



PROTEZIONE CIVILE
Presidenza del Consiglio dei Ministri
Dipartimento della Protezione Civile



CONFERENZA DELLE REGIONI E
DELLE PROVINCE AUTONOME

Attuazione dell'articolo 11 della legge 24 giugno 2009, n.77

MICROZONAZIONE SISMICA

Livello 3

Regione Emilia-Romagna
Comune di Sala Bolognese



Relazione Illustrativa – Allegato 2

Rapporti di Prova

Regione	Soggetto realizzatore	Data
Emilia-Romagna	Geotema S.r.l.	30/03/2017

INDAGINI PENETROMETRICHE



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA

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P IVA e Codice Fiscale n. 00174600387

Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121

CANTIERE: Via Bizzarri, Osteria Nuova - Z.I. Stelloni

PROVA N°: CPTU 1 PROF. FALDA (m da p.c.): 3.10

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: 21/04/16

PREFORO (m da p.c.):

LAT. (WGS 84): 44.584645°

LONG. (WGS 84): 11.250716°

COMMESSA: 15289/16

C. SITO N°: S160215 del 02/05/2016 OPERATORE: L. Zanirato

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.02	2.70	6.95	4.73	0.88	2.02	0.87	51.30	0.97	1.22	4.02	0.85	19.81	122.26	0.73	6.02	0.85	14.41	264.71	0.98	8.02	0.66	7.39	264.71	1.63
0.04	2.69	5.84	3.91	0.82	2.04	0.90	50.97	0.16	1.24	4.04	0.75	16.80	122.26	0.68	6.04	0.86	15.96	262.27	0.95	8.04	0.70	9.61	267.97	1.62
0.06	2.89	6.40	8.79	0.86	2.06	0.90	49.74	0.65	1.21	4.06	0.58	23.46	120.63	0.75	6.06	0.83	16.07	259.83	0.97	8.06	0.72	10.06	269.59	1.64
0.08	3.36	7.62	7.17	1.20	2.08	0.93	46.86	0.16	1.24	4.08	0.47	31.69	119.01	0.73	6.08	0.78	17.41	261.45	0.99	8.08	0.68	10.72	271.22	1.62
0.10	3.51	10.84	5.54	0.61	2.10	0.95	35.33	0.16	1.20	4.10	0.40	37.24	118.19	0.66	6.10	0.78	19.19	259.01	1.00	8.10	0.69	12.06	272.03	1.62
0.12	3.91	26.95	4.73	0.78	2.12	1.09	34.11	0.65	1.21	4.12	0.38	39.46	119.01	0.69	6.12	0.78	20.52	256.57	1.04	8.12	0.72	11.28	274.48	1.66
0.14	4.38	28.84	6.35	1.31	2.14	1.09	33.99	0.65	1.24	4.14	0.38	37.57	119.82	0.61	6.14	0.64	19.85	254.94	1.03	8.14	0.70	8.94	278.55	1.69
0.16	6.80	37.07	0.97	1.37	2.16	1.17	34.44	1.47	1.16	4.16	0.42	32.24	119.01	0.62	6.16	0.58	20.52	232.97	1.02	8.16	0.69	7.39	281.81	1.67
0.18	5.40	19.19	7.17	2.38	2.18	1.21	35.33	1.47	1.16	4.18	0.54	27.12	120.63	0.68	6.18	0.57	22.18	224.83	1.02	8.18	0.67	6.83	281.81	1.72
0.20	3.24	2.64	8.79	1.32	2.20	1.23	35.11	1.47	1.24	4.20	0.65	24.24	122.26	0.62	6.20	0.50	23.74	224.83	1.03	8.20	0.66	7.94	278.55	1.67
0.22	2.54	17.99	8.79	1.63	2.22	1.27	37.00	0.16	1.22	4.22	0.76	22.12	123.89	0.61	6.22	0.49	23.74	228.08	1.02	8.22	0.62	8.94	276.92	1.69
0.24	2.22	26.72	16.93	1.21	2.24	1.31	38.34	0.16	1.19	4.24	0.94	19.90	124.70	0.59	6.24	0.52	23.29	232.97	1.05	8.24	0.58	10.72	276.11	1.69
0.26	2.07	36.83	21.01	1.36	2.26	1.30	40.11	0.65	1.23	4.26	1.10	19.90	126.33	0.61	6.26	0.61	19.62	245.99	1.06	8.26	0.52	12.61	272.85	1.73
0.28	2.14	31.95	21.01	1.54	2.28	1.27	41.00	0.65	1.13	4.28	1.25	21.79	128.77	0.60	6.28	0.79	15.73	261.45	1.11	8.28	0.49	14.50	272.03	1.72
0.30	2.10	24.51	21.82	1.55	2.30	1.29	44.00	0.65	1.22	4.30	1.30	23.34	131.21	0.61	6.30	0.98	14.29	266.34	1.12	8.30	0.55	13.61	272.85	1.72
0.32	2.20	24.95	22.63	1.51	2.32	1.24	46.23	0.65	1.16	4.32	1.30	24.79	130.40	0.60	6.32	1.03	15.95	267.15	1.07	8.32	0.56	10.83	274.48	1.74
0.34	2.15	36.20	23.45	1.55	2.34	1.27	47.67	0.65	1.17	4.34	1.29	23.79	130.40	0.56	6.34	1.02	15.95	269.59	1.09	8.34	0.78	8.39	270.41	1.77
0.36	2.04	36.65	21.01	1.65	2.36	1.19	48.56	0.16	1.18	4.36	1.21	24.01	130.40	0.61	6.36	1.02	18.84	267.97	1.11	8.36	0.75	9.39	269.59	1.77
0.38	2.07	46.99	19.37	1.60	2.38	1.17	49.34	1.79	1.17	4.38	1.07	21.56	129.59	0.56	6.38	1.01	23.95	268.78	1.11	8.38	0.72	10.39	267.15	1.76
0.40	1.93	61.33	22.63	1.66	2.40	1.13	47.89	0.97	1.16	4.40	1.04	21.12	128.77	0.61	6.40	0.96	27.06	267.97	1.09	8.40	0.62	11.06	267.15	1.81
0.42	1.79	61.45	23.45	1.69	2.42	1.12	46.67	3.41	1.09	4.42	0.91	19.78	127.96	0.58	6.42	1.01	28.50	269.59	1.08	8.42	0.55	9.83	263.08	1.80
0.44	1.65	62.57	23.45	1.48	2.44	1.12	45.67	1.79	1.08	4.44	0.96	19.45	128.77	0.56	6.44	1.03	32.84	268.78	1.10	8.44	0.51	8.72	263.08	1.81
0.46	1.77	68.91	21.82	1.51	2.46	1.13	45.23	4.23	1.06	4.46	1.04	19.12	130.40	0.53	6.46	1.08	34.94	272.03	1.13	8.46	0.47	9.61	263.08	1.82
0.48	1.80	67.47	22.63	1.76	2.48	1.15	45.00	3.41	1.12	4.48	0.96	20.11	131.21	0.56	6.48	1.13	36.83	272.85	1.11	8.48	0.50	10.61	263.08	1.82
0.50	1.70	60.04	21.82	1.53	2.50	1.12	43.22	4.23	1.04	4.50	0.83	18.56	129.59	0.56	6.50	1.09	37.72	260.64	1.10	8.50	0.50	11.05	263.08	1.83
0.52	1.79	57.04	25.07	1.54	2.52	1.03	41.56	3.41	1.09	4.52	0.75	16.23	128.77	0.57	6.52	0.97	39.06	255.75	1.14	8.52	0.57	13.50	266.34	1.84
0.54	1.84	57.71	23.45	1.56	2.54	1.05	40.56	5.05	1.14	4.54	0.72	14.23	132.03	0.52	6.54	0.91	39.50	252.50	1.13	8.54	0.73	13.50	269.59	1.84
0.56	1.17	49.83	21.82	1.71	2.56	1.05	40.22	1.79	1.12	4.56	0.75	13.89	135.29	0.62	6.56	0.87	39.61	254.13	1.12	8.56	0.84	14.50	272.85	1.82
0.58	1.11	42.17	21.01	1.69	2.58	1.03	40.56	5.05	1.07	4.58	0.67	13.65	135.29	0.20	6.58	0.83	34.93	254.13	1.06	8.58	0.80	15.94	268.78	1.84
0.60	1.09	43.96	21.01	1.81	2.60	1.05	40.00	5.86	1.05	4.60	0.72	13.89	136.91	0.60	6.60	0.82	32.16	249.25	1.14	8.60	0.72	15.50	266.34	1.84
0.62	1.56	54.07	21.01	1.65	2.62	1.05	39.11	7.49	1.09	4.62	0.70	13.56	139.35	0.61	6.62	0.80	29.60	247.61	1.15	8.62	0.79	15.50	267.97	1.86
0.64	1.14	55.41	23.45	1.52	2.64	1.04	38.44	7.49	1.05	4.64	0.68	11.66	141.79	0.54	6.64	0.81	27.04	247.61	1.15	8.64	0.89	14.83	271.22	1.86
0.66	2.38	74.09	21.82	1.62	2.66	1.05	37.44	5.86	1.05	4.66	0.65	10.77	145.87	0.58	6.66	0.73	26.71	246.80	1.14	8.66	0.96	14.83	256.57	1.87
0.68	2.84	61.20	15.31	1.60	2.68	1.04	37.22	5.86	0.99	4.68	0.66	8.33	161.33	0.58	6.68	0.70	25.82	246.80	1.15	8.68	0.93	15.50	224.01	1.86
0.70	1.80	57.65	17.75	1.67	2.70	1.05	38.22	8.30	1.07	4.70	0.70	6.33	183.31	0.57	6.70	0.70	25.15	245.99	1.17	8.70	0.84	14.50	197.96	1.88
0.72	1.42	70.99	18.56	1.60	2.72	1.01	39.11	7.49	1.04	4.72	0.69	7.66	184.13	0.61	6.72	0.65	24.49	245.17	1.18	8.72	0.69	14.50	197.96	1.91
0.74	1.50	77.77	17.75	1.47	2.74	1.04	39.56	9.11	1.03	4.74	0.63	8.88	184.94	0.61	6.74	0.61	24.71	245.17	1.19	8.74	0.61	12.94	175.99	1.92
0.76	1.58	84.56	16.93	1.33	2.76	1.03	40.33	9.93	1.01	4.76	0.65	8.88	185.75	0.59	6.76	0.61	23.71	246.80	1.21	8.76	0.60	12.05	178.43	1.92
0.78	1.46	86.56	21.01	1.44	2.78	1.04	39.56	11.55	1.04	4.78	0.63	6.55	196.33	0.61	6.78	0.62	23.37	246.80	1.19	8.78	0.68	11.16	179.24	1.93
0.80	1.39	83.01	21.01	1.47	2.80	1.07	38.89	12.37	1.02	4.80	0.69	6.77	203.66	0.59	6.80	0.63	21.71	245.17	1.22	8.80	0.75	8.38	182.49	1.95
0.82	1.34	64.68	23.45	1.47	2.82	1.06	38.33	11.55	1.01	4.82	0.74	7.99	204.47	0.61	6.82	0.66	22.26	246.80	1.21	8.82	0.87	8.38	184.94	1.93
0.84	1.28	79.02	21.01	1.42	2.84	1.05	38.44	10.74	0.91	4.84	0.80	10.11	205.29	0.60	6.84	0.67	19.93	249.25	1.22	8.84	0.92	9.16	184.94	1.95
0.86	1.20	69.91	21.82	1.51	2.86	1.05	40.33	12.37	1.00	4.86	0.79	9.44	206.10	0.63	6.86	0.65	17.48	247.61	1.22	8.86	0.95	11.16	186.57	1.96
0.88	1.12	67.69	21.82	1.51	2.88	1.05	41.56	11.55	1.00	4.88	0.82	6.33	207.73	0.64	6.88	0.62	17.26	247.61	1.24	8.88	1.09	12.94	183.31	1.97
0.90	1.05	68.03	21.82	1.44	2.90	0.98	40.67	10.74	0.88	4.90	0.92	8.33	210.99	0.64	6.90	0.61	15.14	251.69	1.26	8.90	1.08	14.38	39.23	1.97
0.92	1.03	68.37	21.82	1.46	2.92	0.88	42.78	10.74	0.89	4.92	0.98	8.33	217.50	0.62	6.92	0.60	10.82	252.50	1.26	8.92	0.86	14.83	39.23	1.98
0.94	1.01	68.71	21.82	1.																				



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COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Bizzarri, Osteria Nuova - Z.I. Stelloni**

PROVA N°: **CPTU 1** PROF. FALDA (m da p.c.): **3.10**

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: **21/04/16** PREFORO (m da p.c.):

LAT. (WGS 84): **44.584645°** LONG. (WGS 84): **11.250716°**

COMMESSA: **15289/16**

C. SITO N°: **S160215** del 02/05/2016 OPERATORE: **L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.02	2.15	15.15	162.15	2.44	12.02	0.54	12.27	189.82	3.40	14.02	0.64	14.95	224.01	4.32	16.02	0.81	19.30	259.83	5.09	18.02	0.85	17.52	366.46	5.86
10.04	1.97	14.48	159.71	2.45	12.04	0.54	12.50	191.45	3.40	14.04	0.63	15.40	224.83	4.32	16.04	0.81	20.85	263.89	5.10	18.04	0.83	17.41	364.02	5.86
10.06	1.78	14.04	156.45	2.45	12.06	0.57	11.72	192.27	3.43	14.06	0.67	16.18	225.64	4.33	16.06	0.81	21.07	262.27	5.11	18.06	0.81	17.19	363.21	5.87
10.08	1.50	14.26	149.93	2.46	12.08	0.54	10.83	191.45	3.45	14.08	0.67	16.73	225.64	4.32	16.08	0.74	19.74	259.83	5.11	18.08	0.80	16.30	361.57	5.88
10.10	1.28	15.59	145.87	2.48	12.10	0.55	11.72	188.19	3.41	14.10	0.66	16.40	227.27	4.34	16.10	0.76	22.08	367.27	5.13	18.10	0.80	15.96	362.39	5.89
10.12	1.15	16.26	140.98	2.51	12.12	0.54	11.94	189.01	3.43	14.12	0.61	14.95	225.64	4.32	16.12	0.73	25.41	364.02	5.14	18.12	0.81	16.85	360.76	5.90
10.14	1.21	16.93	144.24	2.50	12.14	0.56	10.83	191.45	3.45	14.14	0.56	13.51	224.01	4.31	16.14	0.70	25.85	357.51	5.15	18.14	0.83	18.52	357.51	5.91
10.16	1.30	16.04	147.49	2.50	12.16	0.56	10.05	189.82	3.48	14.16	0.75	20.85	250.06	4.38	16.16	0.65	26.19	339.60	5.15	18.16	0.80	19.74	359.13	5.92
10.18	1.26	13.81	147.49	2.49	12.18	0.54	9.94	190.63	3.49	14.18	0.85	18.74	253.31	4.36	16.18	0.63	26.08	337.15	5.17	18.18	0.82	19.97	359.13	5.91
10.20	1.18	14.37	146.68	2.51	12.20	0.57	9.94	189.82	3.49	14.20	0.81	20.07	247.61	4.35	16.20	0.68	24.08	339.60	5.17	18.20	0.79	19.75	378.67	5.95
10.22	1.14	11.81	146.68	2.53	12.22	0.61	10.39	246.80	3.50	14.22	0.82	19.62	250.87	4.34	16.22	0.69	22.97	340.41	5.18	18.22	0.86	20.31	377.85	5.94
10.24	1.16	10.04	146.68	2.51	12.24	0.61	10.72	245.17	3.53	14.24	0.88	19.40	253.31	4.39	16.24	0.74	23.97	345.29	5.20	18.24	0.80	20.31	376.23	5.94
10.26	1.37	13.48	154.82	2.57	12.26	0.57	12.06	244.36	3.53	14.26	0.91	20.07	254.13	4.38	16.26	0.74	25.19	342.04	5.21	18.26	0.83	19.97	374.60	5.98
10.28	1.42	16.25	154.01	2.54	12.28	0.56	12.61	241.92	3.55	14.28	0.92	20.29	254.13	4.38	16.28	0.68	25.97	342.04	5.21	18.28	0.82	20.53	374.60	5.98
10.30	1.53	18.15	156.45	2.57	12.30	0.56	12.28	239.47	3.58	14.30	0.94	19.84	255.75	4.38	16.30	0.67	25.85	335.53	5.19	18.30	0.82	19.86	372.97	5.98
10.32	1.61	20.93	158.07	2.56	12.32	0.54	12.61	239.47	3.59	14.32	0.96	21.51	255.75	4.39	16.32	0.65	25.41	333.09	5.20	18.32	0.82	18.53	373.79	5.96
10.34	1.54	23.36	154.01	2.59	12.34	0.59	14.39	239.47	3.59	14.34	0.98	23.40	257.99	4.39	16.34	0.62	24.30	329.01	5.22	18.34	0.82	17.86	373.79	5.98
10.36	1.31	22.92	148.31	2.59	12.36	0.63	14.50	240.29	3.63	14.36	1.02	24.18	254.94	4.37	16.36	0.62	23.63	332.27	5.22	18.36	0.83	19.08	374.60	6.01
10.38	0.89	20.59	137.73	2.59	12.38	0.63	14.17	241.11	3.63	14.38	0.96	26.40	252.50	4.43	16.38	0.62	22.07	329.83	5.22	18.38	0.85	19.20	375.41	6.00
10.40	0.75	14.48	133.65	2.61	12.40	0.59	14.17	238.66	3.64	14.40	0.99	26.40	253.31	4.39	16.40	0.68	20.08	333.09	5.24	18.40	0.85	19.97	376.23	6.01
10.42	0.67	13.70	132.03	2.62	12.42	0.59	12.61	236.22	3.64	14.42	0.97	25.73	252.50	4.42	16.42	0.70	19.74	335.53	5.27	18.42	0.82	20.97	373.79	6.01
10.44	0.56	8.25	132.03	2.64	12.44	0.57	10.61	237.03	3.67	14.44	0.99	24.73	254.94	4.41	16.44	0.70	19.08	333.09	5.23	18.44	0.80	21.64	373.79	6.02
10.46	0.53	7.14	133.65	2.63	12.46	0.59	8.84	237.03	3.67	14.46	1.02	24.28	253.31	4.43	16.46	0.68	18.19	333.09	5.25	18.46	0.77	22.31	371.35	6.03
10.48	0.51	5.25	135.29	2.63	12.48	0.63	8.84	237.03	3.69	14.48	1.02	24.50	254.94	4.44	16.48	0.65	16.97	330.65	5.24	18.48	0.77	22.08	370.53	6.04
10.50	0.54	5.25	136.10	2.67	12.50	0.64	8.95	236.22	3.70	14.50	1.02	22.72	256.57	4.45	16.50	0.62	15.08	329.01	5.28	18.50	0.75	21.08	371.35	6.06
10.52	0.68	7.48	142.61	2.66	12.52	0.64	10.50	235.41	3.73	14.52	1.02	24.72	255.75	4.46	16.52	0.65	14.08	331.46	5.29	18.52	0.74	20.08	368.90	6.06
10.54	1.03	7.92	149.93	2.65	12.54	0.66	12.06	236.22	3.72	14.54	0.98	29.06	254.13	4.46	16.54	0.68	13.63	334.71	5.29	18.54	0.77	19.87	368.09	6.07
10.56	1.27	7.14	155.63	2.68	12.56	0.68	14.06	235.41	3.73	14.56	0.97	28.61	253.31	4.47	16.56	0.68	13.08	335.53	5.31	18.56	0.76	20.31	368.09	6.07
10.58	1.38	10.14	158.89	2.70	12.58	0.67	14.72	234.59	3.74	14.58	0.97	27.39	251.69	4.48	16.58	0.67	12.30	335.53	5.32	18.58	0.74	19.31	368.09	6.10
10.60	1.30	10.70	156.45	2.73	12.60	0.67	16.06	234.59	3.77	14.60	0.97	25.94	250.87	4.48	16.60	0.63	12.97	332.27	5.30	18.60	0.74	18.87	370.53	6.10
10.62	1.21	12.48	153.19	2.71	12.62	0.67	18.06	231.33	3.76	14.62	0.91	25.72	249.25	4.49	16.62	0.63	13.85	330.65	5.31	18.62	0.77	19.09	372.16	6.11
10.64	1.26	15.48	151.57	2.73	12.64	0.68	19.39	228.89	3.78	14.64	0.85	24.94	245.17	4.51	16.64	0.62	14.41	333.90	5.31	18.64	0.80	18.20	377.04	6.12
10.66	1.31	16.25	154.82	2.71	12.66	0.66	21.83	227.27	3.79	14.66	0.79	24.83	241.92	4.51	16.66	0.62	14.30	333.90	5.34	18.66	0.83	17.98	378.67	6.12
10.68	1.32	17.59	153.19	2.73	12.68	0.62	23.28	227.27	3.83	14.68	0.78	23.38	244.36	4.51	16.68	0.69	14.19	337.97	5.35	18.68	0.90	18.09	391.69	6.13
10.70	1.39	17.14	153.19	2.73	12.70	0.58	22.83	224.83	3.80	14.70	0.87	21.16	245.17	4.52	16.70	0.73	14.75	339.60	5.34	18.70	0.97	18.64	401.46	6.15
10.72	1.39	16.81	155.63	2.74	12.72	0.62	23.61	222.38	3.84	14.72	0.86	19.71	246.80	4.51	16.72	0.73	15.97	339.60	5.38	18.72	1.04	18.64	410.41	6.16
10.74	1.42	18.48	156.45	2.74	12.74	0.61	23.50	222.38	3.83	14.74	0.79	19.71	245.99	4.52	16.74	0.75	16.86	341.23	5.35	18.74	1.10	18.75	417.74	6.15
10.76	1.51	20.48	156.45	2.75	12.76	0.57	21.61	222.38	3.86	14.76	0.74	18.83	243.55	4.54	16.76	0.81	18.86	341.23	5.37	18.76	1.12	20.31	424.25	6.17
10.78	1.51	18.59	158.07	2.77	12.78	0.58	20.39	220.75	3.85	14.78	0.70	18.16	242.73	4.56	16.78	0.83	19.64	342.85	5.37	18.78	1.05	21.53	428.33	6.16
10.80	1.43	16.92	154.82	2.77	12.80	0.54	18.61	216.69	3.88	14.80	0.68	18.04	239.47	4.58	16.80	0.81	20.30	343.67	5.39	18.80	1.03	23.31	431.58	6.18
10.82	1.42	16.14	155.63	2.78	12.82	0.57	17.28	219.13	3.90	14.82	0.63	19.60	237.03	4.56	16.82	0.80	21.19	342.04	5.39	18.82	0.99	25.03	435.65	6.21
10.84	1.62	18.81	160.52	2.78	12.84	0.56	16.16	217.50	3.90	14.84	0.61	21.27	237.03	4.59	16.84	0.76	22.08	338.79	5.40	18.84	1.04	29.09	460.89	6.21
10.86	1.85	18.81	167.85	2.80	12.86	0.58	14.72	219.94	3.90	14.86	0.63	20.94	240.29	4.59	16.86	0.75	21.75	337.97	5.41	18.86	1.18	28.64	477.98	6.22
10.88	1.84	22.03	167.85	2.81	12.88	0.57	14.39	215.87	3.91	14.88	0.63	20.38	241.92	4.61	16.88	0.75	21.53	335.53	5.42	18.88	1.22	26.64	492.63	6.24
10.90	1.61	22.81	162.96	2.81	12.90	0.52	12.39	215.05	3.93	14.90	0.61	19.60	240.29	4.62	16.90	0.83	20.42	342.04						

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Via Bizzarri, Osteria Nuova - Z.I. Stelloni

PROVA N°: CPTU 1

PROF. FALDA (m da p.c.): 3.10

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: 21/04/16

PREFORO (m da p.c.):

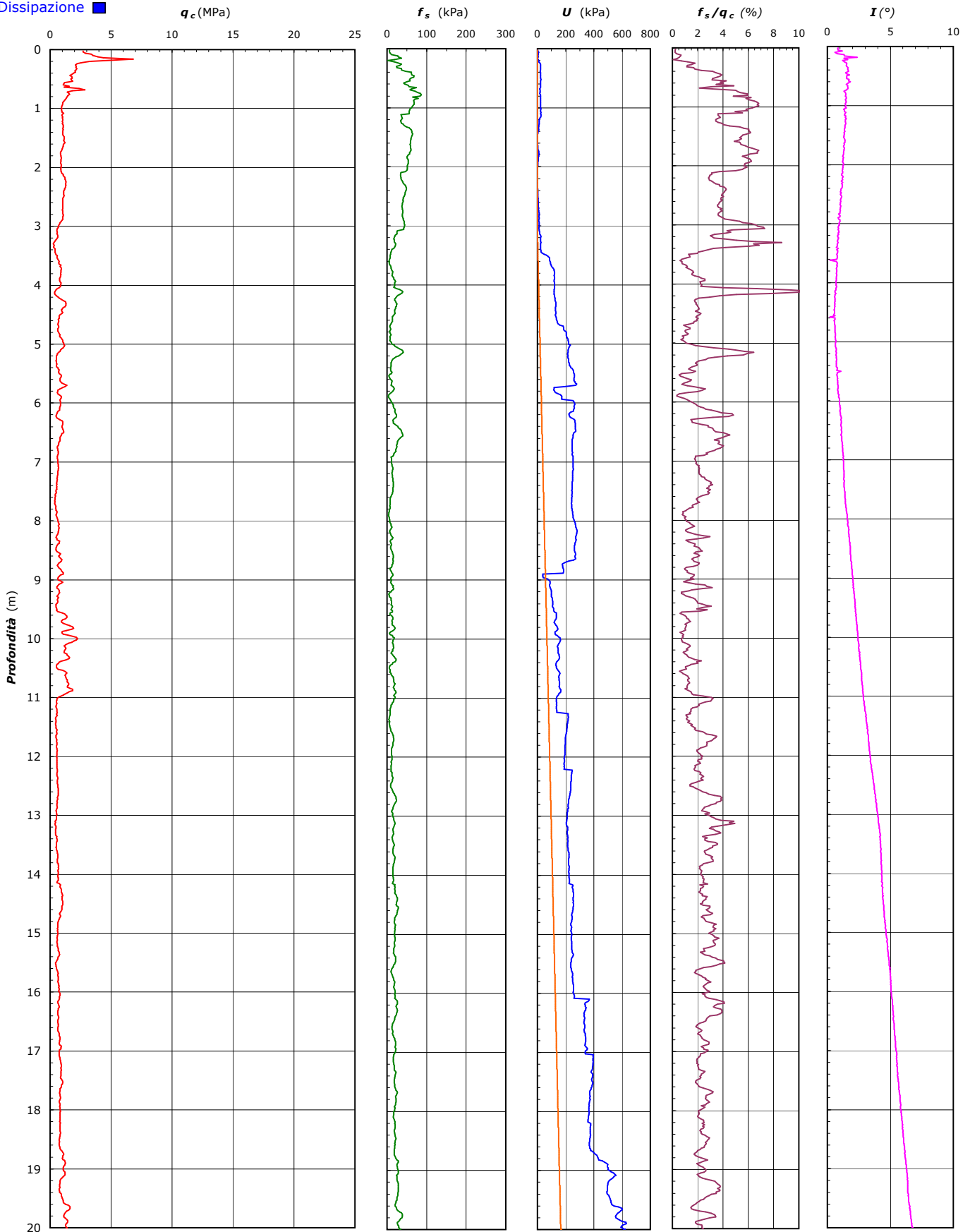
LAT. (WGS 84): 44.584645°

LONG. (WGS 84): 11.250716°

COMMESSA: 15289/16

C. SITO N°: S160215 del 02/05/2016 OPERATORE: L. Zanirato

Dissipazione ■



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**CANTIERE: Via Bizzarri, Osteria Nuova - Z.I. Stelloni**

PROVA N°: CPTU 1 PROF. FALDA (m da p.c.): 3.10 PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
DATA: 21/04/16 PREFORO (m da p.c.): LAT. (WGS 84): 44.584645° LONG. (WGS 84): 11.250716°
COMMESSA: 15289/16 C. SITO N°: S160215 del 02/05/2016 OPERATORE: L. Zanirato

UBICAZIONE

Località: Via Bizzarri, Osteria Nuova - Z.I. Stelloni



NOTE: Utilizzato 1 anello allargatore da inizio prova



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P IVA e Codice Fiscale n. 00174600387



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COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Sant'Antonio, Sala bolognese (BO)**

CPT N° SCPTU 2 PROF. FALDA (m da p.c.) 2.10 PUNTA: Tecnopenta G1-CPL2IN (matr. 111010)[a = 0.66]

DATA 21/04/16 PREFORO (m da p.c.) LAT. (WGS 84): 44.608138°

COMMESSA 15289/16 C. SITO N°: S160216 del 02/05/2016 LONG. (WGS 84): 11.253584°

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.02	7.69	4.34	39.23	0.31	2.02	0.46	11.89	29.96	0.26	4.02	0.88	19.59	49.81	0.43	6.02	1.47	63.89	19.69	1.52	8.02	1.55	53.42	149.93	2.50
0.04	10.06	19.12	35.97	2.08	2.04	0.40	11.78	29.96	0.25	4.04	0.83	14.48	54.70	0.43	6.04	1.45	67.56	16.44	1.53	8.04	1.57	54.42	152.38	2.51
0.06	11.67	11.56	32.71	2.18	2.06	0.43	12.00	29.96	0.25	4.06	0.78	12.59	53.89	0.45	6.06	1.41	67.22	13.19	1.53	8.06	1.62	53.08	151.57	2.53
0.08	10.88	10.00	31.09	1.93	2.08	0.39	13.69	29.15	0.27	4.08	0.81	12.15	49.81	0.47	6.08	1.42	66.56	9.93	1.58	8.08	1.62	53.53	149.93	2.54
0.10	11.17	6.45	37.61	0.24	2.10	0.38	15.69	28.33	0.20	4.10	0.78	13.04	43.30	0.49	6.10	1.39	67.00	6.67	1.58	8.10	1.63	53.42	150.75	2.53
0.12	11.32	3.34	36.79	1.65	2.12	0.35	15.91	29.15	0.25	4.12	0.81	11.37	35.97	0.49	6.12	1.38	67.56	5.05	1.60	8.12	1.68	53.64	150.75	2.55
0.14	10.87	4.45	35.97	0.74	2.14	0.29	15.59	29.15	0.22	4.14	0.83	11.81	31.09	0.48	6.14	1.45	66.78	3.41	1.58	8.14	1.68	55.53	150.75	2.55
0.16	10.78	25.12	12.37	1.12	2.16	0.27	14.69	29.15	0.26	4.16	0.85	14.48	26.21	0.48	6.16	1.44	66.66	1.79	1.63	8.16	1.67	59.53	150.75	2.57
0.18	11.44	15.57	21.33	0.70	2.18	0.21	13.92	29.15	0.20	4.18	0.83	16.59	19.69	0.52	6.18	1.51	65.44	1.79	1.63	8.18	1.64	61.97	150.75	2.57
0.20	10.24	33.68	18.07	0.56	2.20	0.21	14.36	29.15	0.20	4.20	0.81	16.81	16.44	0.52	6.20	1.51	63.66	0.97	1.66	8.20	1.62	63.30	150.75	2.59
0.22	10.37	38.68	6.67	0.51	2.22	0.21	14.25	29.15	0.17	4.22	0.77	17.81	14.00	0.49	6.22	1.51	63.99	0.97	1.64	8.22	1.63	66.41	151.57	2.59
0.24	9.24	45.68	8.30	0.68	2.24	0.22	13.92	29.96	0.18	4.24	0.74	17.47	13.19	0.56	6.24	1.53	62.99	0.97	1.64	8.24	1.67	69.52	153.19	2.61
0.26	8.32	41.35	7.49	0.59	2.26	0.21	13.36	30.77	0.22	4.26	0.74	17.70	11.55	0.54	6.26	1.51	63.88	0.97	1.69	8.26	1.46	53.75	153.19	2.64
0.28	8.29	32.57	9.11	0.69	2.28	0.13	12.48	31.59	0.25	4.28	0.75	17.03	10.74	0.54	6.28	1.51	65.44	0.16	1.68	8.28	1.51	53.20	153.19	2.64
0.30	8.42	15.57	9.11	0.64	2.30	0.20	12.15	33.21	0.18	4.30	0.82	18.81	11.55	0.56	6.30	1.52	67.33	0.16	1.69	8.30	1.52	54.08	154.01	2.62
0.32	7.89	16.90	9.93	0.73	2.32	0.17	11.81	34.84	0.18	4.32	0.88	19.58	11.55	0.57	6.32	1.49	54.37	0.97	1.77	8.32	1.58	54.64	200.41	2.63
0.34	7.85	43.67	9.93	0.70	2.34	0.16	11.04	18.56	0.24	4.34	1.05	18.70	12.37	0.58	6.34	1.48	57.15	3.09	1.76	8.34	1.63	54.20	198.77	2.62
0.36	8.66	19.55	9.11	0.76	2.36	0.17	10.81	21.01	0.23	4.36	1.44	18.69	14.00	0.57	6.36	1.48	58.48	4.73	1.75	8.36	1.63	53.75	197.96	2.61
0.38	6.78	22.24	11.55	0.98	2.38	0.16	9.70	21.82	0.17	4.38	1.73	19.47	19.69	0.62	6.38	1.47	56.70	6.35	1.79	8.38	1.69	53.64	196.33	2.63
0.40	4.19	4.54	13.19	0.96	2.40	0.16	9.04	18.56	0.14	4.40	1.79	17.58	22.95	0.61	6.40	1.44	53.81	8.79	1.80	8.40	1.64	54.20	196.33	2.63
0.42	4.63	53.76	14.00	0.85	2.42	0.17	8.26	13.68	0.18	4.42	1.64	14.03	25.39	0.68	6.42	1.44	52.37	9.61	1.80	8.42	1.80	56.53	197.15	2.65
0.44	5.03	54.76	14.81	0.83	2.44	0.18	7.04	9.61	0.17	4.44	1.69	13.92	27.02	0.68	6.44	1.44	51.59	9.61	1.83	8.44	1.71	57.75	196.33	2.66
0.46	4.45	73.99	15.63	0.85	2.46	0.20	6.15	8.79	0.16	4.46	1.87	15.03	27.83	0.69	6.46	1.42	50.14	7.98	1.81	8.46	1.67	58.31	197.15	2.66
0.48	4.58	57.65	15.63	0.89	2.48	0.18	5.49	7.98	0.19	4.48	2.04	17.36	27.83	0.68	6.48	1.39	49.92	1.79	1.80	8.48	1.62	56.53	197.15	2.66
0.50	4.10	27.10	17.25	0.73	2.50	0.17	5.15	8.79	0.20	4.50	1.80	19.91	29.47	0.68	6.50	1.42	49.81	31.09	1.81	8.50	1.60	55.09	203.66	2.64
0.52	3.72	33.76	17.25	0.88	2.52	0.20	4.15	8.79	0.19	4.52	1.49	21.36	30.28	0.73	6.52	1.42	51.02	87.26	1.81	8.52	1.74	60.42	201.22	2.66
0.54	3.34	15.64	18.07	0.83	2.54	0.21	4.49	7.98	0.16	4.54	1.32	18.02	31.09	0.69	6.54	1.41	50.80	122.26	1.85	8.54	1.76	61.53	206.10	2.69
0.56	3.54	5.08	18.07	0.79	2.56	0.22	4.61	7.17	0.12	4.56	1.14	18.02	33.53	0.72	6.56	1.46	49.35	129.59	1.83	8.56	1.74	66.31	215.05	2.69
0.58	3.45	3.47	18.88	0.84	2.58	0.23	5.71	6.35	0.16	4.58	1.09	17.13	35.16	0.74	6.58	1.39	50.57	129.59	1.85	8.58	1.73	68.20	218.31	2.70
0.60	2.98	8.86	18.07	0.80	2.60	0.24	6.38	5.54	0.13	4.60	1.20	17.13	37.61	0.73	6.60	1.37	49.24	130.40	1.87	8.60	1.70	69.09	216.69	2.71
0.62	2.90	6.75	18.07	0.87	2.62	0.27	7.38	7.98	0.09	4.62	1.35	14.91	37.61	0.75	6.62	1.40	48.13	132.03	1.87	8.62	1.62	70.09	218.31	2.73
0.64	2.56	6.75	17.25	0.90	2.64	0.27	6.71	11.23	0.11	4.64	1.22	11.57	38.42	0.77	6.64	1.39	48.68	132.03	1.90	8.64	1.55	70.86	219.94	2.74
0.66	2.18	2.08	18.07	0.82	2.66	0.28	5.71	12.87	0.15	4.66	1.22	9.13	38.42	0.77	6.66	1.39	47.02	131.21	1.89	8.66	1.48	68.97	216.69	2.74
0.68	1.87	2.08	18.07	0.85	2.68	0.30	4.94	13.68	0.15	4.68	1.19	8.35	38.42	0.79	6.68	1.42	46.91	130.40	1.90	8.68	1.39	66.31	215.05	2.73
0.70	1.79	4.70	17.25	0.79	2.70	0.37	5.27	13.68	0.17	4.70	1.17	11.35	38.42	0.80	6.70	1.43	47.12	130.40	1.93	8.70	1.34	65.86	216.69	2.73
0.72	1.57	1.19	14.81	0.79	2.72	0.42	4.27	14.49	0.23	4.72	1.19	16.57	38.42	0.79	6.72	1.48	47.35	130.40	1.94	8.72	1.29	63.53	217.50	2.76
0.74	1.54	5.41	14.81	0.82	2.74	0.41	5.17	14.49	0.06	4.74	1.15	22.57	38.42	0.82	6.74	1.52	49.12	132.03	1.93	8.74	1.32	58.64	218.31	2.76
0.76	1.40	8.75	12.37	0.88	2.76	0.41	6.17	14.49	0.07	4.76	1.16	29.24	38.42	0.81	6.76	1.71	56.01	132.84	1.98	8.76	1.34	56.30	220.75	2.77
0.78	1.52	8.64	10.74	0.83	2.78	0.40	4.95	14.49	0.08	4.78	1.16	33.68	40.05	0.82	6.78	1.68	58.79	133.65	1.97	8.78	1.22	52.31	219.94	2.77
0.80	1.28	11.86	8.30	0.82	2.80	0.43	3.50	13.68	0.11	4.80	1.20	36.01	42.49	0.83	6.80	1.64	58.79	136.91	1.95	8.80	1.15	49.74	220.75	2.78
0.82	1.13	6.64	5.86	0.83	2.82	0.42	3.72	14.49	0.08	4.82	1.20	36.01	44.93	0.85	6.82	1.65	58.79	132.84	1.96	8.82	1.08	45.52	223.19	2.78
0.84	1.05	4.53	0.97	0.76	2.84	0.37	5.39	14.49	0.08	4.84	1.26	35.56	44.93	0.89	6.84	1.71	59.56	100.28	1.96	8.84	1.11	44.96	222.38	2.81
0.86	1.12	0.76	0.97	0.82	2.86	0.40	6.06	12.05	0.11	4.86	1.31	36.12	44.11	0.86	6.86	1.74	61.23	70.17	1.98	8.86	1.09	44.19	222.38	2.81
0.88	1.30	3.09	7.98	0.79	2.88	0.43	7.73	13.68	0.09	4.88	1.32	38.23	43.30	0.90	6.88	1.80	61.11	56.33	2.01	8.88	1.11	44.41	224.01	2.82
0.90	1.52	1.11	14.49	0.73	2.90	0.53	10.06	14.49	0.08	4.90	1.37	39.01	43.30	0.91	6.90	1.81	66.11	49.00	2.02	8.90	1.06	42.74	223.19	2.84
0.92	1.38	1.11	21.01	0.68	2.92	0.75	11.40	14.49	0.15	4.92	1.43	39.11	44.93	0.90	6.92	1.77	68.00	52.25	2.01	8.92	1.03	42.63	223.19	2.83
0.94	1.32	1.45	23.45	0.68	2.94	0.93	12.62	12.87	0.18	4.94	1.42	39.89	46.56	0.93	6.94	1.77	69.56	85.63	2.05	8.94	0.92	43.30	224.83	2.84
0.96	1.19	1.90	26.70	0.76	2.96	1.12	12.62	15.31	0.13	4.96	1.44	4												



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P IVA e Codice Fiscale n. 00174600387



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COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Sant'Antonio, Sala bolognese (BO)**

CPT N° SCPTU 2

PROF. FALDA (m da p.c.) 2.10

PUNTA: Tecnopenta G1-CPL2IN (matr. 111010) [a = 0.66]

DATA 21/04/16

PREFORO (m da p.c.)

LAT. (WGS 84): 44.608138°

COMMESSA 15289/16

C. SITO N°:

S160216 del 02/05/2016

LONG. (WGS 84): 11.253584°

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.02	1.16	44.91	192.27	3.36	12.02	0.81	32.79	331.45	4.35	14.02	1.05	21.16	368.09	5.42	16.02	1.29	33.40	394.95	6.35	18.02	1.50	20.73	277.73	7.40
10.04	1.18	45.24	192.27	3.38	12.04	0.77	32.67	331.46	4.36	14.04	1.09	19.16	359.95	5.42	16.04	1.26	35.18	389.25	6.37	18.04	1.78	26.50	431.58	7.40
10.06	1.19	41.46	193.08	3.38	12.06	0.77	30.56	332.27	4.37	14.06	1.14	21.61	352.62	5.42	16.06	1.25	36.40	385.69	6.36	18.06	2.01	21.84	428.33	7.43
10.08	1.11	37.79	198.77	3.42	12.08	0.83	29.56	333.09	4.38	14.08	1.24	26.83	333.09	5.44	16.08	1.26	35.51	380.30	6.38	18.08	2.38	17.95	118.19	7.43
10.10	1.04	35.24	201.22	3.41	12.10	0.81	29.67	333.90	4.38	14.10	1.37	26.61	317.62	5.45	16.10	1.31	34.84	374.60	6.39	18.10	2.97	19.39	39.23	7.46
10.12	0.99	35.02	206.10	3.41	12.12	0.80	27.34	336.34	4.40	14.12	1.31	23.50	312.73	5.47	16.12	1.33	35.39	365.65	6.39	18.12	3.30	25.28	36.79	7.45
10.14	0.98	33.57	205.29	3.43	12.14	0.84	25.01	338.79	4.42	14.14	1.25	21.16	308.67	5.46	16.14	1.32	34.51	360.76	6.41	18.14	3.49	30.39	44.93	7.46
10.16	0.99	29.79	203.66	3.45	12.16	1.11	22.57	336.34	4.42	14.16	1.08	23.16	307.04	5.48	16.16	1.33	33.28	351.81	6.43	18.16	3.60	31.06	31.09	7.47
10.18	1.01	29.12	204.47	3.47	12.18	1.34	24.24	279.36	4.47	14.18	0.99	25.83	306.23	5.47	16.18	1.41	31.17	346.93	6.42	18.18	3.68	33.62	26.21	7.51
10.20	1.11	28.01	205.29	3.49	12.20	1.33	24.12	249.25	4.46	14.20	0.95	25.94	302.97	5.40	16.20	1.38	30.28	346.93	6.45	18.20	3.66	33.28	22.95	7.52
10.22	1.17	26.23	208.55	3.50	12.22	1.23	26.57	254.13	4.46	14.22	0.93	25.49	298.90	5.50	16.22	1.40	29.94	346.11	6.47	18.22	3.50	36.28	20.51	7.54
10.24	1.25	23.79	211.80	3.51	12.24	1.13	29.91	271.22	4.47	14.24	0.91	24.38	298.09	5.51	16.24	1.42	29.05	353.43	6.46	18.24	3.32	34.07	18.07	7.53
10.26	1.31	24.90	215.05	3.52	12.26	1.04	30.24	285.87	4.48	14.26	0.95	23.16	298.09	5.51	16.26	1.43	29.94	357.51	6.48	18.26	3.30	36.28	15.63	7.54
10.28	1.30	27.34	219.94	3.53	12.28	0.94	28.91	287.50	4.50	14.28	0.91	22.49	298.09	5.53	16.28	1.42	31.38	356.69	6.48	18.28	3.33	37.95	18.88	7.54
10.30	1.33	29.01	233.78	3.55	12.30	0.89	27.91	289.13	4.50	14.30	0.91	21.83	301.34	5.54	16.30	1.42	33.50	355.07	6.49	18.30	3.36	41.28	87.26	7.57
10.32	1.31	31.67	200.41	3.55	12.32	1.21	20.40	264.71	4.50	14.32	0.84	21.16	399.02	5.55	16.32	1.41	35.94	349.37	6.49	18.32	3.41	21.74	133.65	7.55
10.34	1.30	33.79	230.52	3.55	12.34	1.02	18.84	226.45	4.52	14.34	0.78	18.95	396.58	5.57	16.34	1.46	37.83	344.48	6.50	18.34	3.56	23.74	120.63	7.53
10.36	1.25	33.35	278.55	3.61	12.36	0.88	16.51	230.52	4.52	14.36	0.79	18.84	397.39	5.57	16.36	1.47	39.61	340.41	6.51	18.36	3.64	26.19	118.66	7.59
10.38	1.22	35.13	304.59	3.59	12.38	0.82	12.73	228.89	4.54	14.38	0.80	18.73	396.58	5.57	16.38	1.48	40.83	337.97	6.52	18.38	3.65	29.63	113.69	7.59
10.40	1.23	35.91	311.11	3.62	12.40	0.83	12.06	233.78	4.54	14.40	0.80	18.50	389.25	5.57	16.40	1.38	40.05	335.52	6.55	18.40	3.62	30.63	132.34	7.59
10.42	1.19	38.24	316.81	3.63	12.42	0.84	12.40	245.17	4.55	14.42	0.80	17.73	379.49	5.58	16.42	1.43	41.83	333.09	6.55	18.42	3.57	30.52	137.77	7.60
10.44	1.18	42.80	317.62	3.66	12.44	0.83	11.84	273.67	4.56	14.44	0.83	17.28	372.16	5.58	16.44	1.43	41.05	330.65	6.56	18.44	3.48	29.96	136.75	7.63
10.46	1.23	42.57	320.87	3.67	12.46	0.84	12.17	272.85	4.58	14.46	0.83	16.73	368.09	5.58	16.46	1.40	42.61	326.57	6.56	18.46	3.42	31.07	139.13	7.63
10.48	1.24	40.57	326.57	3.70	12.48	0.80	12.62	254.13	4.58	14.48	0.85	16.28	364.02	5.60	16.48	1.41	43.50	320.06	6.57	18.48	3.32	31.07	142.52	7.64
10.50	1.23	39.02	328.20	3.68	12.50	0.79	12.17	272.03	4.59	14.50	0.85	16.17	358.32	5.61	16.50	1.41	43.16	318.43	6.58	18.50	3.24	29.63	143.87	7.66
10.52	1.24	38.68	337.15	3.70	12.52	0.80	12.06	285.87	4.58	14.52	0.89	16.51	354.25	5.62	16.52	1.42	43.16	317.62	6.59	18.52	3.07	28.52	145.57	7.68
10.54	1.30	39.68	336.34	3.74	12.54	0.91	11.39	287.50	4.62	14.54	0.89	17.73	353.43	5.62	16.54	1.46	42.60	316.81	6.60	18.54	2.85	31.07	151.34	7.69
10.56	1.30	41.46	334.71	3.72	12.56	1.29	11.51	289.13	4.61	14.56	0.88	18.73	353.43	5.65	16.56	1.43	42.16	314.37	6.61	18.56	2.61	32.18	159.14	7.68
10.58	1.34	43.35	332.27	3.74	12.58	1.56	10.84	289.13	4.59	14.58	0.85	19.84	355.07	5.65	16.58	1.38	42.49	306.23	6.59	18.58	2.45	31.62	161.17	7.71
10.60	1.29	45.79	332.27	3.74	12.60	1.62	10.84	294.83	4.60	14.60	0.79	21.18	363.21	5.66	16.60	1.31	41.82	301.34	6.62	18.60	2.31	33.07	160.49	7.73
10.62	1.24	45.23	333.09	3.78	12.62	1.42	10.61	296.45	4.60	14.62	0.79	21.84	377.04	5.69	16.62	1.26	41.27	298.09	6.62	18.62	2.15	38.40	161.85	7.75
10.64	1.21	48.56	344.48	3.78	12.64	1.18	9.06	300.53	4.64	14.64	0.77	21.73	393.32	5.68	16.64	1.23	41.60	298.09	6.64	18.64	2.09	42.84	163.88	7.75
10.66	1.27	51.67	356.69	3.79	12.66	1.02	7.84	301.34	4.66	14.66	0.72	20.73	352.62	5.67	16.66	1.18	42.49	298.09	6.67	18.66	2.12	43.06	164.22	7.75
10.68	1.29	47.56	364.02	3.81	12.68	1.02	8.84	302.97	4.65	14.68	0.77	20.73	326.33	5.70	16.68	1.16	40.04	297.27	6.67	18.68	2.00	43.39	164.22	7.79
10.70	1.33	42.67	366.46	3.84	12.70	1.05	11.51	302.15	4.67	14.70	0.84	18.73	377.49	5.72	16.70	1.16	36.93	295.64	6.68	18.70	1.79	42.06	166.60	7.81
10.72	1.35	45.45	364.83	3.83	12.72	0.98	13.28	302.15	4.70	14.72	0.90	14.84	102.73	5.72	16.72	1.17	33.92	290.76	6.68	18.72	1.58	35.39	167.95	7.81
10.74	1.28	49.56	346.93	3.83	12.74	0.85	14.95	304.59	4.69	14.74	0.90	12.95	205.29	5.73	16.74	1.20	31.15	285.06	6.71	18.74	1.43	30.10	166.26	7.81
10.76	1.22	46.23	340.41	3.86	12.76	0.80	14.51	311.11	4.73	14.76	0.80	12.62	254.13	5.74	16.76	1.28	29.15	284.25	6.70	18.76	1.41	28.05	166.94	7.82
10.78	1.17	37.45	333.90	3.86	12.78	0.79	12.73	320.87	4.74	14.78	0.82	12.73	274.48	5.74	16.78	1.31	29.26	284.25	6.74	18.78	1.44	25.27	171.69	7.83
10.80	1.05	38.67	327.39	3.87	12.80	0.87	12.39	329.83	4.77	14.80	0.75	12.73	285.06	5.74	16.80	1.34	29.92	285.06	6.73	18.80	1.50	19.71	175.08	7.84
10.82	0.95	40.56	323.32	3.89	12.82	0.84	12.39	336.34	4.76	14.82	0.74	12.73	315.99	5.75	16.82	1.31	28.71	289.13	6.73	18.82	1.61	17.71	176.71	7.86
10.84	0.83	43.45	321.69	3.89	12.84	0.84	11.28	336.34	4.77	14.84	0.75	13.29	324.13	5.79	16.84	1.31	29.03	290.76	6.76	18.84	1.60	18.49	176.43	7.88
10.86	0.81	36.01	318.43	3.91	12.86	0.85	10.17	337.97	4.79	14.86	0.77	14.29	321.69	5.78	16.86	1.39	30.48	294.01	6.77	18.86	1.44	17.27	174.74	7.87
10.88	0.81	31.45	323.32	3.92	12.88	0.93	9.39	341.23	4.82	14.88	0.79	14.29	321.69	5.79	16.88	1.47	31.03	294.01	6.78	18.88	1.25	16.37	173.04	7.87
10.90	0.80	29.01	350.99	3.91	12.90	0.91	9.28	341.23	4.82	14.90	0.82	13.84	321.69	5.80										



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P IVA e Codice Fiscale n. 00174600387



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COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Sant'Antonio, Sala bolognese (BO)**

CPT N° SCPTU 2

PROF. FALDA (m da p.c.) 2.10

PUNTA: Tecnopenta G1-CPL2IN (matr. 111010) [a = 0.66]

DATA 21/04/16

PROF. (m da p.c.)

LAT. (WGS 84): 44.608138°

COMMESSA 15289/16

C. SITO N°:

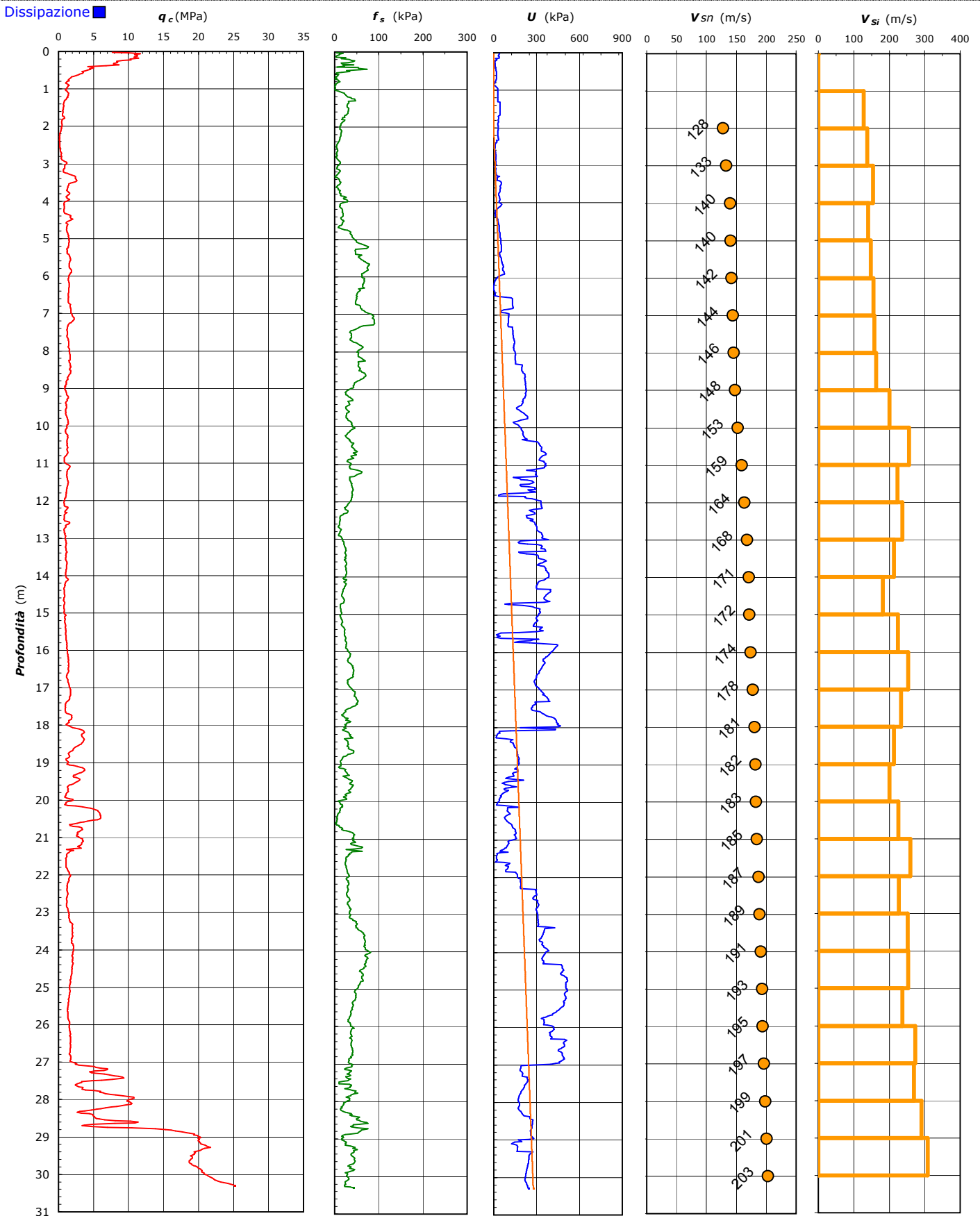
S160216 del 02/05/2016

LONG. (WGS 84): 11.253584°

prof.	qc	fs	U	incl.	prof.	qc	fs	U	incl.	prof.	qc	fs	U	incl.	prof.	qc	fs	U	incl.	prof.	qc	fs	U	incl.
m	Mpa	kPa	kPa	gradi	m	Mpa	kPa	kPa	gradi	m	Mpa	kPa	kPa	gradi	m	Mpa	kPa	kPa	gradi	m	Mpa	kPa	kPa	gradi
20.02	1.76	10.82	25.40	8.40	22.02	1.69	29.08	173.75	9.29	24.02	2.16	81.12	360.00	10.22	26.02	1.55	41.54	416.06	11.05	28.02	9.85	22.84	179.80	11.93
20.04	1.36	12.93	21.33	8.42	22.04	1.63	27.19	185.39	9.33	24.04	2.10	79.35	356.82	10.23	26.04	1.51	43.99	422.41	11.07	28.04	9.78	20.39	181.44	11.93
20.06	1.11	13.38	17.27	8.44	22.06	1.59	26.53	185.39	9.34	24.06	2.04	74.12	352.59	10.24	26.06	1.51	39.66	419.24	11.06	28.06	10.08	20.94	181.03	11.93
20.08	1.06	16.71	70.17	8.47	22.08	1.51	27.52	187.51	9.32	24.08	2.00	71.23	350.47	10.26	26.08	1.56	38.32	413.95	11.06	28.08	10.31	20.61	179.80	11.95
20.10	0.99	18.49	123.07	8.45	22.10	1.49	30.41	187.51	9.35	24.10	2.03	68.79	345.18	10.27	26.10	1.60	36.99	406.54	11.06	28.10	10.45	19.27	177.75	11.95
20.12	0.91	16.49	175.97	8.48	22.12	1.45	30.97	187.51	9.38	24.12	2.00	69.56	342.00	10.28	26.12	1.60	36.99	395.96	11.06	28.12	10.33	18.16	174.06	11.99
20.14	1.31	18.16	97.84	8.46	22.14	1.51	30.63	188.57	9.34	24.14	1.98	73.79	339.89	10.28	26.14	1.62	36.43	390.67	11.07	28.14	9.78	15.60	171.59	11.99
20.16	2.46	13.60	97.03	8.47	22.16	1.48	31.75	189.63	9.39	24.16	1.94	74.34	337.77	10.28	26.16	1.61	35.77	395.96	11.07	28.16	9.07	16.82	171.59	12.01
20.18	3.44	12.05	96.21	8.48	22.18	1.41	32.63	189.63	9.39	24.18	1.95	75.56	339.89	10.28	26.18	1.67	35.76	394.90	11.09	28.18	8.35	14.26	174.06	12.04
20.20	4.09	12.38	95.40	8.49	22.20	1.37	32.41	188.57	9.37	24.20	2.01	72.89	339.89	10.30	26.20	1.68	36.54	391.72	11.10	28.20	7.54	13.15	178.98	12.04
20.22	4.58	13.05	94.58	8.50	22.22	1.27	31.08	188.57	9.39	24.22	2.04	72.23	347.30	10.32	26.22	1.68	37.76	397.02	11.10	28.22	6.70	14.14	184.31	12.07
20.24	5.00	12.39	98.65	8.52	22.24	1.27	29.41	187.51	9.41	24.24	2.04	71.89	349.41	10.30	26.24	1.71	38.20	403.36	11.14	28.24	6.02	15.59	188.42	12.08
20.26	5.30	11.38	102.73	8.53	22.26	1.25	29.18	185.39	9.43	24.26	1.99	70.67	350.47	10.30	26.26	1.69	38.87	407.60	11.11	28.26	5.47	18.81	192.93	12.08
20.28	5.61	12.05	110.05	8.52	22.28	1.20	29.41	185.39	9.43	24.28	2.01	71.45	346.24	10.33	26.28	1.64	36.65	404.42	11.13	28.28	4.71	24.36	196.21	12.09
20.30	5.67	8.73	114.93	8.58	22.30	1.25	29.64	190.68	9.43	24.30	1.98	70.67	346.24	10.33	26.30	1.59	34.43	399.13	11.15	28.30	3.75	29.36	199.91	12.09
20.32	5.80	7.74	105.98	8.56	22.32	1.24	29.74	298.62	9.43	24.32	1.95	69.89	473.23	10.33	26.32	1.69	37.65	494.37	11.13	28.32	3.08	37.13	203.60	12.09
20.34	5.83	7.18	93.77	8.57	22.34	1.25	30.86	293.33	9.42	24.34	2.06	67.19	472.17	10.35	26.34	1.69	38.21	510.25	11.13	28.34	2.65	39.35	207.29	12.12
20.36	5.90	6.63	85.63	8.60	22.36	1.22	30.63	294.39	9.47	24.36	2.09	68.41	479.57	10.35	26.36	1.68	38.77	502.84	11.13	28.36	3.22	34.69	210.99	12.13
20.38	5.92	5.84	79.93	8.57	22.38	1.18	29.75	295.45	9.47	24.38	2.06	70.19	480.63	10.36	26.38	1.68	38.88	495.43	11.13	28.38	4.36	38.24	251.20	12.13
20.40	6.01	5.62	74.24	8.59	22.40	1.20	29.64	296.50	9.47	24.40	2.03	70.85	478.51	10.38	26.40	1.68	38.54	489.08	11.16	28.40	4.89	50.70	251.61	12.13
20.42	6.00	5.29	79.12	8.60	22.42	1.22	28.64	297.56	9.50	24.42	1.98	66.63	479.57	10.37	26.42	1.68	38.21	488.02	11.13	28.42	4.96	56.82	251.61	12.16
20.44	6.02	5.63	79.93	8.59	22.44	1.25	27.42	297.56	9.50	24.44	1.95	66.18	485.92	10.39	26.44	1.68	37.65	491.20	11.16	28.44	4.95	52.93	254.48	12.17
20.46	6.03	4.73	84.81	8.60	22.46	1.27	27.08	300.73	9.52	24.46	1.90	63.29	489.09	10.40	26.46	1.68	37.21	494.37	11.14	28.46	5.16	49.49	275.41	12.18
20.48	6.06	5.63	90.51	8.62	22.48	1.32	27.53	291.21	9.54	24.48	1.90	59.96	488.04	10.40	26.48	1.68	36.99	496.49	11.14	28.48	5.19	50.48	274.18	12.20
20.50	5.94	5.18	92.95	8.61	22.50	1.34	27.98	283.81	9.53	24.50	1.95	56.95	478.51	10.38	26.50	1.68	37.10	496.49	11.16	28.50	5.39	54.93	271.17	12.21
20.52	5.59	5.19	100.28	8.60	22.52	1.32	28.19	279.57	9.55	24.52	1.91	56.62	480.63	10.41	26.52	1.72	38.21	489.08	11.16	28.52	5.82	58.48	271.71	12.23
20.54	4.88	5.19	105.17	8.58	22.54	1.27	29.97	275.34	9.55	24.54	1.93	59.06	473.23	10.39	26.54	1.73	38.32	477.44	11.19	28.54	6.61	66.59	270.07	12.27
20.56	4.18	1.63	118.19	8.58	22.56	1.25	32.08	274.28	9.56	24.56	1.90	61.28	467.93	10.40	26.56	1.72	39.54	468.97	11.19	28.56	8.13	72.48	270.89	12.29
20.58	3.62	2.93	121.45	8.60	22.58	1.21	33.31	276.40	9.55	24.58	1.91	62.83	468.99	10.44	26.58	1.72	40.32	457.33	11.21	28.58	10.29	75.92	269.66	12.35
20.60	3.14	4.24	127.15	8.61	22.60	1.20	33.97	301.79	9.59	24.60	1.91	64.72	476.40	10.43	26.60	1.71	40.10	453.10	11.20	28.60	11.39	56.37	269.25	12.40
20.62	2.68	5.07	128.77	8.65	22.62	1.16	34.52	307.09	9.59	24.62	1.88	64.72	493.33	10.43	26.62	1.69	40.76	453.10	11.20	28.62	10.94	41.81	268.43	12.41
20.64	2.00	9.73	129.59	8.65	22.64	1.16	33.97	306.03	9.59	24.64	1.88	64.05	499.68	10.45	26.64	1.67	41.43	461.57	11.22	28.64	8.05	42.25	269.25	12.36
20.66	1.61	10.07	132.03	8.67	22.66	1.14	32.30	306.03	9.61	24.66	1.86	61.83	506.03	10.46	26.66	1.68	40.99	472.15	11.24	28.66	4.89	35.22	268.02	12.35
20.68	1.68	12.51	137.73	8.70	22.68	1.20	30.41	308.14	9.62	24.68	1.82	60.94	513.43	10.46	26.68	1.64	41.10	478.50	11.24	28.68	3.66	39.14	266.38	12.38
20.70	2.12	16.51	142.61	8.69	22.70	1.20	29.19	310.26	9.61	24.70	1.78	60.93	511.32	10.48	26.70	1.64	40.76	480.62	11.26	28.70	3.36	51.37	263.92	12.38
20.72	2.89	18.61	148.31	8.72	22.72	1.20	28.97	313.44	9.62	24.72	1.79	61.71	513.43	10.46	26.72	1.64	40.09	478.50	11.26	28.72	4.67	75.92	260.23	12.42
20.74	3.30	16.05	151.57	8.73	22.74	1.19	29.63	313.44	9.65	24.74	1.78	63.27	515.55	10.46	26.74	1.64	39.65	480.62	11.26	28.74	6.96	71.59	256.94	12.45
20.76	3.37	19.94	149.93	8.74	22.76	1.15	31.19	310.26	9.66	24.76	1.76	64.05	515.55	10.49	26.76	1.62	41.54	482.73	11.27	28.76	10.49	59.91	256.53	12.46
20.78	3.41	27.17	152.38	8.75	22.78	1.14	32.30	307.09	9.66	24.78	1.76	63.93	509.20	10.48	26.78	1.55	38.88	486.96	11.26	28.78	13.86	59.02	256.94	12.46
20.80	3.28	34.49	157.26	8.75	22.80	1.15	32.96	303.91	9.67	24.80	1.67	59.83	506.03	10.48	26.80	1.62	35.87	491.19	11.30	28.80	15.29	57.13	258.58	12.46
20.82	3.12	40.05	157.26	8.75	22.82	1.15	34.19	297.56	9.67	24.82	1.68	58.72	503.91	10.50	26.82	1.71	38.20	489.08	11.29	28.82	16.09	54.80	259.81	12.49
20.84	2.90	41.60	153.19	8.75	22.84	1.12	33.96	295.45	9.70	24.84	1.73	56.94	503.91	10.49	26.84	1.74	35.31	495.43	11.28	28.84	16.71	52.02	259.81	12.49
20.86	2.73	43.38	144.24	8.78	22.86	1.22	37.52	295.45	9.69	24.86	1.71	57.39	503.91	10.51	26.86	1.78	32.42	485.91	11.28	28.86	17.69	36.24	257.35	12.54
20.88	2.67	45.49	148.31	8.80	22.88	1.26	36.74	298.62	9.70	24.88	1.70	56.28	503.91	10.54	26.88	1.76	32.09	476.38	11.3					

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Via Sant'Antonio, Sala bolognese (BO)

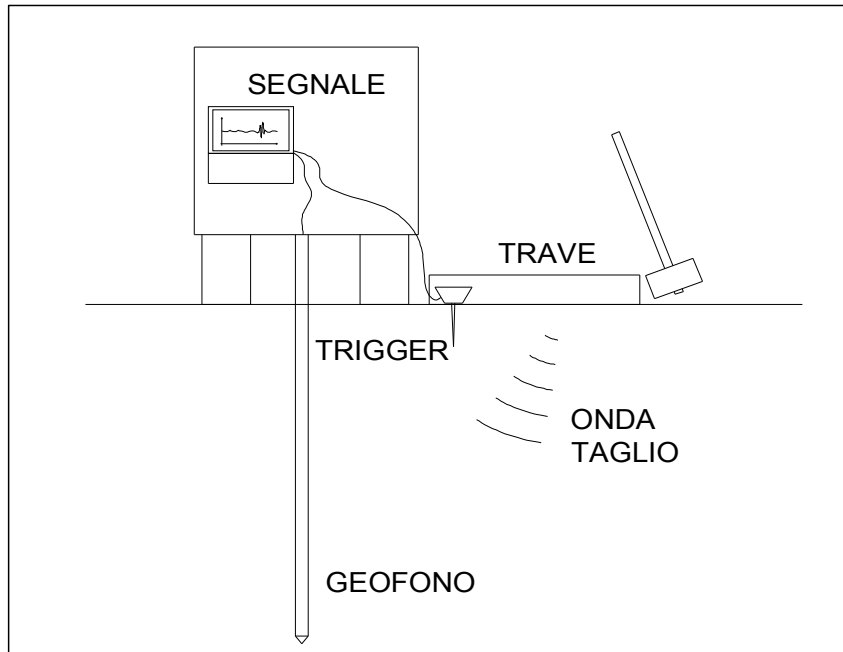
CPT N°	SCPTU 2	PROF. FALDA (m da p.c.)	2.10	PUNTA: Tecnopenta G1-CPL2IN (matr. 111010)[a = 0.66]
DATA	21/04/16	PREFORO (m da p.c.)		LAT. (WGS 84): 44.608138°
COMMESSA	15289/16	C. SITO N°:	S160216 del 02/05/2016	LONG. (WGS 84): 11.253584°



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Via Sant'Antonio, Sala bolognese (BO)

 CPT N° SCPTU 2 PROF. FALDA (m da p.c.) 2.10 PUNTA: Tecnopenta G1-CPL2IN (matr. 111010)[a = 0.66]
 DATA 21/04/16 PREFORO (m da p.c.) LAT. (WGS 84): 44.608138°
 COMMESSA 15289/16 C. SITO N°: S160216 del 02/05/2016 LONG. (WGS 84): 11.253584°

Prova Down Hole ASTM D 7400



Profondità (m)	Ts (ms)	L (m)	Vs (m/s)	Vis (m/s)
1.0	T0	1.42	-	-
2.0	6.43	2.25	128	128
3.0	13.16	3.18	133	138
4.0	19.41	4.14	140	154
5.0	26.36	5.12	140	141
6.0	33.01	6.11	142	148
7.0	39.38	7.10	144	155
8.0	45.67	8.09	146	158
9.0	51.78	9.09	148	163
10.0	56.75	10.08	153	200
11.0	60.65	11.08	159	255
12.0	65.12	12.07	164	223
13.0	69.32	13.07	168	237
14.0	73.99	14.07	171	213
15.0	79.47	15.06	172	182
16.0	83.92	16.06	174	224
17.0	87.85	17.06	178	254
18.0	92.11	18.05	181	234
19.0	96.76	19.05	182	214
20.0	101.71	20.04	183	201
21.0	106.11	21.04	185	226
22.0	109.93	22.03	187	260
23.0	114.30	23.02	189	227
24.0	118.24	24.02	191	252
25.0	122.15	25.01	193	254
26.0	126.32	26.00	195	237
27.0	129.95	26.99	197	273
28.0	133.62	27.98	199	270
29.0	137.01	28.97	201	291
30.0	140.22	29.96	203	308

CATEGORIA SOTTOSUOLO
C
V_{s,30} = 203 m/s

Intervallo di profondità considerato per il calcolo della Vs30: m 1.0 - 30.0

- D = Distanza centro trave generatrice onde di taglio - verticale di prov 1.00
 Profondità = Profondità punta da piano campagna
 Ts = Tempo percorrenza onda di taglio
 L = Lunghezza percorso onda di taglio
 Vs = Velocità onde di taglio da piano campagna alla profondità indic = 30.0 m
 Vis = Velocità onde di taglio nello strato di terreno compreso fra le due profondità indicate
 N.B.: il calcolo del percorso delle onde di taglio viene corretto per l'inclinazione zenitale e per la deriva azimutale della punta



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
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P IVA e Codice Fiscale n. 00174600387



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COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121

CANTIERE: Via Gramsci, Sala bolognese (BO)

PROVA N°: CPTU 3 PROF. FALDA (m da p.c.): 1.00

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: 21/04/16 PREFORO (m da p.c.):

LAT. (WGS 84): 44.613319° LONG. (WGS 84): 11.257417°

COMMESSA: 15289/16

C. SITO N°: S160217 del 02/05/2016 OPERATORE: L. Zanirato

Table with 50 columns (prof. m, qc Mpa, fs kPa, U kPa, incl. gradi) and 20 rows of data. The table contains geotechnical test results for various soil samples, including parameters like qc, fs, U, and inclination (incl.).

Lo Sperimentatore:
dott. Luciano Rossi

Il Direttore Settore Prove in Sito:
dott. Massimo Romagnoli



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
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P IVA e Codice Fiscale n. 00174600387

Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC



COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Gramsci, Sala bolognese (BO)**

PROVA N°: **CPTU 3** PROF. FALDA (m da p.c.): **1.00**

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: **21/04/16** PREFORO (m da p.c.):

LAT. (WGS 84): **44.613319°**

LONG. (WGS 84): **11.257417°**

COMMESSA: **15289/16**

C. SITO N°: **S160217** del 02/05/2016 OPERATORE: **L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.02	1.24	28.98	243.55	4.55	12.02	1.16	35.29	227.27	5.15	14.02	0.95	24.67	216.69	5.87	16.02	0.81	15.67	294.01	6.60	18.02	1.90	19.80	180.05	7.47
10.04	1.23	29.54	242.73	4.55	12.04	1.15	34.07	226.45	5.15	14.04	0.89	24.67	215.05	5.87	16.04	0.83	16.01	295.64	6.61	18.04	2.92	19.91	192.27	7.48
10.06	1.23	29.76	242.73	4.57	12.06	0.99	30.42	219.94	5.17	14.06	0.87	24.67	215.87	5.87	16.06	0.83	16.01	294.83	6.61	18.06	3.87	29.91	201.22	7.50
10.08	1.22	30.98	242.73	4.57	12.08	0.97	30.53	219.13	5.18	14.08	0.88	21.79	268.78	5.90	16.08	0.82	16.24	293.20	6.60	18.08	4.10	30.46	205.29	7.48
10.10	1.21	31.53	242.73	4.58	12.10	0.97	30.87	219.94	5.18	14.10	0.84	21.24	267.15	5.87	16.10	0.82	16.90	296.45	6.61	18.10	4.35	30.57	207.73	7.50
10.12	1.21	31.42	241.11	4.58	12.12	0.97	30.98	219.13	5.19	14.12	0.88	19.79	265.53	5.90	16.12	0.82	17.57	299.71	6.61	18.12	4.55	29.02	209.36	7.48
10.14	1.23	30.75	242.73	4.59	12.14	0.95	31.31	218.31	5.18	14.14	0.93	18.79	267.15	5.92	16.14	0.89	18.02	300.53	6.62	18.14	4.65	28.91	208.55	7.51
10.16	1.22	30.53	241.92	4.62	12.16	0.98	31.42	217.50	5.19	14.16	0.90	19.24	266.34	5.91	16.16	0.87	17.02	300.53	6.65	18.16	4.78	29.13	210.99	7.51
10.18	1.23	30.75	241.92	4.61	12.18	0.95	31.31	215.05	5.20	14.18	0.87	17.91	264.71	5.92	16.18	0.82	16.91	298.09	6.67	18.18	4.89	28.68	210.99	7.49
10.20	1.23	30.75	242.73	4.59	12.20	0.99	33.87	215.87	5.23	14.20	0.82	17.02	264.71	5.92	16.20	0.80	17.24	298.09	6.68	18.20	4.95	28.91	210.99	7.51
10.22	1.23	30.86	242.73	4.60	12.22	0.98	32.87	215.05	5.24	14.22	0.78	17.57	262.27	5.93	16.22	0.76	16.13	299.71	6.67	18.22	5.01	29.35	211.80	7.51
10.24	1.23	31.30	241.92	4.63	12.24	0.98	31.76	215.05	5.23	14.24	0.81	17.24	263.89	5.94	16.24	0.70	14.13	299.71	6.68	18.24	5.06	29.01	211.80	7.52
10.26	1.22	31.30	242.73	4.62	12.26	0.99	30.76	212.61	5.25	14.26	0.83	17.24	264.71	5.95	16.26	0.73	13.24	299.71	6.70	18.26	4.82	26.57	210.99	7.57
10.28	1.22	30.97	244.36	4.63	12.28	1.00	30.98	213.43	5.25	14.28	0.88	16.79	265.53	5.96	16.28	0.76	13.36	301.34	6.68	18.28	4.64	24.90	208.55	7.55
10.30	1.22	31.63	241.11	4.66	12.30	0.98	31.09	211.80	5.27	14.30	0.88	16.35	266.34	5.99	16.30	0.76	13.36	302.15	6.69	18.30	4.38	22.56	209.36	7.50
10.32	1.17	31.74	240.29	4.65	12.32	0.99	31.09	213.43	5.29	14.32	0.83	16.91	263.89	5.97	16.32	0.76	13.69	302.15	6.72	18.32	4.07	20.50	204.47	7.68
10.34	1.20	31.63	241.92	4.67	12.34	0.99	31.31	215.87	5.25	14.34	0.80	18.79	262.27	6.00	16.34	0.82	14.25	302.15	6.72	18.34	4.01	19.90	205.29	7.58
10.36	1.17	32.85	241.11	4.66	12.36	0.94	31.53	213.43	5.27	14.36	0.80	17.91	263.08	5.99	16.36	0.85	14.47	305.41	6.72	18.36	4.01	20.46	205.29	7.58
10.38	1.18	32.85	240.29	4.69	12.38	0.92	32.09	211.80	5.28	14.38	0.82	17.57	265.53	6.01	16.38	0.92	14.81	312.73	6.75	18.38	3.95	20.67	206.10	7.59
10.40	1.18	32.85	242.73	4.70	12.40	0.87	32.53	210.17	5.30	14.40	0.88	17.57	266.34	6.01	16.40	0.97	15.70	313.55	6.74	18.40	3.89	21.67	206.10	7.62
10.42	1.16	32.63	241.11	4.71	12.42	0.86	32.09	211.80	5.33	14.42	0.92	17.24	265.53	6.02	16.42	0.93	18.47	312.73	6.76	18.42	3.71	22.34	211.80	7.60
10.44	1.18	32.74	242.73	4.73	12.44	0.85	31.53	210.99	5.32	14.44	0.89	17.46	266.34	6.02	16.44	0.88	18.81	311.92	6.77	18.44	3.52	21.90	212.61	7.61
10.46	1.16	33.18	241.11	4.74	12.46	0.82	30.09	209.36	5.34	14.46	0.90	18.02	266.34	6.03	16.46	0.85	18.25	312.73	6.78	18.46	3.21	24.79	206.10	7.64
10.48	1.15	33.96	240.29	4.73	12.48	0.82	28.87	210.17	5.35	14.48	0.87	18.57	266.34	6.06	16.48	0.84	16.70	315.99	6.77	18.48	2.89	31.01	201.22	7.64
10.50	1.15	34.40	241.11	4.73	12.50	0.80	27.87	209.36	5.32	14.50	0.87	19.35	263.89	6.06	16.50	0.90	15.48	320.87	6.79	18.50	2.84	42.67	199.59	7.66
10.52	1.16	34.18	242.73	4.75	12.52	0.79	27.08	208.55	5.36	14.52	0.85	19.80	263.89	6.05	16.52	0.89	14.59	323.23	6.82	18.52	3.15	54.34	206.10	7.66
10.54	1.17	34.51	241.92	4.72	12.54	0.77	26.08	208.55	5.39	14.54	0.83	19.13	264.71	6.06	16.54	0.94	14.48	326.57	6.79	18.54	3.87	61.12	219.13	7.65
10.56	1.16	35.62	242.73	4.74	12.56	0.75	25.31	209.36	5.38	14.56	0.82	17.91	262.27	6.07	16.56	0.96	15.48	327.39	6.82	18.56	4.62	68.01	233.78	7.66
10.58	1.19	34.73	243.55	4.76	12.58	0.73	25.86	207.73	5.39	14.58	0.85	16.91	263.89	6.07	16.58	1.00	15.15	328.20	6.83	18.58	4.82	63.56	234.59	7.68
10.60	1.23	33.18	242.73	4.75	12.60	0.71	26.20	207.73	5.39	14.60	0.87	16.80	265.53	6.08	16.60	0.99	14.59	328.20	6.85	18.60	4.53	57.78	227.27	7.69
10.62	1.26	32.73	245.17	4.76	12.62	0.73	25.53	208.55	5.39	14.62	0.89	16.91	266.34	6.10	16.62	0.99	14.37	327.39	6.86	18.62	4.12	47.67	221.57	7.72
10.64	1.27	32.84	243.55	4.78	12.64	0.71	24.64	207.73	5.41	14.64	0.90	16.69	263.89	6.11	16.64	0.97	15.59	325.76	6.85	18.64	3.95	28.11	224.83	7.75
10.66	1.28	32.95	245.17	4.77	12.66	0.71	24.20	207.73	5.41	14.66	0.92	16.24	266.34	6.10	16.66	0.97	15.81	324.95	6.88	18.66	3.79	23.33	221.57	7.76
10.68	1.27	33.51	242.73	4.77	12.68	0.70	23.64	207.73	5.43	14.68	0.94	17.35	267.15	6.12	16.68	1.04	17.26	328.20	6.88	18.68	3.73	17.99	224.83	7.74
10.70	1.26	35.06	243.55	4.80	12.70	0.69	23.31	206.91	5.45	14.70	0.94	18.46	266.34	6.13	16.70	1.08	18.93	332.27	6.91	18.70	3.65	22.99	220.75	7.72
10.72	1.21	36.39	241.92	4.80	12.72	0.69	22.98	206.10	5.44	14.72	0.93	19.46	266.34	6.13	16.72	1.05	17.26	331.46	6.88	18.72	3.56	26.77	218.31	7.75
10.74	1.20	37.72	241.11	4.82	12.74	0.69	22.42	206.10	5.47	14.74	0.92	20.69	265.53	6.14	16.74	0.95	16.37	328.20	6.90	18.74	3.06	26.55	212.61	7.76
10.76	1.19	37.06	241.92	4.81	12.76	0.70	22.53	206.91	5.46	14.76	0.88	21.24	264.71	6.15	16.76	0.91	14.93	328.20	6.91	18.76	2.47	28.99	202.03	7.75
10.78	1.24	35.72	241.92	4.82	12.78	0.69	22.20	207.73	5.47	14.78	0.87	21.35	263.89	6.15	16.78	0.88	14.15	329.01	6.92	18.78	2.06	27.32	193.08	7.78
10.80	1.26	34.39	243.55	4.82	12.80	0.68	21.53	206.91	5.48	14.80	0.85	21.80	263.89	6.18	16.80	0.91	14.59	329.83	6.93	18.80	1.76	28.65	188.19	7.78
10.82	1.16	29.64	236.22	4.87	12.82	0.64	22.09	206.91	5.48	14.82	0.85	21.57	263.89	6.17	16.82	0.93	15.48	332.27	6.93	18.82	1.56	27.65	189.01	7.81
10.84	1.15	29.64	232.15	4.86	12.84	0.64	22.09	204.47	5.50	14.84	0.89	19.91	265.53	6.18	16.84	0.95	13.82	331.46	6.94	18.84	2.12	20.32	210.17	7.84
10.86	1.14	30.09	232.15	4.86	12.86	0.65	21.10	203.66	5.48	14.86	0.92	19.46	266.34	6.21	16.86	1.11	14.37	339.60	6.97	18.86	3.11	24.20	233.78	7.82
10.88	1.14	30.29	232.15	4.87	12.88	0.64	20.32	206.10	5.52	14.88	0.93	19.69	267.15	6.21	16.88	0.99	13.82	335.53	6.97	18.88	3.61	22.98	235.41	7.85
10.90	1.16	30.20	232.15	4.88	12.90	0.64	19.65	205.29	5.53	14.90	0.96	19.69	266.34	6.21										

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Via Gramsci, Sala bolognese (BO)

PROVA N°: CPTU 3 PROF. FALDA (m da p.c.): 1.00

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

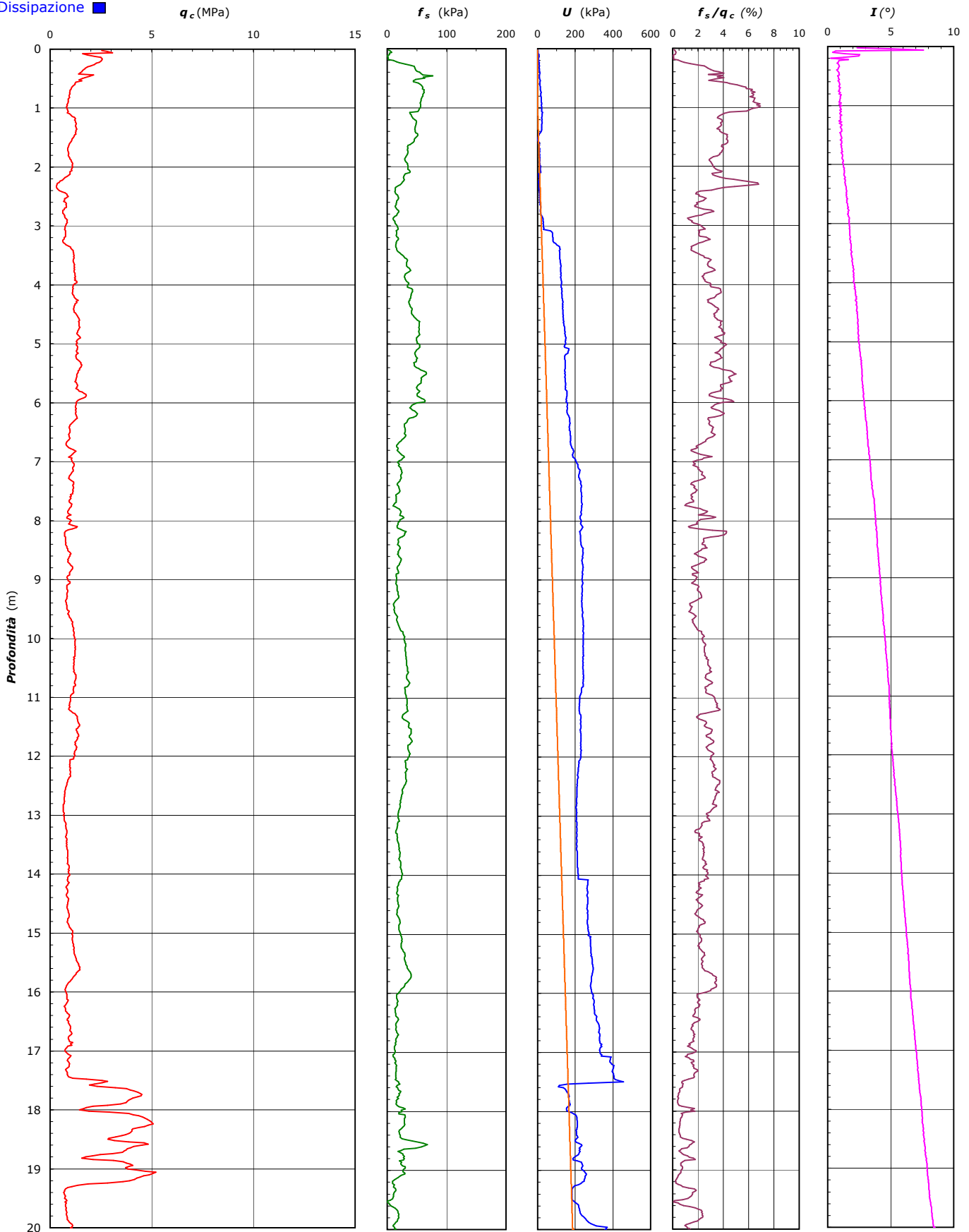
DATA: 21/04/16 PREFORO (m da p.c.):

LAT. (WGS 84): 44.613319° LONG. (WGS 84): 11.257417°

COMMESSA: 15289/16

C. SITO N°: S160217 del 02/05/2016 OPERATORE: L. Zanirato

Dissipazione ■



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**CANTIERE: Via Gramsci, Sala bolognese (BO)**

PROVA N°: CPTU 3	PROF. FALDA (m da p.c.): 1.00	PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
DATA: 21/04/16	PREFORO (m da p.c.):	LAT. (WGS 84): 44.613319° LONG. (WGS 84): 11.257417°
COMMESSA: 15289/16	C. SITO N°: S160217 del 02/05/2016 OPERATORE: L. Zanirato	

UBICAZIONE

Località: Via Gramsci, Sala bolognese (BO)



NOTE: Utilizzato 1 anello allargatore da inizio prova



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P IVA e Codice Fiscale n. 00174600387

Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC



COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via de Gasperi, Osteria Nuova**

PROVA N°: **CPTU 4** PROF. FALDA (m da p.c.): **1.85**

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: **21/04/16** PROF. PREFORO (m da p.c.):

LAT. (WGS 84): **44.583041°** LONG. (WGS 84): **11.234899°**

COMMESSA: **15289/16**

C. SITO N°: **S160218** del 02/05/2016 OPERATORE: **L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.02	5.06	4.10	9.93	0.96	2.02	0.91	28.10	5.54	0.74	4.02	1.01	43.84	5.05	1.42	6.02	0.94	42.81	193.89	2.24	8.02	1.02	5.83	331.46	3.09
0.04	5.61	20.55	9.11	2.21	2.04	0.97	26.73	16.12	0.81	4.04	0.98	41.95	4.23	1.36	6.04	0.83	40.03	189.82	2.25	8.04	1.00	6.05	329.83	3.09
0.06	5.50	20.77	4.23	0.54	2.06	0.97	29.29	15.31	0.82	4.06	0.95	39.84	5.86	1.42	6.06	0.83	38.48	189.82	2.27	8.06	1.02	6.50	327.39	3.12
0.08	5.39	21.21	5.05	1.89	2.08	0.94	31.18	16.93	0.78	4.08	0.95	38.95	7.49	1.44	6.08	0.82	37.59	189.01	2.26	8.08	1.02	6.94	326.57	3.10
0.10	5.18	26.32	2.60	0.15	2.10	0.85	33.96	16.93	0.68	4.10	0.90	37.61	9.11	1.39	6.10	0.81	36.92	189.01	2.25	8.10	1.02	7.50	325.76	3.12
0.12	5.29	19.32	5.54	0.24	2.12	0.83	37.84	18.56	0.71	4.12	0.90	34.61	13.19	1.42	6.12	0.89	39.48	195.52	2.30	8.12	1.02	7.83	324.95	3.12
0.14	5.00	27.43	5.54	2.00	2.14	0.88	38.73	17.75	0.82	4.14	0.89	32.17	10.74	1.44	6.14	0.85	36.59	193.89	2.31	8.14	1.01	8.38	324.13	3.11
0.16	5.10	28.55	4.73	1.05	2.16	0.88	35.96	16.93	0.76	4.16	0.88	30.95	11.55	1.42	6.16	0.84	36.03	194.71	2.30	8.16	1.01	8.72	323.32	3.11
0.18	5.39	44.32	6.35	0.97	2.18	0.91	34.84	14.49	0.79	4.18	0.86	31.50	11.55	1.47	6.18	0.81	35.37	194.71	2.30	8.18	1.01	9.28	319.25	3.12
0.20	5.61	54.55	5.54	0.83	2.20	0.92	33.96	14.49	0.77	4.20	0.83	30.84	14.00	1.46	6.20	0.78	31.70	192.27	2.34	8.20	1.01	10.16	319.25	3.10
0.22	6.14	66.10	8.79	0.82	2.22	0.92	30.29	12.87	0.70	4.22	0.85	31.06	13.19	1.49	6.22	0.77	29.70	194.71	2.37	8.22	1.01	10.83	315.18	3.11
0.24	5.34	63.77	12.87	0.52	2.24	0.92	28.96	14.49	0.72	4.24	0.95	30.95	17.25	1.48	6.24	0.77	28.70	211.80	2.35	8.24	0.98	11.83	312.73	3.11
0.26	5.27	42.38	12.87	0.48	2.26	0.96	28.62	14.49	0.78	4.26	1.15	30.50	19.69	1.50	6.26	0.81	25.03	215.05	2.39	8.26	0.96	12.61	313.55	3.12
0.28	5.22	40.71	13.68	0.63	2.28	0.98	27.51	12.87	0.70	4.28	1.12	22.17	19.69	1.50	6.28	0.79	25.25	216.69	2.38	8.28	0.96	13.28	310.29	3.12
0.30	4.48	43.94	15.31	0.88	2.30	1.08	27.18	13.68	0.74	4.30	1.06	21.28	19.69	1.50	6.30	0.81	25.25	218.31	2.38	8.30	0.93	13.94	308.67	3.10
0.32	3.88	36.72	18.56	0.78	2.32	1.13	29.18	14.49	0.77	4.32	0.98	22.62	27.83	1.52	6.32	0.89	26.59	223.19	2.38	8.32	1.00	17.05	307.64	3.13
0.34	3.46	39.94	19.37	0.62	2.34	1.15	30.63	15.31	0.81	4.34	1.13	18.95	57.14	1.55	6.34	0.88	25.36	219.13	2.42	8.34	0.90	20.72	300.53	3.14
0.36	3.40	41.16	19.37	0.72	2.36	1.15	32.63	15.31	0.80	4.36	1.31	18.73	65.28	1.52	6.36	0.85	25.81	223.19	2.42	8.36	0.83	21.05	295.64	3.12
0.38	3.29	53.61	21.01	0.65	2.38	1.18	35.29	16.93	0.82	4.38	1.40	18.95	57.95	1.53	6.38	0.87	27.25	225.64	2.45	8.38	0.74	17.50	292.39	3.15
0.40	3.06	66.50	21.01	0.78	2.40	1.12	39.18	15.31	0.75	4.40	1.44	23.62	54.70	1.53	6.40	0.89	27.03	226.45	2.44	8.40	0.72	13.61	293.20	3.15
0.42	3.02	89.50	21.01	0.69	2.42	1.09	43.29	16.93	0.80	4.42	1.40	27.95	53.89	1.55	6.42	0.87	25.47	226.45	2.45	8.42	0.78	11.16	302.15	3.16
0.44	3.03	106.61	21.82	0.56	2.44	1.01	42.52	16.12	0.79	4.44	1.26	31.62	54.70	1.58	6.44	0.87	26.14	224.01	2.47	8.44	0.77	9.27	301.34	3.18
0.46	2.93	115.61	24.26	0.56	2.46	1.04	43.18	16.12	0.76	4.46	1.17	34.29	54.70	1.56	6.46	0.88	25.59	224.83	2.50	8.46	0.74	8.38	303.78	3.18
0.48	2.83	108.84	16.12	0.75	2.48	1.06	45.63	15.31	0.81	4.48	1.19	37.73	62.03	1.58	6.48	0.87	25.81	224.83	2.50	8.48	0.72	7.27	302.97	3.18
0.50	2.79	102.95	16.93	0.75	2.50	1.08	45.85	15.31	0.86	4.50	1.36	35.40	67.72	1.55	6.50	0.83	27.14	220.75	2.49	8.50	0.65	7.16	298.90	3.20
0.52	2.95	94.95	16.12	0.72	2.52	1.09	44.96	14.49	0.83	4.52	1.45	26.62	66.09	1.57	6.52	0.79	26.14	219.13	2.51	8.52	0.62	8.27	298.09	3.21
0.54	3.09	88.17	16.93	0.79	2.54	1.05	43.29	16.12	0.80	4.54	1.80	22.40	67.72	1.62	6.54	0.77	25.59	218.31	2.50	8.54	0.65	9.27	296.45	3.22
0.56	3.13	84.18	19.37	0.75	2.56	1.01	43.18	15.31	0.87	4.56	2.03	23.73	73.42	1.61	6.56	0.73	25.25	217.50	2.54	8.56	0.61	8.93	293.20	3.23
0.58	3.13	77.96	19.37	0.67	2.58	0.98	44.51	16.12	0.82	4.58	2.02	22.84	70.17	1.61	6.58	0.72	25.59	215.87	2.54	8.58	0.61	6.49	294.83	3.24
0.60	3.13	76.96	18.56	0.68	2.60	0.95	44.62	15.31	0.81	4.60	1.85	26.73	68.53	1.59	6.60	0.72	26.59	215.05	2.56	8.60	0.60	5.71	292.39	3.26
0.62	3.12	85.84	17.75	0.62	2.62	0.92	45.18	16.12	0.83	4.62	1.51	26.51	65.28	1.63	6.62	0.67	28.48	210.17	2.57	8.62	0.58	7.82	290.76	3.25
0.64	3.01	88.29	20.19	0.80	2.64	0.95	45.18	14.49	0.80	4.64	1.48	27.51	64.47	1.62	6.64	0.64	27.25	210.17	2.58	8.64	0.52	8.49	289.95	3.28
0.66	2.93	89.85	20.19	0.67	2.66	0.97	45.96	16.12	0.82	4.66	1.40	30.29	63.65	1.61	6.66	0.65	25.81	210.17	2.56	8.66	0.55	8.16	290.76	3.27
0.68	2.97	90.96	21.01	0.65	2.68	1.00	46.51	15.31	0.83	4.68	1.35	27.40	64.47	1.63	6.68	0.66	24.25	210.99	2.57	8.68	0.52	7.15	292.39	3.31
0.70	3.05	92.74	20.19	0.75	2.70	1.02	47.62	15.31	0.81	4.70	1.33	27.18	64.47	1.66	6.70	0.70	22.25	211.80	2.63	8.70	0.56	7.82	293.20	3.30
0.72	3.08	87.74	21.01	0.81	2.72	0.98	45.07	14.49	0.81	4.72	1.31	26.62	66.91	1.65	6.72	0.88	26.03	220.75	2.61	8.72	0.60	5.71	294.83	3.30
0.74	3.41	81.07	21.82	0.81	2.74	0.97	43.51	13.68	0.80	4.74	1.24	24.62	66.09	1.63	6.74	0.87	24.70	220.75	2.62	8.74	0.61	3.49	301.34	3.34
0.76	3.71	74.41	19.37	0.90	2.76	0.90	44.61	16.12	0.70	4.76	1.23	21.73	65.28	1.61	6.76	0.88	24.81	222.38	2.63	8.76	0.65	4.05	302.15	3.33
0.78	3.71	62.41	22.63	0.85	2.78	0.92	47.96	17.75	0.82	4.78	1.20	21.95	64.47	1.67	6.78	0.88	23.81	224.83	2.65	8.78	0.66	3.93	306.23	3.32
0.80	3.97	55.41	21.82	0.80	2.80	0.94	46.51	17.75	0.83	4.80	1.27	23.73	67.72	1.63	6.80	0.87	27.14	206.10	2.65	8.80	0.73	3.82	310.29	3.33
0.82	4.21	53.96	21.01	0.72	2.82	1.01	44.51	17.75	0.86	4.82	1.29	26.51	67.72	1.66	6.82	0.95	31.59	216.69	2.64	8.82	0.77	5.15	311.92	3.34
0.84	4.18	55.08	21.82	0.87	2.84	1.03	43.84	17.75	0.82	4.84	1.21	27.84	68.53	1.68	6.84	1.11	30.81	226.45	2.65	8.84	0.84	5.60	314.37	3.33
0.86	4.37	54.64	21.01	0.82	2.86	1.02	43.29	17.75	0.86	4.86	1.21	28.39	66.91	1.66	6.86	1.23	33.59	175.17	2.68	8.86	0.76	6.49	308.67	3.36
0.88	4.57	54.20	20.19	0.76	2.88	1.08	41.40	16.93	0.84	4.88	1.32	28.50	70.98	1.64	6.88	1.17	35.70	189.01	2.67	8.88	0.82	8.27	310.29	3.35
0.90	5.78	40.53	17.75	0.84	2.90	1.10	38.84	17.75	0.90	4.90	1.42	27.28	73.42	1.65	6.90	1.31	37.03	202.03	2.69	8.90	0.86	7.60	313.55	3.36
0.92	5.83	38.20	18.56	0.81	2.92	1.14	37.96	16.93	0.85	4.92	1.33	27.50	74.23	1.67	6.92	1.39	32.92	218.31	2.70	8.92	0.77	8.82	305.41	3.39
0.94	5.89	35.87	19.37	0.78	2.94	1.15	39.07	18.56	0.82	4.94	1.23	27.71	75.05	1.68										



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tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P IVA e Codice Fiscale n. 00174600387

Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC



COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via de Gasperi, Osteria Nuova**

PROVA N°: **CPTU 4** PROF. FALDA (m da p.c.): **1.85**

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: **21/04/16** PREFORO (m da p.c.):

LAT. (WGS 84): **44.583041°** LONG. (WGS 84): **11.234899°**

COMMESSA: **15289/16**

C. SITO N°: **S160218** del 02/05/2016 OPERATORE: **L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.02	2.19	22.38	105.98	3.96	12.02	0.54	3.60	190.63	4.97	14.02	0.56	11.71	199.59	5.90	16.02	0.84	14.85	375.41	6.75	18.02	1.04	17.30	451.11	7.67
10.04	2.24	19.71	66.09	3.98	12.04	0.60	5.05	196.33	5.00	14.04	0.65	16.49	213.43	5.90	16.04	0.85	14.52	376.23	6.75	18.04	1.02	18.86	443.79	7.70
10.06	2.21	19.94	41.67	3.98	12.06	0.64	5.60	194.71	5.00	14.06	0.58	16.83	210.17	5.91	16.06	0.89	14.30	382.74	6.78	18.06	1.01	20.74	442.16	7.69
10.08	2.19	23.49	32.72	4.00	12.08	0.62	5.83	194.71	5.02	14.08	0.55	16.16	214.24	5.93	16.08	0.91	14.19	447.86	6.77	18.08	1.03	21.08	442.97	7.71
10.10	2.13	22.93	35.16	3.99	12.10	0.61	6.49	193.89	5.02	14.10	0.59	14.60	215.05	5.92	16.10	0.92	14.41	443.79	6.77	18.10	1.06	22.63	438.91	7.72
10.12	2.28	19.71	35.97	4.03	12.12	0.58	7.83	191.45	5.05	14.12	0.54	13.82	214.24	5.92	16.12	0.90	14.30	439.72	6.79	18.12	1.01	23.63	434.02	7.74
10.14	2.40	20.93	36.79	4.02	12.14	0.55	9.16	189.00	5.07	14.14	0.56	13.71	218.31	5.90	16.14	0.92	14.86	436.47	6.80	18.14	1.03	23.63	428.33	7.72
10.16	2.51	17.38	53.07	4.02	12.16	0.50	10.73	192.27	5.08	14.16	0.58	12.05	224.83	5.94	16.16	0.91	14.97	433.21	6.80	18.16	1.02	25.08	421.81	7.75
10.18	2.59	18.05	44.11	4.04	12.18	0.48	11.17	192.27	5.09	14.18	0.59	12.38	224.83	5.93	16.18	0.91	15.08	430.77	6.80	18.18	1.00	25.85	419.37	7.75
10.20	2.71	21.16	32.72	4.03	12.20	0.44	11.95	192.27	5.11	14.20	0.56	12.71	223.19	5.94	16.20	0.92	15.74	429.14	6.82	18.20	0.97	25.96	416.93	7.76
10.22	2.77	24.38	29.47	4.04	12.22	0.41	13.28	195.52	5.16	14.22	0.59	12.38	225.64	5.93	16.22	0.92	15.85	425.88	6.83	18.22	0.98	26.85	419.37	7.80
10.24	2.55	17.60	29.47	4.04	12.24	0.43	13.17	197.15	5.13	14.24	0.73	12.71	238.66	5.93	16.24	0.90	15.74	420.19	6.84	18.24	0.98	27.85	418.55	7.78
10.26	2.14	18.15	25.39	4.07	12.26	0.43	12.39	198.77	5.15	14.26	0.95	12.49	254.94	5.96	16.26	0.84	15.74	417.74	6.85	18.26	0.98	29.41	418.55	7.79
10.28	1.90	27.04	25.39	4.07	12.28	0.44	12.62	199.59	5.13	14.28	1.09	12.60	259.01	5.95	16.28	0.87	15.30	416.93	6.85	18.28	0.97	30.41	418.55	7.80
10.30	1.93	27.15	27.83	4.09	12.30	0.41	12.17	201.22	5.16	14.30	1.05	14.38	247.61	5.96	16.30	0.86	14.85	416.93	6.89	18.30	1.00	28.52	418.55	7.83
10.32	1.27	26.15	32.72	4.11	12.32	0.43	11.39	199.59	5.16	14.32	0.94	14.27	230.52	5.99	16.32	0.84	15.52	415.30	6.89	18.32	1.01	27.73	421.81	7.82
10.34	2.39	24.59	36.79	4.12	12.34	0.43	11.28	201.22	5.16	14.34	0.95	14.83	236.22	5.98	16.34	0.85	15.85	412.86	6.88	18.34	1.02	27.51	422.63	7.81
10.36	2.49	23.48	37.61	4.12	12.36	0.45	11.39	202.85	5.17	14.36	0.93	16.83	232.97	5.98	16.36	0.87	14.96	412.86	6.89	18.36	1.02	27.51	424.25	7.84
10.38	2.32	21.70	36.79	4.12	12.38	0.44	11.73	205.29	5.20	14.38	0.83	19.50	224.01	6.01	16.38	0.84	14.52	412.05	6.89	18.38	1.05	27.07	423.44	7.87
10.40	1.79	19.15	28.65	4.10	12.40	0.45	12.62	201.22	5.21	14.40	0.73	18.16	217.50	6.02	16.40	0.84	14.18	411.23	6.89	18.40	1.05	27.40	425.88	7.86
10.42	1.22	19.48	24.58	4.15	12.42	0.45	12.95	206.10	5.23	14.42	0.62	16.50	215.87	6.01	16.42	0.89	13.85	412.05	6.91	18.42	1.06	27.29	427.51	7.87
10.44	1.00	18.26	22.14	4.18	12.44	0.47	13.39	205.29	5.21	14.44	0.59	15.28	225.64	6.02	16.44	0.84	13.73	409.60	6.92	18.44	1.09	26.18	430.77	7.88
10.46	0.81	16.03	25.39	4.17	12.46	0.49	15.28	205.29	5.24	14.46	0.61	14.16	242.73	6.05	16.46	0.88	14.29	410.41	6.94	18.46	1.09	25.51	425.88	7.90
10.48	0.75	15.03	25.39	4.18	12.48	0.48	16.06	207.73	5.24	14.48	0.62	14.16	259.01	6.06	16.48	0.85	14.84	408.79	6.94	18.48	1.06	27.40	424.25	7.90
10.50	0.71	11.81	35.97	4.19	12.50	0.53	17.06	209.36	5.22	14.50	0.65	13.94	265.53	6.05	16.50	0.86	15.18	409.60	6.95	18.50	1.06	28.62	421.00	7.91
10.52	0.79	9.25	45.75	4.18	12.52	0.50	18.17	213.43	5.24	14.52	0.73	13.39	276.11	6.06	16.52	0.88	15.29	411.23	6.98	18.52	1.05	29.39	419.37	7.92
10.54	0.76	8.25	54.70	4.22	12.54	0.56	18.95	215.87	5.24	14.54	0.76	10.94	278.55	6.07	16.54	0.95	15.18	410.41	6.96	18.54	1.07	28.73	421.00	7.92
10.56	0.76	7.47	66.91	4.21	12.56	0.55	19.73	218.31	5.26	14.56	0.73	10.50	274.48	6.08	16.56	0.94	15.84	411.23	7.00	18.56	1.05	28.06	420.19	7.93
10.58	0.82	6.25	73.42	4.23	12.58	0.60	20.62	222.38	5.26	14.58	0.67	11.28	268.78	6.07	16.58	0.95	16.51	410.41	7.00	18.58	1.03	29.28	413.67	7.92
10.60	0.85	8.92	75.05	4.25	12.60	0.65	20.73	226.45	5.26	14.60	0.60	10.50	267.97	6.12	16.60	0.95	16.40	410.41	7.01	18.60	1.02	30.61	408.79	7.95
10.62	0.87	12.58	75.05	4.24	12.62	0.65	20.18	228.08	5.30	14.62	0.58	10.61	268.78	6.12	16.62	0.98	17.73	409.60	7.00	18.62	1.01	30.50	408.79	7.94
10.64	0.93	12.70	77.49	4.25	12.64	0.67	19.29	227.27	5.29	14.64	0.59	10.28	271.22	6.11	16.64	1.01	18.62	409.60	7.02	18.64	1.02	30.39	409.60	7.95
10.66	1.35	16.47	89.70	4.30	12.66	0.65	19.29	225.64	5.29	14.66	0.58	9.50	276.92	6.14	16.66	1.00	18.84	406.35	7.04	18.66	1.03	29.95	409.60	7.95
10.68	1.87	22.91	106.79	4.28	12.68	0.66	19.84	228.89	5.31	14.68	0.60	9.39	280.17	6.14	16.68	1.02	19.84	404.72	7.02	18.68	1.02	29.73	406.35	7.97
10.70	1.89	31.02	104.35	4.31	12.70	0.66	20.40	229.71	5.31	14.70	0.65	8.39	288.31	6.16	16.70	0.98	20.62	403.09	7.05	18.70	1.01	30.16	402.27	7.97
10.72	1.45	33.47	94.59	4.27	12.72	0.70	20.62	232.15	5.32	14.72	0.65	8.17	295.64	6.14	16.72	0.96	21.17	399.83	7.05	18.72	0.96	29.83	399.02	7.97
10.74	1.12	23.47	85.63	4.26	12.74	0.73	18.18	235.41	5.31	14.74	0.65	7.62	301.34	6.18	16.74	0.96	22.17	399.02	7.06	18.74	0.94	28.72	394.13	7.98
10.76	0.93	17.69	77.49	4.29	12.76	0.77	16.84	238.66	5.31	14.76	0.68	8.73	302.15	6.15	16.76	0.98	24.06	395.77	7.07	18.76	0.92	28.13	422.63	8.03
10.78	0.75	20.58	75.05	4.31	12.78	0.78	16.29	239.47	5.33	14.78	0.71	9.62	302.15	6.18	16.78	0.97	24.73	394.95	7.07	18.78	0.93	29.05	388.44	7.99
10.80	0.61	18.02	75.86	4.32	12.80	0.77	13.84	240.29	5.33	14.80	0.70	10.84	304.59	6.21	16.80	0.96	24.84	394.13	7.10	18.80	0.90	27.83	389.25	8.00
10.82	0.53	13.14	75.05	4.30	12.82	0.71	12.51	238.66	5.36	14.82	0.74	12.62	306.23	6.22	16.82	0.96	24.28	391.69	7.09	18.82	0.88	27.05	386.81	8.01
10.84	0.49	10.80	75.86	4.31	12.84	0.71	12.07	237.85	5.36	14.84	0.82	12.62	311.11	6.22	16.84	1.00	22.95	399.02	7.08	18.84	0.88	25.94	385.18	8.03
10.86	0.52	9.02	76.67	4.32	12.86	0.66	13.07	236.22	5.34	14.86	0.82	12.62	309.48	6.22	16.86	1.02	22.17	399.02	7.11	18.86	0.85	25.50	387.63	8.03
10.88	0.54	6.91	83.19	4.34	12.88	0.66	12.73	235.41	5.38	14.88	0.82	13.73	311.92	6.23	16.88	1.05	23.06	399.02	7.11	18.88	0.86	24.94	387.63	8.03
10.90	0.54	6.25	88.89	4.35	12.90	0.67	12.73	237.03	5.37	14.90	0.75	14.51	307.85	6.26	16.90	1.03	25.05	394.95	7.14	18.90	0.84	23.50	388.44	8.07



elletipi s.r.l.

