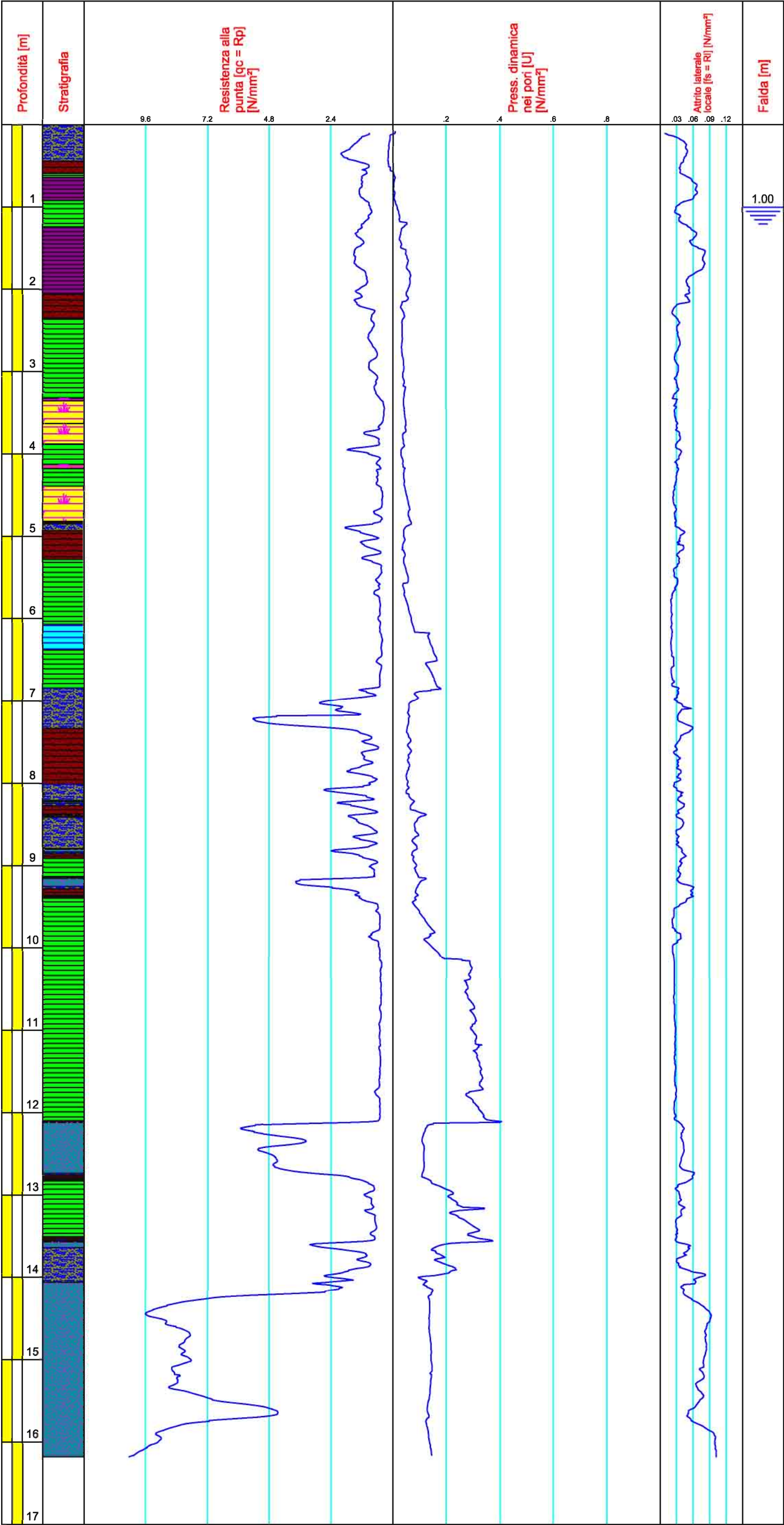
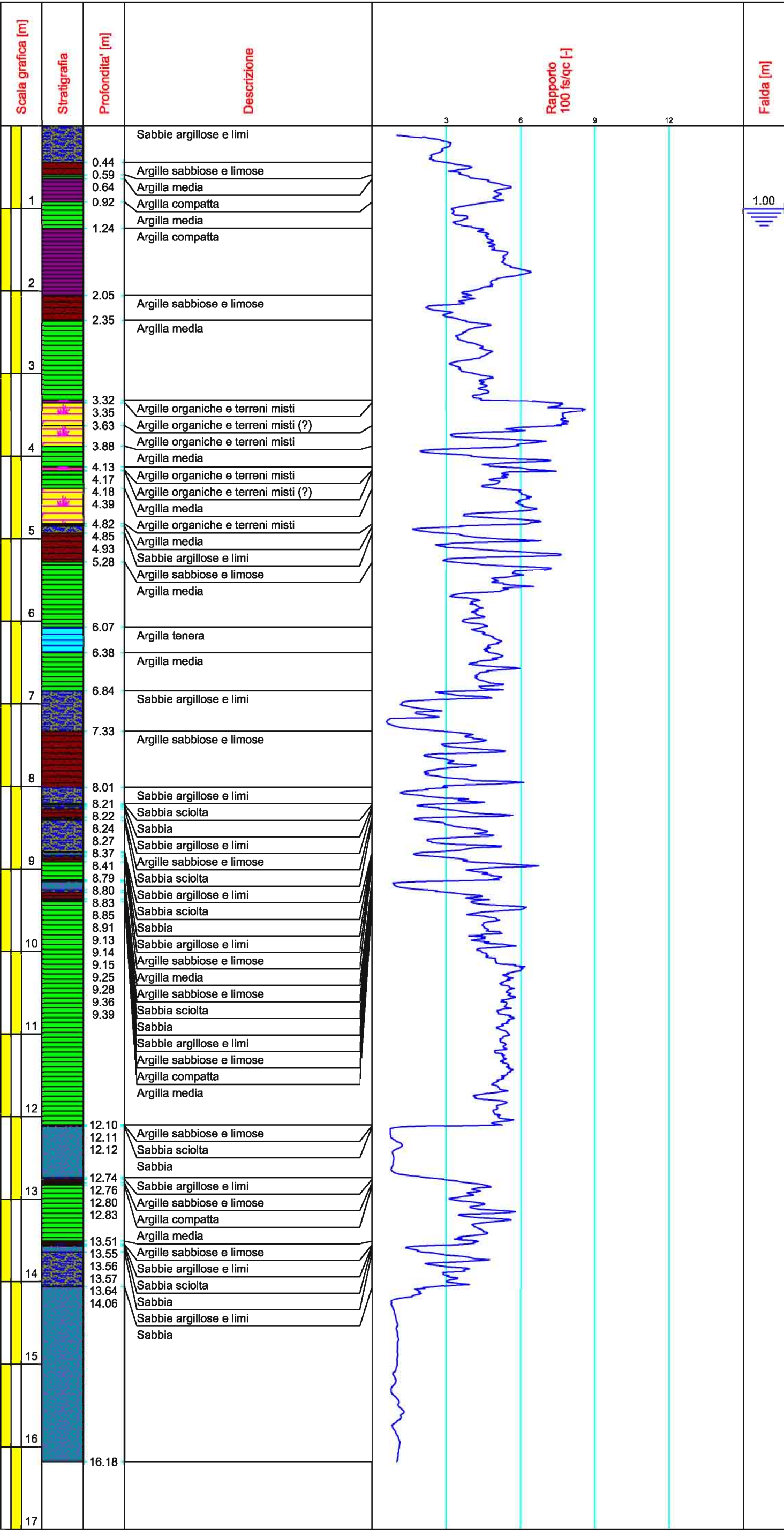


	Committente	Comune di Ravenna		
	Ditta esecutrice	Geolog s.r.l.		
	Prova	CPTU 2 - Schmertmann	Data	24/10/2005
	Provincia	Ravenna	Località	Villaggio S. Giuseppe - Ravenna
	Posizione	Via Lago Maggiore	Coord. UTM	
	Quota p.c.		Quota iniziale	Piano giardino



	Committente	Comune di Ravenna	
	Ditta esecutrice	Geolog s.r.l.	
	Prova	CPTU 2 - Schmertmann	Data 24/10/2005
	Provincia	Ravenna	Località Villaggio S. Giuseppe - Ravenna
	Posizione	Via Lago Maggiore	Coord. UTM
	Quota p.c.		Quota iniziale Piano giardino



14,52	8,866	0,09025	0,136
14,53	8,793	0,09025	0,136
14,54	8,772	0,08954	0,137
14,55	8,801	0,08754	0,136
14,56	8,837	0,08586	0,137
14,57	8,815	0,08495	0,137
14,58	8,743	0,08528	0,137
14,59	8,584	0,08482	0,137
14,6	8,418	0,08431	0,136
14,61	8,418	0,08405	0,136
14,62	8,259	0,08373	0,136
14,63	8,18	0,08327	0,136
14,64	8,093	0,08205	0,135
14,65	8,035	0,08134	0,136
14,66	7,97	0,08101	0,137
14,67	7,905	0,08172	0,137
14,68	7,898	0,08192	0,137
14,69	7,877	0,08295	0,137
14,7	7,862	0,08379	0,138
14,71	7,862	0,08314	0,138
14,72	7,891	0,08231	0,139
14,73	7,949	0,08159	0,139
14,74	7,999	0,08147	0,139
14,75	8,028	0,08211	0,14
14,76	8,057	0,08211	0,14
14,77	8,079	0,08198	0,14
14,78	8,079	0,08269	0,141
14,79	8,108	0,08302	0,141
14,8	8,144	0,0836	0,142
14,81	8,209	0,08411	0,142
14,82	8,274	0,08405	0,143
14,83	8,295	0,08444	0,143
14,84	8,295	0,08386	0,143
14,85	8,302	0,08386	0,143
14,86	8,238	0,08392	0,143
14,87	8,18	0,08386	0,143
14,88	8,122	0,08392	0,143
14,89	8,079	0,0836	0,143
14,9	8,057	0,08308	0,143
14,91	8,093	0,08263	0,144
14,92	8,158	0,08243	0,144
14,93	8,201	0,08231	0,144
14,94	8,223	0,08185	0,144
14,95	8,151	0,08121	0,144
14,96	8,043	0,08056	0,143
14,97	7,97	0,07991	0,143
14,98	7,92	0,07972	0,143
14,99	7,884	0,07914	0,143
15	7,84	0,0792	0,143
15,01	7,826	0,07869	0,143
15,02	7,848	0,07836	0,143
15,03	7,942	0,0781	0,143
15,04	8,043	0,0781	0,144
15,05	8,151	0,07869	0,144
15,06	8,238	0,07907	0,145
15,07	8,33	0,0794	0,146

15,08	8,454	0,07953	0,147
15,09	8,562	0,07953	0,147
15,1	8,591	0,07472	0,147
15,11	8,577	0,07171	0,147
15,12	8,577	0,07171	0,147
15,13	8,562	0,07333	0,147
15,14	8,548	0,07494	0,147
15,15	8,497	0,07636	0,147
15,16	8,476	0,07752	0,147
15,17	8,476	0,07804	0,143
15,18	8,476	0,07882	0,142
15,19	8,259	0,07933	0,139
15,2	8,259	0,07972	0,145
15,21	8,353	0,07979	0,144
15,22	8,382	0,07927	0,144
15,23	8,389	0,07817	0,144
15,24	8,353	0,0761	0,144
15,25	8,346	0,07391	0,143
15,26	8,353	0,07145	0,143
15,27	8,346	0,06867	0,142
15,28	8,353	0,06674	0,142
15,29	8,396	0,06506	0,142
15,3	8,454	0,06473	0,142
15,31	8,519	0,06557	0,142
15,32	8,62	0,06602	0,142
15,33	8,684	0,06648	0,141
15,34	8,7	0,06758	0,141
15,35	8,635	0,06835	0,141
15,36	8,497	0,06867	0,14
15,37	8,295	0,06984	0,139
15,38	8,115	0,07171	0,14
15,39	7,985	0,07365	0,14
15,4	7,869	0,07559	0,139
15,41	7,775	0,07559	0,139
15,42	7,66	0,07765	0,139
15,43	7,544	0,07862	0,139
15,44	7,429	0,079	0,139
15,45	7,321	0,07836	0,138
15,46	7,241	0,07778	0,138
15,47	7,133	0,07643	0,137
15,48	7,017	0,07391	0,137
15,49	7,017	0,0721	0,137
15,5	6,83	0,07152	0,136
15,51	6,628	0,07068	0,135
15,52	6,346	0,06906	0,134
15,53	6,057	0,06854	0,133
15,54	5,761	0,06738	0,132
15,55	5,494	0,06596	0,131
15,56	5,256	0,06493	0,131
15,57	5,068	0,06402	0,131
15,58	4,917	0,0626	0,13
15,59	4,815	0,06086	0,13
15,6	4,707	0,05769	0,13
15,61	4,621	0,05369	0,13
15,62	4,527	0,05149	0,13
15,63	4,476	0,05136	0,129



15,64	4,462	0,05188	0,129
15,65	4,469	0,05201	0,13
15,66	4,476	0,05039	0,131
15,67	4,541	0,05039	0,132
15,68	4,693	0,04878	0,133
15,69	4,945	0,04916	0,135
15,7	5,299	0,05214	0,136
15,71	5,761	0,05381	0,136
15,72	6,245	0,05556	0,135
15,73	6,693	0,05588	0,131
15,74	7,133	0,05666	0,127
15,75	7,133	0,05872	0,127
15,76	7,516	0,06189	0,124
15,77	7,819	0,06506	0,124
15,78	8,064	0,06848	0,125
15,79	8,194	0,07184	0,126
15,8	8,302	0,07494	0,126
15,81	8,404	0,07798	0,127
15,82	8,533	0,07991	0,127
15,83	8,649	0,08218	0,128
15,84	8,728	0,08437	0,129
15,85	8,837	0,08644	0,13
15,86	8,916	0,08915	0,131
15,87	9,017	0,09238	0,131
15,88	9,118	0,0951	0,132
15,89	9,183	0,09652	0,133
15,9	9,212	0,09794	0,133
15,91	9,198	0,098	0,133
15,92	9,133	0,09846	0,134
15,93	9,075	0,09968	0,134
15,94	9,017	0,10039	0,134
15,95	8,988	0,10026	0,134
15,96	8,988	0,09949	0,135
15,97	9,01	0,09968	0,135
15,98	9,046	0,0993	0,135
15,99	9,089	0,0993	0,136
16	9,111	0,09904	0,136
16,01	9,154	0,09955	0,137
16,02	9,233	0,09917	0,138
16,03	9,342	0,09943	0,138
16,04	9,429	0,09968	0,139
16,05	9,479	0,1002	0,14
16,06	9,537	0,10052	0,14
16,07	9,537	0,10039	0,14
16,08	9,616	0,09975	0,141
16,09	9,667	0,10026	0,141
16,1	9,725	0,10194	0,142
16,11	9,797	0,10194	0,143
16,12	9,869	0,10194	0,143
16,13	9,912	0,10194	0,144
16,14	9,962	0,10194	0,144
16,15	10,006	0,10194	0,144
16,16	10,042	0,10194	0,144
16,17	10,144	0,10194	0,145
16,18	10,237	0,10194	0,146

## PROVA CPTU1 - VALORI

CPTU 1 - Schmertmann

24/10/2005

Geolog s.r.l.

Ravenna

Villaggio S. Giuseppe - Ravenna

Via Lago Maggiore

Piano giardino

Comune di Ravenna

## LETTURE CPT

prof. [m]	qc [N/mm <sup>2</sup> ]	fs [N/mm <sup>2</sup> ]	U [N/mm <sup>2</sup> ]
0,11	0,455	0,03657	-0,002
0,12	0,455	0,03766	-0,002
0,13	0,476	0,03792	-0,006
0,14	0,476	0,04089	-0,009
0,15	0,202	0,04089	0,025
0,16	0,202	0,0427	0,025
0,17	0,26	0,04445	0,014
0,18	0,289	0,04593	0,016
0,19	0,267	0,04826	0,016
0,2	0,195	0,05058	0,016
0,21	0,282	0,05226	0,023
0,22	0,375	0,05226	0,031
0,23	0,375	0,05362	0,031
0,24	0,412	0,05537	0,036
0,25	0,44	0,05692	0,041
0,26	0,455	0,04832	0,041
0,27	0,455	0,05821	0,04
0,28	0,462	0,05989	0,039
0,29	0,448	0,06131	0,039
0,3	0,448	0,06099	0,039
0,31	0,44	0,06208	0,039
0,32	0,448	0,06241	0,038
0,33	0,44	0,06241	0,038
0,34	0,433	0,0617	0,032
0,35	0,202	0,0617	0,038
0,36	0,448	0,06137	0,044
0,37	0,57	0,06066	0,054
0,38	0,404	0,05963	0,052
0,39	0,39	0,05885	0,049
0,4	0,383	0,05763	0,044
0,41	0,383	0,0564	0,044
0,42	0,361	0,0564	0,033
0,43	0,303	0,05562	0,031
0,44	0,289	0,05478	0,03
0,45	0,274	0,05453	0,031
0,46	0,274	0,05407	0,032
0,47	0,296	0,05239	0,033
0,48	0,289	0,05058	0,035
0,49	0,325	0,05058	0,038
0,5	0,325	0,05259	0,038
0,51	0,354	0,05562	0,041

0,52	0,404	0,05562	0,046
0,53	0,448	0,05827	0,056
0,54	0,498	0,06079	0,064
0,55	0,527	0,06357	0,071
0,56	0,549	0,06706	0,074
0,57	0,592	0,06977	0,068
0,58	0,563	0,07242	0,058
0,59	0,541	0,07429	0,049
0,6	0,541	0,07578	0,049
0,61	0,513	0,07552	0,042
0,62	0,476	0,07552	0,035
0,63	0,448	0,07339	0,03
0,64	0,426	0,07132	0,026
0,65	0,419	0,06919	0,023
0,66	0,412	0,06783	0,021
0,67	0,397	0,06557	0,02
0,68	0,375	0,0637	0,019
0,69	0,354	0,06124	0,018
0,7	0,354	0,05814	0,018
0,71	0,332	0,04761	0,018
0,72	0,31	0,03902	0,017
0,73	0,303	0,03902	0,018
0,74	0,296	0,03566	0,019
0,75	0,303	0,03618	0,019
0,76	0,31	0,0564	0,022
0,77	0,332	0,0553	0,026
0,78	0,361	0,0553	0,029
0,79	0,419	0,0511	-0,001
0,8	1,242	0,05091	-0,057
0,81	1,242	0,05065	-0,057
0,82	1,552	0,05104	-0,062
0,83	1,61	0,05104	-0,038
0,84	0,91	0,05136	-0,045
0,85	0,13	0,05246	0,069
0,86	0,13	0,05259	0,069
0,87	0,152	0,05097	0,095
0,88	0,231	0,0489	0,049
0,89	0,31	0,0489	0,021
0,9	0,383	0,04768	0,022
0,91	0,383	0,04412	0,022
0,92	0,419	0,04445	0,053
0,93	0,426	0,04542	0,114
0,94	0,419	0,04542	0,189
0,95	0,448	0,04735	0,231
0,96	0,513	0,05136	0,224
0,97	0,527	0,05375	0,202
0,98	0,52	0,05401	0,178
0,99	0,527	0,05394	0,154
1	0,419	0,05401	0,14
1,01	0,556	0,0544	0,132
1,02	0,556	0,05427	0,132
1,03	0,585	0,05601	0,125
1,04	0,57	0,05601	0,115
1,05	0,549	0,05472	0,112
1,06	0,556	0,05317	0,121
1,07	0,578	0,0531	0,125

1,08	0,643	0,05336	0,126
1,09	0,7	0,05336	0,136
1,1	0,823	0,06312	0,16
1,11	0,881	0,06312	0,182
1,12	0,881	0,0637	0,182
1,13	0,939	0,06363	0,21
1,14	1,011	0,06422	0,209
1,15	1,076	0,06945	0,194
1,16	1,097	0,06945	0,17
1,17	1,097	0,07042	0,144
1,18	1,018	0,07068	0,144
1,19	1,018	0,07068	0,136
1,2	0,946	0,07132	0,12
1,21	0,874	0,07009	0,106
1,22	0,801	0,06745	0,095
1,23	0,679	0,06344	0,07
1,24	0,679	0,06118	0,07
1,25	0,657	0,06079	0,069
1,26	0,671	0,06086	0,07
1,27	0,671	0,0617	0,07
1,28	0,679	0,06215	0,07
1,29	0,671	0,06298	0,068
1,3	0,65	0,06298	0,07
1,31	0,65	0,06486	0,076
1,32	0,686	0,06699	0,079
1,33	0,7	0,06854	0,078
1,34	0,708	0,06913	0,077
1,35	0,686	0,07113	0,075
1,36	0,679	0,07229	0,076
1,37	0,7	0,07307	0,082
1,38	0,7	0,07261	0,082
1,39	0,693	0,07203	0,086
1,4	0,693	0,07152	0,089
1,41	0,708	0,07152	0,095
1,42	0,715	0,07158	0,099
1,43	0,722	0,07158	0,099
1,44	0,715	0,07171	0,1
1,45	0,744	0,0721	0,099
1,46	0,751	0,07274	0,097
1,47	0,787	0,0732	0,097
1,48	0,787	0,07365	0,096
1,49	0,787	0,07358	0,096
1,5	0,794	0,07365	0,096
1,51	0,816	0,07339	0,096
1,52	0,837	0,07339	0,095
1,53	0,83	0,073	0,094
1,54	0,83	0,07281	0,094
1,55	0,83	0,07281	0,092
1,56	0,823	0,07216	0,091
1,57	0,823	0,07203	0,088
1,58	0,794	0,07152	0,085
1,59	0,758	0,06997	0,082
1,6	0,758	0,06751	0,082
1,61	0,736	0,06628	0,081
1,62	0,729	0,06628	0,079
1,63	0,708	0,06506	0,079

1,64	0,693	0,06124	0,079
1,65	0,664	0,05982	0,079
1,66	0,664	0,05937	0,079
1,67	0,664	0,05924	0,081
1,68	0,686	0,05963	0,084
1,69	0,679	0,05956	0,085
1,7	0,679	0,0606	0,085
1,71	0,693	0,06267	0,088
1,72	0,708	0,06409	0,094
1,73	0,729	0,06409	0,094
1,74	0,715	0,06447	0,092
1,75	0,7	0,06447	0,089
1,76	0,693	0,06531	0,087
1,77	0,664	0,06602	0,085
1,78	0,679	0,06544	0,085
1,79	0,657	0,06402	0,084
1,8	0,657	0,06428	0,083
1,81	0,657	0,06441	0,083
1,82	0,671	0,06298	0,084
1,83	0,679	0,06298	0,084
1,84	0,693	0,06195	0,085
1,85	0,715	0,06021	0,085
1,86	0,715	0,05801	0,084
1,87	0,722	0,05621	0,084
1,88	0,758	0,05679	0,086
1,89	0,772	0,05685	0,088
1,9	0,758	0,05827	0,09
1,91	0,758	0,06047	0,09
1,92	0,758	0,06292	0,093
1,93	0,744	0,06473	0,094
1,94	0,715	0,06267	0,091
1,95	0,708	0,06267	0,088
1,96	0,7	0,05892	0,084
1,97	0,671	0,05795	0,08
1,98	0,671	0,05892	0,077
1,99	0,635	0,05937	0,074
2	0,628	0,05698	0,073
2,01	0,628	0,05304	0,073
2,02	0,628	0,04839	0,076
2,03	0,628	0,04619	0,076
2,04	0,657	0,0438	0,078
2,05	0,715	0,04238	0,077
2,06	0,693	0,04238	0,071
2,07	0,621	0,04445	0,065
2,08	0,549	0,04445	0,06
2,09	0,476	0,04361	0,058
2,1	0,404	0,04477	0,061
2,11	0,412	0,0458	0,07
2,12	0,455	0,0471	0,083
2,13	0,491	0,04794	0,092
2,14	0,491	0,04794	0,092
2,15	0,339	0,04839	0,38
2,16	0,339	0,04787	0,38
2,17	0,549	0,0471	0,276
2,18	0,563	0,04813	0,242
2,19	0,578	0,05013	0,23

2,2	0,585	0,05375	0,224
2,21	0,599	0,05614	0,206
2,22	0,599	0,05724	0,206
2,23	0,585	0,05763	0,189
2,24	0,578	0,05698	0,172
2,25	0,57	0,05711	0,152
2,26	0,556	0,05711	0,134
2,27	0,534	0,05724	0,121
2,28	0,505	0,05743	0,114
2,29	0,484	0,05782	0,109
2,3	0,498	0,05666	0,108
2,31	0,513	0,05575	0,109
2,32	0,527	0,05478	0,11
2,33	0,541	0,05414	0,109
2,34	0,541	0,05375	0,109
2,35	0,527	0,0544	0,108
2,36	0,513	0,05498	0,107
2,37	0,484	0,05498	0,104
2,38	0,476	0,05556	0,102
2,39	0,448	0,05614	0,096
2,4	0,419	0,05685	0,091
2,41	0,426	0,05524	0,087
2,42	0,419	0,05349	0,084
2,43	0,412	0,05252	0,081
2,44	0,397	0,05188	0,077
2,45	0,397	0,05136	0,077
2,46	0,383	0,05033	0,074
2,47	0,397	0,04903	0,071
2,48	0,361	0,04903	0,069
2,49	0,361	0,04768	0,069
2,5	0,361	0,0471	0,07
2,51	0,375	0,04645	0,071
2,52	0,39	0,04582	0,073
2,53	0,397	0,04503	0,076
2,54	0,397	0,04432	0,08
2,55	0,404	0,04503	0,082
2,56	0,404	0,04555	0,082
2,57	0,404	0,0469	0,083
2,58	0,397	0,04755	0,083
2,59	0,397	0,04755	0,084
2,6	0,426	0,04509	0,084
2,61	0,455	0,04367	0,086
2,62	0,491	0,04341	0,085
2,63	0,513	0,04283	0,084
2,64	0,549	0,04322	0,082
2,65	0,563	0,04374	0,08
2,66	0,52	0,04354	0,076
2,67	0,52	0,0429	0,076
2,68	0,448	0,04225	0,077
2,69	0,433	0,04219	0,08
2,7	0,419	0,04219	0,085
2,71	0,426	0,04251	0,088
2,72	0,404	0,04283	0,088
2,73	0,383	0,04212	0,086
2,74	0,354	0,04199	0,086
2,75	0,339	0,04148	0,087



