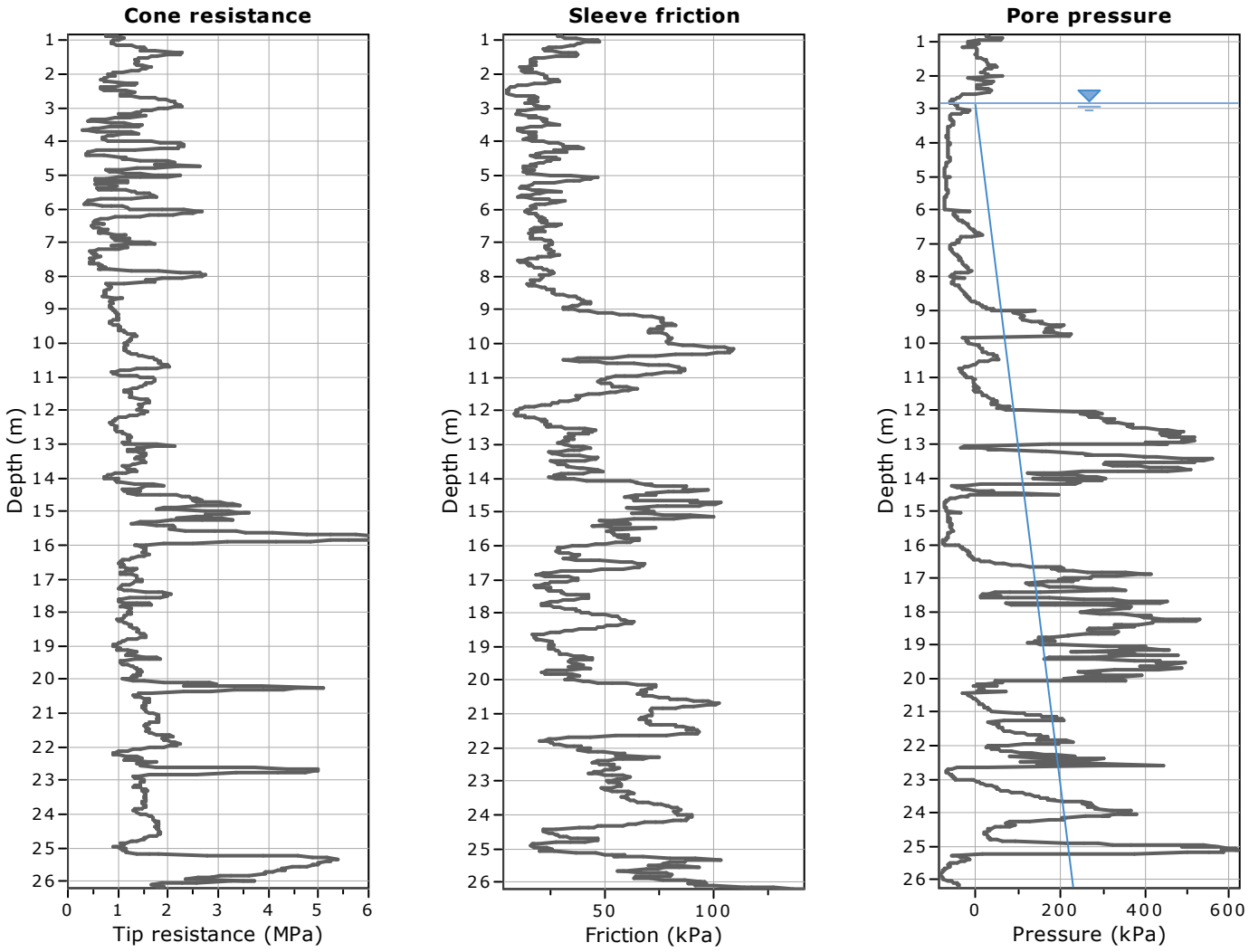
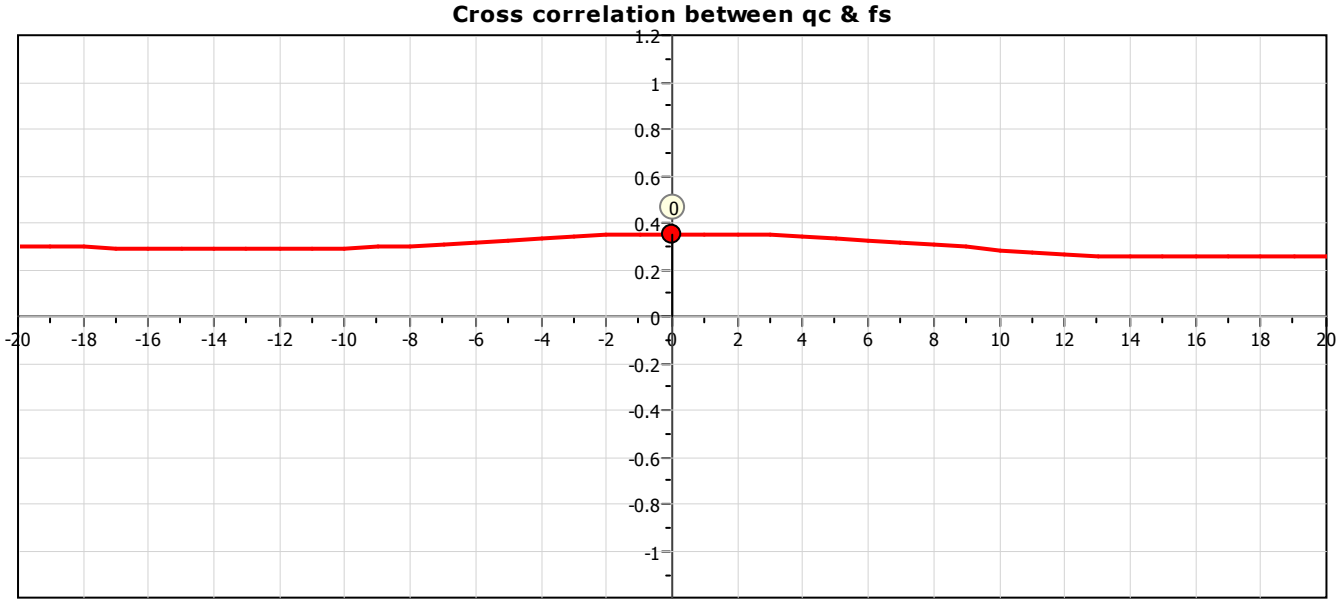
9_car/rep/ CPTU1