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P IVA e Codice Fiscale n. 00174600387

Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC



COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via de Gasperi, Osteria Nuova**

PROVA N°: CPTU 4 PROF. FALDA (m da p.c.): 1.85 PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: 21/04/16 PREFORO (m da p.c.): LAT. (WGS 84): 44.583041° LONG. (WGS 84): 11.234899°

COMMESSA: 15289/16 C. SITO N°: S160218 del 02/05/2016 OPERATORE: L. Zanirato

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
20.02	1.03	25.83	440.53	8.53	22.02	1.99	56.93	406.35	9.22	24.02	2.33	98.43	472.28	9.90					
20.04	1.08	24.28	442.97	8.52	22.04	1.89	59.26	395.77	9.25	24.04	2.30	97.98	476.35	9.95					
20.06	1.09	23.83	443.79	8.54	22.06	1.84	60.59	388.44	9.27	24.06	2.26	96.76	469.84	9.93					
20.08	1.07	24.16	442.16	8.56	22.08	1.79	59.37	385.18	9.28	24.08	2.02	81.14	534.15	9.97					
20.10	1.12	23.72	448.67	8.56	22.10	1.72	60.81	394.95	9.29	24.10	2.20	84.14	517.87	9.98					
20.12	1.17	23.39	448.67	8.56	22.12	1.66	65.25	390.07	9.29	24.12	2.25	85.47	484.49	10.01					
20.14	1.15	24.61	446.23	8.55	22.14	1.66	68.59	393.32	9.32	24.14	2.22	94.03	464.95	9.99					
20.16	1.12	25.94	442.97	8.59	22.16	1.61	67.58	394.13	9.31	24.16	2.17	99.91	437.28	10.01					
20.18	1.08	26.16	439.72	8.60	22.18	1.61	67.69	395.77	9.35	24.18	2.12	102.25	429.14	10.02					
20.20	1.09	26.61	440.53	8.59	22.20	1.60	68.47	398.21	9.36	24.20	2.12	104.80	423.44	10.03					
20.22	1.13	26.83	443.79	8.61	22.22	1.61	68.47	399.02	9.36	24.22	2.07	104.58	414.49	10.04					
20.24	1.18	26.05	449.49	8.62	22.24	1.61	67.35	399.02	9.37	24.24	2.01	104.69	410.41	10.05					
20.26	1.20	25.61	449.49	8.61	22.26	1.59	67.24	399.02	9.39	24.26	2.01	104.02	410.41	10.05					
20.28	1.19	27.16	442.16	8.62	22.28	1.58	66.46	407.97	9.39	24.28	2.01	99.79	417.74	10.06					
20.30	1.17	27.39	439.72	8.62	22.30	1.63	66.57	417.74	9.40	24.30	2.00	96.79	417.74	10.06					
20.32	1.13	28.16	439.72	8.63	22.32	1.71	67.35	427.51	9.39	24.32	1.96	93.56	412.05	10.05					
20.34	1.15	27.72	441.35	8.66	22.34	1.76	68.35	434.83	9.40	24.34	1.94	91.56	410.41	10.06					
20.36	1.18	27.05	442.16	8.66	22.36	1.78	66.46	436.47	9.39	24.36	1.95	87.78	421.81	10.05					
20.38	1.14	28.05	438.09	8.67	22.38	1.80	66.01	438.91	9.42	24.38	1.91	85.56	420.19	10.06					
20.40	1.11	28.50	434.02	8.67	22.40	1.83	67.90	443.79	9.39	24.40	1.88	84.56	442.16	10.06					
20.42	1.07	28.05	428.33	8.67	22.42	1.84	70.12	446.23	9.41	24.42	1.89	84.44	447.05	10.08					
20.44	1.05	27.50	426.69	8.68	22.44	1.83	71.45	444.61	9.42	24.44	1.88	82.99	451.11	10.06					
20.46	1.06	27.94	425.88	8.71	22.46	1.81	72.78	438.91	9.43	24.46	1.93	81.99	454.37	10.09					
20.48	1.06	28.72	427.51	8.69	22.48	1.78	73.89	438.09	9.44	24.48	1.92	79.21	454.37	10.09					
20.50	1.06	29.05	427.51	8.70	22.50	1.78	75.34	434.83	9.43	24.50	1.89	79.55	452.75	10.09					
20.52	1.11	28.16	434.02	8.74	22.52	1.75	76.34	433.21	9.43	24.52	1.84	78.77	447.05	10.10					
20.54	1.13	28.16	435.65	8.74	22.54	1.69	76.23	430.77	9.45	24.54	1.77	80.55	438.91	10.12					
20.56	1.12	28.61	433.21	8.74	22.56	1.68	73.45	426.69	9.45	24.56	1.76	80.10	434.83	10.12					
20.58	1.13	29.05	434.02	8.74	22.58	1.70	73.22	430.77	9.47	24.58	1.71	81.77	442.16	10.09					
20.60	1.14	30.38	429.95	8.74	22.60	1.69	76.11	427.51	9.45	24.60	1.70	82.66	434.83	10.14					
20.62	1.11	31.61	430.77	8.77	22.62	1.63	80.55	428.33	9.47	24.62	1.69	82.44	434.02	10.12					
20.64	1.11	32.27	429.95	8.76	22.64	1.60	78.66	427.51	9.48	24.64	1.71	80.44	434.83	10.14					
20.66	1.09	32.16	430.77	8.79	22.66	1.59	75.77	430.77	9.51	24.66	1.70	75.77	429.14	10.14					
20.68	1.11	31.38	432.39	8.78	22.68	1.59	72.22	432.39	9.50	24.68	1.69	73.11	429.14	10.15					
20.70	1.12	30.94	431.58	8.79	22.70	1.56	69.44	438.09	9.53	24.70	1.69	70.33	423.44	10.14					
20.72	1.12	29.94	428.33	8.79	22.72	1.58	65.88	448.67	9.51	24.72	1.66	70.67	419.37	10.15					
20.74	1.12	29.27	430.77	8.80	22.74	1.70	63.33	465.77	9.51	24.74	1.57	69.67	416.93	10.17					
20.76	1.09	29.27	428.33	8.83	22.76	1.83	60.21	484.49	9.52	24.76	1.52	66.33	412.05	10.17					
20.78	1.09	29.60	426.69	8.83	22.78	1.94	59.10	505.65	9.53	24.78	1.51	65.45	408.79	10.17					
20.80	1.07	28.94	426.69	8.85	22.80	2.09	59.55	515.42	9.53	24.80	1.42	64.23	406.35	10.16					
20.82	1.07	28.16	426.69	8.83	22.82	2.10	63.33	508.09	9.55	24.82	1.38	64.56	412.05	10.19					
20.84	1.09	27.38	425.07	8.86	22.84	2.10	59.57	498.33	9.57	24.84	1.35	64.56	416.11	10.20					
20.86	1.08	27.05	425.07	8.86	22.86	2.12	64.02	495.89	9.57	24.86	1.33	61.67	419.37	10.22					
20.88	1.09	27.05	428.33	8.88	22.88	2.11	67.24	477.17	9.58	24.88	1.35	58.68	425.07	10.22					
20.90	1.09	26.83	427.51	8.88	22.90	2.00	73.91	477.98	9.59	24.90	1.30	56.24	421.81	10.24					
20.92	1.09	28.61	432.39	8.89	22.92	1.98	80.13	491.00	9.61	24.92	1.25	51.79	425.88	10.23					
20.94	1.05	30.61	423.44	8.89	22.94	1.93	85.69	486.93	9.62	24.94	1.25	49.24	426.69	10.24					
20.96	1.03	30.95	415.30	8.88	22.96	1.92	87.24	486.93	9.62	24.96	1.18	49.35	418.55	10.26					
20.98	1.02	30.28	408.79	8.93	22.98	1.99	84.80	500.77	9.63	24.98	1.08	48.35	419.37	10.28					
21.00	0.98	30.39	401.46	8.92	23.00	2.02	84.57	508.91	9.66	25.00	1.05	47.14	429.95	10.28					
21.02	0.90	29.61	396.58	8.93	23.02	2.10	81.68	524.37	9.68										
21.04	0.90	29.06	393.32	8.93	23.04	2.20	76.57	524.37	9.65										
21.06	0.89	28.72	388.44	8.95	23.06	2.19	78.35	526.01	9.66										
21.08	0.86	27.72	386.81	8.96	23.08	2.19	76.24	534.15	9.66										
21.10	0.86	26.61	384.37	8.97	23.10	2.19	72.90	520.31	9.68										
21.12	0.83	25.39	379.49	8.95	23.12	2.24	73.12	518.68	9.68										
21.14	0.83	26.05	377.04	8.96	23.14	2.16	75.78	508.09	9.69										
21.16	0.79	27.16	373.79	8.98	23.16	2.04	79.01	491.81	9.67										
21.18	0.78	27.83	372.16	8.99	23.18	2.05	79.45	488.56	9.71										
21.20	0.77	27.94	374.60	9.01	23.20	2.01	82.45	478.79	9.71										
21.22	0.81	25.61	389.25	9.01	23.22	1.89	86.00	476.35	9.72										
21.24	0.91	21.05	407.97	9.01	23.24	1.87	83.56	472.28	9.71										
21.26	1.03	22.83	423.44	9.03	23.26	1.79	81.66	469.84	9.70										
21.28	1.07	24.27	427.51	8.99	23.28	1.68	78.33	447.05	9.71										
21.30	1.12	23.83	440.53	9.00	23.30	1.80	84.22	463.33	9.72										
21.32	1.24	23.83	455.19	9.02	23.32	1.82	84.22	463.33	9.72										
21.34	1.32	25.94	463.33	9.03	23.34	1.83	83.11	460.89	9.72										
21.36	1.36	27.50	463.33	9.03	23.36	1.84	81.99	459.25	9.71										
21.38	1.35	29.39	456.00	9.05	23.38	1.83	81.11	460.89	9.72										
21.40	1.35	31.50	452.75																

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Via de Gasperi, Osteria Nuova

PROVA N°: CPTU 4 PROF. FALDA (m da p.c.): 1.85

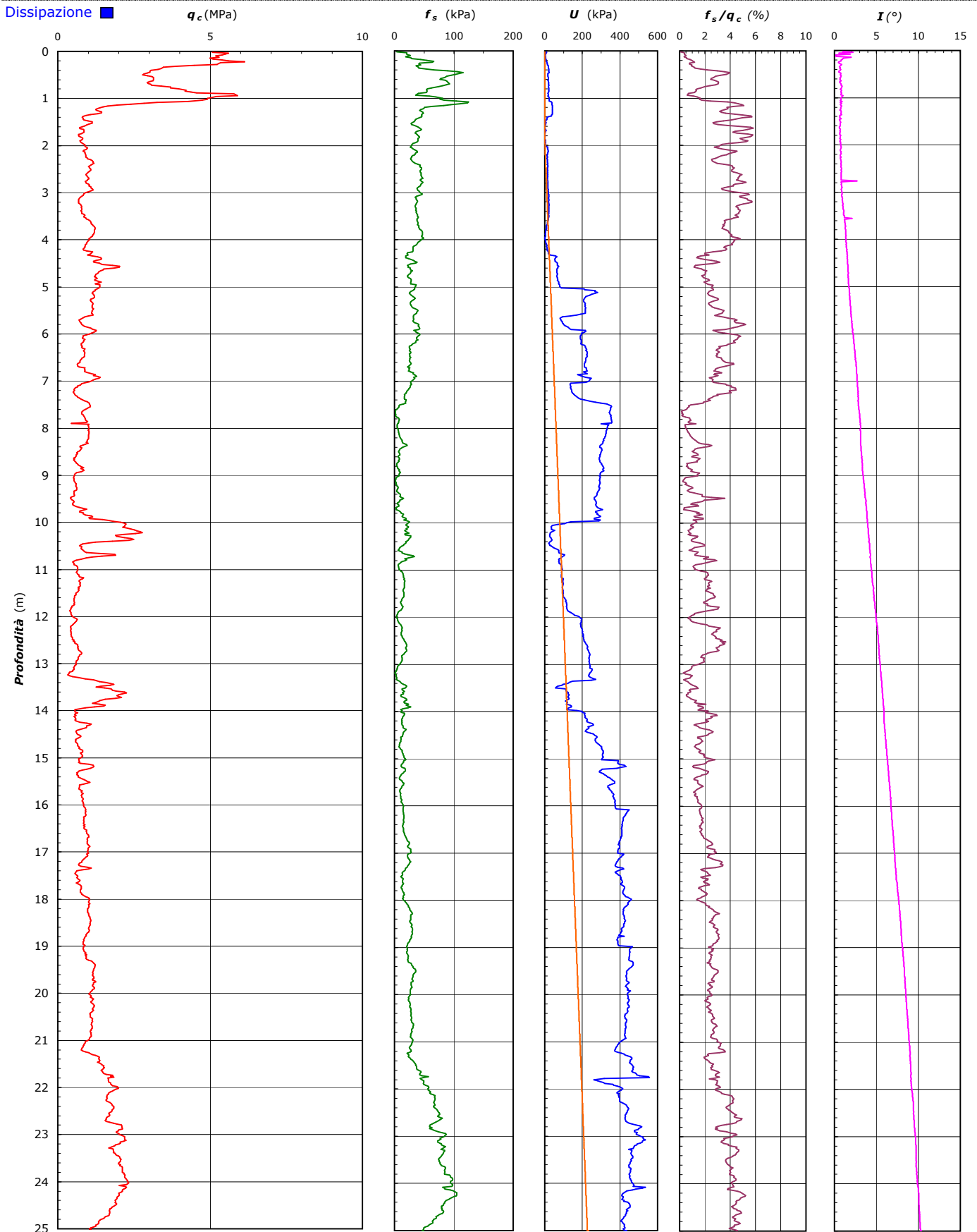
PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: 21/04/16 PREFORO (m da p.c.):

LAT. (WGS 84): 44.583041° LONG. (WGS 84): 11.234899°

COMMESSA: 15289/16

C. SITO N°: S160218 del 02/05/2016 OPERATORE: L. Zanirato



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**CANTIERE: Via de Gasperi, Osteria Nuova**

PROVA N°: CPTU 4 PROF. FALDA (m da p.c.): 1.85 PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
DATA: 21/04/16 PREFORO (m da p.c.): LAT. (WGS 84): 44.583041° LONG. (WGS 84): 11.234899°
COMMESSA: 15289/16 C. SITO N°: S160218 del 02/05/2016 OPERATORE: L. Zanirato

UBICAZIONE

Località: Via de Gasperi, Osteria Nuova



NOTE: Utilizzato 1 anello allargatore da inizio prova



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P IVA e Codice Fiscale n. 00174600387

Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC



COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Fratelli Bastia, Padulle (BO)**

PROVA N°: **CPTU 5** PROF. FALDA (m da p.c.): **1.60**

PUNTA: **Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]**

DATA: **21/04/16** PREFORO (m da p.c.):

LAT. (WGS 84): **44.625531°** LONG. (WGS 84): **11.272701°**

COMMESSA: **15289/16**

C. SITO N°: **S160219** del 02/05/2016 OPERATORE: **L. Zanirato**

prof. m	qc kPa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.02	3.40	1.33	15.63	1.70	2.02	1.38	72.08	0.65	1.49	4.02	0.96	33.00	39.23	1.65	6.02	0.92	29.08	69.35	2.38	8.02	2.17	26.07	98.65	3.47
0.04	7.79	3.55	32.72	0.61	2.04	1.39	55.34	0.97	1.51	4.04	0.96	34.11	40.86	1.64	6.04	0.92	29.08	69.35	2.39	8.04	2.60	29.40	92.95	3.51
0.06	10.67	10.32	32.72	1.17	2.06	1.42	54.68	3.41	1.50	4.06	0.91	34.33	47.37	1.65	6.06	0.95	30.30	69.35	2.39	8.06	2.75	29.96	85.63	3.52
0.08	11.39	16.10	35.97	0.56	2.08	1.41	53.57	2.60	1.56	4.08	0.88	31.78	46.56	1.66	6.08	0.95	30.97	68.53	2.41	8.08	2.17	34.51	74.23	3.52
0.10	14.93	11.10	40.05	0.67	2.10	1.39	52.46	2.60	1.52	4.10	0.86	30.33	46.56	1.65	6.10	0.94	31.08	69.35	2.41	8.10	1.55	41.40	71.79	3.51
0.12	11.93	16.54	27.83	0.66	2.12	1.36	50.02	2.60	1.49	4.12	0.81	32.22	47.37	1.66	6.12	0.95	31.19	69.35	2.38	8.12	1.38	33.40	84.81	3.51
0.14	11.49	20.54	18.07	0.28	2.14	1.29	48.57	3.41	1.53	4.14	0.82	33.11	53.07	1.69	6.14	0.95	31.53	69.35	2.39	8.14	1.21	29.84	88.89	3.54
0.16	9.98	23.99	9.11	0.62	2.16	1.19	47.57	0.97	1.50	4.16	0.79	34.22	59.58	1.68	6.16	0.96	31.86	69.35	2.39	8.16	1.15	30.29	97.84	3.53
0.18	9.52	14.54	16.44	0.10	2.18	1.08	47.69	1.79	1.53	4.18	0.80	34.89	61.21	1.70	6.18	0.95	32.31	69.35	2.41	8.18	1.14	30.28	107.61	3.56
0.20	12.38	29.43	18.88	0.30	2.20	1.02	49.47	8.30	1.50	4.20	0.87	35.33	66.91	1.72	6.20	0.95	32.64	70.17	2.42	8.20	1.14	27.73	120.63	3.57
0.22	10.12	25.88	13.19	0.71	2.22	0.95	49.35	11.55	1.51	4.22	0.87	36.11	68.53	1.68	6.22	0.96	33.53	69.35	2.42	8.22	1.15	26.28	130.40	3.57
0.24	13.11	30.77	24.58	1.03	2.24	0.93	45.91	14.00	1.48	4.24	0.92	35.11	68.53	1.69	6.24	0.96	34.19	69.35	2.43	8.24	1.17	24.61	137.73	3.60
0.26	15.38	7.10	19.69	0.41	2.26	1.01	42.02	15.63	1.51	4.26	0.91	33.55	58.77	1.70	6.26	0.95	34.19	68.53	2.42	8.26	1.18	22.17	142.61	3.62
0.28	12.32	22.47	1.79	0.98	2.28	1.05	39.36	19.69	1.46	4.28	0.98	31.55	54.70	1.73	6.28	0.95	34.08	70.17	2.41	8.28	1.23	22.84	173.54	3.60
0.30	5.80	22.47	4.73	1.02	2.30	1.01	36.70	23.77	1.49	4.30	1.03	30.33	57.14	1.75	6.30	0.95	33.86	70.17	2.43	8.30	1.19	25.06	177.61	3.64
0.32	9.37	23.63	13.19	1.25	2.32	0.90	32.25	22.14	1.44	4.32	1.03	30.22	62.84	1.72	6.32	0.99	33.64	70.98	2.44	8.32	1.09	25.05	180.05	3.63
0.34	9.45	1.59	1.79	1.37	2.34	0.90	30.92	22.14	1.48	4.34	1.02	31.00	60.39	1.75	6.34	1.08	34.53	79.12	2.48	8.34	1.01	27.84	179.24	3.65
0.36	13.44	28.74	14.81	1.32	2.36	0.89	33.82	24.58	1.46	4.36	1.04	31.55	67.95	1.77	6.36	1.07	34.20	81.56	2.48	8.36	0.96	28.62	181.68	3.67
0.38	10.02	51.96	10.74	1.41	2.38	0.91	34.71	27.83	1.45	4.38	0.98	32.77	59.58	1.57	6.38	1.06	32.64	86.45	2.50	8.38	0.97	26.73	187.38	3.67
0.40	11.45	10.96	10.74	1.90	2.40	0.91	34.15	29.47	1.42	4.40	0.98	33.99	74.23	1.73	6.40	1.08	29.87	91.33	2.48	8.40	0.96	25.06	196.33	3.70
0.42	8.16	13.85	7.49	2.01	2.42	0.91	35.38	28.65	1.48	4.42	0.93	33.65	71.79	1.66	6.42	1.08	29.09	98.65	2.51	8.42	0.90	23.06	198.77	3.71
0.44	5.82	98.76	6.67	1.96	2.44	0.86	34.16	27.83	1.45	4.44	0.92	32.88	75.86	1.80	6.44	1.13	28.53	107.61	2.52	8.44	0.88	21.61	197.96	3.71
0.46	4.41	105.09	0.16	1.86	2.46	0.85	34.83	28.65	1.42	4.46	0.91	32.77	73.42	1.78	6.46	1.11	27.20	113.31	2.52	8.46	0.86	21.61	204.47	3.70
0.48	3.93	116.76	0.16	2.03	2.48	0.88	35.17	30.28	1.44	4.48	0.90	32.22	75.05	1.79	6.48	1.13	25.31	116.56	2.56	8.48	0.93	21.61	221.57	3.73
0.50	3.61	109.32	3.09	2.07	2.50	0.86	33.95	33.53	1.44	4.50	0.86	31.77	70.98	1.81	6.50	1.14	24.42	119.82	2.57	8.50	0.97	20.06	234.59	3.73
0.52	3.43	87.43	6.35	2.07	2.52	0.85	32.17	36.79	1.44	4.52	0.84	29.88	68.53	1.83	6.52	1.14	24.75	120.63	2.58	8.52	0.95	19.17	236.22	3.75
0.54	3.17	77.65	7.98	2.00	2.54	0.92	31.40	37.61	1.41	4.54	0.76	27.77	70.17	1.82	6.54	1.14	23.54	122.26	2.59	8.54	1.01	18.95	237.85	3.78
0.56	2.92	94.54	11.23	2.01	2.56	0.98	29.63	40.05	1.39	4.56	0.74	27.10	75.05	1.80	6.56	1.11	21.87	123.89	2.60	8.56	1.12	20.50	239.47	3.80
0.58	2.46	66.09	12.87	1.94	2.58	1.02	28.19	41.67	1.46	4.58	0.74	27.55	79.12	1.84	6.58	1.14	21.42	125.51	2.61	8.58	1.17	20.50	242.73	3.81
0.60	2.23	65.09	12.87	2.01	2.60	0.98	27.19	40.86	1.38	4.60	0.73	26.66	79.12	1.86	6.60	1.16	21.31	129.59	2.61	8.60	1.18	18.84	241.92	3.82
0.62	2.06	69.31	14.49	2.05	2.62	1.04	26.64	40.05	1.45	4.62	0.73	24.44	79.93	1.88	6.62	1.22	22.98	132.84	2.65	8.62	1.13	24.06	237.85	3.83
0.64	2.02	70.65	16.12	2.00	2.64	1.06	28.64	41.67	1.39	4.64	0.74	22.88	82.37	1.89	6.64	1.25	24.09	133.65	2.65	8.64	1.07	21.95	237.03	3.85
0.66	1.95	71.76	18.56	1.94	2.66	1.07	29.09	40.05	1.39	4.66	0.72	19.99	82.37	1.88	6.66	1.20	22.98	134.47	2.67	8.66	1.15	21.28	237.85	3.85
0.68	1.91	68.88	19.37	1.94	2.68	1.09	27.87	40.05	1.40	4.68	0.73	17.55	83.19	1.89	6.68	1.13	22.64	133.65	2.67	8.68	1.17	26.17	239.47	3.86
0.70	1.87	61.88	21.01	1.90	2.70	1.13	28.20	41.67	1.39	4.70	0.76	17.33	84.00	1.90	6.70	1.13	23.64	132.84	2.69	8.70	1.12	27.39	237.03	3.87
0.72	1.85	60.22	21.82	1.90	2.72	1.19	30.65	42.49	1.42	4.72	0.79	17.44	84.00	1.90	6.72	1.09	22.64	134.47	2.71	8.72	1.03	27.84	236.22	3.88
0.74	1.77	62.01	20.19	1.86	2.74	1.25	31.43	41.67	1.44	4.74	0.81	18.88	84.00	1.93	6.74	1.14	20.75	136.10	2.70	8.74	1.15	29.39	239.47	3.88
0.76	1.74	62.35	22.63	1.86	2.76	1.27	31.65	42.49	1.37	4.76	0.81	18.88	84.81	1.94	6.76	1.16	19.42	137.73	2.72	8.76	1.33	31.06	243.55	3.88
0.78	1.70	66.80	24.26	1.92	2.78	1.30	31.21	40.86	1.37	4.78	0.80	21.44	84.00	1.96	6.78	1.21	17.98	140.98	2.75	8.78	1.45	29.62	244.36	3.89
0.80	1.72	67.03	25.07	1.89	2.80	1.34	31.54	41.67	1.38	4.80	0.80	25.10	84.81	1.94	6.80	1.21	16.31	141.79	2.76	8.80	1.47	29.65	242.73	3.91
0.82	1.73	66.37	16.93	1.86	2.82	1.37	33.55	41.67	1.44	4.82	0.79	26.88	83.19	1.97	6.82	1.18	17.42	142.61	2.76	8.82	1.36	30.95	241.11	3.90
0.84	1.75	67.48	14.49	1.85	2.84	1.35	35.22	40.86	1.40	4.84	0.79	28.10	84.81	1.94	6.84	1.13	18.98	143.43	2.76	8.84	1.23	30.17	238.66	3.91
0.86	1.75	70.60	15.31	1.80	2.86	1.30	34.55	41.67	1.46	4.86	0.78	29.22	84.81	1.98	6.86	1.11	19.98	145.05	2.79	8.86	1.14	28.73	238.66	3.95
0.88	1.78	72.16	14.49	1.78	2.88	1.22	35.11	40.05	1.41	4.88	0.76	28.99	84.00	1.98	6.88	1.10	21.20	145.87	2.81	8.88	1.15	27.28	245.17	3.93
0.90	1.82	74.83	14.49	1.83	2.90	1.16	34.33	39.23	1.41	4.90	0.73	29.88	84.81	1.98	6.90	1.04	22.98	146.68	2.82	8.90	1.13	26.84	250.87	3.95
0.92	1.83	75.39	12.87	1.81	2.92	1.08	33.33	39.23	1.42	4.92	0.74	29.77	84.00	1.98	6.92	1.04	24.09	147.49	2.84	8.92	1.06	25.95	251.69	3.94
0.94	1.74	76.18	13.68	1.76	2.94	1.04	34.67	39.23	1.43	4.94	0.73	29.33	83.19	1.99	6.94	1.15								



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P.IVA e Codice Fiscale n. 00174600387



Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Fratelli Bastia, Padulle (BO)**

PROVA N°: **CPTU 5** PROF. FALDA (m da p.c.): **1.60**

PUNTA: **Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]**

DATA: **21/04/16** PREFORO (m da p.c.):

LAT. (WGS 84): 44.625531°

LONG. (WGS 84): 11.272701°

COMMESSA: **15289/16**

C. SITO N°: **S160219** del 02/05/2016 OPERATORE: **L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.02	0.63	17.30	274.48	4.56	12.02	0.85	33.52	307.85	5.62	14.02	0.88	18.56	315.99	6.76	16.02	0.93	19.79	352.62	7.91	18.02	1.99	24.11	84.81	8.87
10.04	0.63	16.52	275.29	4.56	12.04	0.84	33.07	299.71	5.64	14.04	0.86	18.78	316.81	6.77	16.04	0.91	19.46	350.18	7.90	18.04	2.34	28.77	72.61	8.89
10.06	0.66	14.52	275.29	4.59	12.06	0.83	33.96	294.83	5.66	14.06	0.87	20.12	320.06	6.77	16.06	0.93	19.57	352.62	7.90	18.06	2.98	34.66	69.35	8.89
10.08	0.67	14.53	275.29	4.60	12.08	0.84	34.29	294.83	5.62	14.08	0.87	21.23	320.87	6.80	16.08	0.97	19.79	352.62	7.94	18.08	3.78	41.11	57.14	8.89
10.10	0.67	19.75	276.11	4.62	12.10	0.82	35.51	295.64	5.65	14.10	0.88	21.90	320.06	6.80	16.10	0.98	20.01	352.62	7.94	18.10	4.49	44.55	51.44	8.89
10.12	0.66	18.97	276.92	4.64	12.12	0.80	35.51	294.01	5.65	14.12	0.85	22.90	318.43	6.80	16.12	0.97	20.57	352.62	7.94	18.12	5.10	45.00	51.44	8.91
10.14	0.63	17.75	276.92	4.62	12.14	0.79	32.74	290.76	5.65	14.14	0.80	22.90	318.43	6.82	16.14	0.99	20.46	353.43	7.97	18.14	5.60	41.55	51.44	8.90
10.16	0.61	17.64	275.29	4.65	12.16	0.78	32.41	290.76	5.66	14.16	0.79	22.34	317.62	6.82	16.16	1.00	20.57	353.43	7.95	18.16	6.05	35.55	55.51	8.93
10.18	0.63	17.30	276.92	4.65	12.18	0.78	33.30	288.31	5.67	14.18	0.79	22.45	318.43	6.85	16.18	1.02	20.79	353.43	7.93	18.18	6.51	29.11	58.77	8.94
10.20	0.80	16.20	279.36	4.65	12.20	0.75	34.52	287.50	5.66	14.20	0.82	21.34	318.43	6.85	16.20	1.04	21.23	353.43	7.95	18.20	6.79	24.88	60.39	8.95
10.22	0.89	17.42	280.17	4.69	12.22	0.74	35.52	287.50	5.69	14.22	0.86	19.90	321.69	6.87	16.22	1.08	21.46	354.25	7.94	18.22	7.05	23.00	63.65	8.93
10.24	0.95	18.32	279.36	4.70	12.24	0.74	35.96	287.50	5.69	14.24	0.88	18.90	321.69	6.87	16.24	1.04	20.68	350.18	7.96	18.24	7.21	22.55	65.28	8.96
10.26	1.13	20.98	285.06	4.70	12.26	0.75	36.52	287.50	5.71	14.26	0.90	19.45	322.69	6.91	16.26	1.04	20.12	350.18	7.98	18.26	7.16	17.99	119.82	8.98
10.28	1.13	16.42	277.73	4.71	12.28	0.77	34.86	286.69	5.71	14.28	0.91	19.56	322.51	6.91	16.28	1.04	20.46	349.37	7.96	18.28	7.27	16.55	122.26	8.99
10.30	1.02	19.20	270.41	4.73	12.30	0.80	32.30	288.31	5.73	14.30	0.88	20.68	320.87	6.92	16.30	1.05	20.68	348.55	7.97	18.30	7.31	18.22	122.26	9.01
10.32	1.01	19.54	270.41	4.74	12.32	0.80	31.19	288.31	5.73	14.32	0.88	22.45	321.69	6.94	16.32	1.04	21.12	348.55	7.99	18.32	7.27	18.33	123.07	9.01
10.34	0.96	20.65	271.22	4.77	12.34	0.82	29.08	288.31	5.74	14.34	0.88	23.56	320.87	6.95	16.34	1.04	21.35	346.93	7.98	18.34	7.19	17.10	124.70	9.02
10.36	0.98	20.42	271.22	4.78	12.36	0.84	27.19	289.13	5.76	14.36	0.91	23.56	321.69	6.95	16.36	1.05	22.23	346.93	7.99	18.36	7.08	16.32	127.15	9.03
10.38	0.96	20.98	269.59	4.79	12.38	0.86	26.19	289.13	5.76	14.38	0.92	24.90	320.87	6.97	16.38	1.04	23.01	345.29	8.00	18.38	6.92	16.21	127.96	9.03
10.40	0.91	21.76	270.41	4.79	12.40	0.89	25.97	289.13	5.78	14.40	0.97	28.56	323.32	6.97	16.40	1.04	23.23	345.29	8.00	18.40	6.77	15.32	128.77	9.02
10.42	0.86	19.76	268.78	4.80	12.42	0.90	25.86	290.76	5.79	14.42	0.98	31.23	323.32	6.99	16.42	1.03	23.46	346.11	8.00	18.42	6.67	14.32	130.40	9.04
10.44	0.81	19.87	268.78	4.80	12.44	0.94	26.86	290.76	5.80	14.44	0.93	29.67	322.51	7.00	16.44	1.02	24.12	344.48	8.00	18.44	6.66	13.43	127.96	9.04
10.46	0.80	19.20	267.97	4.79	12.46	0.92	27.52	289.95	5.82	14.46	0.85	26.12	320.06	6.99	16.46	1.03	24.68	345.29	8.00	18.46	6.74	11.43	129.59	9.06
10.48	0.79	16.42	269.59	4.84	12.48	0.91	27.30	289.95	5.83	14.48	0.79	25.01	318.43	7.03	16.48	1.03	24.35	343.67	8.01	18.48	6.90	11.54	132.03	9.06
10.50	0.80	13.98	271.22	4.84	12.50	0.84	26.63	287.50	5.82	14.50	0.74	23.90	317.62	7.04	16.50	1.02	24.90	343.67	8.03	18.50	7.07	10.54	135.29	9.06
10.52	0.80	14.31	271.22	4.86	12.52	0.75	24.86	285.87	5.84	14.52	0.76	22.89	318.43	7.07	16.52	1.00	26.57	342.85	8.05	18.52	7.08	10.87	138.54	9.05
10.54	0.72	15.65	269.59	4.86	12.54	0.71	24.19	283.43	5.87	14.54	0.74	22.67	318.43	7.06	16.54	0.94	27.46	340.41	8.04	18.54	6.96	12.09	138.54	9.08
10.56	0.66	17.42	269.59	4.89	12.56	0.67	23.75	283.43	5.88	14.56	0.73	21.45	319.25	7.08	16.56	0.93	27.35	341.23	8.08	18.56	6.67	12.08	139.35	9.10
10.58	0.62	16.98	267.97	4.90	12.58	0.61	22.52	282.62	5.90	14.58	0.78	20.45	320.06	7.08	16.58	0.94	27.79	341.23	8.09	18.58	6.34	12.97	140.17	9.10
10.60	0.66	17.53	269.59	4.91	12.60	0.67	21.08	283.43	5.89	14.60	0.75	21.00	320.87	7.10	16.60	0.92	28.01	341.23	8.09	18.60	6.03	13.30	138.54	9.12
10.62	0.67	18.75	271.22	4.91	12.62	0.61	21.75	281.81	5.91	14.62	0.74	22.00	320.87	7.10	16.62	0.87	26.23	340.41	8.12	18.62	5.84	12.63	139.35	9.14
10.64	0.66	17.98	271.22	4.91	12.64	0.57	21.86	280.17	5.90	14.64	0.72	21.44	320.87	7.12	16.64	0.85	25.01	338.79	8.09	18.64	5.79	10.97	141.79	9.13
10.66	0.63	17.76	270.41	4.94	12.66	0.56	21.86	280.99	5.93	14.66	0.72	21.33	320.87	7.13	16.66	0.79	24.34	339.60	8.10	18.66	5.83	10.30	144.24	9.14
10.68	0.57	18.54	269.59	4.96	12.68	0.54	21.75	280.17	5.92	14.68	0.78	20.78	324.13	7.14	16.68	0.81	23.12	340.41	8.12	18.68	5.94	9.74	146.68	9.18
10.70	0.63	18.54	270.41	4.95	12.70	0.51	21.41	279.36	5.95	14.70	0.84	19.33	327.39	7.14	16.70	0.80	20.79	340.41	8.12	18.70	6.02	10.29	147.49	9.16
10.72	0.69	18.20	272.03	4.97	12.72	0.50	20.42	279.36	5.98	14.72	0.90	17.33	329.01	7.18	16.72	0.77	19.23	341.23	8.13	18.72	6.04	10.96	149.93	9.17
10.74	0.78	14.31	275.29	4.97	12.74	0.50	19.42	279.36	5.98	14.74	0.91	14.22	329.83	7.18	16.74	0.77	17.45	342.04	8.13	18.74	6.00	10.73	150.75	9.17
10.76	0.81	11.87	276.92	4.99	12.76	0.50	17.75	280.17	6.03	14.76	0.85	12.45	328.20	7.18	16.76	0.76	18.01	342.85	8.15	18.76	5.90	10.06	152.38	9.21
10.78	0.85	13.76	278.55	4.98	12.78	0.54	17.75	280.99	6.04	14.78	0.81	11.78	327.39	7.22	16.78	0.79	18.12	343.67	8.15	18.78	5.79	10.51	152.38	9.21
10.80	0.86	15.87	280.17	5.02	12.80	0.56	18.64	281.81	6.04	14.80	0.81	11.22	327.39	7.19	16.80	0.79	19.78	344.48	8.18	18.80	5.71	9.95	154.01	9.21
10.82	0.96	14.87	280.99	5.02	12.82	0.57	18.31	280.99	6.03	14.82	0.82	11.89	327.39	7.20	16.82	0.82	21.78	345.29	8.19	18.82	5.65	10.73	155.63	9.22
10.84	0.98	15.20	281.81	5.04	12.84	0.59	18.75	282.62	6.05	14.84	0.85	12.56	328.20	7.21	16.84	0.82	21.78	346.93	8.19	18.84	5.56	10.17	155.63	9.21
10.86	0.90	15.32	280.17	5.04	12.86	0.61	18.53	281.81	6.06	14.86	0.85	14.33	328.20	7.20	16.86	0.86	21.78	347.74	8.19	18.86	5.48	8.84	156.45	9.24
10.88	0.81	18.98	278.55	5.05	12.88	0.66	18.09	284.25	6.09	14.88	0.82	16.78	326.57	7.23	16.88	0.90	20.23	349.37	8.21	18.88	5.32	9.50	155.63	9.25
10.90	0.81	17.76	279.36	5.08	12.90	0.69	18.31	285.06	6.06	14.90	0.78	18.78	325.76	7.23	16.90									

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Via Fratelli Bastia, Padulle (BO)

PROVA N°: CPTU 5 PROF. FALDA (m da p.c.): 1.60

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: 21/04/16

PREFORO (m da p.c.):

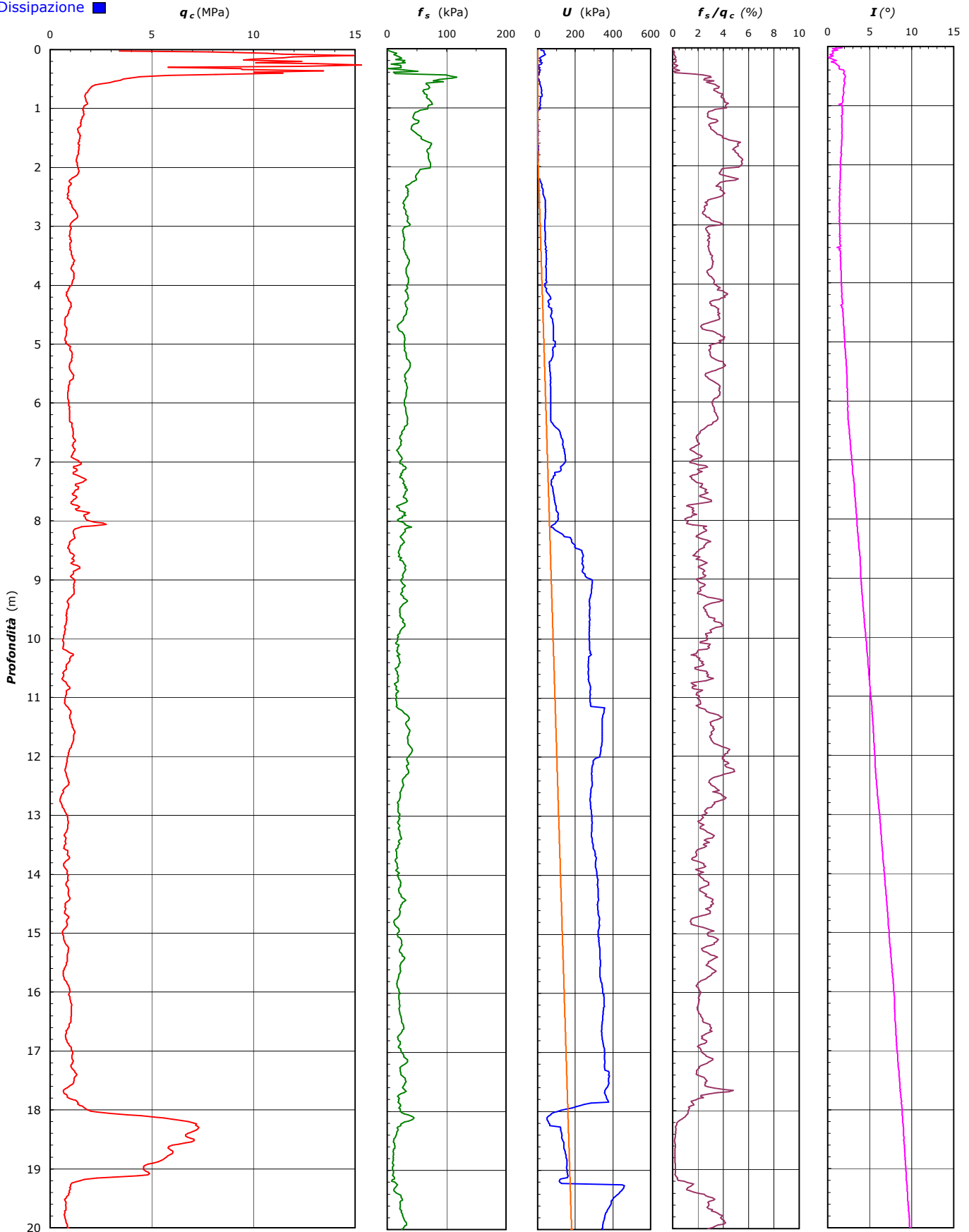
LAT. (WGS 84): 44.625531°

LONG. (WGS 84): 11.272701°

COMMESSA: 15289/16

C. SITO N°: S160219 del 02/05/2016 OPERATORE: L. Zanirato

Dissipazione ■



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**CANTIERE: Via Fratelli Bastia, Padulle (BO)**

PROVA N°: CPTU 5 PROF. FALDA (m da p.c.): 1.60 PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
DATA: 21/04/16 PREFORO (m da p.c.): LAT. (WGS 84): 44.625531° LONG. (WGS 84): 11.272701°
COMMESSA: 15289/16 C. SITO N°: S160219 del 02/05/2016 OPERATORE: L. Zanirato

UBICAZIONE

Località: Via Fratelli Bastia, Padulle (BO)



NOTE: Utilizzato 1 anello allargatore da inizio prova



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P IVA e Codice Fiscale n. 00174600387



Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Gramsci, Sala bolognese (BO)**

PROVA N°: **CPTU 6** PROF. FALDA (m da p.c.): **0.90** PUNTA: **Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]**

DATA: **21/04/16** PREFORO (m da p.c.): **0.02** LAT. (WGS 84): **44.617349°** LONG. (WGS 84): **11.257989°**

COMMESSA: **15289/16** C. SITO N°: **S160220 del 02/05/2016** OPERATORE: **L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.04	2.83	4.90	7.49	1.02	2.04	1.08	21.92	155.63	1.22	4.04	1.01	7.04	100.28	1.90	6.04	0.64	17.65	169.47	2.60	8.04	1.20	17.85	307.04	3.19
0.06	2.90	2.68	5.86	0.27	2.06	1.08	22.14	154.82	1.19	4.06	1.08	9.60	112.49	1.90	6.06	0.67	17.65	170.29	2.57	8.06	1.25	19.19	311.92	3.20
0.08	2.89	0.91	3.41	0.53	2.08	1.09	21.81	153.19	1.18	4.08	1.09	12.38	112.49	1.94	6.08	0.68	17.65	171.91	2.60	8.08	1.23	21.63	311.92	3.22
0.10	2.95	0.54	5.05	0.90	2.10	1.07	20.15	150.75	1.19	4.10	1.07	14.82	114.12	1.94	6.10	0.65	17.98	171.10	2.62	8.10	1.20	21.74	307.85	3.22
0.12	2.83	4.54	0.65	2.29	2.12	1.01	24.98	119.01	1.15	4.12	1.07	17.27	116.56	1.93	6.12	0.68	18.54	171.91	2.62	8.12	1.22	28.30	303.78	3.22
0.14	2.87	5.21	5.05	0.49	2.14	1.01	28.09	122.26	1.23	4.14	1.09	18.82	114.12	1.94	6.14	0.67	18.21	170.29	2.63	8.14	1.39	30.86	295.64	3.24
0.16	2.87	4.32	5.05	1.19	2.16	1.03	29.87	120.63	1.23	4.16	1.07	19.93	114.93	1.97	6.16	0.64	18.10	169.47	2.62	8.16	1.37	37.42	286.69	3.24
0.18	2.71	1.54	3.41	0.99	2.18	1.05	32.65	119.82	1.24	4.18	1.05	20.60	153.19	1.98	6.18	0.67	17.98	170.29	2.64	8.18	1.46	43.31	295.64	3.26
0.20	2.52	0.77	4.23	0.69	2.20	1.07	33.65	119.01	1.19	4.20	1.02	20.04	158.39	1.95	6.20	0.71	17.88	171.10	2.64	8.20	1.83	49.75	320.87	3.24
0.22	2.31	1.77	0.97	1.13	2.22	1.01	34.87	121.45	1.19	4.22	1.06	17.38	161.83	1.95	6.22	0.70	18.10	171.91	2.65	8.22	2.41	46.75	221.57	3.23
0.24	2.24	2.88	1.47	0.25	2.24	1.07	33.87	121.45	1.24	4.24	1.07	15.27	164.59	1.95	6.24	0.71	17.99	173.54	2.65	8.24	2.81	45.53	154.82	3.26
0.26	2.17	7.55	3.09	0.63	2.26	1.03	31.20	123.89	1.21	4.26	1.11	13.71	167.03	1.99	6.26	0.70	18.10	171.10	2.66	8.26	2.65	40.86	116.56	3.27
0.28	2.00	10.48	12.05	0.64	2.28	1.04	26.53	129.59	1.16	4.28	1.13	13.05	168.66	2.03	6.28	0.74	18.43	173.54	2.67	8.28	1.93	43.08	90.51	3.28
0.30	1.95	7.38	10.42	0.54	2.30	1.06	23.75	135.29	1.25	4.30	1.16	13.93	172.73	2.01	6.30	0.74	18.88	173.54	2.66	8.30	1.33	35.63	83.19	3.29
0.32	1.81	8.94	13.68	0.79	2.32	1.08	21.97	137.73	1.26	4.32	1.13	15.27	174.35	2.02	6.32	0.76	23.10	174.35	2.67	8.32	1.00	29.52	78.31	3.29
0.34	1.75	12.50	13.68	0.59	2.34	1.07	21.08	138.54	1.23	4.34	1.17	18.27	177.61	2.04	6.34	0.75	24.10	175.99	2.67	8.34	0.91	26.19	78.31	3.29
0.36	1.63	15.28	14.49	0.89	2.36	1.06	21.31	135.29	1.23	4.36	1.16	21.82	176.80	2.06	6.36	0.75	24.66	175.17	2.70	8.36	0.90	22.85	79.12	3.32
0.38	1.49	21.17	16.93	0.61	2.38	1.00	21.19	135.29	1.29	4.38	1.17	24.93	176.80	2.04	6.38	0.74	23.32	174.35	2.70	8.38	0.91	21.63	80.75	3.32
0.40	1.34	30.18	19.37	0.59	2.40	1.05	20.08	133.65	1.28	4.40	1.16	27.82	176.80	2.08	6.40	0.71	22.21	176.80	2.69	8.40	0.88	19.07	82.37	3.33
0.42	1.27	33.40	18.56	0.79	2.42	1.06	20.53	136.10	1.29	4.42	1.12	29.93	172.73	2.04	6.42	0.71	20.32	178.43	2.70	8.42	0.87	17.19	84.81	3.34
0.44	1.19	38.63	20.19	0.71	2.44	1.05	19.86	135.29	1.29	4.44	1.09	32.04	175.99	2.06	6.44	0.76	18.21	181.68	2.72	8.44	0.85	15.96	84.00	3.36
0.46	1.09	43.30	20.19	0.84	2.46	1.04	18.53	137.73	1.30	4.46	1.07	33.37	174.35	2.06	6.46	0.77	15.10	185.75	2.72	8.46	0.76	14.19	83.19	3.37
0.48	1.03	42.86	21.01	0.88	2.48	1.08	16.42	138.54	1.31	4.48	1.08	33.93	172.73	2.08	6.48	0.88	15.10	192.27	2.74	8.48	0.76	14.41	82.37	3.40
0.50	1.03	43.09	21.82	0.85	2.50	1.07	14.20	143.43	1.28	4.50	1.07	34.81	172.73	2.06	6.50	0.91	17.43	195.52	2.74	8.50	0.71	15.41	80.75	3.38
0.52	1.02	41.54	21.82	0.92	2.52	1.02	12.42	145.87	1.30	4.52	1.09	35.70	172.73	2.07	6.52	0.92	18.88	205.29	2.77	8.52	0.64	15.74	81.56	3.41
0.54	0.99	41.10	23.45	0.87	2.54	1.07	13.31	152.38	1.33	4.54	1.12	36.25	173.54	2.07	6.54	0.99	19.99	215.05	2.77	8.54	0.64	15.41	82.37	3.45
0.56	1.03	40.88	22.63	0.75	2.56	1.08	15.65	176.80	1.30	4.56	1.14	36.48	173.54	2.10	6.56	1.05	19.99	223.19	2.78	8.56	0.69	15.74	83.19	3.45
0.58	1.00	41.21	23.45	0.89	2.58	1.04	15.20	203.66	1.30	4.58	1.19	37.48	281.81	2.08	6.58	1.15	23.55	231.33	2.78	8.58	0.73	17.30	84.81	3.45
0.60	1.04	43.10	25.07	0.86	2.60	1.03	15.54	218.31	1.33	4.60	1.23	37.92	482.05	2.11	6.60	1.16	24.55	237.03	2.78	8.60	0.63	23.74	87.26	3.46
0.62	1.10	44.88	25.89	0.66	2.62	1.02	14.65	230.52	1.33	4.62	1.28	38.69	490.19	2.12	6.62	1.11	25.99	242.73	2.78	8.62	0.62	27.96	88.07	3.47
0.64	1.14	46.66	25.07	0.91	2.64	1.06	15.09	232.97	1.35	4.64	1.36	39.69	442.97	2.12	6.64	1.11	27.43	247.61	2.77	8.64	0.70	28.07	91.33	3.49
0.66	1.16	48.00	25.89	0.76	2.66	1.09	16.09	233.78	1.35	4.66	1.42	40.58	458.44	2.07	6.66	1.10	29.88	256.57	2.78	8.66	0.80	28.07	94.59	3.47
0.68	1.19	46.34	25.89	0.83	2.68	1.07	17.97	231.33	2.07	4.68	1.47	40.24	454.37	2.08	6.68	1.12	29.55	259.01	2.78	8.68	0.83	28.07	96.21	3.47
0.70	1.21	44.68	25.89	0.91	2.70	1.09	22.87	233.78	1.43	4.70	1.49	39.35	376.23	2.11	6.70	1.21	30.88	267.15	2.81	8.70	0.80	26.41	94.59	3.48
0.72	1.30	50.80	26.70	0.88	2.72	1.03	29.65	231.33	1.41	4.72	1.46	36.91	367.27	2.08	6.72	1.36	32.88	282.62	2.78	8.72	0.67	19.30	93.77	3.50
0.74	1.28	50.36	10.42	1.01	2.74	1.03	30.99	228.08	1.42	4.74	1.42	32.13	399.02	2.12	6.74	1.46	32.88	287.50	2.79	8.74	0.59	21.19	92.14	3.49
0.76	1.33	49.59	8.79	0.91	2.76	1.06	30.54	225.64	1.41	4.76	1.39	27.79	345.29	2.08	6.76	1.48	32.21	288.31	2.77	8.76	0.62	17.63	92.14	3.51
0.78	1.35	49.15	4.73	0.87	2.78	0.91	29.10	224.83	1.45	4.78	1.36	25.24	289.95	2.08	6.78	1.42	33.43	284.25	2.78	8.78	0.92	14.41	98.65	3.53
0.80	1.31	48.93	5.05	0.84	2.80	0.87	27.99	223.19	1.43	4.80	1.35	24.57	237.03	2.11	6.80	1.35	35.43	276.92	2.78	8.80	1.26	13.08	110.87	3.54
0.82	1.34	47.94	5.86	0.90	2.82	0.83	26.32	220.75	1.46	4.82	1.35	25.24	205.29	2.11	6.82	1.27	37.21	270.41	2.82	8.82	1.45	16.30	105.98	3.54
0.84	1.30	47.06	8.30	0.91	2.84	0.80	25.10	220.75	1.43	4.84	1.31	26.01	180.87	2.12	6.84	1.21	40.21	263.08	2.79	8.84	1.69	21.19	93.77	3.56
0.86	1.30	45.96	7.49	0.92	2.86	0.76	23.54	218.31	1.45	4.86	1.33	26.90	169.47	2.11	6.86	1.15	42.99	260.64	2.83	8.86	1.82	25.74	78.31	3.57
0.88	1.30	44.96	11.55	0.92	2.88	0.76	22.43	217.50	1.45	4.88	1.35	32.12	159.71	2.11	6.88	1.10	44.88	258.20	2.82	8.88	1.74	28.42	64.47	3.59
0.90	1.26	45.30	12.37	0.82	2.90	0.95	22.99	226.45	1.50	4.90	1.42	35.12	158.89	2.15	6.90	1.03	45.21	254.13	2.82	8.90	1.88	29.30	58.77	3.59
0.92	1.24	45.42	11.55	1.01	2.92	1.42	22.99	259.01	1.47	4.92	1.43	38.35	158.07	2.16	6.92	1.06	43.66	261.45	2.83	8.92	2.38	33.19	62.84	3.59
0.94	1.25	45.42	11.55	0.84	2.94	2.21	19.32	276.92	1.51	4.94	1.47	40.34	157.26	2.13	6.94	1.11	40.99	272.85	2.85	8.94	2.81	38.30	66.91	3.57
0.96	1.19	44.10	8.30	1.04	2.96	2.74	14.32	124.70	1.51	4.96	1													



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P IVA e Codice Fiscale n. 00174600387



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COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Gramsci, Sala bolognese (BO)**

PROVA N°: **CPTU 6**

PROF. FALDA (m da p.c.): **0.90**

PUNTA: **Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]**

DATA: **21/04/16**

PREFORO (m da p.c.): **0.02**

LAT. (WGS 84): **44.617349°**

COMMESSA: **15289/16**

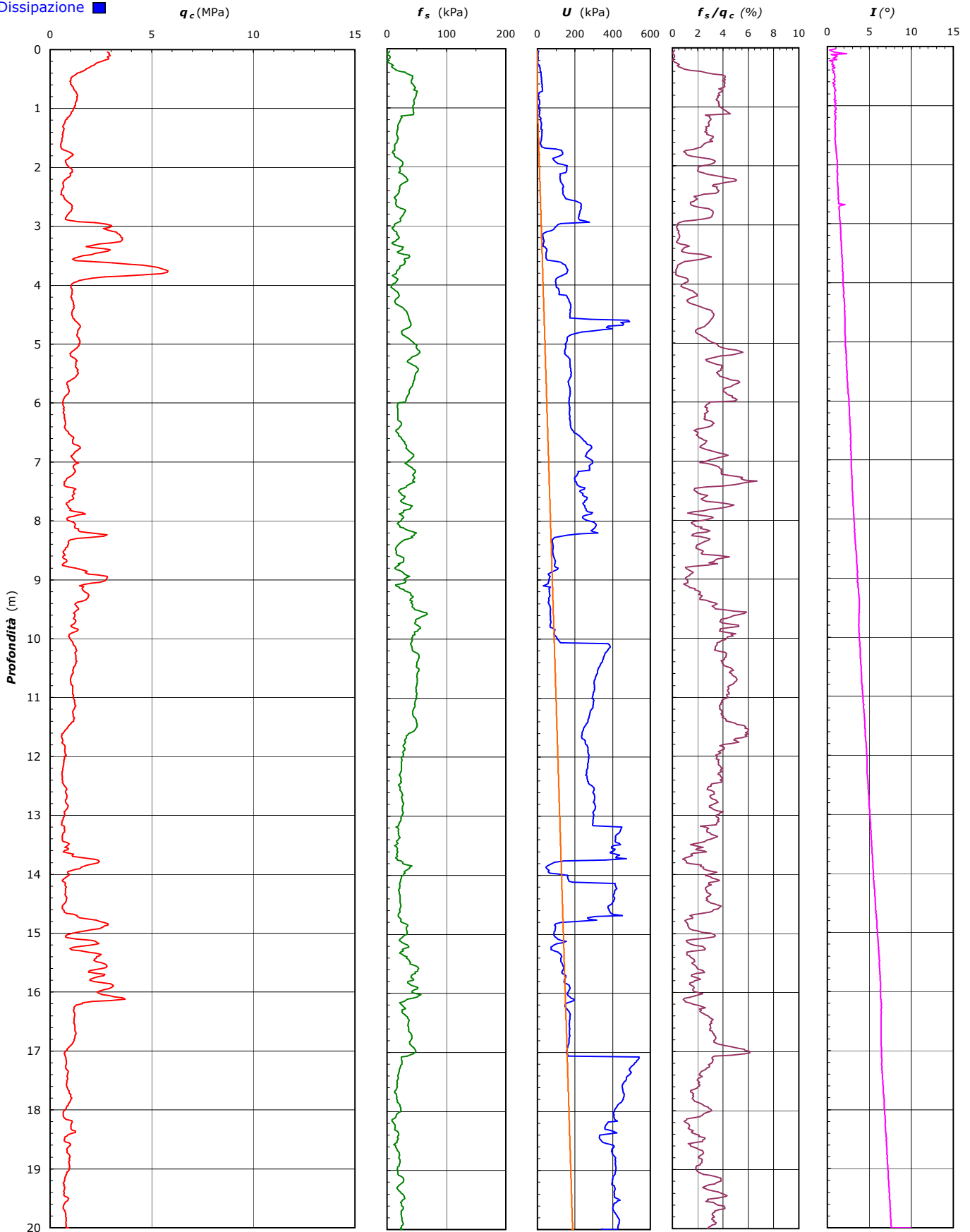
C. SITO N°: **S160220 del 02/05/2016 OPERATORE: L. Zanirato**

prof. m	qc kPa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.04	1.07	41.71	117.37	3.83	12.04	0.72	24.77	272.03	4.72	14.04	0.82	24.56	160.52	5.48	16.04	2.58	54.30	163.77	6.34	18.04	0.65	17.01	403.91	6.85
10.06	1.10	41.38	122.26	3.83	12.06	0.68	24.88	272.03	4.72	14.06	0.74	23.34	163.77	5.51	16.06	2.92	50.97	171.91	6.35	18.06	0.65	16.01	407.16	6.84
10.08	1.13	39.72	374.60	3.86	12.08	0.69	24.66	271.22	4.75	14.08	0.66	22.56	165.40	5.51	16.08	3.18	43.42	180.05	6.35	18.08	0.64	15.12	405.53	6.85
10.10	1.14	40.28	383.55	3.87	12.10	0.68	24.55	267.97	4.73	14.10	0.61	22.45	168.66	5.51	16.10	3.57	34.42	193.89	6.34	18.10	0.65	14.23	407.97	6.88
10.12	1.19	41.73	386.81	3.86	12.12	0.68	24.55	267.15	4.73	14.12	0.63	22.11	184.94	5.55	16.12	3.68	31.42	195.52	6.37	18.12	0.66	11.90	409.79	6.88
10.14	1.25	42.06	385.99	3.88	12.14	0.68	24.66	267.97	4.73	14.14	0.72	21.00	412.86	5.56	16.14	3.00	28.86	181.68	6.37	18.14	0.71	8.12	413.67	6.86
10.16	1.26	42.62	378.67	3.87	12.16	0.65	24.55	266.34	4.72	14.16	0.74	21.34	413.67	5.56	16.16	2.08	21.31	160.52	6.40	18.16	0.77	8.46	424.25	6.89
10.18	1.27	42.95	374.60	3.90	12.18	0.64	24.55	267.97	4.73	14.18	0.72	22.23	414.49	5.55	16.18	1.59	23.53	149.93	6.40	18.18	1.06	9.91	376.23	6.91
10.20	1.31	43.62	372.16	3.91	12.20	0.62	24.55	263.89	4.74	14.20	0.76	21.12	417.74	5.58	16.20	1.57	25.42	149.93	6.43	18.20	1.08	11.25	372.97	6.89
10.22	1.26	46.95	364.83	3.90	12.22	0.62	24.10	262.27	4.76	14.22	0.80	21.12	421.81	5.59	16.22	1.29	27.08	147.49	6.43	18.22	1.06	12.69	367.27	6.91
10.24	1.23	50.73	359.95	3.91	12.24	0.62	23.66	260.64	4.75	14.24	0.77	20.01	418.55	5.58	16.24	1.23	29.53	151.57	6.42	18.24	1.04	13.70	362.39	6.89
10.26	1.25	53.40	358.32	3.93	12.26	0.58	22.88	260.64	4.76	14.26	0.76	19.89	411.23	5.61	16.26	1.18	30.86	154.82	6.43	18.26	1.02	13.70	359.95	6.89
10.28	1.26	53.62	355.88	3.91	12.28	0.59	21.88	261.45	4.73	14.28	0.74	20.34	409.60	5.64	16.28	1.18	25.20	159.71	6.43	18.28	1.02	13.59	358.32	6.88
10.30	1.27	53.84	353.43	3.92	12.30	0.57	20.55	256.57	4.73	14.30	0.76	20.45	411.23	5.63	16.30	1.15	26.08	165.40	6.41	18.30	1.02	12.70	359.13	6.91
10.32	1.28	53.84	350.99	3.91	12.32	0.59	22.33	263.08	4.76	14.32	0.74	21.56	406.35	5.64	16.32	1.15	25.19	170.29	6.42	18.32	1.02	13.81	385.18	6.92
10.34	1.28	52.51	349.37	3.94	12.34	0.60	22.99	263.89	4.76	14.34	0.72	21.90	402.27	5.64	16.34	1.18	27.30	171.91	6.42	18.34	1.08	17.92	404.72	6.94
10.36	1.28	52.28	346.11	3.93	12.36	0.60	23.55	263.89	4.78	14.36	0.75	22.12	403.91	5.65	16.36	1.21	29.86	174.35	6.44	18.36	1.24	18.81	421.81	6.96
10.38	1.31	50.73	345.29	3.96	12.38	0.59	23.55	267.15	4.78	14.38	0.80	22.23	409.60	5.67	16.38	1.21	32.08	172.73	6.41	18.38	1.23	19.48	385.18	6.94
10.40	1.27	50.28	341.23	3.96	12.40	0.60	22.77	267.15	4.81	14.40	0.82	21.90	410.41	5.68	16.40	1.20	33.97	172.73	6.39	18.40	1.07	19.81	331.46	6.97
10.42	1.27	49.95	337.15	3.99	12.42	0.62	24.22	272.03	4.83	14.42	0.80	22.12	404.72	5.70	16.42	1.20	35.31	172.73	6.42	18.42	0.88	18.48	332.27	6.98
10.44	1.24	50.06	333.09	3.98	12.44	0.59	22.77	272.03	4.84	14.44	0.81	21.79	404.72	5.69	16.44	1.18	36.42	171.91	6.38	18.44	0.83	17.37	328.20	7.00
10.46	1.21	49.06	331.46	3.99	12.46	0.63	19.99	277.73	4.84	14.46	0.77	21.79	398.21	5.69	16.46	1.17	37.42	171.10	6.40	18.46	0.73	18.92	332.27	6.99
10.48	1.16	50.06	326.57	4.01	12.48	0.66	19.99	287.50	4.82	14.48	0.75	22.79	394.95	5.70	16.48	1.17	36.42	170.29	6.42	18.48	0.70	18.03	336.34	7.02
10.50	1.16	53.17	322.51	4.01	12.50	0.71	21.77	294.01	4.87	14.50	0.69	23.01	387.63	5.73	16.50	1.18	35.87	169.47	6.42	18.50	0.70	16.70	339.60	7.04
10.52	1.14	53.72	323.52	4.01	12.52	0.77	22.22	299.71	4.86	14.52	0.64	23.34	377.85	5.73	16.52	1.16	35.87	168.66	6.40	18.52	0.69	16.48	347.74	7.01
10.54	1.10	53.16	320.06	4.03	12.54	0.79	22.11	302.15	4.88	14.54	0.60	23.01	375.41	5.74	16.54	1.20	35.20	170.29	6.39	18.54	0.77	14.37	362.39	7.03
10.56	1.13	51.83	319.25	4.06	12.56	0.82	22.33	300.53	4.86	14.56	0.60	22.35	376.23	5.74	16.56	1.20	35.87	171.10	6.40	18.56	0.93	11.70	390.88	7.04
10.58	1.13	51.05	318.43	4.06	12.58	0.77	23.67	296.45	4.87	14.58	0.60	21.57	381.11	5.75	16.58	1.21	36.53	169.47	6.41	18.58	1.01	14.25	405.53	7.05
10.60	1.08	50.60	314.37	4.07	12.60	0.75	24.89	294.83	4.87	14.60	0.65	21.24	382.74	5.76	16.60	1.21	36.64	171.91	6.42	18.60	1.01	14.59	407.97	7.05
10.62	1.07	50.38	311.92	4.05	12.62	0.77	25.44	298.90	4.89	14.62	0.68	21.68	386.81	5.78	16.62	1.22	36.20	171.10	6.42	18.62	0.92	15.81	400.65	7.05
10.64	1.04	50.49	308.67	4.06	12.64	0.80	26.44	302.15	4.92	14.64	0.68	20.57	387.63	5.78	16.64	1.22	36.31	169.47	6.41	18.64	0.87	16.81	396.58	7.07
10.66	1.02	50.71	307.85	4.06	12.66	0.83	25.00	305.41	4.91	14.66	0.80	18.79	399.02	5.78	16.66	1.21	38.31	171.10	6.40	18.66	0.83	17.48	394.95	7.08
10.68	1.01	51.04	306.23	4.10	12.68	0.83	24.56	304.59	4.92	14.68	1.15	18.79	405.30	5.79	16.68	1.27	40.20	171.10	6.40	18.68	0.82	19.25	394.13	7.09
10.70	1.01	51.27	302.97	4.09	12.70	0.83	25.23	304.59	4.93	14.70	1.34	18.79	405.41	5.80	16.70	1.27	41.42	170.29	6.40	18.70	0.84	20.48	397.39	7.10
10.72	1.01	51.04	302.15	4.11	12.72	0.81	25.56	301.34	4.96	14.72	1.33	21.01	267.15	5.84	16.72	1.28	41.75	172.73	6.40	18.72	0.83	20.48	399.02	7.10
10.74	1.03	50.60	300.53	4.09	12.74	0.77	26.11	301.34	4.94	14.74	1.47	23.57	273.67	5.83	16.74	1.23	41.97	171.10	6.42	18.74	0.88	21.03	403.09	7.11
10.76	1.02	49.82	301.34	4.10	12.76	0.75	26.56	298.09	4.97	14.76	1.94	23.46	313.55	5.86	16.76	1.22	42.08	168.66	6.41	18.76	0.94	20.70	409.60	7.11
10.78	1.05	49.82	302.15	4.11	12.78	0.78	27.89	301.34	4.99	14.78	2.27	23.01	207.73	5.86	16.78	1.21	41.42	168.66	6.41	18.78	0.97	20.14	416.11	7.12
10.80	1.10	49.38	303.78	4.14	12.80	0.81	27.23	303.78	4.96	14.80	2.45	25.46	127.15	5.89	16.80	1.18	39.53	168.66	6.41	18.80	0.99	20.59	416.11	7.13
10.82	1.10	48.49	302.15	4.15	12.82	0.86	26.67	307.04	5.00	14.82	2.72	30.91	97.84	5.91	16.82	1.17	38.19	167.03	6.41	18.82	0.94	21.81	412.86	7.12
10.84	1.10	48.60	303.78	4.17	12.84	0.89	26.00	309.48	4.97	14.84	2.84	34.68	92.14	5.91	16.84	1.16	38.08	167.03	6.41	18.84	0.95	22.14	414.49	7.13
10.86	1.10	49.15	302.15	4.16	12.86	0.87	25.56	307.85	5.01	14.86	2.84	35.01	95.40	5.92	16.86	1.11	38.97	165.40	6.41	18.86	0.96	22.37	414.49	7.14
10.88	1.12	48.71	301.34	4.14	12.88	0.84	26.00	306.23	5.00	14.88	2.66	32.91	95.40	5.92	16.88	1.08	40.19	163.77	6.41	18.88	0.90	21.03	413.67	7.16
10.90	1.12	49.15	297.27	4.17	12.90	0.80	25.89	302.97	5.00	14.90	2.57	32.90	97.03	5.92	16.90	1.02	42.97	160.52	6.40	18.90	0.92	20.48	414.49	7.17
10.92	1.12	50.04	298.09	4.20	12.92	0.75	26.56	298.09	5.04	14.92	2.42	32.90	94.59											

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Via Gramsci, Sala bolognese (BO)

 PROVA N°: CPTU 6 PROF. FALDA (m da p.c.): 0.90 PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
 DATA: 21/04/16 PREFORO (m da p.c.): 0.02 LAT. (WGS 84): 44.617349° LONG. (WGS 84): 11.257989°
 COMMESSA: 15289/16 C. SITO N°: S160220 del 02/05/2016 OPERATORE: L. Zanirato

Dissipazione ■



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**CANTIERE: Via Gramsci, Sala bolognese (BO)**

PROVA N°: CPTU 6	PROF. FALDA (m da p.c.): 0.90	PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
DATA: 21/04/16	PREFORO (m da p.c.): 0.02	LAT. (WGS 84): 44.617349°
COMMESSA: 15289/16	C. SITO N°: S160220 del 02/05/2016	OPERATORE: L. Zanirato
		LONG. (WGS 84): 11.257989°

UBICAZIONE

Località: Via Gramsci, Sala bolognese (BO)



NOTE: Utilizzato 1 anello allargatore da inizio prova



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P IVA e Codice Fiscale n. 00174600387

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COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Gramsci, Osteria Nuova, Bologna**

PROVA N°: CPTU A PROF. FALDA (m da p.c.): 2.90

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: 06/09/16 PREFORO (m da p.c.):

LAT. (WGS 84): 44.578343° LONG. (WGS 84): 11.239731°

COMMESSA: 15289/16 C. SITO N°: S160368 del 07.09.2016 OPERATORE: L. Zanirato

Table with 50 columns: prof. m, qc Mpa, fs kPa, U kPa, incl. gradi, and 49 identical sets of these columns. Each set contains 50 rows of data.

Lo Sperimentatore:
dott. Luciano Rossi

Il Direttore Settore Prove in Sito:
dott. Massimo Romagnoli



elletipi s.r.l.