2,76	0,332	0,04018	0,086
2,77	0,325	0,04031	0,086
2,78	0,325	0,0407	0,086
2,79	0,296	0,04115	0,086
2,8	0,282	0,04148	0,087
2,81	0,274	0,04148	0,093
2,82	0,303	0,0427	0,102
2,83	0,332	0,04406	0,113
2,84	0,39	0,04548	0,124
2,85	0,448	0,04684	0,127
2,86	0,469	0,04716	0,127
2,87	0,484	0,04723	0,125
2,88	0,491	0,04807	0,122
2,89	0,491	0,04878	0,122
2,9	0,491	0,04781	0,118
2,91	0,484	0,04748	0,113
2,92	0,462	0,04658	0,107
2,93	0,44	0,04658	0,104
2,94	0,433	0,04697	0,104
2,95	0,426	0,04697	0,103
2,96	0,404	0,04697	0,103
2,97	0,39	0,04645	0,106
2,98	0,397	0,04509	0,109
2,99	0,39	0,04322	0,108
3	0,397	0,04096	0,107
3,01	0,397	0,03993	0,107
3,02	0,404	0,03921	0,104
3,03	0,404	0,03915	0,1
3,04	0,368	0,03915	0,096
3,05	0,347	0,03876	0,094
3,06	0,318	0,03825	0,089
3,07	0,289	0,03812	0,089
3,08	0,267	0,03753	0,085
3,09	0,26	0,03611	0,08
3,1	0,231	0,03114	0,074
3,11	0,202	0,03631	0,067
3,12	0,202	0,03631	0,067
3,13	0,188	0,0365	0,061
3,14	0,159	0,03618	0,058
3,15	0,152	0,03514	0,054
3,16	0,137	0,03514	0,051
3,17	0,13	0,03437	0,048
3,18	0,108	0,03334	0,044
3,19	0,116	0,03217	0,09
3,2	0,116	0,03075	0,09
3,21	0,137	0,03023	0,092
3,22	0,13	0,02965	0,088
3,23	0,137	0,02939	0,08
3,24	0,137	0,02881	0,08
3,25	0,152	0,02862	0,076
3,26	0,159	0,0283	0,076
3,27	0,152	0,0283	0,077
3,28	0,18	0,02771	0,078
3,29	0,18	0,02713	0,083
3,3	0,18	0,02694	0,08
3,31	0,173	0,02694	0,078

3,32	0,18	0,02707	0,078
3,33	0,173	0,02694	0,075
3,34	0,166	0,027	0,076
3,35	0,166	0,02668	0,076
3,36	0,166	0,0272	0,082
3,37	0,166	0,02784	0,082
3,38	0,159	0,02784	0,079
3,39	0,173	0,02875	0,074
3,4	0,173	0,02933	0,077
3,41	0,18	0,03088	0,085
3,42	0,195	0,03288	0,086
3,43	0,202	0,03443	0,085
3,44	0,224	0,03534	0,093
3,45	0,238	0,0354	0,126
3,46	0,238	0,03443	0,126
3,47	0,26	0,03301	0,173
3,48	0,303	0,03056	0,212
3,49	0,404	0,03056	0,259
3,5	0,599	0,02849	0,337
3,51	0,881	0,02952	0,309
3,52	1,141	0,03185	0,271
3,53	1,263	0,03573	0,22
3,54	1,249	0,03954	0,164
3,55	1,068	0,04115	0,125
3,56	0,837	0,04148	0,103
3,57	0,837	0,04232	0,103
3,58	0,635	0,04135	0,09
3,59	0,513	0,04031	0,08
3,6	0,404	0,03954	0,073
3,61	0,354	0,03954	0,065
3,62	0,296	0,03928	0,056
3,63	0,253	0,03837	0,048
3,64	0,274	0,03863	0,05
3,65	0,361	0,03702	0,063
3,66	0,484	0,03508	0,073
3,67	0,599	0,03398	0,084
3,68	0,888	0,03153	0,101
3,69	0,888	0,03036	0,101
3,7	1,256	0,03191	0,115
3,71	1,523	0,03469	0,114
3,72	1,581	0,03469	0,103
3,73	1,545	0,03883	0,093
3,74	1,437	0,03909	0,083
3,75	1,235	0,03857	0,074
3,76	0,931	0,03779	0,066
3,77	0,715	0,03921	0,061
3,78	0,599	0,0416	0,057
3,79	0,498	0,04238	0,052
3,8	0,498	0,04102	0,052
3,81	0,397	0,0396	0,046
3,82	0,332	0,03947	0,044
3,83	0,31	0,03947	0,045
3,84	0,318	0,03954	0,044
3,85	0,296	0,03947	0,038
3,86	0,26	0,03773	0,034
3,87	0,274	0,03611	0,039

3,88	0,31	0,0356	0,047
3,89	0,375	0,03489	0,056
3,9	0,412	0,0325	0,061
3,91	0,412	0,03166	0,061
3,92	0,455	0,03095	0,062
3,93	0,448	0,02998	0,061
3,94	0,44	0,02998	0,059
3,95	0,397	0,02836	0,057
3,96	0,375	0,02784	0,055
3,97	0,339	0,02907	0,056
3,98	0,339	0,02888	0,056
3,99	0,325	0,02946	0,051
4	0,253	0,03133	0,042
4,01	0,217	0,03103	0,036
4,02	0,217	0,03011	0,036
4,03	0,173	0,03062	0,035
4,04	0,188	0,03133	0,037
4,05	0,173	0,03133	0,035
4,06	0,166	0,03133	0,042
4,07	0,195	0,03069	0,054
4,08	0,282	0,03036	0,07
4,09	0,404	0,03172	0,088
4,1	0,52	0,03127	0,102
4,11	0,585	0,03295	0,094
4,12	0,549	0,03295	0,082
4,13	0,549	0,03262	0,082
4,14	0,491	0,03262	0,072
4,15	0,368	0,03166	0,061
4,16	0,274	0,03101	0,052
4,17	0,209	0,03062	0,041
4,18	0,18	0,03017	0,034
4,19	0,144	0,03004	0,11
4,2	0,144	0,02978	0,11
4,21	0,13	0,02823	0,096
4,22	0,13	0,02694	0,096
4,23	0,116	0,02565	0,092
4,24	0,108	0,02487	0,093
4,25	0,108	0,0241	0,094
4,26	0,101	0,0241	0,098
4,27	0,116	0,02326	0,102
4,28	0,116	0,02255	0,106
4,29	0,116	0,02268	0,108
4,3	0,123	0,02345	0,106
4,31	0,116	0,02507	0,108
4,32	0,108	0,02629	0,106
4,33	0,116	0,02629	0,106
4,34	0,116	0,02571	0,106
4,35	0,116	0,02655	0,11
4,36	0,123	0,02733	0,112
4,37	0,13	0,02733	0,125
4,38	0,188	0,0281	0,156
4,39	0,296	0,02991	0,236
4,4	0,404	0,03153	0,32
4,41	0,513	0,03295	0,277
4,42	0,541	0,03301	0,158
4,43	0,513	0,03301	0,122

4,44	0,433	0,03178	0,104
4,45	0,433	0,03269	0,104
4,46	0,332	0,03818	0,093
4,47	0,245	0,03818	0,082
4,48	0,202	0,03973	0,076
4,49	0,26	0,04076	0,084
4,5	0,318	0,04051	0,098
4,51	0,426	0,04038	0,114
4,52	0,476	0,03676	0,125
4,53	0,585	0,03405	0,125
4,54	0,693	0,03243	0,12
4,55	0,693	0,03114	0,12
4,56	0,946	0,03172	0,134
4,57	1,365	0,03269	0,15
4,58	1,668	0,03443	0,147
4,59	1,805	0,03443	0,125
4,6	1,834	0,03566	0,108
4,61	1,827	0,0365	0,094
4,62	1,747	0,03831	0,085
4,63	1,639	0,04232	0,078
4,64	1,437	0,04458	0,071
4,65	1,213	0,04587	0,066
4,66	1,068	0,04651	0,062
4,67	1,068	0,04858	0,062
4,68	0,924	0,04987	0,059
4,69	0,809	0,04987	0,056
4,7	0,744	0,04748	0,053
4,71	0,635	0,04477	0,049
4,72	0,476	0,04316	0,044
4,73	0,383	0,04219	0,04
4,74	0,433	0,03883	0,041
4,75	0,556	0,03547	0,045
4,76	0,772	0,03456	0,055
4,77	0,772	0,03398	0,055
4,78	1,054	0,03411	0,068
4,79	1,3	0,03527	0,07
4,8	1,408	0,03527	0,064
4,81	1,393	0,03598	0,059
4,82	1,249	0,04057	0,054
4,83	1,054	0,04057	0,051
4,84	0,902	0,04206	0,049
4,85	0,794	0,04341	0,048
4,86	0,686	0,04393	0,046
4,87	0,556	0,0427	0,044
4,88	0,556	0,04199	0,044
4,89	0,462	0,03999	0,041
4,9	0,224	0,03999	0,043
4,91	0,224	0,03825	0,043
4,92	0,195	0,03734	0,045
4,93	0,224	0,03695	0,05
4,94	0,332	0,03411	0,065
4,95	0,498	0,03191	0,088
4,96	0,65	0,03191	0,104
4,97	0,765	0,03004	0,111
4,98	0,765	0,03243	0,111
4,99	0,837	0,03366	0,105

5	0,902	0,0345	0,094
5,01	0,837	0,03476	0,081
5,02	0,686	0,03476	0,072
5,03	0,462	0,03437	0,06
5,04	0,462	0,03437	0,06
5,05	0,354	0,03424	0,054
5,06	0,245	0,03366	0,042
5,07	0,195	0,03217	0,037
5,08	0,173	0,03095	0,038
5,09	0,173	0,03017	0,041
5,1	0,173	0,02235	0,041
5,11	0,173	0,02235	0,045
5,12	0,188	0,0219	0,049
5,13	0,188	0,02197	0,052
5,14	0,195	0,02197	0,058
5,15	0,202	0,02216	0,063
5,16	0,202	0,02248	0,067
5,17	0,217	0,02293	0,132
5,18	0,217	0,02326	0,263
5,19	0,217	0,02345	0,263
5,2	0,224	0,02352	0,263
5,21	0,231	0,02377	0,261
5,22	0,231	0,02429	0,261
5,23	0,231	0,02487	0,261
5,24	0,202	0,02487	0,223
5,25	0,18	0,02539	0,185
5,26	0,152	0,02539	0,165
5,27	0,137	0,02591	0,161
5,28	0,137	0,02629	0,163
5,29	0,137	0,02688	0,164
5,3	0,13	0,02662	0,167
5,31	0,144	0,02552	0,174
5,32	0,144	0,02436	0,194
5,33	0,173	0,02397	0,215
5,34	0,173	0,02319	0,215
5,35	0,18	0,02287	0,225
5,36	0,188	0,02287	0,226
5,37	0,18	0,02281	0,21
5,38	0,18	0,02332	0,2
5,39	0,173	0,02261	0,191
5,4	0,159	0,02229	0,187
5,41	0,166	0,02248	0,191
5,42	0,159	0,02242	0,19
5,43	0,159	0,02255	0,184
5,44	0,159	0,02255	0,184
5,45	0,166	0,02281	0,182
5,46	0,137	0,02293	0,167
5,47	0,13	0,02293	0,168
5,48	0,137	0,02319	0,172
5,49	0,137	0,02352	0,172
5,5	0,144	0,02261	0,171
5,51	0,144	0,02261	0,169
5,52	0,137	0,02281	0,169
5,53	0,144	0,02339	0,168
5,54	0,137	0,02384	0,165
5,55	0,137	0,02474	0,165

5,56	0,137	0,02552	0,162
5,57	0,137	0,02584	0,161
5,58	0,144	0,02584	0,166
5,59	0,144	0,02578	0,174
5,6	0,159	0,02668	0,191
5,61	0,188	0,02707	0,227
5,62	0,209	0,02668	0,264
5,63	0,245	0,02571	0,293
5,64	0,26	0,02552	0,286
5,65	0,231	0,02526	0,253
5,66	0,231	0,02481	0,253
5,67	0,209	0,02481	0,214
5,68	0,173	0,02481	0,175
5,69	0,159	0,025	0,153
5,7	0,144	0,02455	0,145
5,71	0,137	0,02481	0,148
5,72	0,144	0,02461	0,152
5,73	0,137	0,02352	0,151
5,74	0,137	0,02248	0,151
5,75	0,144	0,02203	0,148
5,76	0,144	0,02171	0,148
5,77	0,137	0,02171	0,14
5,78	0,13	0,02184	0,145
5,79	0,137	0,02184	0,149
5,8	0,137	0,02164	0,152
5,81	0,137	0,02177	0,154
5,82	0,144	0,02171	0,158
5,83	0,144	0,02177	0,16
5,84	0,144	0,02151	0,161
5,85	0,137	0,02132	0,165
5,86	0,144	0,02125	0,168
5,87	0,144	0,02125	0,168
5,88	0,144	0,02106	0,171
5,89	0,152	0,021	0,172
5,9	0,144	0,021	0,173
5,91	0,152	0,02119	0,171
5,92	0,152	0,02106	0,172
5,93	0,152	0,021	0,174
5,94	0,152	0,021	0,178
5,95	0,159	0,02106	0,177
5,96	0,159	0,02113	0,178
5,97	0,152	0,0208	0,18
5,98	0,152	0,02093	0,18
5,99	0,152	0,02119	0,183
6	0,152	0,02119	0,186
6,01	0,159	0,02113	0,185
6,02	0,166	0,02125	0,186
6,03	0,159	0,02138	0,183
6,04	0,159	0,02158	0,181
6,05	0,152	0,02209	0,18
6,06	0,166	0,02358	0,183
6,07	0,159	0,0241	0,186
6,08	0,159	0,02539	0,186
6,09	0,159	0,02784	0,192
6,1	0,166	0,02784	0,197
6,11	0,173	0,02927	0,206



6,12	0,188	0,03023	0,211
6,13	0,195	0,03095	0,231
6,14	0,195	0,03146	0,266
6,15	0,245	0,03166	0,309
6,16	0,289	0,03308	0,321
6,17	0,303	0,03308	0,146
6,18	0,303	0,03398	0,146
6,19	0,245	0,03295	0,127
6,2	0,274	0,03534	0,121
6,21	0,347	0,03728	0,143
6,22	0,469	0,03799	0,203
6,23	0,527	0,03728	0,227
6,24	0,484	0,03495	0,198
6,25	0,484	0,03262	0,198
6,26	0,412	0,03166	0,16
6,27	0,347	0,03166	0,128
6,28	0,296	0,03166	0,104
6,29	0,26	0,03217	0,101
6,3	0,26	0,03282	0,11
6,31	0,26	0,03166	0,109
6,32	0,238	0,03243	0,108
6,33	0,224	0,03243	0,117
6,34	0,209	0,03017	0,122
6,35	0,209	0,02939	0,122
6,36	0,202	0,02952	0,123
6,37	0,195	0,02939	0,127
6,38	0,217	0,02959	0,133
6,39	0,209	0,02959	0,137
6,4	0,202	0,02894	0,158
6,41	0,202	0,0283	0,158
6,42	0,195	0,02875	0,16
6,43	0,195	0,02933	0,165
6,44	0,195	0,02998	0,166
6,45	0,202	0,02972	0,166
6,46	0,18	0,02739	0,165
6,47	0,18	0,02655	0,165
6,48	0,188	0,02998	0,164
6,49	0,195	0,03198	0,166
6,5	0,195	0,03198	0,187
6,51	0,245	0,03437	0,23
6,52	0,303	0,03631	0,262
6,53	0,354	0,03631	0,28
6,54	0,361	0,03385	0,248
6,55	0,318	0,03288	0,188
6,56	0,26	0,0334	0,141
6,57	0,209	0,03398	0,134
6,58	0,209	0,03411	0,134
6,59	0,397	0,0365	0,253
6,6	1,429	0,0365	0,371
6,61	1,429	0,03928	0,371
6,62	1,827	0,04148	0,301
6,63	1,776	0,0438	0,179
6,64	1,559	0,04658	0,13
6,65	1,307	0,04839	0,109
6,66	1,09	0,04768	0,097
6,67	0,946	0,05	0,09

6,68	0,946	0,0513	0,09
6,69	0,874	0,05097	0,086
6,7	0,83	0,04871	0,083
6,71	0,7	0,04871	0,078
6,72	0,585	0,04671	0,076
6,73	0,541	0,04677	0,079
6,74	0,498	0,04878	0,089
6,75	0,65	0,0542	0,091
6,76	0,816	0,05685	0,105
6,77	1,054	0,05375	0,142
6,78	1,097	0,04974	0,154
6,79	1,097	0,04839	0,154
6,8	1,018	0,04438	0,127
6,81	0,917	0,04387	0,103
6,82	0,881	0,04387	0,096
6,83	0,952	0,04264	0,112
6,84	1,487	0,04238	0,149
6,85	2,115	0,04277	0,168
6,86	2,787	0,04316	0,189
6,87	3,379	0,04277	0,185
6,88	3,704	0,04251	0,16
6,89	3,855	0,04199	0,139
6,9	3,855	0,04219	0,139
6,91	3,971	0,04303	0,13
6,92	4,101	0,04316	0,124
6,93	4,209	0,04316	0,12
6,94	4,296	0,04503	0,117
6,95	4,281	0,0471	0,113
6,96	4,094	0,04787	0,107
6,97	3,776	0,04949	0,1
6,98	3,364	0,05136	0,094
6,99	2,909	0,05407	0,088
7	2,433	0,05698	0,081
7,01	2,433	0,05866	0,081
7,02	2,014	0,06047	0,076
7,03	1,754	0,06047	0,071
7,04	1,581	0,0584	0,067
7,05	1,473	0,05679	0,065
7,06	1,343	0,0544	0,065
7,07	1,162	0,05155	0,064
7,08	0,96	0,04361	0,061
7,09	0,787	0,04361	0,057
7,1	0,693	0,04561	0,058
7,11	0,693	0,04574	0,058
7,12	0,664	0,04574	0,064
7,13	0,686	0,04477	0,07
7,14	0,643	0,04303	0,077
7,15	0,614	0,04005	0,076
7,16	0,455	0,03631	0,093
7,17	0,455	0,03786	0,093
7,18	0,361	0,04167	0,076
7,19	0,361	0,03967	0,07
7,2	0,361	0,03844	0,07
7,21	0,39	0,0418	0,09
7,22	0,534	0,04244	0,124
7,23	0,722	0,04244	0,157

7,24	0,787	0,0385	0,151
7,25	0,823	0,03741	0,123
7,26	0,758	0,03676	0,104
7,27	0,758	0,03941	0,104
7,28	0,816	0,03928	0,103
7,29	0,837	0,04044	0,091
7,3	0,765	0,0416	0,084
7,31	0,765	0,03928	0,084
7,32	0,686	0,03728	0,081
7,33	0,614	0,0376	0,076
7,34	0,52	0,0376	0,072
7,35	0,455	0,04277	0,066
7,36	0,426	0,04316	0,073
7,37	0,556	0,04018	0,084
7,38	0,643	0,03812	0,09
7,39	0,736	0,03837	0,105
7,4	0,772	0,04038	0,111
7,41	0,772	0,04025	0,101
7,42	0,772	0,04335	0,101
7,43	0,794	0,04322	0,088
7,44	0,765	0,04322	0,085
7,45	0,91	0,04425	0,096
7,46	1,083	0,04516	0,104
7,47	1,213	0,04593	0,096
7,48	1,206	0,04755	0,082
7,49	1,076	0,04839	0,076
7,5	1,105	0,04587	0,08
7,51	1,155	0,04425	0,079
7,52	1,155	0,04432	0,079
7,53	1,062	0,04451	0,076
7,54	0,996	0,04451	0,076
7,55	1,162	0,03921	0,084
7,56	1,725	0,03844	0,111
7,57	2,339	0,03909	0,123
7,58	2,57	0,03967	0,126
7,59	2,585	0,04148	0,115
7,6	2,39	0,04393	0,097
7,61	2,101	0,0458	0,085
7,62	2,101	0,04639	0,085
7,63	1,783	0,04522	0,08
7,64	1,531	0,04438	0,076
7,65	1,336	0,04438	0,072
7,66	1,184	0,04316	0,069
7,67	1,047	0,04412	0,067
7,68	0,91	0,04574	0,066
7,69	0,78	0,04471	0,062
7,7	0,679	0,04374	0,06
7,71	0,578	0,04173	0,064
7,72	0,549	0,04005	0,065
7,73	0,549	0,03928	0,065
7,74	0,462	0,03779	0,068
7,75	0,433	0,03837	0,067
7,76	0,397	0,03837	0,065
7,77	0,412	0,03773	0,068
7,78	0,52	0,03495	0,086
7,79	0,643	0,03902	0,108

7,8	0,635	0,04277	0,115
7,81	0,729	0,04109	0,116
7,82	0,736	0,0398	0,113
7,83	0,736	0,03909	0,101
7,84	0,736	0,03573	0,101
7,85	0,664	0,03644	0,093
7,86	0,563	0,03799	0,087
7,87	0,469	0,03799	0,073
7,88	0,426	0,0398	0,06
7,89	0,57	0,04025	0,073
7,9	0,852	0,03986	0,098
7,91	1,061	0,04064	0,118
7,92	1,126	0,03766	0,121
7,93	1,097	0,03443	0,101
7,94	0,946	0,03314	0,083
7,95	0,946	0,03573	0,083
7,96	0,722	0,03715	0,07
7,97	0,541	0,03715	0,066
7,98	0,419	0,03986	0,062
7,99	0,361	0,04148	0,066
8	0,397	0,0398	0,079
8,01	0,433	0,04199	0,087
8,02	0,419	0,03695	0,085
8,03	0,541	0,03586	0,091
8,04	0,83	0,0354	0,115
8,05	0,83	0,03405	0,115
8,06	1,408	0,03825	0,153
8,07	2,014	0,03825	0,177
8,08	2,419	0,0396	0,158
8,09	2,447	0,04264	0,123
8,1	2,281	0,04832	0,104
8,11	2,072	0,05214	0,088
8,12	1,79	0,05246	0,08
8,13	1,531	0,05084	0,077
8,14	1,047	0,04858	0,099
8,15	1,047	0,04826	0,099
8,16	0,924	0,04561	0,092
8,17	0,823	0,04561	0,087
8,18	0,686	0,0458	0,082
8,19	0,541	0,04858	0,078
8,2	0,527	0,04723	0,082
8,21	0,527	0,04483	0,092
8,22	0,578	0,04199	0,109
8,23	0,578	0,03805	0,115
8,24	0,462	0,03424	0,115
8,25	0,462	0,03191	0,115
8,26	0,433	0,0312	0,103
8,27	0,354	0,03095	0,09
8,28	0,296	0,03095	0,088
8,29	0,289	0,03178	0,097
8,3	0,267	0,0323	0,1
8,31	0,245	0,02991	0,103
8,32	0,267	0,02726	0,109
8,33	0,282	0,02784	0,123
8,34	0,397	0,03204	0,125
8,35	0,736	0,03896	0,154

8,36	0,736	0,03825	0,154
8,37	1,083	0,03728	0,223
8,38	1,09	0,03689	0,255
8,39	0,924	0,03689	0,205
8,4	0,794	0,03831	0,159
8,41	0,693	0,03682	0,128
8,42	0,592	0,03618	0,107
8,43	0,469	0,03508	0,093
8,44	0,397	0,03437	0,087
8,45	0,375	0,03262	0,091
8,46	0,383	0,03159	0,103
8,47	0,383	0,02927	0,103
8,48	0,39	0,02623	0,113
8,49	0,383	0,02623	0,118
8,5	0,361	0,02332	0,121
8,51	0,347	0,02423	0,132
8,52	0,325	0,02623	0,141
8,53	0,303	0,02746	0,14
8,54	0,296	0,02881	0,137
8,55	0,282	0,02875	0,136
8,56	0,274	0,03004	0,144
8,57	0,274	0,0314	0,144
8,58	0,289	0,02804	0,156
8,59	0,404	0,02713	0,222
8,6	0,866	0,02713	0,345
8,61	1,675	0,02636	0,406
8,62	2,585	0,03159	0,361
8,63	3,148	0,03398	0,249
8,64	3,321	0,03624	0,165
8,65	3,198	0,03902	0,126
8,66	2,924	0,04148	0,11
8,67	2,78	0,04542	0,103
8,68	2,78	0,04987	0,103
8,69	2,7	0,0544	0,099
8,7	2,65	0,05892	0,098
8,71	2,541	0,05892	0,096
8,72	2,339	0,06066	0,095
8,73	2,065	0,0584	0,091
8,74	1,725	0,05717	0,086
8,75	1,386	0,05543	0,08
8,76	1,09	0,05556	0,073
8,77	0,96	0,05995	0,068
8,78	0,989	0,06163	0,074
8,79	0,989	0,05698	0,074
8,8	1,141	0,05123	0,081
8,81	1,263	0,05123	0,088
8,82	1,307	0,05	0,093
8,83	1,141	0,05246	0,088
8,84	0,982	0,0513	0,082
8,85	0,982	0,04542	0,08
8,86	1,025	0,04684	0,084
8,87	1,242	0,05149	0,09
8,88	1,328	0,05272	0,099
8,89	1,328	0,0522	0,099
8,9	1,386	0,05058	0,09
8,91	1,191	0,04626	0,078

8,92	0,989	0,0429	0,069
8,93	0,888	0,0429	0,061
8,94	0,751	0,04206	0,051
8,95	0,527	0,04128	0,041
8,96	0,39	0,0396	0,04
8,97	0,31	0,0376	0,042
8,98	0,31	0,03586	0,046
8,99	0,289	0,0323	0,053
9	0,282	0,02791	0,06
9,01	0,282	0,02752	0,06
9,02	0,289	0,02397	0,067
9,03	0,303	0,0239	0,074
9,04	0,296	0,0239	0,081
9,05	0,296	0,02287	0,088
9,06	0,296	0,02287	0,097
9,07	0,31	0,02287	0,106
9,08	0,332	0,02293	0,121
9,09	0,693	0,02397	0,174
9,1	1,899	0,0252	0,326
9,11	3,321	0,02765	0,382
9,12	3,321	0,03166	0,382
9,13	3,141	0,03689	0,101
9,14	3,141	0,04283	0,101
9,15	3,141	0,04819	0,101
9,16	2,549	0,04949	0,089
9,17	1,935	0,04949	0,08
9,18	1,531	0,04929	0,073
9,19	1,235	0,04871	0,068
9,2	1,04	0,04761	0,065
9,21	0,888	0,04703	0,062
9,22	0,772	0,04555	0,062
9,23	0,65	0,04316	0,06
9,24	0,527	0,04051	0,057
9,25	0,527	0,03747	0,057
9,26	0,484	0,03288	0,058
9,27	0,469	0,0283	0,062
9,28	0,448	0,0283	0,07
9,29	0,412	0,025	0,081
9,3	0,383	0,02209	0,091
9,31	0,368	0,02087	0,103
9,32	0,368	0,02145	0,115
9,33	0,354	0,02326	0,128
9,34	0,354	0,02319	0,136
9,35	0,339	0,0239	0,144
9,36	0,339	0,02197	0,144
9,37	0,332	0,02649	0,15
9,38	0,339	0,02894	0,16
9,39	0,361	0,02894	0,176
9,4	0,462	0,02681	0,22
9,41	0,729	0,027	0,3
9,42	1,307	0,02894	0,426
9,43	2,144	0,0325	0,411
9,44	2,57	0,04018	0,192
9,45	2,491	0,04923	0,138
9,46	2,094	0,04923	0,109
9,47	2,094	0,04813	0,109