CPT: CPTU1
Total depth: 26.20 m, Date:
Geotechnical Engineers
Geotechnical Engineers
Geotechnical Engineers
Geotechnical Engineers

Project:
Location: Geotechnical Engineers



The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).



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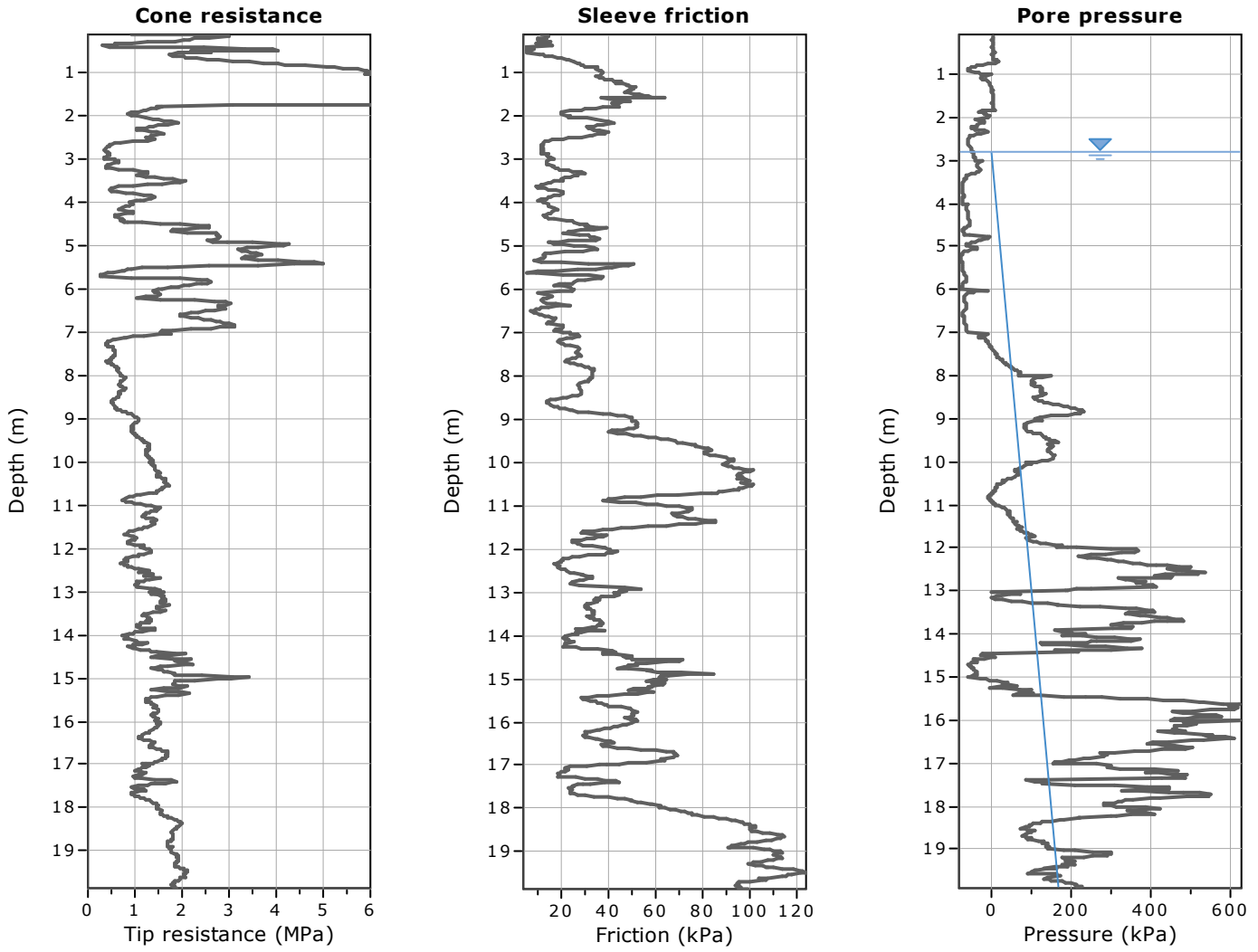