Sede operativa ed am.m. via: Via Annibale Zucchini, 69 - 44100 FERRARA
Tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P IVA e Codice Fiscale n. 00174600387



Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Gramsci, Osteria Nuova, Bologna**

PROVA N°: **CPTU A** PROF. FALDA (m da p.c.): **2.90**

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: **06/09/16** PREFORO (m da p.c.):

LAT. (WGS 84): **44.578343°** LONG. (WGS 84): **11.239731°**

COMMESSA: **15289/16**

C. SITO N°: **S160368 del 07.09.2016 OPERATORE: L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.02	0.82	23.58	114.93	4.84	12.02	1.19	22.73	107.61	5.44	14.02	0.88	25.49	68.53	5.96	16.02	0.74	17.18	189.82	6.71	18.02	1.17	37.28	435.65	7.59
10.04	0.80	24.69	115.75	4.85	12.04	1.34	23.62	107.61	5.45	14.04	1.06	31.05	201.22	5.97	16.04	0.74	14.62	189.82	6.72	18.04	1.27	37.72	346.11	7.59
10.06	0.83	24.47	116.56	4.86	12.06	1.45	25.39	110.87	5.45	14.06	0.93	30.50	202.03	5.97	16.06	0.74	13.73	191.45	6.73	18.06	1.15	42.39	314.37	7.60
10.08	0.83	24.92	117.37	4.87	12.08	1.62	25.73	112.49	5.45	14.08	0.87	28.05	203.66	5.98	16.08	0.74	14.51	191.45	6.74	18.08	0.98	50.50	264.71	7.61
10.10	0.86	25.14	117.37	4.88	12.10	1.77	25.95	103.54	5.45	14.10	0.82	25.17	206.10	6.00	16.10	0.76	14.40	192.27	6.75	18.10	0.81	58.61	215.05	7.63
10.12	0.87	26.25	118.19	4.89	12.12	1.89	25.95	93.77	5.46	14.12	0.82	24.28	209.36	6.00	16.12	0.82	12.62	193.89	6.76	18.12	0.87	44.06	333.09	7.64
10.14	0.86	23.69	115.75	4.93	12.14	1.94	26.28	56.33	5.47	14.14	0.84	24.50	215.87	6.00	16.14	0.83	12.73	193.89	6.77	18.14	0.84	40.17	395.77	7.65
10.16	0.82	21.14	134.47	4.92	12.16	1.92	27.17	13.19	5.48	14.16	0.88	24.72	221.57	6.00	16.16	0.83	13.85	194.71	6.77	18.16	0.78	40.84	419.37	7.65
10.18	0.82	21.25	133.65	4.93	12.18	1.84	30.61	8.30	5.48	14.18	0.90	24.17	224.83	6.00	16.18	0.89	16.85	202.03	6.79	18.18	0.78	38.50	424.25	7.66
10.20	0.83	22.69	134.47	4.94	12.20	1.70	32.28	4.23	5.48	14.20	0.95	23.17	230.52	6.01	16.20	0.86	18.74	201.22	6.79	18.20	0.77	33.62	407.16	7.66
10.22	0.87	23.03	135.29	4.95	12.22	1.59	33.06	5.05	5.48	14.22	1.00	22.06	231.33	6.01	16.22	0.83	20.63	199.59	6.81	18.22	0.76	27.50	428.33	7.67
10.24	0.87	23.92	134.47	4.96	12.24	1.58	31.17	14.81	5.49	14.24	1.02	21.50	231.33	6.02	16.24	0.79	22.74	195.52	6.81	18.24	0.76	24.39	477.17	7.68
10.26	0.86	26.03	134.47	4.96	12.26	2.04	26.61	22.95	5.50	14.26	1.05	21.72	232.97	6.01	16.26	0.77	25.19	196.33	6.81	18.26	0.78	22.95	477.98	7.69
10.28	0.87	27.81	132.84	4.97	12.28	2.19	28.06	18.07	5.50	14.28	1.07	22.06	233.78	6.02	16.28	0.78	24.85	197.15	6.82	18.28	0.84	21.50	456.81	7.69
10.30	0.85	31.14	132.03	4.98	12.30	2.35	30.72	14.00	5.50	14.30	1.09	22.50	232.15	6.03	16.30	0.77	25.96	197.96	6.82	18.30	0.87	21.06	469.03	7.70
10.32	0.83	33.47	131.21	4.98	12.32	2.44	33.06	9.93	5.50	14.32	1.09	23.28	230.52	6.03	16.32	0.76	25.41	197.15	6.83	18.32	0.88	21.95	514.61	7.71
10.34	0.85	33.58	132.03	5.00	12.34	2.47	36.61	5.05	5.51	14.34	1.07	23.61	228.89	6.03	16.34	0.73	24.74	195.52	6.83	18.34	1.00	21.95	539.84	7.72
10.36	0.83	35.58	132.03	5.00	12.36	2.45	40.39	3.41	5.51	14.36	1.09	23.17	228.89	6.04	16.36	0.70	24.19	194.71	6.84	18.36	1.34	21.39	592.75	7.72
10.38	0.82	35.92	132.84	5.02	12.38	2.39	43.83	1.78	5.51	14.38	1.10	22.50	228.89	6.03	16.38	0.67	21.41	194.71	6.84	18.38	1.60	21.06	334.71	7.73
10.40	0.80	36.14	132.84	5.03	12.40	2.24	45.72	2.28	5.52	14.40	1.11	21.95	228.89	6.04	16.40	0.69	19.85	196.33	6.84	18.40	1.39	27.62	370.53	7.74
10.42	0.80	34.36	132.84	5.03	12.42	2.09	43.83	4.73	5.52	14.42	0.95	21.95	219.94	6.05	16.42	0.71	19.96	196.33	6.85	18.42	1.19	39.62	474.72	7.75
10.44	0.82	31.03	134.47	5.05	12.44	1.89	40.50	6.35	5.52	14.44	0.82	22.62	215.05	6.06	16.44	0.66	19.30	195.52	6.86	18.44	1.14	41.07	491.81	7.76
10.46	0.79	29.69	134.47	5.05	12.46	1.70	35.28	7.17	5.53	14.46	0.76	21.95	215.05	6.07	16.46	0.64	20.63	194.71	6.86	18.46	1.16	39.95	490.19	7.76
10.48	0.75	27.81	134.47	5.06	12.48	1.49	32.72	8.79	5.54	14.48	0.81	22.06	219.13	6.09	16.48	0.63	21.08	195.52	6.86	18.48	1.21	41.07	485.31	7.77
10.50	0.75	25.03	133.65	5.07	12.50	1.29	35.39	7.98	5.54	14.50	0.90	20.06	227.27	6.09	16.50	0.65	18.85	196.33	6.88	18.50	1.22	43.40	416.93	7.78
10.52	0.75	22.69	133.65	5.07	12.52	1.15	34.94	4.73	5.55	14.52	0.98	18.84	229.71	6.11	16.52	0.65	17.41	195.52	6.88	18.52	1.23	47.73	417.74	7.78
10.54	0.75	22.03	135.29	5.09	12.54	1.04	31.61	1.47	5.55	14.54	0.98	19.62	230.52	6.11	16.54	0.65	16.85	195.52	6.90	18.54	1.16	43.84	417.74	7.79
10.56	0.77	21.36	136.10	5.09	12.56	0.97	27.28	0.16	5.56	14.56	0.96	18.18	228.89	6.12	16.56	0.65	15.85	194.71	6.90	18.56	1.07	39.84	416.11	7.80
10.58	0.79	23.47	136.10	5.10	12.58	0.90	24.28	0.97	5.56	14.58	0.92	16.39	227.27	6.13	16.58	0.65	15.74	193.89	6.91	18.58	1.04	40.29	410.41	7.81
10.60	0.77	25.14	136.10	5.12	12.60	0.89	24.83	4.23	5.58	14.60	0.90	18.73	223.19	6.14	16.60	0.65	15.19	193.89	6.91	18.60	1.01	42.73	408.79	7.81
10.62	0.77	26.25	136.91	5.13	12.62	0.98	25.05	13.19	5.58	14.62	0.87	22.07	219.94	6.15	16.62	0.66	14.30	193.89	6.92	18.62	0.96	44.84	407.16	7.81
10.64	0.77	26.91	137.73	5.13	12.64	1.22	22.61	31.09	5.59	14.64	1.01	24.40	229.71	6.16	16.64	0.65	15.97	193.89	6.93	18.64	0.90	45.73	406.35	7.83
10.66	0.77	27.47	138.54	5.14	12.66	1.53	22.39	39.23	5.59	14.66	1.30	24.51	245.17	6.16	16.66	0.66	16.30	193.89	6.94	18.66	0.87	45.95	403.09	7.83
10.68	0.77	29.03	138.54	5.14	12.68	1.30	28.05	32.72	5.60	14.68	1.45	27.18	245.17	6.17	16.68	0.66	15.64	193.08	6.93	18.68	0.83	43.62	398.21	7.83
10.70	0.76	29.81	140.17	5.16	12.70	1.08	33.72	26.21	5.60	14.70	1.37	30.95	103.54	6.18	16.70	0.64	16.19	192.27	6.95	18.70	0.81	40.73	395.77	7.84
10.72	0.77	30.25	140.17	5.16	12.72	1.75	36.50	72.61	5.61	14.72	1.33	33.07	112.49	6.19	16.72	0.65	15.41	192.27	6.96	18.72	0.82	38.62	394.95	7.85
10.74	0.76	30.25	141.79	5.18	12.74	1.87	35.39	72.61	5.62	14.74	1.28	32.73	114.12	6.19	16.74	0.64	15.64	191.45	6.97	18.74	0.84	36.62	397.39	7.86
10.76	0.88	43.25	145.05	5.18	12.76	2.00	35.50	46.56	5.62	14.76	1.14	32.51	109.23	6.20	16.76	0.61	16.30	190.63	6.98	18.76	0.86	36.07	400.65	7.86
10.78	0.88	47.03	145.05	5.20	12.78	2.10	35.94	25.39	5.63	14.78	0.92	34.40	106.79	6.20	16.78	0.58	17.19	65.28	6.99	18.78	0.86	34.84	403.09	7.88
10.80	0.85	48.47	145.05	5.20	12.80	2.11	39.94	5.05	5.62	14.80	0.81	37.18	105.17	6.22	16.80	0.56	18.97	123.89	7.00	18.80	0.87	33.62	400.65	7.88
10.82	0.82	47.58	144.24	5.22	12.82	2.04	45.05	2.28	5.62	14.82	0.88	37.84	113.31	6.23	16.82	0.58	20.19	124.70	7.01	18.82	0.86	32.95	394.95	7.89
10.84	0.79	45.36	144.24	5.23	12.84	1.93	47.72	6.35	5.63	14.84	1.13	33.95	123.89	6.25	16.84	0.66	19.30	127.15	7.02	18.84	0.81	29.73	388.44	7.89
10.86	0.76	41.92	144.24	5.24	12.86	1.75	48.94	19.37	5.63	14.86	1.19	32.40	127.15	6.25	16.86	0.71	20.19	127.96	7.04	18.86	0.79	29.51	386.81	7.90
10.88	0.74	39.03	144.24	5.25	12.88	1.59	48.17	19.37	5.63	14.88	1.22	32.84	127.15	6.26	16.88	0.73	21.41	128.77	7.04	18.88	0.78	29.07	383.55	7.90
10.90	0.71	35.81	143.43	5.26	12.90	1.47	48.17	19.37	5.64	14.90	1.24	32.95	127.96	6.28	16.90	0.72	23.64	126.33	7.04	18.90	0.79	29.84	381.11	7.90

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Via Gramsci, Osteria Nuova, Bologna

PROVA N°: CPTU A PROF. FALDA (m da p.c.): 2.90

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

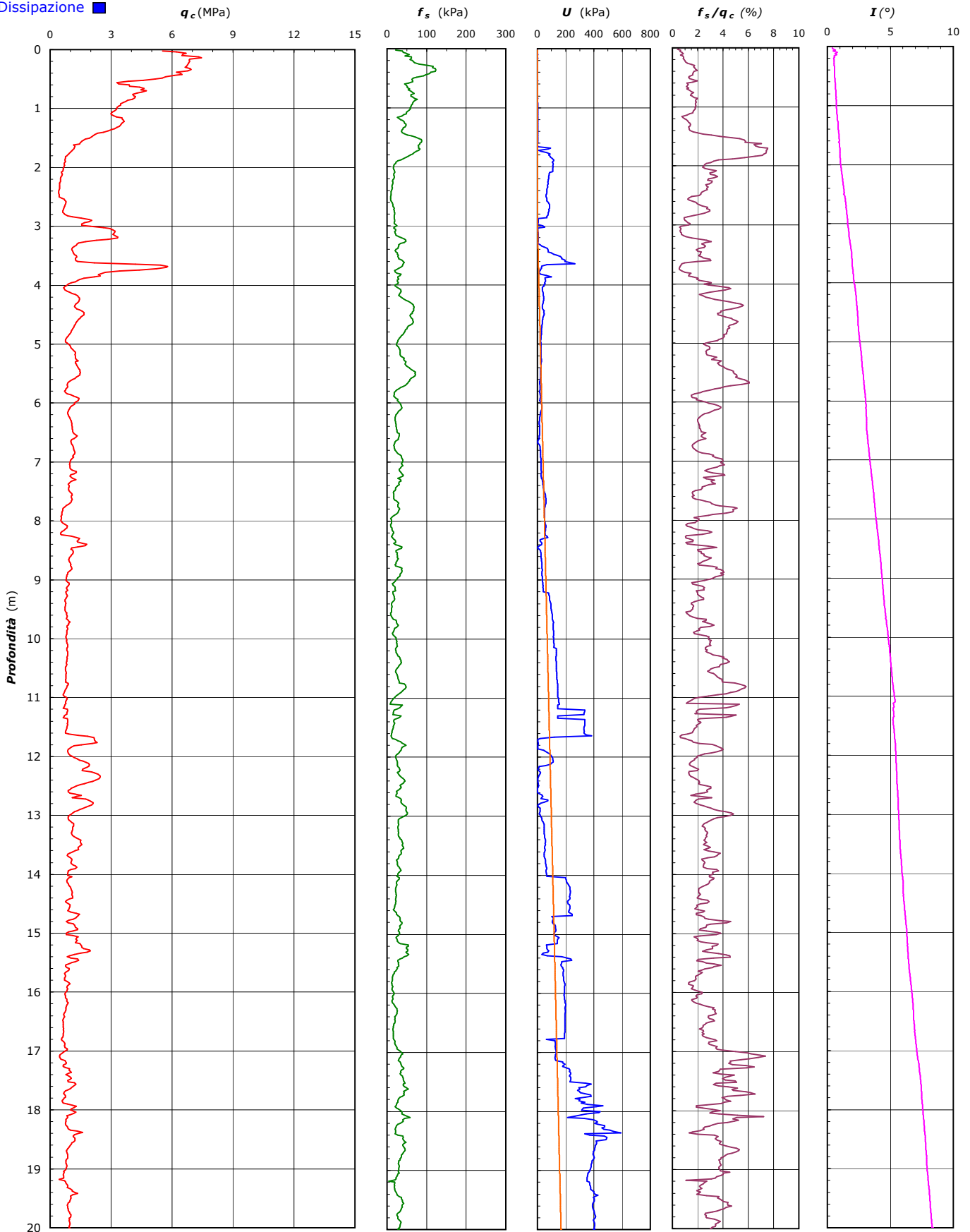
DATA: 06/09/16 PREFORO (m da p.c.):

LAT. (WGS 84): 44.578343° LONG. (WGS 84): 11.239731°

COMMESSA: 15289/16

C. SITO N°: S160368 del 07.09.2016 OPERATORE: L. Zanirato

Dissipazione ■



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**CANTIERE: Via Gramsci, Osteria Nuova, Bologna**

PROVA N°: CPTU A	PROF. FALDA (m da p.c.): 2.90	PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
DATA: 06/09/16	PREFORO (m da p.c.):	LAT. (WGS 84): 44.578343° LONG. (WGS 84): 11.239731°
COMMESSA: 15289/16	C. SITO N°: S160368 del 07.09.2016	OPERATORE: L. Zanirato

UBICAZIONE

Località: Via Gramsci, Osteria Nuova, Bologna



NOTE: Utilizzato 1 anello allargatore da inizio prova



Committente: Geotema
 Cantiere: Microzonazione Sala Bolognese (BO)
 Data: 24/09/2016

ID Prova: CPTU B - OSTERIA NUOVA
 Profondità falda: a mt 2.75 da p.c.
 Coordinate: 44. 588335 - 11.238143

Profondità massima raggiunta: 20.00 mt
 Punta sismica: Tecnopenta G1-CPL2IN - SISMI
 RIF. 127/16GF

Prova eseguita da:
GEO.FE. S.n.c.
 via dell'Artigianato ,2 44030 - Ro Ferrarese (FE)
 tel 3383646278 - info@geofe.it - www.geofe.it
 Responsabile dati: Dott.Geol.Zanella Fabio
 Responsabile cantiere: Sig. Mangherini Alberto

Prof.	RP	RL	PN	Incl.	V.avanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
0.020	33.487	0.085	0.405	0.029	2.000	1.660	50.624	0.647	0.282	0.485	2.275	3.300	12.277	0.276	0.010	1.149	2.285	4.940	12.243	0.352	0.161	2.224	2.317	6.580	14.201	0.668	0.677	2.922	1.979	6.580	14.201	0.668	0.677	2.922	1.979	6.600	14.223	0.643	0.681	2.931	2.251	6.620	14.221	0.649	0.679	2.921	2.130	6.640	14.423	0.643	0.685	2.928	2.005	6.660	13.803	0.649	0.671	2.930	2.198	6.680	8.118	0.264	0.618	2.967	2.000	6.700	13.353	0.538	0.790	2.971	1.608	6.720	12.969	0.530	0.773	2.973	1.461	6.740	13.693	0.566	0.806	2.966	1.361	6.760	12.355	0.556	0.517	2.972	2.166	6.780	11.866	0.524	0.516	2.977	2.300	6.800	11.454	0.510	0.519	2.964	2.213	6.820	10.965	0.475	0.523	2.973	2.196	6.840	10.270	0.455	0.506	2.982	2.115	6.860	10.476	0.455	0.531	2.985	2.298	6.880	10.244	0.372	0.539	2.987	2.223	6.900	9.575	0.343	0.533	2.993	2.140	6.920	9.265	0.316	0.540	2.977	2.394	6.940	9.007	0.294	0.541	2.991	2.156	6.960	8.467	0.277	0.540	2.994	2.146	6.980	8.339	0.251	0.551	2.992	2.412	7.000	8.261	0.230	0.562	2.987	2.156	7.020	8.442	0.214	0.580	2.981	2.174	7.040	8.520	0.200	0.597	2.974	2.127	7.060	8.444	0.188	0.622	2.976	2.340	7.080	8.600	0.176	0.652	2.976	2.138	7.100	8.807	0.171	0.689	2.978	2.122	7.120	8.989	0.166	0.725	2.981	2.446	7.140	9.223	0.165	0.794	2.962	2.169	7.160	9.070	0.169	0.815	2.974	2.121	7.180	8.764	0.177	0.813	2.974	2.191	7.200	8.303	0.188	0.793	2.977	2.153	7.220	7.636	0.188	0.783	2.976	2.255	7.240	7.407	0.183	0.775	2.980	2.335	7.260	7.204	0.176	0.774	2.977	2.205	7.280	6.950	0.167	0.773	2.979	2.142	7.300	6.747	0.161	0.771	2.988	2.303	7.320	6.647	0.148	0.774	2.993	2.093	7.340	6.340	0.145	0.774	3.004	2.306	7.360	6.034	0.147	0.780	3.004	2.140	7.380	5.935	0.137	0.798	3.009	2.232	7.400	6.196	0.121	0.811	3.014	2.107	7.420	6.276	0.117	0.812	3.027	2.268	7.440	6.510	0.118	0.824	3.022	2.239	7.460	7.983	0.119	0.892	3.029	2.111	7.480	9.556	0.109	0.973	3.026	2.285	7.500	11.519	0.112	1.052	3.049	2.189	7.520	12.528	0.142	1.114	3.052	2.165	7.540	12.608	0.197	1.068	3.050	2.376	7.560	11.736	0.221	1.000	3.044	2.231	7.580	10.399	0.222	1.064	3.063	2.108	7.600	9.758	0.236	1.078	3.083	2.291	7.620	10.354	0.239	1.154	3.095	2.115	7.640	10.975	0.254	1.214	3.091	2.094	7.660	11.029	0.254	1.236	3.108	2.159	7.680	12.796	0.285	1.851	3.098	2.000	7.700	12.824	0.294	1.843	3.114	2.326	7.720	12.026	0.302	1.766	3.119	2.594	7.740	11.202	0.329	1.781	3.122	2.379	7.760	11.331	0.345	1.855	3.125	2.308	7.780	11.151	0.340	1.871	3.132	2.762	7.800	11.641	0.339	1.936	3.131	2.368	7.820	12.465	0.338	2.031	3.132	2.379	7.840	13.676	0.328	2.156	3.138	2.278	7.860	13.572	0.327	2.166	3.137	2.624	7.880	12.797	0.330	2.138	3.140	2.453	7.900	12.306	0.360	2.118	3.139	2.302	7.920	12.047	0.364	2.068	3.144	2.357	7.940	11.581	0.378	2.020	3.148	2.620	7.960	10.679	0.398	1.927	3.144	2.405	7.980	9.853	0.412	1.801	3.145	2.242	8.000	8.768	0.425	1.689	3.150	2.634	8.020	7.683	0.431	1.599	3.156	2.368	8.040	6.882	0.428	1.546	3.155	2.355	8.060	6.493	0.403	1.525	3.159	2.541	8.080	6.131	0.341	1.478	3.165	2.453	8.100	5.819	0.287	1.454	3.173	2.273	8.120	5.715	0.242	1.464	3.173	2.597	8.140	6.073	0.199	1.511	3.187	2.453	8.160	6.739	0.156	1.578	3.190	2.302	8.180	7.253	0.123	1.654	3.209	2.484	8.200	7.561	0.096	1.727	3.201	2.453

Prof.: Profondità RL: - RP: Resistenza di punta - Resistenza all'attrito laterale - Incl.:clinazione - Vavanz: velocità di avanzamento della punta



Committente: Geotema
 Cantiere: Microzonazione Sala Bolognese (BO)
 Data: 24/09/2016

ID Prova: CPTU B - OSTERIA NUOVA
 Profondita falda: a mt 2.75 da p.c.
 Coordinate: 44. 588335 - 11.238143

Profondità massima raggiunta: 20.00 mt
 Punta sismica: Tecnopenta G1-CPL2IN - SISMI
 RIF. 127/16GF

Prova eseguita da:
GEO.FE. S.n.c.
 via dell'Artigianato ,2 44030 - Ro Ferrarese (FE)
 tel 3383646278 - info@geofe.it - www.geofe.it
 Responsabile dati: Dott.Geol.Zanella Fabio
 Responsabile cantiere: Sig. Mangherini Alberto

Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz																		
metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec																		
8.220	7.147	0.089	1.743	3.214	2.465	9.860	9.122	0.126	2.972	3.311	2.474	11.500	14.414	0.461	1.897	3.478	2.332	13.140	7.600	0.115	3.033	3.550	2.121	14.780	16.413	0.343	0.989	3.586	1.998	8.240	7.146	0.087	1.768	3.239	2.295	9.880	9.097	0.124	2.962	3.301	2.385	11.520	14.619	0.464	2.089	3.471	2.443	13.160	9.069	0.109	3.322	3.558	2.406	14.800	14.222	0.387	0.854	3.588	2.213
8.260	7.480	0.083	1.808	3.249	2.617	9.900	9.201	0.114	2.968	3.298	2.396	11.540	16.164	0.438	2.401	3.475	2.416	13.180	12.806	0.118	4.222	3.549	2.311	14.820	11.206	0.360	0.799	3.593	2.036	8.280	8.046	0.076	1.880	3.259	2.504	9.920	9.149	0.111	2.993	3.306	2.294	11.560	17.555	0.454	2.488	3.474	2.231	13.200	17.135	0.124	2.843	3.549	2.130	14.840	13.962	0.358	1.099	3.597	2.018
8.300	8.690	0.075	1.976	3.276	2.404	9.940	9.433	0.109	2.989	3.296	2.518	11.580	15.800	0.501	2.072	3.489	2.461	13.220	21.181	0.176	1.345	3.551	2.304	14.860	19.656	0.392	1.577	3.595	2.237	8.320	9.335	0.085	2.067	3.273	2.247	9.960	9.099	0.112	2.928	3.306	2.419	11.600	13.298	0.466	1.465	3.482	2.477	13.240	23.243	0.258	1.206	3.542	2.337	14.880	25.376	0.402	1.740	3.593	2.052
8.340	9.696	0.101	2.122	3.274	2.571	9.980	8.635	0.117	2.874	3.297	2.334	11.620	10.692	0.415	1.427	3.488	2.174	13.260	24.995	0.358	1.305	3.560	2.166	14.900	27.515	0.516	1.617	3.581	2.020	8.360	10.237	0.122	2.187	3.298	2.424	10.000	7.836	0.107	2.805	3.302	2.219	11.640	8.834	0.321	1.895	3.488	2.412	13.280	25.459	0.409	1.130	3.548	2.270	14.920	27.538	0.505	1.489	3.577	2.213
8.380	10.419	0.148	2.208	3.307	2.314	10.020	7.554	0.087	2.789	3.305	2.561	11.660	12.704	0.425	1.246	3.520	2.000	13.300	23.192	0.491	1.049	3.555	2.286	14.940	25.680	0.472	1.167	3.586	2.095	8.400	10.395	0.181	2.202	3.308	2.554	10.040	7.451	0.069	2.824	3.316	2.379	11.680	12.215	0.377	1.176	3.517	1.874	13.320	19.378	0.454	0.922	3.544	2.234	14.960	22.871	0.444	1.047	3.565	1.949
8.420	10.319	0.224	2.208	3.312	2.495	10.060	7.426	0.061	2.869	3.327	2.332	11.700	10.514	0.413	1.192	3.533	2.073	13.340	15.977	0.394	0.829	3.550	2.216	14.980	21.245	0.407	0.993	3.561	2.232	8.440	10.295	0.270	2.122	3.322	2.354	10.080	7.478	0.055	2.964	3.325	2.456	11.720	9.148	0.451	1.208	3.527	2.264	13.360	12.986	0.310	0.789	3.562	2.369	15.000	21.398	0.422	1.040	3.581	2.049
8.460	9.935	0.317	2.098	3.334	2.448	10.100	7.710	0.053	3.032	3.330	2.338	11.740	10.153	0.448	1.415	3.541	2.110	13.380	12.135	0.258	0.913	3.550	2.292	15.020	24.773	0.462	1.304	3.601	2.139	8.480	9.524	0.358	2.067	3.339	2.571	10.120	7.737	0.054	3.112	3.340	2.317	11.760	13.863	0.368	1.856	3.542	2.039	13.400	15.072	0.236	1.214	3.556	2.119	15.040	29.824	0.469	1.534	3.603	2.039
8.500	9.036	0.396	2.026	3.349	2.343	10.140	7.840	0.052	3.171	3.338	2.502	11.780	16.156	0.309	2.084	3.533	2.174	13.420	18.009	0.272	1.474	3.548	2.440	15.060	34.358	0.524	1.734	3.617	2.019	8.520	8.471	0.414	1.995	3.346	2.328	10.160	7.893	0.055	3.201	3.349	2.373	11.800	14.634	0.353	1.773	3.527	2.166	13.440	21.743	0.337	1.729	3.547	2.266	15.080	36.831	0.605	1.625	3.611	2.138
8.540	8.136	0.417	1.984	3.351	2.577	10.180	7.713	0.062	3.220	3.351	2.318	11.820	11.488	0.351	1.163	3.535	2.015	13.460	25.117	0.433	1.295	3.548	2.051	15.100	40.515	0.532	1.672	3.628	2.048	8.560	7.750	0.418	1.939	3.344	2.529	10.200	7.817	0.064	3.255	3.342	2.237	11.840	10.482	0.364	1.193	3.533	2.251	13.480	25.992	0.495	1.302	3.547	2.370	15.120	44.096	0.487	1.776	3.632	2.106
8.580	7.493	0.409	1.888	3.358	2.244	10.220	7.637	0.068	3.267	3.349	2.620	11.860	11.023	0.295	1.365	3.526	2.070	13.500	25.089	0.470	1.275	3.558	2.308	15.140	47.290	0.454	1.948	3.633	2.012	8.600	7.209	0.389	1.880	3.365	2.528	10.240	7.664	0.077	3.281	3.347	2.317	11.880	11.744	0.248	1.468	3.520	2.037	13.520	23.797	0.440	1.228	3.553	2.095	15.160	50.149	0.297	2.112	3.614	1.935
8.620	7.312	0.359	1.905	3.363	2.379	10.260	7.278	0.088	3.272	3.341	2.290	11.900	10.996	0.276	1.420	3.517	2.312	13.540	23.047	0.455	1.211	3.558	2.462	15.180	52.467	0.160	2.215	3.609	2.259	8.640	7.723	0.313	1.959	3.357	2.330	10.280	7.176	0.076	3.296	3.344	2.603	11.920	9.423	0.268	1.321	3.515	2.041	13.560	21.859	0.502	1.157	3.562	2.169	15.200	54.552	0.089	2.010	3.625	2.009
8.660	7.775	0.280	2.003	3.359	2.573	10.300	7.281	0.061	3.379	3.344	2.277	11.940	8.520	0.241	1.305	3.522	2.075	13.580	20.542	0.522	1.123	3.563	2.168	15.220	55.812	0.080	1.371	3.624	2.126	8.680	7.645	0.248	2.015	3.349	2.422	10.320	7.436	0.054	3.506	3.357	2.255	11.960	8.803	0.221	1.394	3.516	2.236	13.600	18.992	0.463	1.086	3.570	2.364	15.240	54.574	0.131	1.168	3.628	2.119
8.700	7.126	0.209	2.171	3.369	2.000	10.340	7.875	0.057	3.583	3.353	2.519	11.980	10.786	0.193	1.723	3.514	2.081	13.620	17.186	0.466	1.039	3.561	2.252	15.260	50.887	0.140	1.040	3.621	1.952	8.720	8.544	0.231	2.379	3.359	2.132	10.360	8.160	0.058	3.659	3.354	2.353	12.000	11.996	0.184	1.896	3.511	2.100	13.640	20.504	0.559	2.209	3.587	2.000	15.280	46.272	0.091	0.943	3.620	2.183
8.740	8.287	0.243	2.357	3.365	2.288	10.380	8.804	0.064	3.795	3.354	2.340	12.020	11.170	0.215	1.813	3.501	2.222	13.660	19.397	0.516	1.596	3.590	2.242	15.300	40.704	0.044	0.814	3.626	2.136	8.760	8.005	0.260	2.293	3.360	2.482	10.400	9.268	0.067	3.919	3.358	2.516	12.040	9.235	0.221	1.698	3.506	2.104	13.680	16.357	0.589	1.368	3.589	2.595	15.320	35.857	0.033	0.712	3.597	1.960
8.780	7.902	0.272	2.280	3.377	2.213	10.420	9.502	0.074	4.012	3.353	2.327	12.060	8.100	0.207	1.638	3.516	2.045	13.700	17.827	0.579	1.620	3.594	2.419	15.340	31.888	0.016	0.635	3.603	2.205	8.800	7.774	0.279	2.283	3.360	2.424	10.440	9.863	0.087	4.080	3.361	2.268	12.080	7.455	0.194	1.627	3.512	2.247	13.720	22.387	0.530	1.262	3.586	2.409	15.360	28.098	0.008	0.562	3.598	2.074
8.820	7.826	0.274	2.305	3.357	2.385	10.460	10.045	0.109	4.117	3.366	2.255	12.100	9.026	0.187	2.015	3.520	2.132	13.740	24.757	0.516	2.169	3.589	2.605	15.380	24.411	0.016	0.503	3.603	2.037	8.840	8.083	0.269	2.344	3.367	2.231	10.480	10.071	0.129	4.168	3.369	2.554	12.120	11.397	0.200	2.499	3.508	1.956	13.760	22.745	0.540	1.613	3.589	2.390	15.400	21.344	0.037	0.446	3.590	2.261
8.860	8.418	0.269	2.402	3.374	2.229	10.500	10.020	0.144	4.174	3.375	2.405	12.140	12.040	0.214	2.523	3.505	2.256	13.780	20.321	0.514	0.778	3.593	2.360	15.420	17.399	0.077	0.369	3.593	2.076	8.880	8.649	0.275	2.435	3.365	2.463	10.520	9.789	0.159	3.449	3.380	2.324	12.160	10.390	0.219	2.311	3.508	2.110	13.800	19.289	0.536	0.777	3.599	2.643	15.440	12.964	0.114	0.292	3.597	1.986
8.900	8.519	0.279	2.462	3.361	2.332	10.540	9.584	0.164	3.934	3.380	2.418	12.180	8.457	0.204	2.119	3.518	2.005	13.820	18.126	0.528	0.784	3.595	2.451	15.460	10.644	0.112	0.267	3.582	2.388	8.920	8.906	0.276	2.503	3.362	2.247	10.560	9.352	0.170	3.930	3.385	2.379	12.200	7.967	0.157	2.134	3.530	2.271	13.840	18.329	0.433	0.884	3.595	2.360	15.480	8.838	0.127	0.333	3.583	2.054
8.940	9.214	0.279	2.526	3.366	2.440	10.																																																					



Committente: Geotema
 Cantiere: Microzonazione Sala Bolognese (BO)
 Data: 24/09/2016

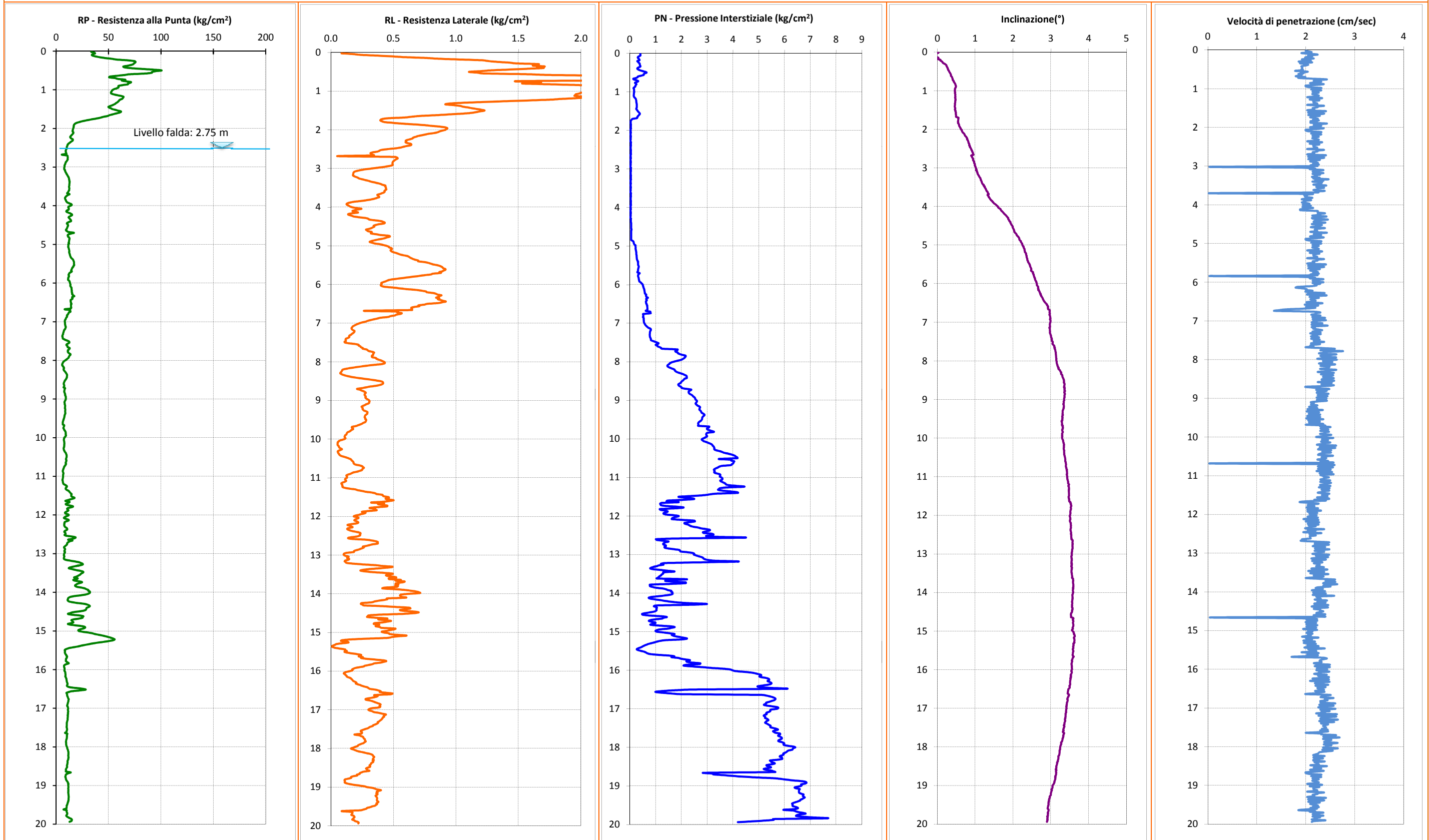
ID Prova: CPTU B - OSTERIA NUOVA
 Profondita falda: a mt 2.75 da p.c.
 Coordinate: 44. 588335 - 11.238143

Profondità massima raggiunta: 20.00 mt
 Punta sismica: Tecnopenta G1-CPL2IN - SISMI
 RIF. 127/16GF

Prova eseguita da:
GEO.FE. S.n.c.
 via dell'Artigianato ,2 44030 - Ro Ferrarese (FE)
 tel 3383646278 - info@geofe.it - www.geofe.it
 Responsabile dati: Dott.Geol.Zanella Fabio
 Responsabile cantiere: Sig. Mangherini Alberto

Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz
metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec
16.420	10.249	0.293	4.949	3.491	2.207	18.060	10.902	0.205	6.306	3.248	2.446	19.700	10.364	0.168	6.727	2.921	2.358												
16.440	11.074	0.300	5.062	3.501	2.273	18.080	11.262	0.226	6.167	3.237	2.340	19.720	10.674	0.163	6.817	2.931	2.237												
16.460	13.549	0.313	5.508	3.499	2.407	18.100	11.392	0.257	6.107	3.231	2.551	19.740	10.546	0.180	6.598	2.920	2.141												
16.480	20.096	0.356	6.060	3.489	2.241	18.120	11.675	0.282	6.078	3.234	2.434	19.760	10.108	0.186	6.471	2.925	2.179												
16.500	25.922	0.380	2.502	3.466	2.257	18.140	11.701	0.311	6.025	3.234	2.287	19.780	9.669	0.189	6.454	2.924	2.361												
16.520	28.164	0.397	1.729	3.462	2.370	18.160	11.778	0.329	5.955	3.230	2.263	19.800	10.185	0.181	6.723	2.905	2.140												
16.540	22.804	0.391	1.258	3.458	2.365	18.180	11.675	0.336	5.972	3.228	2.247	19.820	11.344	0.179	7.194	2.918	2.294												
16.560	15.021	0.441	0.991	3.453	2.190	18.200	11.778	0.339	5.934	3.223	2.194	19.840	12.608	0.170	7.648	2.912	2.183												
16.580	12.238	0.493	1.197	3.450	2.382	18.220	11.572	0.347	5.846	3.220	2.156	19.860	14.154	0.187	5.558	2.907	2.223												
16.600	9.996	0.471	1.570	3.452	2.271	18.240	11.650	0.341	5.816	3.200	2.384	19.880	15.005	0.193	5.585	2.917	2.127												
16.620	10.022	0.348	1.986	3.448	2.179	18.260	11.726	0.339	5.895	3.202	2.212	19.900	15.005	0.215	5.205	2.906	2.402												
16.640	10.503	0.374	5.120	3.478	2.000	18.280	11.880	0.335	5.906	3.203	2.161	19.920	14.438	0.222	4.737	2.907	2.178												
16.660	10.530	0.366	5.316	3.483	2.497	18.300	11.622	0.343	5.911	3.200	2.352	19.940	12.788	0.219	4.192	2.897	2.123												
16.680	10.582	0.340	5.446	3.468	2.368	18.320	11.622	0.333	5.738	3.197	2.221	19.960	11.525	0.238	4.809	2.897	2.340												
16.700	10.944	0.307	5.549	3.464	2.329	18.340	11.362	0.339	5.441	3.189	2.155	19.980	8.122	0.123	4.695	2.883	2.020												
16.720	11.201	0.278	5.618	3.449	2.306	18.360	10.950	0.334	5.497	3.189	2.159	20.000	13.740	0.294	4.667	2.888	1.806												
16.740	11.510	0.280	5.652	3.447	2.567	18.380	10.845	0.323	5.489	3.183	2.388																		
16.760	11.871	0.312	5.638	3.434	2.393	18.400	10.973	0.320	5.587	3.166	2.185																		
16.780	11.973	0.333	5.585	3.446	2.393	18.420	10.869	0.315	5.620	3.172	2.250																		
16.800	11.663	0.350	5.488	3.447	2.445	18.440	10.764	0.309	5.490	3.164	2.223																		
16.820	11.662	0.366	5.406	3.440	2.296	18.460	10.507	0.314	5.305	3.160	2.266																		
16.840	11.481	0.384	5.293	3.433	2.393	18.480	10.299	0.311	5.313	3.155	2.098																		
16.860	11.222	0.397	5.294	3.424	2.308	18.500	10.299	0.292	5.423	3.144	2.432																		
16.880	11.067	0.394	5.238	3.423	2.603	18.520	10.555	0.281	5.477	3.148	2.187																		
16.900	10.834	0.389	5.207	3.424	2.362	18.540	10.090	0.290	5.341	3.144	2.165																		
16.920	10.677	0.395	5.350	3.415	2.283	18.560	9.729	0.291	5.196	3.145	2.317																		
16.940	10.522	0.385	5.562	3.421	2.567	18.580	9.315	0.307	5.255	3.130	2.173																		
16.960	11.060	0.326	5.737	3.409	2.416	18.600	9.418	0.263	5.488	3.150	2.096																		
16.980	11.265	0.308	5.760	3.415	2.258	18.620	9.417	0.244	5.561	3.138	2.364																		
17.000	11.470	0.299	5.709	3.418	2.316	18.640	9.442	0.230	5.639	3.135	2.239																		
17.020	11.442	0.311	5.480	3.407	2.607	18.660	13.934	0.229	2.869	3.144	2.000																		
17.040	11.157	0.332	5.442	3.408	2.306	18.680	11.823	0.207	3.254	3.142	2.000																		
17.060	11.336	0.344	5.451	3.405	2.346	18.700	10.173	0.210	3.234	3.138	2.060																		
17.080	11.541	0.383	5.393	3.401	2.489	18.720	9.297	0.177	3.612	3.139	2.317																		
17.100	11.488	0.409	5.308	3.408	2.319	18.740	9.117	0.161	3.987	3.131	2.209																		
17.120	11.177	0.440	5.290	3.397	2.385	18.760	8.886	0.162	4.413	3.117	2.113																		
17.140	11.435	0.431	5.307	3.391	2.219	18.780	8.757	0.141	4.916	3.126	2.316																		
17.160	11.304	0.422	5.223	3.393	2.637	18.800	9.168	0.114	5.585	3.116	2.200																		
17.180	10.968	0.425	5.195	3.391	2.317	18.820	9.271	0.108	5.869	3.122	2.140																		
17.200	11.198	0.415	5.235	3.390	2.267	18.840	9.425	0.112	6.109	3.116	2.265																		
17.220	11.068	0.413	5.261	3.391	2.624	18.860	9.708	0.112	6.380	3.107	2.186																		
17.240	11.143	0.408	5.247	3.383	2.348	18.880	10.276	0.110	6.718	3.104	2.134																		
17.260	10.987	0.400	5.323	3.385	2.307	18.900	10.842	0.122	6.836	3.094	2.217																		
17.280	11.011	0.393	5.367	3.372	2.302	18.920	11.125	0.147	6.853	3.096	2.268																		
17.300	10.984	0.385	5.369	3.374	2.658	18.940	11.383	0.183	6.794	3.085	2.221																		
17.320	10.725	0.374	5.303	3.382	2.326	18.960	11.821	0.226	6.646	3.076	2.031																		
17.340	10.568	0.377	5.278	3.374	2.280	18.980	11.485	0.269	6.669	3.062	2.326																		
17.360	10.335	0.368	5.249	3.368	2.580	19.000	11.614	0.289	6.639	3.045	2.247																		
17.380	10.153	0.354	5.303	3.361	2.317	19.020	11.667	0.331	6.504	3.045	2.081																		
17.400	10.152	0.338	5.360	3.359	2.316	19.040	11.717	0.351	6.395	3.047	2.277																		
17.420	10.124	0.334	5.405	3.362	2.456	19.060	11.640	0.370	6.442	3.041	2.156																		
17.440	10.149	0.314	5.461	3.343	2.405	19.080	11.563	0.400	6.591	3.035	2.158																		
17.460	10.097	0.304	5.449	3.358	2.355	19.100	11.638	0.378	6.568	3.016	2.164																		
17.480	9.967	0.293	5.458	3.358	2.382	19.120	11.715	0.366	6.561	3.030	2.232					</													

GRAFICI PROVA CPTU B





elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
Tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P IVA e Codice Fiscale n. 00174600387

Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC



COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Gramsci, Osteria Nuova, Bologna**

PROVA N°: CPTU C PROF. FALDA (m da p.c.): 4.50

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: 06/09/16

PROF. PROF. (m da p.c.):

LAT. (WGS 84): 44.585516°

LONG. (WGS 84): 11.235366°

COMMESSA: 15289/16

C. SITO N°: S160369 del 07.09.2016 OPERATORE: L. Zanirato

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.02	3.57	10.19	2.08	0.21	2.02	1.63	35.99	2.31	0.74	4.02	0.98	47.37	7.95	1.14	6.02	0.99	64.56	6.97	1.81	8.02	0.79	40.62	78.31	2.55
0.04	4.97	17.31	1.11	0.32	2.04	1.81	37.22	2.80	0.73	4.04	1.00	46.59	8.11	1.13	6.04	0.98	59.11	6.97	1.82	8.04	0.75	37.06	77.49	2.56
0.06	6.78	23.63	1.60	0.17	2.06	1.84	43.34	2.31	0.74	4.06	1.00	47.26	8.11	1.13	6.06	0.93	53.22	6.97	1.82	8.06	0.78	32.07	78.31	2.57
0.08	8.56	26.30	0.95	0.29	2.08	1.67	47.78	2.15	0.74	4.08	1.00	46.82	8.27	1.14	6.08	0.92	47.44	6.97	1.83	8.08	0.78	28.73	76.67	2.58
0.10	10.13	38.08	0.13	0.31	2.10	1.52	53.17	0.68	0.77	4.10	1.00	46.26	7.95	1.15	6.10	0.92	41.23	6.81	1.84	8.10	0.77	26.73	76.67	2.59
0.12	11.34	57.97	1.33	0.33	2.12	1.37	53.51	0.95	0.76	4.12	1.00	46.26	8.27	1.15	6.12	0.94	36.56	6.81	1.85	8.12	0.74	24.40	76.67	2.60
0.14	12.20	51.30	0.13	0.32	2.14	1.19	54.07	1.76	0.76	4.14	1.02	45.60	8.27	1.15	6.14	0.92	34.78	6.48	1.85	8.14	0.78	24.07	76.67	2.62
0.16	12.44	63.52	0.62	0.30	2.16	0.99	55.96	1.76	0.77	4.16	1.02	44.93	8.43	1.15	6.16	0.95	26.56	6.64	1.87	8.16	0.73	23.63	75.86	2.63
0.18	12.39	66.52	0.29	0.42	2.18	0.87	56.41	1.43	0.78	4.18	1.03	44.16	8.27	1.15	6.18	1.00	19.45	6.32	1.87	8.18	0.66	26.19	75.05	2.65
0.20	14.39	57.64	0.78	0.37	2.20	0.85	53.85	0.29	0.79	4.20	1.03	43.38	8.27	1.16	6.20	1.18	18.02	4.91	1.88	8.20	0.63	25.52	75.05	2.65
0.22	12.88	79.86	3.06	0.37	2.22	0.84	48.97	0.03	0.79	4.22	1.02	45.05	8.27	1.17	6.22	1.27	19.13	77.49	1.89	8.22	0.65	21.41	75.05	2.66
0.24	12.67	84.09	2.57	0.39	2.24	0.90	46.08	0.19	0.81	4.24	1.01	44.27	8.43	1.16	6.24	1.31	21.02	87.26	1.89	8.24	0.66	21.63	75.05	2.67
0.26	13.09	68.42	1.92	0.40	2.26	0.91	43.42	0.68	0.82	4.26	1.01	44.60	8.43	1.17	6.26	1.39	23.80	90.51	1.90	8.26	0.69	18.97	75.05	2.68
0.28	12.92	80.98	2.25	0.34	2.28	0.92	41.42	1.01	0.83	4.28	0.99	44.49	8.27	1.17	6.28	1.48	26.02	91.33	1.91	8.28	0.63	16.86	75.86	2.69
0.30	12.49	91.10	1.92	0.36	2.30	0.93	35.53	0.19	0.84	4.30	0.99	44.38	8.43	1.16	6.30	1.55	31.69	91.33	1.92	8.30	0.80	14.63	76.67	2.69
0.32	11.99	99.55	2.41	0.36	2.32	0.93	34.65	0.29	0.85	4.32	0.97	44.27	8.43	1.17	6.32	1.57	37.92	89.70	1.92	8.32	0.84	13.08	77.49	2.71
0.34	11.51	76.10	2.57	0.36	2.34	0.94	37.10	0.62	0.86	4.34	0.97	44.49	8.43	1.17	6.34	1.59	44.36	89.70	1.94	8.34	0.79	14.19	77.49	2.71
0.36	10.40	69.33	3.06	0.36	2.36	0.98	42.43	0.62	0.87	4.36	0.97	43.72	8.60	1.15	6.36	1.58	51.14	88.89	1.94	8.36	0.74	15.30	76.67	2.72
0.38	9.28	59.66	3.39	0.35	2.38	0.91	48.99	0.36	0.88	4.38	0.96	44.27	8.43	1.16	6.38	1.54	56.03	87.26	1.94	8.38	0.75	14.30	77.49	2.73
0.40	8.56	56.44	3.06	0.36	2.40	0.94	53.55	1.17	0.89	4.40	0.93	44.16	8.43	1.17	6.40	1.49	61.59	86.45	1.96	8.40	0.78	13.97	77.49	2.74
0.42	8.17	62.88	3.22	0.37	2.42	0.97	56.77	0.68	0.89	4.42	0.92	53.06	8.76	1.18	6.42	1.48	66.03	85.63	1.96	8.42	0.82	14.30	78.31	2.75
0.44	8.08	62.33	3.22	0.37	2.44	0.98	57.66	0.78	0.91	4.44	0.89	53.83	8.60	1.18	6.44	1.47	66.48	84.81	1.96	8.44	0.86	16.08	77.49	2.76
0.46	7.55	54.44	0.13	0.39	2.46	1.04	58.44	1.11	0.91	4.46	0.85	56.17	8.76	1.19	6.46	1.44	66.48	84.81	1.98	8.46	0.83	18.19	77.49	2.76
0.48	7.38	76.22	2.43	0.39	2.48	1.06	57.67	0.95	0.93	4.48	0.82	58.06	8.76	1.19	6.48	1.41	67.37	84.00	1.98	8.48	0.83	19.41	77.49	2.77
0.50	6.97	71.89	2.41	0.40	2.50	1.07	55.65	1.27	0.93	4.50	0.82	57.17	8.76	1.20	6.50	1.32	67.59	82.37	1.98	8.50	0.86	19.86	79.12	2.78
0.52	6.43	76.55	2.90	0.41	2.52	1.01	56.34	1.92	0.94	4.52	0.86	55.06	8.76	1.20	6.52	1.22	68.59	81.56	2.00	8.52	0.90	21.30	79.12	2.79
0.54	5.44	70.66	3.39	0.41	2.54	0.96	59.01	2.08	0.95	4.54	0.93	51.95	8.76	1.21	6.54	1.17	65.15	80.75	2.00	8.54	0.94	23.52	80.75	2.79
0.56	5.14	70.33	3.87	0.43	2.56	0.94	60.90	2.57	0.95	4.56	1.03	49.28	8.27	1.22	6.56	1.17	59.70	79.93	2.01	8.56	1.01	22.86	81.56	2.81
0.58	4.90	86.89	4.04	0.44	2.58	0.96	60.24	2.57	0.97	4.58	1.14	45.73	8.11	1.23	6.58	1.17	58.48	79.12	2.01	8.58	1.03	22.64	81.56	2.82
0.60	4.41	95.89	4.69	0.44	2.60	0.96	59.69	3.06	0.96	4.60	1.19	41.84	8.11	1.23	6.60	1.13	58.15	78.31	2.02	8.60	1.01	23.08	83.19	2.82
0.62	4.00	107.44	4.53	0.44	2.62	0.96	59.36	3.22	0.98	4.62	1.16	41.84	8.11	1.24	6.62	1.09	55.48	78.31	2.02	8.62	0.96	23.53	81.56	2.82
0.64	3.91	113.22	5.01	0.46	2.64	0.96	58.36	3.22	0.98	4.64	1.14	44.95	8.43	1.24	6.64	1.11	48.93	79.12	2.04	8.64	0.92	25.31	81.56	2.83
0.66	3.82	111.22	5.01	0.45	2.66	0.93	56.58	3.39	0.98	4.66	0.94	49.07	7.29	1.12	6.66	1.11	46.26	78.31	2.05	8.66	0.90	26.19	82.37	2.84
0.68	4.32	101.33	4.69	0.46	2.68	0.88	53.59	3.71	0.98	4.68	1.14	51.62	8.27	1.25	6.68	0.97	44.04	84.81	2.00	8.68	0.89	25.53	84.81	2.85
0.70	3.73	103.33	5.18	0.46	2.70	0.87	53.92	3.71	1.00	4.70	1.17	56.62	8.11	1.27	6.70	1.13	41.04	80.75	2.06	8.70	0.89	24.08	84.81	2.86
0.72	3.41	112.44	5.50	0.48	2.72	0.85	56.48	4.04	1.00	4.72	1.25	65.85	8.43	1.28	6.72	1.14	38.70	82.37	2.08	8.72	0.95	24.87	82.37	2.86
0.74	3.40	113.66	5.34	0.48	2.74	0.89	57.04	3.87	1.00	4.74	1.19	72.84	6.81	1.26	6.74	1.08	35.93	88.07	2.09	8.74	0.95	28.09	82.37	2.87
0.76	3.35	114.78	5.34	0.47	2.76	0.95	58.26	4.20	1.01	4.76	1.34	77.18	8.27	1.29	6.76	1.16	31.04	87.26	2.10	8.76	0.91	28.98	81.56	2.88
0.78	3.30	115.55	5.50	0.48	2.78	1.00	58.26	4.36	1.02	4.78	1.46	79.63	8.27	1.30	6.78	1.18	28.70	89.70	2.10	8.78	0.91	31.20	81.56	2.89
0.80	3.18	123.56	5.67	0.48	2.80	0.96	59.04	4.69	1.03	4.80	1.57	85.74	8.27	1.31	6.80	1.28	28.04	94.59	2.11	8.80	0.91	32.98	81.56	2.90
0.82	3.04	131.34	5.67	0.47	2.82	0.96	57.71	4.69	1.02	4.82	1.47	83.63	8.43	1.31	6.82	1.39	26.70	101.91	2.11	8.82	0.89	37.53	80.75	2.91
0.84	2.88	133.34	5.67	0.47	2.84	0.94	58.49	5.01	1.04	4.84	1.47	80.52	8.27	1.33	6.84	1.49	27.48	107.61	2.13	8.84	0.91	39.20	81.56	2.92
0.86	2.83	130.89	5.99	0.48	2.86	0.95	59.49	5.01	1.05	4.86	1.35	80.74	8.43	1.33	6.86	1.53	29.15	111.75	2.14	8.86	0.96	36.64	82.37	2.93
0.88	2.94	132.00	6.15	0.47	2.88	0.96	61.83	5.18	1.06	4.88	1.23	77.40	8.60	1.34	6.88	1.58	30.93	115.68	2.14	8.88	0.95	35.98	82.37	2.94
0.90	3.00	136.89	6.15	0.46	2.90	0.95	64.94	5.18	1.07	4.90	1.27	71.40	8.60	1.34	6.90	1.60	31.04	119.82	2.15	8.90	0.90	35.42	82.37	2.95
0.92	3.04	145.11	5.99	0.46	2.92	0.96	66.72	5.34	1.08	4.92	1.37	68.96	8.60	1.35	6.92	1.66	31.60	123.07	2.16	8.92	0.90	35.42	81.56	2.96
0.94	3.08	145.78	6.15	0.47	2.94	0.94	66.50	5.34	1.09	4.94	1.41	68.40	8.43	1.36	6.94	1.90	34.82	127.96	2.18	8.94	0.86	38.31	81.56	2.97
0.96	3.11	14																						



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
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P IVA e Codice Fiscale n. 00174600387



Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Gramsci, Osteria Nuova, Bologna**

PROVA N°: **CPTU C**

PROF. FALDA (m da p.c.): **4.50**

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: **06/09/16**

PREFORO (m da p.c.):

LAT. (WGS 84): **44.585516°**

LONG. (WGS 84): **11.235366°**

COMMESSA: **15289/16**

C. SITO N°: **S160369 del 07.09.2016 OPERATORE: L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.02	0.67	25.54	87.26	3.51	12.02	1.44	45.56	6.35	4.44	14.02	1.19	24.33	14.81	5.15	16.02	1.09	19.99	34.35	5.97	18.02	1.12	23.82	61.21	6.85
10.04	0.67	24.65	88.07	3.52	12.04	1.42	43.11	5.54	4.46	14.04	1.03	26.56	13.19	5.16	16.04	1.08	22.54	34.35	5.97	18.04	1.10	23.49	62.84	6.86
10.06	0.64	25.55	90.51	3.53	12.06	1.33	33.67	3.91	4.47	14.06	0.93	25.33	13.19	5.17	16.06	1.07	25.10	35.16	5.97	18.06	1.09	23.82	64.47	6.87
10.08	0.66	24.88	90.51	3.54	12.08	1.09	31.89	5.54	4.48	14.08	0.92	23.45	14.81	5.18	16.08	1.07	25.88	36.79	5.99	18.08	1.09	22.37	66.91	6.88
10.10	0.66	23.88	91.33	3.55	12.10	0.86	31.78	6.35	4.49	14.10	0.96	23.45	15.63	5.19	16.10	1.11	25.10	37.61	6.01	18.10	1.09	25.04	309.48	6.90
10.12	0.69	21.88	92.95	3.57	12.12	0.79	29.22	6.35	4.49	14.12	0.92	25.33	15.63	5.19	16.12	1.11	25.66	38.42	6.01	18.12	1.07	25.93	311.11	6.91
10.14	0.69	21.66	93.77	3.57	12.14	0.81	25.33	4.73	4.51	14.14	0.87	27.33	16.44	5.20	16.14	1.10	26.33	39.23	6.02	18.14	1.07	26.38	314.37	6.92
10.16	0.69	21.66	93.77	3.59	12.16	0.81	23.67	4.73	4.52	14.16	0.85	27.34	18.07	5.21	16.16	1.11	26.55	39.23	6.03	18.16	1.12	25.05	319.25	6.93
10.18	0.69	20.99	94.59	3.59	12.18	0.79	20.78	3.09	4.53	14.18	1.12	23.78	27.83	5.22	16.18	1.16	27.56	94.59	6.04	18.18	1.13	24.49	319.25	6.93
10.20	0.67	20.99	92.14	3.59	12.20	0.80	17.11	0.65	4.55	14.20	1.73	19.01	35.97	5.23	16.20	1.17	28.56	96.21	6.05	18.20	1.15	24.94	320.87	6.94
10.22	0.69	20.10	93.77	3.61	12.22	0.85	17.44	1.47	4.55	14.22	2.69	31.23	44.11	5.24	16.22	1.20	29.34	96.21	6.05	18.22	1.13	24.94	319.25	6.95
10.24	0.69	20.55	92.95	3.63	12.24	0.99	15.55	1.79	4.56	14.24	2.77	45.68	45.75	5.25	16.24	1.21	31.01	96.21	6.06	18.24	1.10	26.16	318.43	6.96
10.26	0.67	19.88	92.95	3.63	12.26	1.10	13.44	2.60	4.56	14.26	2.59	50.79	43.30	5.25	16.26	1.21	32.23	96.21	6.07	18.26	1.06	26.27	316.81	6.97
10.28	0.69	18.10	92.95	3.64	12.28	1.19	13.67	3.41	4.58	14.28	2.29	49.35	40.05	5.27	16.28	1.17	33.68	94.59	6.07	18.28	1.03	26.71	316.81	6.96
10.30	0.66	17.55	92.95	3.65	12.30	1.11	16.78	3.41	4.58	14.30	1.98	49.23	36.79	5.28	16.30	1.15	35.79	94.59	6.08	18.30	1.03	26.82	319.25	6.98
10.32	0.63	17.44	92.95	3.65	12.32	0.96	20.78	3.41	4.60	14.32	1.86	48.23	31.91	5.29	16.32	1.14	37.57	95.40	6.09	18.32	1.05	26.38	320.06	6.99
10.34	0.61	17.44	92.95	3.67	12.34	0.85	20.11	2.60	4.60	14.34	1.84	41.90	32.72	5.29	16.34	1.16	36.35	96.21	6.10	18.34	1.06	26.27	324.13	7.00
10.36	0.62	17.11	93.77	3.67	12.36	0.95	19.00	4.23	4.61	14.36	1.76	35.35	31.91	5.30	16.36	1.11	36.79	101.09	6.11	18.36	1.10	25.04	329.01	7.01
10.38	0.64	16.22	94.59	3.69	12.38	1.33	21.67	7.49	4.62	14.38	1.56	38.90	26.21	5.30	16.38	1.05	37.79	101.09	6.11	18.38	1.12	23.04	329.83	7.02
10.40	0.64	15.66	94.59	3.70	12.40	1.57	23.56	9.11	4.62	14.40	1.35	42.35	21.33	5.31	16.40	1.09	36.12	504.84	6.12	18.40	1.13	22.38	329.83	7.03
10.42	0.64	15.33	95.40	3.71	12.42	1.49	30.55	7.49	4.63	14.42	1.22	43.57	18.07	5.33	16.42	1.10	35.79	578.91	6.13	18.42	1.12	22.60	328.20	7.04
10.44	0.64	14.99	96.21	3.72	12.44	1.14	33.67	4.23	4.64	14.44	1.44	43.57	26.21	5.34	16.44	1.12	33.90	543.10	6.14	18.44	1.10	23.93	327.39	7.05
10.46	0.67	13.33	97.03	3.74	12.46	0.87	31.44	4.23	4.66	14.46	1.81	41.68	30.28	5.34	16.46	1.15	33.46	540.65	6.14	18.46	1.07	24.38	327.39	7.05
10.48	0.70	12.77	97.03	3.74	12.48	0.86	21.11	4.23	4.66	14.48	2.08	41.35	33.53	5.35	16.48	1.16	34.79	484.49	6.15	18.48	1.04	25.15	326.57	7.07
10.50	0.69	14.33	97.03	3.75	12.50	0.95	18.67	5.86	4.68	14.50	2.15	44.68	34.35	5.36	16.50	1.17	35.46	460.07	6.15	18.50	1.03	26.04	327.39	7.08
10.52	0.67	14.22	96.21	3.77	12.52	1.00	21.78	5.86	4.69	14.52	2.10	52.68	33.53	5.36	16.52	1.17	35.79	456.81	6.16	18.52	1.03	27.27	327.39	7.08
10.54	0.62	14.66	96.21	3.78	12.54	1.05	25.89	5.05	4.69	14.54	2.20	55.79	35.16	5.37	16.54	1.17	37.23	449.49	6.17	18.54	1.00	27.60	328.20	7.10
10.56	0.61	14.55	95.40	3.79	12.56	1.07	26.67	5.05	4.71	14.56	2.44	57.68	37.61	5.39	16.56	1.16	38.90	439.72	6.18	18.56	0.99	26.60	330.65	7.10
10.58	0.61	13.00	97.84	3.80	12.58	1.10	26.00	5.86	4.71	14.58	2.67	60.56	40.05	5.39	16.58	1.12	40.46	432.39	6.19	18.58	1.03	24.93	334.71	7.12
10.60	0.61	12.77	97.03	3.81	12.60	1.10	20.11	5.86	4.72	14.60	2.73	64.45	40.05	5.40	16.60	1.11	40.68	426.69	6.19	18.60	1.09	21.82	338.79	7.12
10.62	0.63	13.22	98.65	3.82	12.62	1.07	18.78	6.67	4.72	14.62	2.63	65.34	40.05	5.41	16.62	1.09	40.90	421.81	6.20	18.62	1.12	19.38	340.41	7.13
10.64	0.68	12.44	98.65	3.83	12.64	0.96	23.22	5.05	4.73	14.64	2.49	56.90	40.05	5.42	16.64	1.08	39.79	417.74	6.20	18.64	1.13	18.71	339.60	7.14
10.66	0.73	12.55	100.28	3.84	12.66	0.86	24.11	5.05	4.73	14.66	2.43	56.67	38.42	5.43	16.66	1.04	38.79	413.67	6.21	18.66	1.16	18.71	342.04	7.15
10.68	0.72	13.11	99.47	3.84	12.68	0.79	24.44	5.05	4.75	14.68	2.40	58.78	39.23	5.44	16.68	1.04	37.68	410.41	6.22	18.68	1.18	18.71	342.04	7.17
10.70	0.63	12.66	98.65	3.86	12.70	0.74	24.44	5.86	4.75	14.70	2.37	60.11	38.42	5.44	16.70	1.02	36.46	406.35	6.23	18.70	1.17	20.71	342.04	7.17
10.72	0.53	12.22	97.84	3.87	12.72	0.85	23.22	7.49	4.77	14.72	2.40	61.89	38.42	5.45	16.72	0.99	34.12	402.27	6.24	18.72	1.16	22.49	342.04	7.17
10.74	0.48	8.33	97.03	3.88	12.74	1.07	23.44	10.74	4.77	14.74	2.58	57.67	40.86	5.46	16.74	0.97	31.68	399.02	6.24	18.74	1.13	24.93	342.04	7.19
10.76	0.50	5.44	97.03	3.89	12.76	1.25	20.67	11.55	4.78	14.76	2.73	59.33	42.49	5.45	16.76	0.93	29.90	394.13	6.25	18.76	1.12	26.71	342.04	7.20
10.78	0.52	4.67	98.65	3.90	12.78	1.22	20.44	11.55	4.79	14.78	2.73	69.67	42.49	5.46	16.78	0.90	27.90	391.69	6.26	18.78	1.11	26.60	342.04	7.21
10.80	0.52	4.78	98.65	3.91	12.80	1.00	25.00	9.93	4.79	14.80	2.75	68.55	43.30	5.47	16.80	0.87	26.12	387.63	6.27	18.80	1.10	26.27	342.04	7.21
10.82	0.52	5.44	99.47	3.93	12.82	0.79	25.67	9.11	4.81	14.82	2.86	72.33	44.11	5.48	16.82	0.85	24.12	382.74	6.27	18.82	1.07	26.15	341.23	7.22
10.84	0.52	5.11	99.47	3.93	12.84	0.81	21.78	9.93	4.81	14.84	3.14	66.55	46.56	5.48	16.84	0.85	22.57	380.30	6.29	18.84	1.05	25.60	341.23	7.22
10.86	0.55	3.89	100.28	3.94	12.86	1.05	20.67	12.37	4.82	14.86	3.28	66.66	49.00	5.50	16.86	0.87	19.79	377.85	6.30	18.86	1.03	24.49	342.04	7.24
10.88	0.58	2.89	101.91	3.96	12.88	1.30	22.00	14.81	4.83	14.88	3.19	66.66	48.19	5.50	16.88	0.88	18.57	376.23	6.31	18.88	1.01	23.71	344.48	7.25
10.90	0.61	3.22	102.73	3.97	12.90	1.45	27.56	15.63	4.84	14.90	2.95	63.55	46.56	5.52	16.90	0.86	17.57	371.35	6.32	18.90	1.00	22.60	345.29	7.26
10.92	0.63	4.00	103.54	3.98	12.92	1																		

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Via Gramsci, Osteria Nuova, Bologna

PROVA N°: CPTU C PROF. FALDA (m da p.c.): 4.50

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: 06/09/16

PREFORO (m da p.c.):

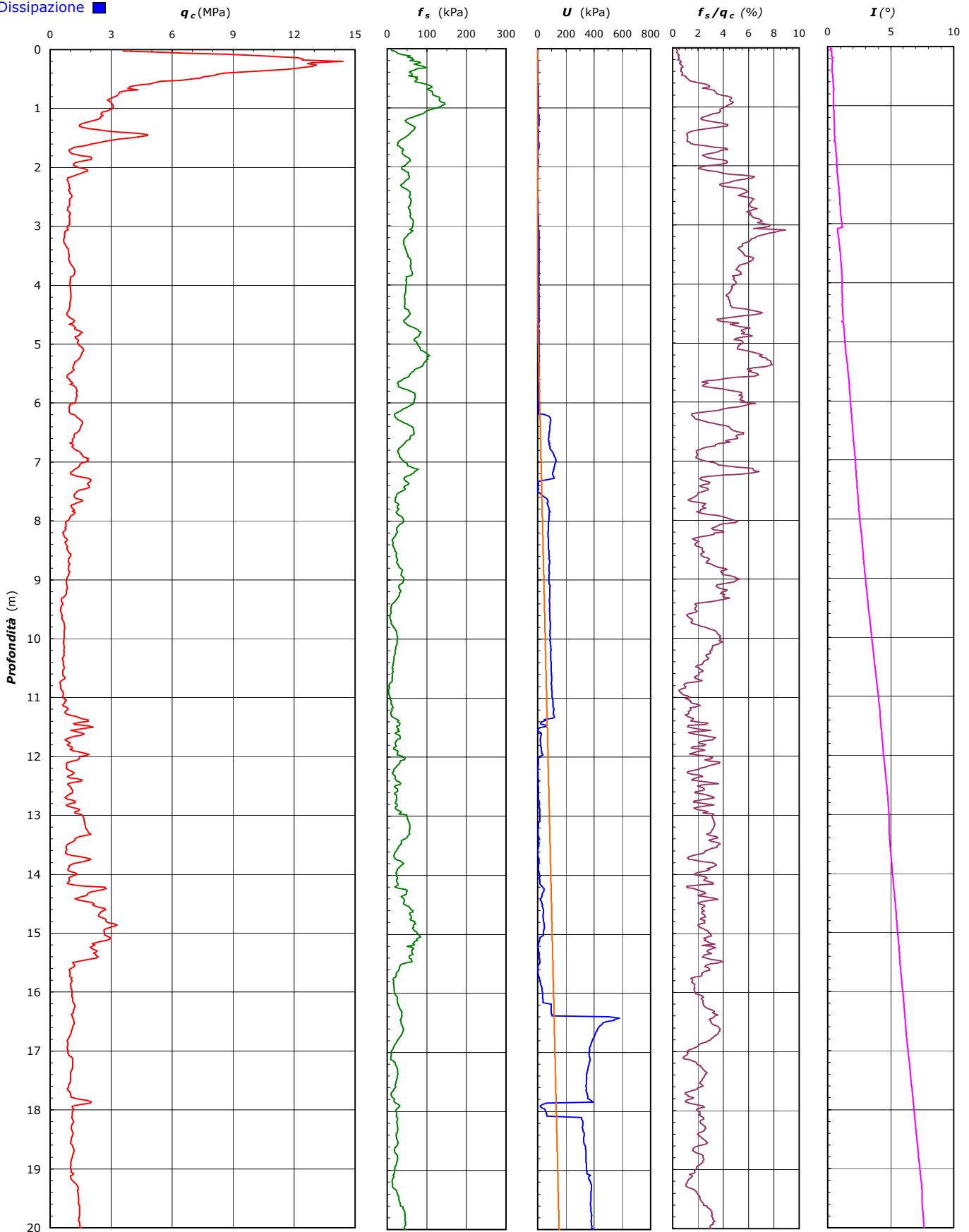
LAT. (WGS 84): 44.585516°

LONG. (WGS 84): 11.235366°

COMMESSA: 15289/16

C. SITO N°: S160369 del 07.09.2016 OPERATORE: L. Zanirato

Dissipazione ■



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**CANTIERE: Via Gramsci, Osteria Nuova, Bologna**

PROVA N°: CPTU C	PROF. FALDA (m da p.c.): 4.50	PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
DATA: 06/09/16	PREFORO (m da p.c.):	LAT. (WGS 84): 44.585516° LONG. (WGS 84): 11.235366°
COMMESSA: 15289/16	C. SITO N°: S160369 del 07.09.2016	OPERATORE: L. Zanirato

UBICAZIONE

Località: Via Gramsci, Osteria Nuova, Bologna



NOTE: Utilizzato 1 anello allargatore da inizio prova



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
tel. 0532/56771; fax 0532/66119 e-mail: info@elletipi.it sito: www.elletipi.it
P IVA e Codice Fiscale n. 00174600387

Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121

CANTIERE: Osteria Nuova - Z.I. Stelloni

PROVA N°: CPTU D PROF. FALDA (m da p.c.): 1.70

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: 05/09/16 PREFORO (m da p.c.):

LAT. (WGS 84): 44.583256° LONG. (WGS 84): 11.251742°

COMMESSA: 15289/16

C. SITO N°: S160370 del 07.09.2016 OPERATORE: L. Zanirato

Table with 5 columns of data (prof., qc, fs, U, incl.) repeated 10 times, containing numerical values for various parameters.

Lo Sperimentatore: dott. Luciano Rossi

Il Direttore Settore Prove in Sito: dott. Massimo Romagnoli



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
Tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P.IVA e Codice Fiscale n. 00174600387



Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Osteria Nuova - Z.I. Stelloni**

PROVA N°: **CPTU D** PROF. FALDA (m da p.c.): **1.70**

PUNTA: **Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]**

DATA: **05/09/16**

PREFORO (m da p.c.):

LAT. (WGS 84): **44.583256°**

LONG. (WGS 84): **11.251742°**

COMMESSA: **15289/16**

C. SITO N°: **S160370 del 07.09.2016 OPERATORE: L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.02	1.45	27.79	62.03	3.22	12.02	0.85	16.16	309.48	3.76	14.02	0.86	18.06	434.02	4.13	16.02	0.91	20.63	482.05	4.51	18.02	1.11	25.87	562.63	4.91
10.04	1.26	30.79	61.21	3.23	12.04	0.84	17.27	309.48	3.78	14.04	0.86	18.72	433.21	4.12	16.04	0.91	20.63	484.49	4.53	18.04	1.21	26.42	587.87	4.94
10.06	1.15	29.46	64.47	3.23	12.06	0.81	17.16	309.48	3.79	14.06	0.84	19.39	433.21	4.14	16.06	0.88	21.52	479.61	4.52	18.06	1.32	27.09	614.73	4.94
10.08	1.19	27.35	70.17	3.24	12.08	0.80	17.27	310.29	3.78	14.08	0.84	19.39	433.21	4.13	16.08	0.85	21.63	473.09	4.53	18.08	1.38	27.20	641.59	4.96
10.10	1.23	28.23	75.05	3.24	12.10	0.81	17.93	312.73	3.78	14.10	0.82	19.72	433.21	4.15	16.10	0.81	21.52	466.58	4.52	18.10	1.46	28.87	658.69	4.96
10.12	1.32	28.35	81.56	3.25	12.12	0.81	18.38	313.55	3.77	14.12	0.84	19.95	434.83	4.14	16.12	0.80	21.85	462.51	4.54	18.12	1.34	31.64	640.78	4.97
10.14	1.44	26.46	88.07	3.24	12.14	0.80	18.82	312.73	3.80	14.14	0.86	20.50	434.83	4.15	16.14	0.79	22.41	462.51	4.55	18.14	1.26	32.53	624.50	4.98
10.16	1.53	27.12	92.95	3.24	12.16	0.75	18.71	311.11	3.79	14.16	0.85	21.28	431.58	4.16	16.16	0.81	22.19	469.03	4.55	18.16	1.16	33.87	599.27	4.98
10.18	1.47	30.46	90.51	3.25	12.18	0.77	17.49	312.73	3.79	14.18	0.82	21.28	429.14	4.17	16.18	0.87	22.19	482.05	4.56	18.18	1.12	35.42	600.08	4.99
10.20	1.31	31.57	84.00	3.26	12.20	0.78	15.60	316.81	3.79	14.20	0.82	21.61	427.51	4.16	16.20	0.81	20.63	470.65	4.55	18.20	1.15	34.75	615.55	4.98
10.22	1.13	28.01	79.12	3.26	12.22	0.79	14.49	320.06	3.79	14.22	0.82	21.84	426.69	4.17	16.22	0.80	19.85	472.28	4.55	18.22	1.16	33.53	629.38	4.98
10.24	1.04	26.34	80.75	3.27	12.24	0.79	13.71	320.06	3.79	14.24	0.81	22.06	424.25	4.18	16.24	0.81	19.07	473.09	4.57	18.24	1.21	32.20	643.22	5.00
10.26	1.00	24.90	87.26	3.27	12.26	0.78	13.49	320.06	3.81	14.26	0.81	21.84	424.25	4.20	16.26	0.79	18.19	475.53	4.57	18.26	1.26	31.64	661.13	5.01
10.28	0.95	23.45	93.77	3.27	12.28	0.77	12.93	320.06	3.81	14.28	0.81	21.28	420.19	4.19	16.28	0.81	17.19	482.05	4.57	18.28	1.34	31.09	692.06	4.98
10.30	0.89	22.12	101.09	3.28	12.30	0.78	11.93	321.69	3.82	14.30	0.79	21.50	418.55	4.20	16.30	0.85	16.85	489.37	4.57	18.30	1.39	29.87	713.23	5.00
10.32	0.85	18.79	109.23	3.29	12.32	0.80	12.60	326.57	3.83	14.32	0.79	21.17	418.55	4.21	16.32	0.86	17.19	498.33	4.58	18.32	1.38	28.64	716.48	5.01
10.34	0.88	16.01	118.19	3.29	12.34	0.78	13.04	321.69	3.82	14.34	0.79	20.84	418.55	4.21	16.34	0.90	16.63	507.28	4.57	18.34	1.36	28.53	716.48	5.01
10.36	0.85	14.12	124.70	3.29	12.36	0.74	14.27	318.43	3.82	14.36	0.80	20.28	420.19	4.22	16.36	0.90	16.74	512.17	4.58	18.36	1.38	29.64	726.25	5.01
10.38	0.84	13.23	127.15	3.31	12.38	0.74	14.93	320.87	3.82	14.38	0.80	19.84	420.19	4.22	16.38	0.91	17.30	513.79	4.59	18.38	1.36	29.75	731.13	5.01
10.40	0.83	13.12	130.40	3.31	12.40	0.74	15.49	322.51	3.83	14.40	0.79	19.61	417.74	4.22	16.40	0.92	17.63	514.61	4.59	18.40	1.36	29.87	734.39	5.03
10.42	0.80	12.34	135.29	3.32	12.42	0.74	16.16	324.13	3.83	14.42	0.74	19.28	414.49	4.24	16.42	0.93	19.07	517.87	4.58	18.42	1.39	30.20	746.60	5.02
10.44	0.80	11.34	139.35	3.33	12.44	0.77	16.82	327.39	3.84	14.44	0.72	17.95	418.55	4.23	16.44	0.96	20.30	526.82	4.61	18.44	1.41	31.42	758.81	5.03
10.46	0.82	10.79	142.61	3.33	12.46	0.77	16.93	331.46	3.84	14.46	0.74	16.62	425.88	4.24	16.46	1.05	22.52	542.29	4.61	18.46	1.47	32.64	778.35	5.03
10.48	0.84	10.12	147.49	3.33	12.48	0.80	16.71	335.53	3.85	14.48	0.76	15.72	432.39	4.25	16.48	1.05	23.74	545.54	4.62	18.48	1.53	32.53	788.93	5.05
10.50	0.84	9.57	151.57	3.33	12.50	0.85	16.71	338.79	3.86	14.50	0.79	14.50	435.65	4.26	16.50	1.03	23.74	538.21	4.62	18.50	1.56	34.08	802.77	5.05
10.52	0.84	9.90	151.57	3.34	12.52	0.85	16.82	339.60	3.85	14.52	0.75	15.06	430.77	4.24	16.52	1.06	24.85	533.21	4.62	18.52	1.51	34.64	791.37	5.05
10.54	0.82	9.34	154.82	3.35	12.54	0.85	17.16	340.41	3.87	14.54	0.74	16.06	429.14	4.26	16.54	1.03	26.19	538.21	4.63	18.54	1.39	38.31	770.21	5.06
10.56	0.82	8.68	158.07	3.35	12.56	0.81	17.49	337.15	3.87	14.56	0.73	17.39	428.33	4.25	16.56	0.99	27.08	528.45	4.63	18.56	1.29	40.87	741.71	5.06
10.58	0.83	8.68	162.96	3.36	12.58	0.78	17.49	334.71	3.87	14.58	0.73	17.61	429.14	4.26	16.58	0.94	26.08	521.93	4.64	18.58	1.18	42.53	718.92	5.06
10.60	0.80	8.68	164.59	3.36	12.60	0.78	17.16	336.34	3.87	14.60	0.73	17.84	430.77	4.26	16.60	0.87	26.64	530.07	4.63	18.60	1.11	44.53	704.27	5.07
10.62	0.79	8.57	165.40	3.37	12.62	0.79	16.93	338.79	3.90	14.62	0.75	17.62	434.83	4.27	16.62	0.82	26.75	516.23	4.63	18.62	1.06	43.20	695.31	5.08
10.64	0.80	9.35	168.66	3.38	12.64	0.81	17.38	343.67	3.88	14.64	0.78	18.06	438.91	4.28	16.64	0.81	24.97	511.35	4.65	18.64	1.03	43.20	691.25	5.07
10.66	0.79	9.35	172.73	3.38	12.66	0.85	17.49	348.55	3.88	14.66	0.86	15.95	475.53	4.30	16.66	0.82	22.97	511.35	4.66	18.66	1.03	43.76	692.87	5.09
10.68	0.80	8.90	175.99	3.39	12.68	0.85	18.60	347.74	3.89	14.68	0.92	16.84	480.42	4.29	16.68	0.83	21.75	514.61	4.66	18.68	1.04	41.87	698.57	5.09
10.70	0.85	9.57	180.87	3.41	12.70	0.85	19.04	348.55	3.90	14.70	0.96	18.40	486.12	4.29	16.70	0.87	22.31	516.23	4.67	18.70	1.06	40.09	708.34	5.10
10.72	0.86	9.79	184.13	3.40	12.72	0.84	18.82	348.55	3.90	14.72	0.99	19.18	492.63	4.29	16.72	0.88	22.42	518.68	4.66	18.72	1.11	38.20	721.37	5.10
10.74	0.88	9.35	186.57	3.43	12.74	0.87	16.38	373.79	3.89	14.74	1.08	20.40	505.65	4.31	16.74	0.90	20.97	526.01	4.68	18.74	1.16	36.53	732.76	5.11
10.76	0.89	9.91	189.01	3.41	12.76	0.82	17.94	366.46	3.91	14.76	1.15	20.84	522.75	4.31	16.76	0.92	19.64	530.89	4.67	18.76	1.16	35.31	745.79	5.10
10.78	0.88	10.02	191.45	3.42	12.78	0.80	18.05	363.21	3.89	14.78	1.17	21.84	530.07	4.33	16.78	0.94	18.53	534.15	4.68	18.78	1.23	34.42	758.81	5.11
10.80	0.98	13.81	195.52	3.43	12.80	0.80	16.94	365.65	3.90	14.80	1.17	22.73	530.07	4.34	16.80	0.94	18.53	537.40	4.68	18.80	1.28	34.98	771.83	5.11
10.82	0.89	13.58	188.19	3.44	12.82	0.82	15.50	368.90	3.91	14.82	1.15	24.84	527.63	4.34	16.82	0.94	19.64	538.21	4.68	18.82	1.39	35.87	802.77	5.13
10.84	0.89	12.36	192.27	3.45	12.84	0.85	15.38	372.97	3.92	14.84	1.10	27.29	518.68	4.35	16.84	0.98	20.86	540.65	4.68	18.84	1.55	35.64	837.77	5.15
10.86	0.91	12.47	198.77	3.45	12.86	0.86	15.16	373.79	3.92	14.86	1.04	28.07	507.28	4.34	16.86	0.97	22.42	536.59	4.68	18.86	1.81	35.42	904.51	5.15
10.88	0.93	12.81	204.47	3.47	12.88	0.87	15.50	376.23	3.91	14.88	0.99	29.29	497.51	4.35	16.88	0.93	24.30	528.45	4.70	18.88	2.03	36.20	954.98	5.18
10.90	0.95	13.25	206.91	3.46	12.90	0.87	15.94	377.04	3.91	14.90	0.94	30.85	489.37	4.35	16.90	0.90	25.42	403.09</						

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Osteria Nuova - Z.I. Stelloni

PROVA N°: CPTU D PROF. FALDA (m da p.c.): 1.70

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

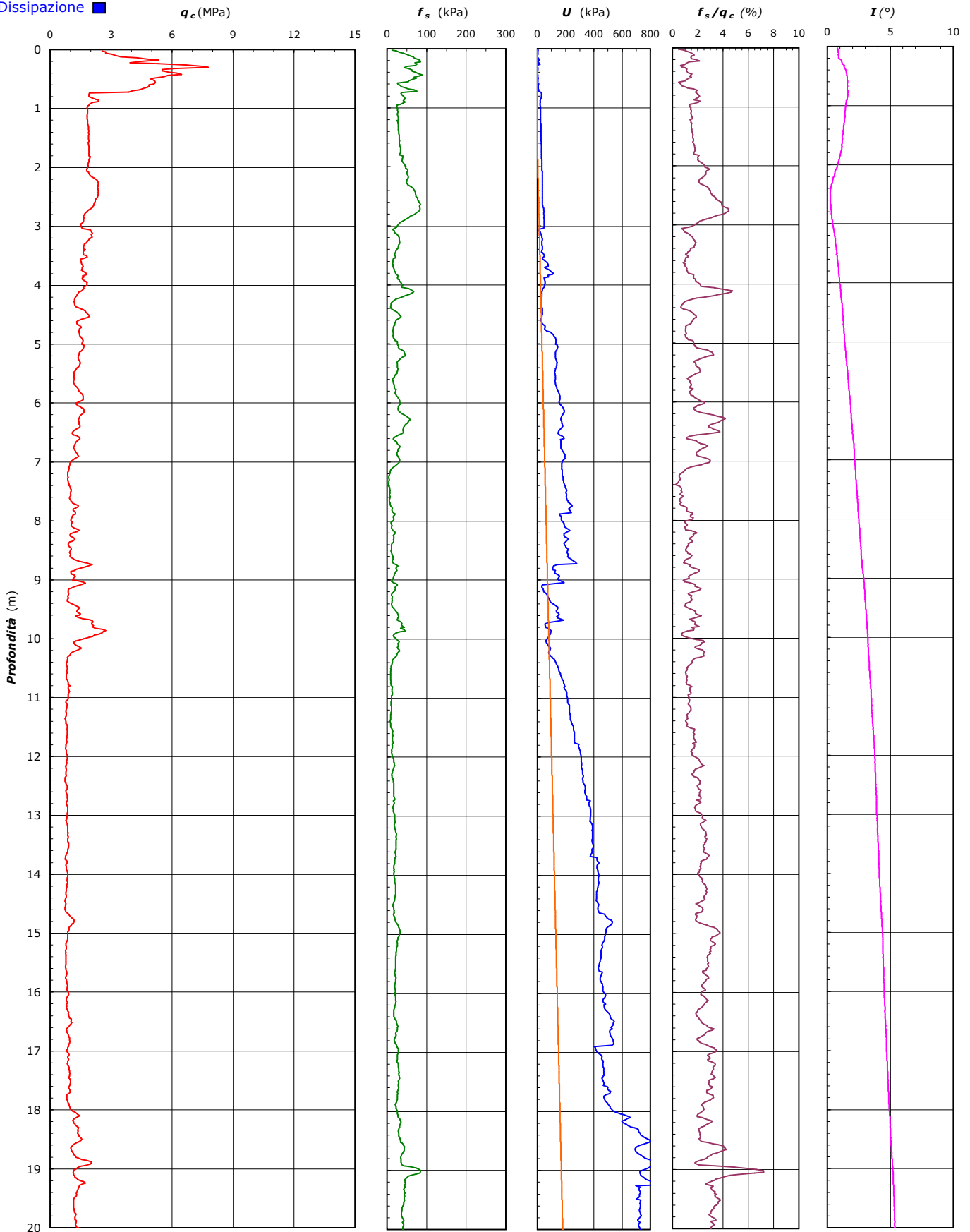
DATA: 05/09/16 PREFORO (m da p.c.):

LAT. (WGS 84): 44.583256° LONG. (WGS 84): 11.251742°

COMMESSA: 15289/16

C. SITO N°: S160370 del 07.09.2016 OPERATORE: L. Zanirato

Dissipazione ■



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**CANTIERE: Osteria Nuova - Z.I. Stelloni**

PROVA N°: CPTU D	PROF. FALDA (m da p.c.): 1.70	PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
DATA: 05/09/16	PREFORO (m da p.c.):	LAT. (WGS 84): 44.583256° LONG. (WGS 84): 11.251742°
COMMESSA: 15289/16	C. SITO N°: S160370 del 07.09.2016	OPERATORE: L. Zanirato

UBICAZIONE

Località: Osteria Nuova - Z.I. Stelloni



NOTE: Utilizzato 1 anello allargatore da inizio prova



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P IVA e Codice Fiscale n. 00174600387



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COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Osteria Nuova - Z.I. Stelloni**

PROVA N°: **CPTU E** PROF. FALDA (m da p.c.): **1.60** PUNTA: **Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]**

DATA: **05/09/16** PREFORO (m da p.c.): **0.14** LAT. (WGS 84): **44.581230°** LONG. (WGS 84): **11.253294°**

COMMESSA: **15289/16** C. SITO N°: **S160371 del 07.09.2016** OPERATORE: **L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.16	11.65	47.48	14.81	1.57	2.16	2.06	54.93	2.28	0.94	4.16	1.82	37.92	64.56	0.44	6.16	1.56	35.00	61.21	0.63	8.16	0.91	11.94	211.80	1.06
0.18	10.80	44.37	13.19	1.59	2.18	2.08	53.82	2.28	0.94	4.18	1.82	36.70	52.25	0.45	6.18	1.55	35.33	62.84	0.64	8.18	0.89	11.71	212.61	1.08
0.20	8.98	71.93	13.19	1.67	2.20	2.10	55.60	2.28	0.91	4.20	1.81	34.37	56.33	0.44	6.20	1.55	36.11	65.28	0.65	8.20	0.89	11.83	213.43	1.09
0.22	8.17	99.71	3.41	1.71	2.22	2.13	57.38	3.09	0.90	4.22	1.82	34.59	62.03	0.43	6.22	1.52	36.77	65.28	0.66	8.22	0.85	11.72	212.61	1.09
0.24	11.78	141.04	39.23	1.70	2.24	2.30	57.71	1.47	0.88	4.24	1.82	34.04	63.65	0.44	6.24	1.48	38.88	65.28	0.67	8.24	0.82	11.72	211.80	1.10
0.26	11.08	151.37	20.51	1.69	2.26	2.03	61.71	1.47	0.89	4.26	1.84	37.26	65.28	0.43	6.26	1.44	41.78	63.65	0.64	8.26	0.77	10.39	209.36	1.09
0.28	10.39	161.69	1.78	1.69	2.28	2.05	66.16	2.28	0.86	4.28	1.76	40.70	64.47	0.43	6.28	1.36	45.00	62.84	0.65	8.28	0.75	8.94	210.17	1.10
0.30	13.29	152.24	23.77	1.49	2.30	2.10	65.72	1.47	0.85	4.30	1.71	44.70	65.28	0.42	6.30	1.33	46.55	64.47	0.65	8.30	0.74	6.94	211.80	1.10
0.32	13.56	90.68	18.07	1.54	2.32	2.15	65.61	3.09	0.86	4.32	1.69	49.04	65.28	0.43	6.32	1.24	46.89	62.84	0.64	8.32	0.74	5.61	214.24	1.10
0.34	9.33	86.34	7.49	1.68	2.34	2.22	64.83	2.28	0.85	4.34	1.61	52.37	64.47	0.44	6.34	1.22	46.55	62.84	0.64	8.34	0.74	4.94	215.05	1.11
0.36	7.34	17.87	4.73	1.62	2.36	2.19	63.61	2.28	0.84	4.36	1.53	55.15	63.65	0.43	6.36	1.19	45.55	62.84	0.66	8.36	0.74	5.72	216.69	1.10
0.38	6.79	13.75	4.73	1.62	2.38	2.13	61.39	3.91	0.84	4.38	1.49	55.37	63.65	0.44	6.38	1.19	40.67	65.28	0.64	8.38	0.75	6.39	219.13	1.10
0.40	5.21	51.06	6.35	1.59	2.40	2.09	59.95	3.91	0.84	4.40	1.42	54.15	62.84	0.43	6.40	1.18	34.67	66.91	0.65	8.40	0.82	6.83	228.08	1.11
0.42	4.95	66.50	7.98	1.58	2.42	2.05	62.28	3.09	0.80	4.42	1.39	52.70	63.65	0.44	6.42	1.19	30.00	66.91	0.65	8.42	0.86	7.17	228.89	1.11
0.44	4.24	80.50	5.54	1.61	2.44	1.97	65.73	3.91	0.81	4.44	1.38	49.15	64.47	0.45	6.44	1.18	26.89	67.72	0.67	8.44	0.85	8.39	227.27	1.11
0.46	4.26	95.84	3.09	1.62	2.46	1.86	54.31	8.79	0.81	4.46	1.41	45.37	66.09	0.45	6.46	1.17	25.22	67.72	0.66	8.46	0.82	9.83	224.83	1.11
0.48	4.02	99.61	3.09	1.61	2.48	1.86	56.87	8.79	0.79	4.48	1.44	40.37	67.72	0.45	6.48	1.15	24.78	66.09	0.66	8.48	0.84	9.17	223.19	1.14
0.50	3.85	105.50	3.91	1.62	2.50	1.85	56.54	8.79	0.80	4.50	1.45	36.92	68.53	0.47	6.50	1.14	25.89	66.91	0.67	8.50	0.87	9.28	226.45	1.15
0.52	3.43	88.61	6.35	1.64	2.52	1.82	55.99	9.61	0.80	4.52	1.47	33.81	70.17	0.45	6.52	1.13	26.44	66.91	0.66	8.52	0.89	9.61	228.89	1.14
0.54	3.38	94.16	7.17	1.64	2.54	1.82	57.10	9.61	0.78	4.54	1.46	30.26	70.98	0.47	6.54	1.12	27.11	67.72	0.68	8.54	0.89	11.83	225.64	1.17
0.56	3.27	95.27	7.98	1.63	2.56	1.81	57.43	8.79	0.79	4.56	1.42	28.37	72.61	0.47	6.56	1.12	26.67	67.72	0.70	8.56	0.82	11.39	221.57	1.17
0.58	3.19	91.16	8.79	1.61	2.58	1.79	57.66	9.61	0.79	4.58	1.40	27.70	72.61	0.47	6.58	1.11	24.78	68.53	0.70	8.58	0.80	8.94	219.13	1.17
0.60	3.06	96.38	9.61	1.62	2.60	1.76	57.99	10.42	0.80	4.60	1.30	28.93	71.79	0.45	6.60	1.08	21.78	69.35	0.68	8.60	0.79	7.61	219.94	1.17
0.62	3.00	100.93	11.23	1.61	2.62	1.76	58.32	10.42	0.78	4.62	1.23	29.59	70.98	0.47	6.62	1.08	18.00	70.17	0.70	8.62	0.80	7.05	225.64	1.19
0.64	2.94	101.60	13.68	1.62	2.64	1.71	58.22	11.23	0.78	4.64	1.16	30.93	69.35	0.46	6.64	1.07	16.78	70.98	0.71	8.64	0.82	6.94	228.08	1.23
0.66	3.38	92.59	13.68	1.58	2.66	1.68	56.22	11.23	0.78	4.66	1.16	30.37	70.17	0.47	6.66	1.05	15.67	70.98	0.69	8.66	0.78	6.85	222.38	1.15
0.68	3.82	80.50	5.54	1.61	2.68	1.68	55.88	10.42	0.77	4.68	1.21	28.82	71.79	0.46	6.68	1.03	14.01	69.35	0.68	8.68	0.94	4.74	240.29	1.18
0.70	4.26	95.84	3.09	1.62	2.70	1.64	53.33	12.05	0.77	4.70	1.28	27.15	73.42	0.46	6.70	0.99	12.35	68.53	0.68	8.70	1.13	4.40	256.57	1.16
0.72	4.71	99.61	3.09	1.61	2.72	1.63	51.33	11.23	0.76	4.72	1.36	24.38	75.05	0.48	6.72	0.96	11.68	69.35	0.70	8.72	1.29	5.52	267.15	1.18
0.74	3.06	96.38	9.61	1.62	2.74	1.62	52.33	12.05	0.77	4.74	1.44	22.16	74.23	0.46	6.74	0.97	10.68	71.79	0.70	8.74	1.39	10.40	231.33	1.18
0.76	3.00	100.93	11.23	1.61	2.76	1.60	53.56	12.05	0.74	4.76	1.47	22.16	72.25	0.46	6.76	0.99	9.23	72.61	0.71	8.76	1.25	16.40	117.37	1.19
0.78	2.94	101.60	13.68	1.62	2.78	1.59	52.89	12.87	0.74	4.78	1.53	26.05	49.00	0.47	6.78	1.02	7.68	74.23	0.73	8.78	1.03	18.18	114.93	1.20
0.80	3.26	95.84	3.09	1.62	2.80	1.57	52.00	12.87	0.73	4.80	1.58	32.38	40.05	0.47	6.80	1.02	7.12	75.05	0.74	8.80	1.00	15.10	102.73	1.22
0.82	2.31	30.80	12.87	1.30	2.82	1.53	50.89	12.87	0.73	4.82	1.66	37.27	36.79	0.49	6.82	1.02	5.79	76.67	0.73	8.82	0.87	18.21	99.47	1.23
0.84	2.14	30.57	16.94	1.33	2.84	1.53	49.00	12.87	0.73	4.84	1.70	39.16	28.65	0.47	6.84	1.02	4.35	77.49	0.73	8.84	0.75	19.32	97.84	1.23
0.86	1.96	30.34	21.01	1.35	2.86	1.47	46.30	12.87	0.73	4.86	1.69	38.94	8.30	0.48	6.86	1.03	3.90	78.31	0.74	8.86	0.68	17.88	102.73	1.24
0.88	4.24	80.50	5.54	1.61	2.88	1.45	42.89	13.68	0.72	4.88	1.66	39.17	0.16	0.50	6.88	1.01	3.68	79.93	0.74	8.88	0.72	13.32	105.17	1.25
0.90	4.26	95.84	3.09	1.62	2.90	1.42	40.45	13.68	0.74	4.90	1.65	37.05	7.98	0.48	6.90	1.02	7.36	92.95	0.75	8.90	0.81	11.43	109.23	1.24
0.92	4.02	99.61	3.09	1.61	2.92	1.42	39.79	13.68	0.72	4.92	1.74	35.84	10.42	0.48	6.92	1.09	6.92	93.77	0.77	8.92	1.09	11.43	122.26	1.28
0.94	4.26	95.84	3.09	1.62	2.94	1.41	39.12	13.68	0.73	4.94	1.85	35.62	8.79	0.49	6.94	1.08	6.48	94.59	0.77	8.94	1.27	11.32	127.15	1.25
0.96	4.71	99.61	3.09	1.61	2.96	1.40	37.90	15.31	0.73	4.96	2.06	30.19	8.79	0.50	6.96	1.13	6.92	97.84	0.77	8.96	1.06	15.99	117.37	1.25
0.98	3.06	96.38	9.61	1.62	2.98	1.40	36.01	14.49	0.74	4.98	2.07	26.53	8.79	0.53	6.98	1.13	6.70	100.28	0.77	8.98	0.81	16.43	111.68	1.24
1.00	4.24	80.50	5.54	1.61	3.00	1.40	34.68	14.49	0.72	5.00	2.11	24.42	9.61	0.54	7.00	1.10	6.70	101.09	0.78	9.00	0.68	14.78	109.23	1.21
1.02	3.26	95.84	3.09	1.62	3.02	1.45	35.13	14.49	0.70	5.02	2.12	21.64	9.61	0.54	7.02	1.08	6.37	101.91	0.78	9.02	0.65	8.88	114.12	1.21
1.04	2.31	30.80	12.87	1.30	3.04	1.46	28.02	14.49	0.70	5.04	2.12	22.86	10.42	0.56	7.04	1.07	6.26	104.35	0.77	9.04	0.68	7.66	119.01	1.23
1.06	2.14	30.57	16.94	1.33	3.06	1.48	23.46	12.87	0.68	5.06	2.10	25.86	9.61	0.56	7.06	1.09	5.26	108.42	0.77	9.06	0.70	9.88	123.07	1.24
1.08	1.96	30.34	21.01	1.35	3.08	1.46	19.46	14.49	0.66	5.08	2.07	27.64	9.61	0.56	7.08	1.12	4.71	112.49	0.77	9.08	0.74	11.11	127.96	1.24
1.10	1.79																							



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P IVA e Codice Fiscale n. 00174600387



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COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Osteria Nuova - Z.I. Stelloni**

PROVA N°: CPTU E PROF. FALDA (m da p.c.): 1.60 PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
DATA: 05/09/16 PREFORO (m da p.c.): 0.14 LAT. (WGS 84): 44.581230° LONG. (WGS 84): 11.253294°
COMMESSA: 15289/16 C. SITO N°: S160371 del 07.09.2016 OPERATORE: L. Zanirato

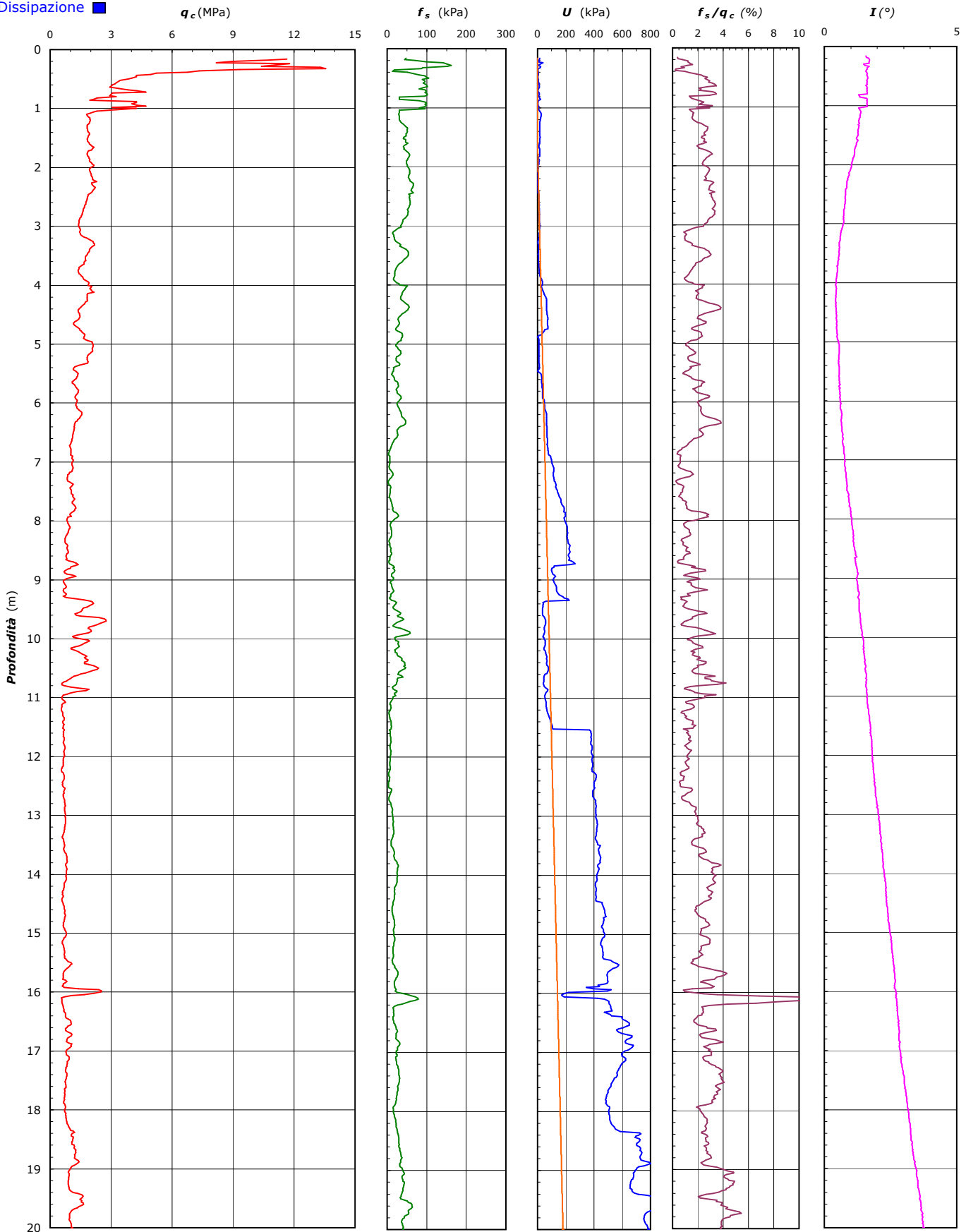
prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.16	1.02	24.51	44.93	1.48	12.16	0.65	7.44	389.25	1.84	14.16	0.70	22.77	409.60	2.32	16.16	0.59	47.67	506.47	2.73	18.16	0.81	22.14	515.42	3.22
10.18	1.03	19.07	48.19	1.50	12.18	0.60	7.66	387.63	1.84	14.18	0.69	21.22	410.41	2.32	16.18	0.57	37.89	508.91	2.74	18.18	0.81	21.92	518.68	3.22
10.20	1.25	21.07	54.70	1.48	12.20	0.58	7.55	385.18	1.84	14.20	0.69	19.88	412.05	2.32	16.20	0.60	26.11	514.61	2.74	18.20	0.82	22.36	521.93	3.21
10.22	1.41	20.62	57.95	1.49	12.22	0.56	6.44	387.63	1.86	14.22	0.69	18.77	414.49	2.32	16.22	0.63	18.11	517.87	2.75	18.22	0.83	22.47	526.01	3.22
10.24	1.46	25.40	58.77	1.51	12.24	0.56	5.22	388.44	1.84	14.24	0.68	18.88	416.11	2.33	16.24	0.63	14.77	518.68	2.74	18.24	0.85	22.47	534.15	3.24
10.26	1.58	25.40	61.21	1.49	12.26	0.58	4.11	399.02	1.86	14.26	0.66	18.44	416.11	2.32	16.26	0.65	15.44	520.31	2.76	18.26	0.89	22.81	543.10	3.24
10.28	1.72	27.28	65.28	1.51	12.28	0.63	3.88	409.60	1.85	14.28	0.62	18.66	412.86	2.32	16.28	0.68	16.33	525.19	2.74	18.28	0.90	23.59	546.35	3.24
10.30	1.80	31.73	66.09	1.51	12.30	0.68	4.44	414.49	1.87	14.30	0.60	19.22	411.23	2.32	16.30	0.70	16.66	528.45	2.76	18.30	0.92	24.81	552.87	3.25
10.32	1.68	36.28	63.65	1.51	12.32	0.70	4.44	416.11	1.87	14.32	0.62	19.11	412.05	2.33	16.32	0.68	16.33	473.91	2.76	18.32	0.97	25.48	567.52	3.26
10.34	1.73	37.51	64.47	1.53	12.34	0.69	6.33	414.49	1.87	14.34	0.60	18.55	412.86	2.32	16.34	0.71	17.21	498.33	2.76	18.34	1.00	26.14	585.43	3.26
10.36	1.88	35.95	68.53	1.51	12.36	0.69	5.22	413.67	1.88	14.36	0.63	18.11	416.11	2.35	16.36	0.75	17.55	516.23	2.77	18.36	1.13	26.04	723.81	3.26
10.38	1.82	41.73	66.09	1.53	12.38	0.69	6.77	412.05	1.88	14.38	0.65	18.44	415.30	2.32	16.38	0.76	17.55	524.37	2.76	18.38	1.19	27.37	731.95	3.26
10.40	1.68	44.39	62.84	1.54	12.40	0.68	5.77	406.35	1.90	14.40	0.59	18.22	411.23	2.35	16.40	0.77	15.23	599.27	2.77	18.40	1.09	28.04	717.29	3.26
10.42	1.68	44.62	62.84	1.52	12.42	0.63	3.89	400.65	1.90	14.42	0.58	17.22	411.23	2.35	16.42	0.77	14.89	599.27	2.78	18.42	1.04	28.37	697.76	3.26
10.44	1.89	45.84	68.53	1.54	12.44	0.60	3.33	399.83	1.88	14.44	0.57	16.11	414.49	2.35	16.44	0.81	14.78	604.15	2.79	18.44	1.05	29.26	691.25	3.27
10.46	2.16	42.73	74.23	1.54	12.46	0.63	3.78	399.02	1.91	14.46	0.59	14.89	456.81	2.35	16.46	0.89	15.45	620.43	2.78	18.46	1.14	29.59	718.92	3.28
10.48	2.29	46.39	76.67	1.56	12.48	0.60	3.78	399.83	1.90	14.48	0.63	14.78	457.63	2.35	16.48	0.99	16.67	637.52	2.79	18.48	1.14	29.82	726.25	3.28
10.50	2.37	46.17	76.67	1.57	12.50	0.63	3.78	401.46	1.89	14.50	0.64	14.45	460.07	2.35	16.50	1.03	17.56	650.55	2.81	18.50	1.12	29.70	723.81	3.28
10.52	2.31	39.06	76.67	1.56	12.52	0.66	4.56	407.16	1.92	14.52	0.65	13.67	464.14	2.36	16.52	1.03	19.23	648.92	2.79	18.52	1.11	29.15	714.85	3.27
10.54	2.14	33.39	75.05	1.54	12.54	0.72	10.89	399.02	1.93	14.54	0.68	13.01	467.39	2.36	16.54	1.04	20.34	649.73	2.81	18.54	1.07	30.15	704.27	3.20
10.56	1.94	30.06	71.79	1.56	12.56	0.70	11.12	393.32	1.93	14.56	0.69	12.56	469.84	2.38	16.56	0.99	21.34	630.19	2.81	18.56	1.06	30.48	701.83	3.32
10.58	1.72	28.39	66.91	1.56	12.58	0.68	10.56	390.88	1.93	14.58	0.69	13.11	472.28	2.38	16.58	0.86	23.01	607.41	2.79	18.58	1.08	29.93	703.45	3.30
10.60	1.50	27.10	49.81	1.56	12.60	0.66	9.34	390.07	1.93	14.60	0.70	12.45	476.35	2.40	16.60	0.81	22.46	573.21	2.81	18.60	1.18	29.70	724.62	3.32
10.62	1.36	36.54	46.56	1.59	12.62	0.68	8.34	391.69	1.93	14.62	0.72	13.00	477.17	2.40	16.62	0.75	25.35	561.01	2.82	18.62	1.19	31.37	731.13	3.32
10.64	1.18	39.99	44.93	1.59	12.64	0.65	7.01	390.88	1.94	14.64	0.71	13.34	477.17	2.40	16.64	0.76	26.24	566.71	2.82	18.64	1.18	31.70	728.69	3.33
10.66	1.06	27.10	44.11	1.59	12.66	0.64	6.23	390.88	1.94	14.66	0.71	13.67	478.79	2.39	16.66	0.77	24.91	574.85	2.83	18.66	1.20	32.15	727.06	3.32
10.68	0.98	25.32	44.11	1.59	12.68	0.64	4.78	395.77	1.94	14.68	0.72	14.45	481.23	2.40	16.68	0.89	23.02	599.27	2.83	18.68	1.26	33.26	736.01	3.34
10.70	0.89	26.54	43.30	1.57	12.70	0.66	4.67	401.46	1.94	14.70	0.76	15.67	485.31	2.41	16.70	1.04	22.91	639.15	2.83	18.70	1.25	34.70	739.27	3.33
10.72	0.80	24.76	44.11	1.61	12.72	0.69	5.12	408.79	1.97	14.72	0.72	16.01	465.77	2.41	16.72	1.07	22.91	670.08	2.81	18.72	1.26	34.03	735.20	3.36
10.74	0.67	24.21	42.49	1.58	12.74	0.71	5.78	411.23	1.97	14.74	0.71	17.67	469.03	2.40	16.74	1.04	22.80	667.64	2.82	18.74	1.25	35.15	732.76	3.35
10.76	0.57	23.98	40.86	1.57	12.76	0.71	7.56	410.41	1.97	14.76	0.70	18.23	469.03	2.43	16.76	0.94	21.80	652.17	2.82	18.76	1.20	35.92	727.87	3.37
10.78	0.59	20.87	43.30	1.59	12.78	0.71	9.45	411.23	1.98	14.78	0.69	18.01	468.21	2.41	16.78	0.88	24.24	635.08	2.82	18.78	1.22	37.26	726.25	3.37
10.80	0.69	14.43	46.56	1.58	12.80	0.72	10.01	413.67	1.98	14.80	0.68	18.01	465.77	2.41	16.80	0.81	27.91	623.69	2.81	18.80	1.20	36.70	729.51	3.37
10.82	1.00	13.87	54.70	1.58	12.82	0.72	10.67	414.49	1.98	14.82	0.65	18.45	462.51	2.42	16.82	0.82	29.69	619.61	2.82	18.82	1.19	34.14	733.57	3.38
10.84	1.51	15.10	66.91	1.57	12.84	0.74	11.67	414.49	2.00	14.84	0.66	19.23	459.25	2.44	16.84	0.80	32.02	622.87	2.83	18.84	1.29	33.81	753.11	3.38
10.86	1.91	17.98	73.42	1.58	12.86	0.71	13.12	412.05	2.02	14.86	0.64	18.79	454.37	2.43	16.86	0.92	32.02	648.11	2.86	18.86	1.38	34.03	788.93	3.40
10.88	1.76	24.76	70.17	1.60	12.88	0.71	13.34	412.05	1.98	14.88	0.65	18.01	455.19	2.45	16.88	1.06	30.79	678.22	2.83	18.88	1.42	32.14	802.77	3.43
10.90	1.34	22.53	61.21	1.60	12.90	0.71	13.23	412.05	2.01	14.90	0.66	17.34	460.07	2.46	16.90	1.02	27.80	675.78	2.84	18.90	1.36	31.81	784.85	3.42
10.92	1.02	17.87	56.33	1.59	12.92	0.71	12.67	413.67	2.03	14.92	0.70	15.79	465.77	2.46	16.92	1.05	25.79	669.27	2.83	18.92	1.29	31.81	753.93	3.42
10.94	0.82	19.42	53.07	1.60	12.94	0.72	12.67	412.86	2.03	14.94	0.71	16.34	465.77	2.46	16.94	0.98	26.46	657.06	2.84	18.94	1.18	33.48	717.29	3.43
10.96	0.64	21.87	51.44	1.60	12.96	0.72	13.23	413.67	2.02	14.96	0.75	16.79	467.39	2.47	16.96	0.89	26.23	640.78	2.84	18.96	1.07	37.48	702.64	3.44
10.98	0.60	15.20	51.44	1.62	12.98	0.74	13.78	414.49	2.04	14.98	0.77	17.01	472.28	2.48	16.98	0.82	23.14	617.99	2.84	18.98	1.02	38.92	699.39	3.46
11.00	0.59	15.09	53.07	1.62	13.00	0.74	13.56	413.67	2.06	15.00	0.80	17.56	477.17	2.47	17.00	0.77	24.02	603.33	2.87	19.00	0.99	39.70	692.06	3.47
11.02	0.57	13.20	53.89	1.61	13.02	0.72	14.45	413.67	2.05	15.02	0.80	17.34	477.17	2.48	17.02	0.77	23.35	594.38	2.87	19.02	0.96	41.47	687.17	3.48
11.04	0.64	11.09	57.14	1.62	13.04	0.74	15.01	415.30	2.07	15.04	0.77	18.67	472.28	2.49	17.04	0.80	24.57	596.82	2.88	19.04	0.90	43.36	679.85	3.50
11.06	0.71	8.87	59.58	1.62	13.06	0.76	15.12	417.74	2.06	15.06	0.74	19.89	463.33	2.52	17.06	0.80	24.80	599.27	2.88	19.06	0.89	43.14	681.48	3.50
11.08	0.74	7.64																						