9,48	1,689	0,04716	0,096
9,49	1,372	0,04819	0,085
9,5	1,126	0,04819	0,077
9,51	0,952	0,04723	0,074
9,52	0,809	0,04548	0,071
9,53	0,628	0,04432	0,067
9,54	0,462	0,04341	0,062
9,55	0,404	0,04212	0,063
9,56	0,375	0,03941	0,07
9,57	0,383	0,03469	0,08
9,58	0,383	0,02907	0,08
9,59	0,375	0,02468	0,088
9,6	0,368	0,02287	0,097
9,61	0,368	0,02287	0,106
9,62	0,354	0,02222	0,115
9,63	0,354	0,0219	0,124
9,64	0,347	0,02158	0,134
9,65	0,347	0,02145	0,144
9,66	0,354	0,02145	0,155
9,67	0,347	0,02171	0,164
9,68	0,361	0,02145	0,172
9,69	0,361	0,02132	0,172
9,7	0,339	0,02138	0,18
9,71	0,339	0,02125	0,186
9,72	0,347	0,02125	0,19
9,73	0,347	0,02132	0,199
9,74	0,354	0,02138	0,207
9,75	0,354	0,02125	0,214
9,76	0,361	0,02119	0,216
9,77	0,347	0,02151	0,217
9,78	0,354	0,0219	0,218
9,79	0,339	0,02242	0,227
9,8	0,339	0,02203	0,227
9,81	0,354	0,02216	0,238
9,82	0,347	0,02216	0,247
9,83	0,361	0,02287	0,253
9,84	0,361	0,02281	0,253
9,85	0,375	0,02203	0,259
9,86	0,39	0,02184	0,272
9,87	0,397	0,02158	0,288
9,88	0,397	0,02138	0,291
9,89	0,375	0,02151	0,278
9,9	0,375	0,02106	0,278
9,91	0,368	0,02119	0,255
9,92	0,332	0,02119	0,242
9,93	0,325	0,02119	0,242
9,94	0,31	0,02087	0,239
9,95	0,318	0,02138	0,245
9,96	0,325	0,02093	0,25
9,97	0,318	0,02048	0,255
9,98	0,325	0,0208	0,262
9,99	0,332	0,02074	0,266
10	0,332	0,02087	0,27
10,01	0,332	0,02074	0,27
10,02	0,339	0,02074	0,273
10,03	0,325	0,02061	0,272

10,04	0,318	0,02061	0,273
10,05	0,332	0,02113	0,276
10,06	0,318	0,02113	0,273
10,07	0,318	0,02151	0,274
10,08	0,31	0,02203	0,277
10,09	0,339	0,02287	0,285
10,1	0,339	0,02326	0,292
10,11	0,332	0,02326	0,292
10,12	0,332	0,02352	0,292
10,13	0,332	0,02339	0,395
10,14	0,332	0,02261	0,395
10,15	0,332	0,02403	0,391
10,16	0,332	0,02649	0,393
10,17	0,354	0,02623	0,435
10,18	0,375	0,02642	0,469
10,19	0,375	0,02591	0,469
10,2	0,397	0,02558	0,454
10,21	0,426	0,02558	0,407
10,22	0,397	0,02539	0,361
10,23	0,368	0,02545	0,308
10,24	0,332	0,0261	0,273
10,25	0,296	0,027	0,288
10,26	0,318	0,02713	0,306
10,27	0,318	0,02797	0,321
10,28	0,339	0,02681	0,333
10,29	0,339	0,025	0,333
10,3	0,339	0,02455	0,336
10,31	0,361	0,0252	0,34
10,32	0,361	0,02539	0,328
10,33	0,354	0,02539	0,323
10,34	0,339	0,02552	0,328
10,35	0,354	0,02584	0,335
10,36	0,361	0,02642	0,339
10,37	0,361	0,02591	0,343
10,38	0,375	0,02565	0,345
10,39	0,368	0,02526	0,338
10,4	0,368	0,0252	0,338
10,41	0,368	0,02526	0,338
10,42	0,368	0,025	0,339
10,43	0,368	0,02455	0,336
10,44	0,368	0,02455	0,335
10,45	0,361	0,0239	0,336
10,46	0,361	0,02364	0,335
10,47	0,347	0,02358	0,338
10,48	0,347	0,0239	0,343
10,49	0,354	0,02326	0,34
10,5	0,361	0,02332	0,346
10,51	0,354	0,02352	0,353
10,52	0,354	0,0239	0,353
10,53	0,368	0,0252	0,364
10,54	0,383	0,0252	0,369
10,55	0,39	0,02688	0,366
10,56	0,375	0,02752	0,362
10,57	0,375	0,02746	0,373
10,58	0,397	0,0281	0,363
10,59	0,383	0,03346	0,367

10,6	0,412	0,03489	0,379
10,61	0,469	0,03489	0,442
10,62	0,469	0,03928	0,442
10,63	0,599	0,04328	0,529
10,64	0,772	0,04328	0,595
10,65	0,946	0,0449	0,469
10,66	0,989	0,04987	0,394
10,67	0,946	0,05588	0,322
10,68	0,967	0,05724	0,314
10,69	0,96	0,05872	0,311
10,7	0,931	0,05776	0,259
10,71	0,874	0,06034	0,233
10,72	0,874	0,0595	0,233
10,73	0,809	0,05549	0,242
10,74	0,967	0,05459	0,28
10,75	1,596	0,05401	0,476
10,76	2,686	0,05401	0,602
10,77	3,884	0,05239	0,508
10,78	4,657	0,05175	0,318
10,79	5,032	0,05181	0,208
10,8	5,133	0,05175	0,173
10,81	5,256	0,05181	0,163
10,82	5,451	0,05485	0,156
10,83	5,574	0,05763	0,151
10,84	5,574	0,05879	0,151
10,85	5,689	0,05944	0,147
10,86	5,805	0,05995	0,146
10,87	5,891	0,05995	0,144
10,88	5,956	0,06099	0,143
10,89	5,999	0,0617	0,142
10,9	5,985	0,06247	0,14
10,91	5,906	0,0626	0,138
10,92	5,797	0,06279	0,136
10,93	5,689	0,06305	0,134
10,94	5,588	0,06292	0,132
10,95	5,588	0,06298	0,132
10,96	5,509	0,06241	0,131
10,97	5,393	0,06241	0,13
10,98	5,285	0,06228	0,129
10,99	5,176	0,06189	0,129
11	5,068	0,06124	0,129
11,01	4,982	0,0604	0,126
11,02	4,924	0,05976	0,129
11,03	4,895	0,0584	0,129
11,04	4,873	0,05788	0,129
11,05	4,873	0,05763	0,129
11,06	4,844	0,04929	0,13
11,07	4,815	0,04929	0,129
11,08	4,758	0,04865	0,128
11,09	4,7	0,04858	0,126
11,1	4,599	0,04878	0,124
11,11	4,491	0,04852	0,123
11,12	4,39	0,04826	0,122
11,13	4,245	0,04794	0,121
11,14	3,956	0,04807	0,157
11,15	3,956	0,04819	0,157

11,16	3,935	0,04819	0,147
11,17	3,848	0,04819	0,14
11,18	3,776	0,04819	0,135
11,19	3,704	0,04865	0,132
11,2	3,624	0,04936	0,13
11,21	3,595	0,04942	0,128
11,22	3,595	0,04923	0,127
11,23	3,595	0,04916	0,127
11,24	3,595	0,04742	0,127
11,25	3,603	0,04735	0,127
11,26	3,603	0,04748	0,127
11,27	3,566	0,04684	0,126
11,28	3,502	0,04684	0,126
11,29	3,509	0,04658	0,126
11,3	3,545	0,04716	0,126
11,31	3,66	0,04723	0,128
11,32	3,79	0,04742	0,129
11,33	3,87	0,04794	0,13
11,34	3,862	0,0489	0,129
11,35	3,834	0,04987	0,128
11,36	3,834	0,04987	0,128
11,37	3,826	0,048	0,128
11,38	3,769	0,04916	0,128
11,39	3,725	0,04916	0,128
11,4	3,696	0,04897	0,129
11,41	3,646	0,04962	0,128
11,42	3,653	0,05201	0,127
11,43	3,696	0,05259	0,127
11,44	3,79	0,05304	0,129
11,45	3,826	0,05595	0,132
11,46	3,798	0,06208	0,133
11,47	3,798	0,06848	0,133
11,48	3,66	0,07649	0,13
11,49	3,523	0,07649	0,126
11,5	3,307	0,08334	0,123
11,51	3,119	0,08961	0,116
11,52	2,816	0,08605	0,109
11,53	2,534	0,08366	0,104
11,54	2,354	0,07985	0,101
11,55	2,296	0,07391	0,101
11,56	2,238	0,07087	0,102
11,57	2,238	0,06867	0,102
11,58	2,512	0,06764	0,113
11,59	3,025	0,06758	0,132
11,6	3,653	0,06758	0,155
11,61	4,31	0,06674	0,183
11,62	4,852	0,06564	0,182
11,63	5,169	0,06402	0,157
11,64	5,342	0,06267	0,141
11,65	5,444	0,05905	0,133
11,66	5,537	0,05782	0,133
11,67	5,667	0,05692	0,134
11,68	5,667	0,0584	0,134
11,69	5,833	0,05924	0,136
11,7	5,978	0,06002	0,137
11,71	6,086	0,06112	0,137

11,72	6,223	0,06112	0,138
11,73	6,44	0,06195	0,14
11,74	6,758	0,06357	0,144
11,75	7,09	0,06635	0,147
11,76	7,35	0,06867	0,149
11,77	7,429	0,07048	0,146
11,78	7,4	0,07177	0,141
11,79	7,241	0,07255	0,136
11,8	7,241	0,073	0,136
11,81	7,104	0,07333	0,133
11,82	7,003	0,07333	0,132
11,83	6,924	0,07449	0,134
11,84	6,851	0,07681	0,134
11,85	6,772	0,0781	0,132
11,86	6,62	0,07862	0,13
11,87	6,353	0,07836	0,127
11,88	6,064	0,07714	0,124
11,89	5,74	0,07468	0,121
11,9	5,74	0,07165	0,121
11,91	5,487	0,06958	0,12
11,92	5,306	0,06809	0,12
11,93	5,133	0,06614	0,119
11,94	5,032	0,06614	0,119
11,95	4,989	0,06389	0,118
11,96	4,953	0,06131	0,118
11,97	4,924	0,05872	0,116
11,98	4,852	0,05847	0,114
11,99	4,808	0,05821	0,11
12	4,808	0,05847	0,107
12,01	4,758	0,06086	0,106
12,02	4,758	0,06641	0,106
12,03	4,743	0,06725	0,106
12,04	4,714	0,05459	0,107
12,05	4,649	0,05911	0,107
12,06	4,642	0,05911	0,107
12,07	4,649	0,05918	0,108
12,08	4,714	0,05872	0,112
12,09	4,808	0,05911	0,116
12,1	4,982	0,05982	0,123
12,11	5,335	0,06099	0,128
12,12	5,776	0,06215	0,112
12,13	5,942	0,06312	0,137
12,14	5,942	0,06312	0,137
12,15	6,129	0,06389	0,119
12,16	6,151	0,06454	0,112
12,17	6,166	0,06351	0,112
12,18	6,151	0,06473	0,112
12,19	6,093	0,06667	0,111
12,2	5,985	0,06848	0,11
12,21	5,87	0,06906	0,11
12,22	5,87	0,06913	0,11
12,23	5,776	0,0699	0,11
12,24	5,718	0,07042	0,111
12,25	5,682	0,07042	0,112
12,26	5,732	0,07003	0,115
12,27	5,841	0,07009	0,117

12,28	5,942	0,07132	0,119
12,29	6,028	0,07132	0,12
12,3	6,115	0,07055	0,119
12,31	6,144	0,07003	0,118
12,32	6,173	0,07029	0,117
12,33	6,173	0,07126	0,117
12,34	6,267	0,07255	0,118
12,35	6,454	0,0741	0,123
12,36	6,693	0,07649	0,127
12,37	6,908	0,07649	0,13
12,38	7,126	0,07907	0,132
12,39	7,35	0,08147	0,134
12,4	7,537	0,08431	0,137
12,41	7,739	0,08663	0,14
12,42	7,898	0,08825	0,144
12,43	8,072	0,09012	0,146
12,44	8,194	0,09232	0,146
12,45	8,194	0,09445	0,146
12,46	8,33	0,09619	0,148
12,47	8,469	0,09781	0,15
12,48	8,606	0,09781	0,153
12,49	8,728	0,09936	0,154
12,5	8,895	0,10162	0,155
12,51	9,017	0,10382	0,156
12,52	9,104	0,10505	0,156
12,53	9,14	0,10621	0,157
12,54	9,162	0,10705	0,156
12,55	9,154	0,10815	0,155
12,56	9,154	0,10892	0,155
12,57	9,111	0,10957	0,154
12,58	9,082	0,10912	0,153
12,59	8,974	0,10912	0,152
12,6	8,851	0,10886	0,149
12,61	8,728	0,10892	0,147
12,62	8,599	0,1084	0,145
12,63	8,454	0,10776	0,145
12,64	8,339	0,1066	0,144
12,65	8,238	0,10472	0,143
12,66	8,187	0,10369	0,144
12,67	8,187	0,10266	0,144
12,68	8,165	0,10194	0,143
12,69	8,093	0,10123	0,143
12,7	8,014	0,10052	0,142
12,71	7,934	0,10052	0,141
12,72	7,848	0,10001	0,141
12,73	7,747	0,09975	0,14
12,74	7,617	0,09955	0,141
12,75	7,501	0,09917	0,14
12,76	7,378	0,09891	0,14
12,77	7,276	0,09859	0,14
12,78	7,169	0,09762	0,139
12,79	7,169	0,09581	0,139
12,8	7,054	0,09368	0,139
12,81	6,952	0,09193	0,138
12,82	6,866	0,09193	0,139
12,83	6,873	0,09045	0,139

12,84	6,916	0,08851	0,141
12,85	6,996	0,0867	0,144
12,86	7,104	0,08457	0,146
12,87	7,285	0,08321	0,147
12,88	7,494	0,0836	0,149
12,89	7,703	0,08308	0,151
12,9	7,703	0,08269	0,151
12,91	7,869	0,08327	0,153
12,92	7,992	0,08463	0,153
12,93	8,086	0,08676	0,153
12,94	8,187	0,08676	0,152
12,95	8,274	0,08922	0,152
12,96	8,259	0,09141	0,153
12,97	8,187	0,0929	0,152
12,98	8,064	0,09445	0,149
12,99	7,949	0,09581	0,148
13	7,84	0,09794	0,146
13,01	7,754	0,09936	0,146
13,02	7,754	0,0991	0,146
13,03	7,674	0,09904	0,146
13,04	7,631	0,10033	0,145
13,05	7,573	0,09038	0,145
13,06	7,523	0,09038	0,144
13,07	7,516	0,09025	0,144
13,08	7,465	0,09057	0,143
13,09	7,357	0,09045	0,143
13,1	7,22	0,08927	0,142
13,11	7,061	0,08857	0,139
13,12	6,924	0,08857	0,135
13,13	6,505	0,08799	0,178
13,14	6,505	0,08734	0,178
13,15	6,714	0,08747	0,16
13,16	6,7	0,08728	0,151
13,17	6,707	0,08579	0,145
13,18	6,743	0,08495	0,141
13,19	6,794	0,0836	0,139
13,2	6,794	0,08302	0,139
13,21	6,815	0,08256	0,137
13,22	6,823	0,08153	0,135
13,23	6,801	0,08192	0,134
13,24	6,801	0,08192	0,133
13,25	6,823	0,08192	0,132
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13,28	6,887	0,08295	0,132
13,29	6,901	0,08379	0,133
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13,37	6,974	0,08721	0,135
13,38	6,931	0,08721	0,136
13,39	6,901	0,08715	0,136

13,4	6,851	0,08676	0,136
13,41	6,83	0,08676	0,136
13,42	6,808	0,08683	0,137
13,43	6,808	0,08663	0,137
13,44	6,815	0,08696	0,137
13,45	6,88	0,08631	0,139
13,46	6,88	0,08586	0,139
13,47	6,88	0,08586	0,139
13,48	6,851	0,08489	0,138
13,49	6,851	0,08476	0,138
13,5	6,844	0,08437	0,139
13,51	6,859	0,08405	0,139
13,52	6,859	0,08418	0,14
13,53	6,837	0,08334	0,14
13,54	6,794	0,08308	0,14
13,55	6,794	0,08237	0,14
13,56	6,808	0,08256	0,14
13,57	6,815	0,08237	0,141
13,58	6,844	0,08237	0,141
13,59	6,873	0,08198	0,142
13,6	6,851	0,08172	0,141
13,61	6,794	0,08185	0,14
13,62	6,707	0,08198	0,139
13,63	6,599	0,08205	0,137
13,64	6,447	0,08243	0,136
13,65	6,295	0,08321	0,134
13,66	6,295	0,08392	0,134
13,67	6,072	0,08431	0,13
13,68	5,841	0,0847	0,127
13,69	5,523	0,08437	0,123
13,7	5,169	0,08347	0,119
13,71	4,808	0,08347	0,115
13,72	4,512	0,08198	0,113
13,73	4,26	0,08101	0,112
13,74	4,086	0,07972	0,111
13,75	3,927	0,0783	0,112
13,76	3,769	0,07688	0,112
13,77	3,617	0,07462	0,112
13,78	3,494	0,07235	0,112
13,79	3,494	0,07009	0,112
13,8	3,422	0,06777	0,112
13,81	3,35	0,06622	0,113
13,82	3,299	0,06622	0,115
13,83	3,285	0,06428	0,115
13,84	3,256	0,06318	0,115
13,85	3,213	0,06254	0,113
13,86	3,191	0,06208	0,112
13,87	3,177	0,06118	0,112
13,88	3,191	0,06112	0,112
13,89	3,249	0,06112	0,114
13,9	3,249	0,06105	0,114
13,91	3,321	0,06079	0,117
13,92	3,444	0,06112	0,119
13,93	3,574	0,06157	0,121
13,94	3,725	0,06176	0,123
13,95	3,899	0,06176	0,125



13,96	4,043	0,06144	0,126
13,97	4,18	0,06099	0,127
13,98	4,223	0,06034	0,126
13,99	4,274	0,06034	0,126
14	4,288	0,06015	0,126
14,01	4,267	0,05969	0,126
14,02	4,166	0,05872	0,125
14,03	4,166	0,05931	0,125
14,04	4,036	0,06066	0,121
14,05	3,848	0,05692	0,118
14,06	3,603	0,05692	0,114
14,07	3,422	0,05808	0,114
14,08	3,307	0,06099	0,115
14,09	3,27	0,06512	0,118
14,1	3,263	0,06674	0,122
14,11	3,307	0,06674	0,125
14,12	3,408	0,06667	0,13
14,13	3,891	0,06499	0,182
14,14	3,891	0,06441	0,182
14,15	4,151	0,06389	0,167
14,16	4,382	0,06183	0,154
14,17	4,57	0,06066	0,141
14,18	4,729	0,06021	0,132
14,19	4,729	0,06047	0,132
14,2	4,859	0,06144	0,128
14,21	4,953	0,06234	0,126
14,22	5,018	0,06331	0,127
14,23	5,09	0,06331	0,13
14,24	5,191	0,06447	0,132
14,25	5,278	0,06564	0,133
14,26	5,371	0,06706	0,136
14,27	5,458	0,06829	0,137
14,28	5,559	0,06926	0,138
14,29	5,675	0,07009	0,139
14,3	5,797	0,07081	0,14
14,31	5,797	0,07229	0,14
14,32	5,963	0,07371	0,142
14,33	6,144	0,07526	0,143
14,34	6,332	0,07694	0,145
14,35	6,498	0,07895	0,146
14,36	6,635	0,07895	0,146
14,37	6,765	0,08063	0,147
14,38	6,924	0,08224	0,148
14,39	7,082	0,08386	0,149
14,4	7,241	0,08554	0,15
14,41	7,407	0,08715	0,152
14,42	7,559	0,08889	0,152
14,43	7,689	0,09045	0,153
14,44	7,689	0,09186	0,153
14,45	7,775	0,09316	0,152
14,46	7,826	0,09516	0,151
14,47	7,79	0,096	0,15
14,48	7,775	0,096	0,149
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14,5	7,682	0,09542	0,149
14,51	7,682	0,09548	0,149

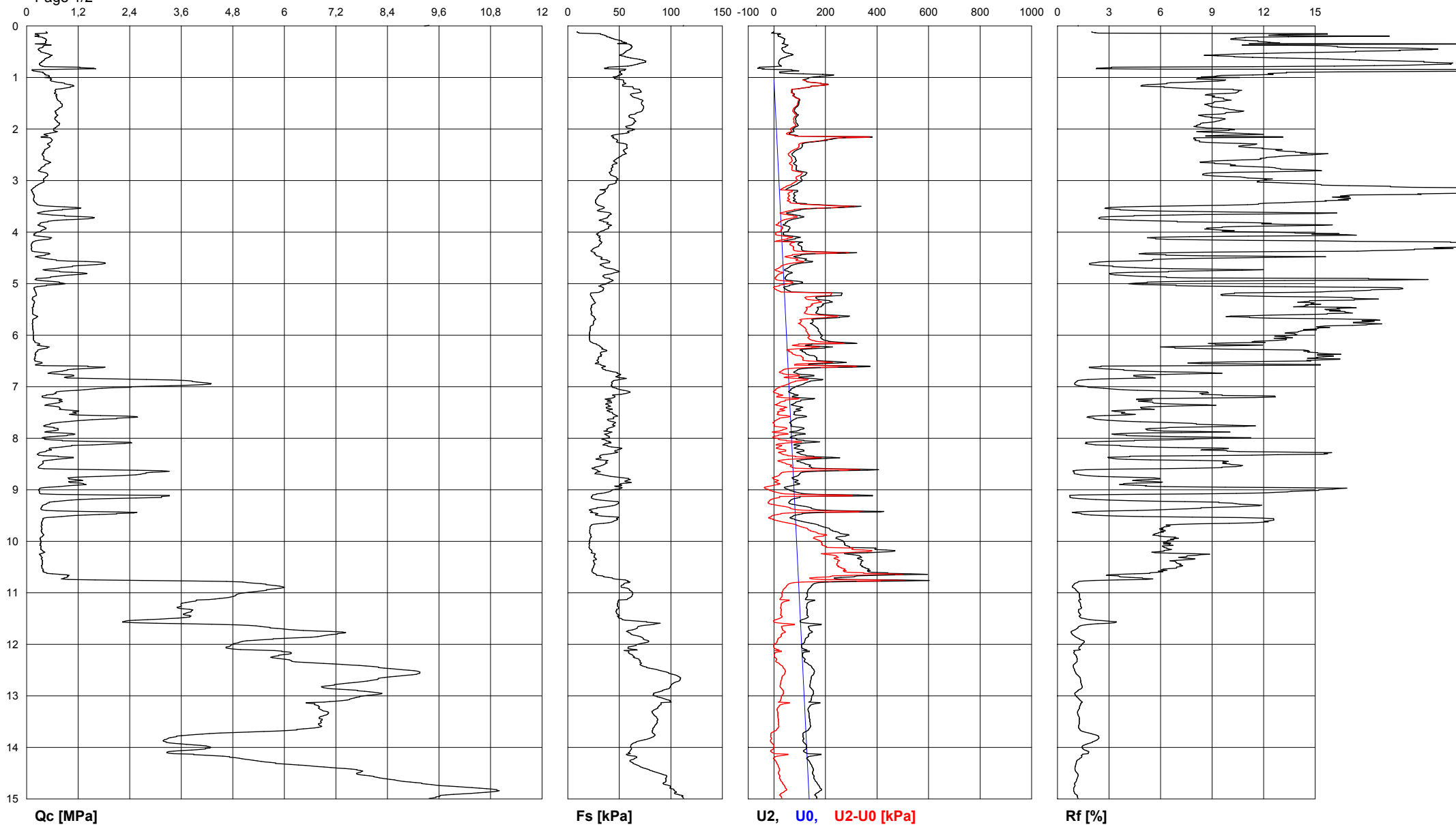
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14,53	7,775	0,0949	0,152
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14,56	8,086	0,09529	0,155
14,57	8,086	0,09516	0,155
14,58	8,158	0,09516	0,154
14,59	8,216	0,09458	0,154
14,6	8,288	0,09329	0,154
14,61	8,382	0,09258	0,156
14,62	8,461	0,09258	0,158
14,63	8,562	0,09296	0,158
14,64	8,62	0,09458	0,159
14,65	8,691	0,09691	0,159
14,66	8,786	0,09846	0,162
14,67	8,931	0,0993	0,164
14,68	9,061	0,09981	0,166
14,69	9,198	0,09943	0,167
14,7	9,198	0,09936	0,167
14,71	9,306	0,0991	0,17
14,72	9,429	0,10046	0,17
14,73	9,515	0,10259	0,173
14,74	9,638	0,10304	0,175
14,75	9,833	0,10304	0,175
14,76	10,035	0,10356	0,177
14,77	10,209	0,10388	0,177
14,78	10,367	0,10524	0,178
14,79	10,541	0,10537	0,179
14,8	10,714	0,10343	0,182
14,81	10,844	0,10375	0,184
14,82	10,945	0,10401	0,183
14,83	10,945	0,10673	0,183
14,84	11,003	0,10834	0,179
14,85	10,952	0,11092	0,176
14,86	10,844	0,11176	0,174
14,87	10,692	0,11054	0,172
14,88	10,512	0,11151	0,167
14,89	10,346	0,11151	0,163
14,9	10,165	0,11209	0,161
14,91	9,941	0,11235	0,161
14,92	9,761	0,11189	0,157
14,93	9,638	0,11164	0,159
14,94	9,624	0,11377	0,162
14,95	9,608	0,11506	0,163
14,96	9,53	0,11616	0,165
14,97	9,53	0,11622	0,165
14,98	9,458	0,11622	0,166
14,99	9,371	0,11596	0,164
15	9,263	0,11571	0,163
15,01	9,147	0,11571	0,163
15,02	9,039	0,11583	0,163
15,03	8,988	0,11403	0,164
15,04	8,901	0,11267	0,164
15,05	8,815	0,10582	0,164
15,06	8,714	0,10582	0,164
15,07	8,606	0,10614	0,164