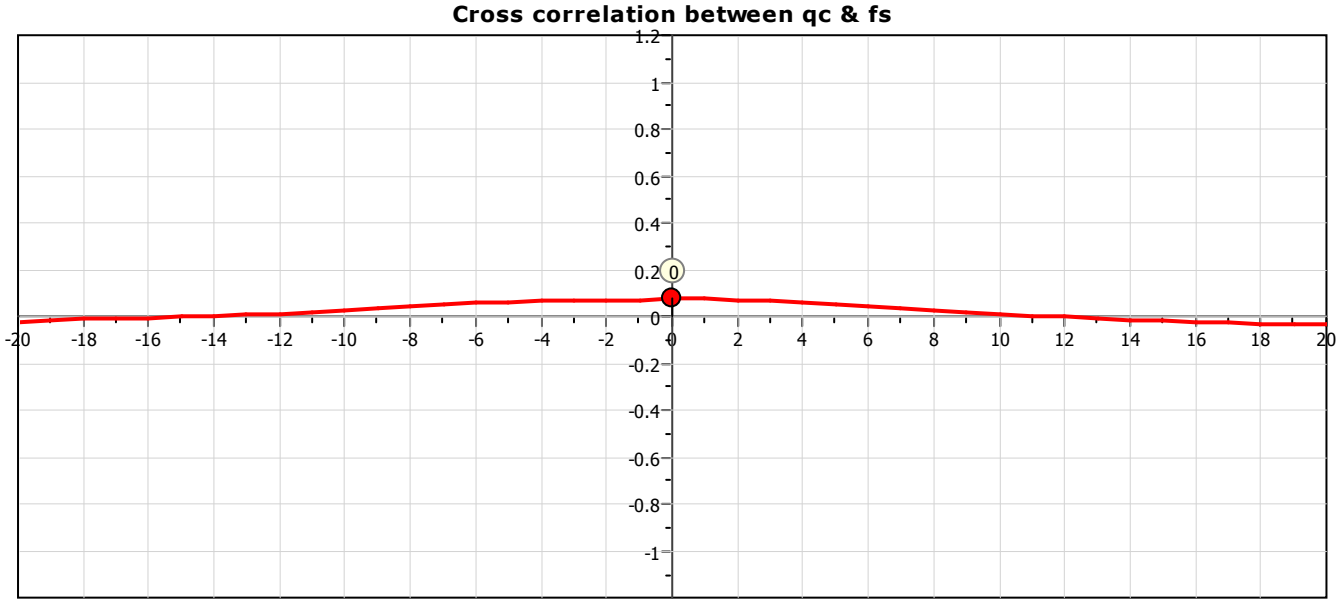
CPT: CPTU2
Total depth: 19.86 m, Date:
Geotechnical Engineers
Geotechnical Engineers
Geotechnical Engineers
Geotechnical Engineers

Project:
Location: Geotechnical Engineers



The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).