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121

CANTIERE: Osteria Nuova - Z.I. Stelloni

PROVA N°: CPTU E PROF. FALDA (m da p.c.): 1.60 PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
 DATA: 05/09/16 PREFORO (m da p.c.): 0.14 LAT. (WGS 84): 44.581230° LONG. (WGS 84): 11.253294°
 COMMESSA: 15289/16 C. SITO N°: S160371 del 07.09.2016 OPERATORE: L. Zanirato

Dissipazione ■



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**CANTIERE: Osteria Nuova - Z.I. Stelloni**

PROVA N°: CPTU E	PROF. FALDA (m da p.c.): 1.60	PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
DATA: 05/09/16	PREFORO (m da p.c.): 0.14	LAT. (WGS 84): 44.581230°
COMMESSA: 15289/16	C. SITO N°: S160371 del 07.09.2016	LONG. (WGS 84): 11.253294°
	OPERATORE: L. Zanirato	

UBICAZIONE

Località: Osteria Nuova - Z.I. Stelloni



NOTE: Utilizzato 1 anello allargatore da inizio prova



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P IVA e Codice Fiscale n. 00174600387



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COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Osteria Nuova - Z.I. Stelloni**

PROVA N°: **CPTU F** PROF. FALDA (m da p.c.): **3.90**

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: **05/09/16** PREFORO (m da p.c.):

LAT. (WGS 84): **44.582729°** LONG. (WGS 84): **11.248867°**

COMMESSA: **15289/16**

C. SITO N°: **S160372 del 07.09.2016 OPERATORE: L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.02	7.37	24.29	12.87	0.53	2.02	1.44	74.97	35.65	0.26	4.02	1.29	17.96	42.49	1.06	6.02	0.98	13.98	58.77	2.13	8.02	0.94	7.13	71.79	3.12
0.04	7.19	43.74	13.68	0.63	2.04	1.48	77.73	48.68	0.26	4.04	1.25	19.63	117.37	1.06	6.04	0.97	14.42	57.14	2.14	8.04	1.04	5.47	75.05	3.12
0.06	7.46	50.74	12.87	0.55	2.06	1.44	77.51	47.87	0.25	4.06	1.23	22.07	119.01	1.07	6.06	0.98	14.31	57.95	2.14	8.06	1.18	7.14	78.31	3.13
0.08	7.61	54.40	10.42	0.74	2.08	1.41	79.18	48.68	0.26	4.08	1.11	21.19	113.31	1.08	6.08	0.99	13.87	57.95	2.15	8.08	1.18	7.03	79.93	3.14
0.10	7.75	58.96	12.05	0.51	2.10	1.38	77.96	48.68	0.26	4.10	1.08	22.08	111.68	1.09	6.10	1.02	13.42	58.77	2.15	8.10	1.12	8.25	79.12	3.15
0.12	7.36	71.40	13.68	0.81	2.12	1.37	77.29	49.49	0.26	4.12	1.08	23.42	89.70	1.10	6.12	1.04	12.76	57.95	2.16	8.12	1.08	9.80	79.12	3.17
0.14	7.28	65.73	14.49	0.87	2.14	1.35	76.73	50.31	0.26	4.14	1.16	23.42	89.70	1.11	6.14	1.06	12.65	58.77	2.16	8.14	1.15	12.15	123.89	3.18
0.16	7.20	60.40	14.49	0.88	2.16	1.26	77.40	49.49	0.26	4.16	1.32	20.64	85.63	1.12	6.16	1.08	13.20	57.95	2.15	8.16	1.08	14.48	124.70	3.20
0.18	7.26	53.18	16.12	0.57	2.18	1.24	77.96	47.05	0.27	4.18	1.28	22.31	81.56	1.13	6.18	1.09	14.20	57.95	2.16	8.18	1.00	16.37	123.07	3.20
0.20	7.20	55.51	13.68	0.64	2.20	1.25	77.85	40.54	0.27	4.20	1.22	24.09	80.75	1.14	6.20	1.10	14.32	57.95	2.17	8.20	0.95	16.48	124.70	3.20
0.22	7.17	53.18	11.23	0.68	2.22	1.29	77.52	34.84	0.27	4.22	1.26	20.87	83.19	1.15	6.22	1.10	14.65	58.77	2.17	8.22	0.91	15.37	125.51	3.22
0.24	7.13	55.74	13.68	0.64	2.24	1.33	76.63	29.96	0.27	4.24	1.32	18.20	86.45	1.16	6.24	1.09	14.43	58.77	2.16	8.24	0.88	14.26	125.51	3.24
0.26	7.17	55.07	12.05	0.64	2.26	1.37	78.18	26.70	0.28	4.26	1.39	17.98	87.26	1.17	6.26	1.09	14.54	57.95	2.17	8.26	0.87	12.81	125.51	3.25
0.28	7.19	58.51	12.05	0.66	2.28	1.41	76.96	26.70	0.28	4.28	1.44	18.54	91.33	1.19	6.28	1.09	15.10	57.14	2.18	8.28	0.87	11.48	125.51	3.26
0.30	7.01	56.96	12.05	0.64	2.30	1.44	75.41	25.07	0.29	4.30	1.34	17.43	88.07	1.19	6.30	1.07	15.32	57.14	2.18	8.30	0.86	9.71	126.33	3.27
0.32	6.78	56.98	7.98	0.64	2.32	1.44	74.07	21.82	0.29	4.32	1.39	18.54	89.70	1.21	6.32	1.07	18.99	57.14	2.20	8.32	0.89	8.48	126.33	3.28
0.34	6.91	76.32	10.42	0.62	2.34	1.44	72.85	19.37	0.29	4.34	1.33	19.88	91.33	1.22	6.34	0.99	20.77	56.33	2.21	8.34	0.88	8.26	125.51	3.30
0.36	5.90	136.76	15.31	0.61	2.36	1.45	72.63	15.31	0.30	4.36	1.29	19.77	89.70	1.23	6.36	1.03	20.21	57.14	2.22	8.36	0.87	7.82	125.51	3.31
0.38	5.27	94.10	16.12	0.60	2.38	1.48	71.86	11.23	0.30	4.38	1.30	21.77	90.51	1.24	6.38	1.15	19.21	59.58	2.23	8.38	0.87	7.37	125.51	3.32
0.40	5.01	88.65	16.12	0.60	2.40	1.53	68.52	1.47	0.30	4.40	1.33	22.10	92.14	1.25	6.40	1.20	17.65	60.39	2.24	8.40	0.82	6.93	123.89	3.33
0.42	4.97	84.76	16.93	0.59	2.42	1.56	66.97	2.60	0.31	4.42	1.28	21.10	92.95	1.26	6.42	1.20	18.10	60.39	2.25	8.42	0.80	6.04	123.07	3.34
0.44	5.00	87.87	16.12	0.59	2.44	1.56	66.19	1.79	0.31	4.44	1.24	21.88	92.95	1.26	6.44	1.15	18.32	59.58	2.27	8.44	0.77	6.15	123.07	3.36
0.46	5.82	83.10	14.49	0.56	2.46	1.54	63.75	1.65	0.32	4.46	1.21	20.55	92.95	1.28	6.46	1.09	18.54	58.77	2.28	8.46	0.78	5.93	123.89	3.37
0.48	4.77	85.21	20.19	0.55	2.48	1.49	62.42	3.09	0.32	4.48	1.16	20.33	90.51	1.29	6.48	1.08	19.43	59.58	2.29	8.48	0.78	5.48	123.89	3.38
0.50	4.74	66.65	20.19	0.54	2.50	1.43	64.31	5.54	0.32	4.50	1.10	19.89	89.70	1.30	6.50	1.14	19.88	61.21	2.30	8.50	0.77	5.93	124.70	3.40
0.52	5.05	64.76	20.19	0.54	2.52	1.40	66.97	6.35	0.32	4.52	1.07	18.78	88.89	1.32	6.52	1.23	19.55	63.65	2.32	8.52	0.76	5.82	122.26	3.41
0.54	5.97	68.43	19.37	0.52	2.54	1.33	71.09	3.91	0.34	4.54	1.19	18.45	91.33	1.32	6.54	1.30	19.99	64.47	2.33	8.54	0.74	6.37	123.89	3.42
0.56	4.66	54.09	27.51	0.54	2.56	1.29	72.20	2.28	0.34	4.56	1.30	16.78	92.14	1.33	6.56	1.30	21.22	63.65	2.33	8.56	0.74	6.37	122.26	3.44
0.58	3.83	110.87	25.89	0.55	2.58	1.33	68.65	1.47	0.34	4.58	1.36	16.89	92.95	1.34	6.58	1.23	21.88	62.84	2.35	8.58	0.80	6.04	125.51	3.45
0.60	5.20	128.20	17.75	0.60	2.60	1.40	63.87	2.60	0.36	4.60	1.38	17.45	92.95	1.36	6.60	1.14	22.55	60.39	2.35	8.60	0.89	4.59	127.15	3.46
0.62	4.66	110.65	20.19	0.63	2.62	1.42	58.99	13.19	0.36	4.62	1.42	20.01	96.21	1.36	6.62	1.10	22.44	59.58	2.37	8.62	0.98	4.26	128.77	3.48
0.64	3.78	115.09	24.26	0.64	2.64	1.44	51.10	21.33	0.37	4.64	1.49	19.79	93.77	1.38	6.64	1.07	24.44	60.39	2.37	8.64	0.98	5.48	128.77	3.49
0.66	2.32	139.87	25.89	0.66	2.66	1.50	44.66	22.95	0.38	4.66	1.51	20.68	92.14	1.39	6.66	1.04	26.00	59.58	2.39	8.66	0.93	7.04	127.15	3.49
0.68	2.15	130.31	25.07	0.67	2.68	1.51	43.77	22.95	0.39	4.68	1.43	26.57	88.07	1.40	6.68	1.02	26.22	58.77	2.40	8.68	0.85	6.71	127.15	3.51
0.70	1.91	139.09	26.70	0.67	2.70	1.50	47.44	22.14	0.39	4.70	1.37	34.68	87.26	1.41	6.70	0.96	27.22	57.14	2.40	8.70	0.82	5.93	126.33	3.51
0.72	1.97	129.87	25.89	0.68	2.72	1.54	51.11	19.69	0.40	4.72	1.29	43.80	84.81	1.41	6.72	0.93	26.00	57.14	2.42	8.72	0.80	5.93	127.15	3.52
0.74	2.15	120.54	25.89	0.68	2.74	1.52	57.67	22.14	0.40	4.74	1.25	47.35	84.81	1.42	6.74	0.95	25.11	57.95	2.43	8.74	0.80	5.93	133.65	3.53
0.76	2.56	118.76	24.26	0.70	2.76	1.54	66.33	24.58	0.41	4.76	1.23	51.91	83.19	1.43	6.76	0.97	21.44	57.95	2.44	8.76	0.78	7.04	132.84	3.54
0.78	2.78	109.54	24.26	0.69	2.78	1.58	71.89	23.77	0.42	4.78	1.20	56.69	83.19	1.44	6.78	1.03	18.55	59.58	2.45	8.78	0.81	7.93	131.21	3.55
0.80	3.35	117.75	22.63	0.67	2.80	1.62	76.34	22.14	0.43	4.80	1.18	60.24	82.37	1.45	6.80	1.04	18.33	59.58	2.46	8.80	0.86	7.93	131.21	3.57
0.82	4.15	113.08	21.01	0.65	2.82	1.66	78.01	22.14	0.44	4.82	1.19	59.02	80.75	1.46	6.82	1.08	17.00	60.39	2.47	8.82	0.87	6.71	132.84	3.58
0.84	2.72	83.97	25.89	0.63	2.84	1.68	77.90	20.51	0.45	4.84	1.23	54.80	81.56	1.48	6.84	1.08	16.78	59.58	2.48	8.84	0.89	5.82	132.03	3.58
0.86	2.38	87.41	27.51	0.63	2.86	1.63	78.23	19.69	0.46	4.86	1.28	52.36	82.37	1.49	6.86	1.10	15.78	59.58	2.49	8.86	0.91	6.04	132.03	3.60
0.88	2.41	86.19	25.07	0.62	2.88	1.60	77.24	18.88	0.46	4.88	1.27	51.70	80.75	1.50	6.88	1.10	16.44	60.39	2.50	8.88	0.87	7.82	132.03	3.61
0.90	2.25	94.75	26.70	0.62	2.90	1.60	74.68	17.25	0.47	4.90	1.18	51.92	79.12	1.51	6.90	1.07	18.11	59.58	2.51	8.90	0.85	9.15	131.21	3.62
0.92	2.32	101.75	26.70	0.61	2.92	1.60	74.80	16.44	0.48	4.92	1.13	48.81	78.31	1.52	6.92	1.05	19.55	59.58	2.53	8.92	0.87	10.59	132.03	3.64
0.94	2.25	103.19	27.51	0.60	2.94	1.63	74.69	16.44	0.49	4.94	1.08	44.92	77.49	1.5										



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tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P IVA e Codice Fiscale n. 00174600387



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COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Osteria Nuova - Z.I. Stelloni**

PROVA N°: **CPTU F PROF. FALDA (m da p.c.): 3.90**

PUNTA: **Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]**

DATA: **05/09/16 PREFORO (m da p.c.):**

LAT. (WGS 84): **44.582729° LONG. (WGS 84): 11.248867°**

COMMESSA: **15289/16**

C. SITO N°: **S160372 del 07.09.2016 OPERATORE: L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.02	1.22	18.59	17.25	4.23	12.02	0.94	9.79	119.82	5.14	14.02	1.05	16.26	177.61	5.97	16.02	1.17	33.15	253.31	7.01	18.02	1.18	19.26	310.29	7.96
10.04	1.40	17.37	24.58	4.23	12.04	0.94	9.46	119.82	5.16	14.04	1.05	15.82	177.61	5.97	16.04	1.17	34.59	253.31	7.02	18.04	1.20	19.60	310.29	7.97
10.06	1.59	25.03	28.65	4.24	12.06	0.94	9.68	122.26	5.16	14.06	1.10	15.26	179.24	5.99	16.06	1.17	34.15	253.31	7.03	18.06	1.21	20.49	311.11	7.97
10.08	1.33	31.69	25.39	4.26	12.08	0.94	9.57	121.45	5.18	14.08	1.12	15.15	180.87	6.00	16.08	1.17	32.37	252.50	7.03	18.08	1.21	22.01	311.11	7.98
10.10	1.18	29.69	25.39	4.27	12.10	0.94	10.24	121.45	5.18	14.10	1.15	14.71	181.68	6.00	16.10	1.15	31.92	251.69	7.06	18.10	1.20	24.74	309.48	7.99
10.12	1.10	26.92	26.21	4.28	12.12	0.97	10.91	123.89	5.19	14.12	1.15	14.71	183.31	6.02	16.12	1.12	30.59	250.06	7.06	18.12	1.17	26.93	309.48	8.00
10.14	1.18	22.58	29.47	4.28	12.14	0.98	10.91	123.89	5.21	14.14	1.15	14.60	181.68	6.03	16.14	1.12	30.59	250.06	7.07	18.14	1.16	28.15	308.67	8.01
10.16	1.32	20.47	33.53	4.29	12.16	0.97	10.68	121.45	5.21	14.16	1.15	15.26	184.13	6.04	16.16	1.15	29.70	251.69	7.08	18.16	1.15	28.60	309.48	8.02
10.18	1.41	20.58	34.35	4.30	12.18	0.96	11.02	121.45	5.23	14.18	1.16	16.15	183.31	6.05	16.18	1.17	27.92	253.31	7.08	18.18	1.15	27.60	310.29	8.03
10.20	1.45	21.81	34.35	4.31	12.20	0.96	11.02	122.26	5.23	14.20	1.16	17.48	184.94	6.06	16.20	1.18	27.36	252.50	7.10	18.20	1.15	26.60	309.48	8.03
10.22	1.36	23.58	33.53	4.32	12.22	0.98	10.69	120.63	5.25	14.22	1.16	18.26	184.13	6.06	16.22	1.17	27.81	252.50	7.10	18.22	1.13	29.27	324.13	8.05
10.24	1.22	24.36	31.91	4.33	12.24	0.99	10.80	121.45	5.25	14.24	1.16	18.82	184.13	6.08	16.24	1.24	27.47	256.57	7.11	18.24	1.13	28.04	324.95	8.05
10.26	1.16	23.14	31.91	4.34	12.26	0.98	11.91	121.45	5.26	14.26	1.15	21.04	183.31	6.08	16.26	1.24	28.03	261.45	7.12	18.26	1.12	26.82	328.20	8.07
10.28	1.21	21.81	32.72	4.35	12.28	0.98	12.69	123.07	5.27	14.28	1.15	20.71	183.31	6.09	16.28	1.24	27.81	258.20	7.14	18.28	1.16	26.27	327.27	8.07
10.30	1.35	17.80	34.35	4.35	12.30	0.98	13.36	122.26	5.27	14.30	1.12	21.26	183.31	6.09	16.30	1.16	28.59	249.25	7.14	18.30	1.21	24.49	335.53	8.07
10.32	1.46	20.47	34.35	4.36	12.32	0.98	13.80	121.45	5.29	14.32	1.08	18.82	181.68	6.11	16.32	1.15	29.14	248.43	7.15	18.32	1.24	24.27	337.97	8.09
10.34	1.63	22.91	36.79	4.37	12.34	0.99	13.36	122.26	5.29	14.34	1.15	24.15	191.45	6.13	16.34	1.11	28.03	246.80	7.16	18.34	1.23	24.15	336.34	8.10
10.36	1.87	25.47	39.23	4.38	12.36	1.01	13.03	122.26	5.30	14.36	1.16	23.82	191.45	6.13	16.36	1.11	26.81	247.61	7.16	18.36	1.17	23.71	333.09	8.11
10.38	2.21	27.58	40.86	4.39	12.38	1.01	13.36	123.07	5.31	14.38	1.16	24.26	190.63	6.15	16.38	1.11	26.03	247.61	7.17	18.38	1.16	23.15	332.27	8.12
10.40	2.43	36.47	43.30	4.39	12.40	1.01	13.69	123.07	5.32	14.40	1.13	25.71	190.63	6.15	16.40	1.11	26.37	247.61	7.18	18.40	1.15	23.93	331.46	8.12
10.42	2.56	43.25	42.49	4.40	12.42	1.03	13.03	123.07	5.34	14.42	1.15	25.71	189.82	6.17	16.42	1.11	26.04	247.61	7.19	18.42	1.16	26.60	333.09	8.13
10.44	2.59	47.14	43.30	4.41	12.44	1.03	12.80	122.26	5.34	14.44	1.16	25.93	190.63	6.18	16.44	1.10	24.81	248.43	7.20	18.44	1.17	28.15	334.71	8.13
10.46	2.57	44.14	42.49	4.42	12.46	1.01	13.03	123.07	5.35	14.46	1.16	26.04	189.82	6.20	16.46	1.10	25.03	248.43	7.21	18.46	1.17	29.93	337.15	8.14
10.48	2.52	34.36	40.86	4.43	12.48	1.03	13.14	123.89	5.35	14.48	1.15	25.37	189.01	6.20	16.48	1.09	24.81	248.43	7.23	18.48	1.20	30.71	337.97	8.15
10.50	2.46	35.47	40.86	4.44	12.50	1.03	13.69	124.70	5.36	14.50	1.13	26.26	188.19	6.21	16.50	1.09	24.47	250.06	7.23	18.50	1.24	31.27	338.79	8.16
10.52	2.40	37.69	40.86	4.45	12.52	1.03	14.25	124.70	5.37	14.52	1.15	25.04	189.01	6.22	16.52	1.09	22.70	250.87	7.24	18.52	1.23	31.27	337.15	8.17
10.54	2.40	40.36	40.86	4.47	12.54	1.01	14.25	124.70	5.38	14.54	1.16	23.59	189.82	6.23	16.54	1.08	21.81	251.69	7.24	18.54	1.24	31.04	337.97	8.18
10.56	2.45	41.58	41.67	4.48	12.56	1.04	13.25	123.89	5.39	14.56	1.16	22.93	188.19	6.24	16.56	1.05	21.26	250.87	7.26	18.56	1.27	30.60	339.60	8.18
10.58	2.53	44.47	41.67	4.49	12.58	1.05	11.92	123.89	5.40	14.58	1.16	23.93	189.82	6.25	16.58	1.05	19.47	250.87	7.26	18.58	1.28	30.71	340.41	8.19
10.60	2.61	49.02	42.49	4.50	12.60	1.05	10.58	123.89	5.40	14.60	1.18	22.93	192.27	6.25	16.60	1.05	18.70	252.50	7.28	18.60	1.28	31.82	342.04	8.20
10.62	2.58	55.47	41.67	4.50	12.62	1.05	11.47	123.89	5.40	14.62	1.17	21.93	191.45	6.27	16.62	1.05	18.59	253.31	7.28	18.62	1.30	31.49	343.67	8.20
10.64	2.31	58.13	39.23	4.51	12.64	1.06	12.03	123.89	5.41	14.64	1.04	22.37	189.01	6.29	16.64	1.04	18.25	254.13	7.29	18.64	1.33	31.71	343.67	8.21
10.66	1.71	50.69	34.35	4.53	12.66	1.05	11.81	124.70	5.42	14.66	1.06	22.48	185.75	6.29	16.66	1.03	17.47	255.75	7.30	18.66	1.33	32.15	343.67	8.22
10.68	1.39	40.69	32.72	4.55	12.68	1.05	11.03	125.51	5.42	14.68	1.01	21.71	184.94	6.30	16.68	1.03	17.70	256.57	7.32	18.68	1.33	33.04	343.67	8.23
10.70	1.28	29.91	32.72	4.56	12.70	1.06	10.58	125.51	5.42	14.70	1.00	19.82	184.94	6.31	16.70	1.06	15.92	259.01	7.33	18.70	1.32	33.15	340.41	8.23
10.72	1.57	28.46	38.42	4.57	12.72	1.09	10.25	125.51	5.42	14.72	0.98	19.04	184.13	6.31	16.72	1.09	15.26	263.08	7.35	18.72	1.29	33.93	337.97	8.23
10.74	2.02	20.46	44.93	4.58	12.74	1.10	10.25	126.33	5.42	14.74	0.95	20.70	182.49	6.33	16.74	1.12	15.04	263.89	7.35	18.74	1.29	34.26	338.79	8.25
10.76	2.27	22.68	47.37	4.59	12.76	1.11	10.36	127.15	5.42	14.76	0.97	21.37	183.31	6.33	16.76	1.12	15.59	265.53	7.37	18.76	1.30	33.93	340.41	8.25
10.78	2.33	28.24	46.56	4.59	12.78	1.12	10.69	127.15	5.43	14.78	1.32	21.26	196.33	6.34	16.78	1.12	16.48	265.53	7.37	18.78	1.33	31.71	341.23	8.27
10.80	2.27	34.79	47.37	4.61	12.80	1.16	10.92	126.33	5.43	14.80	1.62	21.37	209.36	6.35	16.80	1.12	16.81	266.34	7.38	18.80	1.30	30.93	340.41	8.27
10.82	1.98	37.79	44.11	4.62	12.82	1.18	11.47	125.51	5.44	14.82	1.50	24.15	205.29	6.36	16.82	1.12	17.59	265.53	7.39	18.82	1.27	30.26	337.15	8.28
10.84	1.82	42.01	41.67	4.63	12.84	1.18	12.47	125.51	5.44	14.84	1.18	33.04	189.82	6.38	16.84	1.12	17.81	265.53	7.40	18.84	1.23	27.37	335.53	8.29
10.86	1.87	45.24	43.30	4.63	12.86	1.18	13.25	123.89	5.44	14.86	1.01	35.59	183.31	6.38	16.86	1.11	18.59	265.53	7.41	18.86	1.22	24.49	336.34	8.30
10.88	2.00	38.57	45.75	4.64	12.88	1.18	14.25	123.89	5.44	14.88	0.95	34.81	184.13	6.39	16.88	1.11	18.92	267.15	7.41	18.88	1.22	22.49	335.53	8.31
10.90	2.14	35.57	47.37	4.65	12.90	1.18	14.70	125.51	5.45	14.90	0.94	32.92	186.57	6.40	16.90	1.11	18.37	267.97	7.42	18.90	1.22	22.26	338.79	8.32
10.92	2.21																							

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Osteria Nuova - Z.I. Stelloni

PROVA N°: CPTU F PROF. FALDA (m da p.c.): 3.90

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

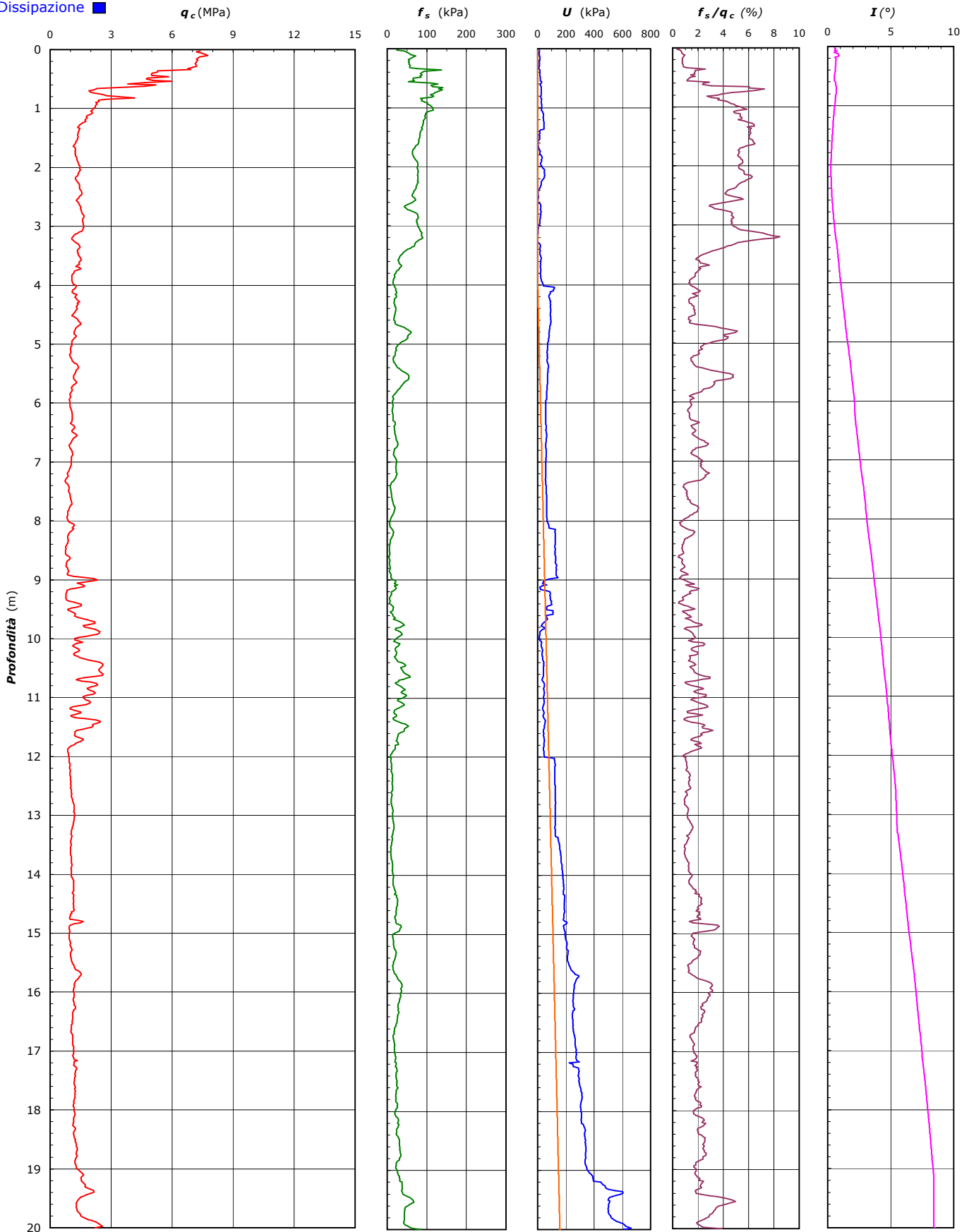
DATA: 05/09/16 PREFORO (m da p.c.):

LAT. (WGS 84): 44.582729° LONG. (WGS 84): 11.248867°

COMMESSA: 15289/16

C. SITO N°: S160372 del 07.09.2016 OPERATORE: L. Zanirato

Dissipazione ■



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**CANTIERE: Osteria Nuova - Z.I. Stelloni**

PROVA N°: CPTU F	PROF. FALDA (m da p.c.): 3.90	PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
DATA: 05/09/16	PREFORO (m da p.c.):	LAT. (WGS 84): 44.582729° LONG. (WGS 84): 11.248867°
COMMESSA: 15289/16	C. SITO N°: S160372 del 07.09.2016	OPERATORE: L. Zanirato

UBICAZIONE

Località: Osteria Nuova - Z.I. Stelloni



NOTE: Utilizzato 1 anello allargatore da inizio prova



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tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it

P IVA e Codice Fiscale n. 00174600387

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COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121

CANTIERE: Osteria Nuova - Z.I. Stelloni

PROVA N°: CPTU G PROF. FALDA (m da p.c.): 3.80

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: 05/09/16 PREFORO (m da p.c.):

LAT. (WGS 84): 44.583879° LONG. (WGS 84): 11.248982°

COMMESSA: 15289/16

C. SITO N°: S160373 del 07.09.2016 OPERATORE: L. Zanirato

Table with 50 columns (prof. m, qc Mpa, fs kPa, U kPa, incl. gradi) and 200 rows of data.

Lo Sperimentatore: dott. Luciano Rossi

Il Direttore Settore Prove in Sito: dott. Massimo Romagnoli



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COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Osteria Nuova - Z.I. Stelloni**

PROVA N°: **CPTU G** PROF. FALDA (m da p.c.): **3.80** PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: **05/09/16** PREFORO (m da p.c.): LAT. (WGS 84): **44.583879°** LONG. (WGS 84): **11.248982°**

COMMESSA: **15289/16** C. SITO N°: **S160373 del 07.09.2016** OPERATORE: **L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.02	0.66	8.41	96.21	7.87	12.02	0.86	6.40	127.96	9.34	14.02	0.87	16.53	211.80	11.46	16.02	0.91	12.21	204.47	13.31	18.02	1.03	33.11	285.87	14.89
10.04	0.67	7.30	97.03	7.91	12.04	0.91	4.18	128.77	9.36	14.04	0.87	16.97	214.24	11.47	16.04	0.93	11.76	206.10	13.34	18.04	1.02	31.22	284.25	14.91
10.06	0.72	6.52	99.47	7.92	12.06	0.90	5.29	129.59	9.37	14.06	0.87	17.42	214.24	11.49	16.06	0.97	10.87	208.55	13.35	18.06	0.99	30.22	281.81	14.93
10.08	0.78	6.30	101.91	7.94	12.08	0.83	7.51	127.96	9.40	14.08	0.89	20.42	215.05	11.51	16.08	0.98	11.43	208.55	13.37	18.08	0.99	29.11	284.25	14.94
10.10	0.84	5.41	102.73	7.96	12.10	0.83	6.06	130.40	9.42	14.10	0.91	20.64	215.05	11.53	16.10	0.98	12.65	209.36	13.40	18.10	1.07	29.33	335.53	14.96
10.12	0.87	4.08	105.17	7.98	12.12	0.83	6.84	132.84	9.44	14.12	0.91	21.31	215.87	11.55	16.12	1.01	12.21	208.55	13.40	18.12	1.08	28.11	335.53	14.97
10.14	0.94	6.52	104.35	7.99	12.14	0.83	8.18	133.65	9.45	14.14	0.89	22.97	156.45	11.57	16.14	0.97	13.32	206.91	13.40	18.14	1.07	28.11	329.83	14.98
10.16	0.94	8.75	104.35	8.01	12.16	0.83	8.84	135.29	9.47	14.16	0.85	21.64	161.33	11.58	16.16	0.95	13.88	206.91	13.44	18.16	1.04	29.78	326.57	14.99
10.18	0.95	10.52	104.35	8.03	12.18	0.83	10.18	137.73	9.49	14.18	0.86	20.64	163.77	11.62	16.18	0.95	15.77	226.45	13.45	18.18	1.03	30.22	327.39	15.01
10.20	0.99	13.08	108.42	8.05	12.20	0.83	11.73	139.35	9.51	14.20	0.92	20.64	191.45	11.63	16.20	0.98	17.66	229.71	13.48	18.20	1.07	30.33	331.46	15.03
10.22	1.18	13.41	114.12	8.07	12.22	0.83	9.95	139.35	9.53	14.22	0.96	21.09	190.63	11.64	16.22	1.02	19.44	229.71	13.49	18.22	1.15	31.45	340.41	15.04
10.24	1.43	14.19	119.82	8.09	12.24	0.84	9.95	139.35	9.56	14.24	0.96	23.87	190.63	11.66	16.24	1.00	20.22	225.64	13.50	18.24	1.16	32.45	343.67	15.05
10.26	1.71	19.19	123.89	8.12	12.26	0.84	11.40	139.35	9.58	14.26	0.96	25.54	190.63	11.68	16.26	0.99	21.88	225.64	13.53	18.26	1.09	33.33	390.63	15.07
10.28	1.85	22.97	124.70	8.12	12.28	0.87	12.74	222.38	9.62	14.28	0.93	26.31	189.82	11.70	16.28	0.97	22.66	224.83	13.55	18.28	1.10	31.44	146.68	15.09
10.30	1.69	28.08	114.93	8.14	12.30	0.89	12.41	219.13	9.65	14.30	0.87	27.31	187.38	11.72	16.30	0.96	23.66	224.83	13.57	18.30	1.07	30.44	154.01	15.10
10.32	1.31	29.41	101.91	8.16	12.32	0.87	13.29	215.05	9.66	14.32	0.85	28.76	188.19	11.73	16.32	0.95	24.22	224.83	13.58	18.32	1.04	28.67	157.26	15.10
10.34	1.03	25.97	92.95	8.17	12.34	0.85	14.52	211.80	9.68	14.34	0.87	28.65	187.38	11.74	16.34	0.95	22.66	228.08	13.59	18.34	1.05	28.78	169.47	15.11
10.36	0.84	21.97	91.33	8.18	12.36	0.84	14.96	208.55	9.71	14.36	0.90	27.42	188.19	11.77	16.36	0.93	22.66	225.64	13.63	18.36	1.07	28.78	175.99	15.12
10.38	0.78	18.97	107.61	8.18	12.38	0.82	14.41	206.10	9.73	14.38	0.91	25.98	188.19	11.78	16.38	0.93	21.66	227.27	13.64	18.38	1.07	28.67	179.24	15.15
10.40	0.94	16.75	122.26	8.18	12.40	0.80	14.52	206.10	9.75	14.40	0.93	25.65	189.01	11.80	16.40	0.96	21.22	224.83	13.63	18.40	1.05	29.11	180.87	15.16
10.42	0.90	17.08	122.26	8.21	12.42	0.78	14.63	206.91	9.75	14.42	0.93	25.09	189.82	11.80	16.42	0.93	20.66	223.19	13.66	18.42	1.04	30.00	181.68	15.17
10.44	0.86	18.64	123.07	8.22	12.44	0.77	15.30	206.10	9.76	14.44	0.91	23.87	189.82	11.82	16.44	0.90	20.66	222.38	13.68	18.44	1.05	28.78	184.13	15.19
10.46	0.99	19.41	127.96	8.22	12.46	0.77	14.96	206.91	9.79	14.46	0.90	22.54	189.01	11.84	16.46	0.88	20.11	223.19	13.71	18.46	1.05	28.44	184.13	15.20
10.48	1.29	18.30	137.73	8.22	12.48	0.79	14.30	208.55	9.82	14.48	0.91	22.42	191.45	11.86	16.48	0.90	20.22	224.01	13.73	18.48	1.08	30.22	184.94	15.22
10.50	1.52	19.41	137.73	8.25	12.50	0.84	13.07	207.73	9.84	14.50	0.96	21.09	196.33	11.89	16.50	0.96	19.44	226.45	13.75	18.50	1.05	29.00	184.94	15.24
10.52	1.57	24.63	60.39	8.26	12.52	0.89	11.52	206.91	9.87	14.52	0.97	18.31	197.96	11.91	16.52	0.97	16.44	225.64	13.76	18.52	1.04	31.55	186.57	15.25
10.54	1.50	34.08	33.53	8.26	12.54	0.87	11.19	202.03	9.88	14.54	0.96	17.31	201.22	11.91	16.54	0.96	17.44	224.83	13.77	18.54	1.04	31.44	187.38	15.26
10.56	1.37	37.08	29.47	8.29	12.56	0.86	10.96	198.77	9.89	14.56	0.98	17.31	203.66	11.94	16.56	0.92	19.22	219.94	13.80	18.56	1.03	32.33	193.08	15.26
10.58	1.24	35.52	35.16	8.31	12.58	0.82	11.30	195.52	9.92	14.58	1.01	17.64	205.29	11.94	16.58	0.86	17.66	216.69	13.80	18.58	1.03	32.22	196.33	15.30
10.60	1.13	33.41	35.97	8.35	12.60	0.80	11.41	193.08	9.93	14.60	1.02	19.98	208.55	11.96	16.60	0.81	18.10	214.24	13.81	18.60	1.03	31.22	197.15	15.32
10.62	1.13	31.52	39.23	8.36	12.62	0.78	11.74	192.27	9.97	14.62	1.06	21.31	214.24	11.98	16.62	0.80	19.77	214.24	13.82	18.62	1.05	29.33	201.22	15.35
10.64	1.42	26.63	45.75	8.38	12.64	0.75	11.74	193.08	10.00	14.64	1.08	22.31	216.69	12.01	16.64	0.81	20.10	214.24	13.84	18.64	1.05	27.11	200.41	15.35
10.66	1.75	24.08	53.07	8.39	12.66	0.75	10.85	193.89	10.01	14.66	1.11	24.64	215.87	12.01	16.66	0.81	19.77	213.43	13.84	18.66	1.03	25.89	200.41	15.39
10.68	1.98	28.52	47.37	8.39	12.68	0.77	10.19	194.71	10.03	14.68	1.11	28.64	217.50	12.03	16.68	0.80	18.88	212.61	13.88	18.68	1.00	25.00	199.59	15.38
10.70	1.86	35.97	37.61	8.41	12.70	0.79	9.63	197.15	10.06	14.70	1.13	31.42	219.13	12.05	16.70	0.80	18.88	211.80	13.88	18.70	0.99	25.00	206.10	15.39
10.72	1.45	30.86	31.09	8.44	12.72	0.78	10.08	196.33	10.09	14.72	1.13	33.87	217.50	12.07	16.72	0.79	18.22	210.99	13.89	18.72	0.99	23.55	213.43	15.42
10.74	1.14	26.63	31.09	8.45	12.74	0.77	10.08	196.33	10.10	14.74	1.11	36.09	217.50	12.09	16.74	0.78	18.55	212.61	13.91	18.74	1.02	21.77	219.13	15.44
10.76	0.89	25.07	31.91	8.50	12.76	0.77	10.08	196.33	10.12	14.76	1.09	39.07	216.69	12.10	16.76	0.78	17.66	212.61	13.93	18.76	0.99	21.88	221.57	15.46
10.78	0.78	21.30	49.81	8.53	12.78	0.78	9.30	196.33	10.15	14.78	1.07	42.87	215.05	12.12	16.78	0.80	16.22	213.43	13.93	18.78	1.02	21.11	225.64	15.48
10.80	0.77	17.52	62.03	8.56	12.80	0.79	9.08	198.77	10.18	14.80	1.04	43.53	215.05	12.14	16.80	0.81	15.66	214.24	13.94	18.80	1.02	20.66	232.97	15.50
10.82	0.78	14.19	65.28	8.57	12.82	0.82	8.86	201.22	10.19	14.82	1.02	43.75	215.87	12.16	16.82	0.84	15.33	215.87	13.97	18.82	1.02	21.22	248.43	15.52
10.84	0.78	13.85	66.09	8.58	12.84	0.84	7.86	203.66	10.21	14.84	0.99	44.53	213.43	12.18	16.84	0.87	16.22	214.24	13.98	18.84	1.02	22.22	261.45	15.55
10.86	0.75	12.52	66.91	8.62	12.86	0.86	8.74	203.66	10.23	14.86	0.97	45.20	213.43	12.19	16.86	0.88	15.66	215.87	13.97	18.86	1.04	23.00	267.97	15.56
10.88	0.74	9.52	68.53	8.63	12.88	0.87	9.63	204.47	10.25	14.88	0.98	43.53	213.43	12.22	16.88	0.86	16.99	215.87	13.98	18.88	1.05	23.78	272.85	15.59
10.90	0.90	16.18	164.59	8.66	12.90	0.87	10.19	204.47	10.28	14.90	0.99	42.87	215.05	12.25	16.90	0.78	17.33	212.61	14.00	18.90	1.07	23.		

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Osteria Nuova - Z.I. Stelloni

PROVA N°: CPTU G PROF. FALDA (m da p.c.): 3.80

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: 05/09/16

PREFORO (m da p.c.):

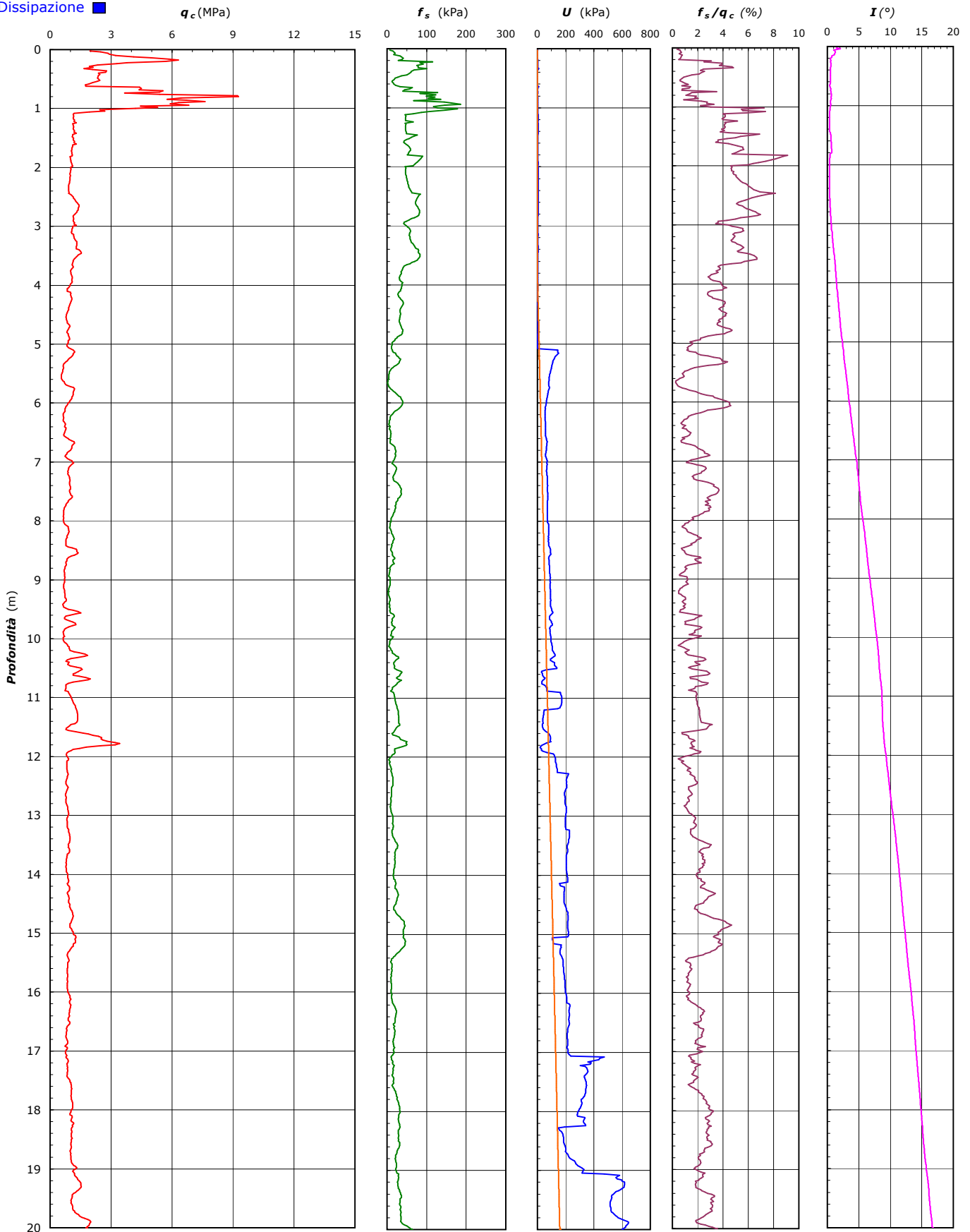
LAT. (WGS 84): 44.583879°

LONG. (WGS 84): 11.248982°

COMMESSA: 15289/16

C. SITO N°: S160373 del 07.09.2016 OPERATORE: L. Zanirato

Dissipazione ■



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**CANTIERE:** Osteria Nuova - Z.I. Stelloni

PROVA N°:	CPTU G	PROF. FALDA (m da p.c.):	3.80	PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
DATA:	05/09/16	PREFORO (m da p.c.):		LAT. (WGS 84): 44.583879° LONG. (WGS 84): 11.248982°
COMMESSA:	15289/16	C. SITO N°:	S160373 del 07.09.2016	OPERATORE: L. Zanirato

UBICAZIONE

Località: Osteria Nuova - Z.I. Stelloni



NOTE: Utilizzato 1 anello allargatore da inizio prova



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P IVA e Codice Fiscale n. 00174600387



Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Osteria Nuova - Z.I. Stelloni**

PROVA N°: **CPTU H** PROF. FALDA (m da p.c.): **2.50**

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

DATA: **08/09/16** PREFORO (m da p.c.):

LAT. (WGS 84): **44.581474°** LONG. (WGS 84): **11.238897°**

COMMESSA: **15289/16**

C. SITO N°: **S160375 del 09.09.2016** OPERATORE: **L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.02	3.52	10.12	25.33	1.01	2.02	2.64	31.08	12.00	2.18	4.02	1.52	32.71	2.67	4.57	6.02	1.21	28.78	200.00	6.19	8.02	1.06	21.72	132.00	7.55
0.04	3.77	26.02	22.67	0.89	2.04	2.63	26.86	11.33	2.21	4.04	1.20	38.15	3.33	4.61	6.04	1.19	27.22	196.00	6.20	8.04	1.06	19.50	132.67	7.56
0.06	3.29	42.01	16.67	0.78	2.06	2.59	25.53	11.33	2.26	4.06	0.90	39.93	5.33	4.62	6.06	1.17	23.56	197.33	6.21	8.06	1.05	18.72	132.00	7.58
0.08	3.41	45.68	24.00	1.68	2.08	2.62	24.20	10.67	2.30	4.08	0.86	30.72	82.67	4.70	6.08	1.16	22.33	200.67	6.22	8.08	0.99	20.06	130.00	7.59
0.10	3.35	40.67	14.67	0.76	2.10	2.73	22.76	9.33	2.31	4.10	0.91	26.73	117.33	4.71	6.10	1.20	21.11	204.67	6.23	8.10	1.00	19.51	190.00	7.63
0.12	4.24	47.57	19.33	1.31	2.12	2.85	20.65	8.67	2.39	4.12	0.93	23.95	144.67	4.73	6.12	1.23	18.67	206.00	6.24	8.12	0.99	19.07	193.33	7.64
0.14	4.36	52.67	16.67	0.79	2.14	2.92	16.33	9.33	2.41	4.14	0.92	22.40	159.33	4.74	6.14	1.28	16.56	206.00	6.24	8.14	1.02	17.07	195.33	7.66
0.16	5.12	56.46	20.00	1.26	2.16	2.91	17.22	10.67	2.43	4.16	0.93	21.73	171.33	4.76	6.16	1.26	17.34	202.67	6.25	8.16	1.04	15.40	193.33	7.70
0.18	5.19	65.12	26.00	1.16	2.18	2.92	14.67	8.67	2.48	4.18	0.98	14.29	187.33	4.78	6.18	1.21	14.45	195.33	6.26	8.18	1.00	15.07	189.33	7.70
0.20	5.29	67.79	20.67	1.14	2.20	2.86	14.11	11.33	2.49	4.20	1.01	11.29	200.00	4.79	6.20	1.22	13.79	194.67	6.25	8.20	0.96	15.96	184.67	7.70
0.22	5.16	70.57	19.33	1.08	2.22	2.69	12.57	4.67	2.52	4.22	1.05	12.85	263.33	4.83	6.22	1.23	14.23	193.33	6.25	8.22	0.90	16.18	180.00	7.72
0.24	4.81	76.13	14.00	1.06	2.24	2.48	11.12	0.67	2.54	4.24	1.08	15.07	272.00	4.82	6.24	1.27	14.68	193.33	6.25	8.24	0.88	17.40	177.33	7.76
0.26	4.87	76.24	14.00	1.13	2.26	2.22	9.91	0.67	2.57	4.26	1.09	17.40	276.00	4.84	6.26	1.27	15.12	190.00	6.27	8.26	0.93	17.07	178.00	7.77
0.28	5.27	63.61	8.00	1.08	2.28	1.86	9.24	0.67	2.55	4.28	1.13	18.52	284.00	4.87	6.28	1.28	16.12	188.67	6.28	8.28	0.95	17.07	182.00	7.79
0.30	5.45	67.83	4.67	1.01	2.30	1.47	8.14	0.67	2.59	4.30	1.17	18.07	284.67	4.88	6.30	1.28	17.12	185.33	6.27	8.30	0.95	16.40	182.00	7.79
0.32	5.70	70.72	4.00	1.07	2.32	1.15	11.47	0.67	2.61	4.32	1.20	16.85	213.33	4.91	6.32	1.28	18.24	182.00	6.28	8.32	0.94	16.63	178.67	7.83
0.34	5.48	73.06	2.00	1.06	2.34	1.08	14.03	10.00	2.62	4.34	1.15	18.19	133.33	4.92	6.34	1.27	19.24	180.00	6.28	8.34	0.91	16.29	178.00	7.86
0.36	5.26	72.73	0.67	0.97	2.36	1.30	12.70	23.33	2.66	4.36	1.08	18.85	106.67	4.92	6.36	1.26	20.57	174.67	6.29	8.36	0.88	15.40	176.67	7.88
0.38	5.19	63.40	15.33	1.07	2.38	1.65	15.93	62.00	2.72	4.38	1.05	19.64	202.00	4.96	6.38	1.26	21.13	173.33	6.28	8.38	0.88	13.51	176.67	7.90
0.40	5.31	59.52	20.67	0.98	2.40	2.22	16.71	48.00	2.76	4.40	1.04	20.42	250.00	4.97	6.40	1.28	21.91	171.33	6.30	8.40	0.86	13.96	177.33	7.92
0.42	5.28	59.30	20.00	1.01	2.42	2.64	20.93	2.00	2.79	4.42	1.04	22.42	250.67	4.98	6.42	1.29	22.57	169.33	6.29	8.42	0.87	14.51	178.00	7.94
0.44	5.20	56.41	18.00	0.97	2.44	2.83	27.05	14.00	2.82	4.44	1.10	23.98	210.67	4.98	6.44	1.29	23.47	164.00	6.30	8.44	0.91	13.18	186.67	7.99
0.46	5.29	52.97	18.67	1.02	2.46	3.01	31.06	16.67	2.85	4.46	1.14	26.75	152.67	5.00	6.46	1.31	24.69	163.33	6.30	8.46	0.99	11.07	186.00	8.00
0.48	5.69	52.20	19.33	1.01	2.48	3.24	32.95	16.67	2.86	4.48	1.17	32.09	219.33	5.02	6.48	1.32	25.91	161.33	6.30	8.48	1.04	9.74	190.00	8.01
0.50	5.97	52.98	22.00	1.05	2.50	3.25	28.62	16.67	2.90	4.50	1.17	32.21	349.33	5.01	6.50	1.33	27.24	161.33	6.30	8.50	1.08	8.51	192.00	8.04
0.52	6.05	59.21	20.67	1.03	2.52	2.86	27.73	20.00	2.89	4.52	1.16	31.32	385.33	5.02	6.52	1.40	29.47	167.33	6.31	8.52	1.12	9.18	193.33	8.05
0.54	5.87	68.32	19.33	1.05	2.54	2.59	31.51	22.67	2.93	4.54	1.18	30.32	387.33	5.02	6.54	1.41	30.03	168.00	6.33	8.54	1.13	11.07	193.33	8.08
0.56	5.80	66.33	19.33	1.01	2.56	2.41	40.41	24.67	2.96	4.56	1.22	30.76	368.67	5.05	6.56	1.44	29.69	166.00	6.34	8.56	1.14	14.30	193.33	8.10
0.58	5.86	70.33	20.00	1.09	2.58	2.36	47.30	26.00	2.96	4.58	1.29	31.43	361.33	4.29	6.58	1.52	29.69	166.00	6.37	8.58	1.13	16.85	191.33	8.11
0.60	5.85	74.55	19.33	1.04	2.60	2.24	51.41	12.00	2.98	4.60	1.19	32.77	365.33	5.07	6.60	1.58	31.69	170.00	6.39	8.60	1.14	19.41	191.33	8.14
0.62	5.86	76.11	18.67	1.09	2.62	2.36	52.09	2.67	3.00	4.62	1.18	35.44	370.00	5.05	6.62	1.74	31.47	174.00	6.40	8.62	1.16	22.96	187.33	8.17
0.64	5.81	75.89	18.67	1.05	2.64	2.91	68.09	5.33	3.03	4.64	1.17	37.44	351.33	5.07	6.64	1.76	32.81	175.33	6.41	8.64	1.17	24.96	188.67	8.18
0.66	5.72	70.01	16.00	1.09	2.66	3.19	70.20	8.00	3.05	4.66	1.15	39.11	340.00	5.09	6.66	1.73	33.14	175.33	6.42	8.66	1.18	26.30	188.67	8.19
0.68	5.40	67.90	15.33	1.16	2.68	3.29	72.31	10.67	3.08	4.68	1.10	41.33	324.67	5.11	6.68	1.68	31.03	185.33	6.43	8.68	1.18	26.41	186.00	8.23
0.70	5.09	66.12	14.00	1.06	2.70	2.79	67.76	12.67	3.14	4.70	1.06	42.67	300.00	5.12	6.70	1.61	29.47	211.33	6.45	8.70	1.16	26.85	185.33	8.24
0.72	4.49	61.12	5.33	1.13	2.72	2.86	69.32	18.67	3.19	4.72	1.06	40.00	262.67	5.16	6.72	1.53	27.81	251.33	6.47	8.72	1.14	26.07	191.33	8.29
0.74	4.30	54.34	12.67	1.09	2.74	2.57	64.43	18.67	3.22	4.74	1.07	36.56	263.33	5.16	6.74	1.48	26.25	266.67	6.48	8.74	1.07	27.18	178.67	8.28
0.76	4.14	44.24	5.33	1.16	2.76	2.41	62.10	20.67	3.26	4.76	1.07	33.45	214.67	5.19	6.76	1.41	25.36	266.00	6.49	8.76	1.01	25.74	185.33	8.32
0.78	4.07	38.01	11.33	1.20	2.78	1.86	56.88	22.67	3.27	4.78	1.07	30.89	170.00	5.20	6.78	1.38	22.25	270.67	6.53	8.78	0.99	25.07	178.67	8.35
0.80	3.88	31.12	11.33	1.25	2.80	1.30	56.99	21.33	3.30	4.80	1.04	31.78	126.67	5.20	6.80	1.35	19.36	270.00	6.54	8.80	0.94	23.96	176.67	8.35
0.82	3.67	26.57	7.33	1.22	2.82	1.04	56.66	10.67	3.31	4.82	1.01	31.67	74.67	5.23	6.82	1.38	20.03	274.00	6.56	8.82	0.91	23.07	174.00	8.37
0.84	3.51	23.12	4.67	1.27	2.84	0.97	47.11	2.00	3.36	4.84	0.96	33.01	40.67	5.24	6.84	1.39	20.70	277.33	6.58	8.84	0.86	21.96	170.67	8.38
0.86	3.59	23.46	5.33	1.27	2.86	0.92	38.11	14.67	3.38	4.86	0.94	36.56	7.33	5.24	6.86	1.41	20.14	279.33	6.59	8.86	0.84	20.18	167.33	8.41
0.88	3.77	25.57	6.67	1.28	2.88	0.87	35.22	18.67	3.40	4.88	0.88	42.01	12.67	5.27	6.88	1.45	20.04	280.67	6.61	8.88	0.81	18.85	166.00	8.42
0.90	4.14	26.13	7.33	1.28	2.90	0.86	34.56	19.33	3.42	4.90	0.78	48.68	9.33	5.27	6.90	1.48	21.37	284.00	6.62	8.90	0.77	17.74	162.00	8.44
0.92	4.40	33.57	4.00	1.27	2.92	0.83	31.23	18.00	3.44	4.92	0.73	52.24	11.33	5.30	6.92	1.50	23.70	287.33	6.64	8.92	0.77	14.63	162.67	8.46
0.94	4.64	41.57	4.00	1.32	2.94	0.85	24.04	11.33	3.51	4														



elletipi s.r.l.

Sede operativa ed am.m.va: Via Annibale Zucchini, 69 - 44100 FERRARA
tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P IVA e Codice Fiscale n. 00174600387



Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Osteria Nuova - Z.I. Stelloni**

PROVA N°: **CPTU H** PROF. FALDA (m da p.c.): **2.50** PUNTA: **Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]**

DATA: **08/09/16** PREFORO (m da p.c.): LAT. (WGS 84): **44.581474°** LONG. (WGS 84): **11.238897°**

COMMESSA: **15289/16** C. SITO N°: **S160375 del 09.09.2016** OPERATORE: **L. Zanirato**

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.02	1.07	20.08	192.00	9.68	12.02	1.35	21.10	233.33	11.51	14.02	1.39	43.84	5.33	13.23	16.02	1.30	31.93	59.33	14.58	18.02	1.01	55.54	413.33	16.48
10.04	1.07	19.97	190.00	9.70	12.04	1.49	18.88	226.00	11.54	14.04	1.45	54.62	0.67	13.25	16.04	1.27	27.82	57.33	14.59	18.04	1.01	51.43	410.00	16.51
10.06	1.08	19.97	188.67	9.71	12.06	1.57	22.66	228.00	11.55	14.06	1.18	48.07	0.67	13.27	16.06	1.20	24.27	60.00	14.61	18.06	0.97	43.98	414.67	16.52
10.08	1.10	20.19	188.67	9.71	12.08	1.50	27.88	152.00	11.55	14.08	1.01	40.73	2.00	13.28	16.08	1.03	26.04	58.67	14.61	18.08	1.05	46.64	449.33	16.53
10.10	1.10	20.19	188.00	9.71	12.10	1.65	26.77	182.67	11.56	14.10	1.12	35.18	12.00	13.30	16.10	1.05	24.93	56.00	14.64	18.10	1.03	41.76	447.33	16.55
10.12	1.08	20.64	186.00	9.70	12.12	1.97	25.10	114.00	11.59	14.12	1.28	34.62	19.33	13.30	16.12	1.09	24.15	57.33	14.66	18.12	1.00	40.87	442.67	16.57
10.14	1.10	21.75	186.00	9.71	12.14	2.42	42.32	33.33	11.61	14.14	1.35	32.85	20.67	13.32	16.14	1.04	23.82	60.67	14.66	18.14	0.99	41.20	442.00	16.57
10.16	1.08	21.97	184.67	9.72	12.16	2.24	49.66	30.00	11.63	14.16	1.28	32.18	20.00	13.34	16.16	1.07	21.93	60.67	14.66	18.16	0.94	40.76	439.33	16.59
10.18	1.07	22.31	182.67	9.74	12.18	1.84	49.99	24.00	11.63	14.18	1.13	29.73	16.67	13.35	16.18	1.22	23.50	376.67	14.72	18.18	0.95	39.87	440.00	16.60
10.20	1.05	21.97	182.00	9.74	12.20	1.38	46.43	20.00	11.64	14.20	1.07	26.62	19.33	13.37	16.20	1.17	20.84	368.00	14.72	18.20	0.99	38.98	442.00	16.61
10.22	1.05	21.97	180.00	9.74	12.22	1.09	41.10	41.33	11.68	14.22	1.04	21.40	30.00	13.39	16.22	1.11	19.62	364.67	14.75	18.22	1.01	37.64	445.33	16.62
10.24	1.03	22.31	178.00	9.74	12.24	0.95	30.99	56.67	11.69	14.24	1.07	24.18	33.33	13.40	16.24	1.18	20.06	376.00	14.76	18.24	1.02	37.20	444.00	16.66
10.26	1.03	22.53	178.00	9.75	12.26	0.94	23.99	67.33	11.72	14.26	1.13	26.29	37.33	13.41	16.26	1.21	20.51	373.33	14.77	18.26	1.07	36.42	445.33	16.66
10.28	1.05	22.64	178.00	9.74	12.28	0.91	24.76	74.67	11.73	14.28	1.18	27.85	38.00	13.43	16.28	1.22	20.84	369.33	14.80	18.28	1.05	34.86	444.00	16.68
10.30	1.03	22.64	176.67	9.75	12.30	1.00	24.76	82.67	11.75	14.30	1.16	29.96	40.00	13.45	16.30	1.18	22.07	362.67	14.82	18.30	1.01	34.42	438.67	16.69
10.32	1.07	25.75	178.00	9.76	12.32	1.22	25.99	98.00	11.77	14.32	1.26	28.07	45.33	13.46	16.32	1.14	21.07	358.67	14.83	18.32	1.00	32.86	435.33	16.70
10.34	1.06	26.20	177.33	9.79	12.34	1.71	21.21	115.33	11.80	14.34	1.40	27.29	50.00	13.48	16.34	1.13	18.62	355.33	14.85	18.34	0.94	31.75	431.33	16.73
10.36	1.05	26.09	177.33	9.81	12.36	1.78	18.21	118.00	11.81	14.36	1.47	30.07	50.00	13.48	16.36	1.11	17.73	352.00	14.88	18.36	0.91	31.31	429.33	16.74
10.38	1.05	25.20	178.67	9.83	12.38	1.71	25.09	105.33	11.83	14.38	1.52	31.85	54.67	13.50	16.38	1.05	16.29	350.00	14.90	18.38	0.89	29.86	425.33	16.75
10.40	1.05	24.53	178.67	9.86	12.40	1.68	32.21	92.67	11.83	14.40	1.33	31.96	50.00	13.53	16.40	1.11	16.63	344.00	14.92	18.40	0.87	30.42	427.33	16.75
10.42	1.02	24.75	178.67	9.87	12.42	1.72	36.87	92.67	11.83	14.42	1.18	27.85	51.33	13.55	16.42	1.06	15.96	342.67	14.93	18.42	0.83	30.42	426.67	16.78
10.44	1.01	24.75	180.00	9.88	12.44	1.90	33.09	95.33	11.84	14.44	1.17	24.51	54.67	13.58	16.44	1.06	15.96	336.00	14.97	18.44	0.78	30.09	441.33	16.79
10.46	1.00	23.53	181.33	9.91	12.46	2.05	40.54	101.33	11.86	14.46	1.19	27.18	57.33	13.58	16.46	1.04	16.29	336.00	14.98	18.46	0.73	28.75	444.00	16.80
10.48	1.01	22.75	181.33	9.92	12.48	1.78	44.87	93.33	11.86	14.48	1.22	28.51	59.33	13.59	16.48	0.99	16.29	333.33	14.99	18.48	0.77	26.86	447.33	16.83
10.50	1.00	21.53	182.67	9.94	12.50	1.46	44.87	86.00	11.88	14.50	1.21	26.96	64.00	13.60	16.50	0.98	15.41	330.00	15.01	18.50	0.77	26.19	450.00	16.83
10.52	1.03	19.97	184.67	9.97	12.52	1.52	48.87	105.33	11.90	14.52	1.23	21.96	67.33	13.63	16.52	0.95	16.18	325.33	15.02	18.52	0.78	26.08	446.00	16.84
10.54	0.94	20.31	182.00	9.98	12.54	1.54	42.42	119.33	11.91	14.54	1.22	19.07	73.33	13.64	16.54	0.88	16.63	320.67	15.04	18.54	0.76	27.42	442.00	16.87
10.56	0.98	16.19	185.33	10.00	12.56	1.52	39.64	117.33	11.93	14.56	1.19	15.63	78.00	13.64	16.56	0.87	17.74	316.67	15.06	18.56	0.76	27.42	442.67	16.88
10.58	0.94	14.53	184.00	10.02	12.58	1.25	36.87	110.00	11.94	14.58	1.18	17.63	80.67	13.64	16.58	0.84	16.85	311.33	15.07	18.58	0.79	28.09	446.67	16.91
10.60	0.89	14.31	181.33	10.04	12.60	1.14	35.31	110.00	11.95	14.60	1.19	20.07	84.00	13.68	16.60	0.82	16.63	307.33	15.10	18.60	0.84	28.86	449.33	16.92
10.62	0.84	13.53	178.00	10.05	12.62	1.23	30.53	118.67	11.95	14.62	1.48	25.18	94.00	13.68	16.62	0.86	16.63	305.33	15.11	18.62	0.93	28.64	456.67	16.93
10.64	0.77	13.86	175.33	10.07	12.64	1.29	26.98	124.67	11.95	14.64	2.31	30.07	114.67	13.69	16.64	0.83	16.96	302.67	15.12	18.64	1.00	29.53	458.00	16.96
10.66	0.75	13.08	174.67	10.10	12.66	1.42	25.75	132.00	11.96	14.66	2.91	32.74	126.00	13.71	16.66	0.82	16.19	299.33	15.15	18.66	1.06	31.09	457.33	16.96
10.68	0.73	11.86	176.67	10.13	12.68	1.63	29.86	140.67	11.97	14.68	3.13	44.07	79.33	13.73	16.68	0.85	17.08	298.00	15.18	18.68	1.11	33.20	458.00	16.98
10.70	0.75	10.31	178.00	10.15	12.70	1.61	32.31	143.33	11.97	14.70	3.01	47.52	53.33	13.73	16.70	0.83	18.08	294.67	15.18	18.70	1.13	35.42	460.67	16.98
10.72	0.75	8.64	180.00	10.16	12.72	1.52	35.86	134.67	11.99	14.72	3.63	42.41	40.00	13.76	16.72	0.81	18.08	292.67	15.20	18.72	1.13	37.09	456.67	17.02
10.74	0.76	7.75	181.33	10.19	12.74	1.30	36.53	124.67	12.00	14.74	2.23	44.07	30.00	13.78	16.74	0.75	18.30	282.00	15.20	18.74	1.12	39.86	431.33	17.01
10.76	0.72	7.64	181.33	10.22	12.76	1.31	33.75	134.67	11.99	14.76	2.08	50.52	29.33	13.80	16.76	0.79	16.86	286.67	15.26	18.76	1.12	42.86	379.33	17.02
10.78	0.71	5.98	181.33	10.26	12.78	1.25	34.86	133.33	12.01	14.78	2.08	49.96	36.67	13.81	16.78	0.78	17.08	286.67	15.27	18.78	1.10	46.53	439.33	17.05
10.80	0.73	3.75	182.67	10.27	12.80	1.10	36.19	122.67	12.04	14.80	2.11	34.74	41.33	13.82	16.80	0.81	17.42	288.67	15.29	18.80	1.06	47.86	453.33	17.06
10.82	0.77	3.09	189.33	10.30	12.82	1.06	33.64	132.00	12.05	14.82	1.96	41.08	40.00	13.85	16.82	0.84	17.42	291.33	15.30	18.82	1.05	47.64	464.00	17.07
10.84	0.79	2.86	191.33	10.33	12.84	1.19	29.19	140.67	12.06	14.84	1.84	49.74	38.00	13.86	16.84	0.82	17.53	292.00	15.33	18.84	0.99	48.09	458.67	17.09
10.86	0.82	2.42	192.00	10.34	12.86	1.29	32.41	142.00	12.06	14.86	2.06	49.08	42.67	13.87	16.86	0.85	17.64	294.00	15.34	18.86	0.93	49.42	482.00	17.10
10.88	0.78	2.64	191.33	10.36	12.88	1.46	33.64	154.00	12.10	14.88	2.45	52.41	49.33	13.89	16.88	0.85	17.86	296.00	15.36	18.88	0.93	47.86	508.67	17.11
10.90	0.76	2.98	189.33	10.40	12.90	1.94	33.53	178.00	12.12	14.90	2.68	58.52	52.67	13.90	16.90	0.83	18.98	2						

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Osteria Nuova - Z.I. Stelloni

PROVA N°: CPTU H PROF. FALDA (m da p.c.): 2.50

PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]

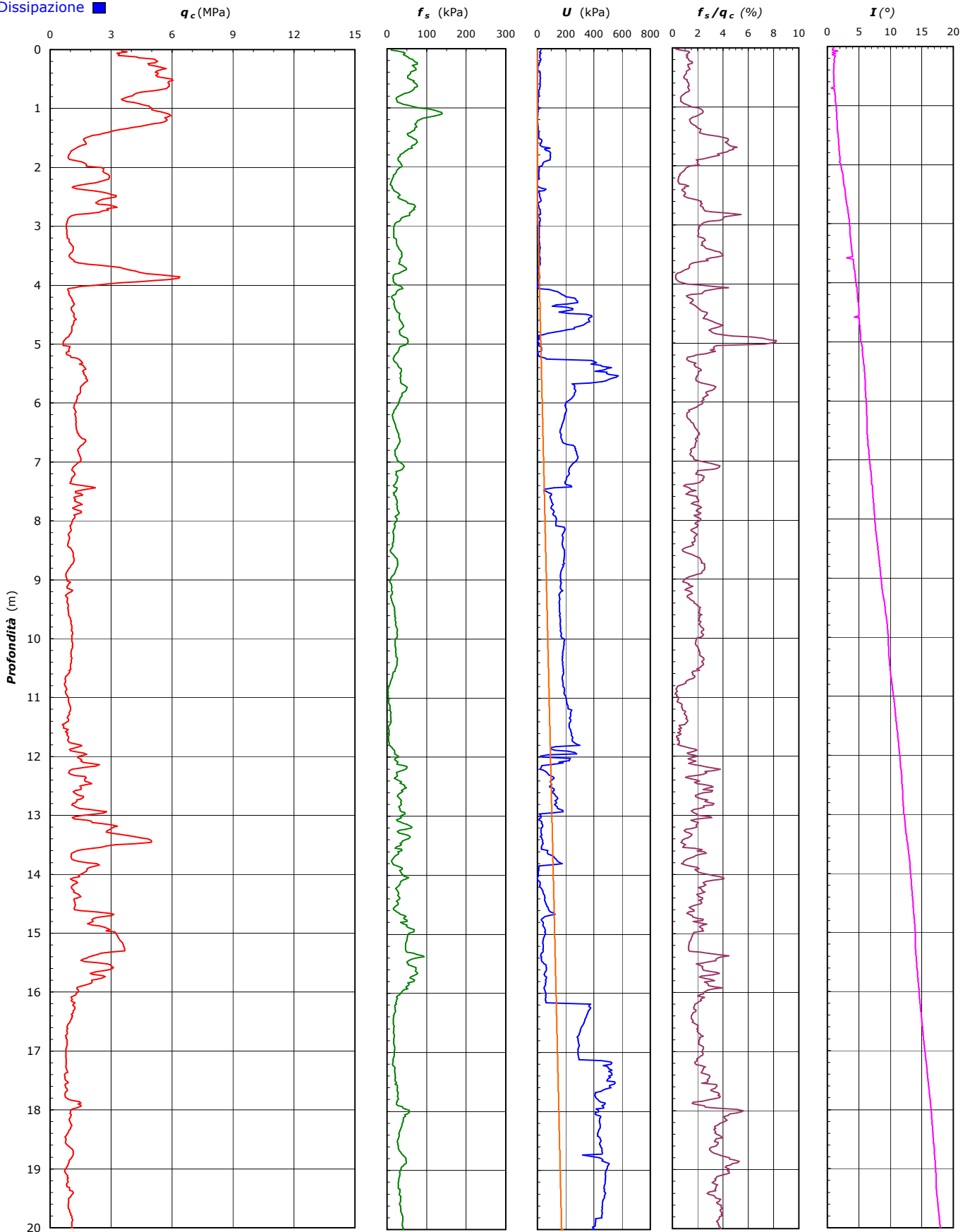
DATA: 08/09/16 PREFORO (m da p.c.):

LAT. (WGS 84): 44.581474° LONG. (WGS 84): 11.238897°

COMMESSA: 15289/16

C. SITO N°: S160375 del 09.09.2016 OPERATORE: L. Zanirato

Dissipazione ■



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**CANTIERE:** Osteria Nuova - Z.I. StelloniPROVA N°: CPTU H PROF. FALDA (m da p.c.): 2.50 PUNTA: Tecnopenta G1-CPL2IN (matr. 121114)[a = 0.66]
DATA: 08/09/16 PREFORO (m da p.c.): LAT. (WGS 84): 44.581474° LONG. (WGS 84): 11.238897°
COMMESSA: 15289/16 C. SITO N°: S160375 del 09.09.2016 OPERATORE: L. Zanirato

UBICAZIONE

Località: Osteria Nuova - Z.I. Stelloni



NOTE: Utilizzato 1 anello allargatore da inizio prova



Committente: Geotema
 Cantiere: Microzonazione Sala Bolognese (BO)
 Data: 20/09/2016

ID Prova: CPTU I SALA B.
 Profondità falda: a mt 2.30 da p.c.
 Coordinate: 44.611575 - 11.253834

Profondità massima raggiunta: 20.00 mt
 Punta sismica: Tecnopenta G1-CPL2IN - SISMI
 RIF. 127/16GF

Prova eseguita da:
GEO.FE. S.n.c.
 via dell'Artigianato ,2 44030 - Ro Ferrarese (FE)
 tel 3383646278 - info@geofe.it - www.geofe.it
 Responsabile dati: Dott.Geol.Zanella Fabio
 Responsabile cantiere: Sig. Mangherini Alberto

Prof.	RP	RL	PN	Incl.	V.avanz	Prof.	RP	RL	PN	Incl.	V.avanz	Prof.	RP	RL	PN	Incl.	V.avanz	Prof.	RP	RL	PN	Incl.	V.avanz	Prof.	RP	RL	PN	Incl.	V.avanz	Prof.	RP	RL	PN	Incl.	V.avanz
metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec
0.020	19.052	0.074	0.822	0.185	2.048	1.660	26.635	2.434	0.229	0.815	2.048	3.300	12.703	0.727	0.927	0.871	2.684	4.940	10.923	0.509	2.195	1.108	2.446	6.580	5.731	0.202	1.723	1.359	1.949	6.580	5.731	0.202	1.723	1.359	1.949
0.040	20.341	0.230	0.750	0.407	2.352	1.680	25.159	2.353	0.182	0.818	2.352	3.320	13.301	0.654	0.947	0.877	2.541	4.960	11.027	0.572	2.202	1.108	2.382	6.600	5.891	0.188	1.739	1.362	2.468	6.600	5.891	0.188	1.739	1.362	2.468
0.060	20.497	0.289	0.659	0.185	2.231	1.700	24.061	2.244	-0.064	0.824	2.231	3.340	14.106	0.616	0.957	0.885	2.529	4.980	11.157	0.631	2.208	1.108	1.979	6.620	6.101	0.183	1.750	1.374	2.041	6.620	6.101	0.183	1.750	1.374	2.041
0.080	19.441	0.395	0.528	0.185	2.119	1.720	22.394	2.189	-0.143	0.816	2.119	3.360	14.908	0.605	0.975	0.889	2.686	5.000	11.158	0.659	2.225	1.112	2.257	6.640	6.766	0.140	1.948	1.375	1.999	6.640	6.766	0.140	1.948	1.375	1.999
0.100	18.100	0.537	0.454	0.185	2.303	1.740	20.906	2.101	-0.178	0.816	2.303	3.380	14.449	0.623	0.937	0.890	2.589	5.020	11.390	0.685	2.224	1.107	2.365	6.660	7.798	0.159	2.046	1.392	2.225	6.660	7.798	0.159	2.046	1.392	2.225
0.120	17.534	0.619	0.383	0.217	2.191	1.760	19.570	2.021	-0.134	0.775	2.191	3.400	14.171	0.666	0.909	0.891	2.828	5.040	11.468	0.694	2.224	1.100	2.166	6.680	7.594	0.182	2.040	1.408	1.943	6.680	7.594	0.182	2.040	1.408	1.943
0.140	16.529	0.749	0.291	0.182	2.200	1.780	18.438	1.987	-0.082	0.778	2.200	3.420	13.532	0.734	0.919	0.890	2.564	5.060	11.777	0.708	2.285	1.115	2.130	6.700	7.415	0.195	2.006	1.416	2.054	6.700	7.415	0.195	2.006	1.416	2.054
0.160	15.756	0.799	0.260	0.097	2.102	1.800	17.586	1.880	0.124	0.778	2.102	3.440	13.716	0.774	0.963	0.887	2.398	5.080	12.678	0.713	2.344	1.104	2.663	6.720	7.700	0.237	2.057	1.414	2.076	6.720	7.700	0.237	2.057	1.414	2.076
0.180	15.446	0.822	0.239	0.116	2.407	1.820	16.759	1.804	0.167	0.782	2.407	3.460	13.775	0.838	0.956	0.900	2.516	5.100	12.729	0.712	2.299	1.110	1.985	6.740	6.955	0.309	2.021	1.425	2.213	6.740	6.955	0.309	2.021	1.425	2.213
0.200	16.090	0.873	0.213	0.142	2.140	1.840	16.190	1.721	0.189	0.782	2.140	3.480	13.369	0.907	0.950	0.911	2.604	5.120	12.882	0.754	2.335	1.105	2.957	6.760	6.570	0.322	1.988	1.431	2.211	6.760	6.570	0.322	1.988	1.431	2.211
0.220	17.303	0.914	0.229	0.084	2.284	1.860	15.671	1.618	0.166	0.785	2.284	3.500	12.963	0.934	0.937	0.912	2.480	5.140	12.829	0.777	2.347	1.116	1.658	6.780	6.724	0.331	2.027	1.443	2.361	6.780	6.724	0.331	2.027	1.443	2.361
0.240	18.569	0.950	0.256	0.101	2.226	1.880	15.332	1.554	0.156	0.784	2.226	3.520	12.991	0.919	0.942	0.923	3.121	5.160	13.007	0.802	2.382	1.115	2.508	6.800	7.293	0.313	2.078	1.455	2.616	6.800	7.293	0.313	2.078	1.455	2.616
0.260	18.857	1.063	0.287	0.067	2.123	1.900	14.918	1.496	0.146	0.776	2.123	3.540	12.946	0.905	0.928	0.920	2.567	5.180	12.980	0.819	2.392	1.118	2.513	6.820	7.243	0.338	2.091	1.469	2.083	6.820	7.243	0.338	2.091	1.469	2.083
0.280	19.323	1.088	0.272	0.064	2.489	1.920	14.580	1.408	0.161	0.783	2.489	3.560	12.487	0.914	0.917	0.934	2.356	5.200	12.693	0.843	2.388	1.118	1.715	6.840	7.655	0.341	2.138	1.478	2.210	6.840	7.655	0.341	2.138	1.478	2.210
0.300	19.688	1.137	0.176	0.053	1.952	1.940	14.372	1.348	0.196	0.776	1.952	3.580	12.441	0.900	0.919	0.941	2.137	5.220	12.433	0.871	2.366	1.115	2.680	6.860	7.758	0.327	2.184	1.488	2.560	6.860	7.758	0.327	2.184	1.488	2.560
0.320	21.469	1.151	0.211	0.036	2.010	1.960	14.010	1.282	0.447	0.777	2.010	3.600	12.599	0.888	0.914	0.938	3.890	5.240	12.893	0.850	2.408	1.120	2.544	6.880	8.145	0.326	2.232	1.501	2.092	6.880	8.145	0.326	2.232	1.501	2.092
0.340	22.940	1.191	0.276	0.045	2.139	1.980	13.931	1.217	0.708	0.777	2.139	3.620	12.554	0.887	0.903	0.942	2.587	5.260	13.431	0.866	2.467	1.119	1.971	6.900	8.402	0.361	2.259	1.505	2.661	6.900	8.402	0.361	2.259	1.505	2.661
0.360	24.258	1.213	0.310	0.042	2.104	2.000	13.906	1.147	0.880	0.772	2.104	3.640	12.224	0.925	0.885	0.947	1.747	5.280	13.608	0.895	2.445	1.119	2.092	6.920	8.582	0.379	2.271	1.510	1.921	6.920	8.582	0.379	2.271	1.510	1.921
0.380	26.400	1.242	0.356	0.054	2.184	2.020	13.314	1.100	0.991	0.765	2.184	3.660	11.815	0.997	0.775	1.022	2.048	5.300	13.811	0.935	2.472	1.110	1.125	6.940	8.118	0.382	2.205	1.516	2.446	6.940	8.118	0.382	2.205	1.516	2.446
0.400	29.368	1.256	0.423	0.060	2.048	2.040	13.496	1.045	0.953	0.760	2.048	3.680	12.102	0.978	0.769	1.023	2.352	5.320	14.168	0.941	2.529	1.116	2.073	6.960	7.706	0.402	2.188	1.520	2.382	6.960	7.706	0.402	2.188	1.520	2.382
0.420	33.099	1.253	0.340	0.053	2.048	2.060	13.136	1.016	0.907	0.763	2.048	3.700	11.719	0.967	0.730	1.031	2.231	5.340	14.346	0.959	2.557	1.118	2.337	6.980	7.112	0.423	2.180	1.526	1.979	6.980	7.112	0.423	2.180	1.526	1.979
0.440	36.587	1.355	0.395	0.061	2.111	2.080	12.932	0.981	0.865	0.760	2.111	3.720	11.465	0.943	0.718	1.022	2.119	5.360	15.038	0.953	2.594	1.122	2.182	7.000	6.828	0.433	2.130	1.532	2.257	7.000	6.828	0.433	2.130	1.532	2.257
0.460	38.372	1.399	0.409	0.070	2.517	2.100	12.754	0.989	0.855	0.754	2.517	3.740	11.106	0.919	0.708	1.014	2.303	5.380	14.906	0.974	2.596	1.120	2.250	7.020	6.235	0.433	2.107	1.532	2.365	7.020	6.235	0.433	2.107	1.532	2.365
0.480	40.826	1.494	0.404	0.085	1.842	2.120	12.165	0.994	0.856	0.755	1.842	3.760	10.824	0.899	0.691	1.025	2.191	5.400	15.031	0.987	2.580	1.116	2.287	7.040	5.899	0.424	2.075	1.531	2.166	7.040	5.899	0.424	2.075	1.531	2.166
0.500	42.196	1.522	0.410	0.100	2.185	2.140	11.758	0.991	0.857	0.750	2.185	3.780	10.721	0.869	0.678	1.021	2.200	5.420	14.383	1.003	2.546	1.119	2.376	7.060	6.129	0.422	2.093	1.540	2.130	7.060	6.129	0.422	2.093	1.540	2.130
0.520	43.022	1.548	0.329	0.115	2.783	2.160	11.505	0.999	0.857	0.762	2.783	3.800	10.824	0.829	0.667	1.023	2.102	5.440	13.813	1.011	2.505	1.112	2.242	7.080	6.385	0.405	2.106	1.550	2.663	7.080	6.385	0.405	2.106	1.550	2.663
0.540	45.318	1.532	0.382	0.137	1.947	2.180	11.151	1.000	0.933	0.757	1.947	3.820	10.927	0.825	0.664	1.019	2.407	5.460	13.036	1.025	2.460	1.119	1.939	7.100	6.771	0.344	2.127	1.559	1.985	7.100	6.771	0.344	2.127	1.559	1.985
0.560	43.387	1.669	0.325	0.140	2.198	2.200	11.364	0.993	0.981	0.755	2.198	3.840	11.029	0.812	0.655	1.024	2.140	5.480	12.439	1.013	2.425	1.116	2.232	7.120	6.666	0.335	2.107	1.553	2.957	7.120	6.666	0.335	2.107	1.553	2.957
0.580	45.988	1.586	0.395	0.162	1.780	2.220	11.215	0.973	1.024	0.758	1.780	3.860	10.899	0.803	0.640	1.013	2.284	5.500	11.946	1.008	2.397	1.119	2.105	7.140	6.407	0.341	2.126	1.560	1.658	7.140	6.407	0.341	2.126	1.560	1.658
0.600	45.728	1.593	0.405	0.179	2.183	2.240	11.301	0.912	1.467	0.758	2.183	3.880	11.054	0.802	0.638	1.013	2.226	5.520	11.170	1.009	2.335	1.119	2.437	7.160	6.792	0.314	2.139	1.554	2.508	7.160	6.792	0.314	2.139	1.554	2.508
0.620	46.988	1.475	0.410	0.232	2.102	2.260	11.358	0.871	1.404	0.755	2.102	3.900	11.208	0.798	0.640	1.017	2.123	5.540	10.341	0.985	2.2														



Committente: Geotema
 Cantiere: Microzonazione Sala Bolognese (BO)
 Data: 20/09/2016

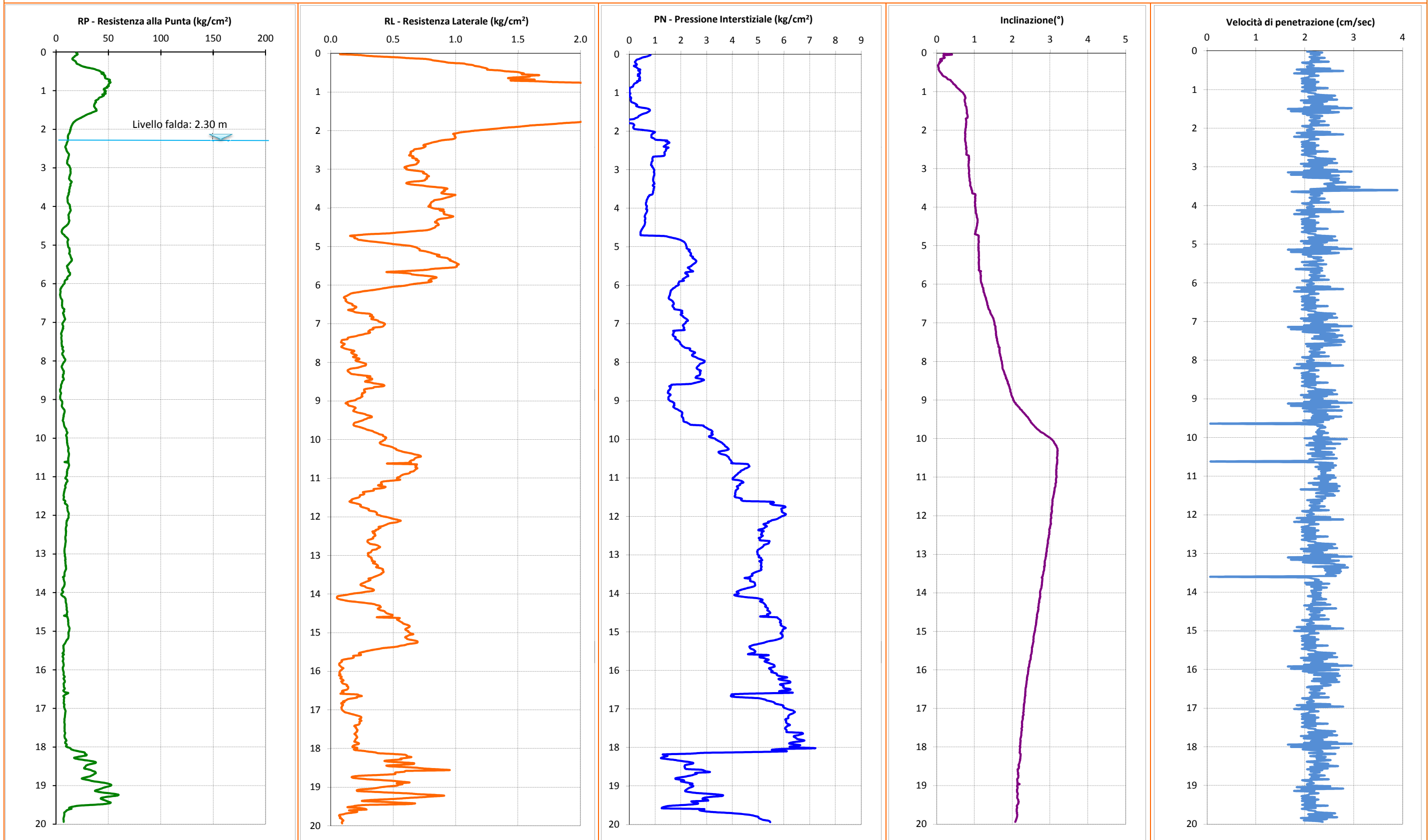
ID Prova: CPTU I SALA B.
 Profondita falda: a mt 2.30 da p.c.
 Coordinate: 44.611575 - 11.253834

Profondità massima raggiunta: 20.00 mt
 Punta sismica: Tecnopenta G1-CPL2IN - SISMI
 RIF. 127/16GF

Prova eseguita da:
GEO.FE. S.n.c.
 via dell'Artigianato ,2 44030 - Ro Ferrarese (FE)
 tel 3383646278 - info@geofe.it - www.geofe.it
 Responsabile dati: Dott.Geol.Zanella Fabio
 Responsabile cantiere: Sig. Mangherini Alberto

Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
8.220	6.258	0.135	2.775	1.763	2.183	9.860	10.817	0.388	3.229	2.823	2.231	11.500	7.183	0.221	4.113	3.090	2.611	13.140	8.991	0.330	5.157	2.873	2.513	14.780	11.662	0.596	5.886	2.629	2.104	14.800	11.711	0.615	5.893	2.632	2.184	14.820	11.502	0.628	5.871	2.629	2.048	14.840	11.680	0.632	5.907	2.626	2.048	14.860	11.806	0.624	5.967	2.617	2.111	14.880	12.164	0.613	6.032	2.618	2.517	14.900	12.444	0.600	6.070	2.611	1.842	14.920	12.776	0.597	5.986	2.607	2.185	14.940	12.773	0.606	5.960	2.605	2.783	14.960	12.512	0.621	5.942	2.607	1.947	14.980	12.509	0.621	5.955	2.604	2.198	15.000	12.274	0.632	5.911	2.591	1.780	15.020	12.090	0.642	5.888	2.595	2.183	15.040	11.622	0.661	5.871	2.584	2.102	15.060	11.902	0.630	5.933	2.580	2.282	15.080	11.718	0.618	5.928	2.580	2.093	15.100	11.919	0.603	5.952	2.573	2.080	15.120	11.941	0.595	5.951	2.569	2.000	15.140	11.860	0.606	5.926	2.564	1.941	15.160	11.728	0.611	5.896	2.564	2.202	15.180	11.543	0.633	5.814	2.567	2.158	15.200	11.180	0.668	5.720	2.564	1.944	15.220	10.557	0.692	5.599	2.556	2.271	15.240	9.936	0.695	5.418	2.561	2.181	15.260	9.520	0.692	5.307	2.564	1.939	15.280	9.207	0.655	5.231	2.555	2.205	15.300	8.791	0.612	5.088	2.553	2.147	15.320	8.454	0.595	4.960	2.546	1.999	15.340	7.779	0.553	4.808	2.544	2.209	15.360	7.312	0.535	4.728	2.541	1.949	15.380	6.819	0.478	4.659	2.530	2.468	15.400	7.099	0.415	4.681	2.535	2.041	15.420	6.968	0.386	4.685	2.521	1.999	15.440	6.938	0.344	4.732	2.522	2.225	15.460	7.246	0.314	4.821	2.522	1.943	15.480	7.243	0.283	4.850	2.521	2.054	15.500	7.293	0.258	4.888	2.518	2.076	15.520	7.292	0.230	4.885	2.522	2.213	15.540	7.162	0.225	4.851	2.515	2.211	15.560	6.491	0.241	4.703	2.512	2.361	15.580	6.131	0.241	4.613	2.510	2.616	15.600	7.408	0.180	5.391	2.499	2.083	15.620	6.894	0.182	5.227	2.494	2.210	15.640	6.330	0.184	5.066	2.488	2.560	15.660	6.099	0.171	5.064	2.493	2.092	15.680	6.617	0.128	5.231	2.491	2.661	15.700	6.850	0.098	5.302	2.485	1.921	15.720	6.981	0.086	5.409	2.489	2.446	15.740	6.776	0.091	5.338	2.478	2.382	15.760	6.469	0.085	5.249	2.472	1.979	15.780	6.316	0.075	5.294	2.458	2.257	15.800	6.705	0.068	5.390	2.464	2.365	15.820	6.888	0.067	5.465	2.460	2.166	15.840	6.993	0.069	5.552	2.455	2.130	15.860	7.253	0.075	5.623	2.449	2.663	15.880	7.153	0.082	5.631	2.450	1.985	15.900	7.129	0.088	5.638	2.445	2.957	15.920	6.746	0.101	5.542	2.446	1.658	15.940	6.387	0.091	5.426	2.429	2.508	15.960	6.313	0.089	5.442	2.426	2.513	15.980	6.445	0.077	5.500	2.429	1.715	16.000	6.447	0.074	5.511	2.427	2.680	16.020	6.656	0.072	5.564	2.422	2.544	16.040	6.917	0.068	5.506	2.425	1.971	16.060	7.176	0.071	5.607	2.416	2.092	16.080	7.231	0.078	5.713	2.419	2.081	16.100	7.208	0.066	5.727	2.419	2.674	16.120	7.081	0.075	5.729	2.411	2.616	16.140	7.136	0.087	5.805	2.401	2.188	16.160	7.678	0.083	5.974	2.404	2.715	16.180	8.221	0.077	6.127	2.393	2.359	16.200	7.786	0.077	5.979	2.394	2.387	16.220	7.092	0.098	5.795	2.388	2.620	16.240	7.275	0.101	5.848	2.394	2.179	16.260	7.689	0.083	6.034	2.389	2.654	16.280	8.155	0.091	6.211	2.386	2.333	16.300	8.286	0.090	6.253	2.380	2.156	16.320	8.211	0.101	6.229	2.382	2.701	16.340	7.543	0.122	6.023	2.377	2.351	16.360	7.133	0.132	5.852	2.376	2.331	16.380	7.237	0.128	5.895	2.371	2.419	16.400	7.394	0.139	5.991	2.365	2.531

GRAFICI PROVA CPTU I





Committente: Geotema
 Cantiere: Microzonazione Sala Bolognese (BO)
 Data: 20/09/2016

ID Prova: CPTU L SALA B.
 Profondita falda: a mt 2.65 da p.c.
 Coordinate: 44. 609934 - 11.255540

Profondità massima raggiunta: 20.00 mt
 Punta sismica: Tecnopenta G1-CPL2IN - SISMI
 RIF. 127/16GF

Prova eseguita da:
GEO.FE. S.n.c.
 via dell'Artigianato ,2 44030 - Ro Ferrarese (FE)
 tel 3383646278 - info@geofe.it - www.geofe.it
 Responsabile dati: Dott.Geol.Zanella Fabio
 Responsabile cantiere: Sig. Mangherini Alberto

Prof.	RP	RL	PN	Incl.	V.avanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz
metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec
0.020	21.992	0.099	0.533	-0.337	1.996	1.660	16.685	0.923	0.031	-0.609	2.557	3.300	8.512	0.109	0.010	0.077	2.269	4.940	17.020	0.926	2.636	0.489	2.715	6.580	14.635	0.905	0.995	0.804	0.804	2.399					
0.040	22.664	0.187	0.488	-0.328	1.974	1.680	16.226	0.848	0.020	-0.599	2.414	3.320	8.286	0.125	0.010	0.079	2.076	4.960	17.377	0.937	2.677	0.487	2.556	6.600	14.863	0.913	1.016	0.806	0.806	2.554					
0.060	23.413	0.231	0.522	-0.336	2.053	1.700	15.872	0.776	0.020	-0.585	2.945	3.340	8.112	0.131	0.010	0.078	1.996	4.980	17.786	0.962	2.720	0.494	2.294	6.620	14.989	0.927	1.043	0.804	0.804	1.996					
0.080	23.671	0.270	0.481	-0.298	1.996	1.720	10.602	0.530	0.020	-0.565	2.886	3.360	8.122	0.159	0.010	0.084	1.996	5.000	18.193	1.017	2.731	0.489	2.973	6.640	15.267	0.987	1.072	0.807	0.807	1.852					
0.100	24.342	0.257	0.484	-0.271	1.996	1.740	16.569	0.640	0.020	-0.543	1.996	3.380	7.972	0.179	0.020	0.086	2.331	5.020	18.265	1.070	2.755	0.489	2.342	6.660	15.520	1.024	1.096	0.811	0.811	2.753					
0.120	26.173	0.277	0.567	-0.309	2.032	1.760	16.039	0.631	0.020	-0.528	1.996	3.400	7.693	0.203	0.020	0.083	1.996	5.040	18.053	1.119	2.755	0.485	2.439	6.680	15.391	1.032	1.096	0.807	0.807	2.829					
0.140	27.541	0.307	0.569	-0.279	2.252	1.780	15.919	0.621	0.235	-0.505	2.310	3.420	8.194	0.218	0.020	0.087	2.458	5.060	18.074	1.192	2.761	0.482	2.557	6.700	15.437	1.081	1.110	0.808	0.808	2.269					
0.160	29.604	0.284	0.694	-0.313	2.171	1.800	15.721	0.630	0.020	-0.492	2.554	3.440	8.408	0.224	0.020	0.095	2.192	5.080	17.914	1.251	2.786	0.479	2.414	6.720	15.361	1.039	1.319	0.832	0.832	2.076					
0.180	31.720	0.244	0.744	-0.322	2.239	1.820	14.960	0.640	0.020	-0.472	2.448	3.460	8.645	0.232	0.010	0.100	2.021	5.100	17.701	1.305	2.777	0.471	2.945	6.740	15.158	1.147	1.248	0.852	0.852	1.996					
0.200	30.616	0.386	0.353	-0.322	1.816	1.840	14.220	0.647	0.020	-0.462	1.996	3.480	8.678	0.243	0.010	0.097	2.510	5.120	16.971	1.336	2.730	0.479	2.886	6.760	14.412	1.141	1.193	0.866	0.866	1.996					
0.220	31.961	0.274	0.407	-0.346	2.301	1.860	13.864	0.652	0.010	-0.451	2.736	3.500	9.200	0.226	0.010	0.098	2.385	5.140	16.344	1.333	2.656	0.470	1.996	6.780	13.819	1.117	1.181	0.884	0.884	2.331					
0.240	31.916	0.279	0.296	-0.325	2.106	1.880	13.385	0.617	0.010	-0.432	1.996	3.520	9.025	0.217	0.010	0.109	1.996	5.160	15.564	1.316	2.602	0.462	1.996	6.800	13.587	1.110	1.170	0.899	0.899	1.996					
0.260	29.579	0.294	0.087	-0.318	2.191	1.900	12.981	0.584	0.010	-0.412	2.294	3.540	8.364	0.236	0.010	0.100	1.929	5.180	14.860	1.294	2.543	0.461	2.310	6.820	13.070	1.127	1.123	0.912	0.912	2.458					
0.280	28.996	0.288	0.026	-0.318	2.166	1.920	12.601	0.565	0.010	-0.410	2.765	3.560	8.163	0.248	0.031	0.106	1.996	5.200	14.181	1.255	2.531	0.465	2.554	6.840	12.501	1.163	1.089	0.917	0.917	2.192					
0.300	28.363	0.274	-0.049	-0.296	2.045	1.940	12.198	0.540	0.020	-0.373	2.373	3.580	7.782	0.263	0.020	0.115	1.923	5.220	14.199	1.219	2.581	0.466	2.448	6.860	12.472	1.170	1.079	0.928	0.928	2.021					
0.320	28.580	0.264	-0.023	-0.294	2.203	1.960	11.974	0.507	0.020	-0.376	2.334	3.600	7.093	0.278	0.020	0.112	2.492	5.240	14.884	1.156	2.663	0.462	1.996	6.880	12.108	1.165	1.106	0.943	0.943	2.510					
0.340	29.905	0.240	0.094	-0.283	2.541	1.980	11.804	0.496	0.020	-0.364	2.795	3.620	6.867	0.272	0.020	0.110	2.416	5.260	15.467	1.099	2.711	0.458	2.736	6.900	12.334	1.145	1.184	0.941	0.941	2.385					
0.360	33.887	0.219	0.497	-0.272	2.037	2.000	11.065	0.480	0.020	-0.352	1.933	3.640	7.104	0.261	0.010	0.116	2.467	5.280	15.464	1.084	2.722	0.457	1.996	6.920	12.433	1.117	1.262	0.949	0.949	1.996					
0.380	38.384	0.206	0.780	-0.264	1.907	2.020	10.456	0.457	0.010	-0.341	2.371	3.660	7.188	0.248	0.020	0.124	2.510	5.300	15.862	1.027	2.793	0.465	2.294	6.940	12.352	1.062	1.282	0.953	0.953	1.929					
0.400	49.095	0.185	1.286	-0.273	1.966	2.040	10.516	0.421	0.010	-0.336	1.996	3.680	7.196	0.219	0.020	0.118	2.485	5.320	16.367	0.978	2.857	0.457	2.765	6.960	12.194	1.025	1.296	0.963	0.963	1.996					
0.420	69.425	0.179	1.567	-0.282	2.045	2.060	10.346	0.376	0.010	-0.327	2.538	3.700	7.483	0.193	0.051	0.113	1.996	5.340	16.744	0.963	2.960	0.458	2.373	6.980	11.696	0.887	1.270	0.966	0.966	1.716					
0.440	96.326	0.425	1.766	-0.366	1.944	2.080	10.174	0.351	0.010	-0.310	1.996	3.720	7.497	0.339	0.051	0.236	2.000	5.360	17.100	0.953	3.028	0.459	2.334	7.000	11.126	0.883	1.238	0.969	0.969	3.714					
0.460	113.111	0.529	0.417	-0.461	2.180	2.100	10.133	0.318	0.010	-0.306	2.251	3.740	7.323	0.434	0.209	0.334	2.000	5.380	17.531	0.970	3.106	0.462	2.795	7.020	10.529	0.859	0.990	0.967	0.967	2.451					
0.480	117.816	0.628	0.941	-0.508	2.124	2.120	9.654	0.310	0.020	-0.297	2.362	3.760	6.783	0.432	0.147	0.337	2.037	5.400	17.552	0.992	3.156	0.465	1.933	7.040	9.904	0.830	0.868	0.945	0.945	1.879					
0.500	120.030	0.960	0.539	-0.649	2.023	2.140	9.228	0.276	0.031	-0.283	1.996	3.780	5.778	0.442	0.100	0.338	1.907	5.420	18.114	0.992	3.223	0.465	2.371	7.060	9.876	0.802	0.919	0.940	0.940	2.541					
0.520	130.779	1.130	0.756	-0.732	1.796	2.160	9.498	0.238	0.020	-0.276	1.996	3.800	4.669	0.460	0.061	0.347	1.966	5.440	18.497	0.999	3.242	0.462	1.996	7.080	11.521	0.718	1.205	0.927	0.927	2.037					
0.540	147.205	0.995	0.568	-0.820	1.900	2.180	10.331	0.223	0.020	-0.269	1.996	3.820	4.643	0.452	0.075	0.341	2.045	5.460	18.570	1.028	3.242	0.473	2.538	7.100	11.827	0.690	1.365	0.934	0.934	1.907					
0.560	152.094	0.826	0.052	-1.012	1.919	2.200	10.834	0.222	0.020	-0.253	2.544	3.840	5.208	0.427	0.134	0.360	1.944	5.480	18.438	1.058	3.224	0.467	1.996	7.120	12.031	0.641	1.497	0.942	0.942	1.966					
0.580	142.583	0.786	0.393	-1.082	2.590	2.220	10.900	0.234	0.020	-0.257	2.029	3.860	5.852	0.415	0.177	0.362	2.180	5.500	18.205	1.073	3.209	0.467	2.251	7.140	11.977	0.589	1.570	0.940	0.940	2.045					
0.600	91.195	1.108	1.136	-1.104	1.688	2.240	10.551	0.242	0.020	-0.252	2.948	3.880	6.160	0.383	0.209	0.361	2.124	5.520	18.147	1.130	3.194	0.468	2.362	7.160	11.872	0.568	1.593	0.941	0.941	1.944					
0.620	80.239	1.779	0.562	-1.161	2.281	2.260	9.609	0.256	0.235	-0.248	2.393	3.900	6.648	0.332	0.246	0.366	2.023	5.540	17.886	1.171	3.183	0.465	1.996	7.180	11.176	0.569	1.570	0.930	0.930	2.180					
0.640	77.294	1.384	0.448	-1.219	1.764	2.280	8.541	0.273	0.020	-0.240	2.463	3.920	5.873	0.303	0.204	0.357	1.796	5.560	17.365	1.197	3.188	0.472	1.996	7.200	10.686	0.574	1.545	0.928	0.928	2.124					
0.660	73.026	1.570	0.382	-1.256	2.422	2.300	7.834	0.246	0.020	-0.229	2.538	3.940	5.434	0.300	0.193	0.361	1.900	5.580	16.124	1.218	3.079	0.467	1.996	7.220	10.558	0.554	1.586	0.929	0.929	2.023					
0.680	76.318	1.739	0.440	-1.304	2.030	2.320	7.950	0.195	0.020	-0.224	2.252	3.960	5.227	0.289	0.210	0.364	1.919	5.600	15.916	1.215	3.051	0.477	2.544	7.240	10.609	0.542	1.613	0.926	0.926	1.796					
0.700	82.608	1.791	0.588	-1.331	1.751	2.340	8.145	0.159	0.010	-0.219	2.390	3.980	5.432	0.284	0.240	0.356	2.590	5.620	14.285	1.172	2.891	0.468	2.029	7.260	10.609	0.538	1.695	0.925	0.925	1.900					
0.720	97.385	1.526	0.809	-1.324	1.996	2.360	8.312	0.139	0.010	-0.200	2.831	4.000																							



Committente: Geotema
 Cantiere: Microzonazione Sala Bolognese (BO)
 Data: 20/09/2016

ID Prova: CPTU L SALA B.
 Profondita falda: a mt 2.65 da p.c.
 Coordinate: 44. 609934 - 11.255540

Profondità massima raggiunta: 20.00 mt
 Punta sismica: Tecnopenta G1-CPL2IN - SISMI
 RIF. 127/16GF

Prova eseguita da:
GEO.FE. S.n.c.
 via dell'Artigianato ,2 44030 - Ro Ferrarese (FE)
 tel 3383646278 - info@geofe.it - www.geofe.it
 Responsabile dati: Dott.Geol.Zanella Fabio
 Responsabile cantiere: Sig. Mangherini Alberto

Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz
metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec
8.220	10.237	0.298	4.068	0.869	1.996	9.860	8.241	0.332	2.891	1.019	1.996	11.500	9.770	0.501	4.524	0.973	1.996	13.140	8.179	0.467	4.431	0.905	2.667	14.780	14.406	0.846	6.147	0.879	2.783	14.800	13.966	0.879	5.966	0.887	2.376
8.240	12.146	0.296	4.374	0.870	2.385	9.880	7.803	0.320	2.911	1.031	2.294	11.520	10.001	0.509	4.477	0.974	2.499	13.160	7.690	0.442	4.324	0.902	1.996	14.800	13.966	0.879	5.966	0.887	2.376	14.820	13.759	0.891	5.924	0.887	2.611
8.260	12.430	0.295	4.047	0.872	2.715	9.900	7.958	0.314	2.938	1.022	2.399	11.540	10.104	0.520	4.576	0.968	1.996	13.180	7.947	0.377	4.460	0.900	1.963	14.820	13.759	0.891	5.924	0.887	2.611	14.840	14.169	0.868	6.020	0.880	2.779
8.280	12.689	0.328	4.260	0.871	2.556	9.920	7.984	0.314	2.986	1.029	2.554	11.560	9.690	0.548	4.548	0.964	1.996	13.200	8.694	0.347	4.623	0.896	1.996	14.840	14.169	0.868	6.020	0.880	2.779	14.860	14.141	0.858	6.052	0.873	2.330
8.300	17.202	0.359	1.682	0.871	2.294	9.940	8.036	0.315	3.051	1.032	1.996	11.580	9.637	0.559	4.541	0.964	2.385	13.220	9.183	0.321	4.750	0.890	2.294	14.860	14.141	0.858	6.052	0.873	2.330	14.880	13.648	0.879	5.939	0.883	2.196
8.320	22.513	0.423	2.337	0.871	2.973	9.960	8.268	0.316	3.112	1.026	1.852	11.600	9.945	0.552	4.558	0.963	2.715	13.240	9.157	0.317	4.752	0.890	2.399	14.880	13.648	0.879	5.939	0.883	2.196	14.900	14.392	0.860	6.129	0.882	1.996
8.340	23.055	0.449	1.510	0.873	2.342	9.980	8.164	0.314	3.132	1.025	2.753	11.620	9.840	0.579	4.629	0.968	2.556	13.260	9.080	0.310	4.637	0.899	2.554	14.900	14.392	0.860	6.129	0.882	1.996	14.920	14.930	0.808	6.310	0.878	2.247
8.360	16.642	0.591	0.024	0.862	2.439	10.000	8.191	0.313	3.144	1.028	2.829	11.640	10.045	0.585	4.669	0.961	2.294	13.280	8.565	0.342	4.567	0.893	1.996	14.920	14.930	0.808	6.310	0.878	2.247	14.940	15.440	0.764	6.424	0.875	2.437
8.380	13.473	0.655	-0.042	0.851	2.557	10.020	7.932	0.320	3.132	1.035	2.269	11.660	10.688	0.565	4.795	0.957	2.973	13.300	8.900	0.318	4.761	0.893	1.852	14.940	15.440	0.764	6.424	0.875	2.437	14.960	15.337	0.761	6.432	0.875	2.784
8.400	11.025	0.649	-0.011	0.855	2.414	10.040	7.985	0.320	3.167	1.028	2.076	11.680	10.931	0.555	5.181	0.942	2.342	13.320	9.108	0.307	4.810	0.894	2.753	14.960	15.337	0.761	6.432	0.875	2.784	14.980	15.177	0.776	6.353	0.874	2.291
8.420	9.790	0.523	0.066	0.847	2.945	10.060	8.087	0.320	3.218	1.030	1.996	11.700	11.756	0.568	5.323	0.950	2.439	13.340	8.980	0.312	4.800	0.888	2.829	14.980	15.177	0.776	6.353	0.874	2.291	15.000	15.147	0.796	6.383	0.865	1.996
8.440	9.636	0.487	0.097	0.854	2.886	10.080	8.061	0.320	3.234	1.029	1.996	11.720	11.938	0.581	5.294	0.945	2.557	13.360	8.543	0.309	4.711	0.887	2.269	15.000	15.147	0.796	6.383	0.865	1.996	15.020	15.324	0.801	6.324	0.860	2.156
8.460	8.788	0.443	0.122	0.859	1.996	10.100	8.164	0.323	3.223	1.028	2.331	11.740	12.093	0.590	5.242	0.948	2.414	13.380	8.441	0.286	4.815	0.881	2.076	15.020	15.324	0.801	6.324	0.860	2.156	15.040	15.166	0.854	6.259	0.854	1.996
8.480	7.706	0.423	0.134	0.855	1.996	10.120	8.215	0.325	3.255	1.029	1.996	11.760	12.041	0.604	5.159	0.949	2.945	13.400	8.674	0.260	4.932	0.886	1.996	15.040	15.166	0.854	6.259	0.854	1.996	15.060	15.008	0.919	6.134	0.856	1.986
8.500	6.985	0.360	0.172	0.860	2.310	10.140	7.776	0.319	3.222	1.014	2.458	11.780	11.836	0.623	5.096	0.945	2.886	13.420	8.830	0.248	4.985	0.881	1.996	15.060	15.008	0.919	6.134	0.856	1.986	15.080	14.979	0.950	6.128	0.862	2.463
8.520	7.010	0.313	0.258	0.862	2.554	10.160	7.545	0.322	3.218	1.026	2.192	11.800	11.603	0.660	5.004	0.937	1.996	13.440	9.605	0.261	5.178	0.875	2.331	15.080	14.979	0.950	6.128	0.862	2.463	15.100	14.951	0.972	6.157	0.859	3.517
8.540	7.578	0.287	0.331	0.868	2.448	10.180	7.648	0.317	3.313	1.016	2.021	11.820	11.731	0.690	5.018	0.939	1.996	13.460	9.980	0.282	5.201	0.879	1.996	15.100	14.951	0.972	6.157	0.859	3.517	15.120	15.127	0.971	6.286	0.859	1.903
8.560	7.913	0.288	0.349	0.865	1.996	10.200	7.700	0.312	3.345	1.017	2.510	11.840	11.807	0.673	5.050	0.946	2.310	13.480	9.995	0.314	5.181	0.876	2.458	15.120	15.127	0.971	6.286	0.859	1.903	15.140	15.821	0.949	6.367	0.858	1.996
8.580	7.887	0.286	0.372	0.859	2.736	10.220	7.647	0.313	3.386	1.019	2.385	11.860	11.626	0.669	5.038	0.942	2.554	13.500	9.971	0.349	5.113	0.875	2.192	15.140	15.821	0.949	6.367	0.858	1.996	15.160	15.893	0.947	6.391	0.849	2.127
8.600	6.805	0.282	0.419	0.871	1.996	10.240	7.646	0.314	3.389	1.020	1.996	11.880	11.674	0.643	5.009	0.942	2.448	13.520	9.791	0.370	5.077	0.878	2.021	15.160	15.893	0.947	6.391	0.849	2.127	15.180	15.995	0.944	6.367	0.856	2.346
8.620	6.856	0.272	0.477	0.877	2.294	10.260	7.544	0.317	3.426	1.014	1.929	11.900	11.570	0.631	4.918	0.938	1.996	13.540	9.744	0.414	5.033	0.880	2.510	15.180	15.995	0.944	6.367	0.856	2.346	15.200	16.016	0.938	6.371	0.846	1.996
8.640	7.501	0.262	0.503	0.884	2.765	10.280	7.647	0.318	3.435	1.019	1.996	11.920	10.639	0.632	4.792	0.948	2.736	13.560	9.616	0.437	5.049	0.874	2.385	15.200	16.016	0.938	6.371	0.846	1.996	15.220	16.242	0.924	6.324	0.847	2.124
8.660	7.682	0.251	0.582	0.881	2.373	10.300	7.853	0.304	3.515	1.012	1.852	11.940	10.611	0.611	4.734	0.947	1.996	13.580	9.721	0.438	5.065	0.871	1.996	15.220	16.242	0.924	6.324	0.847	2.124	15.240	15.981	0.942	6.258	0.837	2.196
8.680	7.682	0.251	0.582	0.881	2.334	10.320	7.930	0.313	3.511	1.009	2.660	11.960	10.351	0.590	4.661	0.939	2.294	13.600	9.826	0.444	5.081	0.869	1.929	15.240	15.981	0.942	6.258	0.837	2.196	15.260	15.385	0.975	6.053	0.841	1.996
8.700	5.982	0.299	0.399	0.896	2.795	10.340	7.723	0.324	3.522	1.008	1.374	11.980	10.402	0.591	4.650	0.936	2.765	13.620	9.803	0.474	5.043	0.873	1.996	15.260	15.385	0.975	6.053	0.841	1.996	15.280	14.994	1.009	5.896	0.844	1.878
8.720	7.172	0.356	0.818	0.921	1.933	10.360	7.672	0.333	3.524	1.007	3.475	12.000	10.140	0.581	4.676	0.945	2.373	13.640	9.804	0.482	5.016	0.868	3.155	15.280	14.994	1.009	5.896	0.844	1.878	15.300	14.241	1.048	5.584	0.837	1.996
8.740	6.915	0.360	0.823	0.926	2.371	10.380	7.543	0.338	3.529	1.009	2.017	12.020	10.111	0.589	4.719	0.946	2.334	13.660	9.754	0.482	4.988	0.865	2.104	15.300	14.241	1.048	5.584	0.837	1.996	15.320	13.851	1.057	5.497	0.831	1.996
8.760	7.123	0.341	0.882	0.936	1.996	10.400	7.568	0.338	3.526	1.011	2.541	12.040	10.339	0.572	4.834	0.950	2.795	13.680	9.368	0.487	4.998	0.869	3.279	15.320	13.851	1.057	5.497	0.831	1.996	15.340	13.514	1.053	5.424	0.826	2.499
8.780	7.484	0.313	0.931	0.927	2.538	10.420	7.285	0.341	3.492	1.006	2.037	12.060	10.389	0.567	4.875	0.940	1.933	13.700	9.317	0.486	5.005	0.862	5.324	15.340	13.514	1.053	5.424	0.826	2.499	15.360	13.071	1.019	5.298	0.821	1.996
8.800	7.820	0.299	0.951	0.938	1.996	10.440	7.208	0.354	3.507	0.996	1.907	12.080	10.850	0.565	4.973	0.949	2.371	13.720	9.957	0.506	5.303	0.856	0.057	15.360	13.071	1.019	5.298	0.821	1.996	15.380	12.576	0.982	5.232	0.832	1.996
8.820	7.744	0.292	0.976	0.951	2.251	10.460	7.156	0.356	3.508	0.																									



Committente: Geotema
 Cantiere: Microzonazione Sala Bolognese (BO)
 Data: 20/09/2016

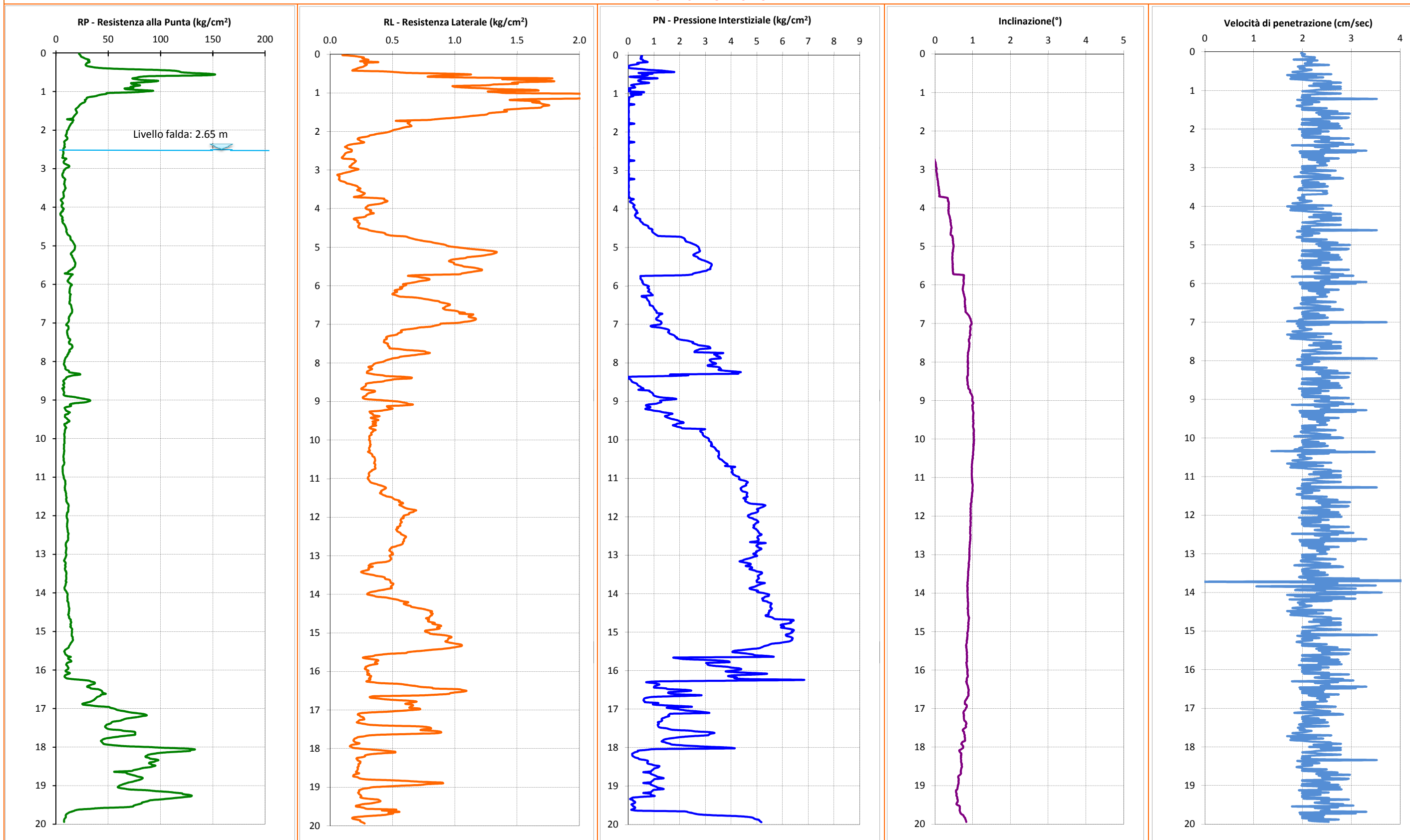
ID Prova: CPTU L SALA B.
 Profondita falda: a mt 2.65 da p.c.
 Coordinate: 44. 609934 - 11.255540

Profondità massima raggiunta: 20.00 mt
 Punta sismica: Tecnopenta G1-CPL2IN - SISMI
 RIF. 127/16GF

Prova eseguita da:
GEO.FE. S.n.c.
 via dell'Artigianato ,2 44030 - Ro Ferrarese (FE)
 tel 3383646278 - info@geofe.it - www.geofe.it
 Responsabile dati: Dott.Geol.Zanella Fabio
 Responsabile cantiere: Sig. Mangherini Alberto

Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz
metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec
16.420	30.062	0.819	1.000	0.870	2.385	18.060	132.836	0.468	0.704	0.683	2.611	19.700	12.275	0.469	2.476	0.668	1.939												
16.440	29.907	0.826	1.002	0.871	3.305	18.080	128.194	0.522	0.372	0.644	2.779	19.720	11.195	0.432	2.599	0.684	3.094												
16.460	32.821	1.037	1.456	0.879	1.939	18.100	128.194	0.522	0.372	0.644	2.330	19.740	9.962	0.337	2.788	0.701	1.968												
16.480	33.336	1.060	1.546	0.881	3.094	18.120	115.697	0.417	0.268	0.655	2.196	19.760	9.448	0.257	3.319	0.739	2.438												
16.500	40.346	1.093	2.253	0.891	1.968	18.140	103.872	0.339	0.208	0.671	1.996	19.780	9.243	0.188	4.161	0.756	2.244												
16.520	42.250	1.073	2.447	0.891	2.438	18.160	96.638	0.297	0.152	0.698	2.247	19.800	9.372	0.176	4.609	0.764	1.996												
16.540	43.639	1.011	2.105	0.886	2.244	18.180	91.971	0.278	0.149	0.690	2.437	19.820	9.373	0.184	4.828	0.781	2.426												
16.560	44.175	0.964	1.573	0.887	1.996	18.200	88.185	0.279	0.155	0.699	2.784	19.840	8.782	0.217	4.881	0.797	1.996												
16.580	44.252	0.952	1.549	0.877	2.426	18.220	86.939	0.259	0.171	0.684	2.291	19.860	8.165	0.242	4.949	0.799	2.205												
16.600	45.714	0.853	1.680	0.887	1.996	18.240	85.562	0.217	0.221	0.689	1.996	19.880	7.832	0.240	5.076	0.810	2.743												
16.620	47.507	0.720	2.087	0.881	2.205	18.260	85.846	0.211	0.280	0.693	2.156	19.900	7.731	0.250	5.101	0.817	2.137												
16.640	43.087	0.353	2.848	0.887	2.743	18.280	89.057	0.220	0.392	0.683	1.996	19.920	7.682	0.267	5.136	0.822	2.211												
16.660	42.754	0.317	2.054	0.887	2.137	18.300	89.860	0.219	0.420	0.686	1.986	19.940	7.737	0.276	5.174	0.828	2.538												
16.680	41.518	0.326	0.997	0.873	2.211	18.320	95.300	0.232	0.620	0.689	2.463	19.960	7.920	0.285	5.240	0.842	2.431												
16.700	39.509	0.388	0.758	0.856	2.538	18.340	97.939	0.244	0.751	0.692	3.517	19.980	8.103	0.289	5.318	0.845	2.299												
16.720	38.582	0.441	0.632	0.853	2.431	18.360	95.392	0.239	0.766	0.690	1.903	20.000	8.287	0.293	5.390	0.858	2.468												
16.740	37.835	0.527	0.609	0.840	2.299	18.380	93.938	0.240	0.743	0.689	1.996																		
16.760	36.881	0.646	0.592	0.823	2.468	18.400	89.573	0.228	0.737	0.697	2.127																		
16.780	36.288	0.693	0.596	0.815	2.362	18.420	88.973	0.230	0.768	0.700	2.346																		
16.800	34.665	0.661	0.637	0.795	2.362	18.440	90.780	0.228	0.916	0.713	1.996																		
16.820	33.273	0.624	0.645	0.792	2.488	18.460	91.892	0.228	0.995	0.702	2.124																		
16.840	30.489	0.604	1.156	0.789	1.996	18.480	95.071	0.220	1.205	0.708	2.196																		
16.860	27.265	0.657	1.046	0.794	1.996	18.500	92.835	0.220	1.190	0.714	1.996																		
16.880	25.152	0.665	0.965	0.791	2.270	18.520	89.925	0.223	1.144	0.710	1.878																		
16.900	26.051	0.654	1.349	0.831	1.996	18.540	83.720	0.221	1.018	0.696	1.996																		
16.920	33.290	0.643	1.995	0.840	2.003	18.560	80.656	0.218	0.984	0.695	1.996																		
16.940	39.319	0.636	2.462	0.843	2.421	18.580	77.539	0.215	0.948	0.690	2.499																		
16.960	50.574	0.717	1.506	0.839	2.667	18.600	73.980	0.207	0.905	0.684	1.996																		
16.980	51.862	0.722	1.638	0.819	1.996	18.620	72.163	0.212	0.879	0.687	1.996																		
17.000	55.156	0.650	1.905	0.813	1.963	18.640	55.603	0.233	0.583	0.680	2.385																		
17.020	57.215	0.563	2.096	0.806	1.996	18.660	66.952	0.206	0.861	0.685	2.715																		
17.040	58.841	0.468	2.289	0.791	2.294	18.680	67.602	0.190	0.867	0.690	2.556																		
17.060	63.165	0.327	2.706	0.770	2.399	18.700	69.732	0.186	0.934	0.677	2.294																		
17.080	67.310	0.245	2.955	0.759	2.554	18.720	72.507	0.186	1.017	0.659	2.973																		
17.100	70.886	0.225	3.133	0.751	1.996	18.740	75.465	0.219	1.089	0.632	2.342																		
17.120	76.898	0.223	1.636	0.752	1.852	18.760	77.437	0.230	1.139	0.615	2.439																		
17.140	82.963	0.237	1.591	0.764	2.753	18.780	81.327	0.249	1.292	0.613	2.557																		
17.160	85.813	0.242	1.556	0.758	2.829	18.800	82.856	0.308	1.365	0.620	2.414																		
17.180	86.640	0.259	1.589	0.770	2.269	18.820	82.388	0.491	1.018	0.628	2.945																		
17.200	81.892	0.269	1.488	0.760	2.076	18.840	80.754	0.626	0.984	0.625	2.886																		
17.220	78.001	0.266	1.411	0.764	1.996	18.860	78.366	0.734	0.948	0.628	1.996																		
17.240	72.606	0.274	1.326	0.763	1.996	18.880	75.330	0.900	0.905	0.621	1.996																		
17.260	67.365	0.236	1.293	0.763	2.331	18.900	73.074	0.906	0.879	0.622	2.310																		
17.280	64.899	0.229	1.313	0.770	1.996	18.920	69.156	0.778	0.583	0.625	2.554																		
17.300	63.004	0.222	1.309	0.773	2.458	18.940	66.977	0.726	0.861	0.622	2.448																		
17.320	60.617	0.214	1.261	0.788	2.192	18.960	64.383	0.575	0.867	0.619	1.996																		
17.340	54.617	0.240	1.152	0.815	2.021	18.980	62.722	0.456	0.934	0.609	2.736																		
17.360	53.196	0.277	1.168	0.818	2.510	19.000	60.646	0.339	1.017	0.604	1.996																		
17.380	52.576	0.316	1.190	0.832	2.385	19.020	59.867	0.311	1.089	0.604	2.294																		
17.400	50.770	0.432	1.146	0.829	1.996	19.040	59.034	0.264	1.139	0.599	2.765																		
17.420	48.364	0.696	1.148	0.817	1.929	19.060	60.898	0.247	1.292	0.596	2.373																		
17.440	47.897	0.781	1.160	0.813	1.996	19.080	65.717	0.232	1.365	0.594	2.334																		
17.460	46.964	0.807	1.178	0.821	2.541	19.100	70.951	0.233	0.984	0.583	2.795																		
17.480	46.989	0.809	1.233	0.820	2.037	19.120	86.993	0.232	0.948	0.556	1.933																		

GRAFICI PROVA CPTU L





Committente: Geotema
 Cantiere: Microzonazione Sala Bolognese (BO)
 Data: 19/09/2016

ID Prova: CPTU M PADULLE
 Profondità falda: a mt 2.70 da p.c.
 Coordinate: 44.629967 - 11.274504

Profondità massima raggiunta: 20.00 mt
 Punta sismica: Tecnopenta G1-CPL2IN - SISMI
 RIF. 127/16GF

Prova eseguita da:
Geo.FE. S.n.c.
 via dell'Artigianato ,2 44030 - Ro Ferrarese (FE)
 tel 3383646278 - info@geofe.it - www.geofe.it
 Responsabile dati: Dott.Geol.Zanella Fabio
 Responsabile cantiere: Sig. Mangherini Alberto

Prof.	RP	RL	PN	Incl.	V.avanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz
metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec
0.020	16.907	0.026	0.126	2.472	2.100	1.660	23.840	1.735	0.183	0.206	2.244	3.300	7.447	0.177	0.066	0.356	1.941	4.940	4.876	0.119	0.691	0.433	2.419	6.580	7.379	0.402	1.859	0.372	2.175	6.600	7.274	0.374	1.858	0.366	2.151
0.040	18.582	0.157	0.138	2.605	2.191	1.680	22.390	1.671	0.158	0.213	2.442	3.320	7.581	0.171	0.072	0.369	2.432	4.960	4.851	0.111	0.696	0.432	2.573	6.620	7.247	0.347	1.852	0.371	2.391	6.620	7.247	0.347	1.852	0.371	2.391
0.060	18.994	0.295	0.130	2.600	2.100	1.700	21.397	1.439	0.112	0.213	2.117	3.340	8.179	0.166	0.084	0.378	2.610	4.980	4.879	0.093	0.706	0.421	2.487	6.640	6.910	0.326	1.829	0.375	2.230	6.640	6.910	0.326	1.829	0.375	2.230
0.080	19.073	0.401	0.129	2.652	1.960	1.720	20.757	1.447	0.010	0.209	2.117	3.360	8.597	0.168	0.092	0.369	2.510	5.000	4.777	0.078	0.720	0.421	2.307	6.660	6.730	0.324	1.826	0.377	2.137	6.660	6.730	0.324	1.826	0.377	2.137
0.100	19.253	0.512	0.127	2.610	2.188	1.740	19.833	1.406	0.010	0.209	2.182	3.380	8.940	0.182	0.097	0.369	2.449	5.020	5.218	0.067	0.743	0.419	2.385	6.680	6.434	0.305	1.954	0.381	2.117	6.680	6.434	0.305	1.954	0.381	2.117
0.120	20.286	0.635	0.116	2.521	2.061	1.760	18.572	1.399	0.010	0.139	1.996	3.400	9.151	0.200	0.100	0.378	2.481	5.040	5.579	0.066	0.762	0.420	2.708	6.700	7.209	0.302	2.044	0.380	2.117	6.700	7.209	0.302	2.044	0.380	2.117
0.140	22.374	0.777	0.107	2.598	2.005	1.780	17.363	1.379	0.112	0.144	2.188	3.420	9.157	0.227	0.099	0.376	2.583	5.060	5.943	0.070	0.783	0.419	2.340	6.720	8.190	0.281	2.159	0.380	2.231	6.720	8.190	0.281	2.159	0.380	2.231
0.160	25.055	0.928	0.131	2.498	2.060	1.800	15.738	1.311	0.010	0.143	2.234	3.440	8.572	0.280	0.090	0.387	2.504	5.080	6.126	0.092	0.788	0.419	2.346	6.740	9.118	0.283	2.277	0.380	2.443	6.740	9.118	0.283	2.277	0.380	2.443
0.180	30.828	1.057	0.173	2.415	1.951	1.820	14.087	1.218	0.010	0.157	2.055	3.460	8.140	0.327	0.084	0.387	2.482	5.100	5.792	0.116	0.789	0.414	2.605	6.760	10.125	0.254	2.385	0.390	2.171	6.760	10.125	0.254	2.385	0.390	2.171
0.200	37.578	1.138	0.168	2.360	1.896	1.840	12.666	1.137	0.010	0.152	2.293	3.480	8.017	0.349	0.081	0.381	2.577	5.120	5.897	0.123	0.797	0.417	2.534	6.780	10.770	0.251	2.435	0.401	2.216	6.780	10.770	0.251	2.435	0.401	2.216
0.220	43.969	1.148	0.227	2.266	2.051	1.860	11.633	1.037	0.010	0.153	2.218	3.500	7.740	0.365	0.076	0.380	2.498	5.140	5.952	0.133	0.798	0.402	2.408	6.800	11.363	0.258	2.414	0.400	2.475	6.800	11.363	0.258	2.414	0.400	2.475
0.240	46.361	1.209	0.249	2.218	2.037	1.880	10.676	0.924	0.010	0.158	2.024	3.520	7.490	0.378	0.076	0.384	2.538	5.160	5.543	0.150	0.796	0.398	2.247	6.820	11.802	0.274	2.487	0.400	2.173	6.820	11.802	0.274	2.487	0.400	2.173
0.260	49.886	1.234	0.280	2.174	1.892	1.900	10.442	0.818	0.010	0.156	2.297	3.540	6.956	0.356	0.068	0.386	2.363	5.180	5.391	0.153	0.790	0.403	2.600	6.840	12.344	0.303	2.528	0.402	2.213	6.840	12.344	0.303	2.528	0.402	2.213
0.280	55.318	1.172	0.318	2.121	2.079	1.920	10.002	0.717	0.010	0.155	2.153	3.560	6.549	0.338	0.062	0.384	2.795	5.200	4.853	0.169	0.774	0.400	2.516	6.860	12.449	0.371	2.538	0.410	2.162	6.860	12.449	0.371	2.538	0.410	2.162
0.300	61.437	0.994	0.371	2.065	1.799	1.940	9.589	0.612	0.010	0.161	2.117	3.580	6.118	0.299	0.056	0.392	2.507	5.220	4.547	0.153	0.773	0.398	2.427	6.880	12.398	0.427	2.536	0.409	2.340	6.880	12.398	0.427	2.536	0.409	2.340
0.320	69.260	0.892	0.435	2.016	1.990	1.960	9.512	0.531	0.112	0.154	2.187	3.600	5.713	0.254	0.057	0.386	2.399	5.240	4.626	0.135	0.789	0.391	2.260	6.900	11.936	0.519	2.499	0.419	2.184	6.900	11.936	0.519	2.499	0.419	2.184
0.340	80.035	0.733	0.556	1.967	2.028	1.980	9.281	0.454	0.010	0.158	2.278	3.620	5.797	0.206	0.060	0.378	2.340	5.260	4.707	0.126	0.805	0.383	2.684	6.920	11.679	0.565	2.451	0.417	2.151	6.920	11.679	0.565	2.451	0.417	2.151
0.360	85.544	0.821	0.586	1.924	2.013	2.000	8.846	0.400	0.010	0.155	2.165	3.640	5.802	0.181	0.063	0.381	2.726	5.280	5.019	0.116	0.824	0.376	2.498	6.940	11.294	0.624	2.404	0.421	2.382	6.940	11.294	0.624	2.404	0.421	2.382
0.380	87.401	0.754	0.621	1.883	2.244	2.020	8.642	0.372	0.010	0.159	2.142	3.660	5.808	0.163	0.067	0.386	2.461	5.300	5.073	0.115	0.832	0.372	2.396	6.960	11.527	0.654	2.436	0.420	2.226	6.960	11.527	0.654	2.436	0.420	2.226
0.400	90.522	0.855	0.642	1.835	1.958	2.040	8.286	0.350	0.112	0.160	2.382	3.680	4.215	-0.002	0.025	0.438	2.117	5.320	5.256	0.110	0.842	0.366	2.385	6.980	11.786	0.700	2.460	0.422	2.173	6.980	11.786	0.700	2.460	0.422	2.173
0.420	97.639	0.804	0.736	1.802	2.251	2.060	7.956	0.327	0.010	0.164	2.226	3.700	7.206	0.159	0.064	0.429	2.353	5.340	5.337	0.100	0.853	0.366	2.505	7.000	11.914	0.718	2.496	0.426	2.376	7.000	11.914	0.718	2.496	0.426	2.376
0.440	91.791	0.915	0.678	1.741	2.080	2.080	7.603	0.298	0.010	0.155	2.137	3.720	6.847	0.164	0.065	0.436	2.148	5.360	5.340	0.097	0.861	0.356	2.474	7.020	11.681	0.739	2.529	0.431	2.244	7.020	11.681	0.739	2.529	0.431	2.244
0.460	80.547	1.200	0.630	1.697	2.053	2.100	7.095	0.280	0.010	0.149	2.447	3.740	6.901	0.168	0.076	0.443	2.344	5.380	5.472	0.106	0.871	0.358	2.290	7.040	11.423	0.724	2.517	0.441	2.174	7.040	11.423	0.724	2.517	0.441	2.174
0.480	79.161	1.311	0.650	1.661	2.225	2.120	6.821	0.257	0.010	0.158	2.183	3.760	7.033	0.160	0.086	0.445	2.310	5.400	5.269	0.116	0.874	0.357	2.674	7.060	11.652	0.705	2.527	0.446	2.319	7.060	11.652	0.705	2.527	0.446	2.319
0.500	69.601	1.508	0.589	1.623	2.026	2.140	6.548	0.234	0.010	0.160	2.268	3.780	7.396	0.151	0.100	0.447	2.379	5.420	5.298	0.115	0.888	0.354	2.359	7.080	11.057	0.696	2.498	0.450	2.255	7.080	11.057	0.696	2.498	0.450	2.255
0.520	73.654	1.447	0.658	1.582	2.166	2.160	6.765	0.209	0.010	0.156	2.323	3.800	7.320	0.164	0.107	0.442	2.247	5.440	5.585	0.103	0.899	0.358	2.407	7.100	10.721	0.656	2.494	0.439	2.164	7.100	10.721	0.656	2.494	0.439	2.164
0.540	73.010	1.338	0.670	1.544	2.158	2.180	6.802	0.206	0.010	0.155	2.231	3.820	6.987	0.165	0.114	0.450	2.502	5.460	5.537	0.114	0.909	0.356	2.311	7.120	10.512	0.598	2.528	0.441	2.302	7.120	10.512	0.598	2.528	0.441	2.302
0.560	71.380	1.324	0.689	1.482	2.057	2.200	7.432	0.188	0.010	0.165	2.260	3.840	7.013	0.148	0.122	0.448	2.330	5.480	5.798	0.117	0.927	0.357	2.588	7.140	10.561	0.539	2.572	0.441	2.162	7.140	10.561	0.539	2.572	0.441	2.162
0.580	64.284	1.634	0.654	1.467	2.225	2.220	8.246	0.186	0.112	0.152	2.188	3.860	6.759	0.127	0.133	0.452	2.161	5.500	5.955	0.114	0.944	0.348	3.208	7.160	10.377	0.483	2.603	0.447	2.201	7.160	10.377	0.483	2.603	0.447	2.201
0.600	58.479	1.522	0.618	1.444	2.163	2.240	8.798	0.188	0.010	0.163	2.544	3.880	6.709	0.121	0.146	0.451	2.304	5.520	6.294	0.108	0.966	0.343	1.862	7.180	10.220	0.456	2.634	0.433	2.225	7.180	10.220	0.456	2.634	0.433	2.225
0.620	61.383	1.332	0.705	1.406	2.015	2.260	9.455	0.178	0.010	0.163	2.303	3.900	6.866	0.121	0.157	0.453	2.469	5.540	6.581	0.113	0.976	0.340	2.401	7.200	10.0										



Committente: Geotema
 Cantiere: Microzonazione Sala Bolognese (BO)
 Data: 19/09/2016

ID Prova: CPTU M PADULLE
 Profondita falda: a mt 2.70 da p.c.
 Coordinate: 44.629967 - 11.274504

Profondità massima raggiunta: 20.00 mt
 Punta sismica: Tecnopenta G1-CPL2IN - SISMI
 RIF. 127/16GF

Prova eseguita da:
Geo.FE. S.n.c.
 via dell'Artigianato ,2 44030 - Ro Ferrarese (FE)
 tel 3383646278 - info@geofe.it - www.geofe.it
 Responsabile dati: Dott.Geol.Zanella Fabio
 Responsabile cantiere: Sig. Mangherini Alberto

Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
8.220	11.611	0.157	4.092	0.586	2.082	9.860	8.306	0.137	4.185	0.677	2.462	11.500	7.753	0.122	4.123	0.631	2.003	13.140	8.542	0.181	5.171	0.359	2.107	14.780	7.462	0.126	4.665	0.475	2.255	14.800	7.358	0.110	4.843	0.485	2.219	14.820	7.692	0.088	5.024	0.490	2.337	14.840	7.898	0.079	5.101	0.488	2.296	14.860	8.181	0.086	5.196	0.487	2.255	14.880	8.851	0.085	5.393	0.484	2.239	14.900	9.442	0.102	5.615	0.490	2.276	14.920	9.392	0.100	5.607	0.496	2.385	14.940	9.494	0.124	5.491	0.498	2.214	14.960	9.648	0.159	5.403	0.502	2.244	14.980	9.287	0.214	5.275	0.498	2.323	15.000	9.442	0.240	5.261	0.510	2.266	15.020	9.132	0.289	5.191	0.510	2.279	15.040	8.874	0.334	5.090	0.518	2.208	15.060	8.744	0.336	5.155	0.521	2.415	15.080	8.795	0.319	5.257	0.519	2.290	15.200	9.078	0.298	5.339	0.530	2.173	15.120	9.179	0.274	5.305	0.524	2.195	15.140	9.255	0.281	5.418	0.526	2.358	15.160	9.898	0.243	5.614	0.521	2.339	15.180	10.516	0.231	5.735	0.532	2.176	15.200	10.900	0.243	5.855	0.528	2.237	15.220	11.311	0.264	5.866	0.530	2.432	15.240	11.231	0.292	5.869	0.533	2.205	15.260	10.663	0.309	5.731	0.542	2.271	15.280	10.223	0.307	5.631	0.545	2.251	15.300	10.015	0.327	5.587	0.542	2.314	15.320	9.730	0.339	5.583	0.544	2.237	15.340	9.522	0.349	5.598	0.549	2.164	15.360	9.340	0.338	5.591	0.547	2.379	15.380	9.672	0.300	5.695	0.547	2.335	15.400	9.773	0.287	5.816	0.543	2.110	15.420	10.055	0.273	5.925	0.549	2.428	15.440	10.027	0.258	5.995	0.542	2.195	15.460	9.973	0.255	5.919	0.550	2.216	15.480	9.661	0.273	5.715	0.552	2.392	15.500	9.195	0.295	5.555	0.556	2.290	15.520	8.987	0.307	5.379	0.556	2.269	15.540	8.083	0.338	5.047	0.558	2.140	15.560	7.334	0.365	4.898	0.563	2.352	15.580	7.074	0.342	4.810	0.563	2.284	15.600	6.531	0.333	4.731	0.560	2.206	15.620	4.491	0.137	4.127	0.546	2.117	15.640	6.502	0.221	4.613	0.562	2.291	15.660	6.580	0.180	4.648	0.569	2.287	15.680	6.297	0.150	4.629	0.569	2.365	15.700	6.246	0.128	4.631	0.563	2.573	15.720	6.142	0.105	4.647	0.568	2.356	15.740	6.091	0.088	4.668	0.573	2.452	15.760	5.937	0.079	4.691	0.569	2.448	15.780	5.860	0.072	4.721	0.576	2.410	15.800	5.886	0.055	4.793	0.586	2.311	15.820	5.964	0.043	4.866	0.581	2.332	15.840	5.938	0.038	4.879	0.582	2.312	15.860	5.862	0.035	4.894	0.583	2.600	15.880	5.837	0.031	4.949	0.586	2.468	15.900	5.941	0.032	5.018	0.592	2.346	15.920	6.097	0.028	5.130	0.586	2.323	15.940	6.458	0.027	5.271	0.584	2.600	15.960	6.949	0.027	5.466	0.591	2.351	15.980	7.801	0.040	5.534	0.592	2.268	16.000	8.549	0.047	5.322	0.591	2.349	16.020	9.066	0.055	5.402	0.591	2.574	16.040	9.144	0.060	5.417	0.595	2.416	16.060	8.398	0.089	4.832	0.597	2.338	16.080	8.167	0.103	4.947	0.595	2.371	16.100	8.168	0.109	5.124	0.598	2.528	16.120	8.634	0.095	5.304	0.604	2.336	16.140	9.047	0.082	5.487	0.598	2.330	16.160	8.636	0.079	5.357	0.593	2.538	16.180	7.864	0.086	5.184	0.591	2.404	16.200	7.529	0.085	5.212	0.597	2.338	16.220	7.736	0.064	5.385	0.591	2.401	16.240	7.788	0.061	5.470	0.606	2.294	16.260	7.584	0.074	5.380	0.594	2.584	16.280	7.225	0.093	5.388	0.591	2.388	16.300	7.560	0.088	5.579	0.586	2.330	16.320	8.051	0.069	5.724	0.595	2.407	16.340	8.025	0.072	5.752	0.597	2.477	16.360	7.872	0.069	5.748	0.598	2.383	16.380	7.743	0.078	5.692	0.595	2.353	16.400	7.616	0.081	5.696	0.600	2.400



Committente: Geotema
 Cantiere: Microzonazione Sala Bolognese (BO)
 Data: 19/09/2016

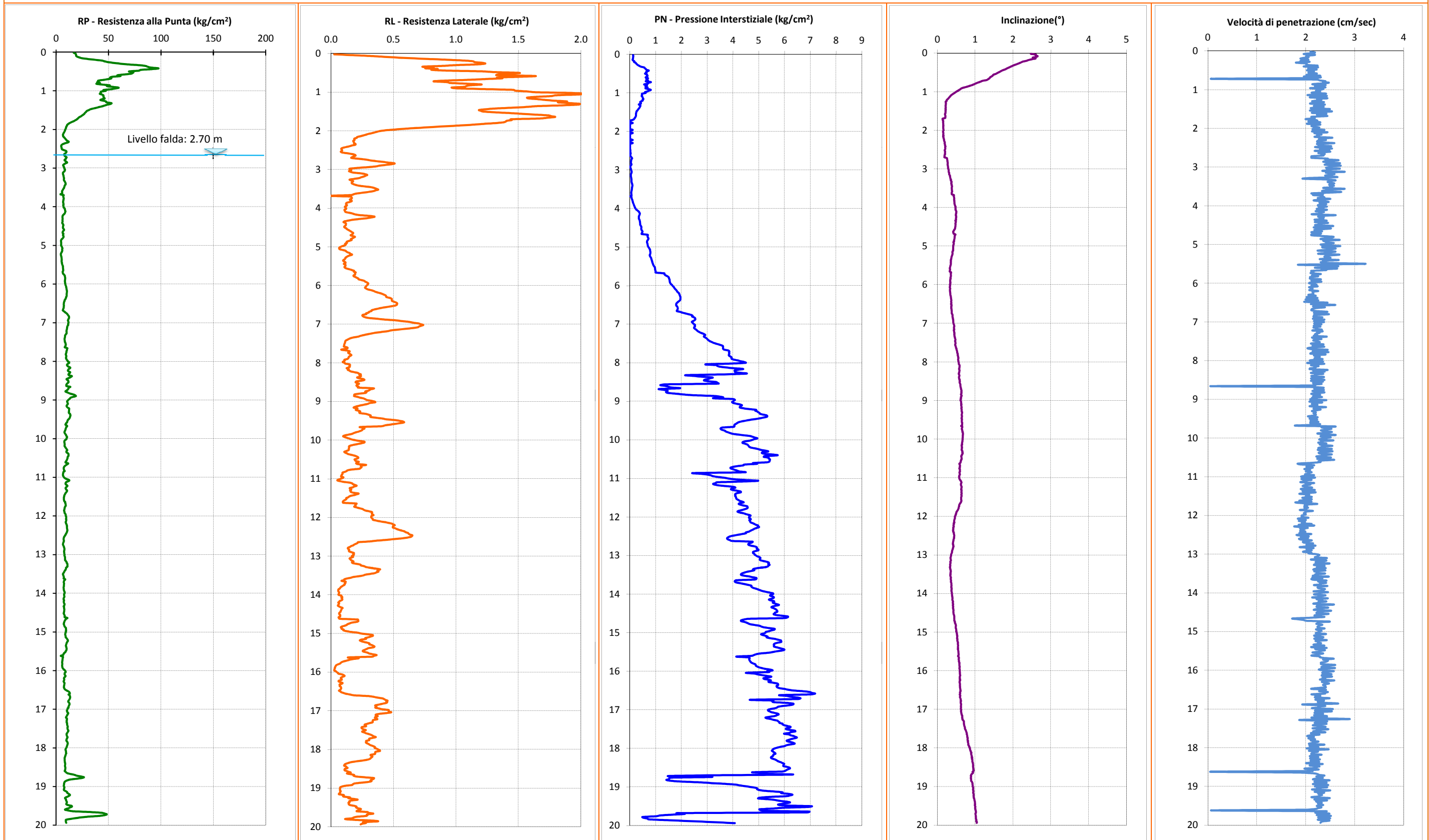
ID Prova: CPTU M PADULLE
 Profondita falda: a mt 2.70 da p.c.
 Coordinate: 44.629967 - 11.274504

Profondità massima raggiunta: 20.00 mt
 Punta sismica: Tecnopenta G1-CPL2IN - SISMI
 RIF. 127/16GF

Prova eseguita da:
GEO.FE. S.n.c.
 via dell'Artigianato ,2 44030 - Ro Ferrarese (FE)
 tel 3383646278 - info@geofe.it - www.geofe.it
 Responsabile dati: Dott.Geol.Zanella Fabio
 Responsabile cantiere: Sig. Mangherini Alberto

Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	Prof.	RP	RL	PN	Incl.	Vavanz	
metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	metri	kg/cm ²	kg/cm ²	kg/cm ²	Gradi °	cm/sec	
16.420	7.564	0.082	5.728	0.598	2.399	18.060	9.091	0.358	5.509	0.871	2.139	19.700	46.300	0.292	2.131	1.007	2.481													
16.440	7.488	0.079	5.814	0.601	2.410	18.080	9.450	0.353	5.541	0.881	2.067	19.720	48.361	0.281	1.637	1.009	2.350													
16.460	7.901	0.073	6.014	0.604	2.214	18.100	9.551	0.355	5.585	0.885	2.251	19.740	46.324	0.210	1.177	1.013	2.229													
16.480	8.236	0.064	6.142	0.609	2.117	18.120	9.447	0.351	5.628	0.901	2.141	19.760	41.376	0.180	1.027	1.015	2.515													
16.500	9.088	0.076	6.362	0.607	2.410	18.140	9.729	0.318	5.646	0.893	2.127	19.780	30.783	0.171	0.489	1.021	2.280													
16.520	10.377	0.083	6.753	0.616	2.399	18.160	9.391	0.320	5.568	0.894	2.115	19.800	23.618	0.113	0.529	1.021	2.257													
16.540	11.795	0.101	6.986	0.608	2.273	18.180	9.133	0.332	5.565	0.902	2.324	19.820	18.231	0.181	0.684	1.021	2.496													
16.560	12.621	0.121	7.055	0.597	2.451	18.200	9.002	0.328	5.546	0.905	2.142	19.840	13.385	0.330	0.723	1.022	2.394													
16.580	13.109	0.155	7.185	0.604	2.368	18.220	8.640	0.319	5.489	0.915	2.085	19.860	9.543	0.377	1.354	1.032	2.247													
16.600	13.008	0.185	7.009	0.598	2.396	18.240	8.484	0.314	5.472	0.907	2.256	19.880	9.336	0.258	2.096	1.033	2.484													
16.620	11.901	0.301	5.818	0.593	2.117	18.260	8.173	0.298	5.505	0.924	2.160	19.900	9.387	0.281	2.798	1.029	2.359													
16.640	12.906	0.342	6.092	0.606	2.297	18.280	8.198	0.267	5.595	0.912	2.093	19.920	9.436	0.252	3.455	1.046	2.311													
16.660	13.242	0.374	6.230	0.605	2.196	18.300	8.274	0.222	5.668	0.924	2.291	19.940	9.743	0.237	4.072	1.041	2.301													
16.680	13.423	0.412	6.476	0.597	2.297	18.320	8.170	0.177	5.715	0.924	2.123	19.960	9.690	0.183	4.366	1.045	2.465													
16.700	13.422	0.427	6.620	0.604	2.190	18.340	8.323	0.148	5.771	0.927	2.102	19.980	9.250	0.157	4.426	1.048	2.393													
16.720	13.190	0.437	6.531	0.612	2.488	18.360	8.375	0.130	5.854	0.927	2.275	20.000	8.912	0.155	4.388	1.063	2.270													
16.740	12.879	0.453	4.668	0.619	2.279	18.380	8.426	0.113	5.914	0.939	2.165																			
16.760	12.439	0.443	5.565	0.616	2.199	18.400	8.708	0.108	5.984	0.939	2.010																			
16.780	11.922	0.450	5.521	0.626	2.373	18.420	8.786	0.105	5.973	0.942	2.346																			
16.800	11.610	0.440	5.562	0.618	2.293	18.440	8.606	0.121	5.955	0.948	2.117																			
16.820	11.968	0.410	6.067	0.618	2.250	18.460	8.479	0.124	5.954	0.944	2.083																			
16.840	12.636	0.383	6.341	0.618	2.400	18.480	8.608	0.133	6.091	0.944	2.280																			
16.860	12.839	0.355	6.338	0.627	2.650	18.500	8.815	0.112	6.189	0.948	2.186																			
16.880	12.862	0.357	6.201	0.628	1.939	18.520	8.792	0.109	6.211	0.949	2.221																			
16.900	12.444	0.364	5.945	0.625	2.233	18.540	8.845	0.110	6.144	0.955	1.974																			
16.920	12.107	0.355	5.759	0.623	2.401	18.560	8.718	0.127	6.082	0.951	2.264																			
16.940	11.793	0.383	5.712	0.627	2.258	18.580	8.590	0.143	6.032	0.961	2.085																			
16.960	11.866	0.409	5.624	0.624	2.278	18.600	8.232	0.158	5.928	0.955	2.138																			
16.980	11.012	0.462	5.460	0.622	2.134	18.620	9.124	0.127	4.764	0.929	0.046																			
17.000	10.906	0.460	5.361	0.624	2.554	18.640	9.898	0.157	5.127	0.944	1.799																			
17.020	10.645	0.466	5.362	0.632	2.258	18.660	11.162	0.185	5.111	0.931	2.156																			
17.040	10.306	0.482	5.418	0.625	2.195	18.680	14.591	0.181	6.277	0.903	2.242																			
17.060	10.586	0.442	5.484	0.627	2.534	18.700	17.786	0.203	3.027	0.893	2.276																			
17.080	10.815	0.385	5.612	0.633	2.205	18.720	19.719	0.266	1.469	0.885	2.382																			
17.100	11.609	0.359	5.736	0.633	2.181	18.740	23.687	0.344	3.205	0.893	2.218																			
17.120	11.426	0.358	5.771	0.641	2.352	18.760	26.598	0.342	1.583	0.891	2.311																			
17.140	10.829	0.374	5.703	0.643	2.337	18.780	24.511	0.328	1.533	0.884	2.345																			
17.160	10.568	0.356	5.629	0.658	2.172	18.800	19.228	0.316	1.510	0.892	2.187																			
17.180	10.102	0.352	5.435	0.657	2.431	18.820	13.301	0.325	1.418	0.893	2.153																			
17.200	9.634	0.365	5.263	0.659	2.428	18.840	10.879	0.300	1.588	0.893	2.486																			
17.220	9.502	0.370	5.308	0.656	2.117	18.860	9.177	0.243	1.966	0.897	2.290																			
17.240	10.349	0.338	5.470	0.665	2.336	18.880	8.196	0.190	2.683	0.918	2.184																			
17.260	10.425	0.334	5.571	0.663	2.894	18.900	7.937	0.176	3.164	0.924	2.425																			
17.280	10.343	0.334	5.718	0.677	1.890	18.920	7.601	0.169	3.673	0.929	2.311																			
17.300	10.031	0.332	5.755	0.697	2.219	18.940	7.651	0.115	4.094	0.928	2.148																			
17.320	10.209	0.307	5.803	0.702	2.438	18.960	7.522	0.088	4.264	0.933	2.456																			
17.340	10.027	0.287	5.802	0.701	2.274	18.980	7.366	0.074	4.472	0.936	2.311																			
17.360	10.540	0.270	5.919	0.700	2.188	19.000	7.545	0.073	4.665	0.936	2.190																			
17.380	10.565	0.277	5.923	0.705	2.425	19.020	7.930	0.073	4.853	0.948	2.439																			
17.400	10.537	0.281	5.993	0.706	2.274	19.040	7.826	0.071	4.946	0.948	2.231																			
17.420	10.820	0.248	6.105	0.712	2.145	19.060	7.645	0.073	4.935	0.948	2.300																			
17.440	11.076	0.244	6.230	0.716	2.291	19.080	7.413	0.078	5.025	0.942	2.131																			
17.460	11.204	0.249	6.213	0.727	2.407	19.100	7.799	0.073	5.219	0.950	2.498																			
17.480	10.791	0.261	6.067																											

GRAFICI PROVA CPTU M



SONDAGGIO CON PRELIEVO DI CAMPIONI

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121 Ferrara
CANTIERE: Via Antonio Labriola, Stelloni - 40010 Sala Bolognese (BO)

PERFORAZIONE: S1

C. SITO N°:

PROFONDITA': 20.00 m

ESECUZIONE: 07/09/16

OPERATORE: FORMISANO

RIVESTIMENTO: 19.50 m

COMMESSA: 15289/16

RESPONSABILE: PAVANI

QUOTA: p.c.

 Indisturbato
 Rimaneggiato
 Ambientale

 S.P.T
 Lefranc
 Vane Test

METRI	METRI da P.C.	LITOLOGIA	DESCRIZIONE STRATIGRAFICA	CAMPIONI		P.P. KPa	T.V. KPa	PROVE		METODO E UTENSILE	FALDA	PIEZOMETRO
				TIPO	PROF.			TIPO	PROF.			
	0,55		Terreno vegetale rimaneggiato									
1	1,40		Argilla limosa compatta di colore marrone da chiaro a scuro, con tracce di laterizi			500						
2	2,40		Limo sabbioso molle colore nocciola; ultimi 30 cm di materiale molle con presenza di granuli di ghiaia di dimensioni da millimetriche a centimetriche			125					2,10	
	2,50		Lente di sabbia media marrone con ghiaia									
3	3,00		Limo argilloso marrone con screziature nerastre organiche			270						
4	3,00		Alternanza di limo sabbioso marrone chiaro a sabbia limosa marrone chiaro	Cr 1	3,00	150						
5	5,00		Sabbia media marrone		5,00							
6	5,20		Limo argilloso grigio marrone compatto con screziature arancio e tracce di sostanza organica			270						
7	5,75		Limo argilloso debolmente sabbioso marrone	Sh 1	6,00	210						
	6,60		Limo sabbioso colore marrone chiaro con parti grigie	Cr 2	6,60	50						
	6,70				6,70	140						
	7,20		Limo argilloso debolmente sabbioso marrone con concrezioni millimetriche calcaree			230						
	7,60		Lente limoso sabbiosa									
8	8,30		Limo sabbioso molle di colore da marrone a grigio			25						
	8,50		Limo argilloso debolmente sabbioso marrone			150						
9	9,30		Limo argilloso mediamente compatto grigio			75						
	9,30					125						
10			Limo sabbioso molle grigio			50						



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tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it
P.IVA e Codice Fiscale n. 00174600387

④ Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121 Ferrara

CANTIERE: Via Antonio Labriola, Stelloni - 40010 Sala Bolognese (BO)

PERFORAZIONE: S1

C. SITO N°:

PROFONDITA': 20.00 m

ESECUZIONE: 07/09/16

OPERATORE: FORMISANO

RIVESTIMENTO: 19.50 m

COMMESSA: 15289/16

RESPONSABILE: PAVANI

QUOTA: p.c.

Indisturbato
 Rimaneggiato
 Ambientale

S.P.T
 Lefranc
 Vane Test

METRI	METRI da P.C.	LITOLOGIA	DESCRIZIONE STRATIGRAFICA	CAMPIONI		P.P. KPa	T.V. KPa	PROVE		METODO E UTENSILE	FALDA	PIEZOMETRO
				TIPO	NUM. PROF.			TIPO	NUM. PROF.			
10	10.10					100						
	10.50		Limo argilloso grigio con tracce di sostanza organica			75						
11	11.20		Limo sabbioso molle grigio									
	11.70		Limo argilloso grigio			125						
12	11.90		Sabbia limosa grigia	Cr	3							
	12.40		Limo sabbioso grigio									
	12.55		Limo argilloso grigio			50						
13	13.40		Limo sabbioso grigio			75						
	13.55		Sabbia medio fine grigia									
14	14.75		Limo sabbioso debolmente argilloso grigio			50						
15	15.10		Sabbia medio fine grigia	Cr	4							
	15.50		Sabbia limosa grigia									
16	16.45		Limo sabbioso grigio			50						
17			Limo argilloso grigio con tracce di sostanza organica e legno			50						
18	18.65			Sh	2							
19			Limo argilloso grigio con legno			50						
20						130						
						125						

UBICAZIONE

LOCALITA': Via Antonio Labriola, Stelloni - 40010 Sala Bolognese (PERFORAZIONE: S1

UBICAZIONE: Lat.: 44.345563°

Long.: 11.142994°

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121 Ferrara

CANTIERE: Via Antonio Labriola, Stelloni - 40010 Sala Bolognese (BO)

PERFORAZIONE: S1

C. SITO N°:

PROFONDITA': 20.00 m

ESECUZIONE: 07/09/16

OPERATORE: FORMISANO

RIVESTIMENTO: 19.50 m

COMMESSA: 15289/16

RESPONSABILE: PAVANI

QUOTA: p.c.

Indisturbato
 Rimaneggiato
 Ambientale

S.P.T
 Lefranc
 Vane Test



COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121 Ferrara

CANTIERE: Via Antonio Labriola, Stelloni - 40010 Sala Bolognese (BO)

PERFORAZIONE: S1

C. SITO N°:

PROFONDITA': 20.00 m

ESECUZIONE: 07/09/16

OPERATORE: FORMISANO

RIVESTIMENTO: 19.50 m

COMMESSA: 15289/16

RESPONSABILE: PAVANI

QUOTA: p.c.

<input type="checkbox"/>	Indisturbato	<input type="checkbox"/>	S.P.T
<input checked="" type="checkbox"/>	Rimaneggiato	<input type="checkbox"/>	Lefranc
<input type="checkbox"/>	Ambientale	<input type="checkbox"/>	Vane Test



ANALISI DI LABORATORIO



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA

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P IVA e Codice Fiscale n. 00174600387

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SCHEDA GENERALE DEL CAMPIONE

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**
 CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**
 CAMPIONE: **S1 CR1 m 3.00 - 5.00**
 COMMESSA: 15289/16
 VERBALE ACC.: 557/16
 DATA CONSEGNA: 09/09/16

il campione è stato conservato in vasca umida termostatica

bilancia cod. 480 - stufa 567 - picnometro 545

alto 3.00	LUNGHEZZA (cm): - GRADO DI QUALITA': AGI Q3 EC 7-3 Q3
	DESCRIZIONE: Sabbia medio fine limosa marrone grigiato
	W naturale (%) 25.6
	γ naturale (Mg/m ³) -
	γ secco (Mg/m ³) -
	γ immerso (Mg/m ³) -
	porosità (%) -
	indice dei vuoti -
	grado di saturazione (%) -
	massa specifica (Mg/m ³) (stimato) 2.700
	PROVE ESEGUITE
	Umidità Naturale - Trassiale UU -
Limiti Atterberg SI Trassiale CIU -	
Gran. Setacciatura SI Edometria -	
Gran. Sedimentazione SI Taglio Diretto -	
Peso di Volume - Espansione L.L. -	
Peso Specifico - Trassiale Cicl. + C.M. -	
Analisi Chimica - Colonna Risonante -	
	Taglio Torsionale Cicl. -
	NOTE: -
5.00 basso	

Io Sperimentatore
dott.geol. Luciano Rossi

Il Direttore del Laboratorio terre
dott. geol. Massimo Romagnoli



elletipi s.r.l.

Sede legale ed operativa: Via Annibale Zucchini, 69 - 44100 FERRARA

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P IVA e Codice Fiscale n. 00174600387

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ANALISI GRANULOMETRICA

(per setacciatura e sedimentazione) norma A.S.T.M. D 422

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 CR1 m 3.00 - 5.00**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: 0 rev.00 del: 00/01/00

il campione è stato conservato in vasca umida termostatica

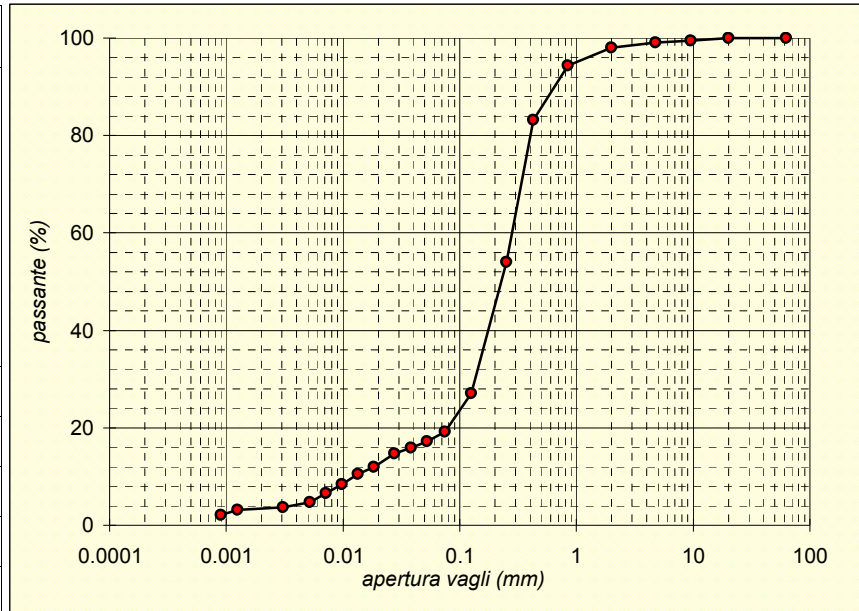
Codici strumentazione: bilancia 480, stufa 567, picnometro 151H, densimetro 348, mescolatore 432.

ASPETTO MACROSCOPICO DEL CAMPIONE:

Sabbia medio fine limosa marrone grigiato

codici	vaglic	trattenut	trattenut	cum. tratt.	passante
	(mm)	(g)	(%)	(%)	(%)
571	setaccio	63	0.00	0.00	100.00
572	setaccio	20	0.00	0.00	100.00
573	setaccio	9.51	2.79	0.56	99.44
290	setaccio	4.75	1.54	0.31	99.13
291	setaccio	2.0	5.33	1.07	98.06
292	setaccio	0.850	18.43	3.70	94.36
293	setaccio	0.425	55.68	11.17	83.19
282	setaccio	0.250	145.67	29.23	53.96
283	setaccio	0.125	134.17	26.92	27.04
286	setaccio	0.075	38.99	7.82	19.22
-	calcolato	0.0525	10.18	2.04	17.18
-	calcolato	0.0381	6.07	1.22	15.96
-	calcolato	0.0276	6.07	1.22	14.74
-	calcolato	0.0184	13.65	2.74	12.00
-	calcolato	0.0134	7.59	1.52	10.48
-	calcolato	0.0098	10.62	2.13	8.35
-	calcolato	0.0071	9.10	1.83	6.52
-	calcolato	0.0052	9.10	1.83	4.70
-	calcolato	0.0030	4.82	0.97	3.73
-	calcolato	0.0013	3.03	0.61	3.12
-	calcolato	0.0009	4.82	0.97	2.15
-	fondo	10.73	2.15	100.00	0.00
TOTALE			498.39		φ max (mm) = 12.6

Passante effettivo setaccio 0.075 (g) in areometro	50.01	
1° C	Tempo (s)	Letture
24	30	31.0
24	60	29.0
24	120	27.0
24	300	22.5
24	600	20.0
24	1200	16.5
24	2400	13.5
24	4800	10.5
23.5	14400	9.0
23.5	86400	8.0
23	172800	6.5
Rapporti granulometrici		
USCS		
GHIAIA	> 4,75 mm	> 2,00 mm
	0.9%	1.9%
SABBIA	> 0,075 mm	> 0,063 mm
	79.9%	79.8%
LIMO	> 2 μ	> 2 μ
	15.8%	14.8%
ARGILLA	< 2 μ	< 2 μ
	3.4%	3.4%



Soluzione disperdente preparata al momento

Io Sperimentatore
dott.geol. Luciano Ross

Il Direttore del Laboratorio
dott. geol. Massimo Romagno



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA
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LIMITI DI ATTERBERG (norma UNI CEN ISO/TS 17892-12)

COMMITTENTE:	GEOTEMA S.r.l. - via Piangipane 141/5 - 44121		
CANTIERE:	Via Antonio Labriola, Stelloni - Sala Bolognese (BO)		
CAMPIONE:	S1 CR1	m 3.00 - 5.00	
COMMESSA:	15289/16	DURATA PROVE:	09/09 - 06/12/16
VERBALE ACC.:	557/16	DATA CONSEGNA:	09/09/16
GEO - CERT. n°:	0	rev.00 del:	00/01/00

il campione è stato conservato in vasca umida termostatica

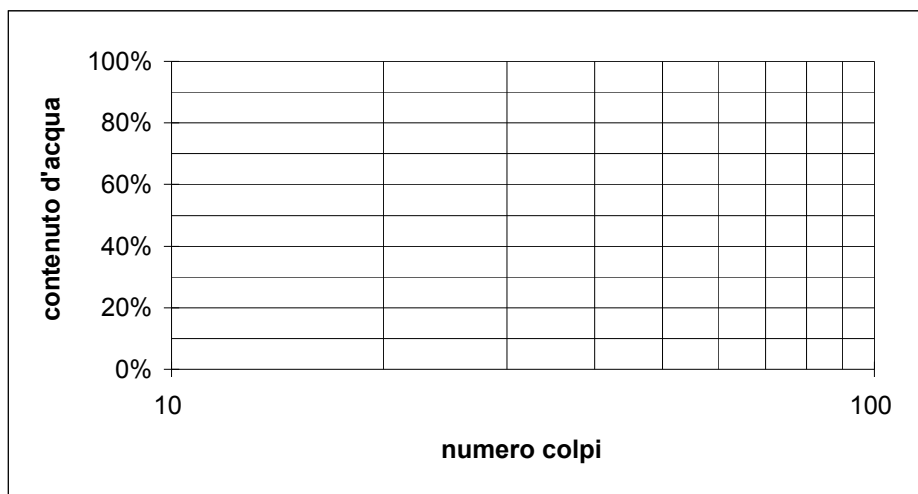
ASPETTO MACROSCOPICO DEL CAMPIONE:

Sabbia medio fine limosa marrone grigiastro

codice cucchiaino: 344; codice bilancia: 480.

	LIMITE LIQUIDO			LIMITE PLASTICO		UMIDITA'
	1	2	3	1	2	
impasto						
N° colpi						
massa umida+ tara (g)						1032.68
massa secca+ tara (g)						905.14
acqua contenuta (g)	NON DETERMINABILE			NON PLASTICO		127.54
tara (g)						406.75
peso secco (g)						498.39
contenuto d'acqua						25.6%

Umidità Naturale **Wn = 26%**
Limite Liquido **LL = nd**
Limite Plastico **LP = np**
Indice Plastico **IP = nd**



Io Sperimentatore:
dott.geol. Luciano Rossi

Il Direttore del Laboratorio terre:
dott. geol. Massimo Romagnoli



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SCHEDA GENERALE DEL CAMPIONE

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**
 CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**
 CAMPIONE: **S1 SH1 m 6.00 - 6.60**
 COMMESSA: 15289/16
 VERBALE ACC.: 557/16
 DATA CONSEGNA: 09/09/16

il campione è stato conservato in vasca umida termostatica

bilancia cod. 480 - stufa 567 - picnometro 545

alto 6.00	P.P. kPa	T.V. kPa	LUNGHEZZA (cm): 55	DESCRIZIONE: Limo con argilla sabbioso marrone grigiastro		
			GRADO DI QUALITA': AGI Q5 EC 7-3 Q1			
	170	80	W naturale (%)	25.9		
			γ naturale (Mg/m ³)	1.97		
			γ secco (Mg/m ³)	1.57		
			γ immerso (Mg/m ³)	0.99		
			porosità (%)	42		
			indice dei vuoti	0.72		
	200	86	grado di saturazione (%)	97		
			massa specifica stimata (Mg/m ³)	2.700		
			PROVE ESEGUITE			
			Umidità Naturale	SI	Trassiale UU	-
			Limiti Atterberg	SI	Trassiale CIU	SI
			Gran. Setacciatura	SI	Edometria	-
			Gran. Sedimentazione	SI	Taglio Diretto	-
			Peso di Volume	SI	Espansione L.L.	-
			Peso Specifico	-	Trassiale Cicl. + C.M.	-
			Analisi Chimica	-	Colonna Risonante	SI
					Taglio Torsionale Cicl.	-
NOTE: -						
6.60 basso						

Io Sperimentatore
dott.geol. Luciano Rossi

Il Direttore del Laboratorio terre
dott. geol. Massimo Romagnoli



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ANALISI GRANULOMETRICA

(per setacciatura e sedimentazione) norma A.S.T.M. D 422

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH1 m 6.00 - 6.60**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: 0 rev.00 del: 00/01/00

il campione è stato conservato in vasca umida termostatica

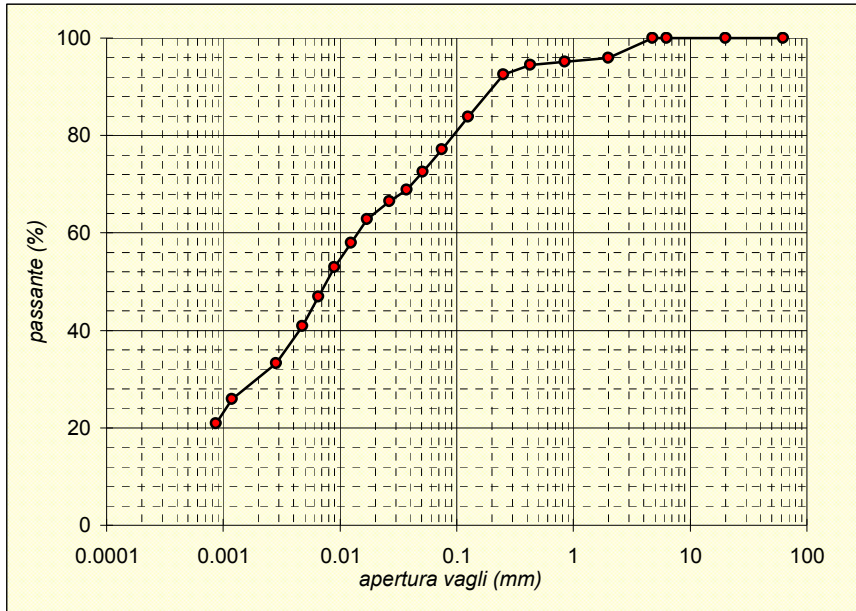
Codici strumentazione: bilancia 480, stufa 567, picnometro 151H, densimetro 348, mescolatore 432.

ASPETTO MACROSCOPICO DEL CAMPIONE:

Limo con argilla sabbioso marrone grigiastro

codici	vaglic	trattenut	trattenut	cum. tratt.	passante
	(mm)	(g)	(%)	(%)	(%)
571	setaccio 63	0.00	0.00	0.00	100.00
572	setaccio 20	0.00	0.00	0.00	100.00
573	setaccio 6.3	0.00	0.00	0.00	100.00
290	setaccio 4.75	0.00	0.00	0.00	100.00
291	setaccio 2.0	6.33	4.09	4.09	95.91
292	setaccio 0.850	1.29	0.83	4.92	95.08
293	setaccio 0.425	0.91	0.59	5.51	94.49
282	setaccio 0.250	2.97	1.92	7.43	92.57
283	setaccio 0.125	13.58	8.77	16.20	83.80
286	setaccio 0.075	10.41	6.72	22.92	77.08
-	calcolato 0.0514	7.01	4.53	27.45	72.55
-	calcolato 0.0371	5.67	3.66	31.12	68.88
-	calcolato 0.0266	3.78	2.44	33.56	66.44
-	calcolato 0.0172	5.67	3.66	37.22	62.78
-	calcolato 0.0124	7.56	4.88	42.10	57.90
-	calcolato 0.0090	7.56	4.88	46.98	53.02
-	calcolato 0.0066	9.45	6.10	53.09	46.91
-	calcolato 0.0048	9.45	6.10	59.19	40.81
-	calcolato 0.0028	11.67	7.54	66.73	33.27
-	calcolato 0.0012	11.34	7.32	74.05	25.95
-	calcolato 0.0009	7.89	5.10	79.15	20.85
-	fondo	32.27	20.85	100.00	0.00
TOTALE		154.81		φ max (mm) = 3.0	

Passante effettivo setaccio 0.075 (g) in areometro	50.01		
1° C	Tempo (s)	Lettura	
24	30	32.5	
24	60	31.0	
24	120	30.0	
24	300	28.5	
24	600	26.5	
24	1200	24.5	
24	2400	22.0	
24	4800	19.5	
23.5	14400	16.5	
23.5	86400	13.5	
23	172800	11.5	
Rapporti granulometrici			
USCS			UNI
GHIAIA	> 4,75 mm	> 2,00 mm	
	0.0%	4.1%	
SABBIA	> 0,075 mm	> 0,063 mm	
	22.9%	20.9%	
LIMO	> 2 μ	> 2 μ	
	46.8%	44.7%	
ARGILLA	< 2 μ	< 2 μ	
	30.3%	30.3%	



Soluzione disperdente preparata al momento

Io Sperimentatore
dott.geol. Luciano Ross

Il Direttore del Laboratorio
dott. geol. Massimo Romagno

LIMITI DI ATTERBERG (norma UNI CEN ISO/TS 17892-12)

COMMITTENTE:	GEOTEMA S.r.l. - via Piangipane 141/5 - 44121		
CANTIERE:	Via Antonio Labriola, Stelloni - Sala Bolognese (BO)		
CAMPIONE:	S1 SH1	m 6.00 - 6.60	
COMMESSA:	15289/16	DURATA PROVE:	09/09 - 06/12/16
VERBALE ACC.:	557/16	DATA CONSEGNA:	09/09/16
GEO - CERT. n°:	0	rev.00 del:	00/01/00

il campione è stato conservato in vasca umida termostatica

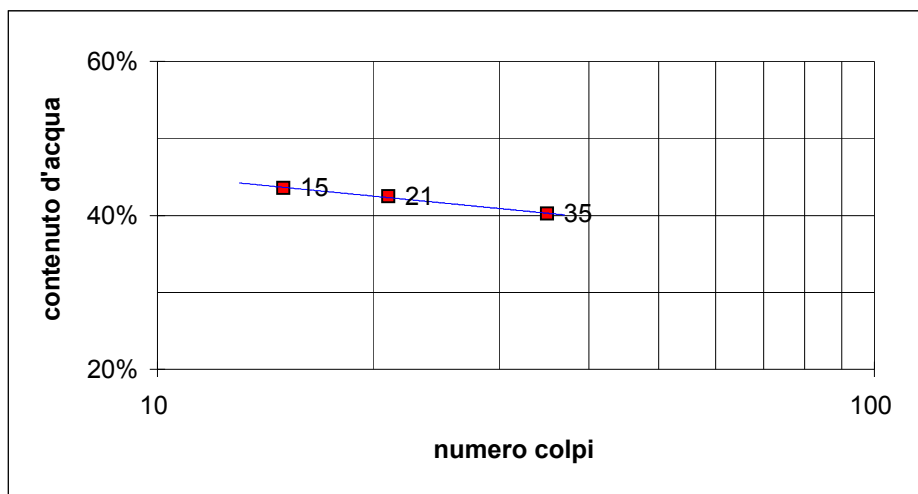
ASPETTO MACROSCOPICO DEL CAMPIONE:

Limo con argilla sabbioso marrone grigiastro

codice cucchiaino: 344; codice bilancia: 480.