15,08	8,512	0,10589	0,164
15,09	8,512	0,1053	0,164
15,1	8,418	0,1053	0,163
15,11	8,309	0,10498	0,163
15,12	8,209	0,10459	0,162
15,13	7,877	0,10388	0,197
15,14	7,877	0,10285	0,197
15,15	7,869	0,10123	0,173
15,16	7,739	0,10046	0,159
15,17	7,523	0,09943	0,149
15,18	7,523	0,09891	0,149
15,19	7,22	0,0982	0,141
15,2	6,873	0,09813	0,136
15,21	6,541	0,09742	0,131
15,22	6,259	0,09658	0,128
15,23	6,028	0,09658	0,126
15,24	5,884	0,09561	0,125
15,25	5,783	0,0938	0,128
15,26	5,711	0,09245	0,13
15,27	5,653	0,09116	0,132
15,28	5,61	0,08935	0,132
15,29	5,588	0,08889	0,134
15,3	5,574	0,08857	0,135
15,31	5,574	0,08767	0,135
15,32	5,545	0,08605	0,137
15,33	5,523	0,08495	0,137
15,34	5,516	0,08437	0,138
15,35	5,516	0,08411	0,139
15,36	5,537	0,08411	0,141
15,37	5,559	0,08398	0,141
15,38	5,588	0,0836	0,142
15,39	5,617	0,08411	0,143
15,4	5,66	0,08437	0,144
15,41	5,696	0,08418	0,144
15,42	5,725	0,08457	0,146
15,43	5,761	0,08528	0,147
15,44	5,761	0,08579	0,147
15,45	5,855	0,08638	0,15
15,46	5,971	0,08734	0,151
15,47	6,115	0,08844	0,154
15,48	6,274	0,08948	0,157
15,49	6,505	0,09064	0,16
15,5	6,758	0,09064	0,163
15,51	7,017	0,09258	0,165
15,52	7,27	0,09412	0,167
15,53	7,53	0,09587	0,169
15,54	7,79	0,09807	0,172
15,55	8,05	0,10085	0,173
15,56	8,309	0,10414	0,175
15,57	8,548	0,1066	0,176
15,58	8,548	0,10847	0,176
15,59	8,75	0,11092	0,178
15,6	8,96	0,11241	0,178
15,61	9,126	0,11357	0,177
15,62	9,212	0,11454	0,173
15,63	9,241	0,11454	0,17

15,64	9,147	0,11545	0,167
15,65	9,032	0,11558	0,164
15,66	8,901	0,11571	0,161
15,67	8,786	0,11622	0,159
15,68	8,606	0,11635	0,156
15,69	8,375	0,1159	0,153
15,7	8,136	0,11422	0,149
15,71	8,136	0,11222	0,149
15,72	7,848	0,11034	0,146
15,73	7,523	0,10866	0,14
15,74	7,126	0,10705	0,136
15,75	6,635	0,10705	0,132
15,76	6,093	0,1044	0,127
15,77	5,566	0,10149	0,122
15,78	5,14	0,09833	0,121
15,79	4,801	0,09497	0,119
15,8	4,577	0,09083	0,121
15,81	4,404	0,08586	0,125
15,82	4,317	0,08088	0,129
15,83	4,317	0,07513	0,129
15,84	4,317	0,07022	0,132
15,85	4,368	0,06635	0,131
15,86	4,447	0,0637	0,125
15,87	4,534	0,06086	0,115
15,88	4,642	0,05866	0,106
15,89	4,758	0,05866	0,102
15,9	4,924	0,05834	0,103
15,91	5,104	0,05898	0,106
15,92	5,306	0,06092	0,109
15,93	5,566	0,06376	0,115
15,94	5,768	0,06816	0,122
15,95	5,927	0,07415	0,126
15,96	6,064	0,08069	0,131
15,97	6,064	0,08638	0,131
15,98	6,137	0,09502	0,133
15,99	6,043	0,10892	0,13
16	5,718	0,10976	0,125
16,01	5,119	0,10976	0,114
16,02	4,238	0,1095	0,101
16,03	3,278	0,11099	0,092
16,04	2,57	0,11131	0,086
16,05	2,13	0,10873	0,085
16,06	1,834	0,10873	0,091
16,07	1,624	0,10873	0,102
16,08	1,617	0,10873	0,117
16,09	1,617	0,10873	0,117
16,1	1,74	0,10873	0,129
16,11	1,682	0,10873	0,18
16,12	1,314	0,10873	0,238
16,13	1,393	0,10873	0,273

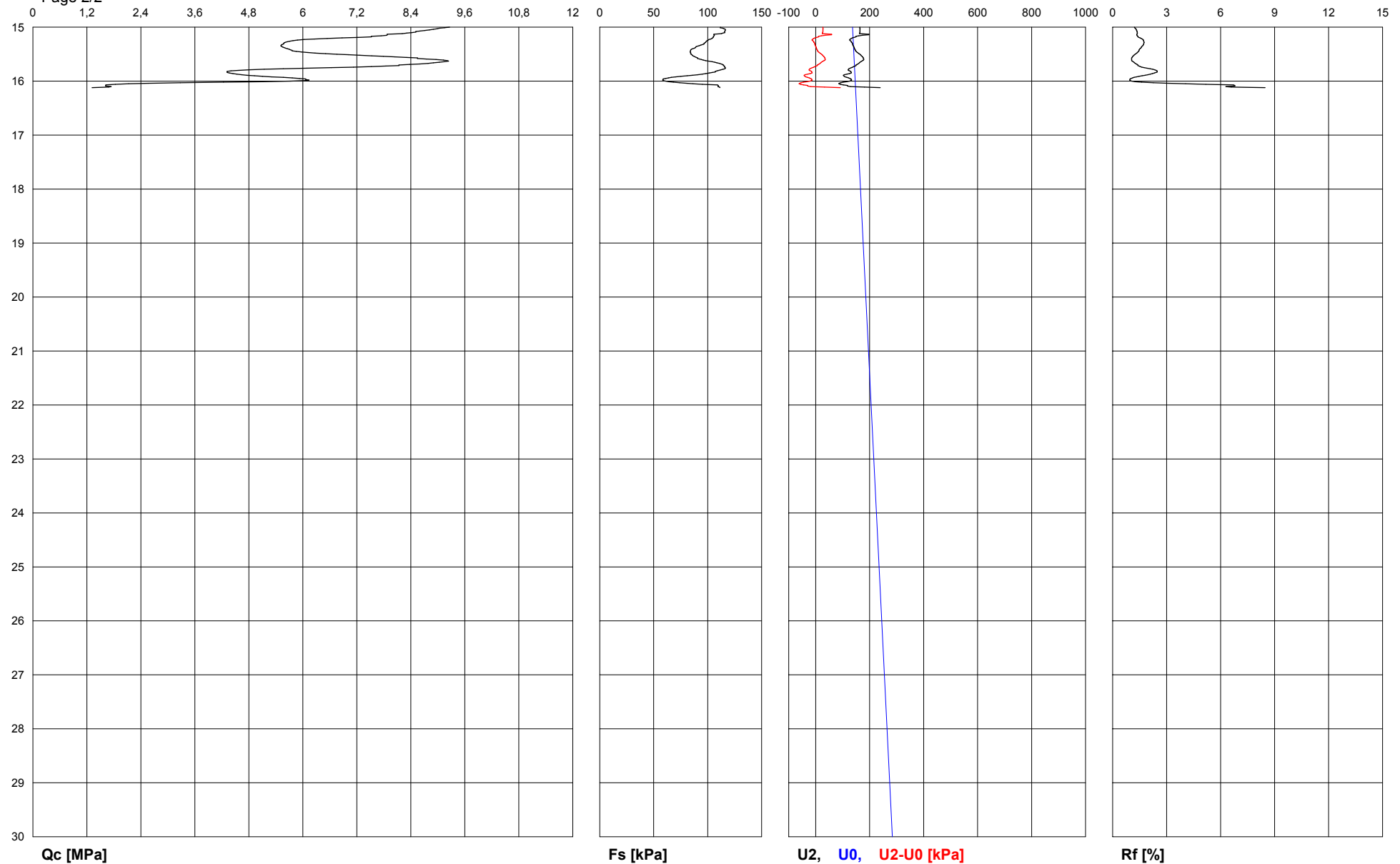
GEOLOG s.r.l.		Commissioner: Comune di Ravenna	
Site: Scuola materna V. S. Giuseppe	Test Location: CPTU 1 Date: 24/10/2005	Abs. quota [cm]:.....	
Locality: Ravenna, Villaggio S. Giuseppe, Via Lago Maggiore		Prehole [cm]: 10	
		Hydrostatic Line [cm]: 105	

Page 1/2

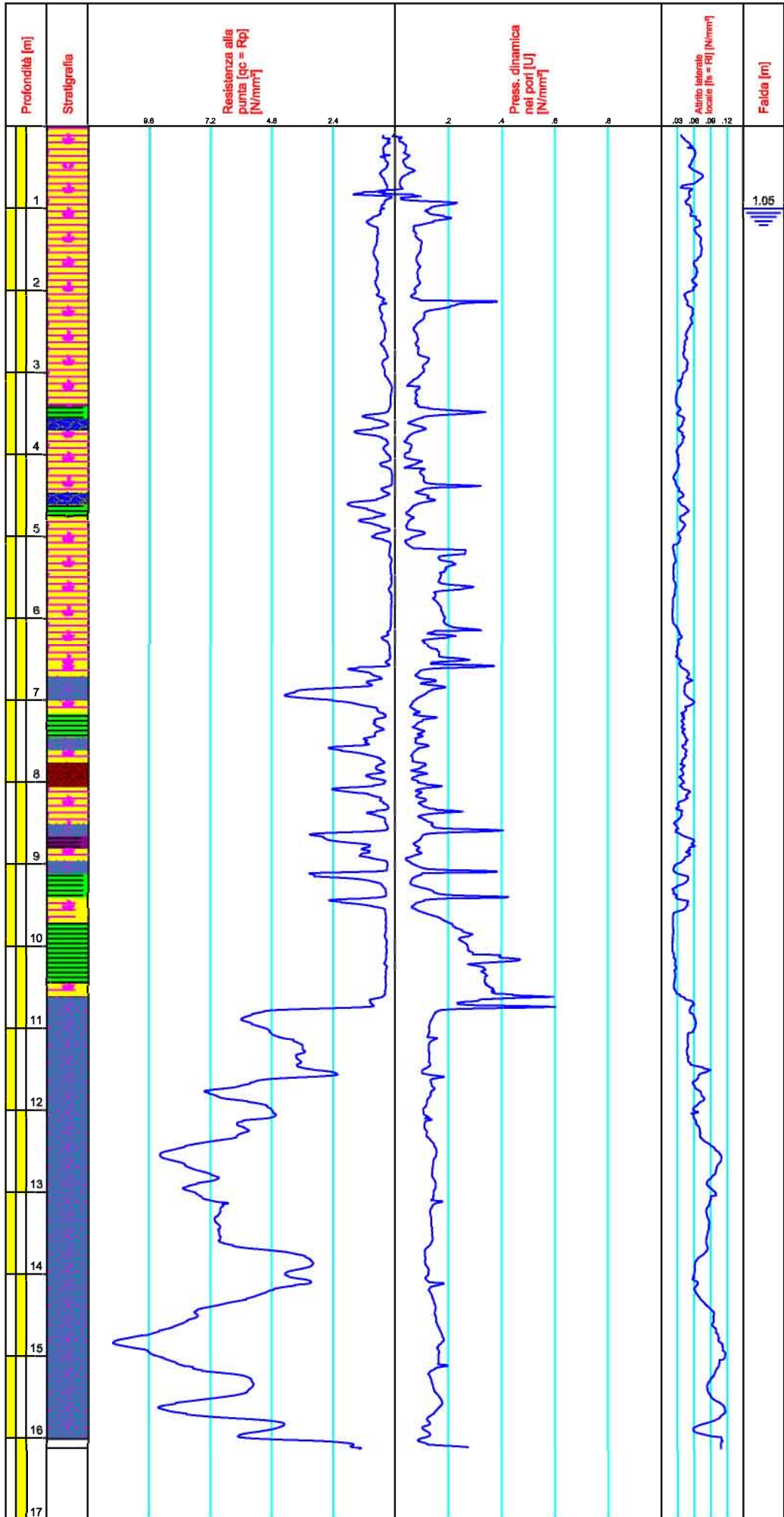


<b>GEOLOG s.r.l.</b>		<b>Commissioner: Comune di Ravenna</b>	
Site: Scuola materna V. S. Giuseppe		Test Location: CPTU 1	
Locality: Ravenna, Villaggio S. Giuseppe, Via Lago Maggiore		Date: 24/10/2005	
		Abs. quota [cm]:..... Prehole [cm]: 10 Hydrostatic Line [cm]: 105	

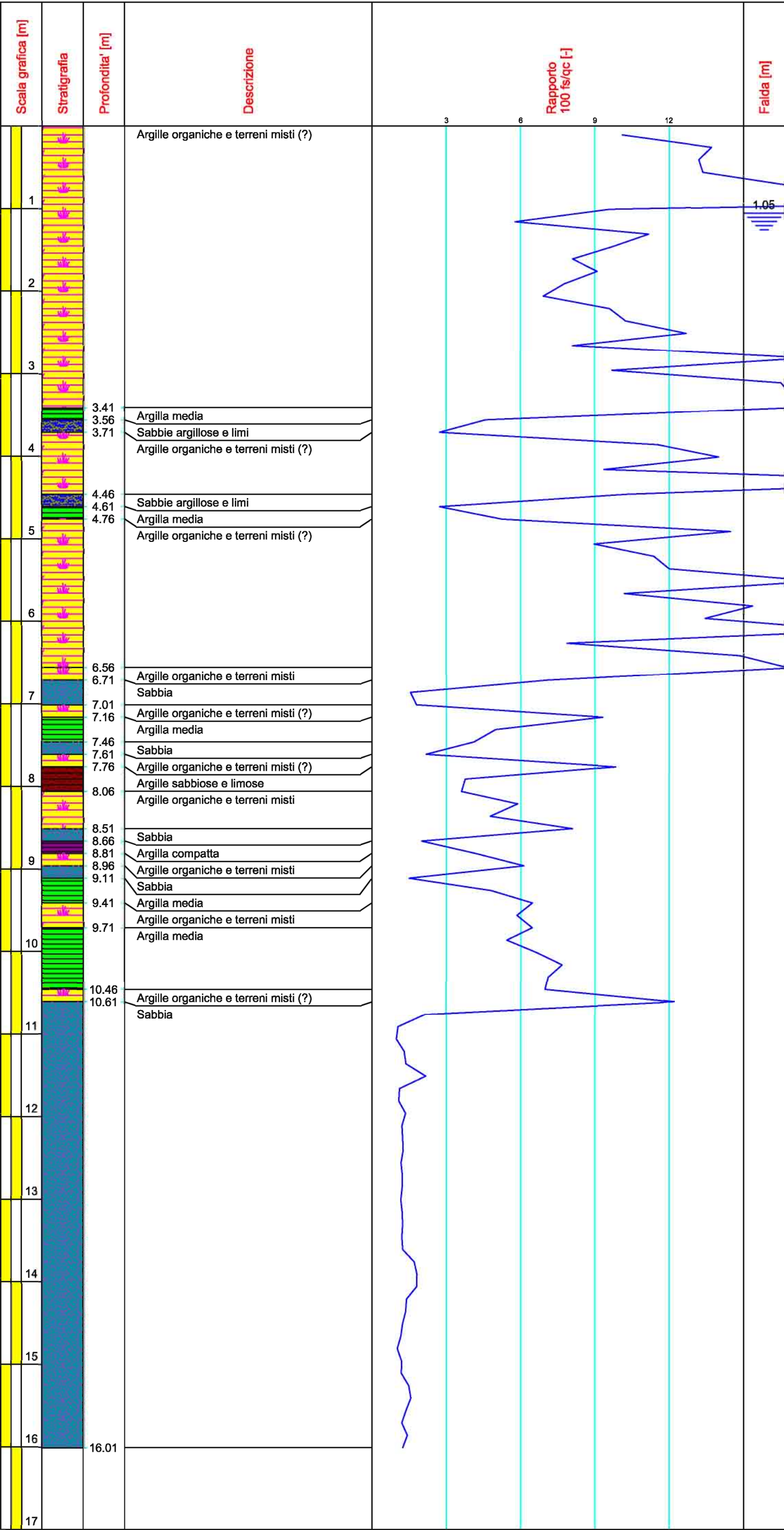
Page 2/2



Committente	Comune di Ravenna		
Ditta esecutrice	Geolog s.r.l.		
Prova	CPTU 1 - Schmertmann	Data	24/10/2005
Provincia	Ravenna	Località	Villaggio S. Giuseppe - Ravenna
Posizione	Via Lago Maggiore	Coord. UTM	
Quota p.c.		Quota iniziale	Piano giardino



	Committente <u>Comune di Ravenna</u>	
	Ditta esecutrice <u>Geolog s.r.l.</u>	
	Prova <u>CPTU 1 - Schmertmann</u> Data <u>24/10/2005</u>	
	Provincia <u>Ravenna</u>	Località <u>Villaggio San Giuseppe - Ravenna</u>
	Posizione <u>Via Lago Maggiore</u>	Coord. UTM _____
	Quota p.c. _____	Quota iniziale <u>Piano giardino</u>





Concessione Ministeriale Decreto n° 55126 del 12 luglio 2006 - Settori A-B-C

Procedura di riferimento: ASTM D 3441-94

Certificato di prova n°:

rev.	data emiss.	Sperimentatore	Direttore
0		Ranzini	Sacenti

Committente:

Regione Emilia Romagna

Cantiere:

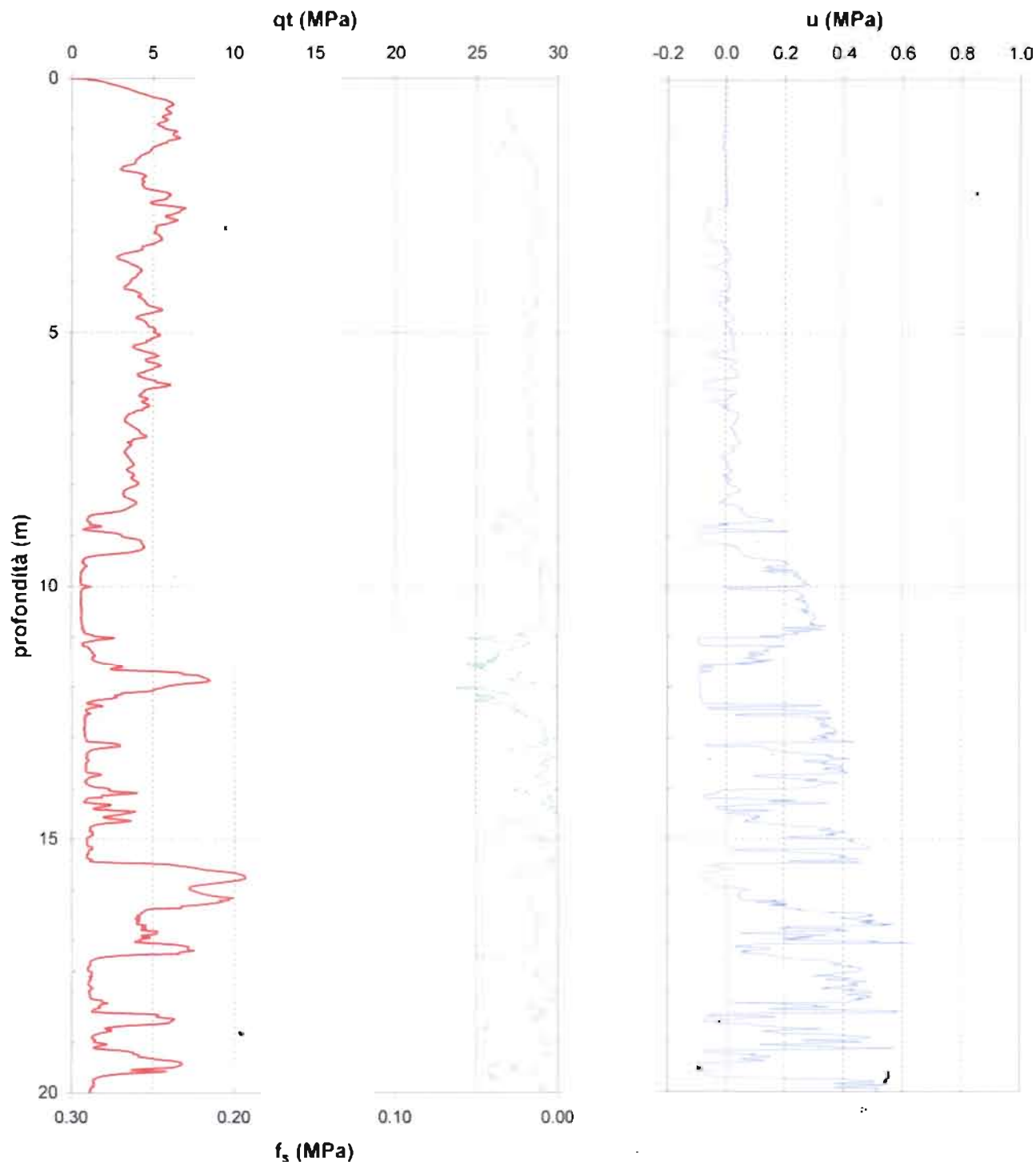
Lido di Classe

Prova:

SCPTU 01

Data prova:

22 ottobre 2013



Coordinate:

X =

Y =

Z =

Quote (m):

inizio prova = piano campagna

fine prova = 30.32 (30.30)

Note:

Prova eseguita con piezocono n. CESI C

Concessione Ministeriale Decreto n° 55126 del 12 luglio 2006 - Settori A-B-C

Procedura di riferimento: ASTM D 3441-94

Certificato di prova n°:

rev.	data emiss.	Sperimentatore	Direttore
0		Ranzini	Saccenti

Committente:

Regione Emilia Romagna

Cantiere:

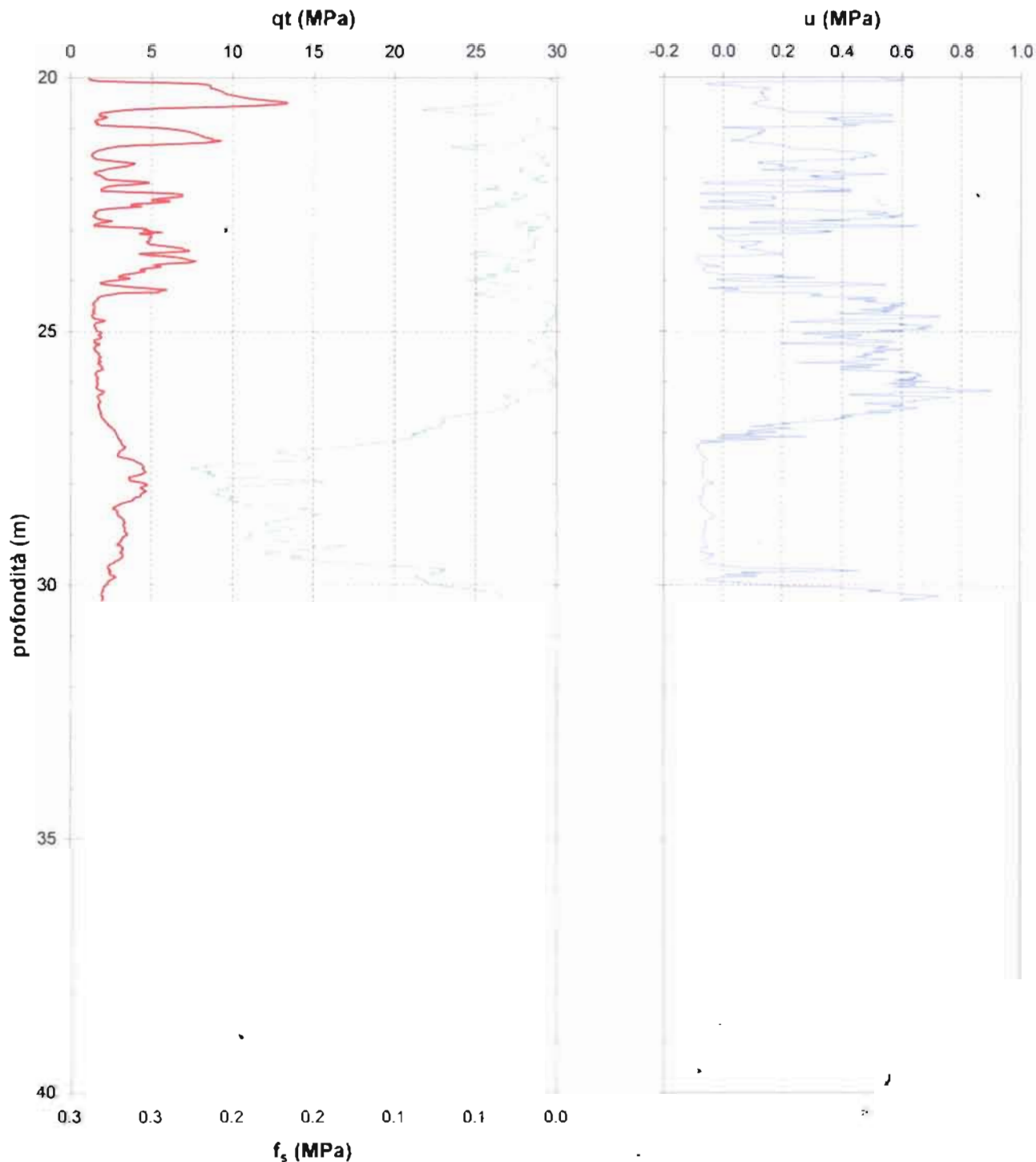
Lido di Classe

Prova:

SCPTU 01

Data prova:

22 ottobre 2013



Coordinate:

X =

Y =

Z =

Quote (m):

inizio prova = piano campagna

fine prova = 30.32 (30.30)

Note:

Prova eseguita con piezocono n. CESI C




[www.pergeo.it](http://www.pergeo.it) - info @pergeo.it

## CPTU 2



Prova eseguita da:

Pergeo S.r.l.

via dell'artigianato, 2 44130 - Ro Ferrarese

[www.pergeo.it](http://www.pergeo.it) - info @pergeo.it

Dir. del Laboratorio: Dr. Geol. M. Condotta

Sperimentatore: Dr. Geol. F. Zanella

 Committente: Comune di Ravenna  
 Cantiere: Piazzale Kennedy (RA)  
 Data: 21/03/2013

 ID Prova: CPTU 2  
 Profondità falda: mt 2 da p.c.  
 Preforo: fino a mt 6,00 con dpsh

 Profondità massima raggiunta: 20,00 mt  
 Punta sismica: Tecnopenta G1-CPL2IN - SISMI  
 n° Dissipazioni eseguite: 0

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	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec
0.020	0.058	2.611	7.570	0.588	1.930	1.660	0.050	0.188	-16.850	2.007	2.660	3.300	0.032	0.358	2.680	2.783	2.660	4.940	0.045	0.798	25.880	2.662	2.700	6.580	1.361	10.110	100.360	2.261	2.560
0.040	0.026	2.060	1.460	0.563	2.560	1.680	0.050	0.188	-18.080	2.021	2.640	3.320	0.032	0.580	2.680	2.747	2.590	4.960	0.065	0.349	28.320	2.724	2.730	6.600	1.413	9.217	96.700	2.210	2.560
0.060	0.006	2.171	1.460	0.856	2.610	1.700	0.050	0.188	-18.080	1.999	2.660	3.340	0.021	0.580	2.680	2.768	2.590	4.980	0.054	0.016	29.540	2.784	2.680	6.620	1.032	5.666	116.230	2.240	2.530
0.080	0.058	1.949	0.240	0.662	2.530	1.720	0.060	0.188	-18.080	2.028	2.640	3.360	0.021	0.358	2.680	2.815	2.510	5.000	0.044	0.349	29.540	2.664	2.730	6.640	0.401	22.769	155.310	2.242	2.590
0.100	0.092	1.953	10.010	0.944	2.560	1.740	0.062	0.414	-18.080	2.023	2.590	3.380	0.000	0.358	2.680	2.786	2.590	5.020	0.054	0.016	28.320	2.781	2.730	6.660	0.497	20.435	119.900	2.240	2.610
0.120	0.067	0.842	0.240	1.451	2.580	1.760	0.062	0.525	-18.080	2.043	2.660	3.400	0.020	0.354	3.900	2.878	2.560	5.040	0.076	0.238	31.990	2.788	2.660	6.680	0.529	19.102	166.300	2.232	2.540
0.140	0.007	0.064	2.680	0.268	2.540	1.780	0.062	0.525	-18.080	2.052	2.720	3.420	0.000	0.358	3.900	2.812	2.610	5.060	0.064	0.123	35.650	2.781	2.100	6.700	0.550	19.769	171.180	2.150	2.630
0.160	0.005	0.282	3.900	0.987	2.500	1.800	0.051	0.859	-18.080	2.057	2.630	3.440	0.001	0.243	3.900	2.807	2.560	5.080	0.053	0.313	40.530	2.683	2.580	6.720	0.888	18.650	185.830	2.149	2.630
0.180	0.047	0.282	0.240	1.017	2.580	1.820	0.041	0.636	-16.850	2.066	2.610	3.460	0.003	0.239	3.900	2.840	2.510	5.100	0.053	0.202	40.530	2.690	2.540	6.740	0.718	17.427	85.710	2.199	2.680
0.200	0.026	0.727	2.680	1.032	2.500	1.840	0.021	0.640	-18.080	2.090	2.660	3.480	0.018	0.094	5.120	2.869	2.660	5.120	0.031	0.424	39.310	2.677	2.560	6.760	0.473	32.539	152.860	2.257	2.630
0.220	0.050	0.842	3.900	0.812	2.510	1.860	0.042	0.529	-16.850	2.087	2.700	3.500	0.018	0.094	5.120	2.885	2.680	5.140	0.042	0.313	40.530	2.790	2.580	6.780	0.535	19.979	165.070	2.225	2.640
0.240	0.110	0.175	2.200	0.636	2.510	1.880	0.042	0.529	-16.850	2.105	2.720	3.520	0.003	0.094	5.120	2.884	2.660	5.160	0.106	0.242	16.110	2.775	2.580	6.800	0.748	21.979	160.190	2.210	2.590
0.260	0.028	0.842	3.900	0.834	2.580	1.900	0.042	0.529	-18.080	2.127	2.730	3.540	0.003	0.094	5.120	2.861	2.590	5.180	0.063	1.980	28.320	2.468	2.500	6.820	0.812	22.979	140.650	2.167	2.680
0.280	0.026	0.162	2.680	1.069	2.630	1.920	0.021	0.529	-16.850	2.132	2.700	3.560	0.004	1.297	9.300	2.412	2.530	5.200	0.042	2.091	30.760	2.401	2.540	6.840	0.748	33.090	147.980	2.227	2.610
0.300	0.006	0.162	2.680	0.945	2.640	1.940	0.043	0.311	-18.080	2.131	2.680	3.580	0.018	0.094	5.120	2.951	2.560	5.220	0.042	1.313	33.210	2.487	2.560	6.860	0.727	29.979	145.540	2.210	2.580
0.320	0.048	0.273	3.900	0.961	2.540	1.960	0.054	0.644	-15.630	2.149	2.720	3.600	0.018	0.094	5.120	2.932	2.610	5.240	0.042	0.869	33.210	2.468	2.530	6.880	0.695	27.201	154.090	2.229	2.640
0.340	0.070	0.171	7.570	0.824	2.530	1.980	0.022	0.422	-18.080	2.201	2.630	3.620	0.017	0.098	5.120	2.998	2.580	5.260	0.031	0.869	34.430	2.416	2.500	6.900	0.535	13.423	154.090	2.194	2.660
0.360	0.016	0.385	3.900	1.507	2.560	2.000	0.001	0.311	-16.850	2.191	2.750	3.640	0.028	0.209	5.120	3.044	2.590	5.280	0.042	0.980	34.430	2.471	2.580	6.920	0.640	15.086	152.860	2.147	2.720
0.380	0.238	1.278	28.320	0.947	2.560	2.020	0.043	0.422	-15.630	2.191	2.660	3.660	0.028	0.209	3.900	2.984	2.610	5.300	0.051	0.643	35.650	2.438	2.630	6.940	0.672	15.864	160.190	2.172	2.720
0.400	0.199	0.397	5.630	1.268	2.560	2.040	0.054	0.422	-15.630	2.224	2.580	3.680	0.038	0.124	5.120	3.018	2.630	5.320	0.051	0.420	36.870	2.476	2.640	6.960	0.545	13.642	163.850	2.207	2.700
0.420	0.060	0.269	1.460	1.171	2.590	2.060	0.043	0.200	-16.850	2.203	2.680	3.700	0.038	0.098	3.900	2.993	2.680	5.340	0.062	0.643	36.870	2.388	2.610	6.980	0.885	13.531	185.830	2.156	2.660
0.440	0.005	0.718	1.460	1.237	2.530	2.080	0.045	0.204	-18.080	2.231	2.730	3.720	0.049	0.124	3.900	2.995	2.660	5.360	0.062	0.643	36.870	2.411	2.540	7.000	1.470	12.531	172.400	2.118	2.680
0.460	0.004	0.603	0.240	1.223	2.580	2.100	0.009	0.241	-18.080	2.296	2.770	3.740	0.038	0.098	3.900	3.054	2.630	5.380	0.083	0.643	38.090	2.297	2.530	7.020	1.098	17.753	108.910	2.049	2.630
0.480	0.208	0.162	30.760	1.357	2.660	2.120	0.023	0.018	-18.080	2.268	1.810	3.760	0.037	0.120	3.900	3.038	2.610	5.400	0.061	0.750	36.870	2.386	2.590	7.040	0.874	13.531	126.000	2.064	2.700
0.500	0.027	0.829	1.460	1.274	2.660	2.140	0.023	0.129	-18.080	2.308	2.540	3.780	0.026	0.342	3.900	2.997	2.680	5.420	0.209	0.861	46.640	2.271	2.530	7.060	0.651	11.864	199.260	2.051	2.660
0.520	0.059	0.940	5.120	1.278	2.660	2.160	0.045	0.204	-16.850	2.314	2.510	3.800	0.026	0.436	3.980	3.052	2.640	5.440	0.050	0.972	39.310	2.370	2.610	7.080	0.630	12.531	227.350	2.066	2.610
0.540	0.006	0.393	3.900	1.295	2.540	2.180	0.045	0.315	-16.850	2.351	2.540	3.820	0.006	0.342	3.460	3.118	2.610	5.460	0.061	0.972	41.750	2.379	2.500	7.100	0.651	13.419	237.110	2.075	2.630
0.560	0.018	0.175	2.680	1.209	2.500	2.200	0.026	0.212	-18.080	2.335	2.540	3.840	0.016	0.453	5.120	3.026	2.610	5.480	0.059	0.968	41.750	2.323	2.560	7.120	0.704	13.419	235.890	2.025	2.730
0.580	0.018	0.175	2.680	1.319	2.590	2.220	0.058	0.656	-16.850	2.309	2.500	3.860	0.013	0.556	5.120	3.029	2.720	5.500	0.080	1.190	45.420	2.372	2.660	7.140	0.747	14.419			




[www.pergeo.it](http://www.pergeo.it) - [info@pergeo.it](mailto:info@pergeo.it)

## CPTU 2



Prova eseguita da:

Pergeo S.r.l.

via dell'artigianato, 2 44130 - Ro Ferrarese

[www.pergeo.it](http://www.pergeo.it) - [info@pergeo.it](mailto:info@pergeo.it)

Dir.del Laboratorio: Dr.Geol.M.Condotta

Sperimentatore: Dr.Geol. F. Zanella

Committente: Comune di Ravenna

ID Prova: CPTU 2

Profondità massima raggiunta: 20,00 mt

Cantiere: Piazzale Kennedy (RA)

Profondità falda: mt 2 da p.c.

Punta sismica: Tecnopenta G1-CPL2IN - SISMI

Data: 21/03/2013

Preforo: fino a mt 6,00 con dpsh

n° Dissipazioni eseguite: 0

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	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec
8.240	1.422	16.181	133.330	2.202	2.770	9.880	4.224	23.638	60.070	2.555	2.640	11.520	4.212	40.157	53.960	2.881	2.530	13.160	3.845	26.891	74.720	3.356	2.630	14.800	6.725	36.800	96.700	3.723	2.480						
8.260	1.124	17.181	128.440	2.170	2.750	9.900	4.106	24.078	63.730	2.539	2.540	11.540	4.095	39.157	56.410	2.888	2.530	13.180	3.601	28.891	71.060	3.354	2.770	14.820	6.469	37.022	96.700	3.724	2.560						
8.280	0.901	19.626	122.340	2.210	2.730	9.920	4.021	24.745	66.170	2.541	2.610	11.560	3.861	37.935	56.410	2.888	2.540	13.200	3.111	30.113	66.170	3.362	2.640	14.840	6.193	37.355	95.480	3.724	2.530						
8.300	0.688	31.848	116.230	2.183	2.770	9.940	3.882	25.189	67.390	2.567	2.660	11.580	3.595	36.046	56.410	2.880	2.500	13.220	2.484	34.002	61.290	3.379	2.610	14.860	6.021	37.685	96.700	3.732	2.560						
8.320	0.943	32.515	202.930	2.175	2.360	9.960	3.638	26.967	66.170	2.565	2.660	11.600	3.456	32.157	57.630	2.913	2.510	13.240	2.186	37.558	60.070	3.372	2.680	14.880	5.851	38.685	96.700	3.723	2.500						
8.340	0.635	30.070	138.210	2.216	2.630	9.980	3.393	28.967	66.170	2.531	2.730	11.620	3.382	30.824	58.850	2.912	2.580	13.260	2.101	43.447	58.850	3.370	2.720	14.900	5.638	40.018	96.700	3.748	2.590						
8.360	0.635	26.626	168.740	2.188	2.610	10.000	3.404	30.189	67.390	2.522	2.700	11.640	3.327	31.264	58.850	2.929	2.640	13.280	1.962	52.669	127.220	3.396	2.770	14.920	5.381	40.792	95.480	3.747	2.590						
8.380	0.645	23.181	173.620	2.206	2.560	10.020	3.659	31.300	73.500	2.540	2.700	11.660	3.444	31.598	61.290	2.929	2.630	13.300	2.037	49.891	123.560	3.404	2.810	14.940	5.190	41.347	96.700	3.756	2.630						
8.400	0.645	18.515	211.470	2.199	2.510	10.040	3.989	33.634	78.380	2.533	2.720	11.680	3.551	32.487	50.300	2.954	2.560	13.320	2.218	52.447	123.560	3.412	2.770	14.960	4.924	42.347	94.260	3.771	2.590						
8.420	0.635	15.515	198.040	2.203	2.560	10.060	4.180	37.523	71.060	2.556	2.630	11.700	3.380	37.931	34.430	2.937	2.530	13.340	2.271	50.891	123.560	3.412	2.720	14.980	4.679	43.014	94.260	3.772	2.580						
8.440	0.624	16.070	207.810	2.201	2.560	10.080	4.329	36.411	51.520	2.554	2.750	11.720	3.221	37.042	35.650	2.952	2.530	13.360	2.368	53.673	121.120	3.420	2.750	15.000	4.400	42.784	93.040	3.755	2.630						
8.460	0.603	16.737	211.470	2.202	2.540	10.100	4.305	34.403	44.200	2.555	2.660	11.740	3.007	34.483	36.870	2.952	2.580	13.380	2.677	61.006	89.370	3.413	2.720	15.020	4.198	41.784	93.040	3.805	2.610						
8.480	0.603	16.292	206.590	2.215	2.580	10.120	3.975	37.737	45.420	2.572	2.640	11.760	3.198	33.260	42.970	2.977	2.560	13.400	2.985	61.562	73.500	3.422	2.680	15.040	4.101	40.335	93.040	3.804	2.590						
8.500	0.635	16.515	207.810	2.218	2.500	10.140	3.645	32.626	47.860	2.563	2.660	11.780	3.730	37.705	47.860	2.977	2.560	13.420	3.116	43.046	101.580	3.414	2.250	15.060	3.877	41.224	88.150	3.811	2.540						
8.520	0.603	16.515	207.810	2.241	2.540	10.160	3.507	30.070	50.300	2.562	2.770	11.800	4.060	43.594	41.750	2.993	2.540	13.440	3.169	39.491	100.360	3.446	2.450	15.080	3.952	43.002	89.370	3.812	2.630						
8.540	0.624	16.515	199.260	2.248	2.660	10.180	3.560	28.515	53.960	2.556	2.750	11.820	4.103	44.371	41.750	2.977	2.580	13.460	3.456	35.268	84.490	3.422	2.560	15.100	4.323	42.776	78.380	3.843	2.590						
8.560	0.603	16.515	211.470	2.256	2.660	10.200	3.921	27.844	58.850	2.555	2.830	11.840	4.112	39.812	46.640	3.017	2.630	13.480	3.627	39.935	75.940	3.420	2.590	15.120	4.770	53.554	80.830	3.859	2.660						
8.580	0.624	15.848	204.150	2.261	2.630	10.220	4.389	34.288	55.180	2.563	2.810	11.860	4.154	36.701	52.740	3.001	2.610	13.500	3.702	39.828	73.500	3.420	2.590	15.140	4.844	50.998	86.930	3.842	2.660						
8.600	0.603	15.070	234.670	2.280	2.540	10.240	4.559	40.399	39.310	2.537	2.720	11.880	4.112	34.367	55.180	3.018	2.630	13.520	3.745	36.050	72.280	3.428	2.560	15.160	4.502	43.550	85.710	3.883	2.660						
8.620	0.645	15.626	238.330	2.261	2.480	10.260	4.506	45.066	34.430	2.534	2.720	11.900	3.942	32.145	55.180	3.009	2.580	13.540	3.734	31.828	72.280	3.420	2.480	15.180	4.279	41.550	86.930	3.866	2.680						
8.640	0.699	15.403	233.450	2.290	2.590	10.280	4.515	49.729	33.210	2.529	2.750	11.920	3.676	31.145	53.960	3.001	2.660	13.560	3.734	29.050	73.500	3.420	2.510	15.200	4.428	41.883	90.590	3.898	2.660						
8.660	0.709	16.292	202.930	2.299	2.590	10.300	4.355	46.951	34.430	2.560	2.680	11.940	3.314	29.034	52.740	3.017	2.630	13.580	3.798	28.272	74.720	3.444	2.540	15.220	4.767	42.768	95.480	3.923	2.630						
8.680	0.709	17.292	161.410	2.318	2.590	10.320	4.090	38.507	38.090	2.561	2.810	11.960	2.960	29.582	51.520	3.042	2.590	13.600	3.511	27.606	71.060	3.428	2.480	15.240	5.320	44.212	101.580	3.907	2.720						
8.700	0.720	18.959	270.080	2.286	2.510	10.340	3.717	26.951	73.500	2.562	2.810	11.980	2.705	32.582	50.300	3.016	2.610	13.620	3.180	26.824	68.620	3.443	2.610	15.260	6.097	42.879	106.470	3.940	2.590						
8.720	0.837	20.292	294.500	2.315	2.630	10.360	3.526	28.173	71.060	2.571	2.460	12.000	2.609	37.582	51.520	3.025	2.640	13.640	3.616	30.379	69.840	3.470	2.460	15.280	6.788	39.212	85.710	3.956	2.540						
8.740	0.954	21.515	272.520	2.325	2.630	10.380	3.366	28.284	68.620	2.561	2.580	12.020	2.652	41.248	52.740	3.042	2.640	13.660	4.052	36.491	69.840	3.492	2.510	15.300	7.384	42.212	57.630	3.972	2.640						
8.760	1.007	22.626	156.530	2.331	2.640	1																													





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## CPTU 2



Prova eseguita da:  
Pergeo S.r.l.  
via dell'artigianato, 2 44130 - Ro Ferrarese  
[www.pergeo.it](http://www.pergeo.it) - [info@pergeo.it](mailto:info@pergeo.it)  
Dir. del Laboratorio: Dr. Geol. M. Condotta  
Sperimentatore: Dr. Geol. F. Zanella

Committente: Comune di Ravenna  
Cantiere: Piazzale Kennedy (RA)  
Data: 21/03/2013

ID Prova: CPTU 2  
Profondità falda: mt 2 da p.c.  
Preforo: fino a mt 6,00 con dpsh

Profondità massima raggiunta: 20,00 mt  
Punta sismica: Tecnopenta G1-CPL2IN - SISMI  
n° Dissipazioni eseguite: 0

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	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec
16.440	8.940	74.605	25.880	4.139	2.680	18.080	11.604	84.172	104.020	4.414	2.510	19.720	5.378	25.628	95.480	4.483	2.430												
16.460	8.345	76.271	21.000	4.123	2.700	18.100	11.294	83.613	105.250	4.421	2.580	19.740	4.325	29.961	85.710	4.483	2.450												
16.480	7.545	61.490	22.220	4.136	2.680	18.120	11.124	82.057	106.470	4.421	2.560	19.760	2.995	34.406	72.280	4.500	2.480												
16.500	6.833	48.934	35.650	4.155	2.730	18.140	11.121	81.160	110.130	4.428	2.510	19.780	2.144	45.406	66.170	4.468	2.510												
16.520	7.026	44.415	145.540	4.154	2.200	18.160	11.077	81.045	112.570	4.429	2.510	19.800	1.519	79.747	68.620	4.499	2.480												
16.540	7.483	48.303	145.540	4.155	2.400	18.180	11.023	80.152	111.350	4.428	2.580	19.820	1.551	99.414	305.490	4.500	2.480												
16.560	7.644	53.307	126.000	4.139	2.500	18.200	10.989	79.815	112.570	4.429	2.560	19.840	4.232	101.191	572.890	4.483	2.400												
16.580	7.676	49.752	116.230	4.155	2.540	18.220	10.797	80.255	112.570	4.429	2.630	19.860	8.223	91.529	238.330	4.499	2.420												
16.600	7.485	47.307	118.680	4.153	2.580	18.240	10.624	78.692	113.790	4.427	2.630	19.880	9.797	68.195	108.910	4.507	2.530												
16.620	7.293	47.419	122.340	4.155	2.540	18.260	10.569	79.355	116.230	4.437	2.590	19.900	9.448	63.644	102.800	4.507	2.580												
16.640	7.261	44.752	124.780	4.160	2.450	18.280	10.397	79.573	117.460	4.437	2.630	19.920	8.160	59.199	99.140	4.507	2.530												
16.660	7.325	43.196	126.000	4.169	2.450	18.300	10.300	79.235	115.010	4.428	2.590	19.940	7.491	55.092	100.360	4.517	2.480												
16.680	7.495	41.530	127.220	4.153	2.480	18.320	10.385	76.569	117.460	4.437	2.610	19.960	8.332	59.981	210.250	4.508	2.400												
16.700	7.739	39.970	126.000	4.153	2.480	18.340	10.498	74.779	117.460	4.436	2.660	19.980	9.491	63.648	205.370	4.507	2.500												
16.720	8.037	41.303	130.890	4.160	2.480	18.360	10.647	73.779	116.230	4.444	2.560	20.000	9.750	67.211	168.740	4.515	2.430												
16.740	8.302	43.970	124.780	4.152	2.430	18.380	10.827	73.108	118.680	4.445	2.530																		
16.760	8.377	44.081	129.670	4.169	2.480	18.400	11.028	72.771	121.120	4.460	2.660																		
16.780	8.483	43.637	130.890	4.168	2.580	18.420	11.122	72.211	119.900	4.460	2.630																		
16.800	8.535	44.077	133.330	4.177	2.580	18.440	11.239	72.878	121.120	4.476	2.700																		
16.820	8.376	44.966	133.330	4.176	2.580	18.460	11.513	73.537	124.780	4.460	2.730																		
16.840	7.993	44.966	130.890	4.202	2.500	18.480	11.809	75.311	124.780	4.468	2.630																		
16.860	7.535	44.744	129.670	4.177	2.450	18.500	12.116	76.751	124.780	4.477	2.640																		
16.880	7.269	45.855	130.890	4.201	2.500	18.520	12.393	77.418	124.780	4.469	2.640																		
16.900	7.245	46.180	132.110	4.201	2.510	18.540	12.541	78.080	127.220	4.477	2.630																		
16.920	7.405	46.180	134.550	4.209	2.530	18.560	12.570	80.850	123.560	4.477	2.630																		
16.940	7.607	46.180	130.890	4.209	2.480	18.580	12.433	69.664	105.250	4.444	2.870																		
16.960	7.659	45.176	136.990	4.207	2.560	18.600	12.061	75.553	64.950	4.443	2.390																		
16.980	7.425	44.732	135.770	4.216	2.540	18.620	10.752	80.331	47.860	4.460	2.450																		
17.000	6.871	46.732	132.110	4.241	2.630	18.640	9.243	94.223	38.090	4.444	2.480																		
17.020	6.435	45.399	130.890	4.224	2.540	18.660	8.179	115.446	39.310	4.428	2.590																		
17.040	6.445	44.172	133.330	4.216	2.560	18.680	9.243	129.223	88.150	4.429	2.500																		
17.060	6.891	47.061	139.430	4.223	2.540	18.700	10.796	132.890	71.060	4.461	2.400																		
17.080	7.179	49.283	117.460	4.239	2.630	18.720	11.360	137.779	58.850	4.438	2.390																		
17.100	7.177	49.502	49.080	4.240	2.560	18.740	11.690	128.668	55.180	4.437	2.450																		
17.120	6.986	44.279	35.650	4.240	2.540	18.760	11.827	120.886	71.060	4.462	2.430																		
17.140	6.773	42.168	38.090	4.256	2.560	18.780	12.178	111.775	77.160	4.446	2.460																		
17.160	6.592	39.946	62.510	4.255	2.610	18.800	12.666	102.882	80.830	4.471	2.430																		
17.180	6.440	31.271	71.060	4.254	2.630	18.820	13.090	99.878	83.270	4.463	2.390																		
17.200	6.419	29.605	78.380	4.255	2.640	18.840	13.335	91.434	85.710	4.463	2.530																		
17.220	6.589	29.494	82.050	4.256	2.630	18.860	13.555	82.759	88.150	4.471	2.510																		
17.240	7.057	34.938	88.150	4.263	2.610	18.880	13.799	81.755	91.810	4.471	2.530																		





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## CPTU 2



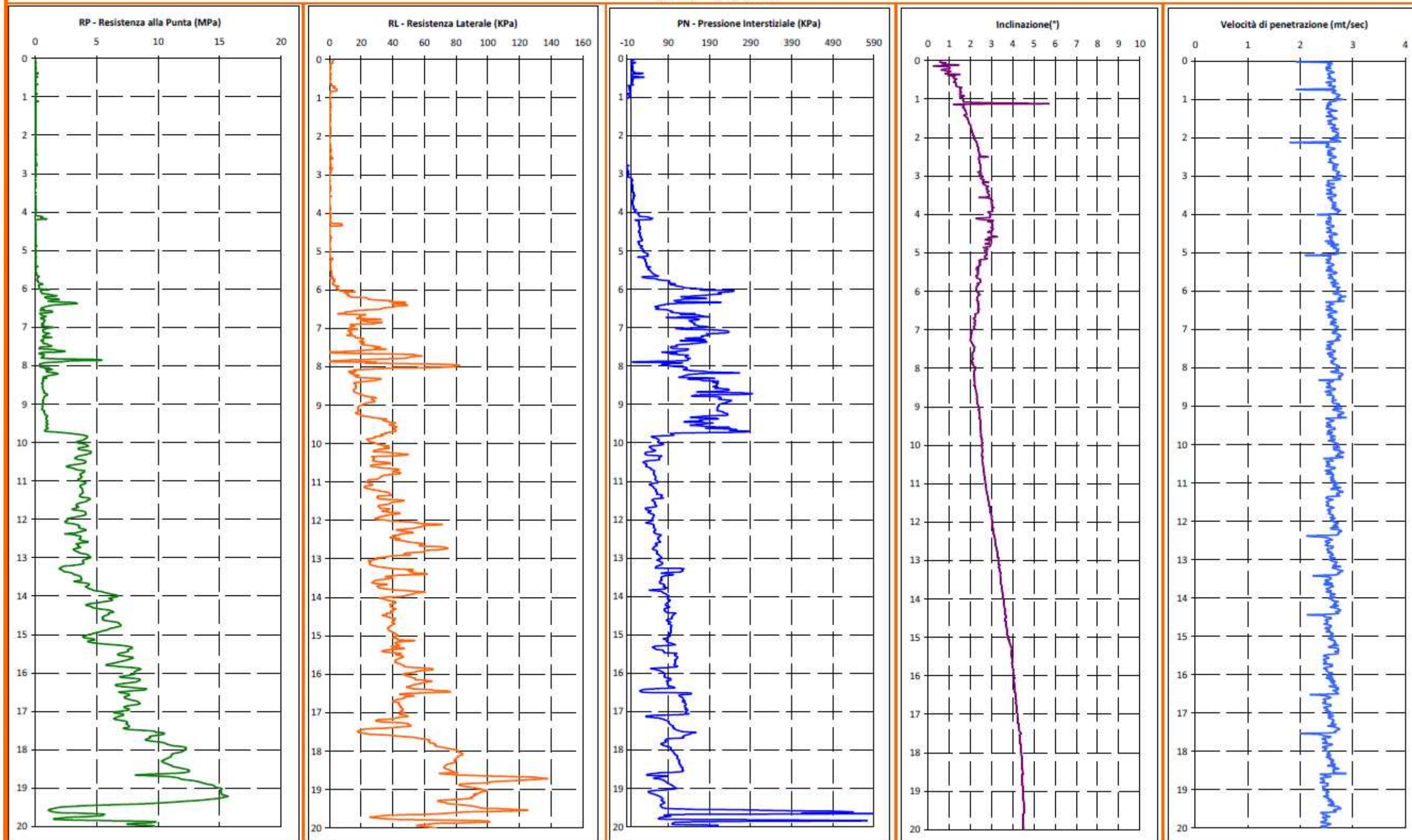
Prova eseguita da:  
Pergeo S.r.l.  
via dell'artigianato, 2 44130 - Ro Ferrarese  
[www.pergeo.it](http://www.pergeo.it) - [info@pergeo.it](mailto:info@pergeo.it)  
Dir. del Laboratorio: Dr. Geol. M. Condotta  
Sperimentatore: Dr. Geol. F. Zanella