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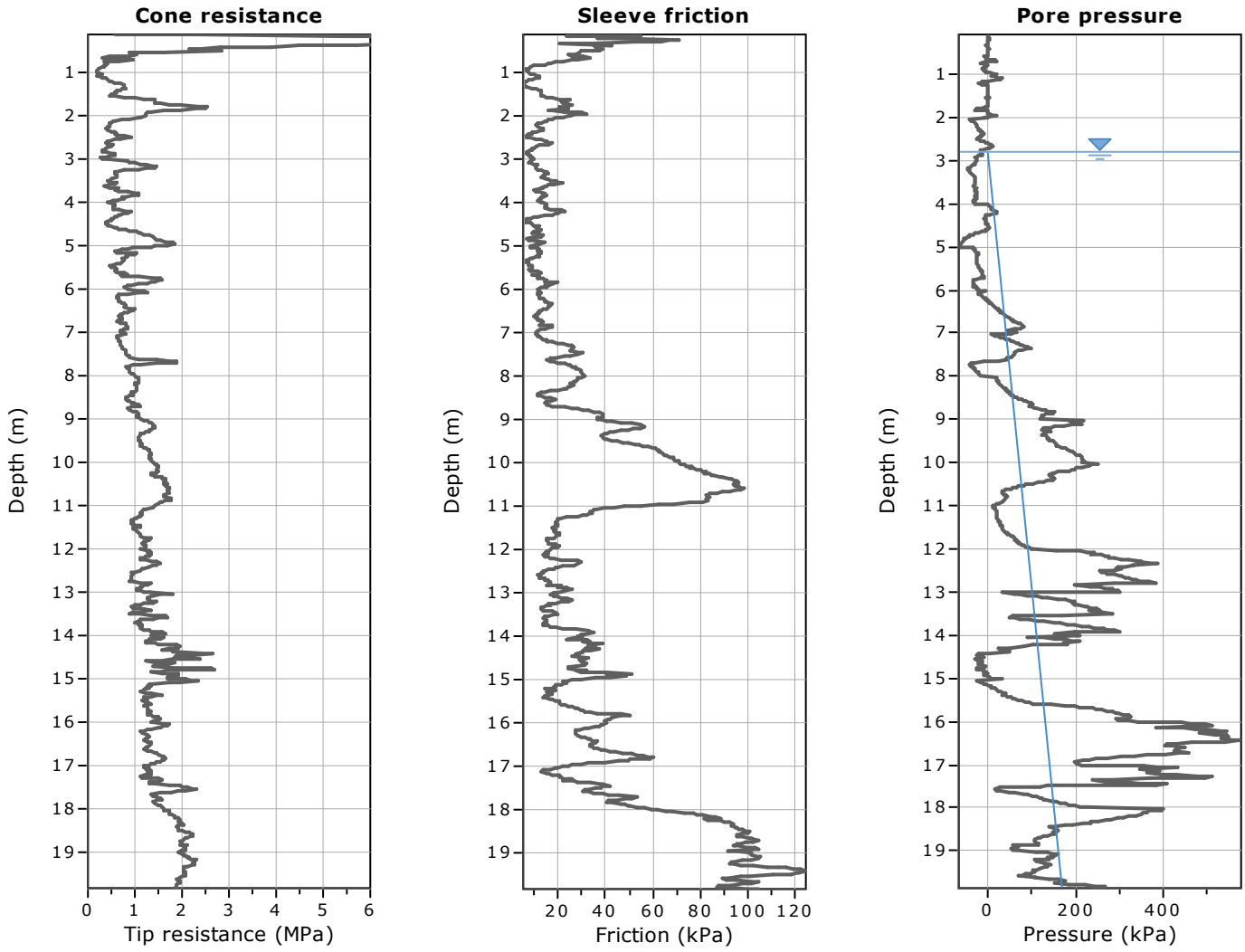
9_car/rep/ CPTU3

CPT: CPTU3
Total depth: 19.82 m, Date:
Geotechnical Engineers
Geotechnical Engineers
Geotechnical Engineers
Geotechnical Engineers

Project:
Location: Geotechnical Engineers



The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).