	LIMITE LIQUIDO			LIMITE PLASTICO		UMIDITA'
	1	2	3	1	2	
impasto						
N° colpi	35	21	15			
massa umida+ tara (g)	19.60	36.21	18.50	12.32	15.40	597.98
massa secca+ tara (g)	14.60	26.08	13.73	10.25	12.72	558.10
acqua contenuta (g)	5.00	10.13	4.77	2.07	2.68	39.88
tara (g)	2.16	2.24	2.77	2.17	2.35	403.29
peso secco (g)	12.44	23.84	10.96	8.08	10.37	154.81
contenuto d'acqua	40.2%	42.5%	43.5%	25.6%	25.8%	25.8%

Umidità Naturale	Wn =	26%
Limite Liquido	LL =	42%
Limite Plastico	LP =	26%
Indice Plastico	IP =	16%



Io Sperimentatore:
dott.geol. Luciano Rossi

Il Direttore del Laboratorio terre:
dott. geol. Massimo Romagnoli



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA

tel. 0532/56771; fax 0532/56119 e-mail: elletipi@libero.it sito: www.elletipi.it

® P IVA e Codice Fiscale n. 00174600387

Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC



UMIDITA' DI UNA TERRA

UNI EN ISO 17892-1

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH1 m 6.00 - 6.60**

COMMESSA: 15289/16

DURATA PROVE:

09/09 - 06/12/16

VERBALE ACC.: 557/16

DATA CONSEGNA:

09/09/16

GEO - CERT. n°: 0

rev.00 del:

00/01/00

il campione è stato conservato in vasca umida termostatica

ASPETTO MACROSCOPICO DEL CAMPIONE:

Limo con argilla sabbioso marrone grigiastro

cod.bilancia 480

DETERMINAZIONE	1	2
TARA (g)	403.29	391.17
TERRA UMIDA (g)	597.98	1201.28
TERRA ESSICATA* (g)	558.1	1034.13
UMIDITA' DETERMINATA (%)	25.8	26.0
UMIDITA' CALCOLATA (%)	=	25.9

* materiale essiccato in stufa a 105 - 110 °C, fino a massa costante.

lo Sperimentatore:

dott.geol. Luciano Rossi

Il Direttore del Laboratorio terre:

dott. geol. Massimo Romagnoli



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MASSA VOLUMICA APPARENTE

UNI EN ISO 17892-2

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH1 m 6.00 - 6.60**

COMMESSA: 15289/16

DURATA PROVE:

09/09 - 06/12/16

VERBALE ACC.: 557/16

DATA CONSEGNA:

09/09/16

GEO - CERT. n°: 0

rev.00 del:

00/01/00

il campione è stato conservato in vasca umida termostatica

ASPETTO MACROSCOPICO DEL CAMPIONE:

Limo con argilla sabbioso marrone grigiastro

cod.bilancia 480

DETERMINAZIONE	1	2
TARA (g)	595.290	137.98
ALTEZZA (cm)	14.00	7.62
DIAMETRO (cm)	7.00	3.84
MASSA LORDA (g)	1666.4	310.1
MASSA VOLUMICA (Mg/m ³)	1.99	1.96

MEDIA (Mg/m³) = 1.97

Io Sperimentatore:

dott.geol. Luciano Rossi

Il Direttore del Laboratorio terre:

dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121	Certificato di prova N°:
Località: Sala Bolognese (BO)	Verbale di accettazione N°: 557/16
Cantiere: Via Antonio Labriola, Stelloni	Commessa: 15289/16
Sondaggio: S1	Data ricevimento campione: 09/09/16
Campione: SH1	Data prova: 06/12/16
Profondità (m): 6.00 - 6.60	Data emissione certificato:

DATI INIZIALI			DATI DI PROVA			DATI FINALI		
Altezza:	140.00	mm	Tipo di campione:	Limo argilloso sabbioso marrone grigiastro		Altezza:	137.92	mm
Diametro:	70.00	mm		Fattore Raggio Eq.:	0,707	-	Diametro:	68.94
Raggio eq.:	24.745	mm	Coefficiente B:	0.92	%	Raggio eq.:	24.373	mm
Massa:	1071.1	g	Pressione cella:	562	kPa	Massa:	1047.1	g
W:	25.8	%	Contropressione:	450	kPa	W:	23.9	%
γ:	19.50	kN/m ³				γ:	20.34	kN/m ³
γ _s :	15.51	-				γ _s :	16.42	-
e:	0.71	-				e:	0.64	-

	Frequenza Risonanza (Hz)	Momento Torcente (Nm)	Def. Taglio max (%)	Vel. Onde Taglio V _s (m/s)	Modulo Taglio G (MPa)	G/G ₀	Rapporto Smorz. D (%)	ΔU/σ ³
Test 1*	150.20	0.0006	3.20E-05	182.62	66.29	1.000	3.93	0.000
Test 2	148.60	0.0010	5.60E-05	180.67	64.89	0.979	3.93	0.000
Test 3	147.80	0.0015	8.10E-05	179.70	64.19	0.968	3.96	0.000
Test 4	146.80	0.0050	2.85E-04	178.48	63.32	0.955	3.97	0.000
Test 5	146.40	0.0075	4.34E-04	178.00	62.98	0.950	4.02	0.000
Test 6	145.60	0.0100	5.69E-04	177.02	62.29	0.940	4.12	0.000
Test 7	145.00	0.0300	1.21E-03	176.29	61.78	0.932	4.08	0.000
Test 8	142.50	0.0500	2.62E-03	173.25	59.67	0.900	4.23	0.006
Test 9	139.50	0.0749	4.32E-03	169.61	57.18	0.863	4.61	0.024
Test 10	135.50	0.1000	5.86E-03	164.74	53.95	0.814	4.80	0.033
Test 11	132.00	0.1498	8.79E-03	160.49	51.20	0.772	5.37	0.040
Test 12	125.00	0.2498	1.43E-02	151.98	45.91	0.693	6.06	0.049
Test 13	118.50	0.3496	2.07E-02	144.07	41.26	0.622	7.60	0.058
Test 14	111.00	0.4992	3.01E-02	134.96	36.20	0.546	9.66	0.067
Test 15	101.50	0.6996	4.41E-02	123.41	30.27	0.457	11.49	0.088
Test 16	90.50	0.9500	6.32E-02	110.03	24.07	0.363	12.93	0.124
Test 17	80.50	1.2000	8.53E-02	97.87	19.04	0.287	15.23	0.149
Test 18	71.00	1.4999	1.15E-01	86.32	14.81	0.223	18.17	0.207
Test 19	62.50	1.7499	1.51E-01	75.99	11.48	0.173	19.63	0.267
Test 20	52.50	1.9996	2.18E-01	63.83	8.10	0.122	21.12	0.318

* Test 1 corrispondente al valore G₀

lo Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH1**

Profondità (m): **6.00 - 6.60**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

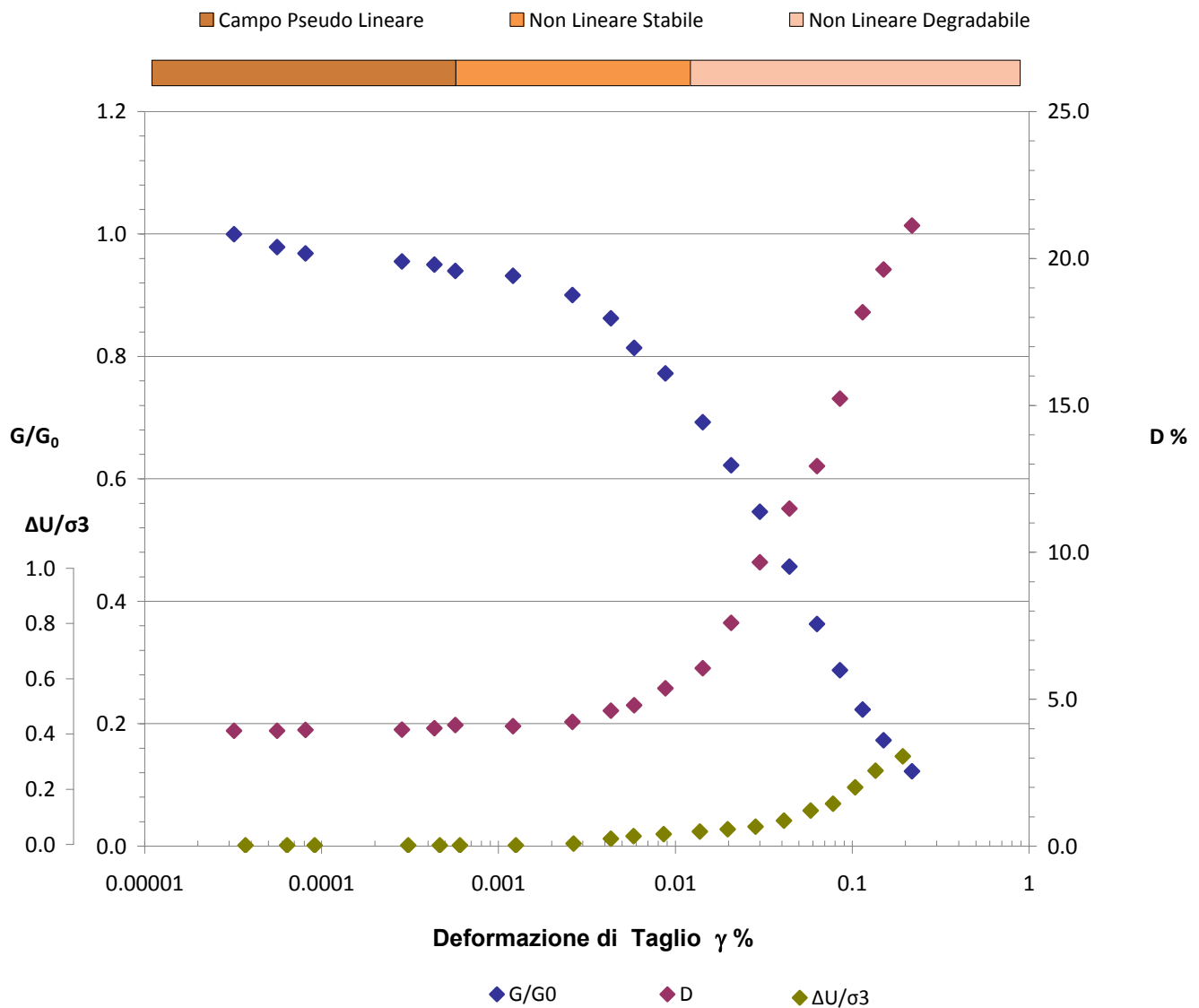
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

Data prova: **06/12/16**

Data emissione certificato:

Legge Costitutiva del Terreno



Io Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

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Verbale di accettazione N°: **557/16**

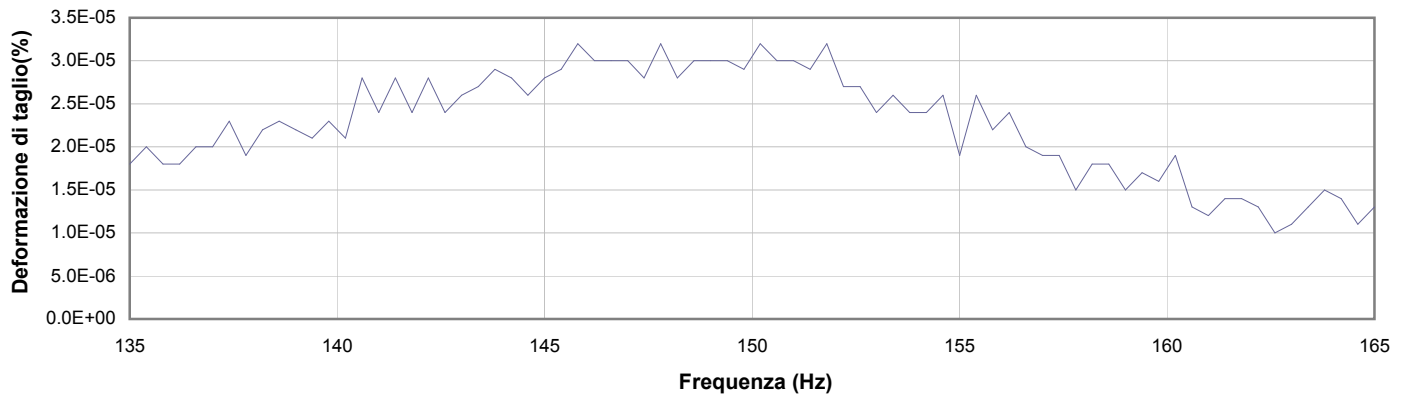
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Data ricevimento campione: **09/09/16**

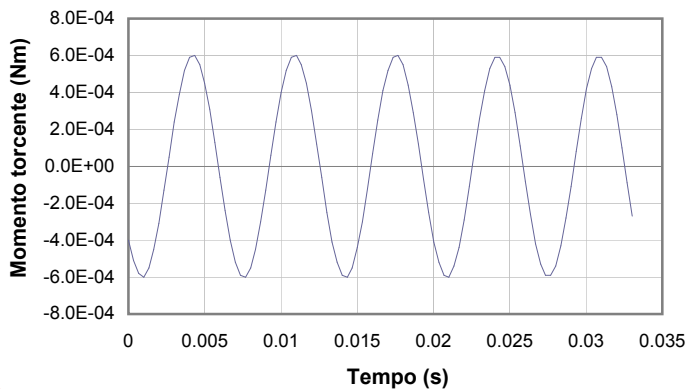
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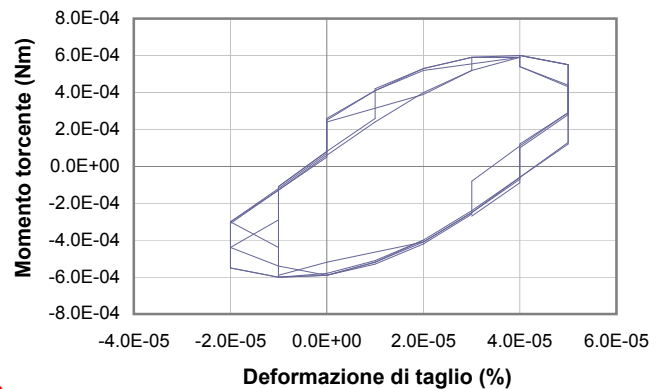
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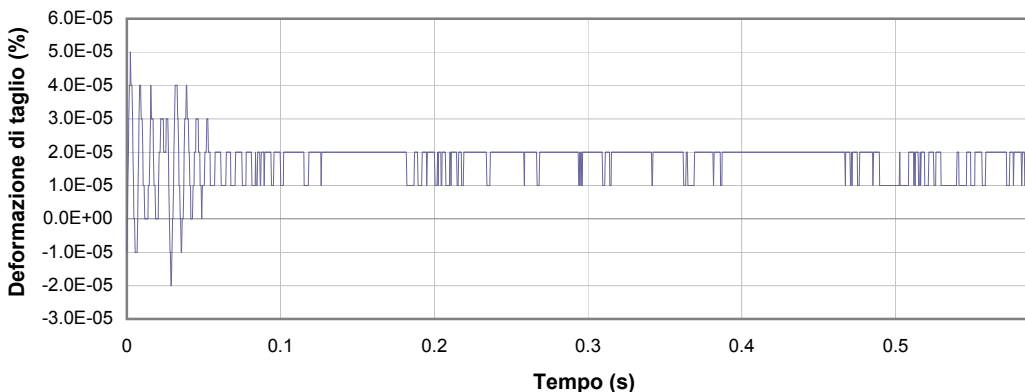
1



2



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4

1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

3 Cicli di isteresi alla frequenza di risonanza

4 Smorzamento per oscillazioni libere

Io Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

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Cantiere: **Via Antonio Labriola, Stelloni**

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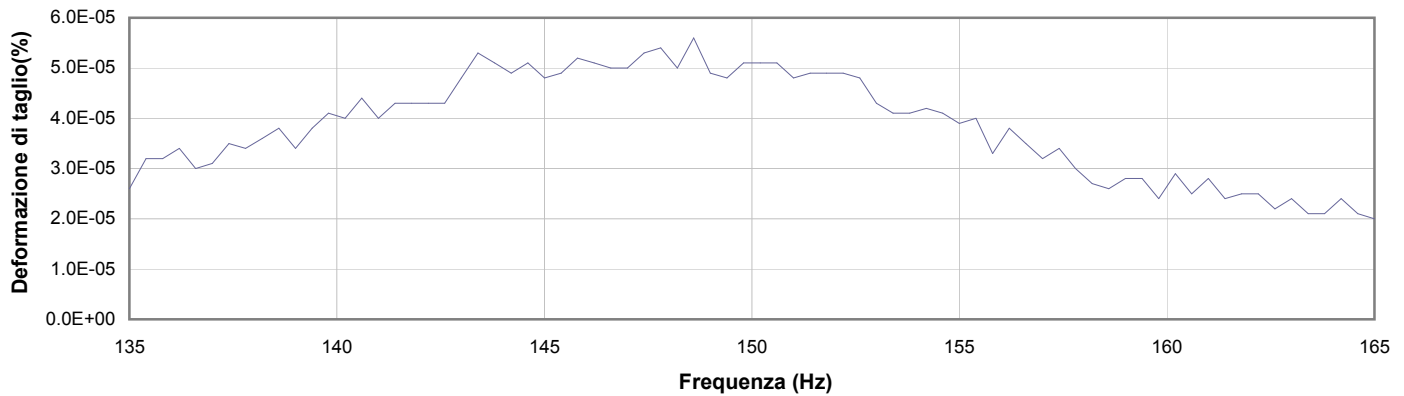
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Data ricevimento campione: **09/09/16**

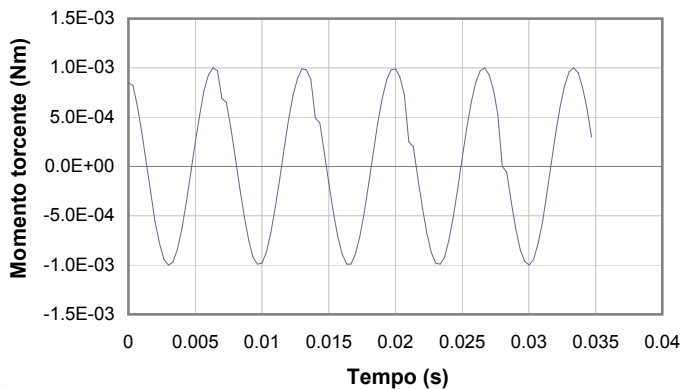
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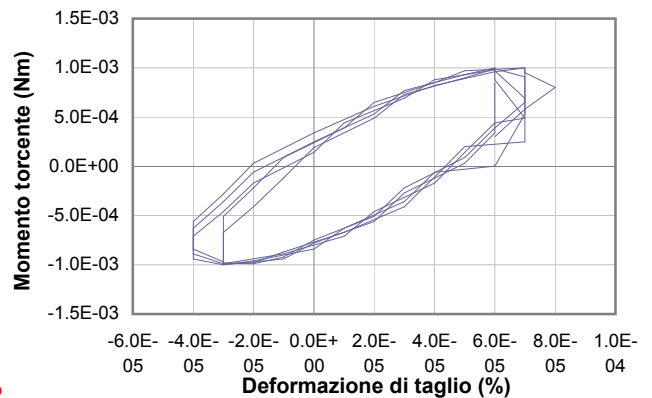
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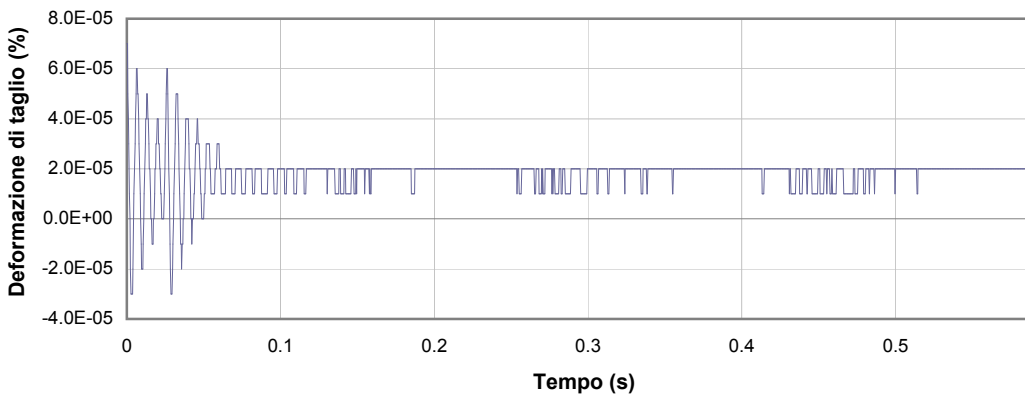
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4

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Io Sperimentatore:
dott. Luciano Rossi

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PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121

Località: Sala Bolognese (BO)

Cantiere: Via Antonio Labriola, Stelloni

Sondaggio: S1

Campione: SH1

Profondità (m): 6.00 - 6.60

Certificato di prova N°:

Verbale di accettazione N°: 557/16

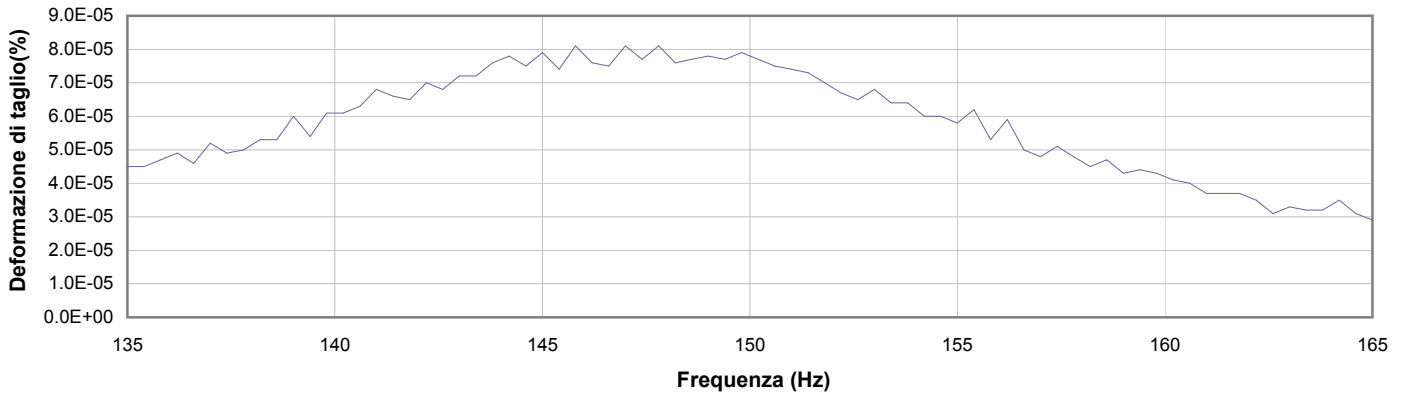
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Data ricevimento campione: 09/09/16

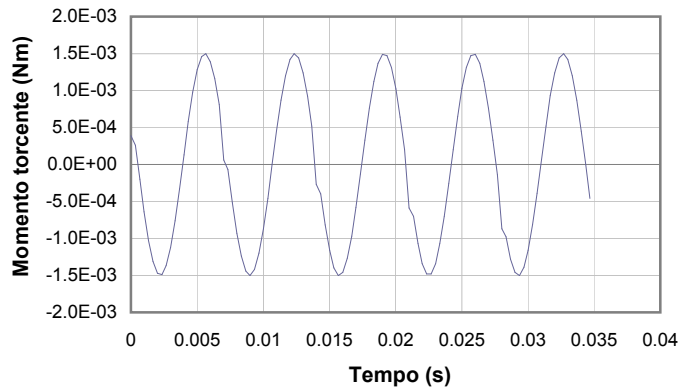
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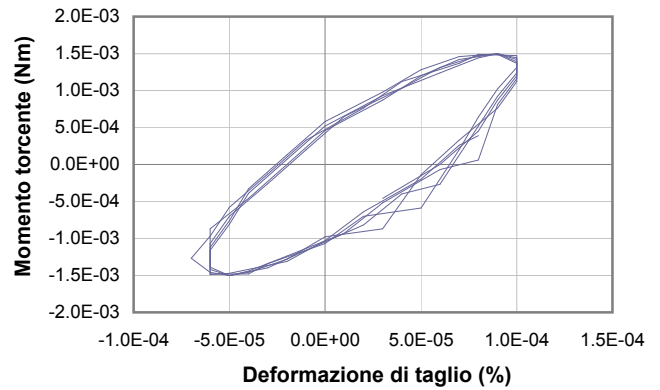
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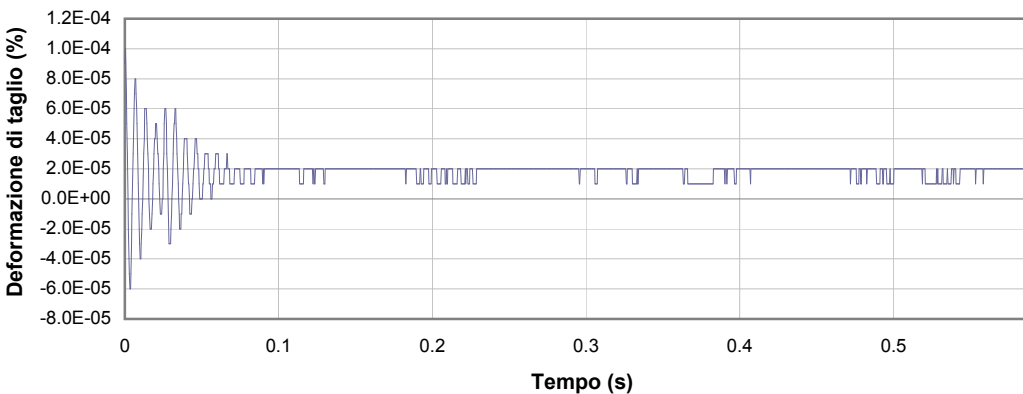
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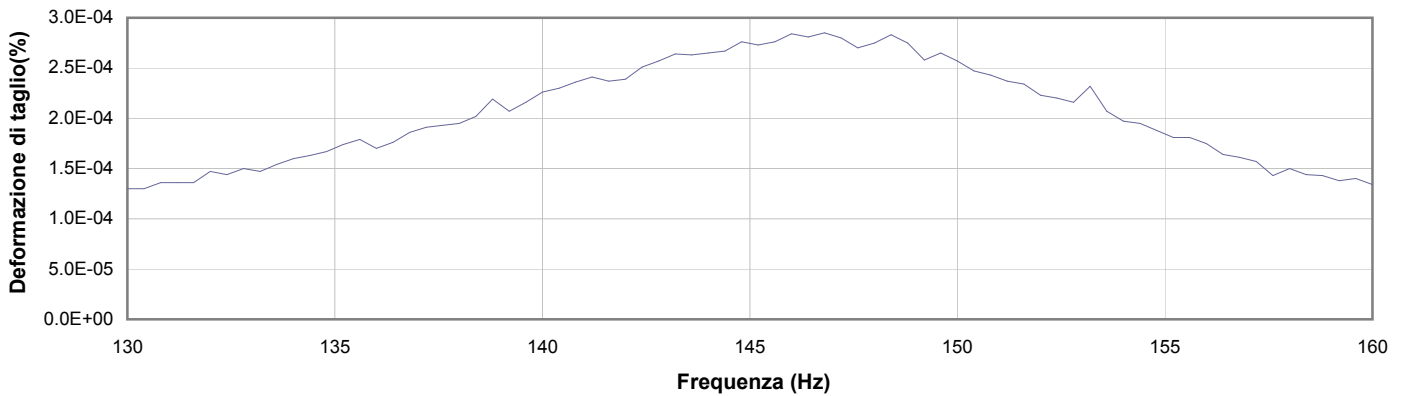
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Data ricevimento campione: **09/09/16**

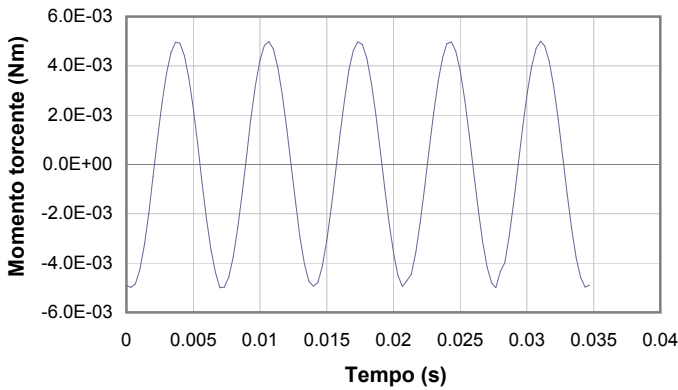
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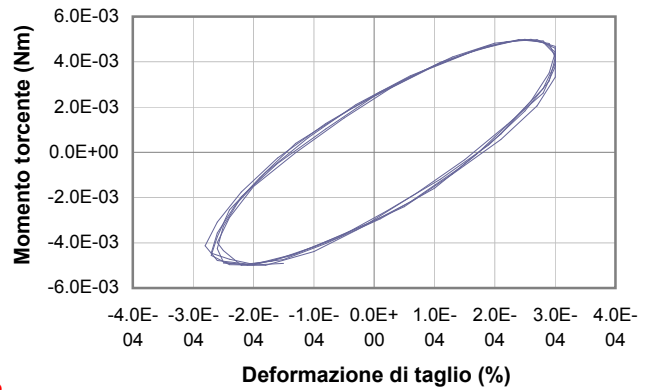
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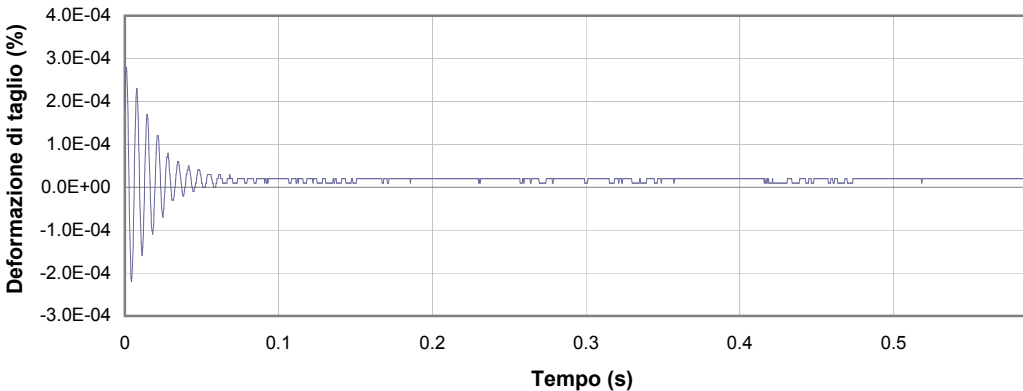
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4

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Io Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
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PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH1**

Profondità (m): **6.00 - 6.60**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

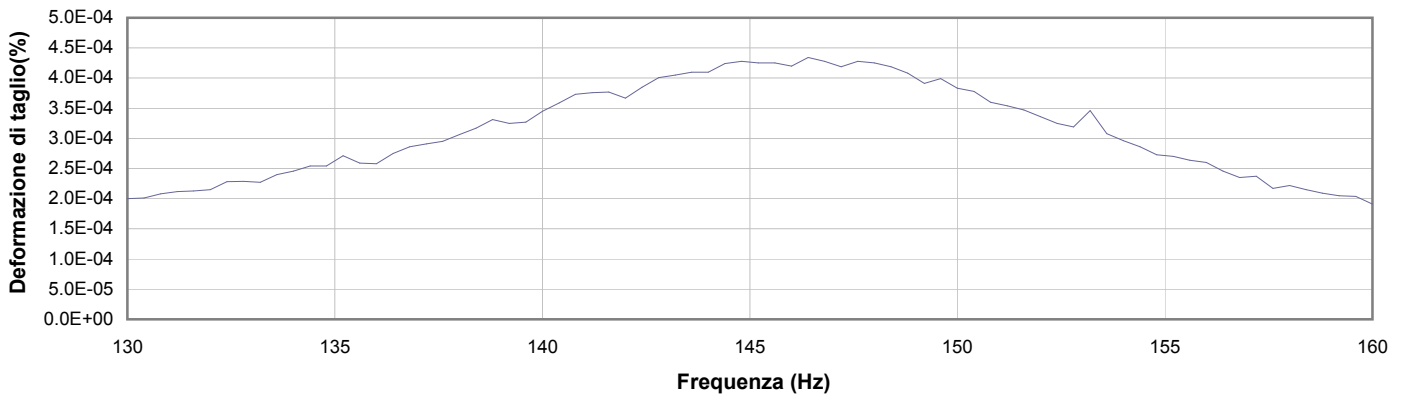
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Data ricevimento campione: **09/09/16**

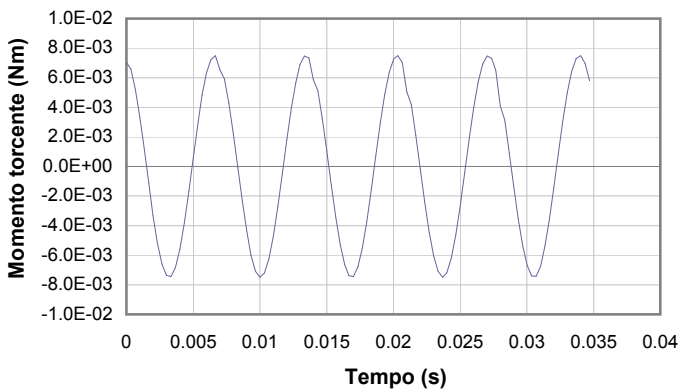
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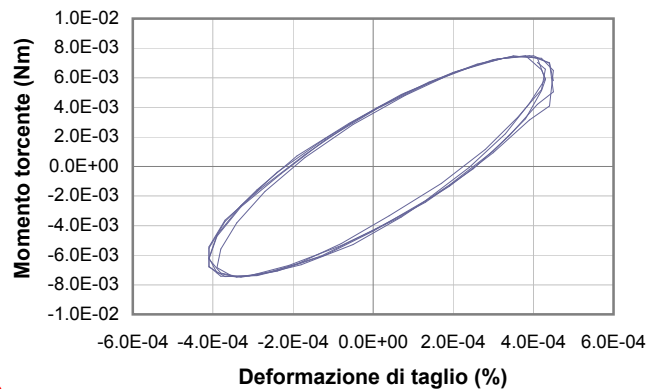
Test 5



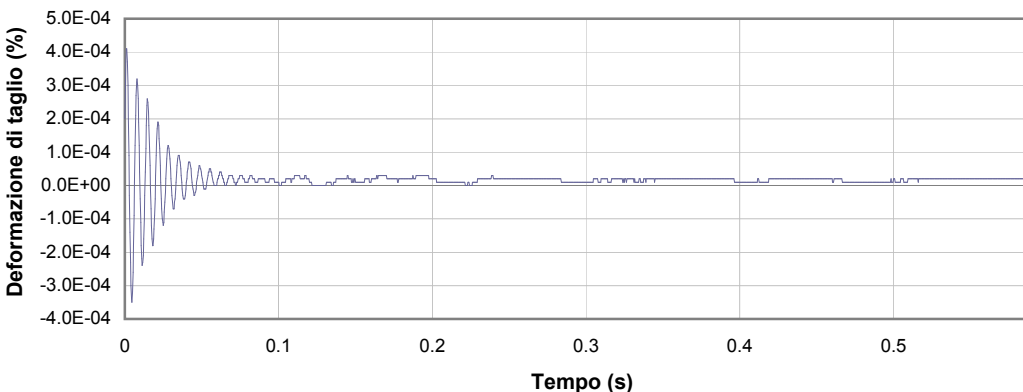
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4

1 Campo delle frequenze indagate

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3 Cicli di isteresi alla frequenza di risonanza

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Io Sperimentatore:
dott. Luciano Rossi

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PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH1**

Profondità (m): **6.00 - 6.60**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

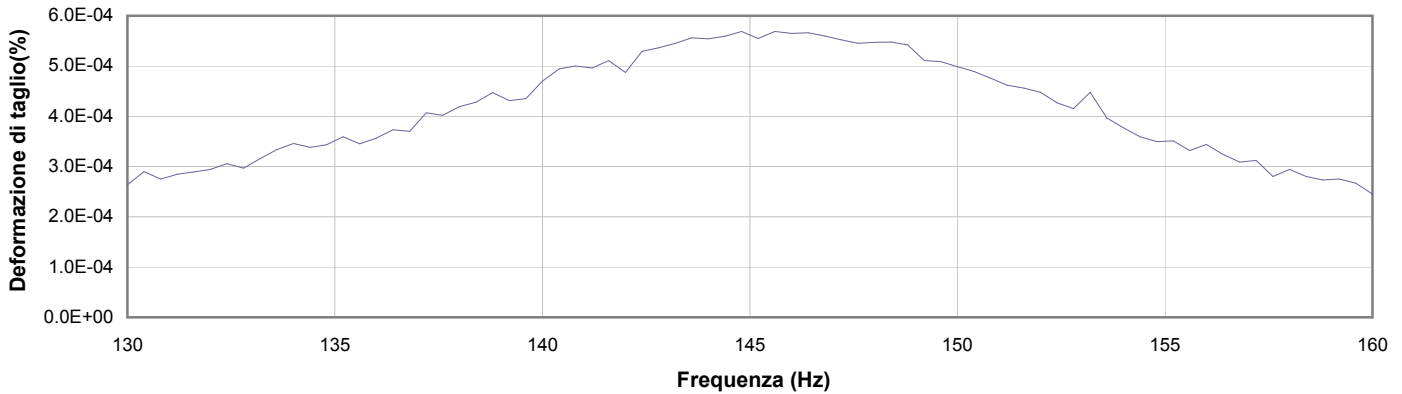
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Data ricevimento campione: **09/09/16**

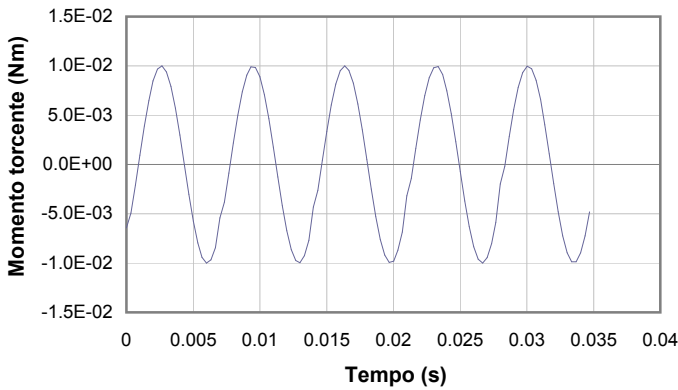
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Data emissione certificato:

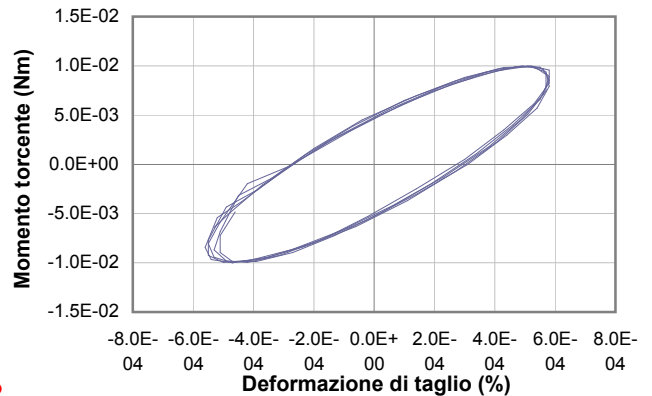
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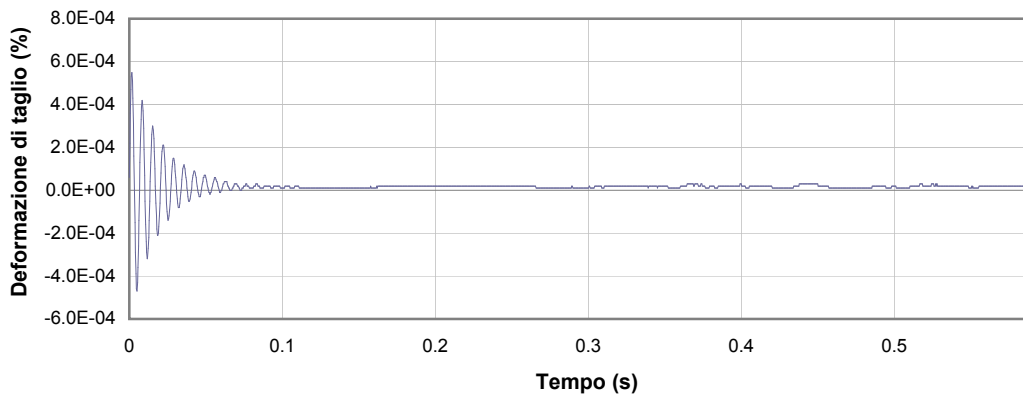
1



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4

1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

3 Cicli di isteresi alla frequenza di risonanza

4 Smorzamento per oscillazioni libere

Io Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH1**

Profondità (m): **6.00 - 6.60**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

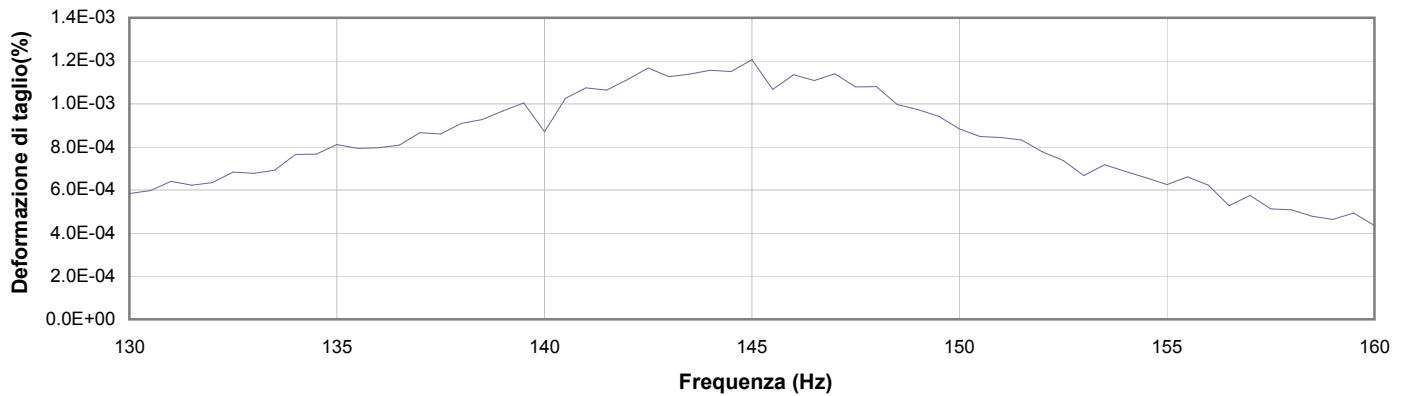
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

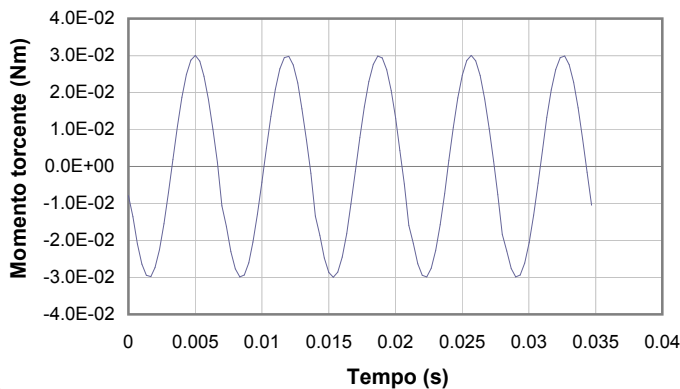
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Data emissione certificato:

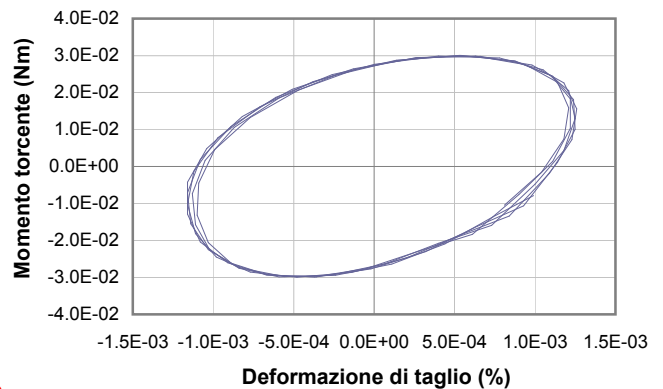
Test 7



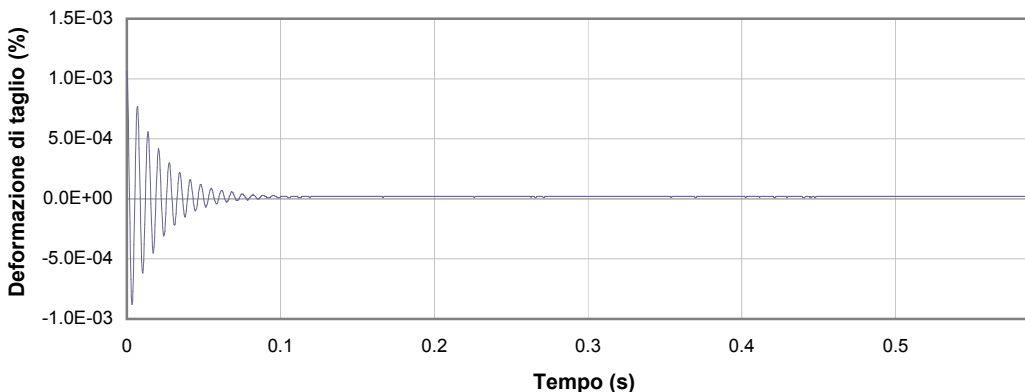
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2



3



4

1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

3 Cicli di isteresi alla frequenza di risonanza

4 Smorzamento per oscillazioni libere

Io Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH1**

Profondità (m): **6.00 - 6.60**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

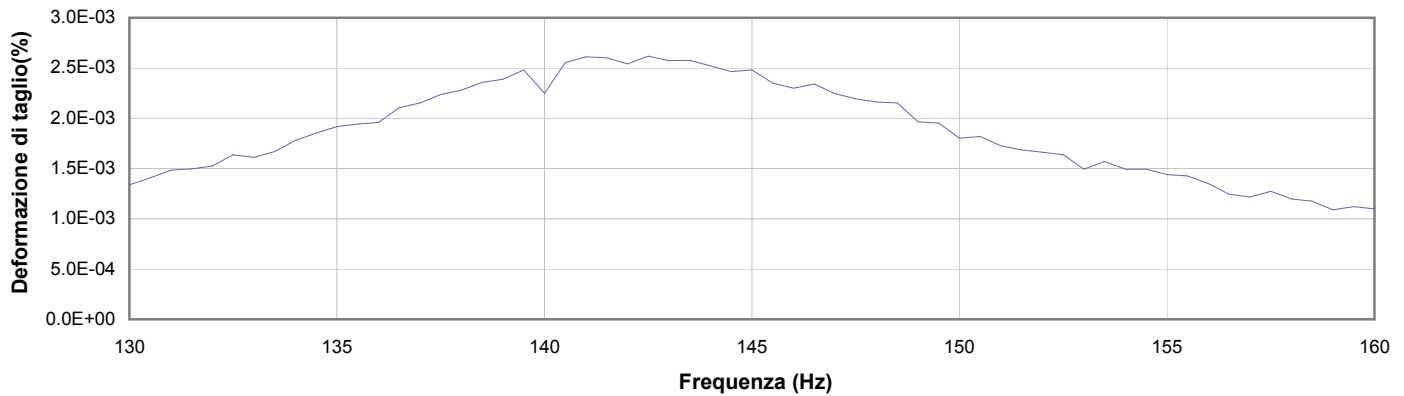
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

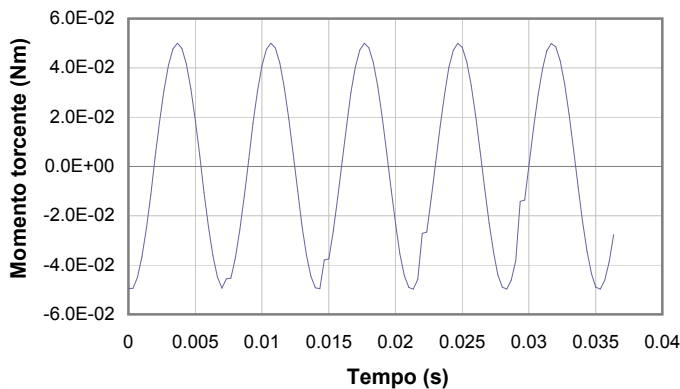
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Data emissione certificato:

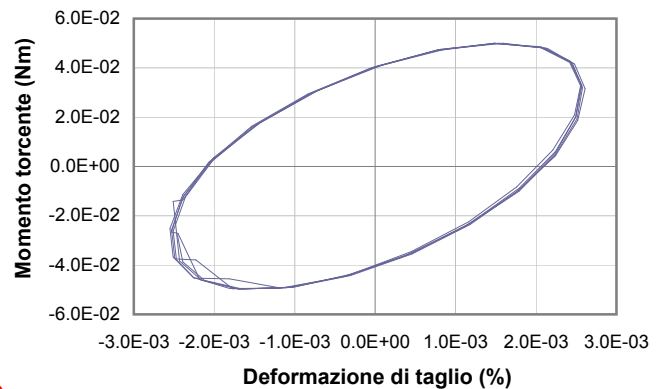
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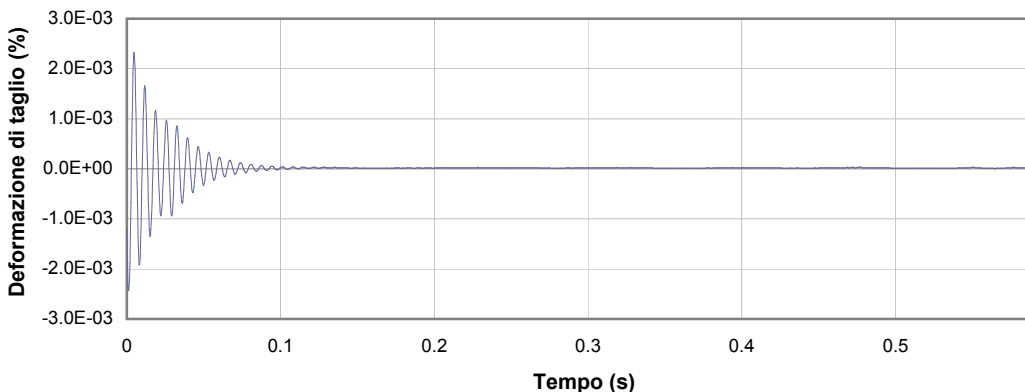
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1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

3 Cicli di isteresi alla frequenza di risonanza

4 Smorzamento per oscillazioni libere

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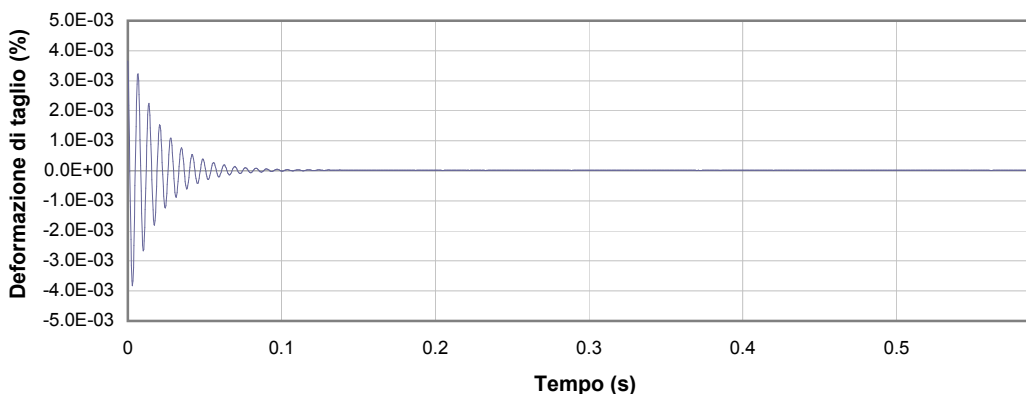
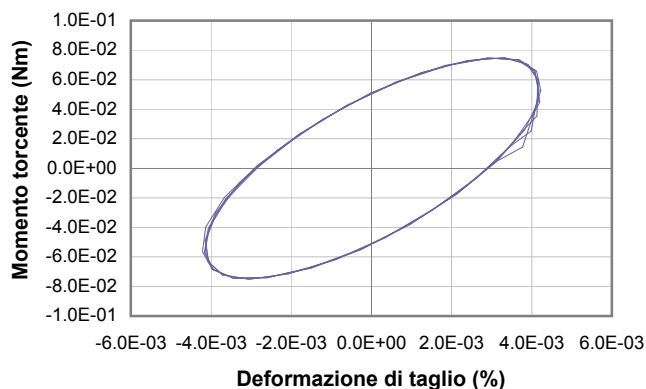
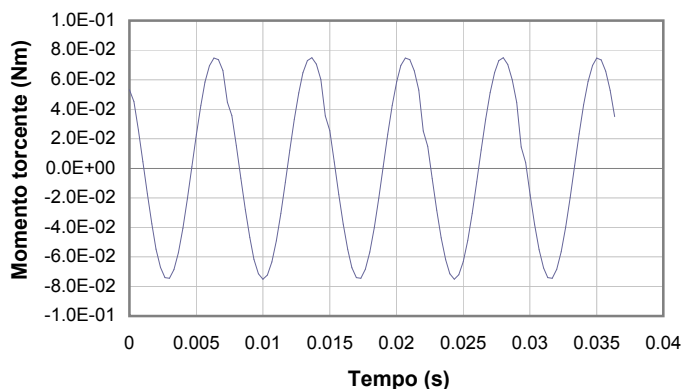
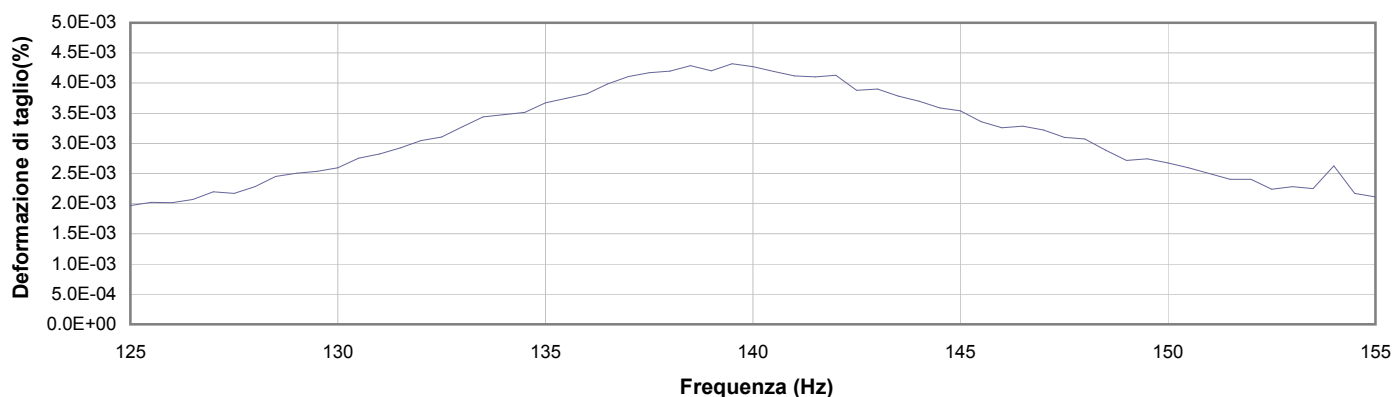
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

Data prova: **06/12/16**

Data emissione certificato:

Test 9



1 Campo delle frequenze indagate

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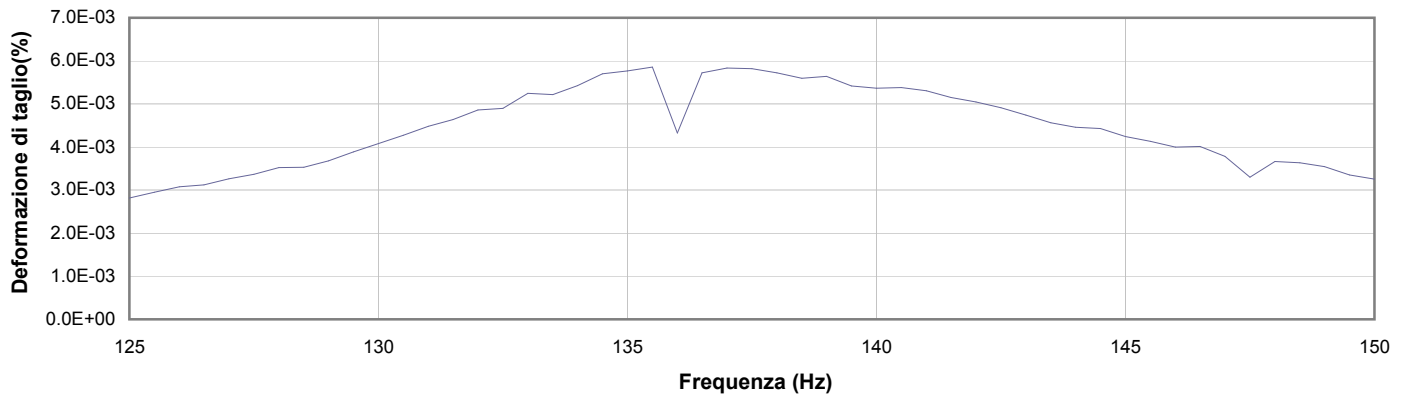
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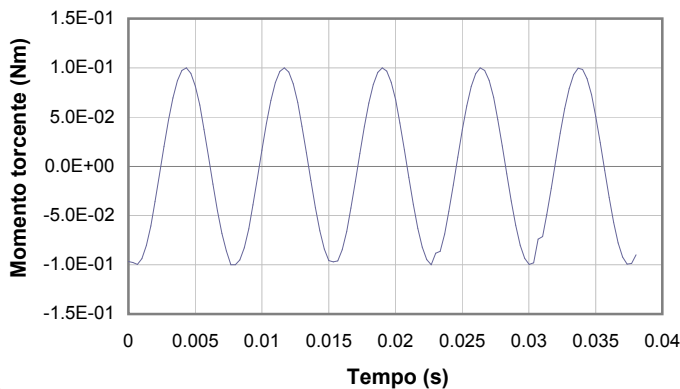
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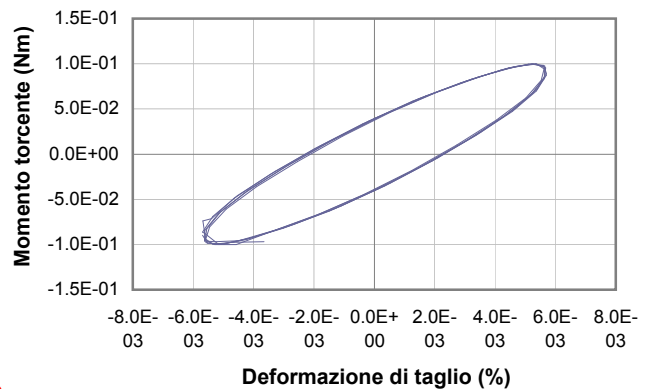
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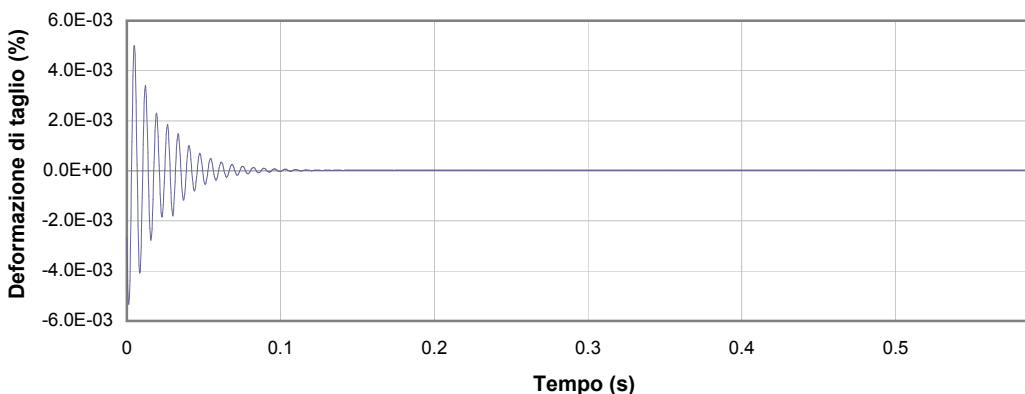
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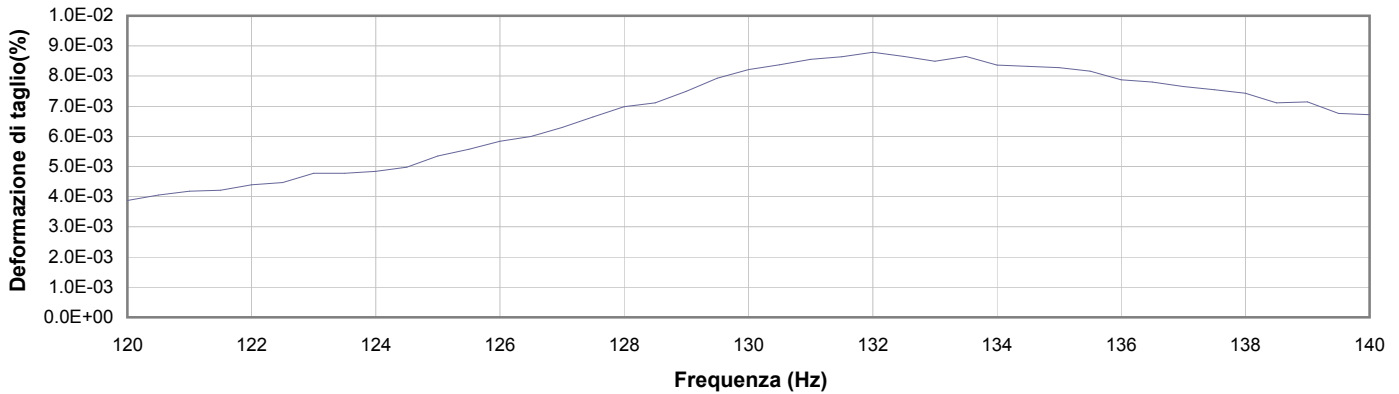
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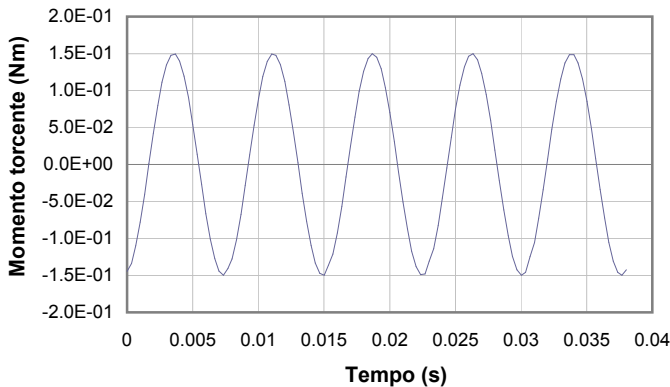
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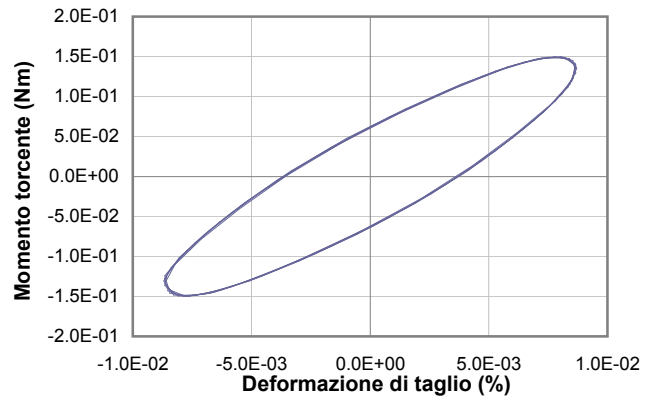
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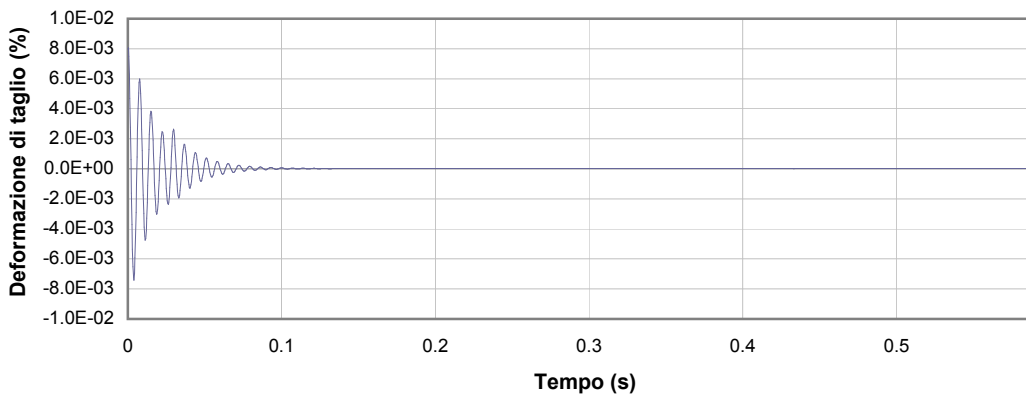
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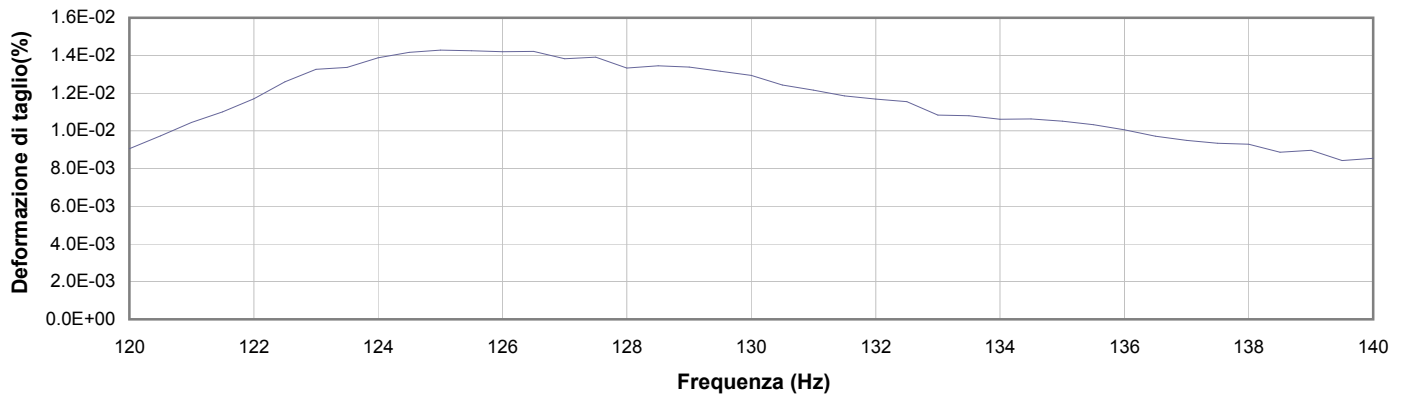
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Data ricevimento campione: **09/09/16**

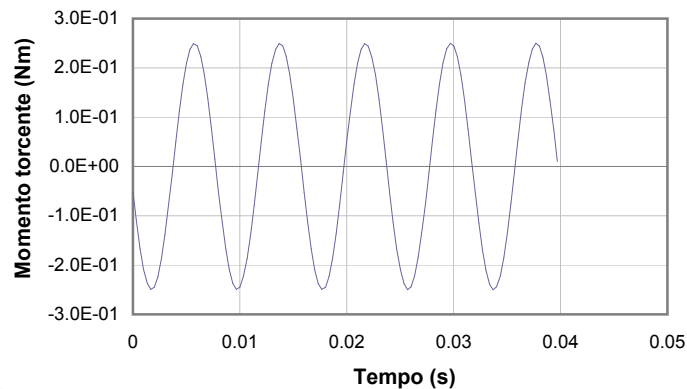
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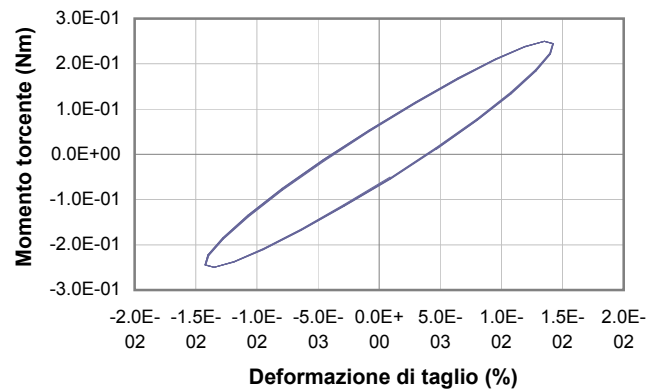
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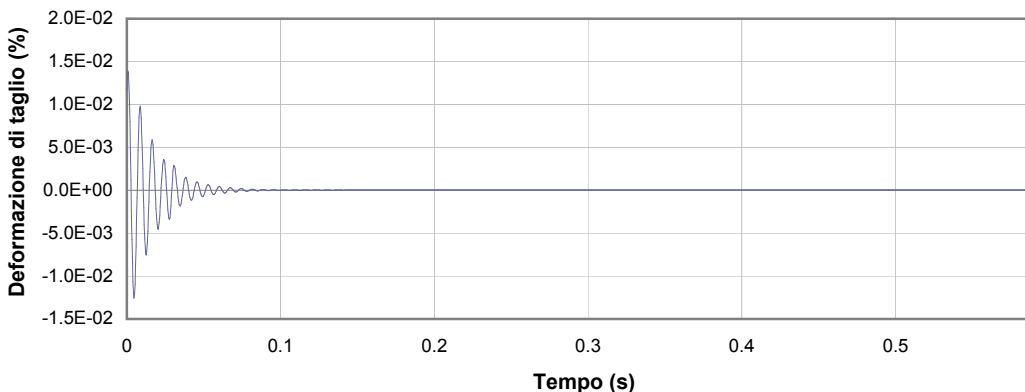
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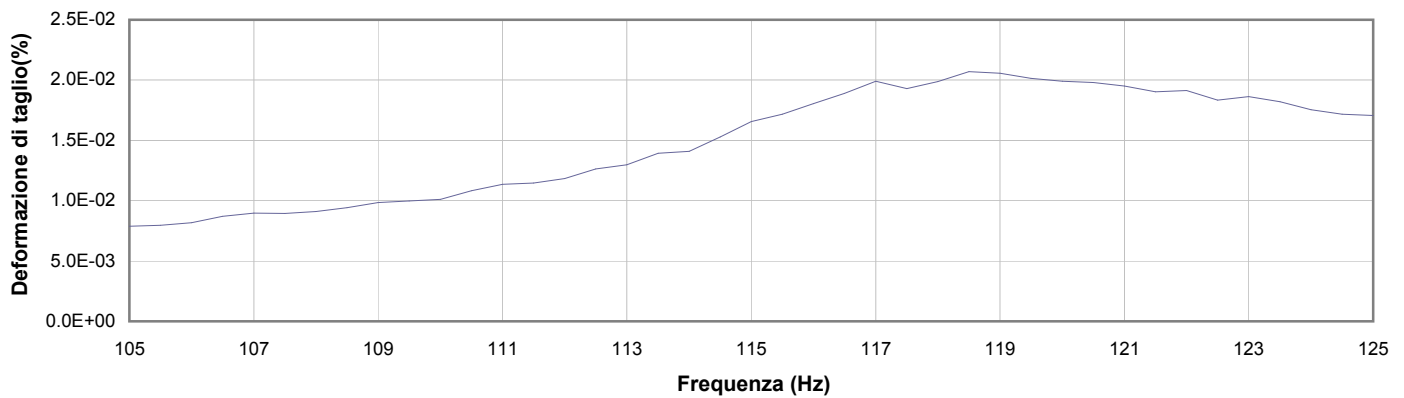
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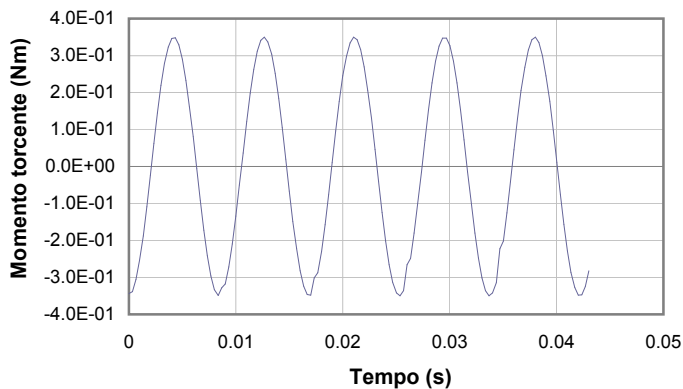
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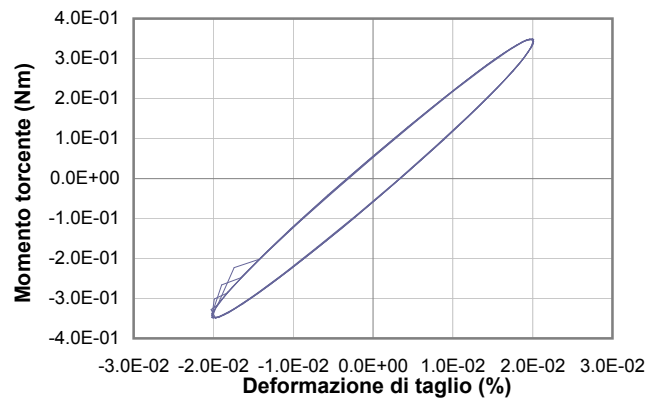
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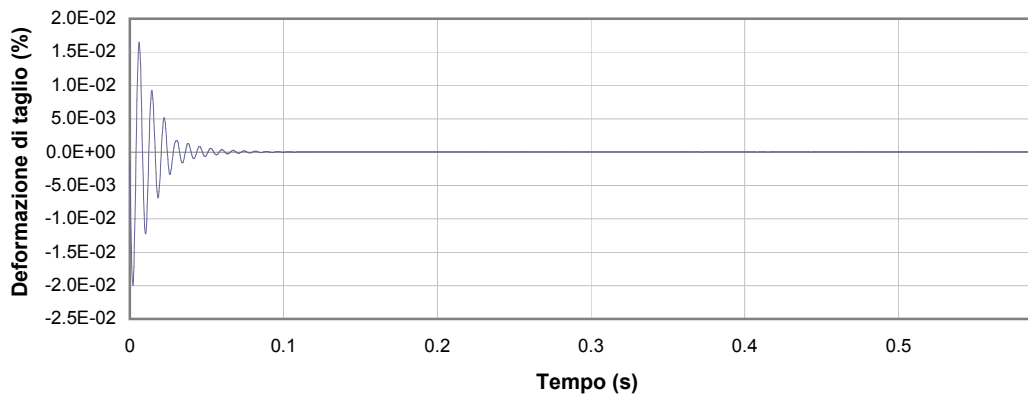
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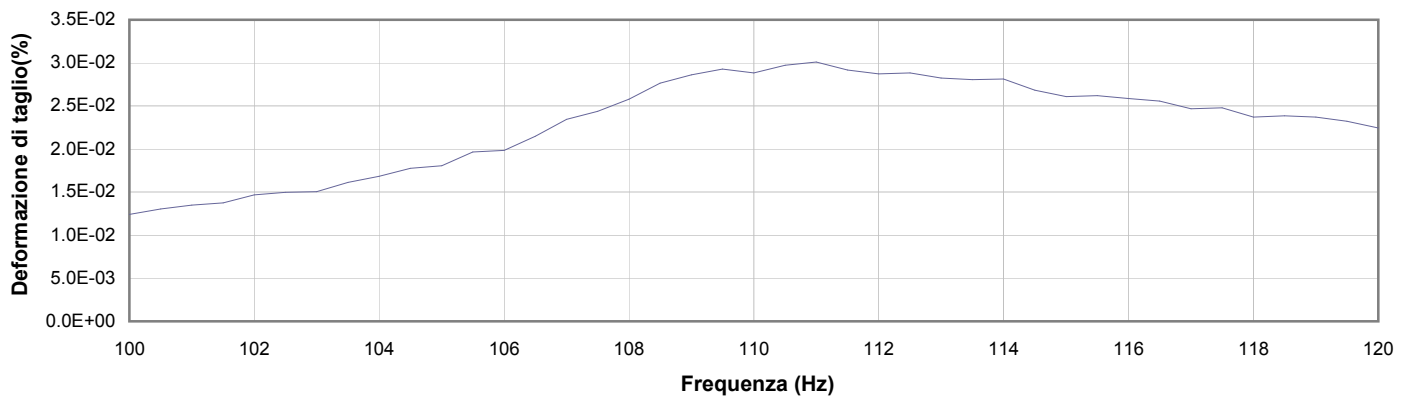
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Data ricevimento campione: **09/09/16**

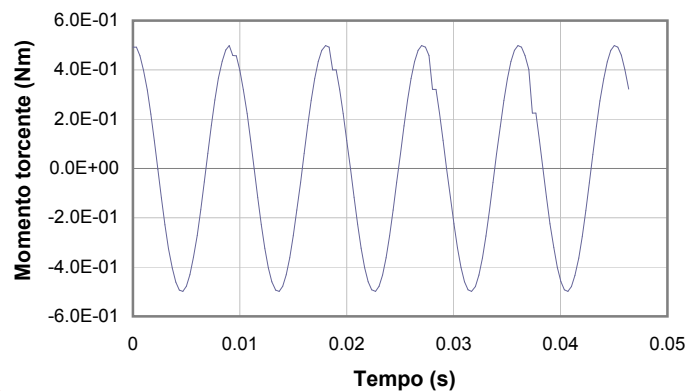
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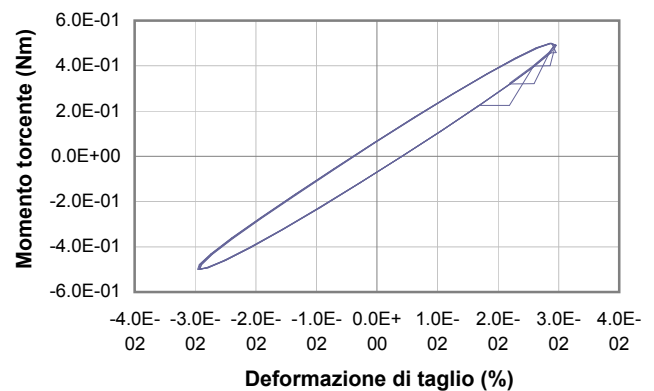
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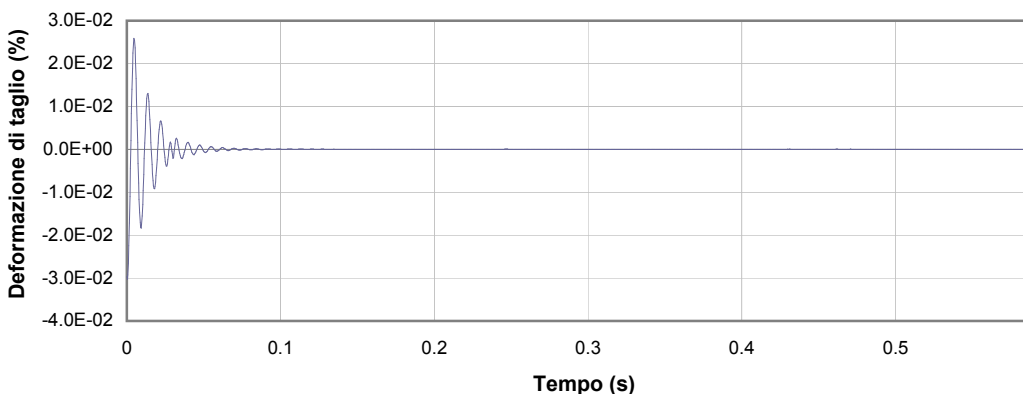
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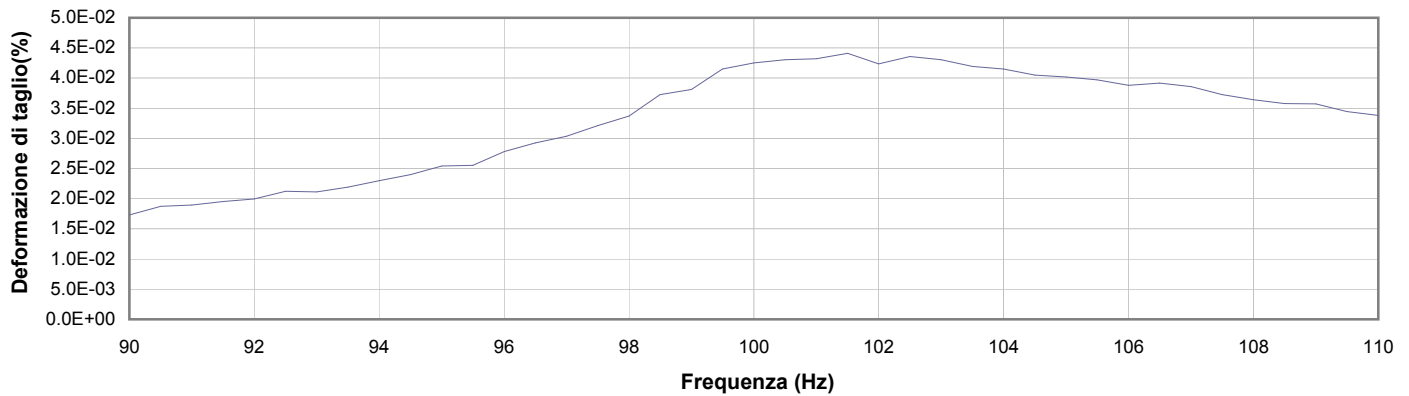
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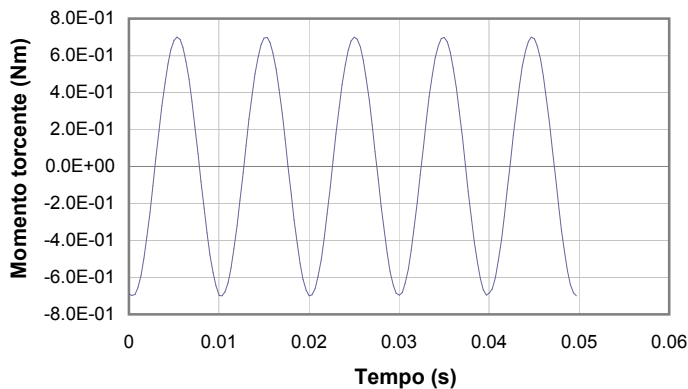
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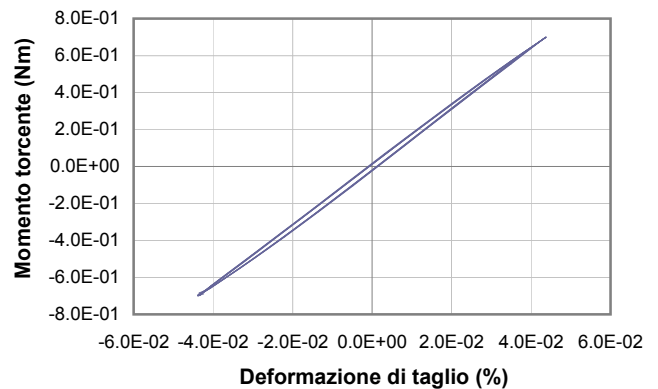
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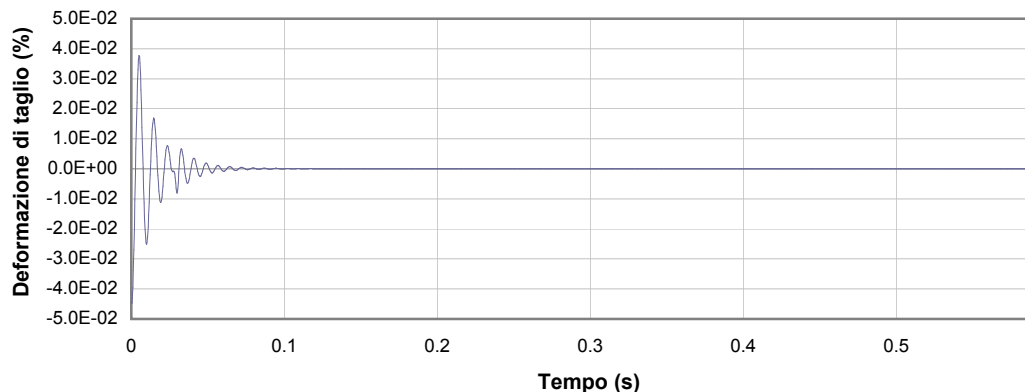
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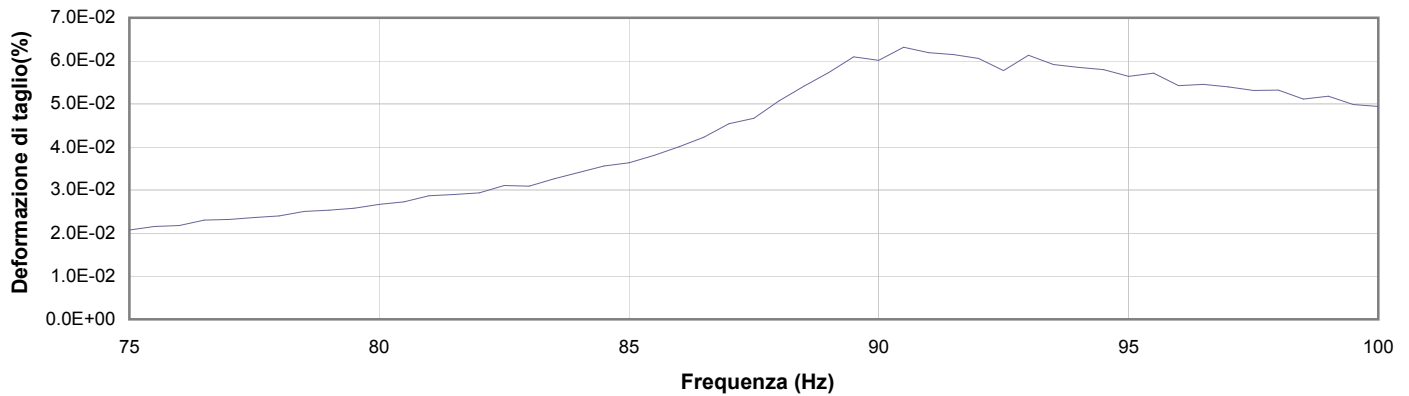
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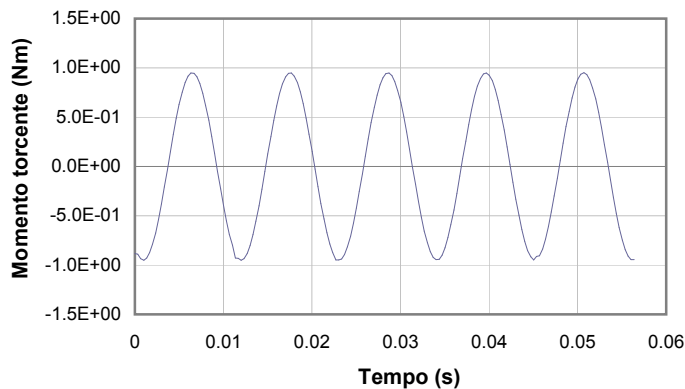
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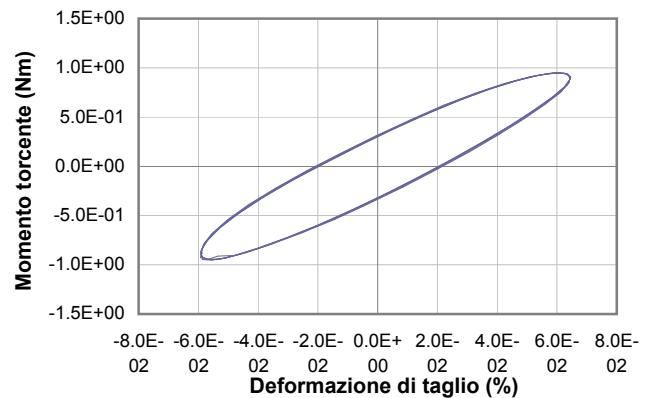
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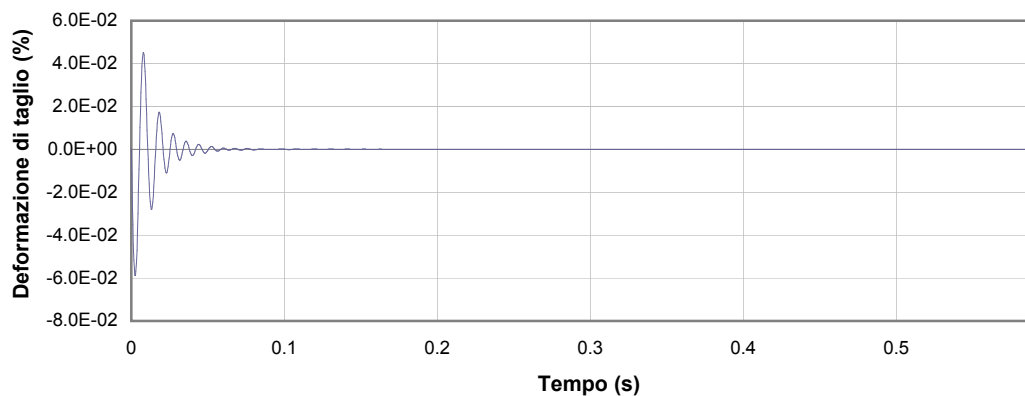
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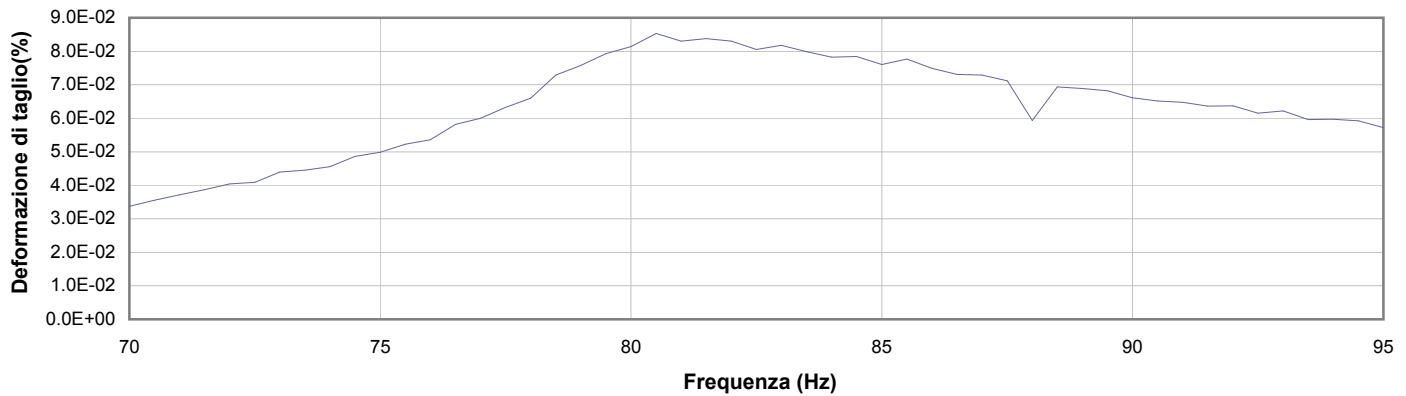
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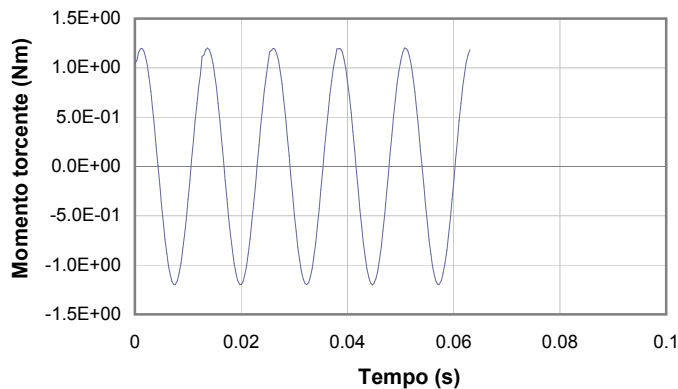
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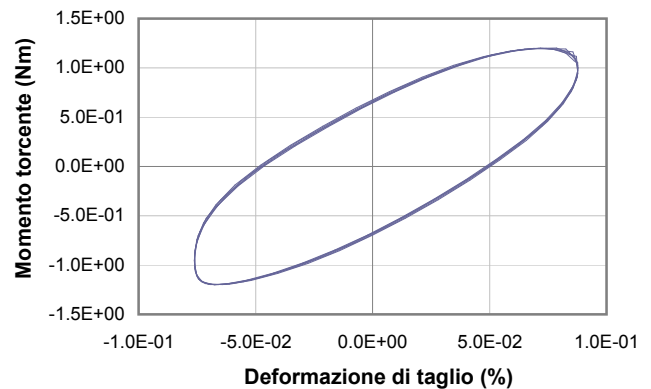
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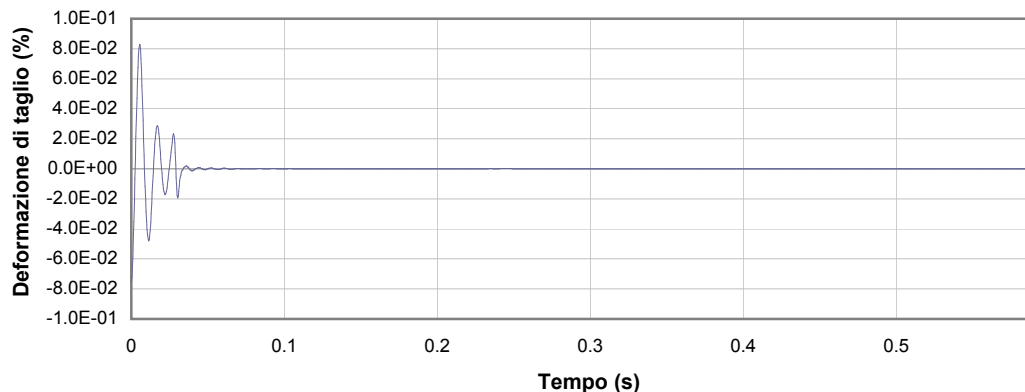
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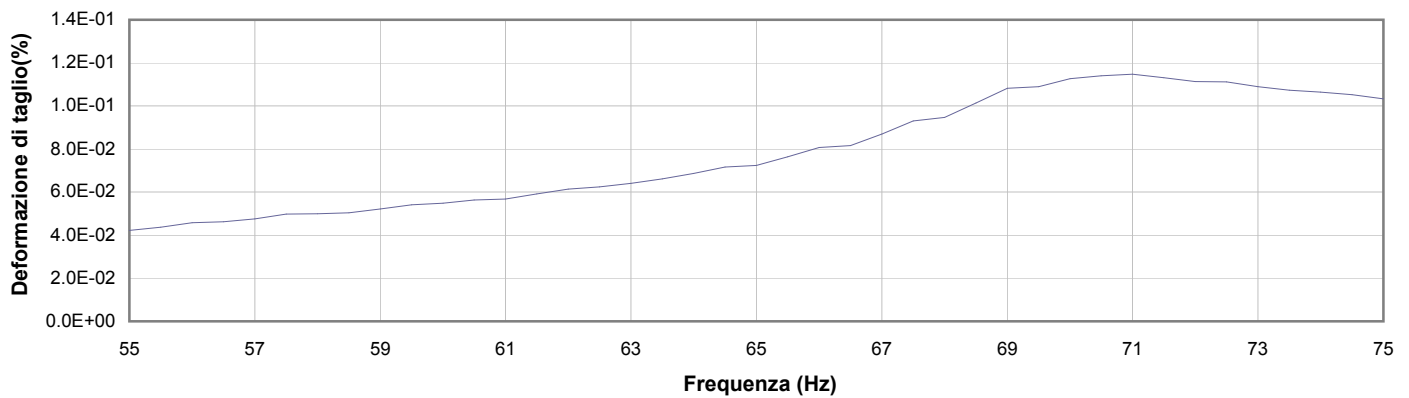
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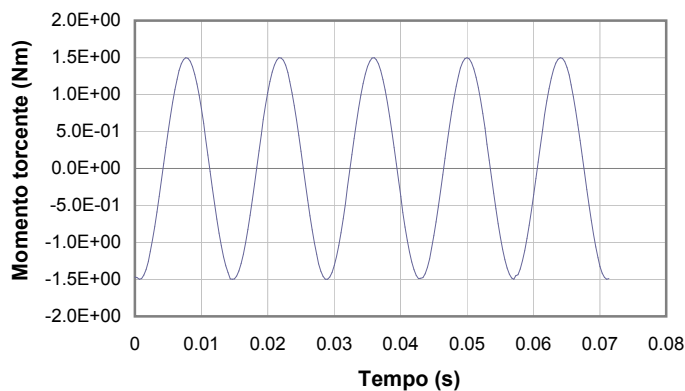
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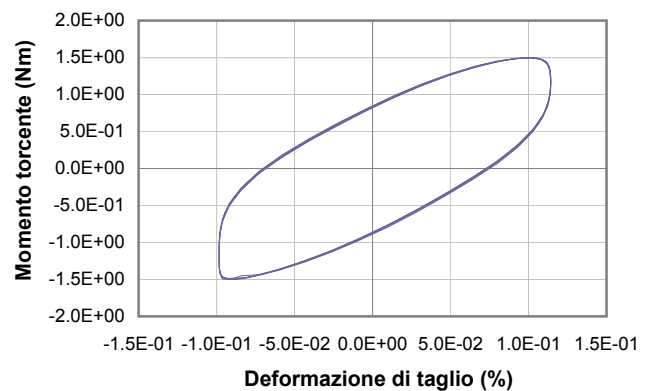
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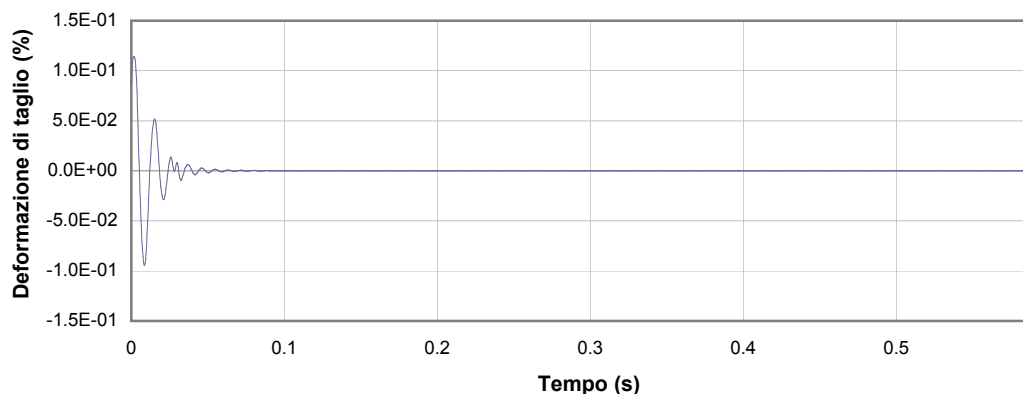
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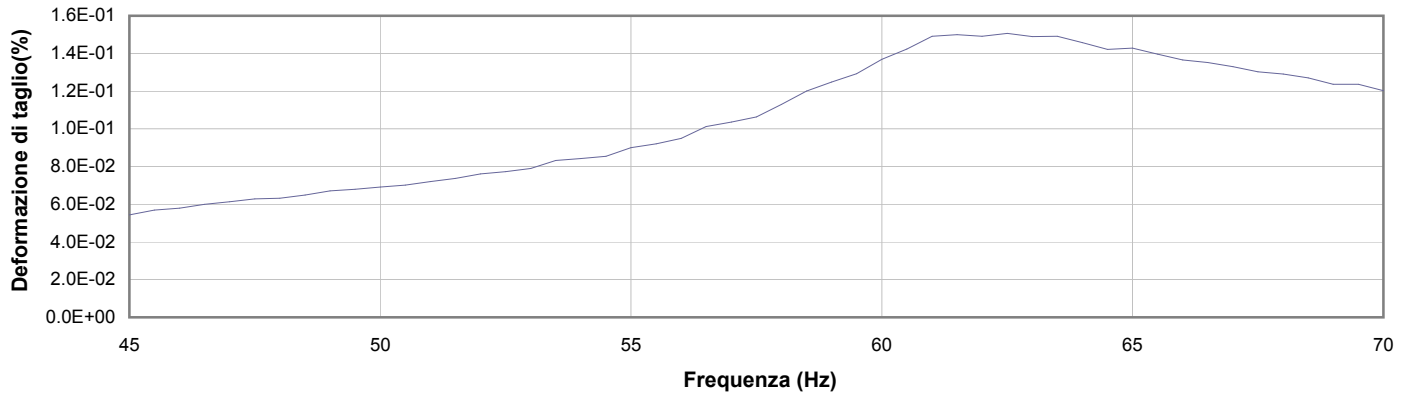
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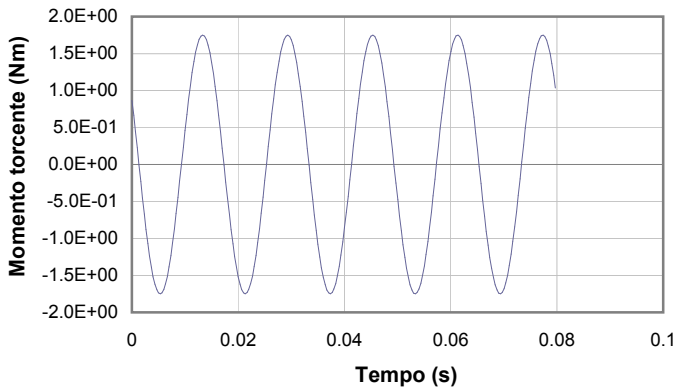
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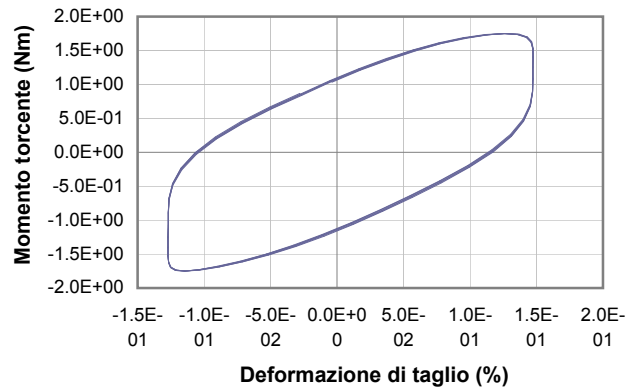
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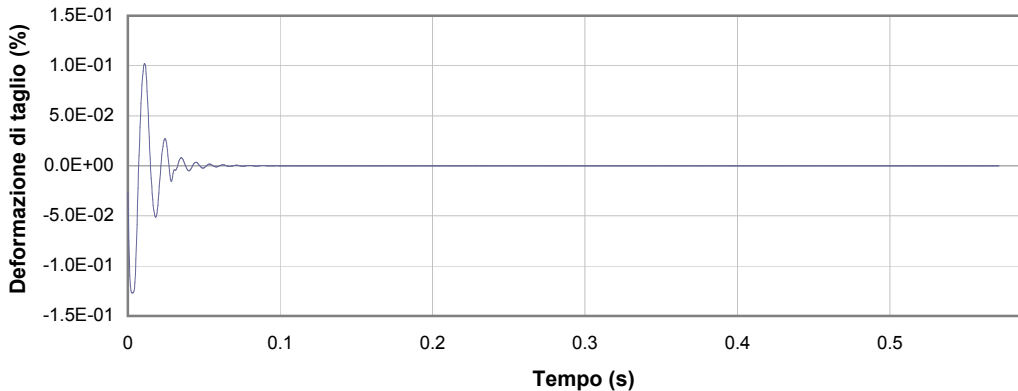
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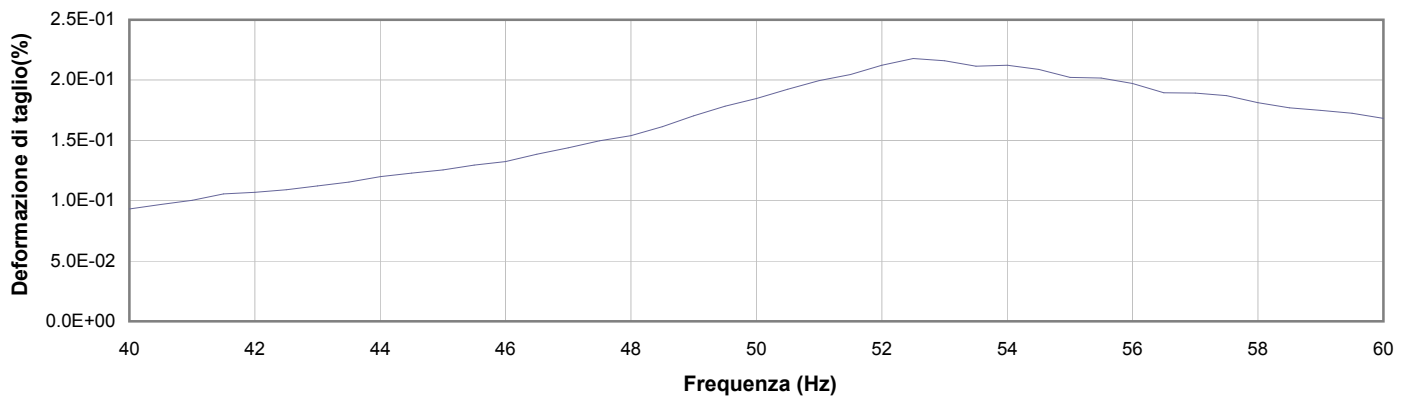
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

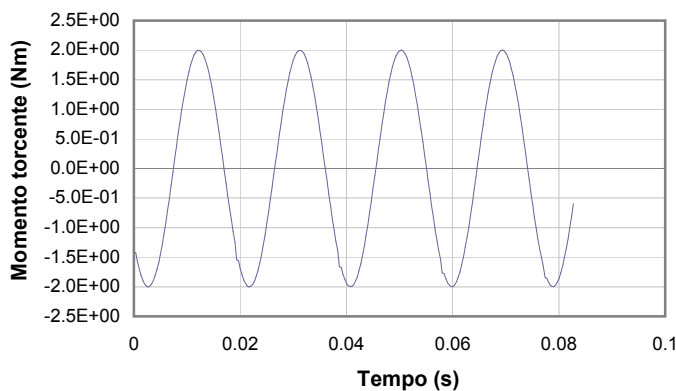
Data prova: **06/12/16**

Data emissione certificato:

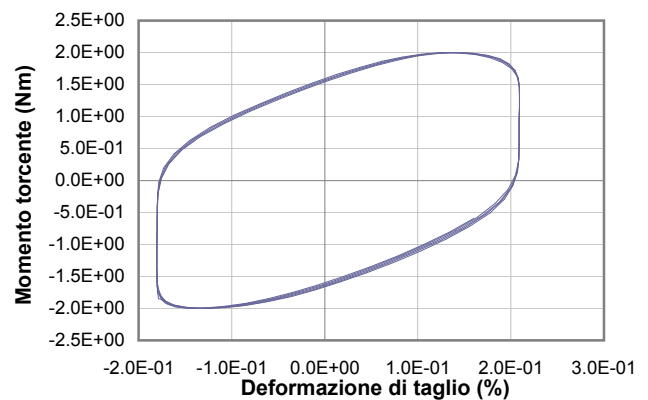
Test 20



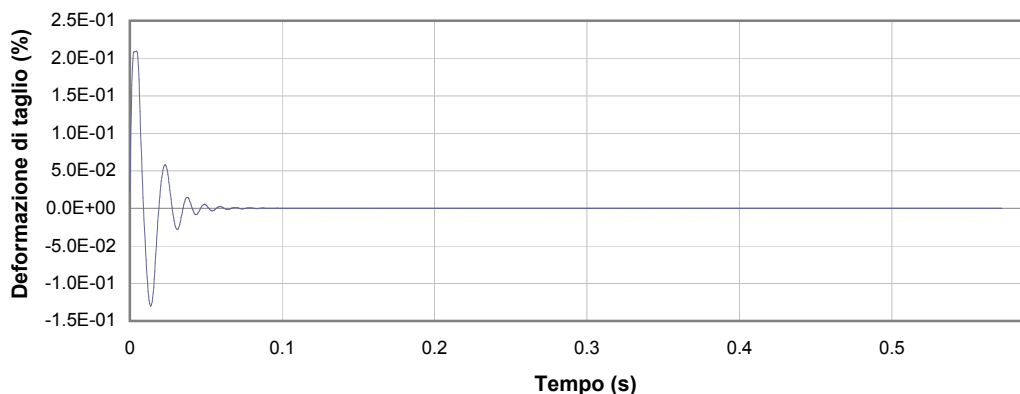
1



2



3



4

1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

3 Cicli di isteresi alla frequenza di risonanza

4 Smorzamento per oscillazioni libere

lo Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli



elletipi s.r.l.