Committente: Comune di Ravenna  
Cantiere: Piazzale Kennedy (RA)  
Data: 21/03/2013




ID Prova: CPTU 2  
Profondità falda: mt 2 da p.c.  
Preforo: fino a mt 6,00 con dpsh

Profondità massima raggiunta: 20,00 mt  
Punta sismica: Tecnopenta G1-CPL2IN - SISMI  
n° Dissipazioni eseguite: 0

### GRAFICI PROVA CPTU 2





	<a href="http://www.pergeo.it">www.pergeo.it</a> - <a href="mailto:info@pergeo.it">info@pergeo.it</a>	<p style="text-align: center;"><b>CPTU 2</b></p> 	<p>Prova eseguita da:          Pergeo S.r.l.          via dell'artigianato, 2 44130 - Ro Ferrarese  <a href="http://www.pergeo.it">www.pergeo.it</a> - <a href="mailto:info@pergeo.it">info@pergeo.it</a>          Dir. del Laboratorio: Dr. Geol. M. Condotta          Sperimentatore: Dr. Geol. F. Zanella</p>
Committente: Comune di Ravenna Cantiere: Piazzale Kennedy (RA) Data: 21/03/2013	ID Prova: CPTU 2 Profondità falda: mt 2 da p.c. Preforo: fino a mt 6,00 con dpsh	Profondità massima raggiunta: 20,00 mt Punta sismica: Tecnopenta G1-CPL2IN - SISMI n° Dissipazioni eseguite: 0	
<b>ANAGRAFICA PROVA CPTU 2</b>			
		 <div data-bbox="1240 1728 1466 1862"> <p>Coordinate geografiche:          Latitudine: 44.416860°          Longitudine: 12.197474°          Elevazione: 4-5 m</p> </div>	




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CPTU 1



Committente: Comune di Ravenna  
 Cantiere: Piazzale Kennedy (RA)  
 Data: 21/03/2013

ID Prova: CPTU 1  
 Profondità falda: mt 2,20 da p.c.  
 Preforo: da mt 0 a mt 1,20 e da mt 3,94 a mt 6,00

Profondità massima raggiunta: 20,00 mt  
 Punta sismica: Tecnopenta G1-CPL2IN - SISMI  
 n° Dissipazioni eseguite: 0

Prova eseguita da:

Pergeo S.r.l.

via dell'artigianato, 2 44130 - Ro Ferrarese

[www.pergeo.it](http://www.pergeo.it) - info @pergeo.it

Dir. del Laboratorio: Dr. Geol. M. Condotta

Sperimentatore: Dr. Geol. F. Zanella

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	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec
0.020	0.014	2.064	-5.870	0.088	2.720	1.660	1.161	6.270	-40.050	1.186	2.580	3.300	0.477	9.290	55.180	1.839	2.380	4.940	0.038	0.968	-21.740	5.215	2.450	6.580	0.491	7.086	97.920	6.082	2.320						
0.040	0.076	2.394	-0.980	0.189	2.480	1.680	1.026	7.167	-41.270	1.218	2.640	3.320	0.582	10.619	56.410	1.856	2.450	4.960	0.038	0.635	-20.520	5.278	2.500	6.600	0.459	5.086	115.010	6.157	2.390						
0.060	0.034	2.060	-0.980	0.799	2.400	1.700	0.781	15.643	-42.500	1.273	2.610	3.340	1.028	12.064	63.730	1.831	2.430	4.980	0.048	0.412	-20.520	5.266	2.530	6.620	0.470	5.753	116.230	6.165	2.450						
0.080	0.018	1.058	-4.640	0.522	2.800	1.720	0.601	16.393	-38.830	1.199	2.610	3.360	0.613	11.286	39.310	1.881	2.430	5.000	0.035	0.849	-20.520	5.324	2.460	6.640	0.640	6.308	115.010	6.141	2.430						
0.100	0.078	1.731	-2.200	0.369	2.480	1.740	0.496	16.397	-41.270	1.127	2.660	3.380	0.582	12.064	46.640	1.797	2.360	5.020	0.023	0.623	-19.300	5.236	2.530	6.660	2.470	9.197	97.920	5.761	2.400						
0.120	0.035	1.064	-3.420	0.560	2.430	1.760	0.317	19.290	-38.830	1.178	2.590	3.400	0.496	10.508	40.530	1.881	2.310	5.040	0.034	0.266	-19.300	5.335	2.480	6.680	2.926	13.473	101.580	5.230	2.290						
0.140	0.024	0.064	-3.420	0.544	2.430	1.780	0.317	17.401	-35.170	1.166	2.680	3.420	0.591	14.282	46.640	1.822	2.400	5.060	0.034	0.266	-18.080	5.370	2.450	6.700	2.022	18.362	41.750	5.362	2.310						
0.160	0.023	0.283	-2.200	0.642	2.480	1.800	0.320	16.743	-35.170	1.209	2.580	3.440	0.548	14.949	45.420	1.847	2.360	5.080	0.022	0.270	-18.080	5.346	2.540	6.720	1.075	17.140	28.320	5.366	2.400						
0.180	0.014	0.047	-4.640	0.372	2.400	1.820	0.321	15.858	-33.950	1.209	2.560	3.460	0.548	13.727	41.750	1.747	2.390	5.100	0.032	0.270	-18.080	5.386	2.460	6.740	0.213	17.860	68.620	5.429	2.380						
0.200	0.058	0.043	-8.310	0.115	2.420	1.840	0.321	12.635	-33.950	1.237	2.590	3.480	0.431	14.282	46.640	1.797	2.360	5.120	0.032	0.174	-18.080	5.287	2.390	6.760	2.054	11.251	77.160	5.132	2.350						
0.220	0.056	0.509	0.240	0.122	2.450	1.860	0.333	11.751	-33.950	1.202	2.660	3.500	0.483	13.167	50.300	1.789	2.430	5.140	0.031	0.281	-16.850	5.188	2.500	6.780	2.022	13.971	97.920	5.166	2.330						
0.240	0.026	0.517	2.680	1.599	2.460	1.880	0.333	11.528	-32.730	1.210	2.720	3.520	0.526	13.056	51.520	1.755	2.430	5.160	0.031	0.059	-16.850	5.165	2.560	6.800	1.884	18.082	38.090	5.235	2.400						
0.260	0.047	0.291	-5.870	0.880	2.540	1.900	0.313	8.421	-33.950	1.194	2.730	3.540	0.504	10.500	50.300	1.797	2.450	5.180	0.040	0.389	-16.850	5.222	2.580	6.820	1.703	12.415	18.550	5.287	2.420						
0.280	0.024	0.287	-3.420	0.034	2.500	1.920	0.324	8.199	-32.730	1.177	2.720	3.560	0.526	10.611	51.520	1.763	2.430	5.200	0.030	0.501	-16.850	5.456	2.610	6.840	1.139	22.638	10.010	5.309	2.450						
0.300	0.090	0.043	-7.090	0.799	2.460	1.940	0.303	8.088	-32.730	1.218	2.630	3.580	0.491	9.715	61.290	1.854	2.400	5.220	0.019	0.501	-16.850	5.485	2.580	6.860	0.533	34.638	47.860	5.303	2.420						
0.320	0.158	0.829	-11.970	0.415	2.430	1.960	0.304	7.536	-31.510	1.203	2.700	3.600	1.736	7.270	57.630	1.920	2.430	5.240	0.030	0.612	-16.850	5.455	2.510	6.880	0.660	28.304	46.640	5.240	2.380						
0.340	0.035	0.047	-3.420	0.606	2.480	1.980	0.325	7.092	-32.730	1.203	2.640	3.620	1.533	5.159	53.960	1.969	2.450	5.260	0.027	0.509	-15.630	5.467	2.540	6.900	0.469	25.415	60.070	5.309	2.430						
0.360	0.046	0.620	-0.980	1.282	2.450	2.000	0.307	6.655	-33.950	1.224	2.590	3.640	0.649	7.599	35.650	1.920	2.450	5.280	0.027	0.509	-15.630	5.495	2.500	6.920	0.521	22.411	80.830	5.303	2.450						
0.380	0.224	2.279	2.680	0.372	2.480	2.020	0.328	6.100	-33.950	1.213	2.680	3.660	0.479	12.599	44.200	1.895	2.380	5.300	0.016	0.096	-11.970	5.494	2.340	6.940	0.521	22.078	88.150	5.262	2.400						
0.400	0.014	0.620	-4.640	0.581	2.810	2.040	0.372	4.659	-41.270	1.164	2.640	3.680	0.467	10.484	44.200	1.936	2.450	5.320	0.026	0.096	-11.970	5.471	2.280	6.960	0.712	22.634	94.260	5.262	2.390						
0.420	0.024	0.398	-4.640	0.485	2.430	2.060	0.403	4.910	-41.270	1.117	2.380	3.700	0.786	13.151	49.080	1.920	2.430	5.340	0.037	0.096	-10.750	5.530	2.320	6.980	1.021	18.967	90.590	5.263	2.430						
0.440	0.078	0.398	-4.640	0.518	2.560	2.080	0.457	5.358	-40.050	1.117	2.460	3.720	0.733	12.595	38.090	1.903	2.510	5.360	0.026	0.015	-11.970	5.611	2.320	7.000	2.177	12.181	84.490	5.291	2.430						
0.460	0.046	0.509	-4.640	0.406	2.560	2.100	0.457	5.803	-40.050	1.119	2.580	3.740	0.519	18.147	38.090	1.927	2.530	5.380	0.026	0.015	-11.970	5.551	2.360	7.020	1.656	10.403	18.550	5.326	2.500						
0.480	0.046	0.064	-5.870	0.560	2.560	2.120	0.436	6.136	-31.270	1.117	2.500	3.760	0.487	16.703	39.310	1.878	2.480	5.400	0.005	0.096	-11.970	5.563	2.450	7.040	1.369	15.626	38.090	5.406	2.480						
0.500	0.099	0.047	-5.870	0.548	2.510	2.140	0.404	6.469	-22.270	1.107	2.450	3.780	0.476	15.036	41.750	1.969	2.500	5.420	0.026	0.126	-11.970	5.637	2.390	7.060	0.890	18.959	24.660	5.354	2.460						
0.520	0.035	0.287	-4.640	0.599	2.480	2.160	0.383	5.691	-11.270	1.122	2.430	3.800	0.944	11.814	60.070	1.895	2.500	5.440	0.016	0.126	-11.970	5.649	2.320	7.080	0.667	20.848	22.220	5.292	2.500						
0.540	0.046	0.287	-5.870	0.544	2.430	2.180	0.308	5.803	-6.270	1.085	2.480	3.820	2.230	16.032	47.860	1.950	2.400	5.460	0.016																



Committente: Comune di Ravenna  
Cantiere: Piazzale Kennedy (RA)  
Data: 21/03/2013

ID Prova: CPTU 1  
Profondita falda: mt 2,20 da p.c.  
Preforo: da mt 0 a mt 1,20 e da mt 3,94 a mt 6,00

Profondità massima raggiunta: 20,00 mt  
Punta sismica: Tecnopenta G1-CPL2IN - SISMI  
n° Dissipazioni eseguite: 0

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	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec
8.220	0.795	25.931	91.810	6.304	2.510	9.860	0.709	16.515	244.440	6.671	2.430	11.500	3.109	28.359	58.850	7.059	2.290	13.160	3.237	39.582	22.220	7.278	2.500	14.800	5.709	39.927	91.810	7.349	2.390	14.800	5.709	39.927	91.810	7.349	2.390
8.240	0.763	21.709	108.910	6.361	2.530	9.880	0.720	16.181	244.440	6.671	2.400	11.520	3.290	29.693	57.630	7.059	2.360	13.180	3.322	38.582	24.660	7.257	2.430	14.820	5.751	38.816	90.590	7.299	2.400	14.820	5.751	38.816	90.590	7.299	2.400
8.260	0.795	19.931	123.560	6.351	2.580	9.900	0.741	16.848	249.320	6.666	2.450	11.540	3.311	31.359	36.870	7.026	2.380	13.200	3.428	37.248	25.880	7.279	2.430	14.840	5.571	36.816	88.150	7.349	2.390	14.840	5.571	36.816	88.150	7.349	2.390
8.280	0.934	19.709	138.210	6.317	2.580	9.920	0.762	17.070	255.430	6.608	2.400	11.560	3.173	30.026	31.990	7.045	2.350	13.220	3.471	36.026	27.100	7.259	2.480	14.860	5.218	35.034	83.270	7.334	2.330	14.860	5.218	35.034	83.270	7.334	2.330
8.300	0.944	19.487	154.090	6.343	2.540	9.940	0.826	17.070	259.090	6.695	2.400	11.580	3.003	26.582	35.650	7.046	2.320	13.240	3.449	32.693	27.100	7.275	2.400	14.880	4.622	34.590	75.940	7.342	2.290	14.880	4.622	34.590	75.940	7.342	2.290
8.320	0.976	17.820	152.860	6.320	2.510	9.960	0.890	16.515	265.200	6.668	2.400	11.600	2.854	24.582	34.430	7.012	2.290	13.260	3.407	33.359	27.100	7.227	2.480	14.900	3.878	36.923	69.840	7.301	2.280	14.900	3.878	36.923	69.840	7.301	2.280
8.340	1.422	19.260	118.680	6.363	2.530	9.980	0.890	17.292	216.360	6.669	2.450	11.620	2.737	23.915	34.430	7.015	2.320	13.280	3.460	32.359	28.320	7.254	2.460	14.920	3.463	46.256	64.950	7.345	2.350	14.920	3.463	46.256	64.950	7.345	2.350
8.360	1.911	18.927	141.880	6.372	2.460	10.000	0.826	19.737	228.570	6.653	2.400	11.640	2.641	23.471	34.430	7.070	2.290	13.300	3.375	33.137	27.100	7.254	2.380	14.940	3.697	57.367	71.060	7.359	2.320	14.940	3.697	57.367	71.060	7.359	2.320
8.380	2.273	28.371	69.840	6.406	2.460	10.020	0.837	21.070	196.820	6.697	2.390	11.660	2.524	23.915	31.990	7.005	2.380	13.320	3.386	32.582	27.100	7.277	2.400	14.960	4.548	70.145	94.260	7.318	2.290	14.960	4.548	70.145	94.260	7.318	2.290
8.400	0.936	35.828	31.990	6.387	1.940	10.040	0.890	23.403	238.330	6.697	2.430	11.680	2.471	25.693	33.210	7.070	2.310	13.340	3.471	33.248	29.540	7.214	2.480	14.980	5.694	63.137	95.480	7.341	2.350	14.980	5.694	63.137	95.480	7.341	2.350
8.420	0.830	33.383	34.430	6.335	2.290	10.060	0.954	24.515	220.020	6.692	2.430	11.700	2.513	26.359	34.430	6.998	2.280	13.360	3.565	37.244	24.660	7.244	2.510	15.000	6.045	57.693	96.700	7.345	2.330	15.000	6.045	57.693	96.700	7.345	2.330
8.440	0.745	33.272	107.690	6.289	2.360	10.080	1.060	26.292	118.680	6.724	2.500	11.720	2.705	27.804	38.090	7.046	2.390	13.380	3.693	43.467	17.330	7.247	2.530	15.020	6.173	54.026	97.920	7.295	2.390	15.020	6.173	54.026	97.920	7.295	2.390
8.460	1.160	33.606	177.280	6.311	2.420	10.100	1.159	34.634	227.350	6.675	2.480	11.740	2.788	31.244	36.870	7.062	2.420	13.400	3.863	43.133	18.550	7.236	2.540	15.040	6.152	48.359	97.920	7.366	2.360	15.040	6.152	48.359	97.920	7.366	2.360
8.480	1.830	38.050	124.780	6.350	2.360	10.120	1.542	33.300	77.160	6.723	2.460	11.760	2.767	34.244	33.210	7.005	2.380	13.420	3.937	42.911	21.000	7.230	2.460	15.060	6.033	44.800	96.700	7.306	2.380	15.060	6.033	44.800	96.700	7.306	2.380
8.500	2.099	32.725	72.280	6.343	2.320	10.140	2.563	41.634	94.260	6.781	2.480	11.780	2.705	34.359	33.210	7.048	2.330	13.440	3.927	39.467	22.220	7.194	2.460	15.080	6.023	44.355	96.700	7.313	2.320	15.080	6.023	44.355	96.700	7.313	2.320
8.520	2.000	27.495	73.500	6.379	2.280	10.160	3.999	42.967	31.990	6.778	2.430	11.800	2.618	35.578	31.990	7.025	2.320	13.460	3.799	34.800	22.220	7.230	2.530	15.100	6.097	39.911	99.140	7.322	2.400	15.100	6.097	39.911	99.140	7.322	2.400
8.540	1.766	25.606	68.620	6.369	2.330	10.180	4.659	40.189	27.100	6.816	2.450	11.820	2.512	35.133	33.210	7.021	2.290	13.480	3.746	33.355	24.660	7.201	2.460	15.120	6.053	34.240	97.920	7.346	2.380	15.120	6.053	34.240	97.920	7.346	2.380
8.560	1.394	25.272	61.290	6.329	2.330	10.200	4.818	41.634	41.750	6.765	2.510	11.840	2.459	36.800	33.210	7.030	2.350	13.500	3.911	31.149	53.960	7.251	2.600	15.140	5.851	35.018	95.480	7.346	2.310	15.140	5.851	35.018	95.480	7.346	2.310
8.580	1.149	30.383	56.410	6.381	2.360	10.220	4.755	40.745	45.420	6.836	2.390	11.860	2.565	37.022	35.650	7.086	2.330	13.520	4.295	29.931	57.630	7.218	2.250	15.160	5.585	35.240	94.260	7.339	2.390	15.160	5.585	35.240	94.260	7.339	2.390
8.600	0.862	34.383	78.380	6.369	2.330	10.240	4.531	36.300	45.420	6.812	2.400	11.880	2.682	36.911	36.870	7.095	2.330	13.540	4.561	30.153	60.070	7.227	2.240	15.180	5.392	35.570	93.040	7.374	2.400	15.180	5.392	35.570	93.040	7.374	2.400
8.620	0.756	35.606	91.810	6.319	2.290	10.260	4.191	35.856	44.200	6.794	2.500	11.900	2.735	37.467	33.210	7.048	2.360	13.560	4.391	28.931	53.960	7.190	2.310	15.200	5.328	35.792	94.260	7.370	2.400	15.200	5.328	35.792	94.260	7.370	2.400
8.640	0.734	32.717	188.270	6.400	2.420	10.280	3.829	34.634	42.970	6.860	2.510	11.920	2.671	33.911	30.760	7.054	2.390	13.580	3.944	27.487	46.640	7.244	2.380	15.220	5.328	36.125	95.480	7.373	2.420	15.220	5.328	36.125	95.480	7.373	2.420
8.660	0.713	30.272	228.570	6.421	2.430	10.300	3.606	32.523	44.200	6.842	2.580	11.940	2.618	30.244	30.760	7.022	2.430	13.600	3.551	23.931	44.200	7.201	2.390	15.240	5.371										



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Preforo: da mt 0 a mt 1,20 e da mt 3,94 a mt 6,00  
Profondità massima raggiunta: 20,00 mt  
Punta sismica: Tecnopenta G1-CPL2IN - SISMI  
n° Dissipazioni eseguite: 0

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	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec	metri	Mpa	KPa	KPa	Gradi °	cm/sec
16.440	4.037	83.970	113.790	7.516	2.480	18.080	6.581	66.339	117.460	7.905	2.390	19.720	15.276	103.529	135.770	8.335	2.180												
16.460	4.760	78.415	106.470	7.534	2.480	18.100	5.814	63.335	113.790	7.911	2.360	19.740	15.107	105.866	130.890	8.336	2.220												
16.480	4.909	70.192	107.690	7.534	2.560	18.120	5.014	61.998	110.130	7.894	2.420	19.760	14.841	108.088	123.560	8.325	2.270												
16.500	4.707	65.192	102.800	7.534	2.500	18.140	4.216	58.776	104.020	7.924	2.380	19.780	14.735	108.977	121.120	8.325	2.290												
16.520	4.217	62.526	96.700	7.551	2.450	18.160	3.534	54.883	96.700	7.897	2.380	19.800	14.639	110.866	121.120	8.328	2.240												
16.540	3.973	55.303	95.480	7.570	2.480	18.180	3.065	54.768	95.480	7.934	2.380	19.820	14.522	111.644	119.900	8.332	2.220												
16.560	3.983	48.970	96.700	7.581	2.460	18.200	2.711	56.871	93.040	7.952	2.390	19.840	14.404	111.751	121.120	8.346	2.200												
16.580	4.175	44.859	99.140	7.551	2.460	18.220	2.486	58.423	89.370	7.941	2.380	19.860	14.083	110.525	122.340	8.368	2.220												
16.600	4.526	35.415	104.020	7.588	2.500	18.240	2.412	58.200	74.720	7.926	2.320	19.880	13.466	108.525	121.120	8.368	2.190												
16.620	4.996	31.483	80.830	7.570	1.760	18.260	2.421	55.641	60.070	7.956	2.400	19.900	12.676	105.295	118.680	8.357	2.250												
16.640	5.060	34.816	63.730	7.533	2.240	18.280	2.430	53.970	84.660	7.970	2.380	19.920	11.813	103.402	117.460	8.379	2.220												
16.660	5.146	37.598	46.640	7.559	2.290	18.300	2.420	52.970	82.680	7.971	2.480	19.940	11.205	97.509	117.460	8.372	2.220												
16.680	5.210	38.264	56.410	7.538	2.360	18.320	2.376	50.522	87.090	7.981	2.450	19.960	10.949	95.060	121.120	8.364	2.320												
16.700	5.444	38.042	66.170	7.582	2.350	18.340	2.290	48.522	84.410	7.992	2.400	19.980	10.800	94.838	122.340	8.387	2.330												
16.720	5.817	37.598	74.720	7.567	2.250	18.360	2.437	47.958	80.240	7.981	2.450	20.000	10.915	90.834	126.000	8.402	2.290												
16.740	6.327	39.931	80.830	7.560	2.240	18.380	2.713	35.403	82.450	7.966	2.430																		
16.760	6.710	43.487	73.500	7.597	2.280	18.400	2.882	34.287	88.550	7.988	2.390																		
16.780	7.040	43.487	78.380	7.597	2.280	18.420	3.031	33.510	82.220	7.957	2.510																		
16.800	7.274	43.264	82.050	7.588	2.310	18.440	3.191	32.621	84.660	7.998	2.390																		
16.820	7.347	43.594	85.710	7.611	2.270	18.460	3.371	32.954	87.100	7.998	2.350																		
16.840	7.273	42.927	85.710	7.588	2.250	18.480	3.519	33.061	89.540	7.975	2.450																		
16.860	7.283	42.371	88.150	7.651	2.360	18.500	3.584	29.510	80.760	7.971	2.460																		
16.880	7.390	41.816	86.930	7.599	2.390	18.520	3.562	27.839	80.760	8.012	2.500																		
16.900	7.505	43.145	89.370	7.640	2.390	18.540	3.498	27.172	81.990	7.996	2.500																		
16.920	7.452	43.812	89.370	7.644	2.320	18.560	3.425	27.176	83.210	8.008	2.500																		
16.940	7.282	44.701	89.370	7.643	2.310	18.580	3.403	27.732	85.650	7.990	2.450																		
16.960	7.112	44.145	90.590	7.611	2.250	18.600	3.467	28.843	88.090	8.022	2.460																		
16.980	7.056	42.359	91.810	7.599	2.330	18.620	3.659	30.176	80.530	8.037	2.430																		
17.000	7.173	41.804	95.480	7.640	2.290	18.640	3.967	31.510	82.970	8.026	2.450																		
17.020	7.269	42.804	96.700	7.651	2.310	18.660	4.448	29.911	104.020	7.983	2.630																		
17.040	7.161	43.800	95.480	7.662	2.310	18.680	5.086	31.467	97.920	8.002	2.240																		
17.060	6.778	43.689	93.040	7.650	2.330	18.700	5.737	34.026	93.040	7.987	2.230																		
17.080	6.342	42.467	91.810	7.665	2.390	18.720	6.407	35.804	95.480	8.012	2.290																		
17.100	5.915	42.574	90.590	7.621	2.380	18.740	7.045	38.026	97.920	7.975	2.350																		
17.120	5.638	41.129	91.810	7.669	2.380	18.760	7.758	40.582	93.040	7.990	2.290																		
17.140	5.445	39.347	93.040	7.647	2.330	18.780	8.673	44.471	95.480	7.998	2.230																		
17.160	5.275	38.125	93.040	7.683	2.400	18.800	9.577	48.693	90.590	8.027	2.240																		
17.180	5.201	38.014	95.480	7.664	2.390	18.820	10.322	52.026	88.150	7.982	2.270																		
17.200	5.187	38.562	95.480	7.667	2.310	18.840	10.896	57.026	82.050	8.034	2.250																		
17.220	5.251	38.228	97.920	7.677	2.360	18.860	11.407	61.471	71.060	8.008	2.250																		
17.240	5.367	37.224	95.480	7.669	2.400	18.880	11.896	66.359	68.620	8.038	2.250														</				





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**CPTU 1**



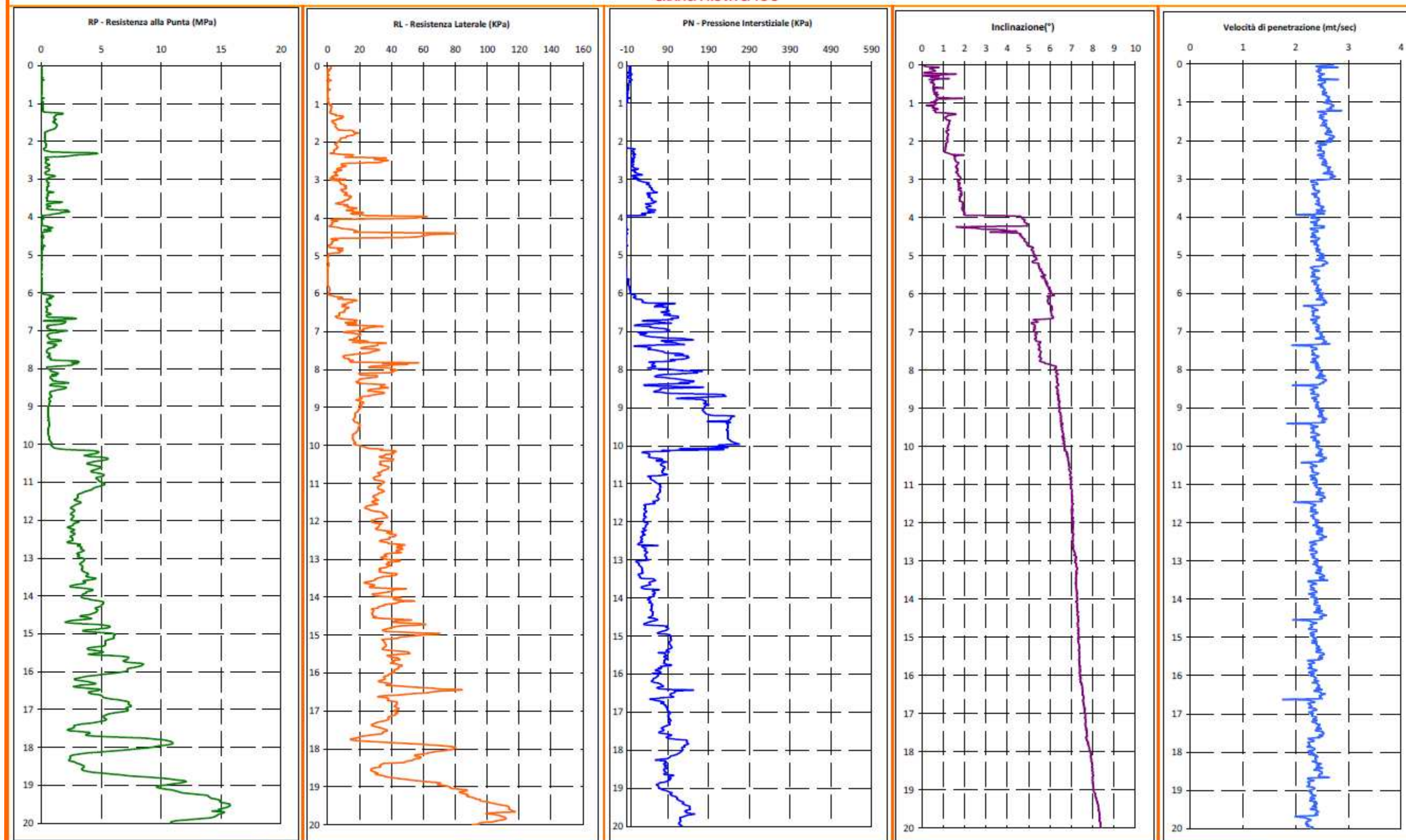
Prova eseguita da:  
Pergeo S.r.l.  
via dell'artigianato, 2 44130 - Ro Ferrarese  
[www.pergeo.it](http://www.pergeo.it) - [info@pergeo.it](mailto:info@pergeo.it)  
Dir.del Laboratorio: Dr.Geol.M.Condotta  
Sperimentatore: Dr.Geol. F. Zanella


Committente: Comune di Ravenna  
Cantiere: Piazzale Kennedy (RA)  
Data: 21/03/2013

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Profondità massima raggiunta: 20,00 mt  
Punta sismica: Tecnopenta G1-CPL2IN - SISMI  
n° Dissipazioni eseguite: 0

**GRAFICI PROVA CPTU 1**



		<a href="http://www.pergeo.it">www.pergeo.it</a> - <a href="mailto:info@pergeo.it">info@pergeo.it</a>		<b>CPTU 1</b>				Prova eseguita da: Pergeo S.r.l. via dell'artigianato, 2 44130 - Ro Ferrarese <a href="http://www.pergeo.it">www.pergeo.it</a> - <a href="mailto:info@pergeo.it">info@pergeo.it</a> Dir. del Laboratorio: Dr. Geol. M. Condotta Sperimentatore: Dr. Geol. F. Zanella	
Committente: Comune di Ravenna Cantiere: Piazzale Kennedy (RA) Data: 21/03/2013		ID Prova: CPTU 1 Profondità falda: mt 2,20 da p.c. Preforo: da mt 0 a mt 1,20 e da mt 3,94 a mt 6,00		Profondità massima raggiunta: 20,00 mt Punta sismica: Tecnopenta G1-CPL2IN - SISMI n° Dissipazioni eseguite: 0					
<b>ANAGRAFICA PROVA CPTU 1</b>									
									
				Coordinate geografiche: Latitudine: 44.416860° Longitudine: 12.197474° Elevazione: 4-5 m					





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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 Aut. dal Ministero Infrastrutture e Trasporti P.C.S. L.P.P. S.T.C. al base al D.P.R. n. 380/01 art. 59 sec. n. 349/99 Dec. n. 53362 del 09/05/2003

AZIENDA CON SISTEMA DI GESTIONE  
INTEGRATO CERTIFICATO  
UNI EN ISO 9001  
CPTU27A  
UNI EN ISO 14001



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AZIENDA CON SISTEMA DI GESTIONE  
INTEGRATO CERTIFICATO DA DINI  
UNI EN ISO 9001/2000  
UNI EN ISO 14001

COMMITTENTE																				Comune di Ravenna - Area Infrastrutture Civili - Servizio Edilizia U. O. Impianti Sportivi																			
CANTIERE										Polisportivo Darsena - via Marani, Ravenna																													
CPT N°					SCPTU 01					PROF. FALDA (m da p.c.)					2.00					TIPO PUNTA					piezocono G1 - CPL2IN														
DATA					30/06/11					PREFORO (m da p.c.)										Lat.					44.415389°														
COMMESSA					9405/11					C. SITO N°:					S110093					Long.					12.211533°														
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.															
0.02	0.38	0.24	6.23	0.93	2.02	1.29	53.85	77.66	1.09	4.02	0.37	14.29	76.43	1.92	6.02	8.31	42.08	67.89	3.08	6.02	8.02	2.00	29.41	17.59															
0.04	1.81	0.57	16.00	1.41	2.04	1.28	56.99	70.33	1.05	4.04	0.37	13.51	75.82	1.93	6.04	8.45	41.29	71.55	3.12	6.04	8.04	1.79	21.12	34.92															
0.06	3.79	1.13	22.10	2.60	2.06	1.28	60.33	63.00	1.02	4.06	0.37	12.51	75.82	1.92	6.06	8.47	39.49	81.93	3.13	6.08	8.06	1.09	25.23	32.48															
0.08	5.42	1.73	23.93	1.95	2.08	1.25	55.95	31.87	1.04	4.08	0.40	8.22	68.50	1.93	6.08	8.47	39.49	81.93	3.13	6.10	8.08	1.56	32.78	47.74															
0.10	5.69	18.13	22.10	1.21	2.10	1.26	60.50	40.42	1.05	4.10	0.42	8.33	70.33	1.95	6.10	8.23	42.27	79.49	3.12	6.10	8.10	2.38	29.68	53.24															
0.12	5.86	24.02	20.88	1.78	2.12	1.30	60.28	42.25	1.04	4.12	0.44	8.22	71.55	1.96	6.12	7.93	45.49	77.66	3.14	6.12	8.12	2.16	22.23	25.76															
0.14	5.74	26.46	21.49	0.25	2.14	1.32	61.95	44.08	1.01	4.14	0.52	8.11	72.16	1.97	6.14	7.67	47.94	76.43	3.14	6.14	8.14	1.52	21.23	26.98															
0.16	5.43	28.57	21.49	0.81	2.16	1.32	61.84	36.75	1.04	4.16	0.61	8.55	73.38	2.01	6.16	7.47	50.49	75.82	3.15	6.16	8.16	1.65	22.57	35.53															
0.18	5.08	34.57	20.27	0.38	2.18	1.32	65.06	22.10	1.10	4.18	0.73	9.22	75.82	2.02	6.18	7.45	51.71	75.82	3.17	6.18	8.18	1.68	24.57	53.24															
0.20	4.99	34.35	21.49	0.22	2.20	1.29	71.17	21.49	1.07	4.20	0.82	9.11	67.89	2.02	6.20	7.52	52.16	77.66	3.18	6.20	8.20	1.38	24.79	33.70															
0.22	4.86	35.90	21.49	0.73	2.22	1.24	72.84	20.27	1.11	4.22	0.70	11.00	63.00	2.02	6.22	7.50	51.49	77.66	3.20	6.22	8.22	1.05	27.02	27.59															
0.24	4.87	35.13	22.10	0.32	2.24	1.19	76.50	19.05	1.10	4.24	0.55	11.78	59.95	2.02	6.24	7.26	51.15	77.05	3.19	6.24	8.24	0.80	38.46	22.10															
0.26	4.80	33.68	23.32	0.15	2.26	1.15	79.95	5.62	1.13	4.26	0.53	10.33	58.73	2.07	6.26	6.86	50.26	74.60	3.22	6.26	8.26	0.70	41.79	149.08															
0.28	4.72	35.46	23.32	0.27	2.28	1.07	81.06	1.34	1.10	4.28	0.53	10.78	63.00	2.07	6.28	6.43	49.15	72.77	3.20	6.28	8.28	0.69	39.79	166.79															
0.30	4.43	39.23	22.71	0.59	2.30	0.98	83.62	2.56	1.10	4.30	0.62	10.00	65.45	2.07	6.30	5.94	48.71	70.33	3.22	6.30	8.30	0.64	37.24	186.32															
0.32	4.34	35.90	22.71	0.61	2.32	0.86	84.73	2.94	1.17	4.32	0.80	9.55	68.50	2.12	6.32	5.71	47.71	69.72	3.25	6.32	8.32	0.63	31.13	175.95															
0.34	4.22	35.01	23.93	0.40	2.34	0.79	79.39	1.71	1.17	4.34	0.80	9.45	67.89	2.08	6.34	5.75	46.71	71.55	3.27	6.34	8.34	0.61	27.91	164.96															
0.36	4.22	37.68	23.32	0.41	2.36	0.74	72.84	0.73	1.16	4.36	0.66	8.56	59.95	2.10	6.36	6.02	45.37	74.60	3.28	6.36	8.36	0.57	25.02	161.29															
0.38	4.32	40.01	22.71	0.49	2.38	0.67	71.84	0.67	1.17	4.38	0.50	12.22	55.07	2.13	6.38	6.55	43.15	70.94	3.29	6.38	8.38	0.55	18.01	154.58															
0.40	4.39	44.12	22.10	0.51	2.40	0.61	69.73	12.33	1.17	4.40	0.42	15.11	55.68	2.14	6.40	6.99	39.37	63.61	3.31	6.40	8.40	0.52	15.80	147.86															
0.42	4.71	43.23	22.71	0.47	2.42	0.59	61.51	14.77	1.17	4.42	0.40	13.67	61.17	2.15	6.42	7.44	36.92	61.17	3.32	6.42	8.42	0.50	14.80	143.59															
0.44	5.13	43.46	25.15	0.51	2.44	0.54	52.07	30.04	1.17	4.44	0.42	12.01	63.61	2.19	6.44	7.62	34.37	60.56	3.33	6.44	8.44	0.52	13.69	147.25															
0.46	6.13	46.12	26.37	0.58	2.46	0.60	42.96	48.96	1.20	4.46	0.42	11.56	66.06	2.21	6.46	7.62	33.70	59.95	3.34	6.46	8.46	0.87	13.02	172.89															
0.48	7.39	43.23	26.37	0.52	2.48	0.70	35.51	67.28	1.22	4.48	0.43	10.79	67.89	2.18	6.48	7.56	32.59	58.73	3.34	6.48	8.48	1.14	11.47	123.44															
0.50	7.89	56.01	24.54	0.53	2.50	0.83	28.85	66.67	1.20	4.50	0.44	10.34	70.94	2.25	6.50	7.47	33.03	59.95	3.34	6.50	8.50	0.93	10.02	86.81															
0.52	8.20	62.01	23.93	0.52	2.52	0.85	24.63	52.63	1.23	4.52	0.47	8.23	73.38	2.19	6.52	7.46	36.03	61.78	3.37	6.52	8.52	0.75	13.13	82.54															
0.54	8.49	68.79	30.04	0.54	2.54	0.82	21.52	44.08	1.27	4.54	0.47	8.23	75.21	2.23	6.54	7.49	39.58	64.22	3.37	6.54	8.54	0.63	17.80	80.10															
0.56	8.75	76.46	30.65	0.59	2.56	0.73	19.41	47.13	1.22	4.56	0.44	8.57	75.82	2.25	6.56	7.41	43.58	66.06	3.38	6.56	8.56	0.53	22.24	89.87															
0.58	8.45	89.23	28.21	0.55	2.58	0.85	15.52	75.21	1.26	4.58	0.44	8.34	75.21	2.26	6.58	7.11	44.47	65.45	3.40	6.58	8.58	0.50	22.24	140.54															
0.60	7.89	99.01	25.76	0.52	2.60	0.97	17.63	75.82	1.24	4.60	0.44	8.23	75.21	2.27	6.60	6.57	46.02	63.00	3.42	6.60	8.60	1.19	22.36	184.49															
0.62	6.65	125.23	19.66	0.51	2.62	0.91	17.75	19.66	1.28	4.62	0.45	8.12	76.43	2.28	6.62	6.57	46.91	60.56	3.41	6.62	8.62	2.34	20.69	183.88															
0.64	6.57	133.24	20.27	0.57	2.64	0.73	20.31	7.45	1.28	4.64	0.47	8.01	77.66	2.28	6.64	6.23	47.13	58.73	3.45	6.64	8.64	2.29	17.36	88.64															
0.66	5.81	139.46	17.83	0.51	2.66	0.63	22.20	6.23	1.25	4.66	0.44	7.90	75.21	2.32	6.66	6.44	46.80	56.90	3.46	6.66	8.66	1.74	14.69	65.45															
0.68	5.78	132.68	18.44	0.55	2.68	0.68	22.32	28.21	1.31	4.68	0.43	8.12	75.21	2.32	6.68	6.41	46.69	58.73	3.45	6.68	8.68	1.34	13.69	64.22															
0.70	5.26	122.02	17.22	0.55	2.70	0.93	22.77	56.29	1.26	4.70	0.42	8.35	75.21	2.32	6.70	6.46	49.03	63.00	3.49	6.70	8.70	1.11	15.92	63.61															
0.72	4.85	129.57	17.83	0.50	2.72	1.03	22.32	28.21	1.28	4.72	0.43	8.57	75.82	2.35	6.72	6.59	50.36	69.72	3.53	6.72	8.72	0.89	24.70	69.72															
0.74	4.66	129.02	16.61	0.53	2.74	0.90	24.77	18.44	1.29	4.74	0.43	8.57	77.05	2.38	6.74	7.92	48.02	60.56	3.56	6.74	8.74	0.77	28.14	161.90															
0.76	4.49	115.13	16.61	0.52	2.76	0.84	26.77	33.09	1.29	4.76	0.44	8.68	78.27	2.35	6.76	9.28	44.69	27.59	3.57	6.76	8.76	0.74	26.59	84.98															
0.78	4.48	118.46	16.00	0.51	2.78	0.81	26.89	56.90	1.32	4.78	0.53	9.23	81.93	2.37	6.78	10.45	46.69	2.56	3.59	8.78	0.65	31.37	106.35																
0.80	4.25	115.68	14.16	0.54	2.80	0.80	25.23	67.28	1.28	4.80	0.86	9.46	108.79	2.39	6.80	10.85	48.46	0.73	3.59	8.80	0.65	33.03	156.41																
0.82	4.24	128.01	14.16	0.58	2.82	0.78	25.78	62.39	1.35	4.82	0.58	9.90	120.39	2.41	6.82	11.03	40.13	6.84	3.59	8.82	0.75	30.14	160.07																
0.84	4.02	129.12	12.33	0.57	2.84	0.79	26.90	56.90	1.31	4.84	0.93	13.79	119.17	2.41	6.84	11.40	36.79	11.72	3.61	8.84	1.35	26.92	141.15																
0.86	3.89	130.45	11.72	0.57	2.86	0.80	31.35	69.11	1.32	4.86	14.22	20.35	127.11	2.44	6.86	11.96	39.79	16.61	3.62	8.86	2.86	20.26	158.24																
0.88	3.91	126.12	10.50	0.54	2.88	0.79	34.46	88.64	1.37	4.88	16.08	31.24	121.61	2.50	6.88	12.96	44.68	24.54	3.65	8.88	4.52	19.70	146.03																
0.90	3.84	131.00	9.89	0.56	2.90	0.79	29.69	84.37	1.35	4.90	13.06	27.79	91.70	2.53	6.90	13.85	52.68	31.26	3.66	8.90	5.64	21.48	142.37																
0.92	3.78	119.25	0.12	0.59	2.92	0.77	27.69	79.49	1.35	4.92	10.79	27.35	63.61	2.53	6.92	14.34	57.01	33.09	3.66	8.92	5.99	17.70	135.04																
0.94	3.90	111.04	1.10	0.60	2.94	0.85	28.69	110.01	1.37	4.94	9.52	31.68	54.46	2.50	6.94	14.36	58.79	28.21	3.65	8.94	6.32	18.70	132.21																
0.96	3.99	104.60	1.71	0.54	2.96	0.94	28.14	124.05	1.38	4.96	7.94	36.13	47.74	2.55	6.96	14.26	60.01	28.82	3.67	8.96	6.62																		





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AZIENDA CON SISTEMA DI GESTIONE  
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COMMITTENTE Comune di Ravenna - Area Infrastrutture Civili - Servizio Edilizia U. O. Impianti Sportivi

CANTIERE Polisportivo Darsena - via Marani, Ravenna

CPT N° SCPTU 01

DATA 30/06/11

COMMESSA 9405/11

PROF. FALDA (m da p.c.) 2.00

PREFORO (m da p.c.)

C. SITO N°:

S110093

TIPO PUNTA piezocono G1 - CPL2IN

Lat. 44.415389°

Long. 12.211533°

COMMITTENTE Comune di Ravenna - Area Infrastrutture Civili - Servizio Edilizia U. O. Impianti Sportivi

CANTIERE Polisportivo Darsena - via Marani, Ravenna

CPT N° SCPTU 01

DATA 30/06/11

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Long. 12.211533°

prof.	qc	fs	kPa	U	incl.	prof.	qc	fs	kPa	U	incl.	prof.	qc	fs	kPa	U	incl.	prof.	qc	fs	kPa	U	incl.	prof.	qc	fs	kPa	U	incl.	prof.	qc	fs	kPa	U	incl.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
20.02	13.05	110.61	150.31	12.24	22.02	10.81	115.63	149.08	13.87	24.02	2.08	88.87	155.80	15.59	26.02	1.88	117.79	321.25	16.81	28.02	1.75	34.29	717.46	17.82	20.04	12.85	120.73	152.75	12.27	22.04	11.20	118.41	133.82	13.88	24.04	4.43	89.20	481.20	15.61	26.04	1.86	109.34	317.58	16.80	28.04	1.77	36.40	719.29	17.84	20.06	12.40	132.62	152.75	12.27	22.06	11.81	117.41	95.36	13.91	24.06	8.15	72.87	447.62	15.63	26.06	1.84	110.45	330.40	16.84	28.06	1.78	39.29	716.85	17.85	20.08	12.31	140.17	158.24	12.28	22.08	12.58	115.96	48.35	13.93	24.08	10.59	49.87	327.96	15.65	26.08	1.79	107.45	335.90	16.85	28.08	1.76	41.74	712.58	17.86	20.10	12.43	146.06	164.35	12.30	22.10	13.23	113.29	19.66	13.94	24.10	12.12	39.99	335.90	15.65	26.10	1.78	101.78	345.05	16.86	28.10	1.75	44.19	707.08	17.85	20.12	12.50	152.28	157.63	12.33	22.12	13.62	112.74	20.27	13.95	24.12	13.41	34.98	328.57	15.69	26.12	1.78	93.12	360.93	16.86	28.12	1.72	45.74	705.25	17.86	20.14	12.49	161.28	161.29	12.34	22.14	14.14	112.29	34.92	13.97	24.14	13.06	29.87	290.72	15.72	26.14	1.73	85.89	366.42	16.86	28.14	1.72	45.08	707.69	17.88	20.16	12.69	163.71	164.35	12.35	22.16	14.44	111.73	82.54	14.00	24.16	10.58	25.76	237.00	15.71	26.16	1.73	77.78	365.20	16.87	28.16	1.74	43.74	711.35	17.89	20.18	12.89	164.04	164.96	12.34	22.18	14.23	108.73	34.31	14.04	24.18	6.86	28.42	182.66	15.72	26.18	1.73	71.67	357.26	16.87	28.18	1.74	41.63	712.58	17.90	20.20	13.20	160.93	172.28	12.39	22.20	13.38	109.39	45.91	14.06	24.20	4.46	44.09	170.45	15.73	26.20	1.61	67.78	342.00	16.89	28.20	1.75	40.41	714.41	17.94	20.22	13.52	161.48	174.11	12.41	22.22	12.88	108.16	73.99	14.07	24.22	3.73	60.64	173.50	15.78	26.22	1.45	61.89	327.35	16.86	28.22	1.76	37.52	718.68	17.90	20.24	13.82	159.93	177.78	12.41	22.24	12.36	107.38	80.10	14.07	24.24	7.27	82.87	268.74	15.79	26.24	1.34	54.89	321.86	16.91	28.24	1.79	35.08	725.40	17.92	20.26	13.86	158.37	174.11	12.41	22.26	11.71	109.38	83.76	14.11	24.26	10.08	95.87	344.44	15.82	26.26	1.30	49.22	337.73	16.92	28.26	1.81	32.85	726.01	17.93	20.28	13.96	145.25	174.11	12.42	22.28	11.13	113.60	94.75	14.13	24.28	9.26	78.20	182.05	15.86	26.28	1.31	43.56	358.49	16.90	28.28	1.84	32.63	733.94	17.93	20.30	14.05	139.47	169.23	12.48	22.30	10.54	114.93	96.58	14.16	24.30	7.34	74.75	139.93	15.87	26.30	1.34	38.44	368.25	16.93	28.30	1.90	32.19	740.66	17.94	20.32	14.18	137.58	156.41	12.48	22.32	9.81	114.81	97.19	14.18	24.32	6.08	70.20	136.87	15.88	26.32	1.32	33.88	367.03	16.93	28.32	1.95	33.08	744.32	17.94	20.34	14.28	135.69	152.75	12.49	22.34	9.26	116.48	102.08	14.17	24.34	5.24	67.64	138.71	15.88	26.34	1.32	28.33	374.36	16.95	28.34	1.98	34.63	742.49	17.96	20.36	14.56	132.69	153.97	12.52	22.36	9.13	117.70	109.40	14.21	24.36	4.21	75.31	132.60	15.90	26.36	1.37	22.55	379.85	16.96	28.36	1.96	36.97	741.88	17.96	20.38	14.91	129.47	159.46	12.53	22.38	9.45	114.25	118.56	14.21	24.38	3.21	87.97	142.98	15.90	26.38	1.39	20.33	386.57	16.97	28.38	1.95	38.52	741.88	17.95	20.40	15.24	124.91	161.90	12.54	22.40	9.86	111.03	95.36	14.23	24.40	2.62	92.64	178.39	15.94	26.40	1.34	18.66	386.57	16.98	28.40	1.94	38.63	732.11	17.98	20.42	15.35	128.02	160.07	12.57	22.42	10.23	104.91	33.70	14.25	24.42	2.09	112.19	632.60	15.96	26.42	1.34	17.88	389.62	16.98	28.42	1.94	47.41	691.21	17.99	20.44	15.27	127.13	108.18	12.58	22.44	10.59	96.24	17.22	14.26	24.44	1.78	114.63	200.98	15.98	26.44	1.34	16.66	393.28	17.01	28.44	1.93	51.19	685.71	17.99	20.46	14.89	124.13	94.14	12.60	22.46	10.93	88.80	19.66	14.26	24.46	1.42	121.08	527.59	16.02	26.46	1.41	15.55	411.60	17.01	28.46	1.87	53.08	672.89	18.00	20.48	14.09	124.68	105.74	12.62	22.48	11.27	83.79	30.04	14.31	24.48	1.31	115.52	632.60	16.02	26.48	1.53	14.88	434.19	16.99	28.48	1.82	54.64	663.13	18.01	20.50	13.36	126.35	120.39	12.63	22.50	11.39	82.79	39.19	14.31	24.50	1.31	100.85	663.74	16.05	26.50	1.61	16.22	449.45	17.03	28.50	1.81	56.53	667.40	18.02	20.52	12.88	117.79	127.11	12.65	22.52	11.50	81.79	45.91	14.33	24.52	1.32	86.07	674.11	16.04	26.52	1.68	18.00	459.22	17.01	28.52	1.81	51.19	676.56	18.02	20.54	12.51	108.67	133.82	12.68	22.54	11.62	81.01	52.63	14.34	24.54	1.31	66.07	694.26	16.07	26.54	1.73	19.89	468.99	17.04	28.54	1.79	47.30	680.22	18.04	20.56	12.15	103.56	133.21	12.67	22.56	11.65	85.79	58.73	14.35	24.56	1.32	48.96	696.70	16.09	26.56	1.73	22.56	466.54	17.04	28.56	1.78	40.75	683.88	18.07	20.58	11.73	102.33	128.33	12.69	22.58	11.56	90.67	62.39	14.39	24.58	1.35	39.40	680.83	16.11	26.58	1.70	26.00	465.93	17.06	28.58	1.87	34.30	707.08	18.06	20.60	11.45	101.78	131.38	12.71	22.60	11.45	93.89	66.06	14.38	24.60	1.35	28.63	667.40	16.12	26.60	1.70	30.11	463.49	17.05	28.60	2.04	30.08	745.54	18.08	20.62	11.11	101.66	131.99	12.72	22.62	11.45	95.89	65.45	14.40	24.62	1.32	25.29	657.63	16.13	26.62	1.72	35.11	464.71	17.06	28.62	2.25	27.08	783.39	18.08	20.64	10.62	101.66	133.82	12.74	22.64	11.45	95.56	69.11	14.41	24.64	1.35	23.40	644.20	16.13	26.64	1.79	38.00	474.48	17.10	28.64	2.42	26.53	809.03	18.09	20.66	10.16	109.10	138.10	12.75	22.66	11.59	95.78	75.21	14.44	24.66	1.33	23.96	628.33	16.15	26.66	1.85	39.23	483.03	17.11	28.66	2.48	29.41	821.24	18.09	20.68	9.89	116.32	142.98	12.80	22.68	11.70	96.44	80.10	14.45	24.68	1.35	24.73	617.95	16.17	26.68	1.99	40.01	492.80	17.11	28.68	2.58	35.08	838.34	18.12	20.70	9.87	115.32	147.25	12.80	22.70	11.85	96.89	76.43	14.46	24.70	1.35	25.84	612.45	16.16	26.70	2.09	43.67	508.06	17.11	28.70	2.67	41.41	846.89	18.13	20.72	9.08	113.43	136.26	12.81	22.72	11.95	97.66	49.57	14.49	24.72	1.36	25.84	607.57	16.15	26.72	2.17	45.01	518.44	17.12	28.72	2.69	51.41	846.28	18.15	20.74	10.08	109.98	114.90	12.83	22.74	12.00	98.22	29.43	14.50	24.74	1.36	25.84	605.74	16.19	26.74	2.20	46.01	511.72	17.19	28.74	2.69	58.86	839.56	18.14	20.76	10.43	105.31	80.10	12.84	22.76	12.09	98.32	22.71	14.53	24.76	1.37	26.29	609.40	16.19	26.76	2.27	48.35	519.66	17.14	28.76	2.69	71.19	828.57	18.15	20.78	11.00	99.53	49.57	12.83	22.78	12.01	98.32	16.00	14.52	24.78	1.40	26.84	610.62	16.20	26.78	2.28	52.24	517.83	17.18	28.78	2.66	84.64	821.24	18.16	20.80	11.66	93.42	32.48	12.89	22.80	11.53	99.21	11.11	14.53	24.80	1.43	26.73	610.01	16.21	26.80	2.19	58.24	498.29	17.19	28.80	2.63	94.53	812.70	18.18	20.82	11.67	88.75	53.85	12.91	22.82	9.55	100.65	1.95	14.56	24.82	1.59	26.84	627.11	16.20	26.82	2.12	65.35	489.74	17.20	28.82	2.53	97.53	796.21	18.18	20.84	11.79	80.08	48.96	12.92	22.84	6.86	101.87	2.32	14.60	24.84	1.78	26.84	656.41	16.24	26.84	2.09	68.24	489.74	17.23	28.84	2.43	97.64	767.52	18.19	20.86	11.29	74.75	36.75	12.93	22.86	4.59	101.65	6.30	14.60	24.86	1.92	25.23	224.18	16.25	26.86	2.09	67.57	489.74	17.24	28.86	2.22	97.86	727.23	18.19	20.88	10.69	71.08	42.86	12.93	22.88	3.16	100.54	8.67	14.60	24.88	1.86	28.12	182.05	16.24	26.88	2.15	71.02	498.29	17.27	28.88	2.05	97.19	693.65	18.21	20.90	10.37	69.96	58.12	12.98	22.90	2.62	74.76	189.99	14.59	24.90	1.80	36.12	218.07	16.24	26.90	2.14	73.80	499.51	17.26	28.90	1.93	89.97	671.06	18.21	20.92	9.99	70.40	70.33	12.99	22.92	2.36	89.10	191.82	14.61	24.92	1.77	47.24	556.90	16.25