Sede legale ed operativa: Via Annibale Zucchini, 69 - 44100 FERRARA
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**PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU)
A.S.T.M. D 4767**

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH1 m 6.00 - 6.60**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:

Il campione è stato conservato in vasca umidostatica

CODICI STRUMENTAZIONE: calibro 12; bilancia 480; trasduttore LVDT 566; SG 537, manometri 531, 691; celle 1, 2 e 3; pressa 536.

Macchina: CONTROLS Triax 50 Digital
Prova: CONSOLIDATA NON DRENATA (CU)
Dimensioni provini: $\phi \times h = 36,80 \times 76,20$ mm
Velocità prova: 0.01 mm/min

NATURA DEL CAMPIONE: Limo con argilla sabbioso marrone grigiastro

Peso specifico (Mg/m^3): 2.700

	PROVINO 1	PROVINO 2	PROVINO 3
umidità iniziale (%)	25.8	25.8	25.8
massa volumica umida iniziale (Mg/m^3)	1.87	1.85	1.92
massa volumica secca iniziale (Mg/m^3)	1.48	1.47	1.53
indice dei vuoti iniziale	0.82	0.83	0.77
grado di saturazione iniziale (%)	85	83	91
umidità finale (%)	17.8	16.2	16.7
massa volumica umida fine cons. (Mg/m^3)	1.96	1.96	2.01
massa volumica secca fine cons. (Mg/m^3)	1.66	1.68	1.72
indice dei vuoti fine cons.	0.62	0.60	0.57
grado di saturazione fine cons. (%)	77	73	80
pressione in cella (kPa)	500	600	700
contropressione (kPa)	400	400	400
Dimensioni fine consolidazione			
Hc (cm)	7.596	7.570	7.508
Ac (cm^2)	11.425	11.383	11.211
Skempton B	1.00	0.98	1.00
Skempton A	0.0518	0.1638	0.1886
t100 min (Bishop & Henkel)	34	24	177

Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



elletipi s.r.l.

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PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU) A.S.T.M. D 4767

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

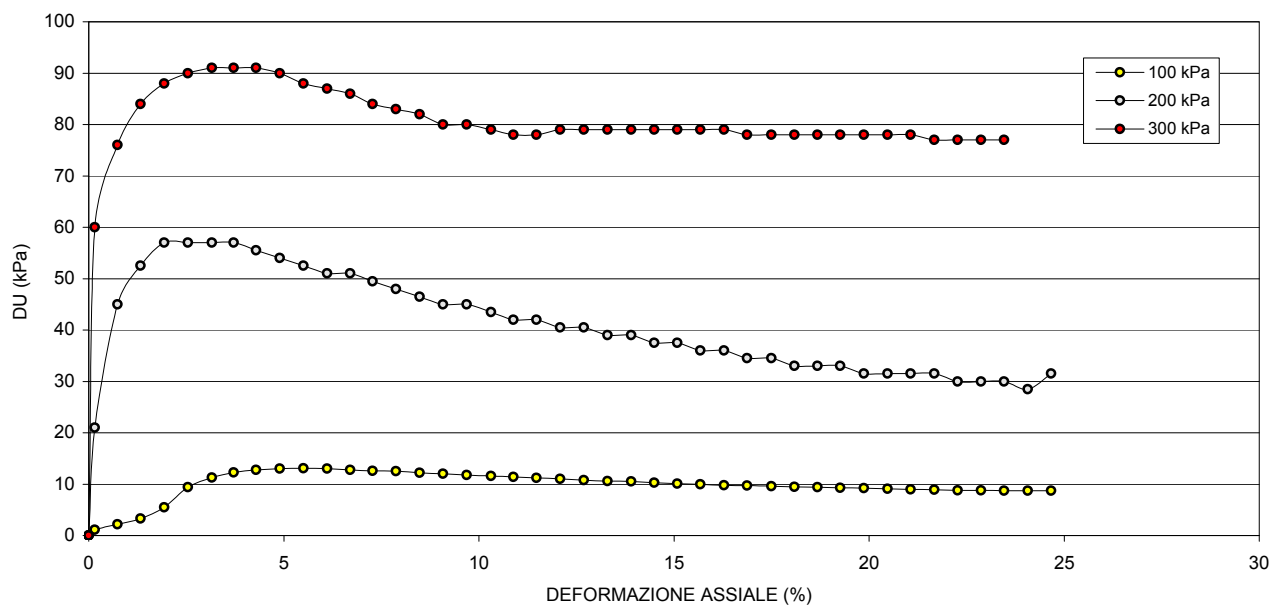
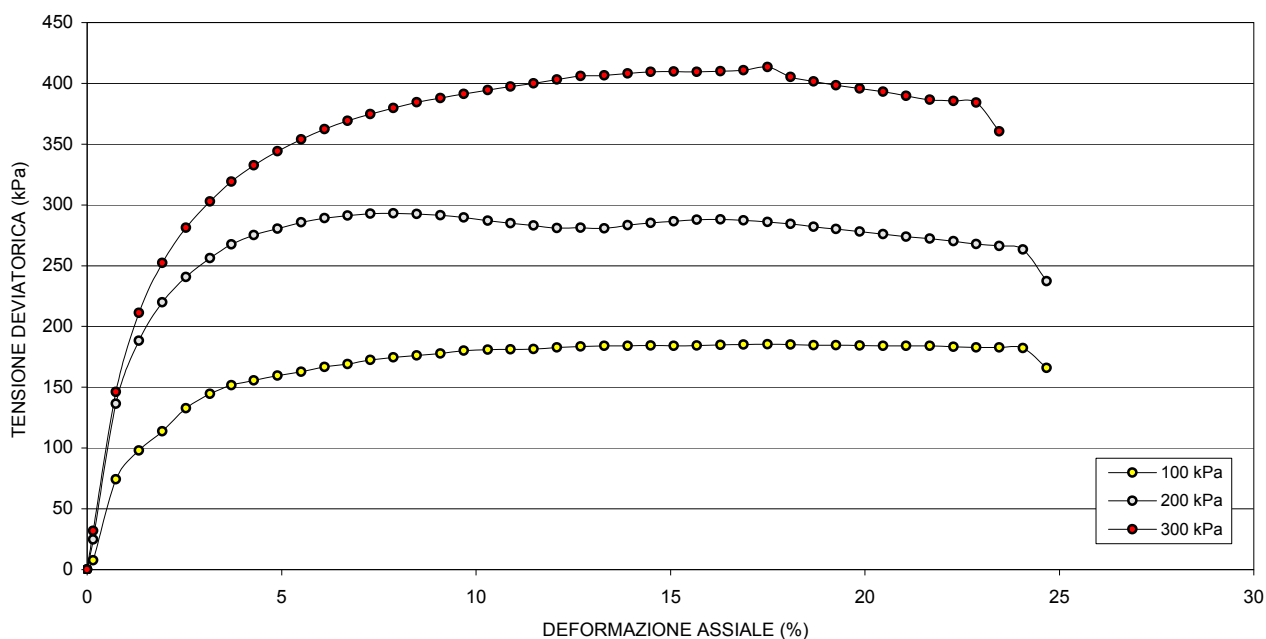
CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH1 m 6.00 - 6.60**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

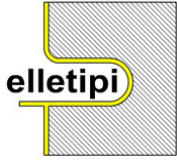
VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:



Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



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PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU) A.S.T.M. D 4767

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

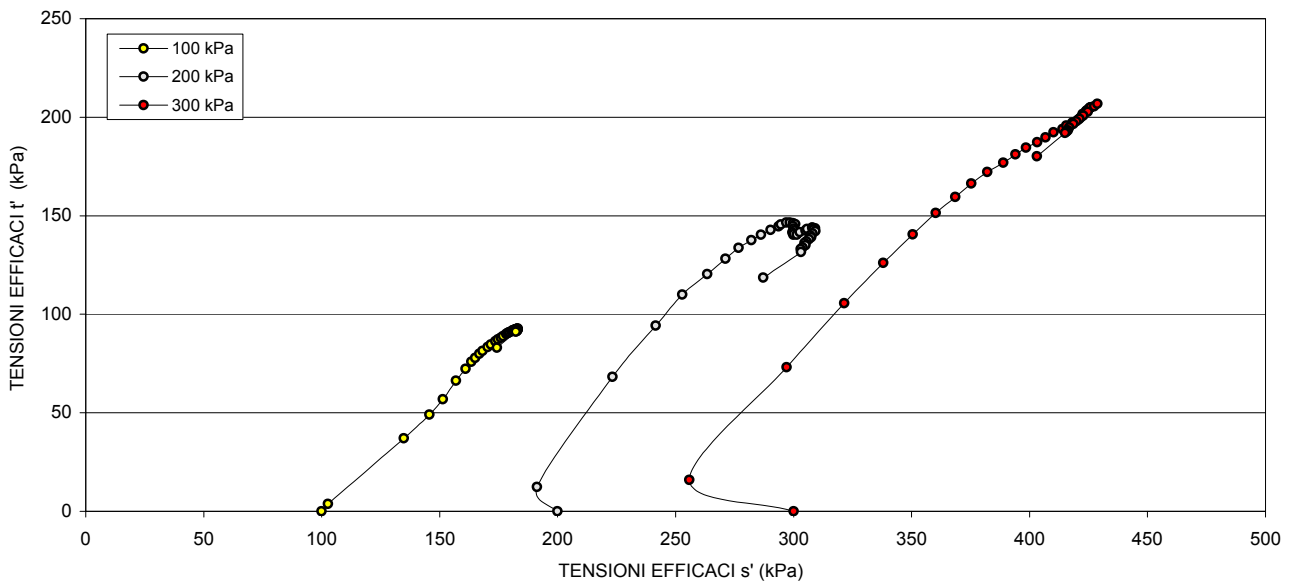
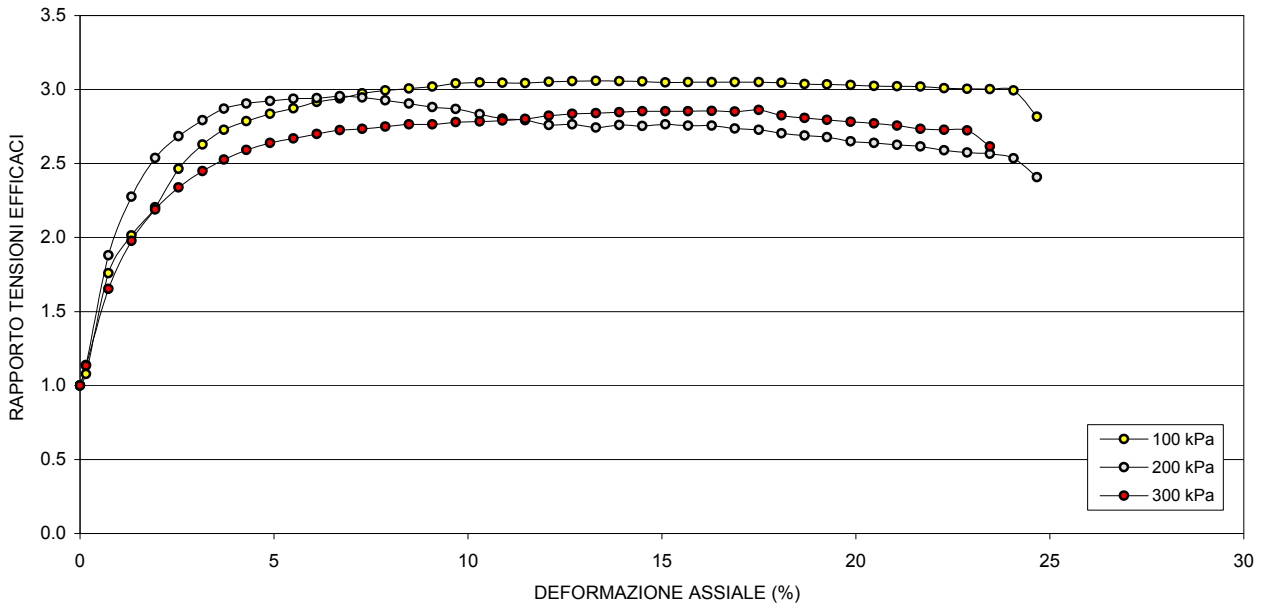
CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH1 m 6.00 - 6.60**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:



Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

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PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU) A.S.T.M. D 4767

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH1 m 6.00 - 6.60**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:

TENSIONE DEVIATORICA ($\sigma_1 - \sigma_3$)

PROVINO 1 100 kPa		PROVINO 2 200 kPa		PROVINO 3 300 kPa	
Def. (%)	Tens. (kPa)	Def. (%)	Tens. (kPa)	Def. (%)	Tens. (kPa)
0.000	0.000	0.000	0.000	0.000	0.000
0.158	7.594	0.158	24.646	0.158	31.794
0.737	74.160	0.737	136.469	0.737	146.094
1.330	98.036	1.330	188.300	1.330	211.056
1.935	113.768	1.935	219.818	1.935	252.186
2.541	132.582	2.541	240.793	2.541	281.142
3.160	144.513	3.160	256.308	3.160	302.680
3.713	151.568	3.713	267.528	3.713	319.160
4.292	155.724	4.292	275.242	4.292	332.606
4.898	159.683	4.898	280.553	4.898	344.244
5.503	162.669	5.503	285.671	5.503	353.853
6.109	166.688	6.109	289.244	6.109	362.222
6.701	169.140	6.701	291.241	6.701	369.174
7.280	172.464	7.280	292.922	7.280	374.656
7.873	174.466	7.873	292.988	7.873	379.576
8.478	176.227	8.478	292.480	8.478	384.509
9.084	177.774	9.084	291.451	9.084	387.966
9.690	179.981	9.690	289.609	9.690	391.343
10.308	180.993	10.308	287.029	10.308	394.342
10.888	181.197	10.888	284.978	10.888	397.359
11.480	181.526	11.480	283.084	11.480	399.850
12.086	182.739	12.086	280.855	12.086	403.074
12.691	183.413	12.691	281.336	12.691	405.905
13.297	183.978	13.297	280.729	13.297	406.647
13.903	184.019	13.903	283.247	13.903	408.107
14.495	184.317	14.495	285.084	14.495	409.418
15.087	184.102	15.087	286.586	15.087	409.611
15.680	184.442	15.680	287.854	15.680	409.460
16.286	184.890	16.286	288.010	16.286	409.955
16.878	185.182	16.878	287.352	16.878	410.835
17.497	185.392	17.497	285.852	17.497	413.517
18.089	185.086	18.089	284.435	18.089	405.360
18.682	184.609	18.682	282.017	18.682	401.557
19.261	184.537	19.261	280.187	19.261	398.337
19.866	184.387	19.866	278.085	19.866	395.706
20.472	184.066	20.472	276.072	20.472	393.141
21.065	184.063	21.065	273.928	21.065	389.579
21.670	184.083	21.670	272.346	21.670	386.590
22.276	183.259	22.276	270.069	22.276	385.473
22.868	182.827	22.868	267.754	22.868	384.117
23.461	182.749	23.461	266.121	23.461	360.412
24.066	182.108	24.066	263.259		
24.672	165.933	24.672	237.311		

Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



elletipi s.r.l.

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**PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU)
A.S.T.M. D 4767**

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH1 m 6.00 - 6.60**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:

PRESSIONE INTERSTIZIALE

PROVINO 1 100 kPa		PROVINO 2 200 kPa		PROVINO 3 300 kPa	
0.000	$\Delta U.$ (kPa)	Def. (%)	$\Delta U.$ (kPa)	Def. (%)	$\Delta U.$ (kPa)
0.000	0.000	0.000	0.001	0.000	0.000
0.158	1.100	0.158	21.000	0.158	60.000
0.737	2.200	0.737	45.000	0.737	76.000
1.330	3.300	1.330	52.500	1.330	84.000
1.935	5.500	1.935	57.000	1.935	88.000
2.541	9.400	2.541	57.000	2.541	90.000
3.160	11.300	3.160	57.000	3.160	91.000
3.713	12.300	3.713	57.000	3.713	91.000
4.292	12.800	4.292	55.500	4.292	91.000
4.898	13.000	4.898	54.000	4.898	90.000
5.503	13.100	5.503	52.500	5.503	88.000
6.109	13.000	6.109	51.000	6.109	87.000
6.701	12.800	6.701	51.000	6.701	86.000
7.280	12.600	7.280	49.500	7.280	84.000
7.873	12.500	7.873	48.000	7.873	83.000
8.478	12.200	8.478	46.500	8.478	82.000
9.084	12.000	9.084	45.000	9.084	80.000
9.690	11.800	9.690	45.000	9.690	80.000
10.308	11.600	10.308	43.500	10.308	79.000
10.888	11.400	10.888	42.000	10.888	78.000
11.480	11.200	11.480	42.000	11.480	78.000
12.086	11.000	12.086	40.500	12.086	79.000
12.691	10.800	12.691	40.500	12.691	79.000
13.297	10.600	13.297	39.000	13.297	79.000
13.903	10.500	13.903	39.000	13.903	79.000
14.495	10.300	14.495	37.500	14.495	79.000
15.087	10.100	15.087	37.500	15.087	79.000
15.680	10.000	15.680	36.000	15.680	79.000
16.286	9.800	16.286	36.000	16.286	79.000
16.878	9.700	16.878	34.500	16.878	78.000
17.497	9.600	17.497	34.500	17.497	78.000
18.089	9.500	18.089	33.000	18.089	78.000
18.682	9.400	18.682	33.000	18.682	78.000
19.261	9.300	19.261	33.000	19.261	78.000
19.866	9.200	19.866	31.500	19.866	78.000
20.472	9.100	20.472	31.500	20.472	78.000
21.065	9.000	21.065	31.500	21.065	78.000
21.670	8.900	21.670	31.500	21.670	77.000
22.276	8.800	22.276	30.000	22.276	77.000
22.868	8.800	22.868	30.000	22.868	77.000
23.461	8.700	23.461	30.000	23.461	77.000
24.066	8.700	24.066	28.500		
24.672	8.700	24.672	31.500		

Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



elletipi s.r.l.

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**PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU)
A.S.T.M. D 4767**

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH1 m 6.00 - 6.60**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:

RAPPORTO TENSIONI EFFICACI (σ'_1 / σ'_3)

PROVINO 1 100 kPa		PROVINO 2 200 kPa		PROVINO 3 300 kPa	
Def. (%)		Def. (%)		Def. (%)	
0.000	1.000	0.000	1.000	0.000	1.000
0.158	1.077	0.158	1.138	0.158	1.132
0.737	1.758	0.737	1.880	0.737	1.652
1.330	2.014	1.330	2.277	1.330	1.977
1.935	2.204	1.935	2.537	1.935	2.190
2.541	2.463	2.541	2.684	2.541	2.339
3.160	2.629	3.160	2.792	3.160	2.448
3.713	2.728	3.713	2.871	3.713	2.527
4.292	2.786	4.292	2.905	4.292	2.591
4.898	2.835	4.898	2.922	4.898	2.639
5.503	2.872	5.503	2.937	5.503	2.669
6.109	2.916	6.109	2.941	6.109	2.701
6.701	2.940	6.701	2.955	6.701	2.725
7.280	2.973	7.280	2.946	7.280	2.735
7.873	2.994	7.873	2.928	7.873	2.749
8.478	3.007	8.478	2.905	8.478	2.764
9.084	3.020	9.084	2.880	9.084	2.763
9.690	3.041	9.690	2.868	9.690	2.779
10.308	3.047	10.308	2.834	10.308	2.784
10.888	3.045	10.888	2.804	10.888	2.790
11.480	3.044	11.480	2.792	11.480	2.801
12.086	3.053	12.086	2.761	12.086	2.824
12.691	3.056	12.691	2.764	12.691	2.837
13.297	3.058	13.297	2.744	13.297	2.840
13.903	3.056	13.903	2.759	13.903	2.847
14.495	3.055	14.495	2.754	14.495	2.853
15.087	3.048	15.087	2.764	15.087	2.853
15.680	3.049	15.680	2.755	15.680	2.853
16.286	3.050	16.286	2.756	16.286	2.855
16.878	3.051	16.878	2.736	16.878	2.851
17.497	3.051	17.497	2.727	17.497	2.863
18.089	3.045	18.089	2.703	18.089	2.826
18.682	3.038	18.682	2.689	18.682	2.809
19.261	3.035	19.261	2.678	19.261	2.794
19.866	3.031	19.866	2.650	19.866	2.782
20.472	3.025	20.472	2.638	20.472	2.771
21.065	3.023	21.065	2.626	21.065	2.755
21.670	3.021	21.670	2.616	21.670	2.734
22.276	3.009	22.276	2.589	22.276	2.729
22.868	3.005	22.868	2.575	22.868	2.722
23.461	3.002	23.461	2.565	23.461	2.616
24.066	2.995	24.066	2.535		
24.672	2.817	24.672	2.408		

Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



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PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU) A.S.T.M. D 4767

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH1 m 6.00 - 6.60**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:

STRESS PATH $s' = (\sigma'1 + \sigma'3)/2$ $t' = (\sigma'1 - \sigma'3)/2$

PROVINO 1 100 kPa		PROVINO 2 200 kPa		PROVINO 3 300 kPa	
s' (kPa)	t' (kPa)	s' (kPa)	t' (kPa)	s' (kPa)	t' (kPa)
100.000	0.000	199.999	0.000	300.000	0.000
102.697	3.797	191.323	12.323	255.897	15.897
134.880	37.080	223.235	68.235	297.047	73.047
145.718	49.018	241.650	94.150	321.528	105.528
151.384	56.884	252.909	109.909	338.093	126.093
156.891	66.291	263.396	120.396	350.571	140.571
160.957	72.257	271.154	128.154	360.340	151.340
163.484	75.784	276.764	133.764	368.580	159.580
165.062	77.862	282.121	137.621	375.303	166.303
166.841	79.841	286.277	140.277	382.122	172.122
168.234	81.334	290.335	142.835	388.926	176.926
170.344	83.344	293.622	144.622	394.111	181.111
171.770	84.570	294.620	145.620	398.587	184.587
173.632	86.232	296.961	146.461	403.328	187.328
174.733	87.233	298.494	146.494	406.788	189.788
175.914	88.114	299.740	146.240	410.255	192.255
176.887	88.887	300.725	145.725	413.983	193.983
178.191	89.991	299.805	144.805	415.672	195.672
178.897	90.497	300.015	143.515	418.171	197.171
179.198	90.598	300.489	142.489	420.680	198.680
179.563	90.763	299.542	141.542	421.925	199.925
180.369	91.369	299.927	140.427	422.537	201.537
180.907	91.707	300.168	140.668	423.952	202.952
181.389	91.989	301.364	140.364	424.324	203.324
181.509	92.009	302.624	141.624	425.054	204.054
181.858	92.158	305.042	142.542	425.709	204.709
181.951	92.051	305.793	143.293	425.805	204.805
182.221	92.221	307.927	143.927	425.730	204.730
182.645	92.445	308.005	144.005	425.977	204.977
182.891	92.591	309.176	143.676	427.417	205.417
183.096	92.696	308.426	142.926	428.758	206.758
183.043	92.543	309.217	142.217	424.680	202.680
182.904	92.304	308.009	141.009	422.779	200.779
182.969	92.269	307.094	140.094	421.168	199.168
182.994	92.194	307.543	139.043	419.853	197.853
182.933	92.033	306.536	138.036	418.571	196.571
183.031	92.031	305.464	136.964	416.790	194.790
183.142	92.042	304.673	136.173	416.295	193.295
182.829	91.629	305.034	135.034	415.737	192.737
182.614	91.414	303.877	133.877	415.059	192.059
182.675	91.375	303.061	133.061	403.206	180.206
182.354	91.054	303.129	131.629		
174.267	82.967	287.156	118.656		

Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



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**PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU)
 A.S.T.M. D 4767**

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH1 m 6.00 - 6.60**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

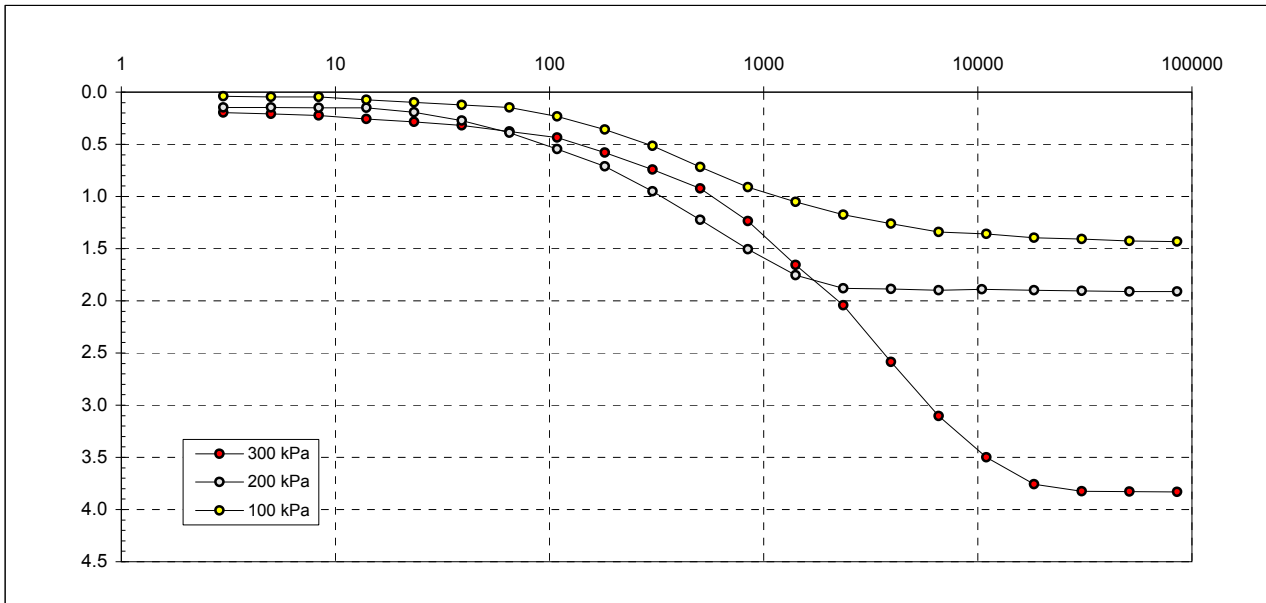
GEO - CERT. n°: rev.00 del:

CONSOLIDAZIONE

PROVINO 1 100 kPa	
Tempo (s)	Vol (cc)
3	0.04
5	0.05
8	0.05
14	0.07
23	0.10
39	0.12
65	0.15
109	0.23
181	0.36
303	0.52
506	0.72
845	0.91
1412	1.05
2357	1.17
3937	1.26
6575	1.34
10979	1.36
18335	1.40
30620	1.41
51136	1.43
85398	1.43

PROVINO 2 200 kPa	
Tempo (s)	Vol (cc)
3	0.15
5	0.15
8	0.15
14	0.15
23	0.19
39	0.27
65	0.39
109	0.55
181	0.71
303	0.95
506	1.22
845	1.51
1412	1.75
2357	1.88
3937	1.89
6575	1.90
10471	1.89
18335	1.90
30620	1.91
51136	1.91
85398	1.91

PROVINO 3 300 kPa	
Tempo (s)	Vol (cc)
3	0.20
5	0.21
8	0.22
14	0.26
23	0.29
39	0.32
65	0.38
109	0.44
181	0.58
303	0.74
506	0.92
845	1.24
1412	1.66
2357	2.04
3937	2.59
6575	3.10
10979	3.50
18335	3.76
30620	3.83
51136	3.83
85398	3.83



Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



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PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU) A.S.T.M. D 4767

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

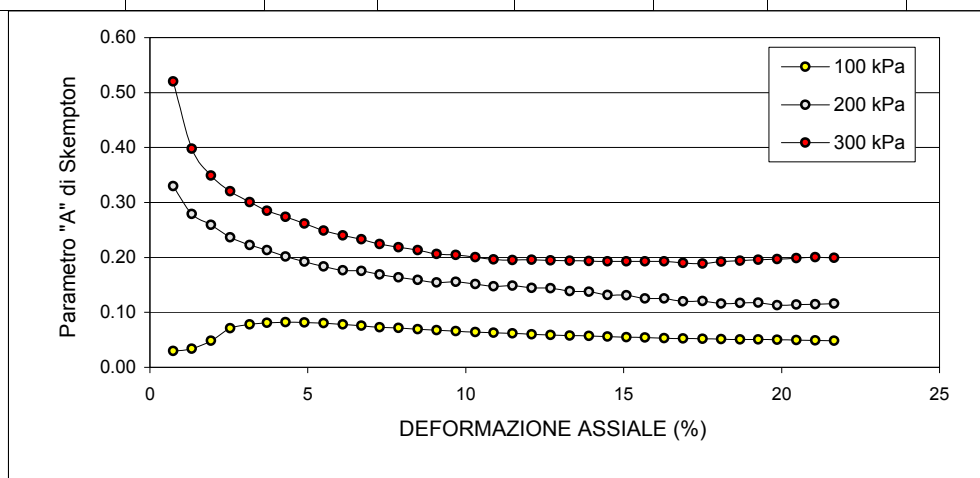
CAMPIONE: **S1 SH1 m 6.00 - 6.60**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:

PROVINO 1		PROVINO 2		PROVINO 3	
Def. (%)	Skemp. A	Def. (%)	Skemp. A	Def. (%)	Skemp. A
0.737	0.0297	0.737	0.3297	0.737	0.5202
1.330	0.0337	1.330	0.2788	1.330	0.3980
1.935	0.0483	1.935	0.2593	1.935	0.3489
2.541	0.0709	2.541	0.2367	2.541	0.3201
3.160	0.0782	3.160	0.2224	3.160	0.3006
3.713	0.0812	3.713	0.2131	3.713	0.2851
4.292	0.0822	4.292	0.2016	4.292	0.2736
4.898	0.0814	4.898	0.1925	4.898	0.2614
5.503	0.0805	5.503	0.1838	5.503	0.2487
6.109	0.0780	6.109	0.1763	6.109	0.2402
6.701	0.0757	6.701	0.1751	6.701	0.2330
7.280	0.0731	7.280	0.1690	7.280	0.2242
7.873	0.0716	7.873	0.1638	7.873	0.2187
8.478	0.0692	8.478	0.1590	8.478	0.2133
9.084	0.0675	9.084	0.1544	9.084	0.2062
9.690	0.0656	9.690	0.1554	9.690	0.2044
10.308	0.0641	10.308	0.1516	10.308	0.2003
10.888	0.0629	10.888	0.1474	10.888	0.1963
11.480	0.0617	11.480	0.1484	11.480	0.1951
12.086	0.0602	12.086	0.1442	12.086	0.1960
12.691	0.0589	12.691	0.1440	12.691	0.1946
13.297	0.0576	13.297	0.1389	13.297	0.1943
13.903	0.0571	13.903	0.1377	13.903	0.1936
14.495	0.0559	14.495	0.1315	14.495	0.1930
15.087	0.0549	15.087	0.1309	15.087	0.1929
15.680	0.0542	15.680	0.1251	15.680	0.1929
16.286	0.0530	16.286	0.1250	16.286	0.1927
16.878	0.0524	16.878	0.1201	16.878	0.1899
17.497	0.0518	17.497	0.1207	17.497	0.1886
18.089	0.0513	18.089	0.1160	18.089	0.1924
18.682	0.0509	18.682	0.1170	18.682	0.1942
19.261	0.0504	19.261	0.1178	19.261	0.1958
19.866	0.0499	19.866	0.1133	19.866	0.1971
20.472	0.0494	20.472	0.1141	20.472	0.1984
21.065	0.0489	21.065	0.1150	21.065	0.2002
21.670	0.0483	21.670	0.1157	21.670	0.1992



Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi

PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU)
raccomandazioni A.G.I. 1994

 COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

 CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

 CAMPIONE: **S1 SH1**

COMMESSA: 15289/16

DURATA PROVE:

09/09 - 06/12/16

VERBALE ACC.: 557/16

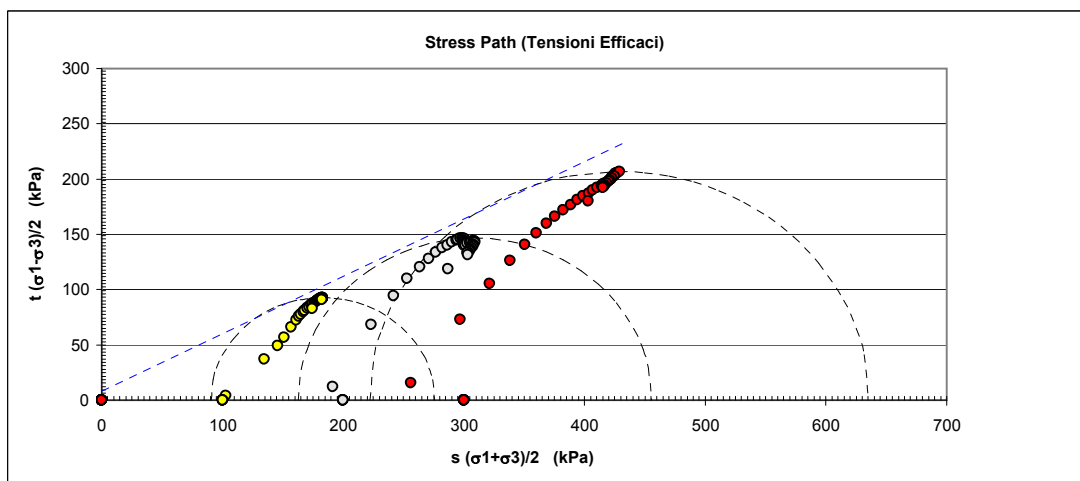
DATA CONSEGNA:

09/09/16

Il presente elaborato non è parte del certificato di prova cui è allegato, è solo un'interpretazione soggettiva dei risultati di prova.

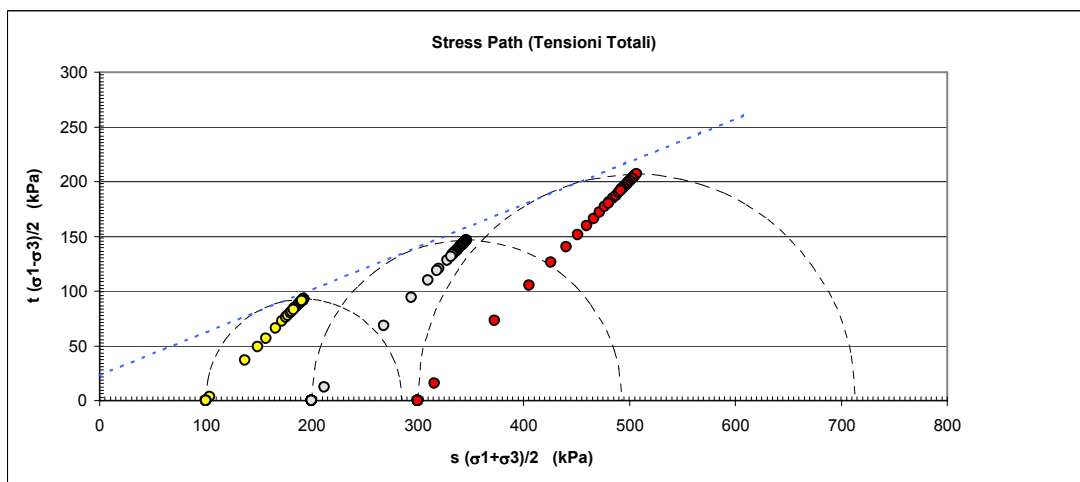
CONDIZIONI A ROTTURA (TENSIONI EFFICACI)

sforzo deviatorico (kPa)	185	293	414
deformazione (%)	24.1	21.7	17.5
tensione efficace s' (kPa)	183	298	429
tensione efficace t' (kPa)	93	146	207
c' (kPa):	8.8	ϕ' (°):	27.7



CONDIZIONI A ROTTURA (TENSIONI TOTALI)

sforzo deviatorico (kPa)	185	293	414
deformazione (%)	24.1	21.7	17.5
tensione totale s (kPa)	192.7	346.5	506.8
tensione efficace t (kPa)	92.7	146.5	206.8
c (kPa):	23.6	ϕ' (°):	21.3





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SCHEDA GENERALE DEL CAMPIONE

COMMITTENTE: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE: Via Antonio Labriola, Stelloni - Sala Bolognese (BO)
CAMPIONE: S1 CR4 m 14.75 - 15.50
COMMESSA: 15289/16
VERBALE ACC.: 557/16
DATA CONSEGNA: 09/09/16

il campione è stato conservato in vasca umida termostatica

bilancia cod. 480 - stufa 567 - picnometro 545

alto 14.75	LUNGHEZZA (cm): - GRADO DI QUALITA': AGI Q3 EC 7-3 Q3 DESCRIZIONE: Sabbia medio fine grigio	
	W naturale (%) 20.8 γ naturale (Mg/m³) - γ secco (Mg/m³) - γ immerso (Mg/m³) - porosità (%) - indice dei vuoti - grado di saturazione (%) - massa specifica (Mg/m³) (stimato) 2.700	
	PROVE ESEGUITE Umidità Naturale - Trassiale UU - Limiti Atterberg SI Trassiale CIU - Gran. Setacciatura SI Edometria - Gran. Sedimentazione - Taglio Diretto - Peso di Volume - Espansione L.L. - Peso Specifico - Trassiale Cicl. + C.M. - Analisi Chimica - Colonna Risonante - Taglio Torsionale Cicl. -	
	NOTE: -	
	15.50 basso	

Io Sperimentatore
dott.geol. Luciano Rossi

Il Direttore del Laboratorio terre
dott. geol. Massimo Romagnoli



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LIMITI DI ATTERBERG (norma UNI CEN ISO/TS 17892-12)

COMMITTENTE:	GEOTEMA S.r.l. - via Piangipane 141/5 - 44121		
CANTIERE:	Via Antonio Labriola, Stelloni - Sala Bolognese (BO)		
CAMPIONE:	S1 CR4	m 14.75 - 15.50	
COMMESSA:	15289/16	DURATA PROVE:	09/09 - 06/12/16
VERBALE ACC.:	557/16	DATA CONSEGNA:	09/09/16
GEO - CERT. n°:	0	rev.00 del:	00/01/00

il campione è stato conservato in vasca umida termostatica

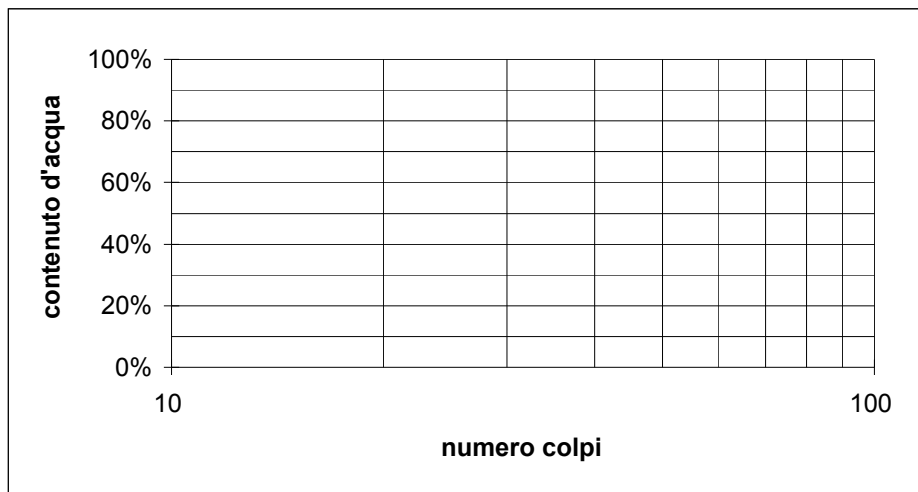
ASPETTO MACROSCOPICO DEL CAMPIONE:

Sabbia medio fine grigio

codice cucchiaino: 344; codice bilancia: 480.

	LIMITE LIQUIDO			LIMITE PLASTICO		UMIDITA'
	1	2	3	1	2	
impasto						
N° colpi						
massa umida+ tara (g)						1276.12
massa secca+ tara (g)						1173.13
acqua contenuta (g)	NON DETERMINABILE			NON PLASTICO		102.99
tara (g)						676.97
peso secco (g)						496.16
contenuto d'acqua						20.8%

Umidità Naturale	Wn =	21%
Limite Liquido	LL =	nd
Limite Plastico	LP =	np
Indice Plastico	IP =	nd



lo Sperimentatore:
dott.geol. Luciano Rossi

Il Direttore del Laboratorio terre:
dott. geol. Massimo Romagnoli



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SCHEMA GENERALE DEL CAMPIONE

COMMITTENTE:	GEOTEMA S.r.l. - via Piangipane 141/5 - 44121
CANTIERE:	Via Antonio Labriola, Stelloni - Sala Bolognese (BO)
CAMPIONE:	S1 SH2 m 17.80 - 18.40
COMMESSA:	15289/16
VERBALE ACC.:	557/16
DATA CONSEGNA:	09/09/16

il campione è stato conservato in vasca umida termostatica

bilancia cod. 480 - stufa 567 - picnometro 545

alto 17.80	P.P. kPa	T.V. kPa	LUNGHEZZA (cm): 60 GRADO DI QUALITA': AGI Q5 EC 7-3 Q1
	140	70	DESCRIZIONE: Limo con argilla grigio scuro con tracce di sostanza organica e legno
			W naturale (%) 45.5
			γ naturale (Mg/m ³) 1.75
			γ secco (Mg/m ³) 1.21
			γ immerso (Mg/m ³) 0.76
			porosità (%) 55
			indice dei vuoti 1.24
			grado di saturazione (%) 99
			massa specifica stimata (Mg/m ³) 2.700
			100
		Umidità Naturale SI Trassiale UU -	
		Limiti Atterberg SI Trassiale CIU SI	
		Gran. Setacciatura SI Edometria -	
		Gran. Sedimentazione SI Taglio Diretto -	
		Peso di Volume SI Espansione L.L. -	
		Peso Specifico - Trassiale Cicl. + C.M. -	
		Analisi Chimica - Colonna Risonante SI	
		Taglio Torsionale Cicl. -	
		NOTE: -	
18.40 basso			

lo Sperimentatore
dott.geol. Luciano Rossi

Il Direttore del Laboratorio terre
dott. geol. Massimo Romagnoli



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ANALISI GRANULOMETRICA

(per setacciatura e sedimentazione) norma A.S.T.M. D 422

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH2 m 17.80 - 18.40**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: 0 rev.00 del: 00/01/00

il campione è stato conservato in vasca umida termostatica

Codici strumentazione: bilancia 480, stufa 567, picnometro 151H, densimetro 348, mescolatore 432.

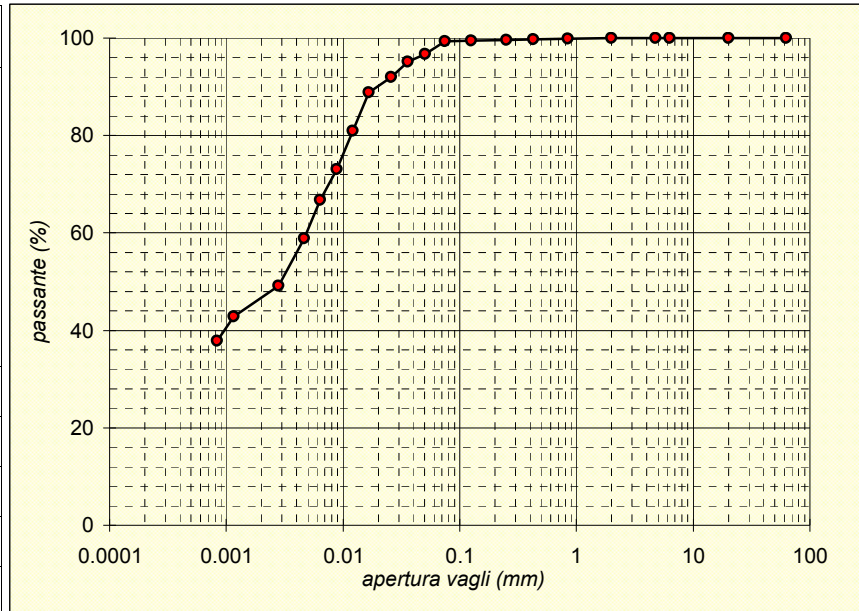
ASPETTO MACROSCOPICO DEL CAMPIONE:

Limo con argilla grigio scuro con tracce di sostanza organica e legno

codici	vaglic	trattenut	trattenut	cum. tratt.	passante
	(mm)	(g)	(%)	(%)	(%)
571	setaccio 63	0.00	0.00	0.00	100.00
572	setaccio 20	0.00	0.00	0.00	100.00
573	setaccio 6.3	0.00	0.00	0.00	100.00
290	setaccio 4.75	0.00	0.00	0.00	100.00
291	setaccio 2.0	0.05	0.04	0.04	99.96
292	setaccio 0.850	0.10	0.08	0.12	99.88
293	setaccio 0.425	0.16	0.12	0.24	99.76
282	setaccio 0.250	0.22	0.17	0.41	99.59
283	setaccio 0.125	0.17	0.13	0.54	99.46
286	setaccio 0.075	0.15	0.12	0.65	99.35
-	calcolato 0.0507	3.48	2.67	3.32	96.68
-	calcolato 0.0361	2.05	1.57	4.90	95.10
-	calcolato 0.0259	4.10	3.15	8.05	91.95
-	calcolato 0.0166	4.10	3.15	11.19	88.81
-	calcolato 0.0121	10.25	7.87	19.06	80.94
-	calcolato 0.0088	10.25	7.87	26.93	73.07
-	calcolato 0.0064	8.20	6.29	33.22	66.78
-	calcolato 0.0047	10.25	7.87	41.09	58.91
-	calcolato 0.0028	12.66	9.72	50.81	49.19
-	calcolato 0.0012	8.20	6.30	57.11	42.89
-	calcolato 0.0008	6.51	5.00	62.11	37.89
-	fondo	49.37	37.89	100.00	0.00
TOTALE		130.28			

φ max (mm) = 2.4

Passante effettivo setaccio 0.075 (g) in areometro	50.00	
° C	Tempo (s)	Lettura
24	30	33.5
24	60	33.0
24	120	32.0
24	300	31.0
24	600	28.5
24	1200	26.0
24	2400	24.0
24	4800	21.5
23.5	14400	18.5
23.5	86400	16.5
23	172800	15.0
Rapporti granulometrici		
USCS		
GHIAIA	> 4,75 mm	> 2,00 mm
	0.0%	0.0%
SABBIA	> 0,075 mm	> 0,063 mm
	0.7%	1.8%
LIMO	> 2 μ	> 2 μ
	52.6%	51.4%
ARGILLA	< 2 μ	< 2 μ
	46.8%	46.8%



Soluzione disperdente preparata al momento

Io Sperimentatore
dott.geol. Luciano Ross

Il Direttore del Laboratorio
dott. geol. Massimo Romagno

LIMITI DI ATTERBERG (norma UNI CEN ISO/TS 17892-12)

COMMITTENTE:	GEOTEMA S.r.l. - via Piangipane 141/5 - 44121		
CANTIERE:	Via Antonio Labriola, Stelloni - Sala Bolognese (BO)		
CAMPIONE:	S1 SH2	m 17.80 - 18.40	
COMMESSA:	15289/16	DURATA PROVE:	09/09 - 06/12/16
VERBALE ACC.:	557/16	DATA CONSEGNA:	09/09/16
GEO - CERT. n°:	0	rev.00 del:	00/01/00

il campione è stato conservato in vasca umida termostatica

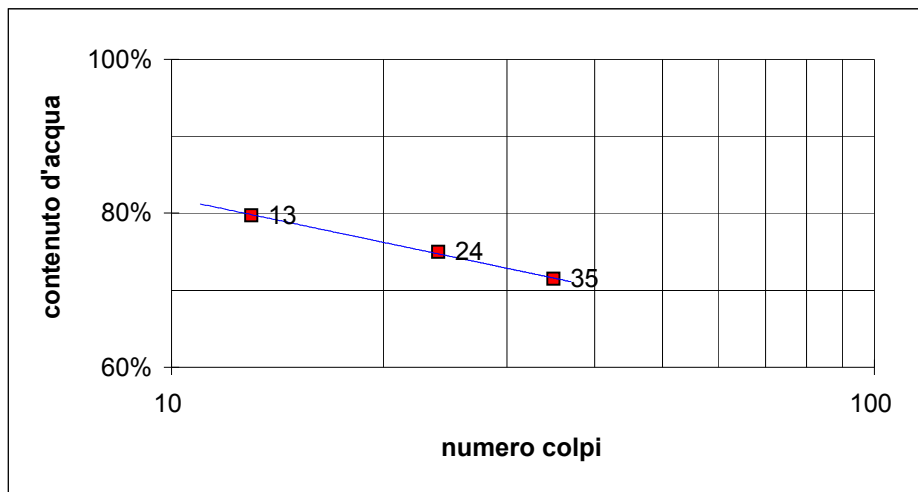
ASPETTO MACROSCOPICO DEL CAMPIONE:

Limo con argilla grigio scuro con tracce di sostanza organica e legno

codice cucchiaino: 344; codice bilancia: 480.

	LIMITE LIQUIDO			LIMITE PLASTICO		UMIDITA'
	1	2	3	1	2	
impasto						
N° colpi	35	24	13			
massa umida+ tara (g)	21.12	27.91	22.99	12.40	15.75	501.60
massa secca+ tara (g)	13.39	16.96	13.94	9.66	12.06	442.18
acqua contenuta (g)	7.73	10.95	9.05	2.74	3.69	59.42
tara (g)	2.57	2.35	2.59	2.31	2.26	311.90
peso secco (g)	10.82	14.61	11.35	7.35	9.80	130.28
contenuto d'acqua	71.4%	74.9%	79.7%	37.3%	37.7%	45.6%

Umidità Naturale	Wn =	46%
Limite Liquido	LL =	74%
Limite Plastico	LP =	37%
Indice Plastico	IP =	37%


 lo Sperimentatore:
 dott.geol. Luciano Rossi

 Il Direttore del Laboratorio terre:
 dott. geol. Massimo Romagnoli



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA

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UMIDITA' DI UNA TERRA

UNI EN ISO 17892-1

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH2 m 17.80 - 18.40**

COMMESSA: 15289/16

DURATA PROVE:

09/09 - 06/12/16

VERBALE ACC.: 557/16

DATA CONSEGNA:

09/09/16

GEO - CERT. n°: 0

rev.00 del:

00/01/00

il campione è stato conservato in vasca umida termostatica

ASPETTO MACROSCOPICO DEL CAMPIONE:

Limo con argilla grigio scuro con tracce di sostanza organica e legno

cod.bilancia 480

DETERMINAZIONE	1	2
TARA (g)	311.9	422.17
TERRA UMIDA (g)	501.6	1214.03
TERRA ESSICATA* (g)	442.18	967.08
UMIDITA' DETERMINATA (%)	45.6	45.3

UMIDITA' CALCOLATA (%)	=	45.5
------------------------	---	-------------

* materiale essiccato instufa a 105 - 110 °C, fino a massa costante.

Io Sperimentatore:
dott.geol. Luciano Rossi

Il Direttore del Laboratorio terre:
dott. geol. Massimo Romagnoli



elletipi s.r.l.

Sede operativa ed amm.va: Via Annibale Zucchini, 69 - 44100 FERRARA

tel. 0532/56771; fax 0532/56119 e-mail: elletipi@libero.it sito: www.elletipi.it

® P IVA e Codice Fiscale n. 00174600387

[Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC](#)



MASSA VOLUMICA APPARENTE

UNI EN ISO 17892-2

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH2 m 17.80 - 18.40**

COMMESSA: 15289/16

DURATA PROVE:

09/09 - 06/12/16

VERBALE ACC.: 557/16

DATA CONSEGNA:

09/09/16

GEO - CERT. n°: 0

rev.00 del:

00/01/00

il campione è stato conservato in vasca umida termostatica

ASPETTO MACROSCOPICO DEL CAMPIONE:

Limo con argilla grigio scuro con tracce di sostanza organica e legno

cod.bilancia 480

DETERMINAZIONE	1	2
TARA (g)	186.04	137.63
ALTEZZA (cm)	10.00	7.62
DIAMETRO (cm)	5.00	3.84
MASSA LORDA (g)	531.00	291.79
MASSA VOLUMICA (Mg/m ³)	1.76	1.75

MEDIA (Mg/m³)	=	1.75
---------------------------------	----------	-------------

lo Sperimentatore:

dott.geol. Luciano Rossi

Il Direttore del Laboratorio terre:

dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121	Certificato di prova N°:
Località: Sala Bolognese (BO)	Verbale di accettazione N°: 557/16
Cantiere: Via Antonio Labriola, Stelloni	Commessa: 15289/16
Sondaggio: S1	Data ricevimento campione: 09/09/16
Campione: SH2	Data prova: 07/12/16
Profondità (m): 17.80 - 18.40	Data emissione certificato:

DATI INIZIALI			DATI DI PROVA			DATI FINALI		
Altezza:	100.00	mm	Tipo di campione:	Limo con argilla grigio scuro con tracce di sostanza organica e legno		Altezza:	97.37	mm
Diametro:	50.00	mm		Fattore Raggio Eq.:	0,707	-	Diametro:	48.63
Raggio eq.:	17.675	mm	Coefficiente B:	0.97	%	Raggio eq.:	17.193	mm
Massa:	345.0	g	Pressione cella:	756	kPa	Massa:	329.5	g
W:	45.6	%	Contropressione:	450	kPa	W:	39.6	%
γ:	17.23	kN/m ³				γ:	18.22	kN/m ³
γ _s :	11.84	-				γ _s :	13.05	-
e:	1.24	-				e:	1.07	-

	Frequenza Risonanza (Hz)	Momento Torcente (Nm)	Def. Taglio max (%)	Vel. Onde Taglio V _s (m/s)	Modulo Taglio G (MPa)	G/G ₀	Rapporto Smorz. D (%)	ΔU/σ ³
Test 1*	90.40	0.0001	3.60E-05	173.54	52.92	1.000	1.45	0.000
Test 2	89.60	0.0002	7.60E-05	172.00	51.98	0.982	1.47	0.000
Test 3	89.20	0.0003	9.90E-05	171.24	51.52	0.974	1.54	0.000
Test 4	89.20	0.0008	3.08E-04	171.24	51.52	0.974	1.61	0.000
Test 5	88.80	0.0013	5.05E-04	170.47	51.06	0.965	1.77	0.000
Test 6	88.80	0.0020	8.09E-04	170.47	51.06	0.965	1.78	0.000
Test 7	87.60	0.0030	1.18E-03	168.16	49.69	0.939	1.78	0.000
Test 8	86.60	0.0075	3.03E-03	166.24	48.56	0.918	1.99	0.000
Test 9	85.50	0.0200	5.32E-03	164.13	47.33	0.894	2.06	0.011
Test 10	84.50	0.0300	1.04E-02	162.21	46.23	0.874	2.56	0.015
Test 11	79.50	0.0900	3.10E-02	152.61	40.92	0.773	2.85	0.050
Test 12	74.00	0.1700	4.95E-02	142.06	35.46	0.670	4.38	0.058
Test 13	69.50	0.2500	6.73E-02	133.42	31.28	0.591	5.66	0.061
Test 14	64.50	0.3500	8.97E-02	123.82	26.94	0.509	7.68	0.065
Test 15	58.00	0.4997	1.26E-01	111.34	21.78	0.412	9.62	0.069
Test 16	42.00	1.0000	2.99E-01	80.63	11.42	0.216	12.39	0.100
Test 17	35.50	1.2992	4.47E-01	68.15	8.16	0.154	13.45	0.141
Test 18	29.00	1.6000	6.83E-01	55.67	5.45	0.103	16.87	0.205
Test 19	23.00	2.0000	1.15E+00	44.15	3.43	0.065	21.43	0.305

* Test 1 corrispondente al valore G₀

lo Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH2**

Profondità (m): **17.80 - 18.40**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

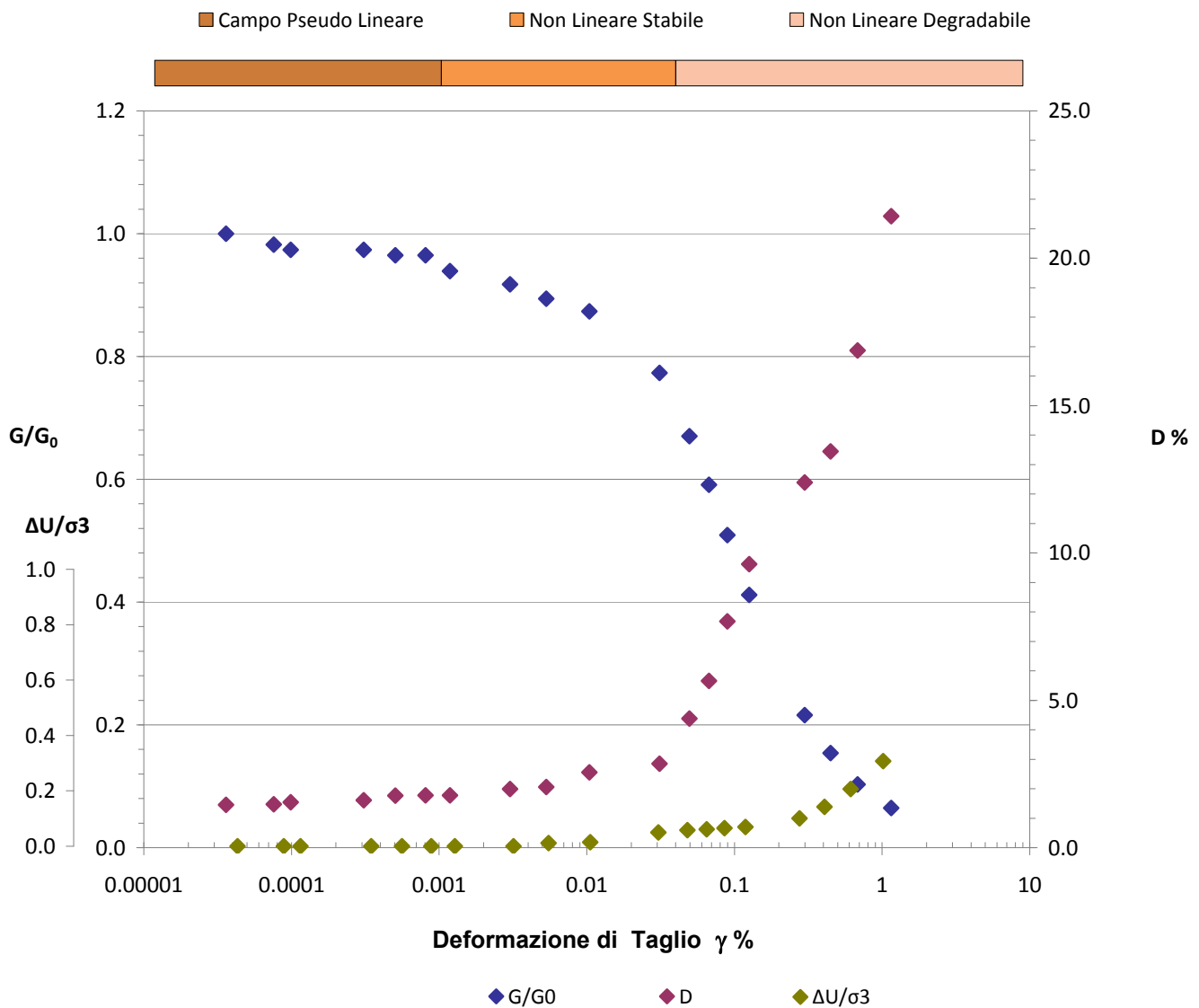
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

Data prova: **07/12/16**

Data emissione certificato:

Legge Costitutiva del Terreno



Io Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH2**

Profondità (m): **17.80 - 18.40**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

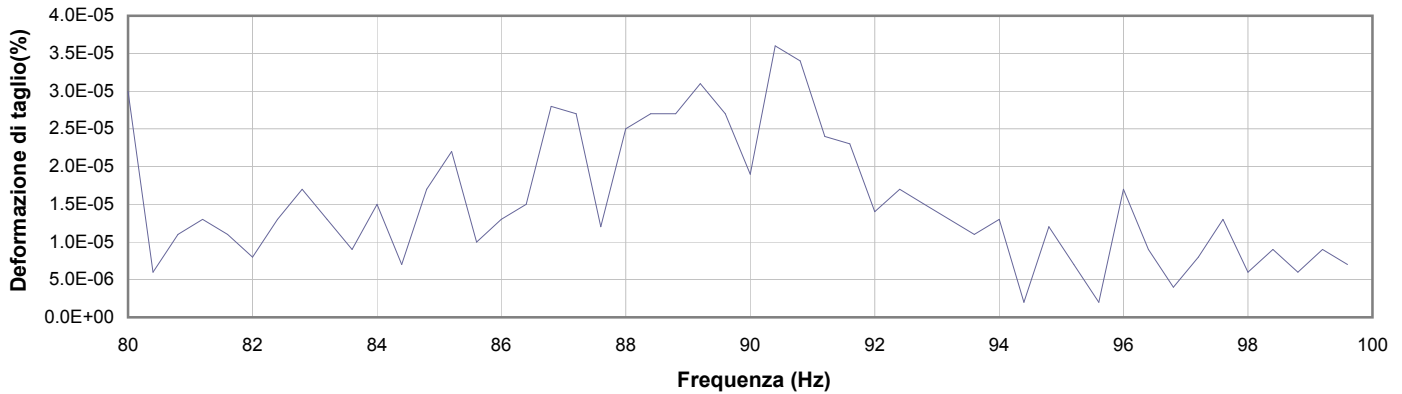
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

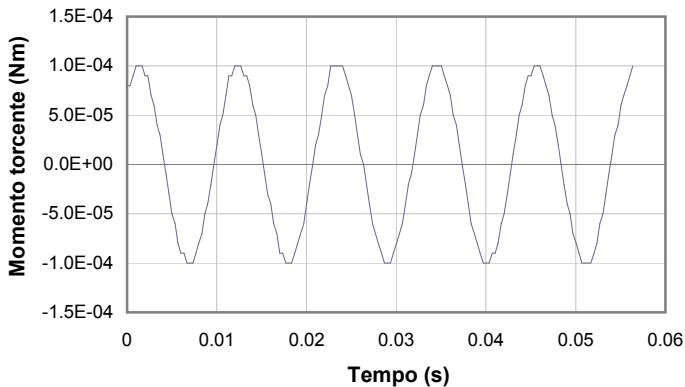
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Data emissione certificato:

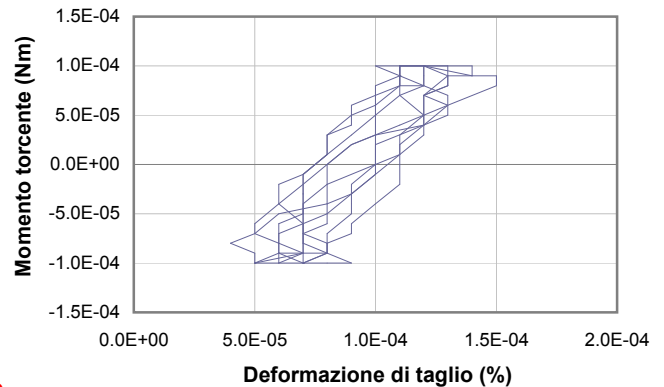
Test 1



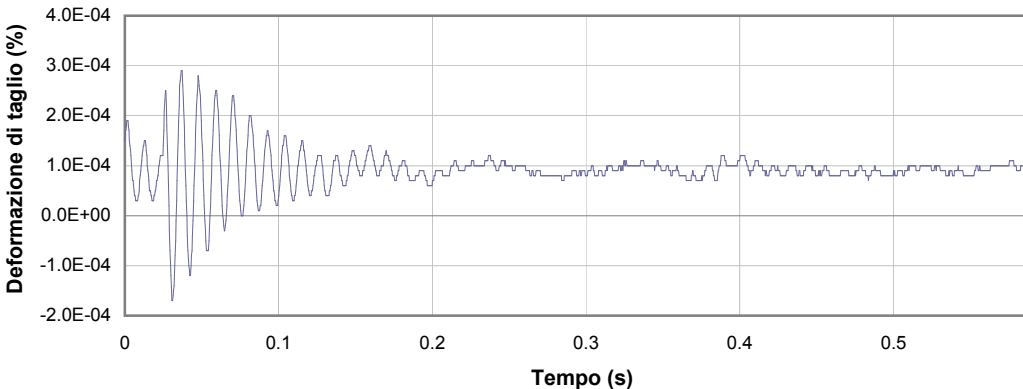
1



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4

1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

3 Cicli di isteresi alla frequenza di risonanza

4 Smorzamento per oscillazioni libere

Io Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH2**

Profondità (m): **17.80 - 18.40**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

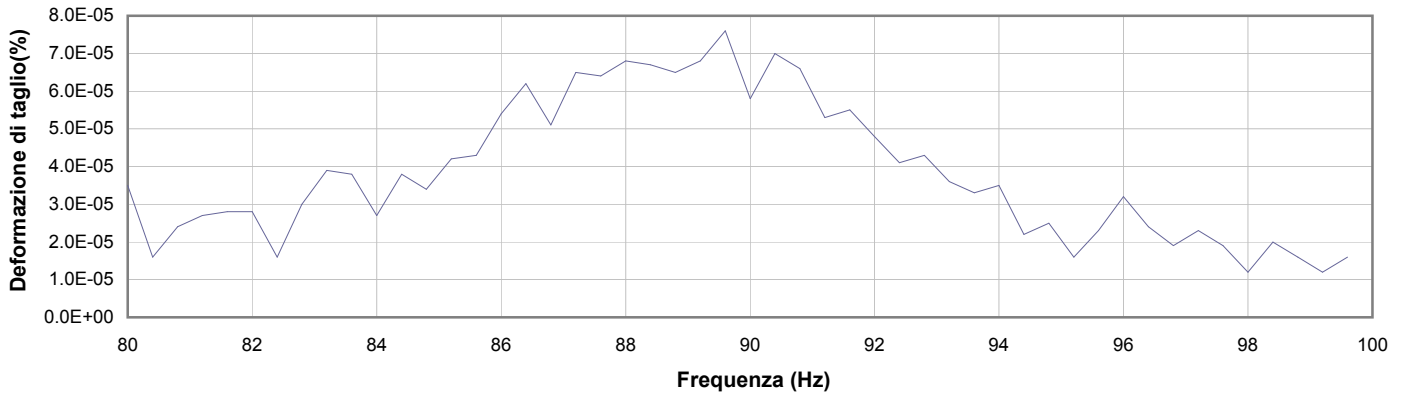
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Data ricevimento campione: **09/09/16**

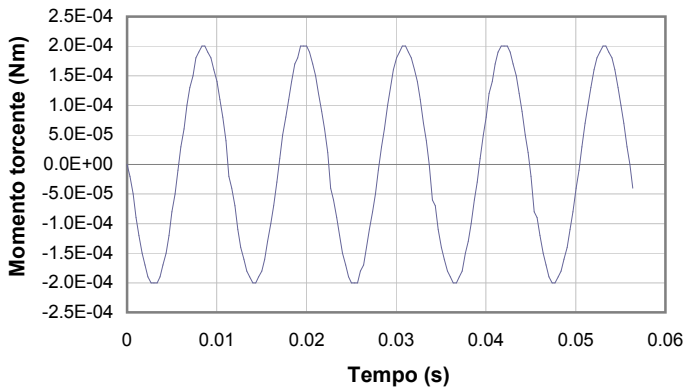
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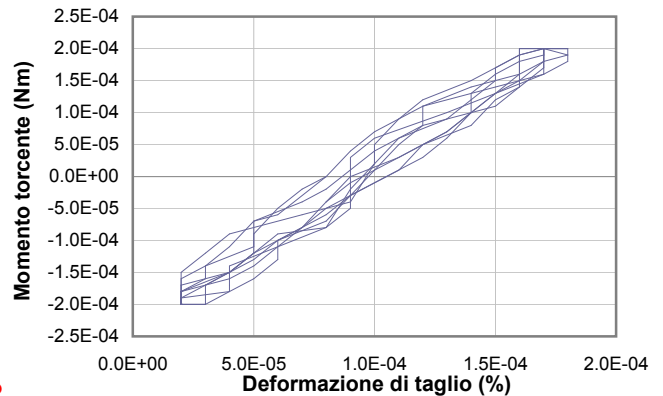
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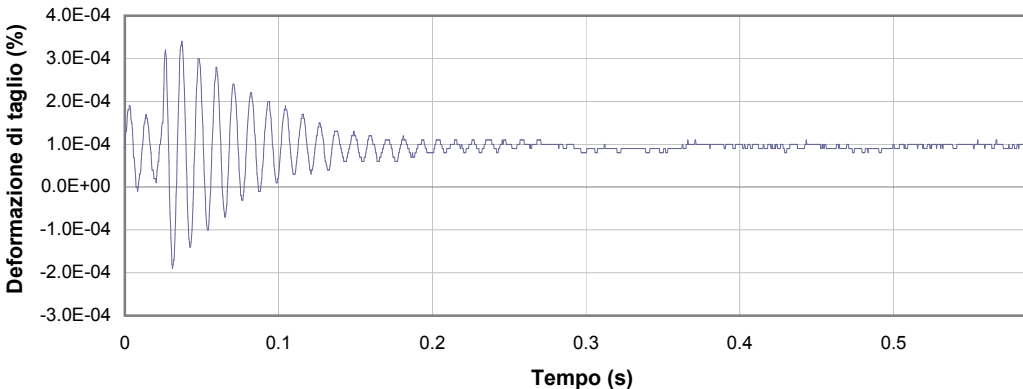
1



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4

1 Campo delle frequenze indagate

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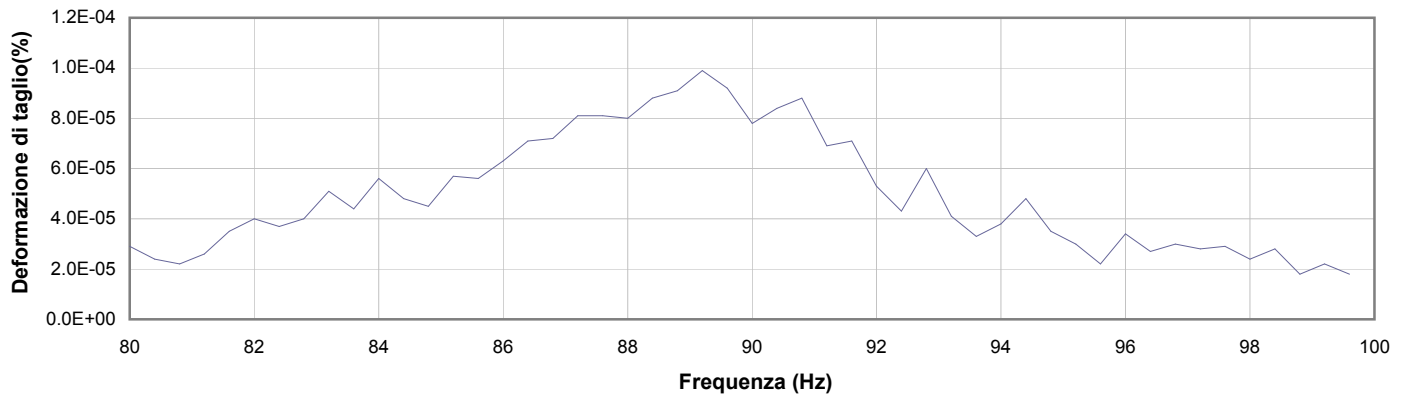
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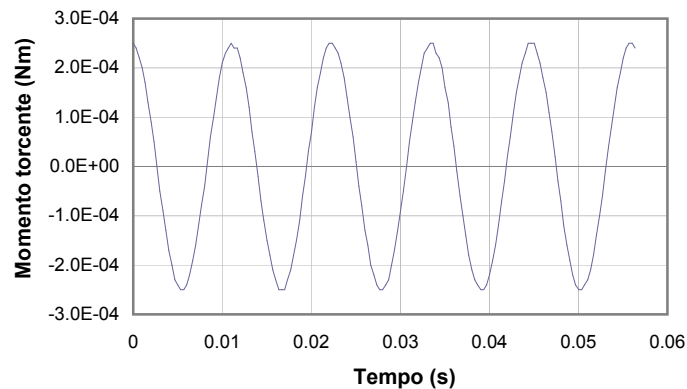
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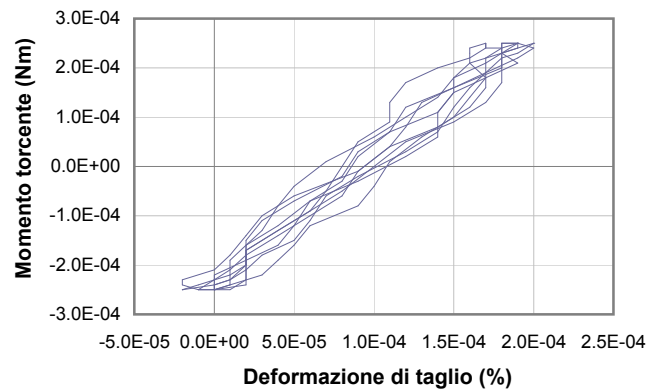
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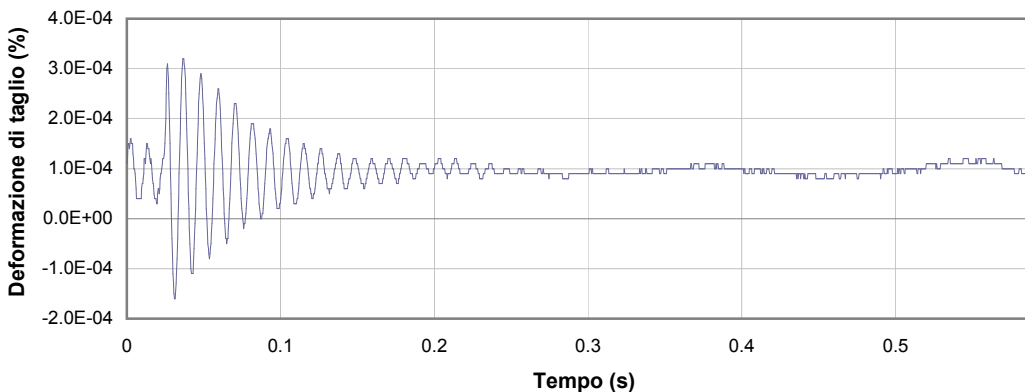
1



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PROVA DI COLONNA RISONANTE (ASTM D 4015)

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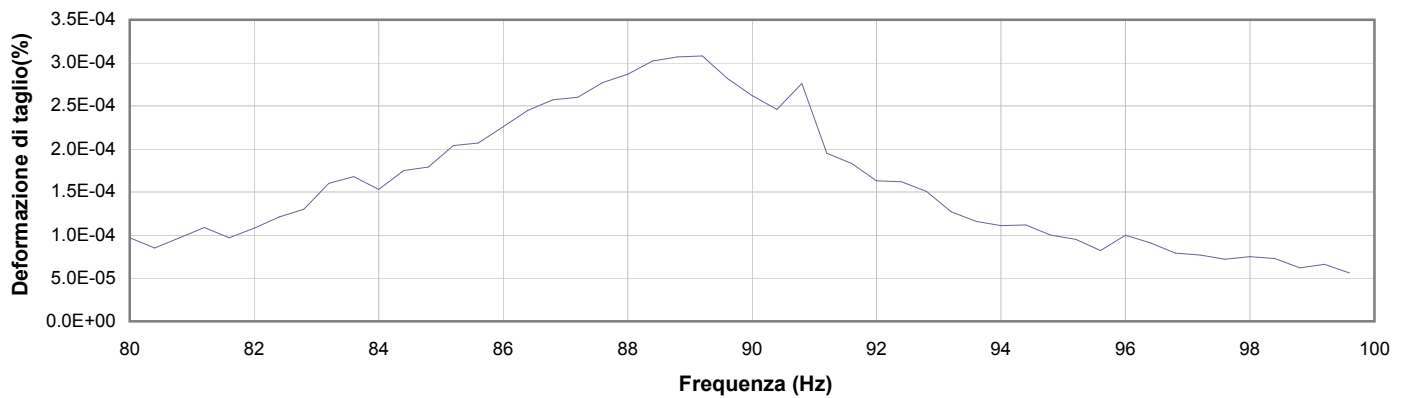
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

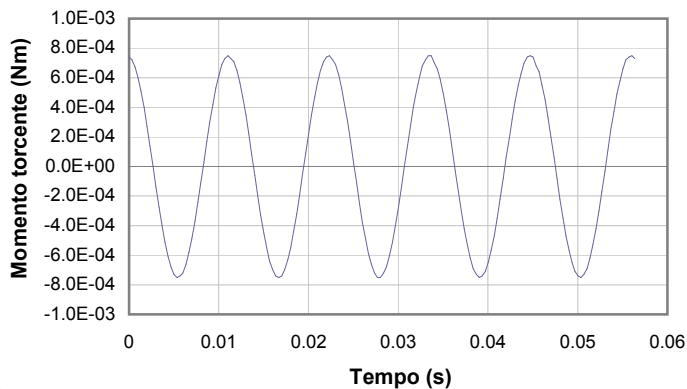
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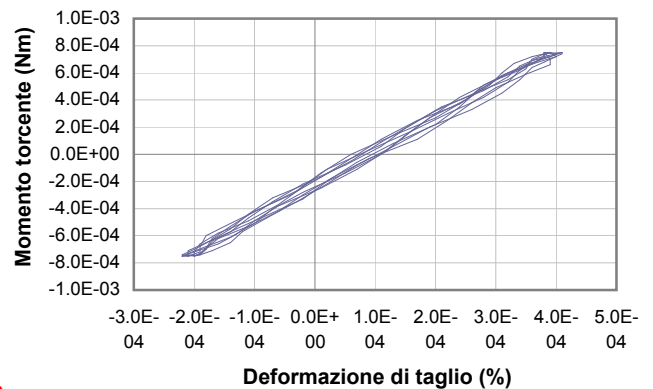
Test 4



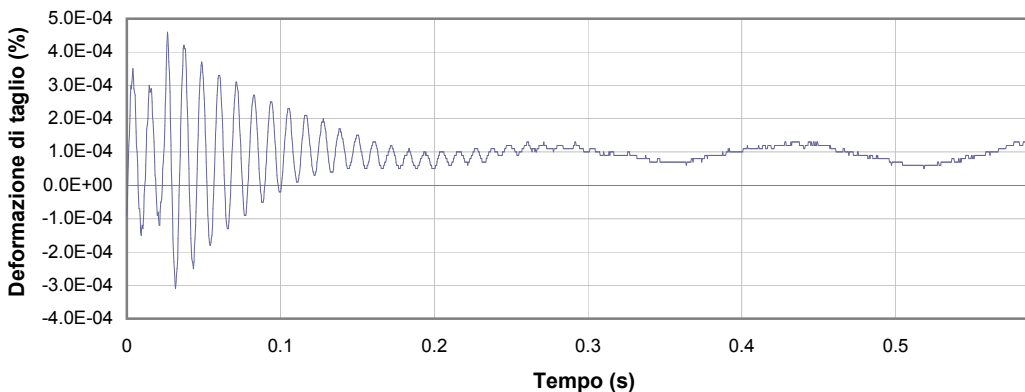
1



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PROVA DI COLONNA RISONANTE (ASTM D 4015)

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Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH2**

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Certificato di prova N°:

Verbale di accettazione N°: **557/16**

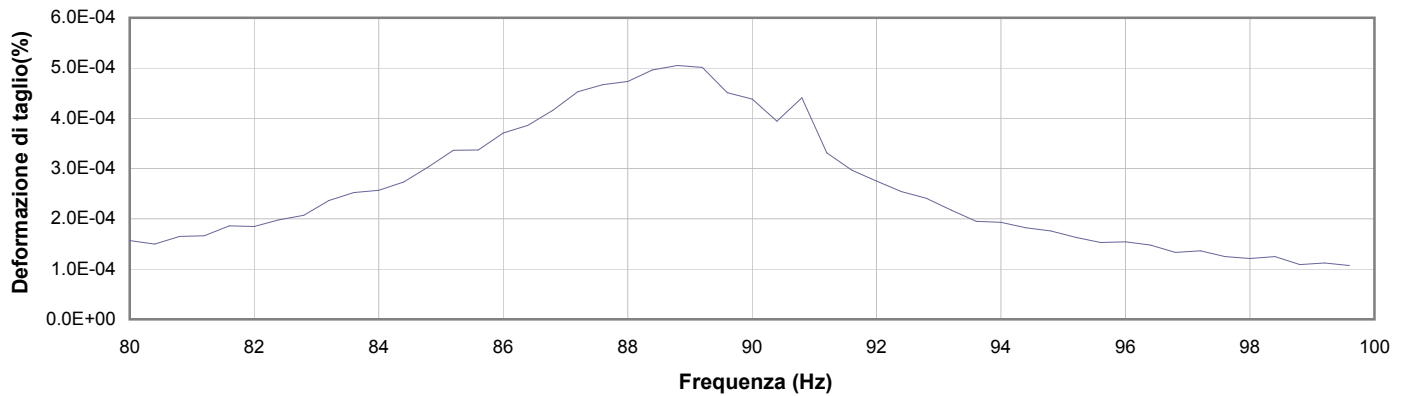
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

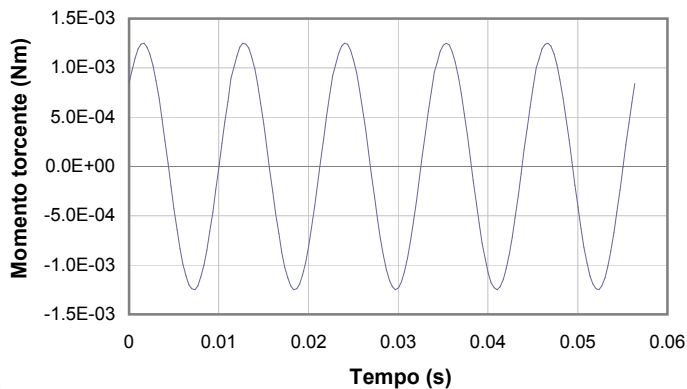
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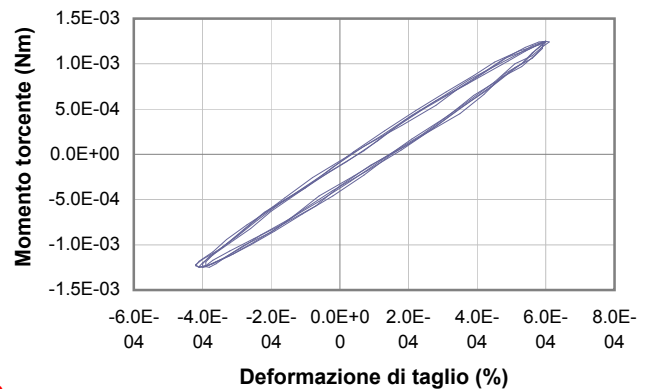
Test 5



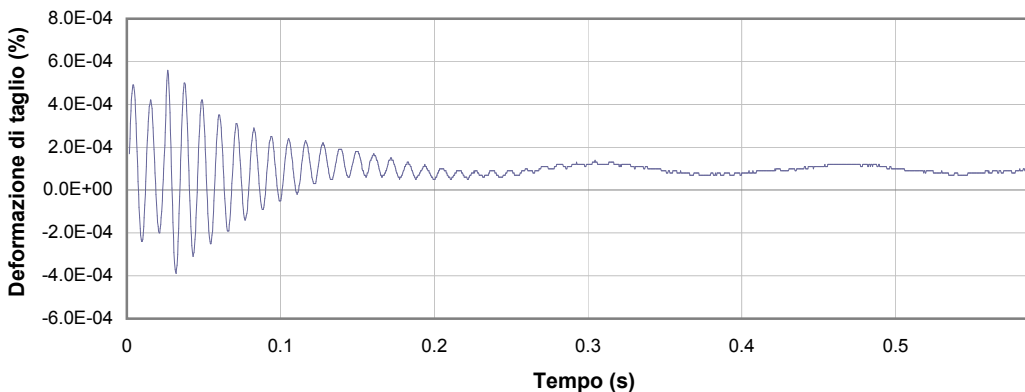
1



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4

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Io Sperimentatore:
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Sondaggio: **S1**

Campione: **SH2**

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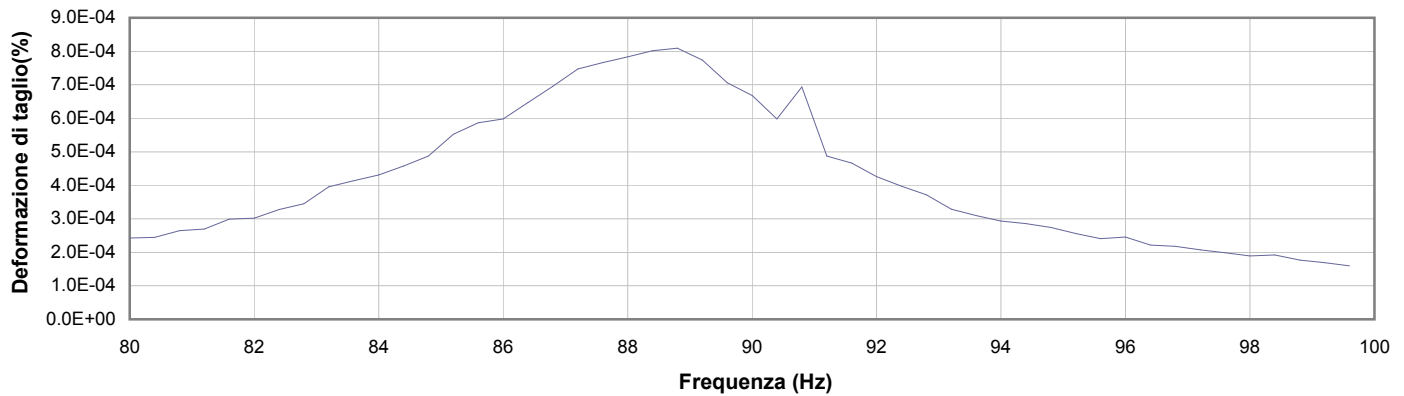
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

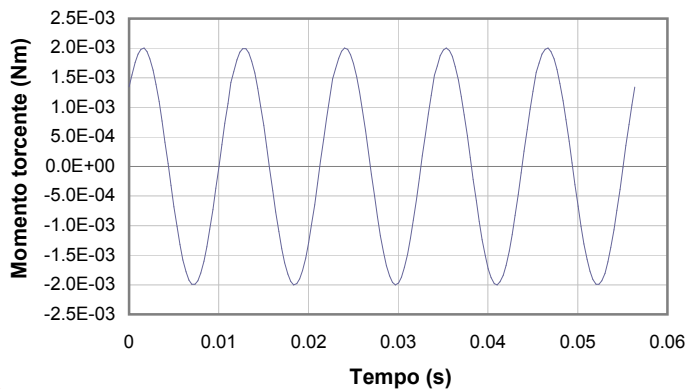
Data prova: **07/12/16**

Data emissione certificato:

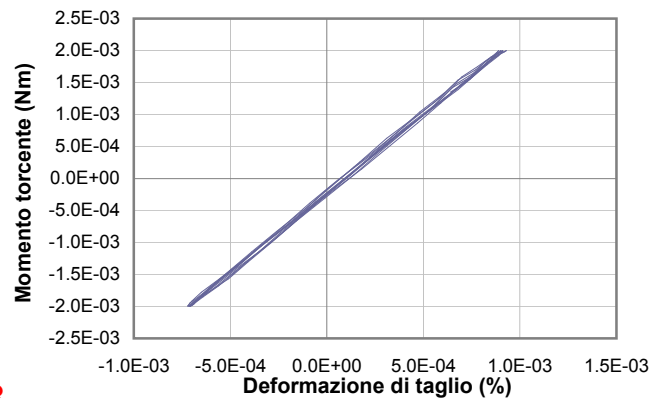
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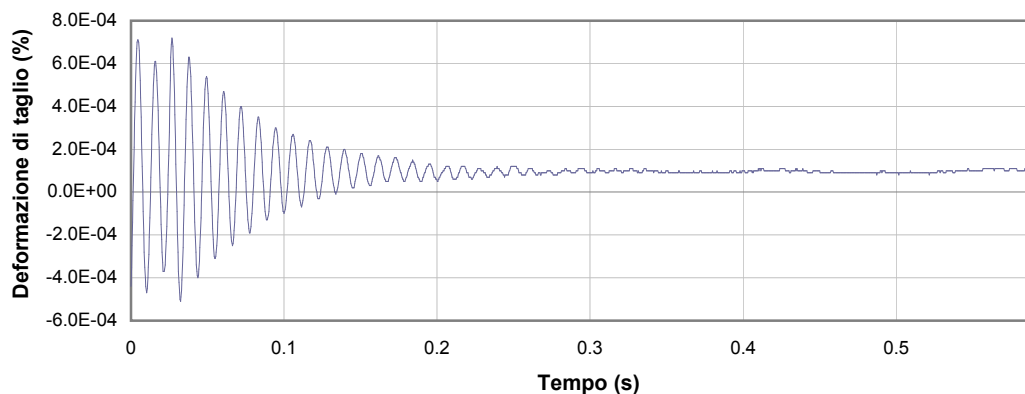
1



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1 Campo delle frequenze indagate

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lo Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
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PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH2**

Profondità (m): **17.80 - 18.40**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

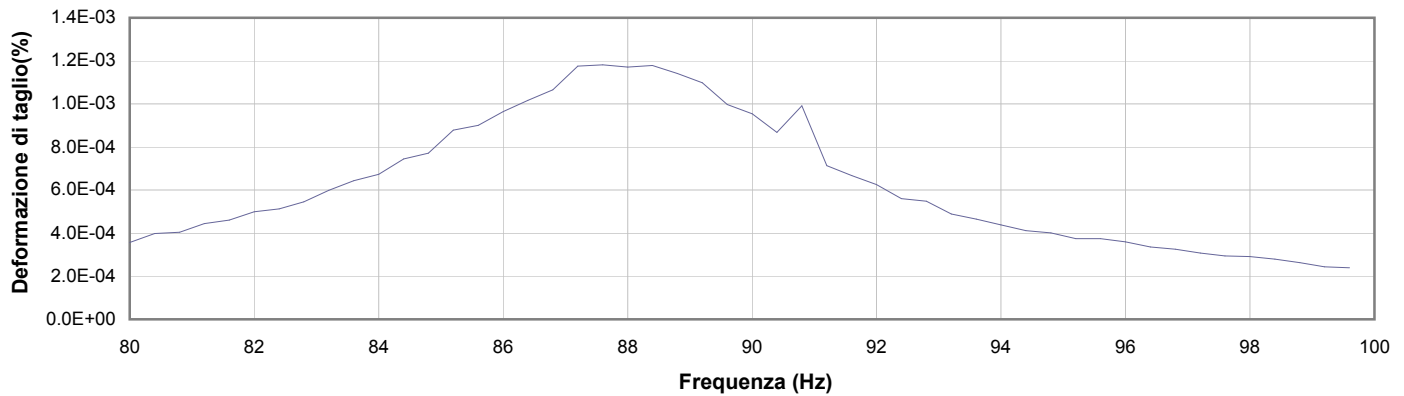
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

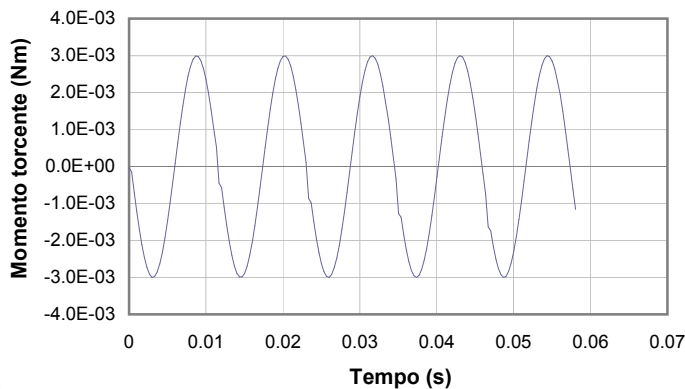
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Data emissione certificato:

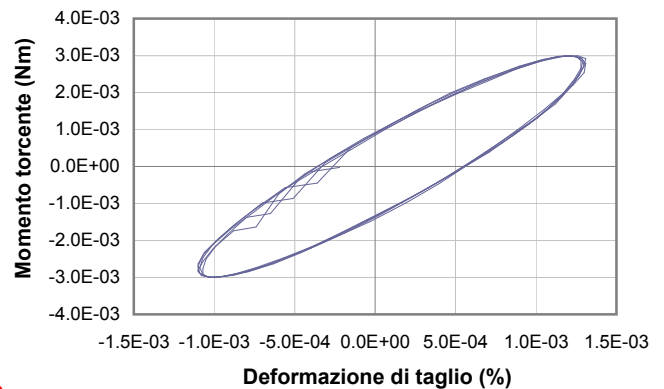
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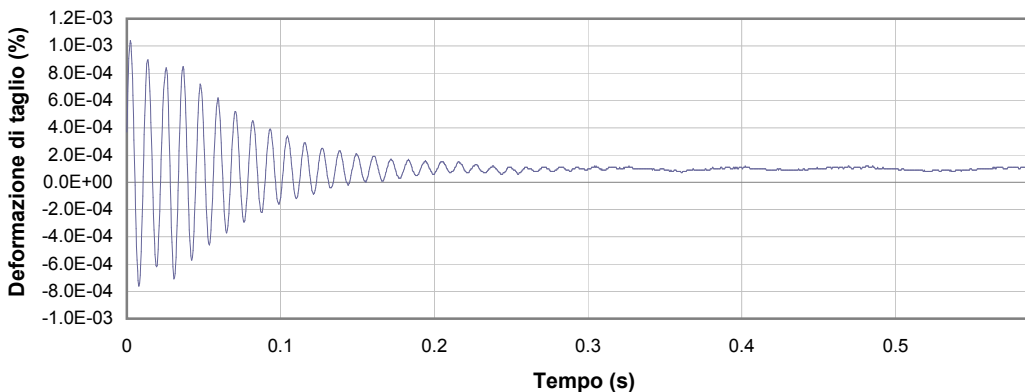
1



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4

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Io Sperimentatore:
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Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH2**

Profondità (m): **17.80 - 18.40**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

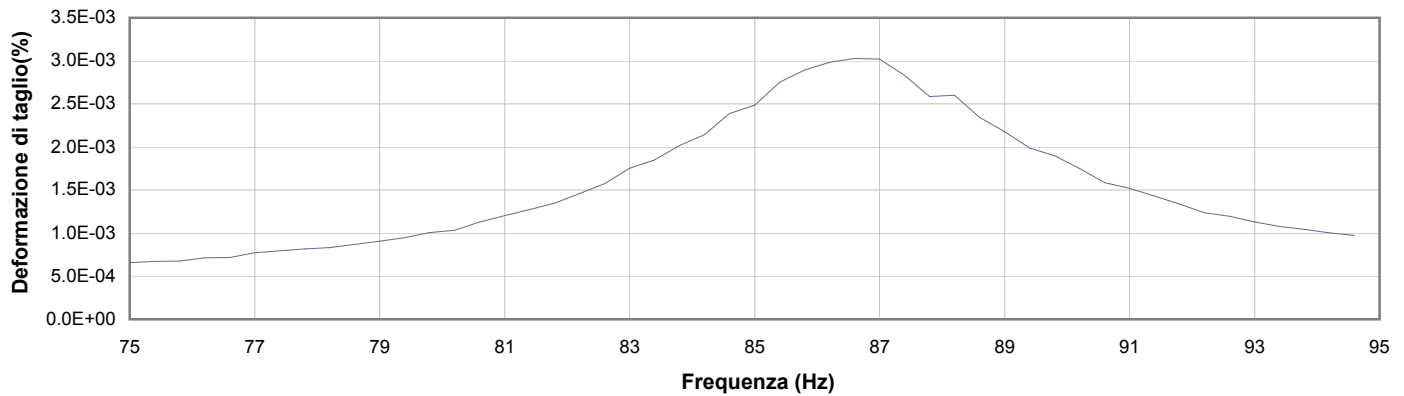
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

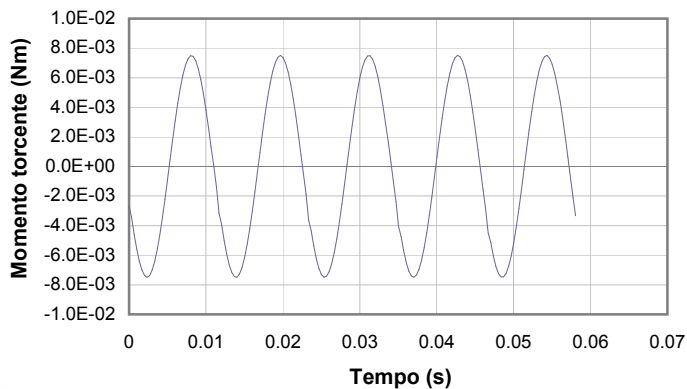
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Data emissione certificato:

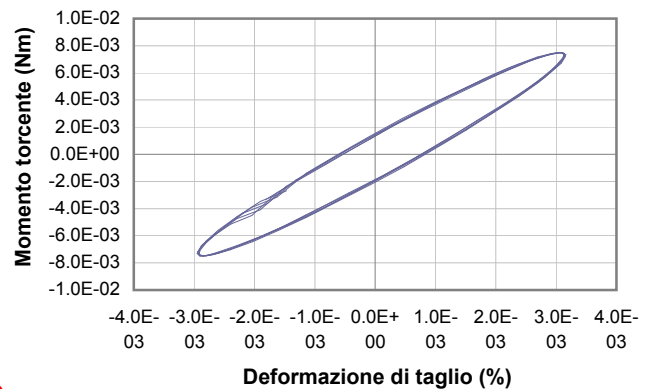
Test 8



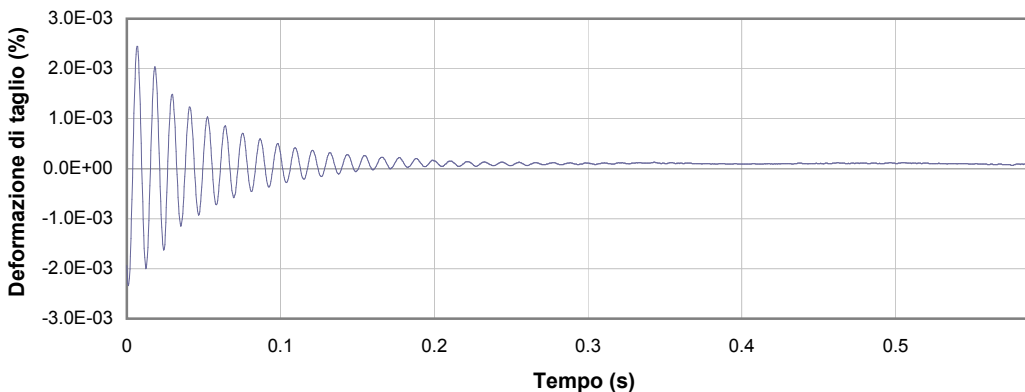
1



2



3



4

1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

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PROVA DI COLONNA RISONANTE (ASTM D 4015)

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Località: **Sala Bolognese (BO)**

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Sondaggio: **S1**

Campione: **SH2**

Profondità (m): **17.80 - 18.40**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

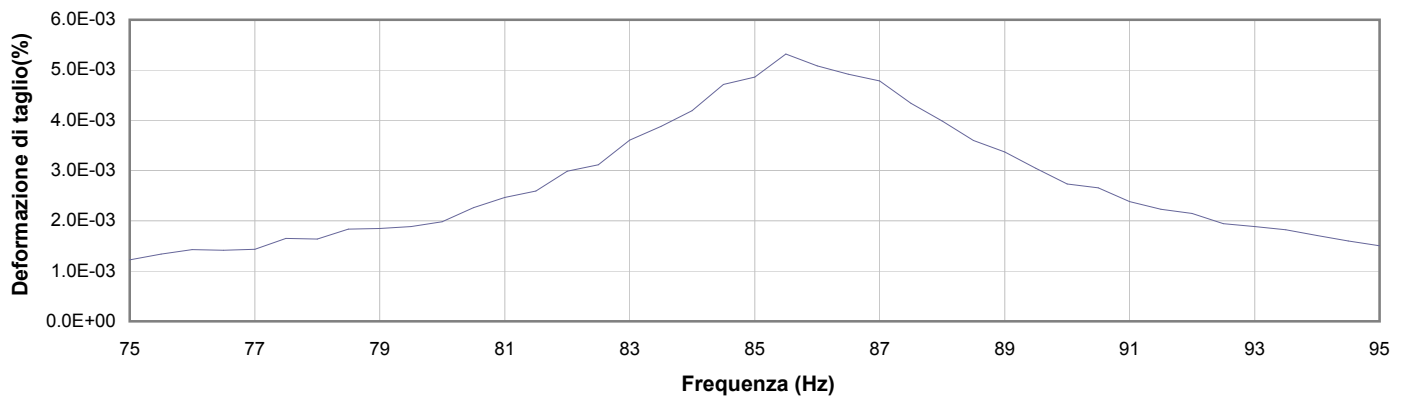
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

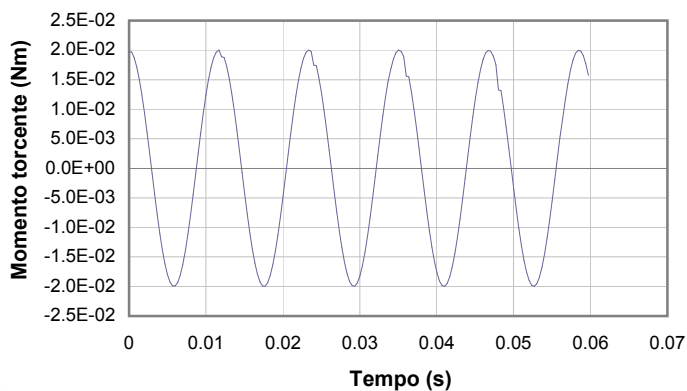
Data prova: **07/12/16**

Data emissione certificato:

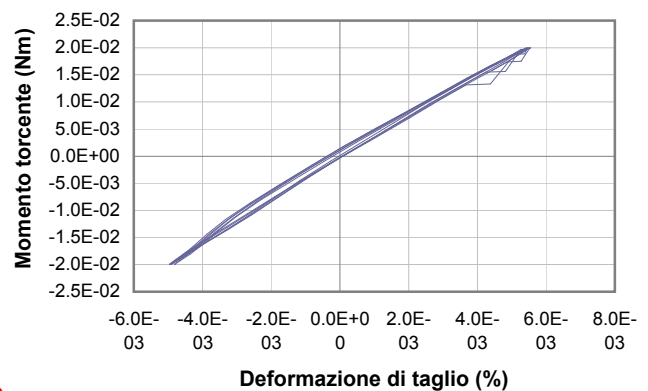
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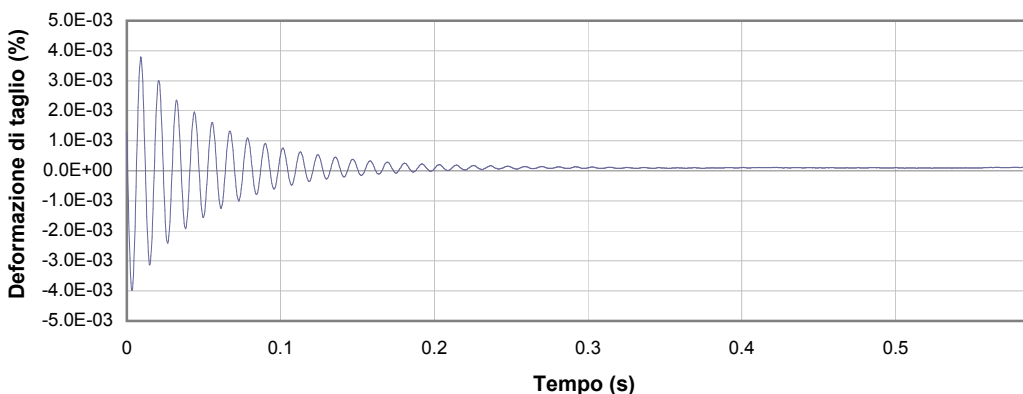
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1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

3 Cicli di isteresi alla frequenza di risonanza

4 Smorzamento per oscillazioni libere

lo Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH2**

Profondità (m): **17.80 - 18.40**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

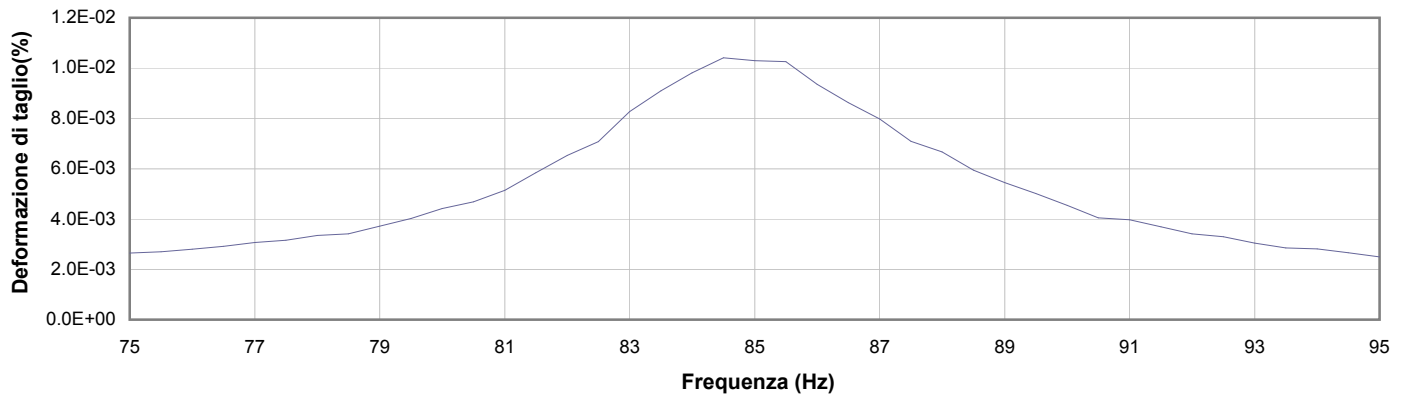
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

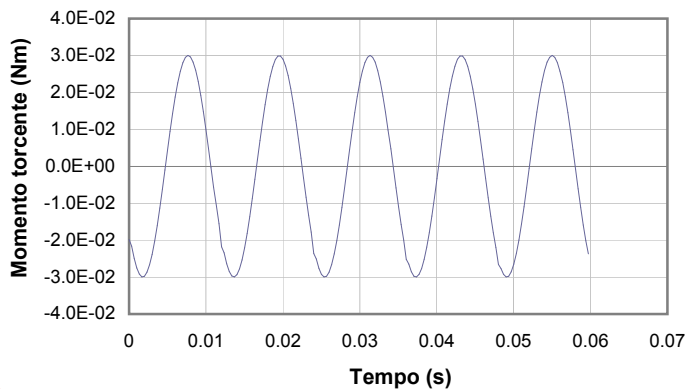
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Data emissione certificato:

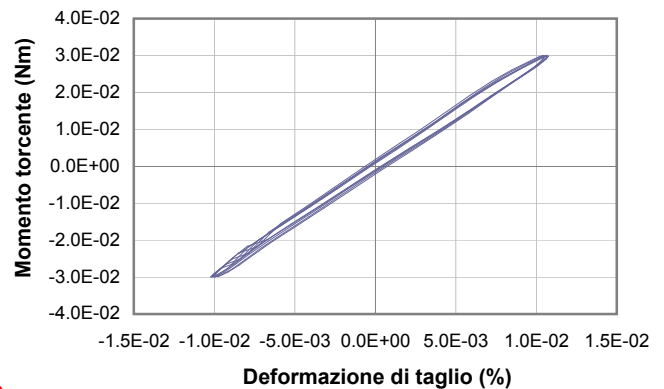
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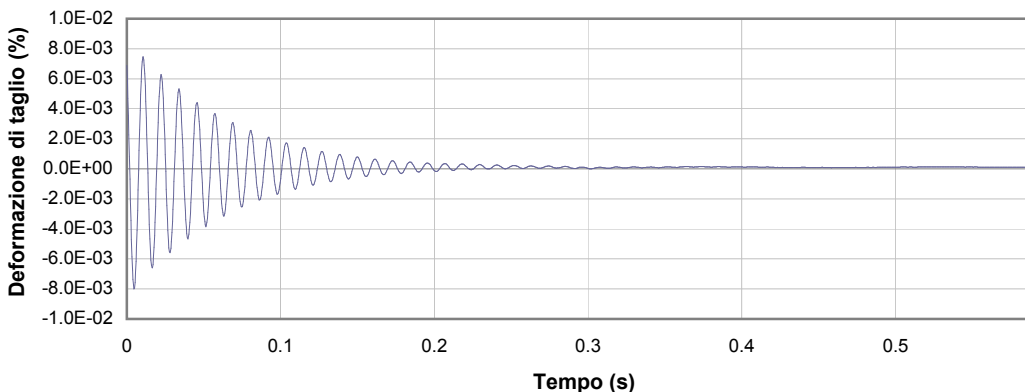
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4

1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

3 Cicli di isteresi alla frequenza di risonanza

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Io Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

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Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH2**

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Certificato di prova N°:

Verbale di accettazione N°: **557/16**

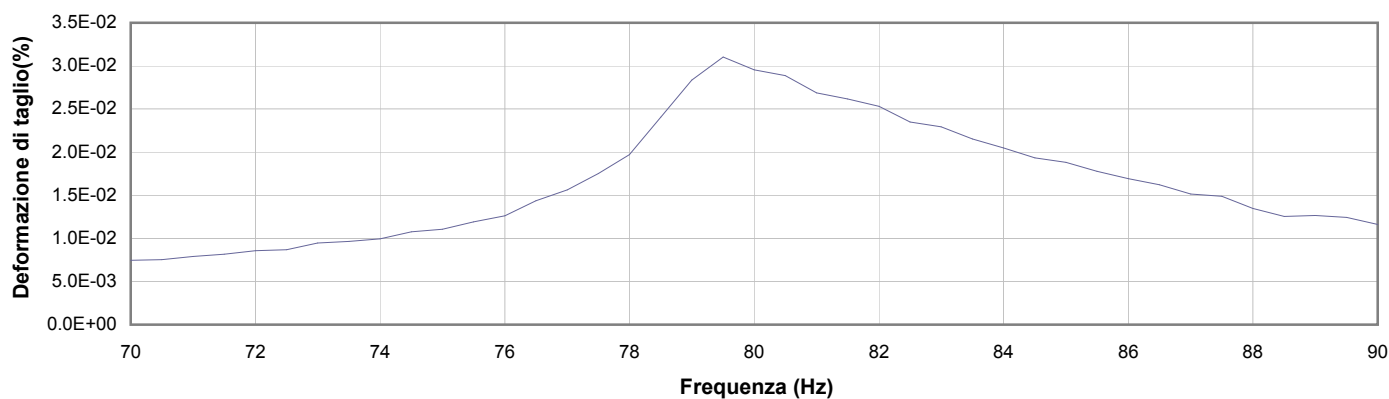
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

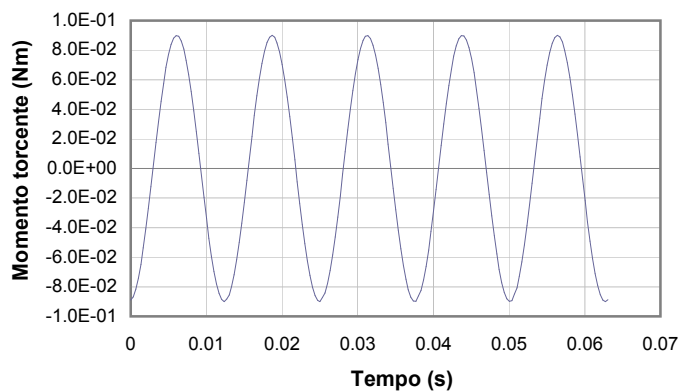
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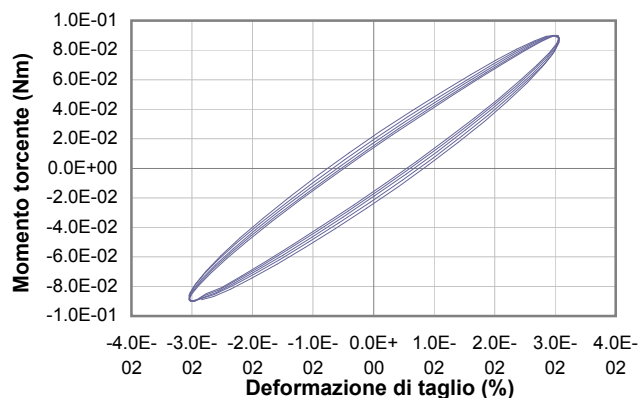
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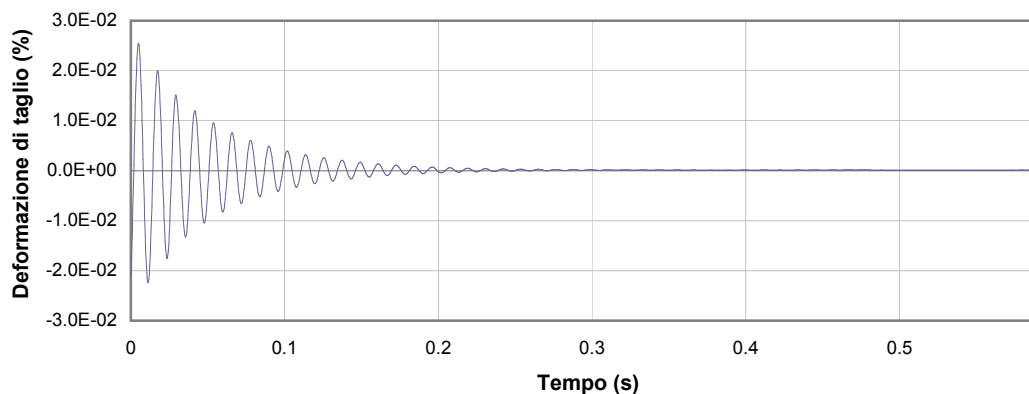
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1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

3 Cicli di isteresi alla frequenza di risonanza

4 Smorzamento per oscillazioni libere

lo Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH2**

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Certificato di prova N°:

Verbale di accettazione N°: **557/16**

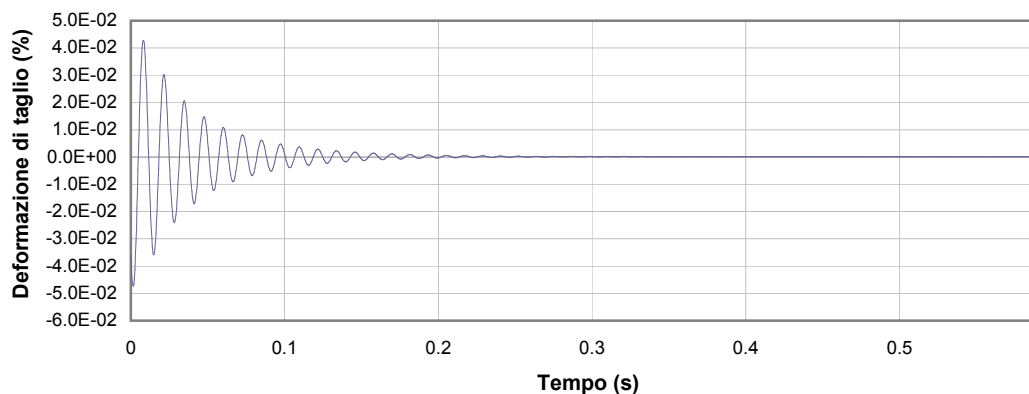
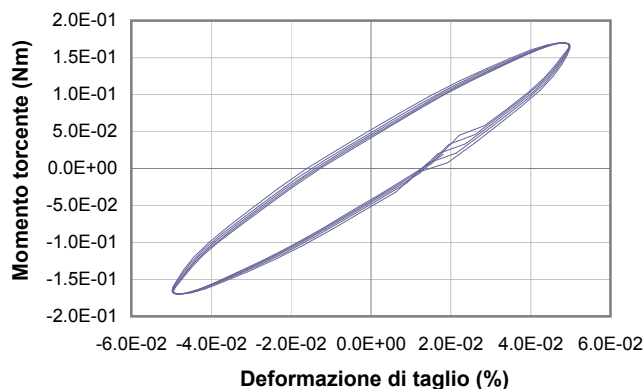
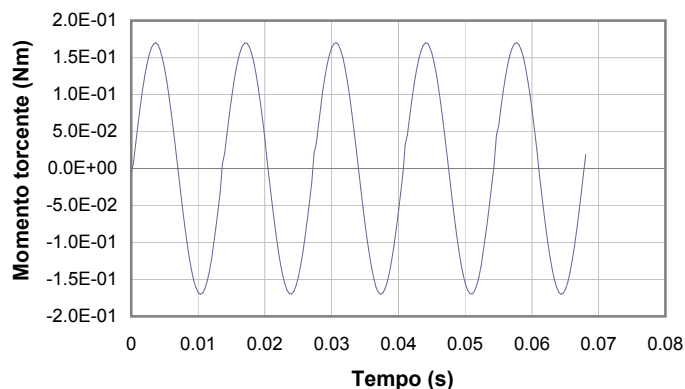
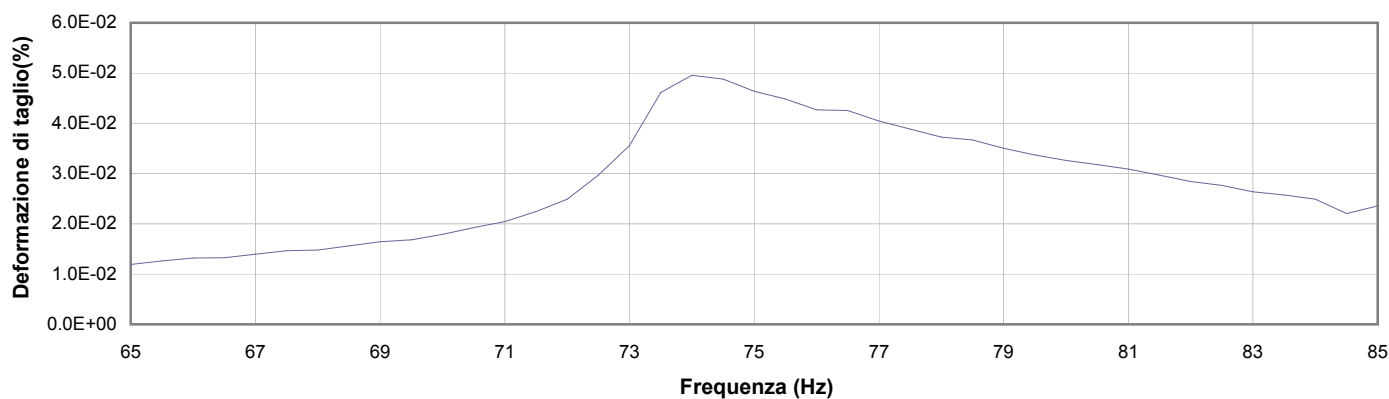
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

Data prova: **07/12/16**

Data emissione certificato:

Test 12



1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

3 Cicli di isteresi alla frequenza di risonanza

4 Smorzamento per oscillazioni libere

Io Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH2**

Profondità (m): **17.80 - 18.40**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

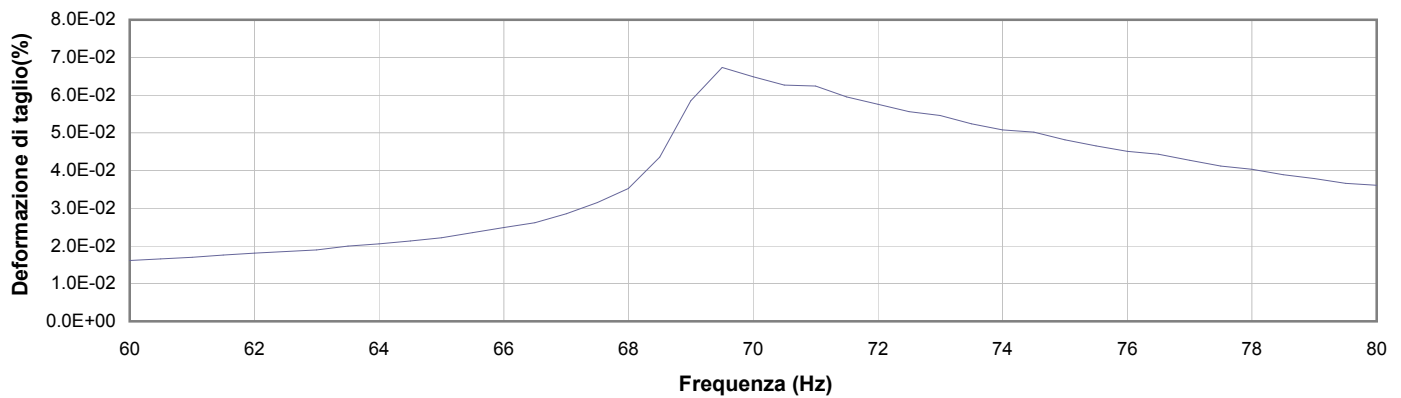
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

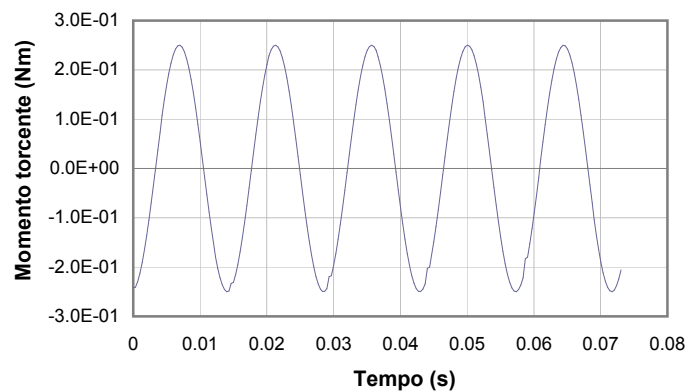
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Data emissione certificato:

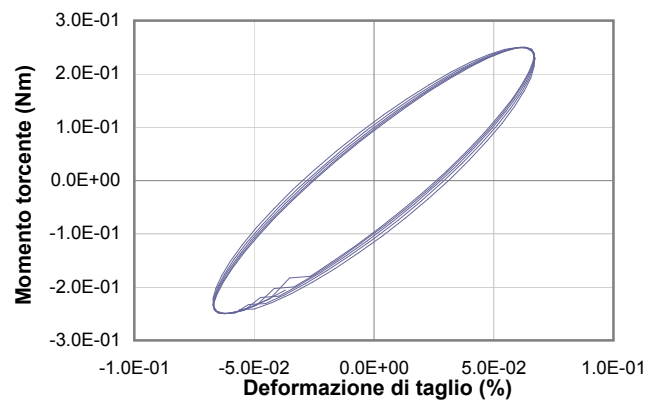
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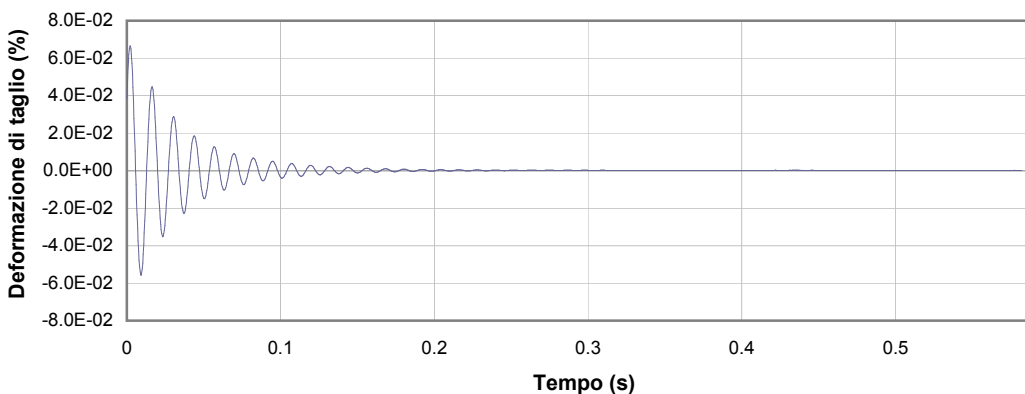
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1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

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Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH2**

Profondità (m): **17.80 - 18.40**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

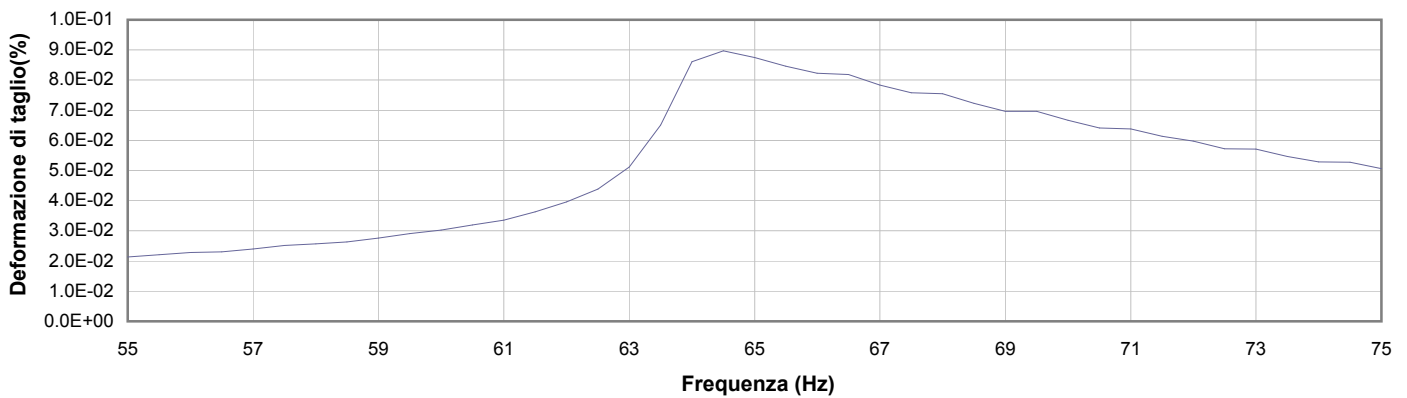
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Data ricevimento campione: **09/09/16**

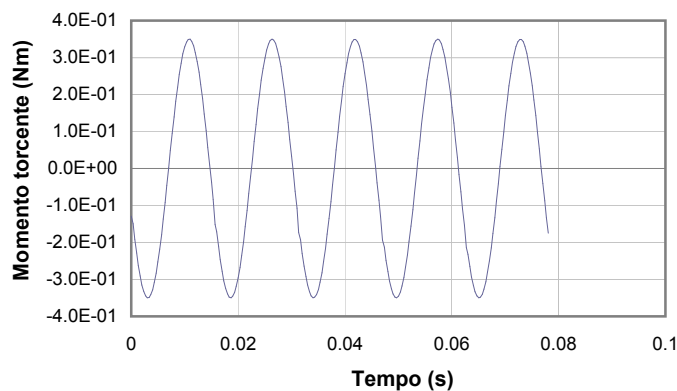
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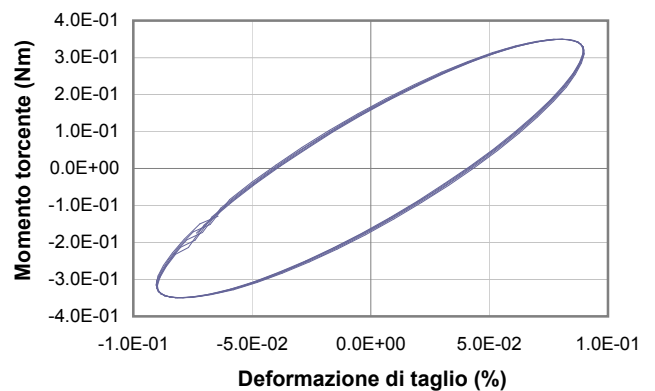
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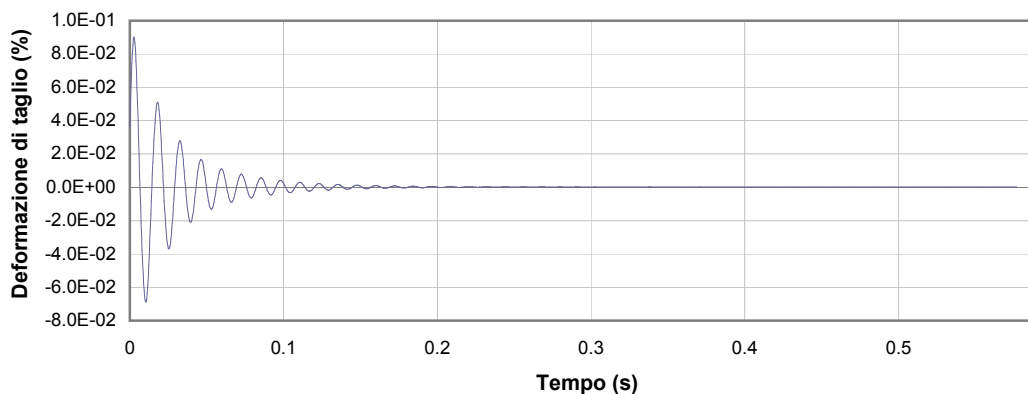
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1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

3 Cicli di isteresi alla frequenza di risonanza

4 Smorzamento per oscillazioni libere

Io Sperimentatore:
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Il Direttore del Laboratorio Terre:
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PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH2**

Profondità (m): **17.80 - 18.40**

Certificato di prova N°:

Verbale di accettazione N°: **557/16**

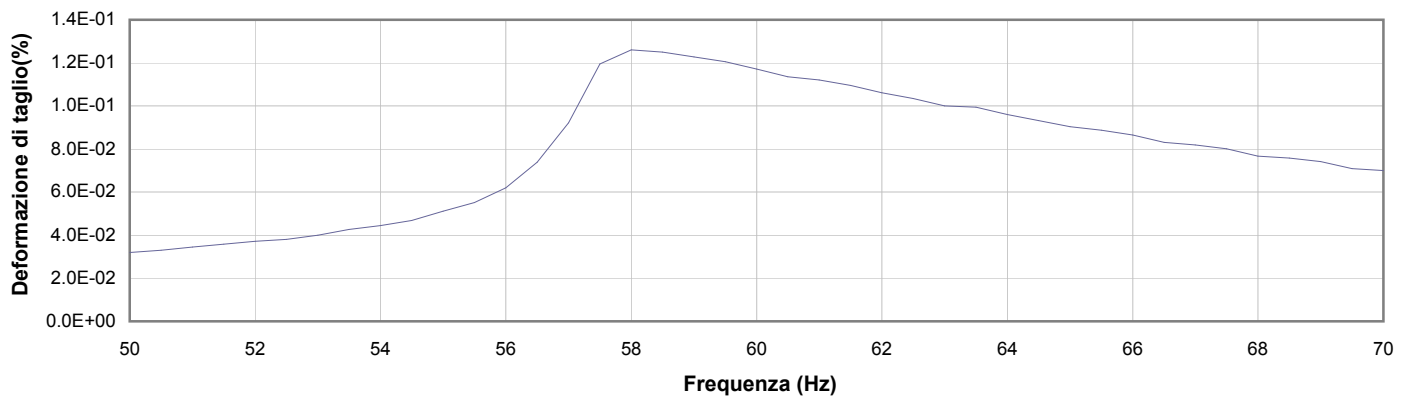
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

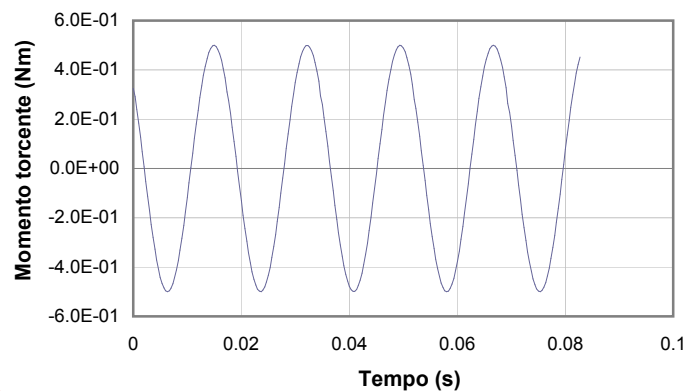
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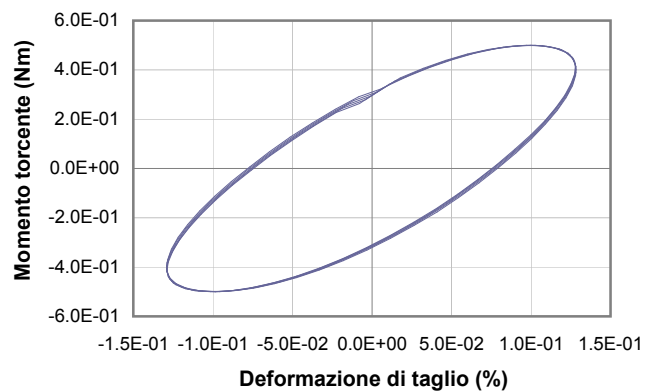
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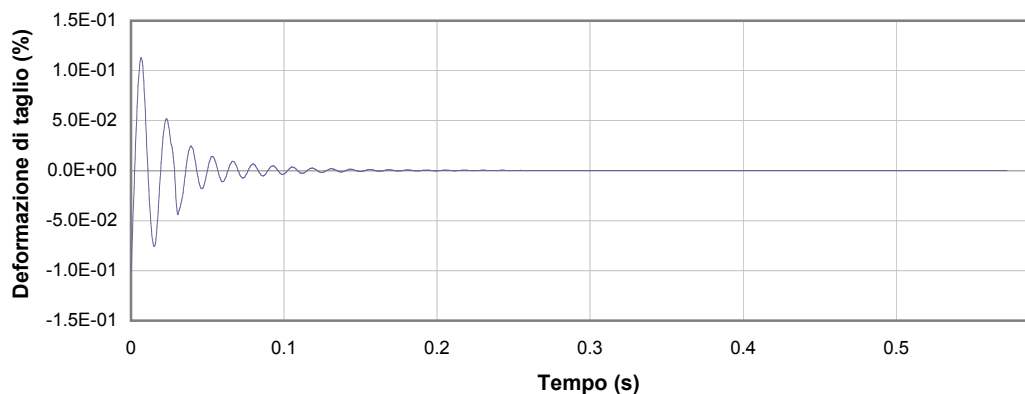
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4

- 1** Campo delle frequenze indagate
- 2** Ampiezza momento torcente in condizioni di oscillazioni forzate
- 3** Cicli di isteresi alla frequenza di risonanza
- 4** Smorzamento per oscillazioni libere

lo Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

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Sondaggio: **S1**

Campione: **SH2**

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Certificato di prova N°:

Verbale di accettazione N°: **557/16**

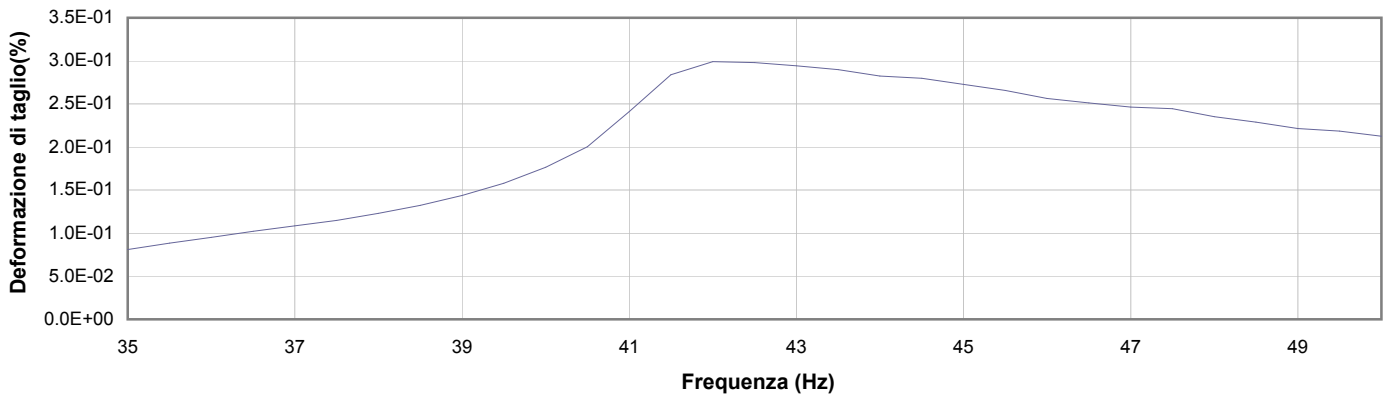
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

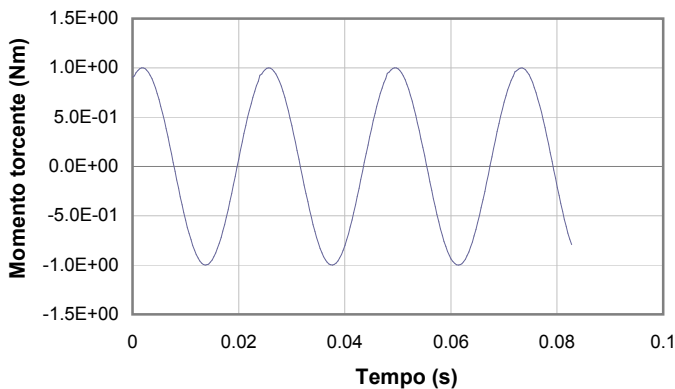
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Data emissione certificato:

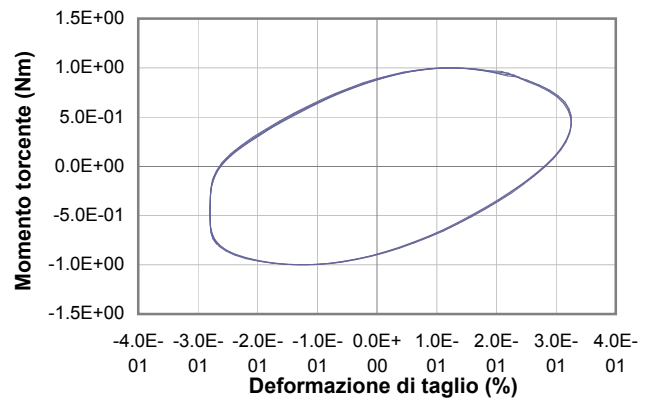
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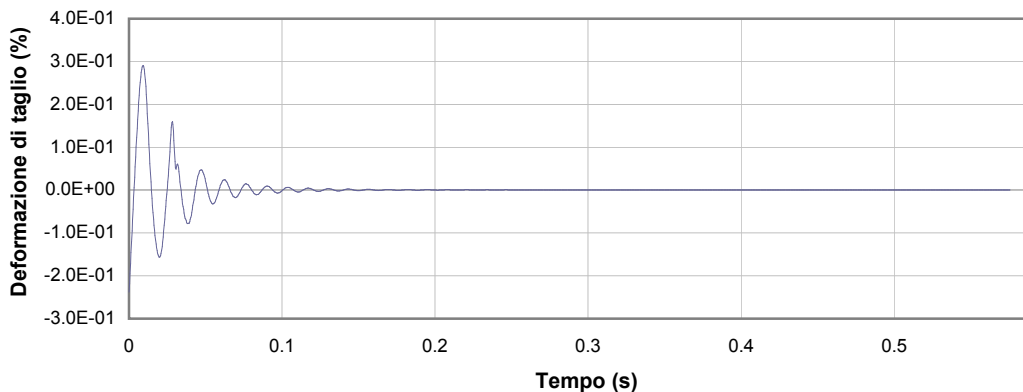
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1 Campo delle frequenze indagate

2 Ampiezza momento torcente in condizioni di oscillazioni forzate

3 Cicli di isteresi alla frequenza di risonanza

4 Smorzamento per oscillazioni libere

lo Sperimentatore:
dott. Luciano Rossi

Il Direttore del Laboratorio Terre:
dott. geol. Massimo Romagnoli

PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121

Località: Sala Bolognese (BO)

Cantiere: Via Antonio Labriola, Stelloni

Sondaggio: S1

Campione: SH2

Profondità (m): 17.80 - 18.40

Certificato di prova N°:

Verbale di accettazione N°: 557/16

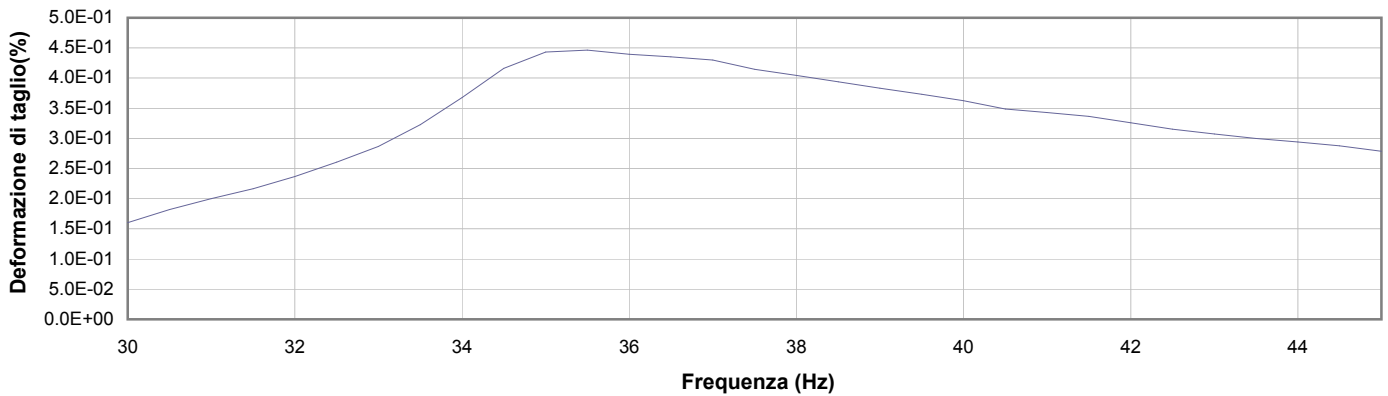
Commessa: 15289/16

Data ricevimento campione: 09/09/16

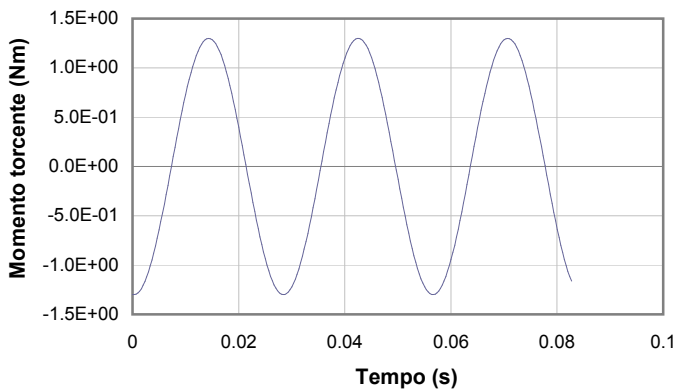
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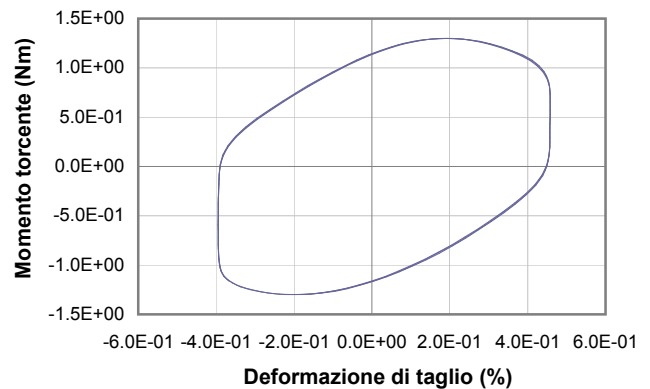
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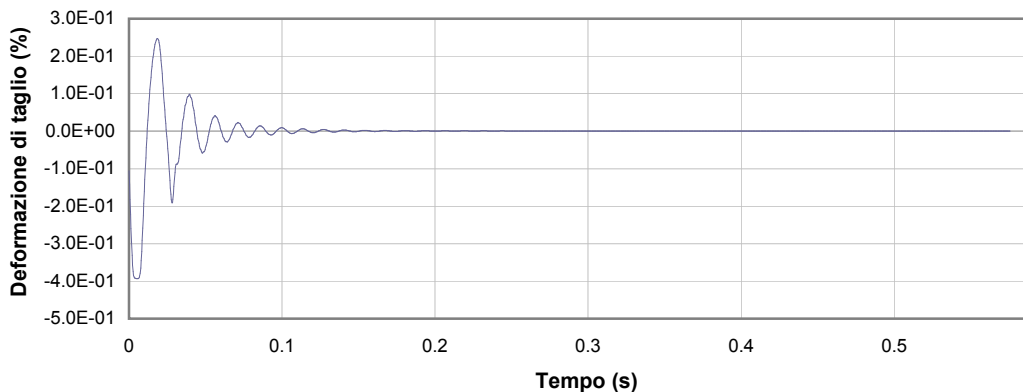
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PROVA DI COLONNA RISONANTE (ASTM D 4015)

Committente: GEOTEMA S.r.l. - via Piangipane 141/5 - 44121

Località: Sala Bolognese (BO)

Cantiere: Via Antonio Labriola, Stelloni

Sondaggio: S1

Campione: SH2

Profondità (m): 17.80 - 18.40

Certificato di prova N°:

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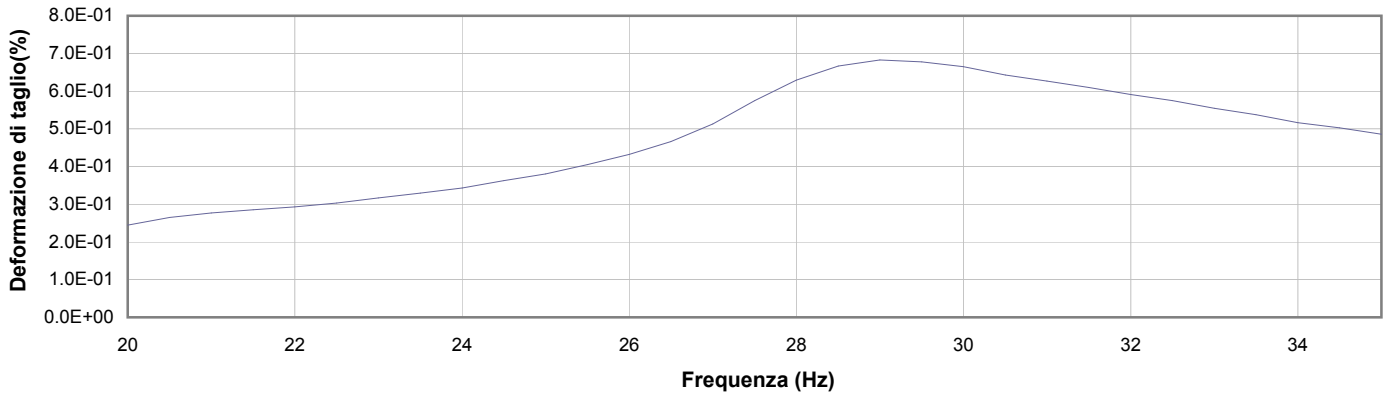
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Data ricevimento campione: 09/09/16

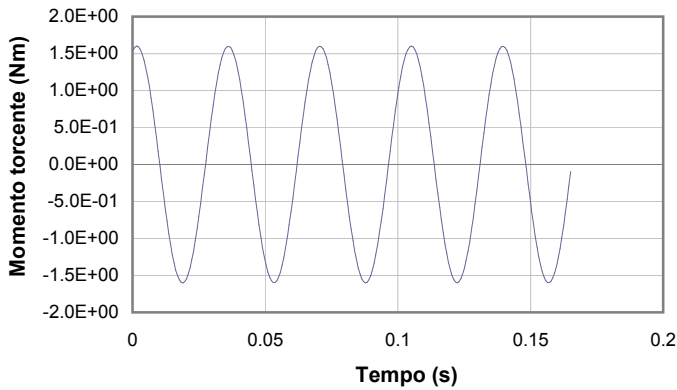
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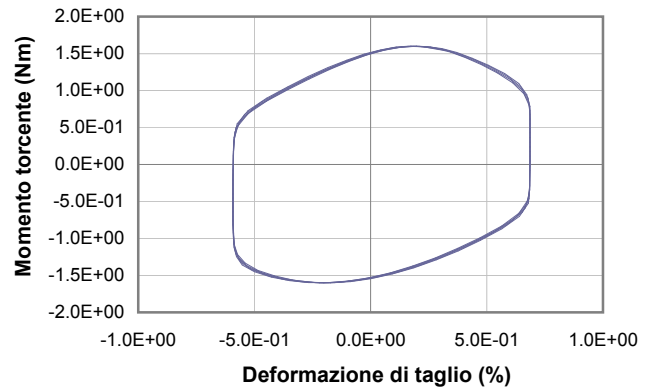
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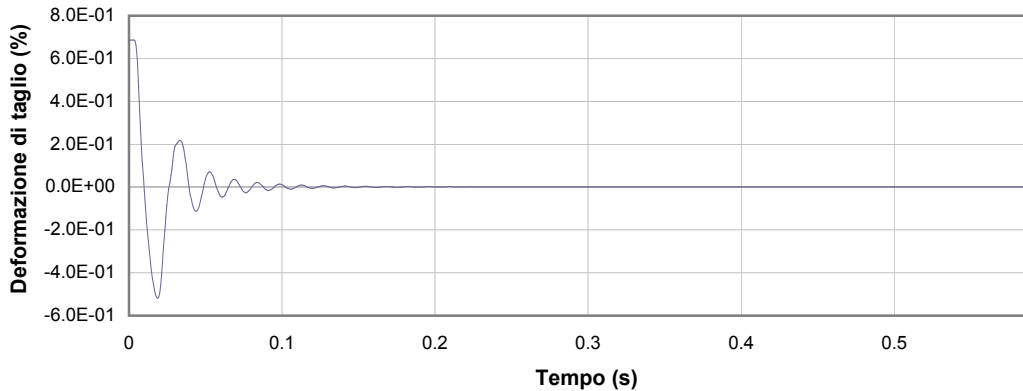
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Località: **Sala Bolognese (BO)**

Cantiere: **Via Antonio Labriola, Stelloni**

Sondaggio: **S1**

Campione: **SH2**

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Certificato di prova N°:

Verbale di accettazione N°: **557/16**

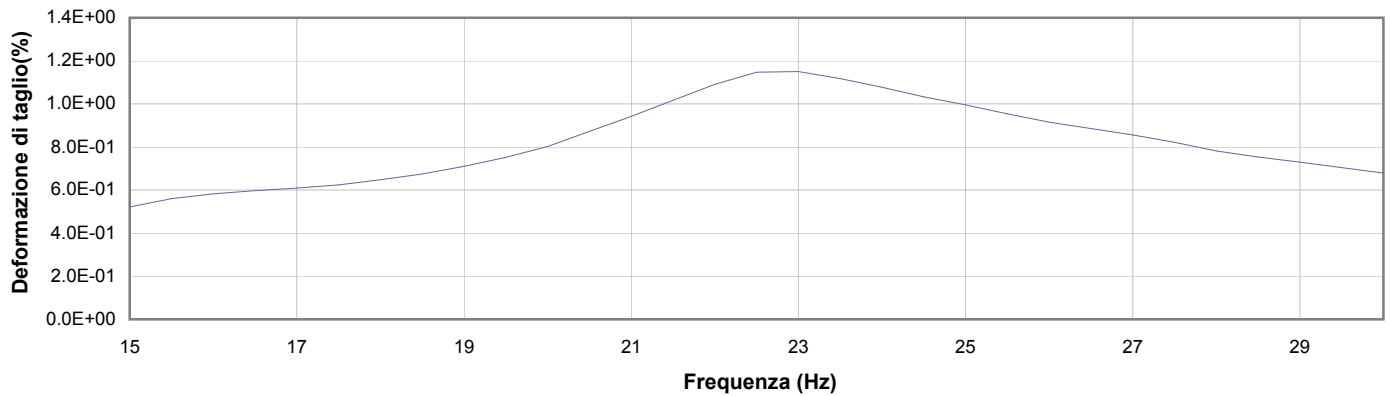
Commessa: **15289/16**

Data ricevimento campione: **09/09/16**

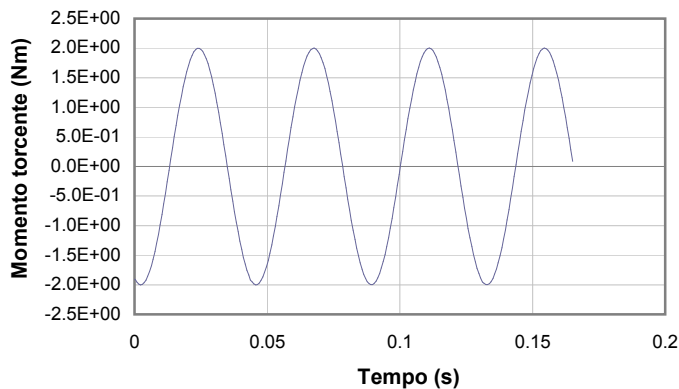
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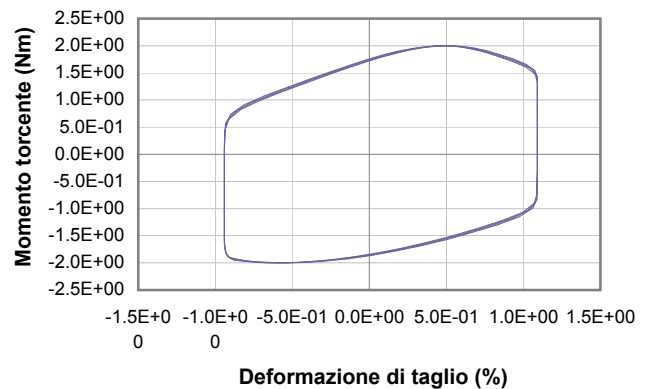
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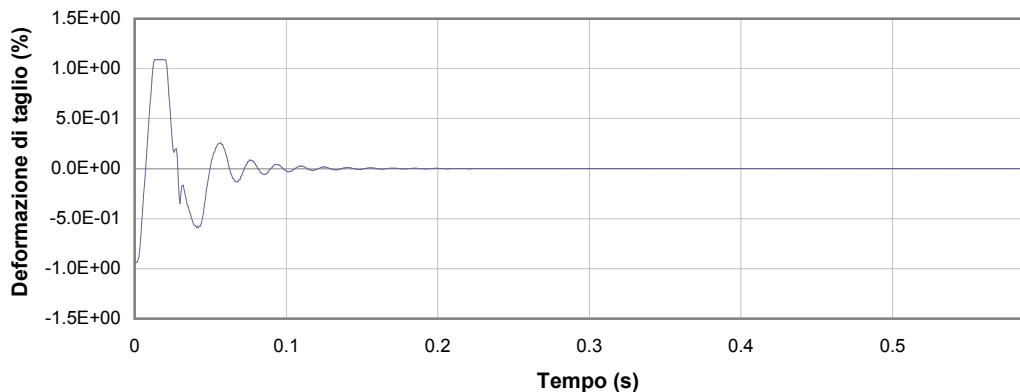
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1 Campo delle frequenze indagate

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elletipi s.r.l.

Sede legale ed operativa: Via Annibale Zucchini, 69 - 44100 FERRARA
tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it

® P IVA e Codice Fiscale n. 00174600387



[Laboratorio Geotecnico autorizzato con Dec. n. 6572 del 07/10/2014, art. 59 del D.P.R. 380/2001, Circolari Ministeriali 7618/STC](#)

**PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU)
A.S.T.M. D 4767**

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH2 m 17.80 - 18.40**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:

Il campione è stato conservato in vasca umidostatica

CODICI STRUMENTAZIONE: calibro 12; bilancia 480; trasduttore LVDT 566; SG 537, manometri 531, 691; celle 1, 2 e 3; pressa 536.

Macchina: CONTROLS Triax 50 Digital
Prova: CONSOLIDATA NON DRENATA (CU)
Dimensioni provini: $\phi \times h = 36,80 \times 76,20$ mm
Velocità prova: 0.01 mm/min

NATURA DEL CAMPIONE: Limo con argilla grigio scuro con tracce di sostanza organica e k

Peso specifico (Mg/m^3): 2.700

	PROVINO 1	PROVINO 2	PROVINO 3
umidità iniziale (%)	45.6	45.6	45.6
massa volumica umida iniziale (Mg/m^3)	1.74	1.75	1.75
massa volumica secca iniziale (Mg/m^3)	1.19	1.20	1.20
indice dei vuoti iniziale	1.26	1.25	1.24
grado di saturazione iniziale (%)	97	99	99
umidità finale (%)	17.8	16.2	16.7
massa volumica umida fine cons. (Mg/m^3)	1.77	1.81	1.85
massa volumica secca fine cons. (Mg/m^3)	1.50	1.55	1.59
indice dei vuoti fine cons.	0.79	0.74	0.70
grado di saturazione fine cons. (%)	60	60	64
pressione in cella (kPa)	551	700	850
contropressione (kPa)	401	400	400
Dimensioni fine consolidazione			
Hc (cm)	7.572	7.470	7.342
Ac (cm^2)	11.353	11.072	10.680
Skempton B	0.98	1.00	1.00
Skempton A	0.4543	0.2491	0.3736
t100 min (Bishop & Henkel)	156	567	620

Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



elletipi s.r.l.

Sede legale ed operativa: Via Annibale Zucchini, 69 - 44100 FERRARA
tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it

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PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU) A.S.T.M. D 4767

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

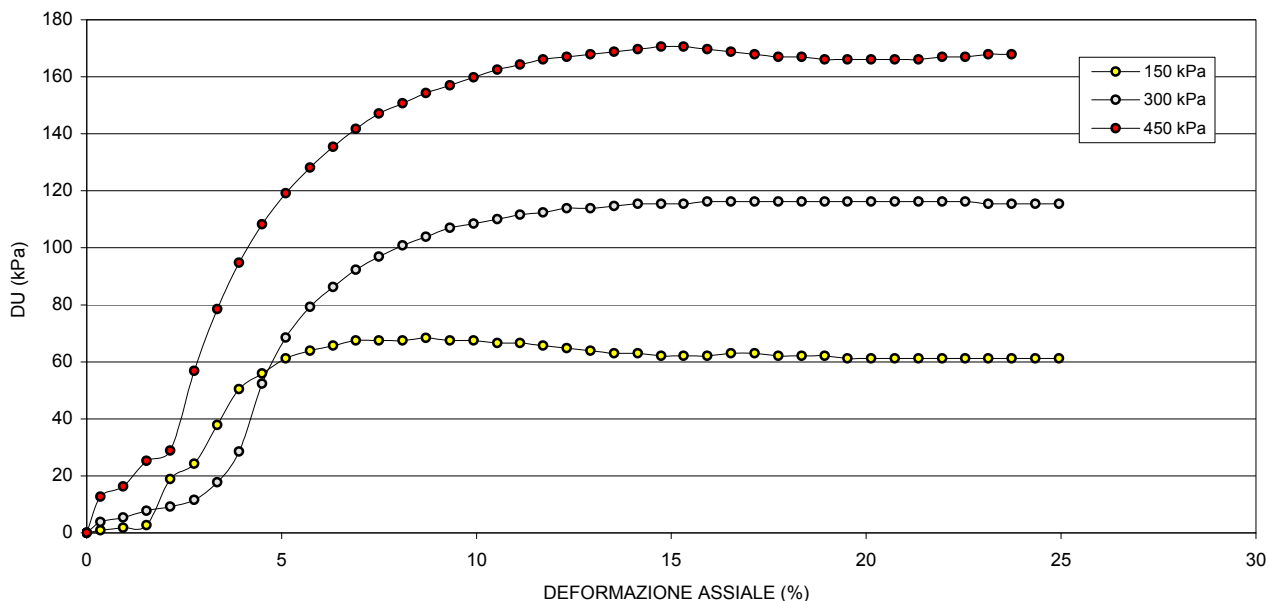
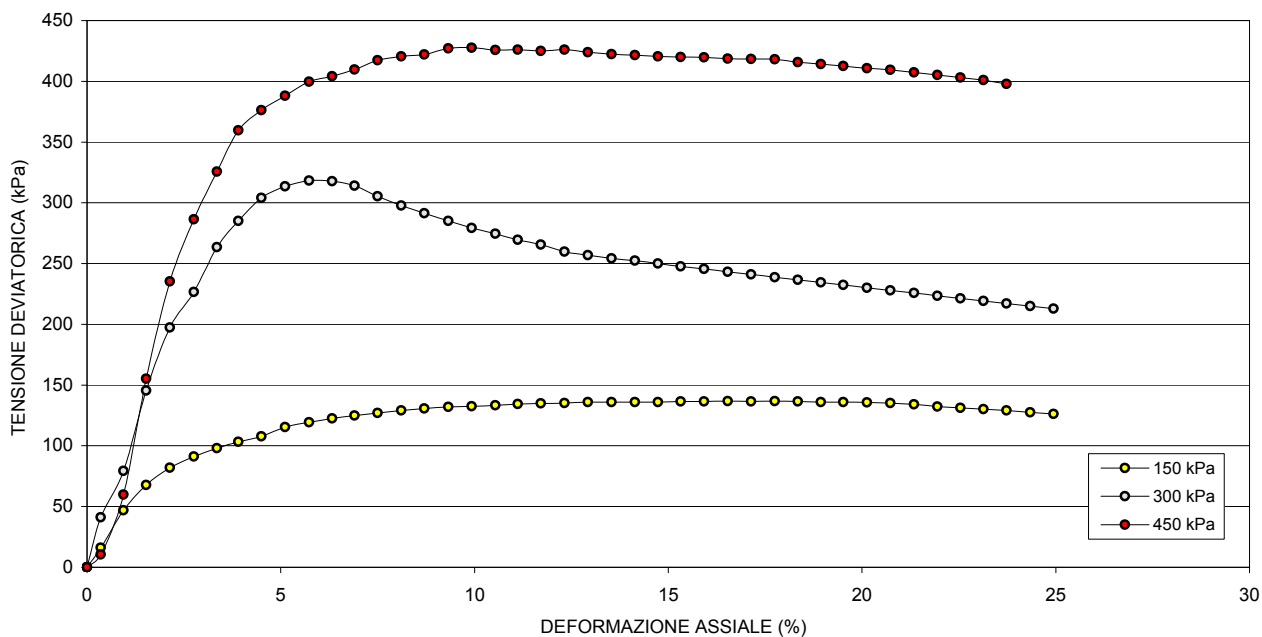
CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH2 m 17.80 - 18.40**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:



Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



elletipi s.r.l.

Sede legale ed operativa: Via Annibale Zucchini, 69 - 44100 FERRARA
tel. 0532/56771; fax 0532/56119 e-mail: info@elletipi.it sito: www.elletipi.it

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PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU) A.S.T.M. D 4767

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

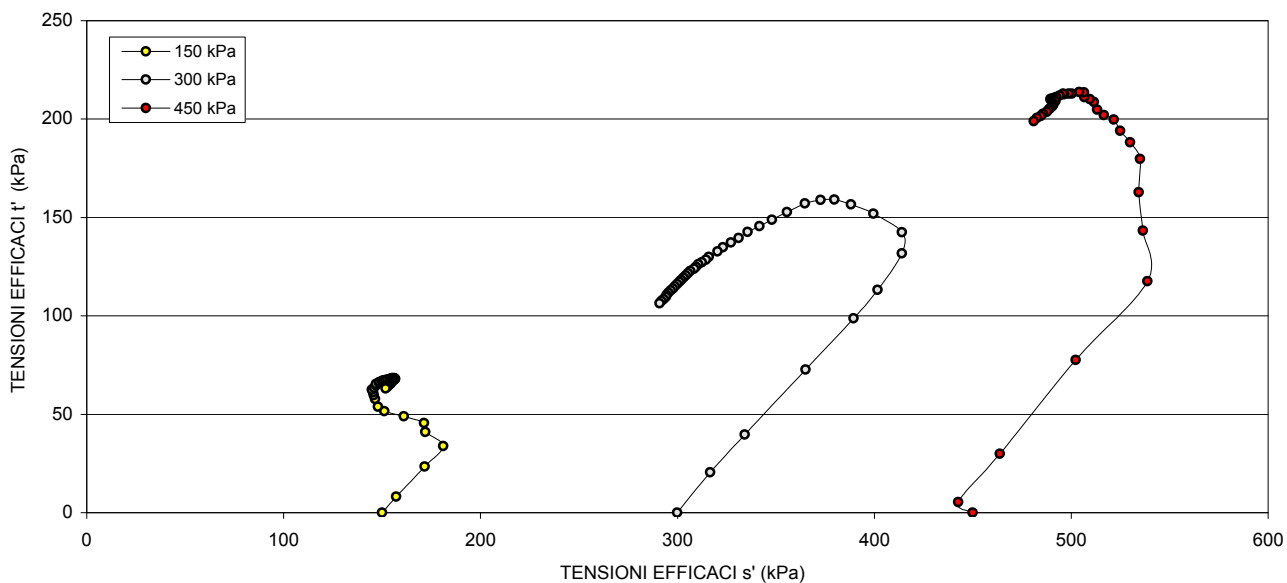
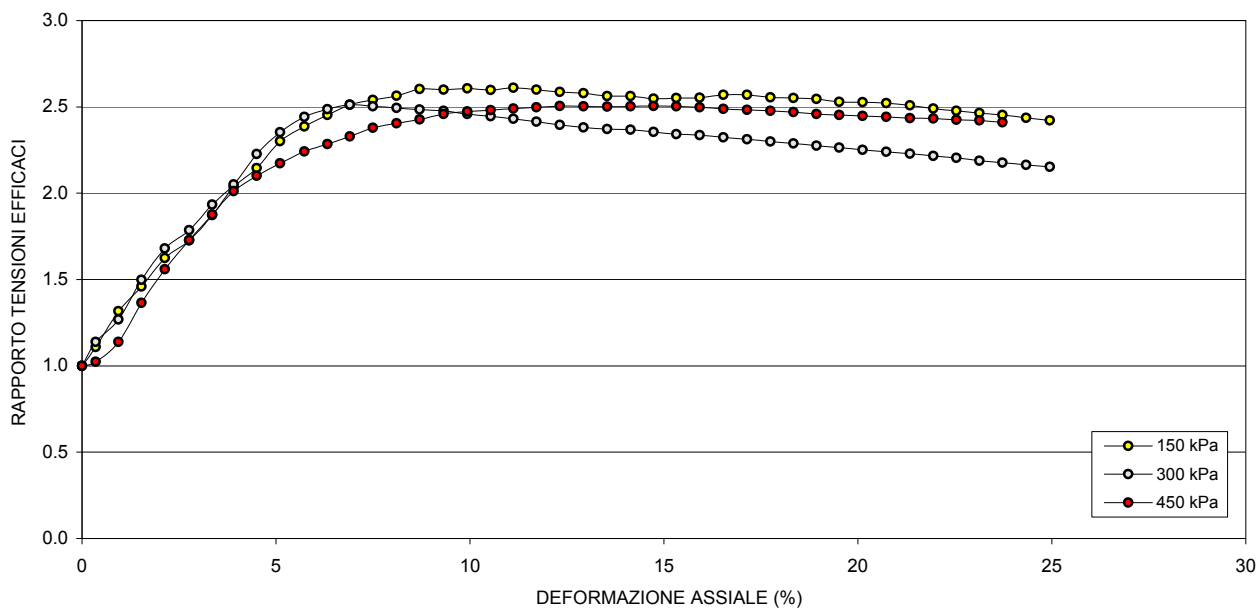
CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH2 m 17.80 - 18.40**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:



Il Direttore del Laboratorio terre:
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**PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU)
A.S.T.M. D 4767**

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH2 m 17.80 - 18.40**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:

TENSIONE DEVIATORICA ($\sigma_1 - \sigma_3$)

PROVINO 1 150 kPa		PROVINO 2 300 kPa		PROVINO 3 450 kPa	
Def. (%)	Tens. (kPa)	Def. (%)	Tens. (kPa)	Def. (%)	Tens. (kPa)
0.000	0.000	0.000	0.000	0.000	0.000
0.357	16.169	0.357	41.143	0.357	10.597
0.938	46.872	0.938	79.290	0.938	59.882
1.532	67.631	1.532	145.463	1.532	155.237
2.139	81.836	2.139	197.456	2.139	235.344
2.760	91.237	2.760	226.568	2.760	286.484
3.354	97.900	3.354	263.488	3.354	325.581
3.909	103.205	3.909	285.057	3.909	359.548
4.503	107.783	4.503	303.939	4.503	376.318
5.111	115.482	5.111	313.402	5.111	388.079
5.732	119.346	5.732	318.145	5.732	399.603
6.326	122.431	6.326	317.827	6.326	404.070
6.907	124.813	6.907	314.109	6.907	409.664
7.501	126.988	7.501	305.309	7.501	417.398
8.109	129.033	8.109	297.717	8.109	420.368
8.703	130.766	8.703	291.282	8.703	422.189
9.324	131.916	9.324	285.167	9.324	427.209
9.931	132.624	9.931	279.264	9.931	427.594
10.539	133.311	10.539	274.435	10.539	425.711
11.120	134.372	11.120	269.613	11.120	425.929
11.714	134.822	11.714	265.462	11.714	425.056
12.322	135.232	12.322	259.859	12.322	425.946
12.929	135.904	12.929	256.846	12.929	423.969
13.537	135.997	13.537	254.287	13.537	422.322
14.144	135.939	14.144	252.283	14.144	421.438
14.738	135.956	14.738	249.961	14.738	420.588
15.319	136.390	15.319	247.774	15.319	420.092
15.927	136.493	15.927	245.518	15.927	419.745
16.534	136.646	16.534	243.268	16.534	418.736
17.142	136.517	17.142	241.025	17.142	418.316
17.749	136.705	17.749	238.789	17.749	418.165
18.344	136.373	18.344	236.598	18.344	415.753
18.938	135.837	18.938	234.414	18.938	414.088
19.519	135.833	19.519	232.275	19.519	412.621
20.127	135.577	20.127	230.067	20.127	410.848
20.734	135.183	20.734	227.865	20.734	409.498
21.342	134.021	21.342	225.671	21.342	407.387
21.949	132.296	21.949	223.483	21.949	405.260
22.543	131.164	22.543	221.340	22.543	403.186
23.138	130.034	23.138	219.203	23.138	400.953
23.732	129.029	23.732	217.074	23.732	397.710
24.339	127.576	24.339	214.914		
24.947	126.190	24.947	212.760		

Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



elletipi s.r.l.

Sede legale ed operativa: Via Annibale Zucchini, 69 - 44100 FERRARA

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**PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU)
A.S.T.M. D 4767**

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH2 m 17.80 - 18.40**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:

PRESSIONE INTERSTIZIALE

PROVINO 1 150 kPa		PROVINO 2 300 kPa		PROVINO 3 450 kPa	
0.000	ΔU. (kPa)	Def. (%)	ΔU. (kPa)	Def. (%)	ΔU. (kPa)
0.000	0.000	0.000	0.001	0.000	0.000
0.357	0.900	0.357	3.848	0.357	12.635
0.938	1.800	0.938	5.387	0.938	16.245
1.532	2.700	1.532	7.695	1.532	25.270
2.139	18.900	2.139	9.234	2.139	28.880
2.760	24.300	2.760	11.543	2.760	56.858
3.354	37.800	3.354	17.699	3.354	78.518
3.909	50.400	3.909	28.472	3.909	94.763
4.503	55.890	4.503	52.326	4.503	108.300
5.111	61.200	5.111	68.486	5.111	119.130
5.732	63.900	5.732	79.259	5.732	128.155
6.326	65.700	6.326	86.184	6.326	135.375
6.907	67.500	6.907	92.340	6.907	141.693
7.501	67.500	7.501	96.957	7.501	147.108
8.109	67.500	8.109	100.805	8.109	150.718
8.703	68.400	8.703	103.883	8.703	154.328
9.324	67.500	9.324	106.961	9.324	157.035
9.931	67.500	9.931	108.500	9.931	159.743
10.539	66.600	10.539	110.039	10.539	162.450
11.120	66.600	11.120	111.578	11.120	164.255
11.714	65.700	11.714	112.347	11.714	166.060
12.322	64.800	12.322	113.886	12.322	166.963
12.929	63.900	12.929	113.886	12.929	167.865
13.537	63.000	13.537	114.656	13.537	168.768
14.144	63.000	14.144	115.425	14.144	169.670
14.738	62.100	14.738	115.425	14.738	170.573
15.319	62.100	15.319	115.425	15.319	170.573
15.927	62.100	15.927	116.195	15.927	169.670
16.534	63.000	16.534	116.195	16.534	168.768
17.142	63.000	17.142	116.195	17.142	167.865
17.749	62.100	17.749	116.195	17.749	166.963
18.344	62.100	18.344	116.195	18.344	166.963
18.938	62.100	18.938	116.195	18.938	166.060
19.519	61.200	19.519	116.195	19.519	166.060
20.127	61.200	20.127	116.195	20.127	166.060
20.734	61.200	20.734	116.195	20.734	166.060
21.342	61.200	21.342	116.195	21.342	166.060
21.949	61.200	21.949	116.195	21.949	166.963
22.543	61.200	22.543	116.195	22.543	166.963
23.138	61.200	23.138	115.425	23.138	167.865
23.732	61.200	23.732	115.425	23.732	167.865
24.339	61.200	24.339	115.425		
24.947	61.200	24.947	115.425		

Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



elletipi s.r.l.

Sede legale ed operativa: Via Annibale Zucchini, 69 - 44100 FERRARA

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PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU) A.S.T.M. D 4767

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH2 m 17.80 - 18.40**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:

RAPPORTO TENSIONI EFFICACI (σ'_1 / σ'_3)

PROVINO 1 150 kPa		PROVINO 2 300 kPa		PROVINO 3 450 kPa	
Def. (%)		Def. (%)		Def. (%)	
0.000	1.000	0.000	1.000	0.000	1.000
0.357	1.108	0.357	1.139	0.357	1.024
0.938	1.316	0.938	1.269	0.938	1.138
1.532	1.459	1.532	1.498	1.532	1.365
2.139	1.624	2.139	1.679	2.139	1.559
2.760	1.726	2.760	1.785	2.760	1.729
3.354	1.873	3.354	1.933	3.354	1.876
3.909	2.036	3.909	2.050	3.909	2.012
4.503	2.145	4.503	2.227	4.503	2.101
5.111	2.300	5.111	2.354	5.111	2.173
5.732	2.386	5.732	2.441	5.732	2.242
6.326	2.452	6.326	2.486	6.326	2.284
6.907	2.513	6.907	2.513	6.907	2.329
7.501	2.539	7.501	2.504	7.501	2.378
8.109	2.564	8.109	2.495	8.109	2.405
8.703	2.603	8.703	2.485	8.703	2.428
9.324	2.599	9.324	2.477	9.324	2.458
9.931	2.608	9.931	2.458	9.931	2.473
10.539	2.598	10.539	2.445	10.539	2.480
11.120	2.611	11.120	2.431	11.120	2.491
11.714	2.599	11.714	2.415	11.714	2.497
12.322	2.587	12.322	2.396	12.322	2.505
12.929	2.578	12.929	2.380	12.929	2.503
13.537	2.563	13.537	2.372	13.537	2.502
14.144	2.563	14.144	2.367	14.144	2.503
14.738	2.547	14.738	2.354	14.738	2.505
15.319	2.552	15.319	2.342	15.319	2.503
15.927	2.553	15.927	2.336	15.927	2.497
16.534	2.571	16.534	2.324	16.534	2.489
17.142	2.569	17.142	2.311	17.142	2.483
17.749	2.555	17.749	2.299	17.749	2.477
18.344	2.551	18.344	2.287	18.344	2.469
18.938	2.545	18.938	2.275	18.938	2.458
19.519	2.530	19.519	2.264	19.519	2.453
20.127	2.527	20.127	2.252	20.127	2.447
20.734	2.522	20.734	2.240	20.734	2.442
21.342	2.509	21.342	2.228	21.342	2.435
21.949	2.490	21.949	2.216	21.949	2.432
22.543	2.477	22.543	2.204	22.543	2.424
23.138	2.464	23.138	2.188	23.138	2.421
23.732	2.453	23.732	2.176	23.732	2.410
24.339	2.437	24.339	2.164		
24.947	2.421	24.947	2.153		

Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



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Sede legale ed operativa: Via Annibale Zucchini, 69 - 44100 FERRARA

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**PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU)
A.S.T.M. D 4767**

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH2 m 17.80 - 18.40**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:

STRESS PATH $s' = (\sigma'_1 + \sigma'_3)/2$ $t' = (\sigma'_1 - \sigma'_3)/2$

PROVINO 1 150 kPa		PROVINO 2 300 kPa		PROVINO 3 450 kPa	
s' (kPa)	t' (kPa)	s' (kPa)	t' (kPa)	s' (kPa)	t' (kPa)
150.000	0.000	299.999	0.000	450.000	0.000
157.185	8.085	316.724	20.571	442.663	5.298
171.636	23.436	334.258	39.645	463.696	29.941
181.116	33.816	365.037	72.732	502.348	77.618
172.018	40.918	389.494	98.728	538.792	117.672
171.319	45.619	401.742	113.284	536.384	143.242
161.150	48.950	414.046	131.744	534.273	162.790
151.202	51.602	414.057	142.529	535.011	179.774
148.001	53.891	399.644	151.970	529.859	188.159
146.541	57.741	388.216	156.701	524.909	194.039
145.773	59.673	379.814	159.073	521.646	199.801
145.516	61.216	372.730	158.914	516.660	202.035
144.906	62.406	364.715	157.055	513.140	204.832
145.994	63.494	355.698	152.655	511.591	208.699
147.017	64.517	348.054	148.859	509.467	210.184
146.983	65.383	341.759	145.641	506.767	211.095
148.458	65.958	335.623	142.584	506.570	213.605
148.812	66.312	331.133	139.632	504.054	213.797
150.055	66.655	327.179	137.217	500.405	212.855
150.586	67.186	323.229	134.806	498.709	212.964
151.711	67.411	320.384	132.731	496.468	212.528
152.816	67.616	316.044	129.930	496.011	212.973
154.052	67.952	314.537	128.423	494.120	211.985
154.999	67.999	312.488	127.144	492.394	211.161
154.969	67.969	310.716	126.141	491.049	210.719
155.878	67.978	309.555	124.980	489.722	210.294
156.095	68.195	308.462	123.887	489.473	210.046
156.146	68.246	306.564	122.759	490.202	209.872
155.323	68.323	305.439	121.634	490.600	209.368
155.258	68.258	304.318	120.513	491.293	209.158
156.253	68.353	303.200	119.395	492.120	209.082
156.087	68.187	302.105	118.299	490.914	207.876
155.818	67.918	301.013	117.207	490.984	207.044
156.716	67.916	299.943	116.138	490.251	206.311
156.589	67.789	298.839	115.033	489.364	205.424
156.392	67.592	297.738	113.933	488.689	204.749
155.810	67.010	296.641	112.835	487.633	203.693
154.948	66.148	295.547	111.741	485.667	202.630
154.382	65.582	294.475	110.670	484.630	201.593
153.817	65.017	294.177	109.602	482.611	200.476
153.314	64.514	293.112	108.537	480.990	198.855
152.588	63.788	292.032	107.457		
151.895	63.095	290.955	106.380		

Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



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Sede legale ed operativa: Via Annibale Zucchini, 69 - 44100 FERRARA
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PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU) A.S.T.M. D 4767

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH2 m 17.80 - 18.40**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

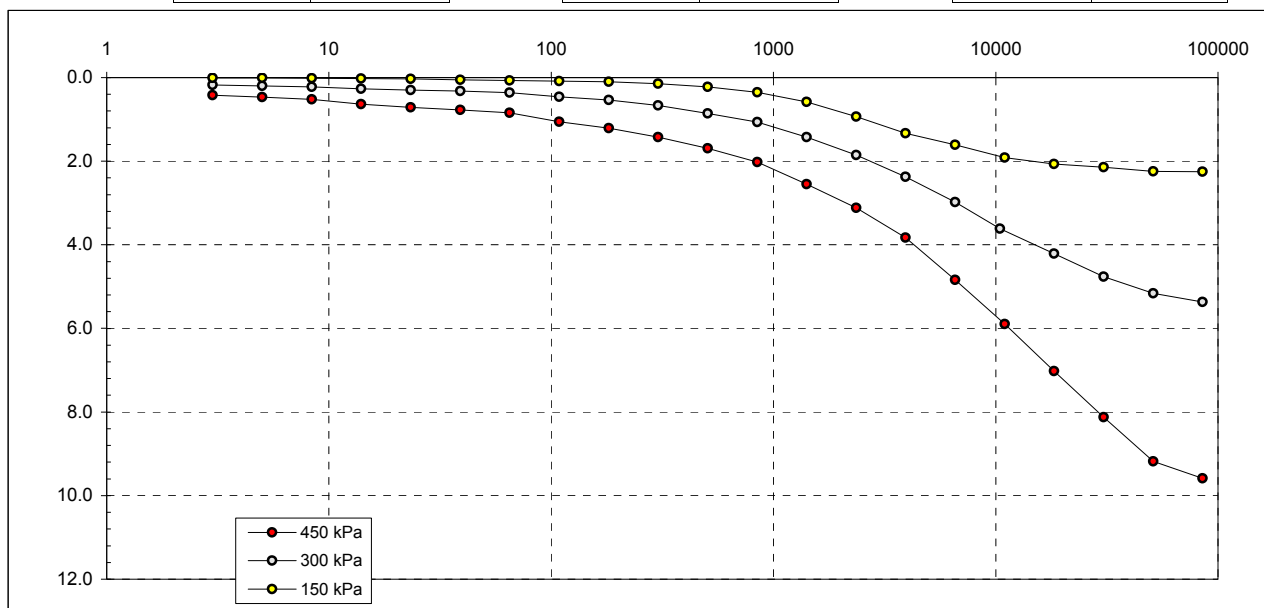
GEO - CERT. n°: rev.00 del:

CONSOLIDAZIONE

PROVINO 1 150 kPa	
Tempo (s)	Vol (cc)
3	0.01
5	0.01
8	0.02
14	0.03
23	0.03
39	0.06
65	0.07
109	0.09
181	0.10
303	0.15
506	0.22
845	0.35
1412	0.58
2357	0.93
3937	1.33
6575	1.61
10979	1.92
18335	2.07
30620	2.15
51136	2.24
85398	2.25

PROVINO 2 300 kPa	
Tempo (s)	Vol (cc)
3	0.18
5	0.20
8	0.22
14	0.27
23	0.30
39	0.32
65	0.36
109	0.46
181	0.53
303	0.67
506	0.86
845	1.07
1412	1.42
2357	1.85
3937	2.37
6575	2.98
10471	3.62
18335	4.21
30620	4.76
51136	5.16
85398	5.37

PROVINO 3 450 kPa	
Tempo (s)	Vol (cc)
3	0.42
5	0.47
8	0.52
14	0.64
23	0.71
39	0.78
65	0.84
109	1.06
181	1.21
303	1.43
506	1.70
845	2.02
1412	2.55
2357	3.11
3937	3.83
6575	4.84
10979	5.90
18335	7.02
30620	8.12
51136	9.18
85398	9.59



Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi



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PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU) A.S.T.M. D 4767

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

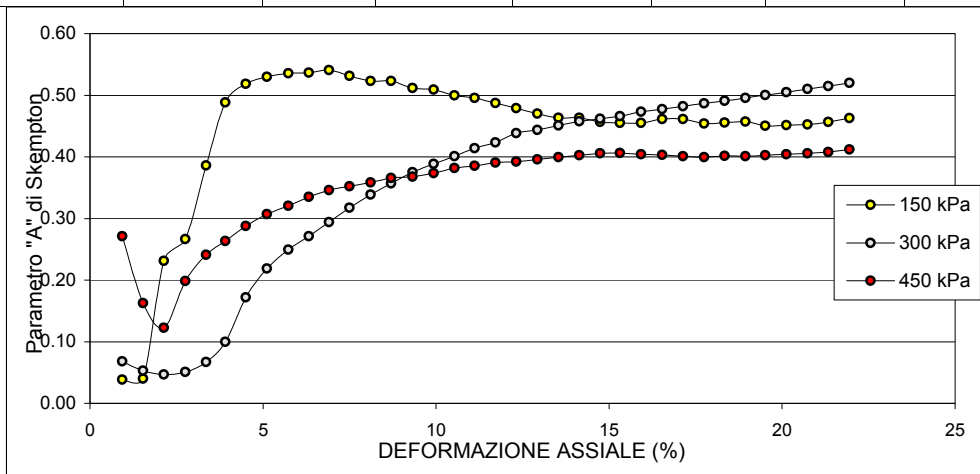
CAMPIONE: **S1 SH2 m 17.80 - 18.40**

COMMESSA: 15289/16 DURATA PROVE: 09/09 - 06/12/16

VERBALE ACC.: 557/16 DATA CONSEGNA: 09/09/16

GEO - CERT. n°: rev.00 del:

PROVINO 1		PROVINO 2		PROVINO 3	
Def. (%)	Skemp. A	Def. (%)	Skemp. A	Def. (%)	Skemp. A
0.938	0.0384	0.938	0.0679	0.938	0.2713
1.532	0.0399	1.532	0.0529	1.532	0.1628
2.139	0.2309	2.139	0.0468	2.139	0.1227
2.760	0.2663	2.760	0.0509	2.760	0.1985
3.354	0.3861	3.354	0.0672	3.354	0.2412
3.909	0.4883	3.909	0.0999	3.909	0.2636
4.503	0.5185	4.503	0.1722	4.503	0.2878
5.111	0.5300	5.111	0.2185	5.111	0.3070
5.732	0.5354	5.732	0.2491	5.732	0.3207
6.326	0.5366	6.326	0.2712	6.326	0.3350
6.907	0.5408	6.907	0.2940	6.907	0.3459
7.501	0.5315	7.501	0.3176	7.501	0.3524
8.109	0.5231	8.109	0.3386	8.109	0.3585
8.703	0.5231	8.703	0.3566	8.703	0.3655
9.324	0.5117	9.324	0.3751	9.324	0.3676
9.931	0.5090	9.931	0.3885	9.931	0.3736
10.539	0.4996	10.539	0.4010	10.539	0.3816
11.120	0.4956	11.120	0.4138	11.120	0.3856
11.714	0.4873	11.714	0.4232	11.714	0.3907
12.322	0.4792	12.322	0.4383	12.322	0.3920
12.929	0.4702	12.929	0.4434	12.929	0.3959
13.537	0.4632	13.537	0.4509	13.537	0.3996
14.144	0.4634	14.144	0.4575	14.144	0.4026
14.738	0.4568	14.738	0.4618	14.738	0.4056
15.319	0.4553	15.319	0.4658	15.319	0.4060
15.927	0.4550	15.927	0.4733	15.927	0.4042
16.534	0.4610	16.534	0.4776	16.534	0.4030
17.142	0.4615	17.142	0.4821	17.142	0.4013
17.749	0.4543	17.749	0.4866	17.749	0.3993
18.344	0.4554	18.344	0.4911	18.344	0.4016
18.938	0.4572	18.938	0.4957	18.938	0.4010
19.519	0.4506	19.519	0.5002	19.519	0.4025
20.127	0.4514	20.127	0.5050	20.127	0.4042
20.734	0.4527	20.734	0.5099	20.734	0.4055
21.342	0.4566	21.342	0.5149	21.342	0.4076
21.949	0.4626	21.949	0.5199	21.949	0.4120



Il Direttore del Laboratorio terre:
dott. Massimo Romagnoli

Lo Sperimentatore:
dott. Luciano Rossi

PROVA TRIASSIALE - CONSOLIDATA NON DRENATA (CU)
raccomandazioni A.G.I. 1994

COMMITTENTE: **GEOTEMA S.r.l. - via Piangipane 141/5 - 44121**

CANTIERE: **Via Antonio Labriola, Stelloni - Sala Bolognese (BO)**

CAMPIONE: **S1 SH2**

COMMESSA: 15289/16

DURATA PROVE:

09/09 - 06/12/16

VERBALE ACC.: 557/16

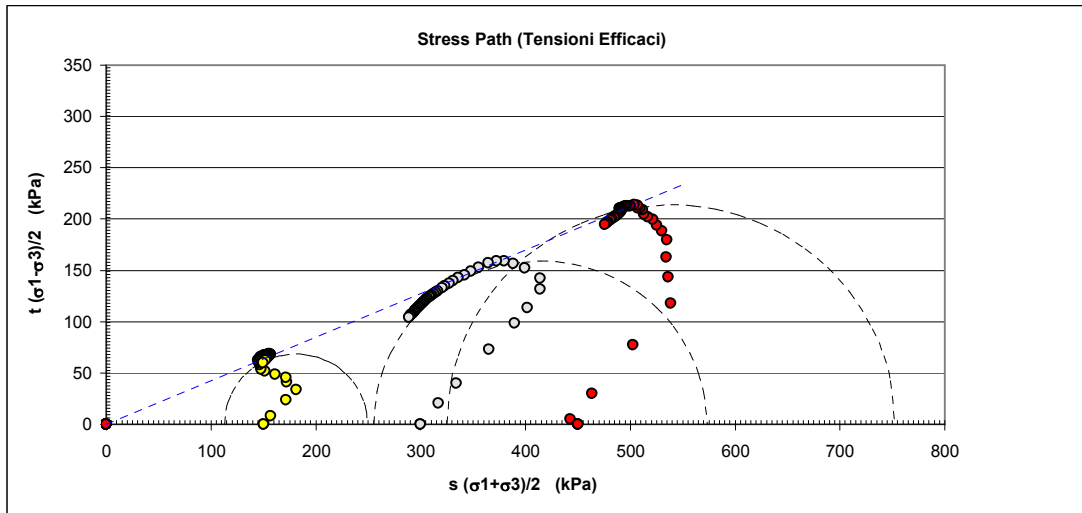
DATA CONSEGNA:

09/09/16

Il presente elaborato non è parte del certificato di prova cui è allegato, è solo un'interpretazione soggettiva dei risultati di prova.

CONDIZIONI A ROTTURA (TENSIONI EFFICACI)

sfuerzo deviatorico (kPa)	137	318	428
deformazione (%)	20.7	6.3	25.6
tensione efficace s' (kPa)	156	380	504
tensione efficace t' (kPa)	68	159	214
c' (kPa):	2.9	ϕ' (°):	24.6



CONDIZIONI A ROTTURA (TENSIONI TOTALI)

sfuerzo deviatorico (kPa)	137	318	428
deformazione (%)	20.7	6.3	25.6
tensione totale s (kPa)	218.4	459.1	663.8
tensione efficace t (kPa)	68.4	159.1	213.8
c (kPa):	1.2	ϕ' (°):	19.1