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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 aut. del Ministero Infrastrutture e Trasporti P.C.S. U.P.P. S.T.C. in base al D.P.R. n. 380/01 art. 29 circ. n. 249/99/Dec. n. 53362 del 05/05/2005

AZIENDA CON SISTEMA DI GESTIONE  
INTEGRATO CERTIFICATO DA DNV  
UNI EN ISO 9001/2000  
UNI EN ISO 14001



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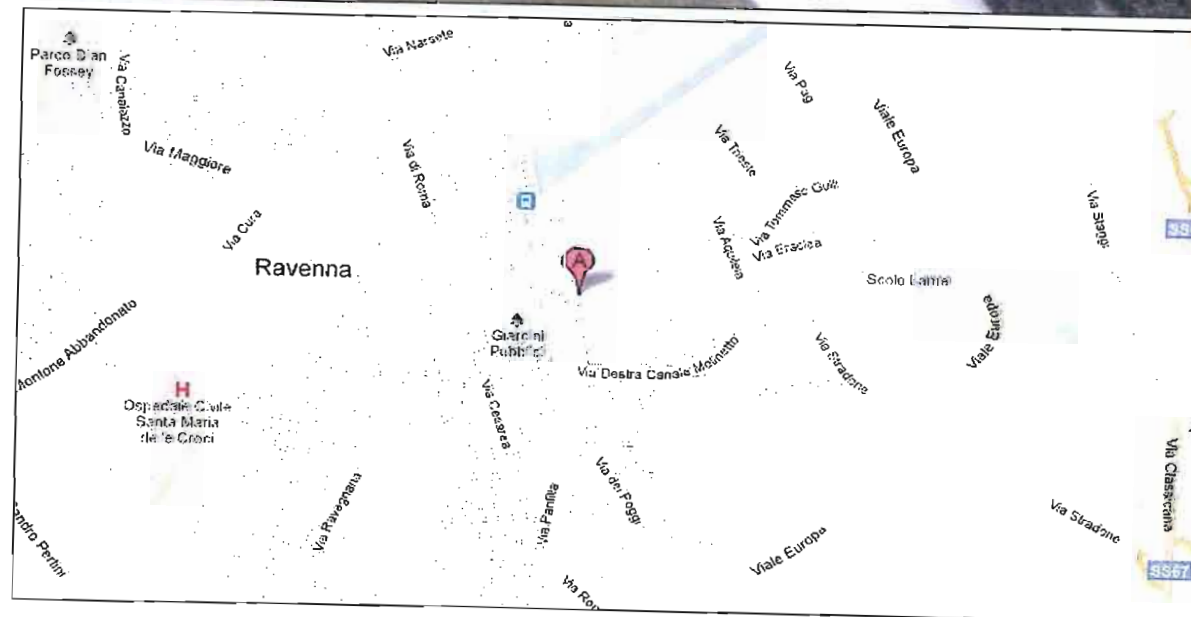
AZIENDA CON SISTEMA DI GESTIONE  
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COMMITTENTE Comune di Ravenna - Area Infrastrutture Civili - Servizio Edilizia U. O. Impianti Sportivi  
CANTIERE Polisportivo Darsena - via Marani, Ravenna

CPT N° SCPTU 01 PROF. FALDA (m da p.c.) 2.00 TIPO PUNTA piezocono G1 - CPL2IN  
DATA 30/06/11 PREFORO (m da p.c.) Lat. 44.415389°  
COMMESSA 9405/11 C. SITO N°: S110093 Long. 12.211533°

PLANIMETRIA

Località: Polisportivo Darsena - via Marani, Ravenna



Lo Sperimentatore:  
dott. Massimo Romagnoli

S110093\_CPTU 02.xls - pag 5 di 5

Il Direttore Settore Prove in Sito:  
dott. geol. Gianluca Ferioli

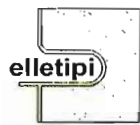
COMMITTENTE Comune di Ravenna - Area Infrastrutture Civili - Servizio Edilizia U. O. Impianti Sportivi  
CANTIERE Polisportivo Darsena - via Marani, Ravenna

CPT N° SCPTU 01 PROF. FALDA (m da p.c.) 2.00 TIPO PUNTA piezocono G1 - CPL2IN  
DATA 30/06/11 PREFORO (m da p.c.) 0.00 Lat. 44.415389°  
COMMESSA 9405/11 Long. 12.211533°

Prof. (m)	Prof. media	Pot. strato	Litologia	q. media	$\gamma'$	$\sigma'_{vo}$	$C_u$ media	$\phi'$ (1)	$\phi$ (2)
da	a	(m)		(kg/cm <sup>2</sup> )	(t/m <sup>3</sup> )	(kg/cm <sup>2</sup> )	(kg/cm <sup>2</sup> )	(gradi)	(gradi)
0.00 - 0.02	0.01	0.02	limi e limi sabbiosi	3.7306907	1.3-1.8	0.00	0.2	>45	47
0.02 - 0.04	0.03	0.02	sabbie limose	17.7	1.3-1.8	0.01	-	>45	50
0.04 - 0.26	0.15	0.22	sabbie	50.4	1.3-1.8	0.05	-	>45	47
0.26 - 0.44	0.35	0.18	sabbie limose	44.1	1.3-1.8	0.08	-	43	41
0.44 - 0.60	0.52	0.16	sabbie	77.5	1.3-1.8	0.11	-	>45	42
0.60 - 0.70	0.65	0.10	sabbie limose	59.0	1.3-1.8	0.13	-	43	39
0.70 - 1.16	0.93	0.46	limi e limi sabbiosi	41.0	1.3-1.8	0.21	2.7	40	35
1.16 - 1.34	1.25	0.18	limi argillosi e argille limose	43.1	1.3-1.8	0.24	2.9	-	-
1.34 - 1.36	1.35	0.02	argille	41.0	0.7-1.3	0.24	2.7	-	-
1.36 - 1.94	1.65	0.58	torbe	21.8	0.7-1.3	0.32	1.4	-	-
1.94 - 1.98	1.96	0.04	argille	12.4	0.7-1.3	0.32	0.8	-	-
1.98 - 2.02	2.00	0.04	limi argillosi e argille limose	12.7	0.8-1.1	0.33	0.8	-	-
2.02 - 2.22	2.12	0.20	argille	12.6	0.4-0.8	0.36	0.8	-	-
2.22 - 2.46	2.34	0.24	torbe	8.0	0.4-0.8	0.38	0.5	-	-
2.46 - 2.48	2.47	0.02	argille	6.9	0.4-0.8	0.37	0.4	-	-
2.48 - 2.56	2.52	0.08	limi argillosi e argille limose	7.9	0.8-1.1	0.38	0.5	-	-
2.56 - 2.62	2.59	0.06	limi e limi sabbiosi	8.9	0.8-1.1	0.39	0.6	<32	24
2.62 - 2.64	2.63	0.02	limi argillosi e argille limose	7.2	0.8-1.1	0.39	0.4	-	-
2.64 - 2.66	2.65	0.02	argille	6.1	0.4-0.8	0.39	0.4	-	-
2.66 - 2.70	2.68	0.04	limi argillosi e argille limose	7.9	0.8-1.1	0.39	0.5	-	-
2.70 - 2.72	2.71	0.02	limi e limi sabbiosi	10.1	0.8-1.1	0.40	0.6	<32	24
2.72 - 2.84	2.78	0.12	limi argillosi e argille limose	8.1	0.8-1.1	0.41	0.5	-	-
2.84 - 2.90	2.87	0.06	argille	7.8	0.4-0.8	0.42	0.5	-	-
2.90 - 3.04	2.97	0.14	limi argillosi e argille limose	8.9	0.8-1.1	0.44	0.6	-	-
3.04 - 3.22	3.13	0.18	argille	9.1	0.4-0.8	0.45	0.6	-	-
3.22 - 3.34	3.28	0.12	torbe	7.5	0.4-0.8	0.46	0.5	-	-
3.34 - 4.06	3.70	0.72	argille	5.2	0.4-0.8	0.55	0.3	-	-
4.06 - 4.12	4.09	0.06	limi argillosi e argille limose	4.2	0.8-1.1	0.52	0.2	-	-
4.12 - 4.22	4.17	0.10	limi e limi sabbiosi	6.6	0.8-1.1	0.54	0.4	<32	20
4.22 - 4.28	4.25	0.06	limi argillosi e argille limose	5.3	0.8-1.1	0.54	0.3	-	-
4.28 - 4.36	4.32	0.08	limi e limi sabbiosi	7.0	0.8-1.1	0.55	0.4	<32	20
4.36 - 4.38	4.37	0.02	limi argillosi e argille limose	4.9	0.8-1.1	0.55	0.3	-	-
4.38 - 4.42	4.40	0.04	argille	4.0	0.4-0.8	0.55	0.2	-	-
4.42 - 4.78	4.60	0.36	limi argillosi e argille limose	4.4	0.8-1.1	0.61	0.2	-	-
4.78 - 4.80	4.79	0.02	sabbie limose	18.2	0.8-1.1	0.60	-	<32	25
4.80 - 5.00	4.90	0.20	sabbie	97.8	0.8-1.1	0.63	-	37	34
5.00 - 5.34	5.17	0.34	sabbie limose	34.9	0.8-1.1	0.67	-	<32	28
5.34 - 6.62	5.98	1.28	sabbie	74.2	0.8-1.1	0.86	-	34	31
6.62 - 6.70	6.66	0.08	sabbie limose	50.1	0.8-1.1	0.81	-	<32	28
6.70 - 7.12	6.91	0.42	sabbie	111.3	0.8-1.1	0.87	-	36	33
7.12 - 7.16	7.14	0.04	sabbie limose	59.2	0.8-1.1	0.86	-	32	29
7.16 - 7.22	7.19	0.06	limi e limi sabbiosi	33.3	0.8-1.1	0.87	2.1	<32	26
7.22 - 7.24	7.23	0.02	sabbie limose	55.2	0.8-1.1	0.87	-	<32	28
7.24 - 7.54	7.39	0.30	sabbie	62.6	0.8-1.1	0.92	-	32	29
7.54 - 7.78	7.66	0.24	sabbie limose	34.5	0.8-1.1	0.94	-	<32	25
7.78 - 7.84	7.81	0.06	sabbie	33.0	0.8-1.1	0.94	-	<32	25
7.84 - 7.98	7.91	0.14	sabbie limose	25.5	0.8-1.1	0.96	-	<32	24
7.98 - 8.08	8.03	0.10	limi e limi sabbiosi	16.0	0.8-1.1	0.97	1.0	<32	21
8.08 - 8.12	8.10	0.04	sabbie limose	22.3	0.8-1.1	0.97	-	<32	23
8.12 - 8.20	8.16	0.08	limi e limi sabbiosi	15.3	0.8-1.1	0.98	0.9	<32	21
8.20 - 8.22	8.21	0.02	limi argillosi e argille limose	10.3	0.8-1.1	0.98	0.6	-	-
8.22 - 8.38	8.30	0.16	argille	6.4	0.4-0.8	1.00	0.3	-	-
8.38 - 8.44	8.41	0.06	limi argillosi e argille limose	5.1	0.8-1.1	1.00	0.2	-	-
8.44 - 8.52	8.48	0.08	limi e limi sabbiosi	9.0	0.8-1.1	1.01	0.5	<32	17
8.52 - 8.54	8.53	0.02	limi argillosi e argille limose	6.2	0.8-1.1	1.01	0.3	-	-

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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

AZIENDA CON SISTEMA DI GESTIONE  
INTEGRATO CERTIFICATO DA DNV  
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AZIENDA CON SISTEMA DI GESTIONE  
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**COMMITTENTE** Comune di Ravenna - Area Infrastrutture Civili - Servizio Edilizia U. O. Impianti Sportivi  
**CANTIERE** Polisportivo Darsena - via Marani, Ravenna

CPT N° SCPTU 01 PROF. FALDA (m da p.c.) 2.00 TIPO PUNTA piezocono G1 - CPL2IN  
DATA 30/06/11 Lat. 44.415389°  
COMMESSA 9405/11 Long. 12.211533°

Prof. (m)	Prof. media	Pot. strato	Litologia	q <sub>c</sub> media	γ'	σ' <sub>vo</sub>	C <sub>u</sub> media	Φ' (1)	Φ (2)
da	a	(m)		(kg/cm²)	(t/m³)	(kg/cm²)	(kg/cm²)	(gradi)	(gradi)
8.54	- 8.58	8.56	0.04	argille	5.1	0.4-0.8	1.01	0.2	-
8.58	- 8.60	8.59	0.02	limi e limi sabbiosi	11.7	0.8-1.1	1.01	0.7	<32
8.60	- 8.66	8.63	0.06	sabbie limose	20.8	0.8-1.1	1.02	-	<32
8.66	- 8.70	8.68	0.04	limi e limi sabbiosi	12.0	0.8-1.1	1.03	0.7	<32
8.70	- 8.76	8.73	0.06	limi argillosi e argille limose	7.8	0.8-1.1	1.03	0.4	-
8.76	- 8.82	8.79	0.06	argille	6.7	0.4-0.8	1.04	0.3	-
8.82	- 8.84	8.83	0.02	limi e limi sabbiosi	13.2	0.8-1.1	1.04	0.8	<32
8.84	- 8.86	8.85	0.02	sabbie limose	28.0	0.8-1.1	1.04	-	<32
8.86	- 9.20	9.03	0.34	sabbie	59.3	0.8-1.1	1.10	-	<32
9.20	- 9.28	9.24	0.08	sabbie limose	40.0	0.8-1.1	1.09	-	<32
9.28	- 9.32	9.30	0.04	limi e limi sabbiosi	19.8	0.8-1.1	1.09	1.2	<32
9.32	- 9.36	9.34	0.04	argille	11.3	0.4-0.8	1.10	0.6	-
9.36	- 9.38	9.37	0.02	limi argillosi e argille limose	16.5	0.8-1.1	1.10	1.0	-
9.38	- 9.42	9.40	0.04	limi e limi sabbiosi	27.5	0.8-1.1	1.10	1.7	<32
9.42	- 9.46	9.44	0.04	sabbie limose	43.1	0.8-1.1	1.11	-	<32
9.46	- 9.96	9.71	0.50	sabbie	58.2	0.8-1.1	1.19	-	<32
9.96	- 10.04	10.00	0.08	sabbie limose	47.4	0.8-1.1	1.18	-	<32
10.04	- 12.12	11.08	2.08	sabbie	69.7	0.8-1.1	1.51	-	<32
12.12	- 12.14	12.13	0.02	sabbie limose	54.8	0.8-1.1	1.41	-	<32
12.14	- 12.22	12.18	0.08	sabbie	53.8	0.8-1.1	1.42	-	<32
12.22	- 12.30	12.26	0.08	sabbie limose	39.4	0.8-1.1	1.43	-	<32
12.30	- 12.38	12.34	0.08	limi e limi sabbiosi	26.5	0.8-1.1	1.44	1.6	<32
12.38	- 12.44	12.41	0.06	sabbie limose	47.6	0.8-1.1	1.44	-	<32
12.44	- 13.66	13.05	1.22	sabbie	63.3	0.8-1.1	1.64	-	<32
13.66	- 13.82	13.74	0.16	sabbie limose	52.6	0.8-1.1	1.60	-	<32
13.82	- 14.22	14.02	0.40	sabbie	57.8	0.8-1.1	1.66	-	<32
14.22	- 14.40	14.31	0.18	sabbie limose	47.3	0.8-1.1	1.67	-	<32
14.40	- 18.88	16.64	4.48	sabbie	88.7	0.8-1.1	2.38	-	<32
18.88	- 18.90	18.89	0.02	sabbie limose	52.5	0.8-1.1	2.16	-	<32
18.90	- 18.94	18.92	0.04	limi e limi sabbiosi	33.3	0.8-1.1	2.17	2.0	<32
18.94	- 18.98	18.96	0.04	limi argillosi e argille limose	22.1	0.8-1.1	2.17	1.2	-
18.98	- 19.08	19.03	0.10	torbe	12.7	0.4-0.8	2.19	0.6	-
19.08	- 19.10	19.09	0.02	argille	11.5	0.4-0.8	2.18	0.5	-
19.10	- 19.14	19.12	0.04	limi argillosi e argille limose	11.0	0.8-1.1	2.19	0.5	-
19.14	- 19.16	19.15	0.02	limi e limi sabbiosi	14.6	0.8-1.1	2.19	0.7	<32
19.16	- 19.18	19.17	0.02	sabbie limose	18.0	0.8-1.1	2.19	-	<32
19.18	- 19.30	19.24	0.12	limi e limi sabbiosi	14.5	0.8-1.1	2.21	0.7	<32
19.30	- 19.40	19.35	0.10	limi argillosi e argille limose	11.3	0.8-1.1	2.22	0.5	-
19.40	- 19.44	19.42	0.04	limi e limi sabbiosi	14.5	0.8-1.1	2.22	0.7	<32
19.44	- 19.50	19.47	0.06	sabbie limose	33.1	0.8-1.1	2.23	-	<32
19.50	- 21.04	20.27	1.54	sabbie	113.0	0.8-1.1	2.48	-	<32
21.04	- 21.16	21.10	0.12	sabbie limose	61.9	0.8-1.1	2.42	-	<32
21.16	- 22.82	21.99	1.66	sabbie	109.8	0.8-1.1	2.68	-	<32
22.82	- 22.84	22.83	0.02	sabbie limose	67.2	0.8-1.1	2.60	-	<32
22.84	- 22.90	22.87	0.06	limi e limi sabbiosi	33.9	0.8-1.1	2.61	2.0	<32
22.90	- 22.92	22.91	0.02	limi argillosi e argille limose	23.1	0.8-1.1	2.61	1.2	-
22.92	- 23.00	22.96	0.08	torbe	15.2	0.4-0.8	2.62	0.7	-
23.00	- 23.02	23.01	0.02	limi argillosi e argille limose	28.3	0.8-1.1	2.62	1.6	-
23.02	- 23.04	23.03	0.02	sabbie limose	54.1	0.8-1.1	2.62	-	<32
23.04	- 23.08	23.06	0.04	sabbie	57.8	0.8-1.1	2.63	-	<32
23.08	- 23.12	23.10	0.04	sabbie limose	39.0	0.8-1.1	2.63	-	<32
23.12	- 23.14	23.13	0.02	limi e limi sabbiosi	27.4	0.8-1.1	2.63	1.5	<32
23.14	- 23.16	23.15	0.02	limi argillosi e argille limose	24.6	0.8-1.1	2.64	1.3	-
23.16	- 23.18	23.17	0.02	argille	19.6	0.4-0.8	2.64	1.0	-
23.18	- 23.24	23.21	0.06	torbe	14.5	0.4-0.8	2.64	0.7	-

**COMMITTENTE** Comune di Ravenna - Area Infrastrutture Civili - Servizio Edilizia U. O. Impianti Sportivi  
**CANTIERE** Polisportivo Darsena - via Marani, Ravenna

CPT N° SCPTU 01 PROF. FALDA (m da p.c.) 2.00 TIPO PUNTA piezocono G1 - CPL2IN  
DATA 30/06/11 Lat. 44.415389°  
COMMESSA 9405/11 Long. 12.211533°

Prof. (m)	Prof. media	Pot. strato	Litologia	q <sub>c</sub> media	γ'	σ' <sub>vo</sub>	C <sub>u</sub> media	Φ' (1)	Φ (2)
da	a	(m)		(kg/cm²)	(t/m³)	(kg/cm²)	(kg/cm²)	(gradi)	(gradi)
23.24	- 23.26	23.25	0.02	argille	16.8	0.4-0.8	2.64	0.8	-
23.26	- 23.28	23.27	0.02	limi argillosi e argille limose	15.3	0.8-1.1	2.65	0.7	-
23.28	- 23.30	23.29	0.02	argille	12.2	0.4-0.8	2.65	0.5	-
23.30	- 23.32	23.31	0.02	limi argillosi e argille limose	12.2	0.8-1.1	2.65	0.5	-
23.32	- 23.38	23.35	0.06	limi e limi sabbiosi	15.9	0.8-1.1	2.66	0.7	<32
23.38	- 23.40	23.39	0.02	sabbie limose	41.1	0.8-1.1	2.66	-	<32
23.40	- 23.44	23.42	0.04	sabbie	43.7	0.8-1.1	2.66	-	<32
23.44	- 23.46	23.45	0.02	sabbie limose	26.4	0.8-1.1	2.67	-	<32
23.46	- 23.50	23.48	0.04	limi e limi sabbiosi	23.5	0.8-1.1	2.67	1.2	<32
23.50	- 23.52	23.51	0.02	sabbie limose	46.7	0.8-1.1	2.67	-	<32
23.52	- 23.64	23.58	0.12	sabbie	77.2	0.8-1.1	2.69	-	<32
23.64	- 23.68	23.66	0.04	sabbie limose	29.1	0.8-1.1	2.69	-	<32
23.68	- 23.70	23.69	0.02	limi e limi sabbiosi	21.2	0.8-1.1	2.69	1.1	<32
23.70	- 23.72	23.71	0.02	sabbie limose	41.7	0.8-1.1	2.69	-	<32
23.72	- 23.94	23.83	0.22	sabbie	97.5	0.8-1.1	2.73	-	<32
23.94	- 23.96	23.95	0.02	sabbie limose	44.5	0.8-1.1	2.72	-	<32
23.96	- 23.98	23.97	0.02	limi e limi sabbiosi	28.5	0.8-1.1	2.72	1.6	<32
23.98	- 24.02	24.00	0.04	limi argillosi e argille limose	19.9	0.8-1.1	2.73	1.0	-
24.02	- 24.04	24.03	0.02	sabbie limose	43.5	0.8-1.1	2.73	-	<32
24.04	- 24.18	24.11	0.14	sabbie	104.8	0.8-1.1	2.75	-	<32
24.18	- 24.22	24.20	0.04	sabbie limose	40.1	0.8-1.1	2.75	-	<32
24.22	- 24.30	24.26	0.08	sabbie	83.3	0.8-1.1	2.76	-	<32
24.30	- 24.36	24.33	0.06	sabbie limose	50.8	0.8-1.1	2.77	-	<32
24.36	- 24.38	24.37	0.02	limi e limi sabbiosi	31.5	0.8-1.1	2.77	1.8	<32
24.38	- 24.40	24.39	0.02	limi argillosi e argille limose	25.7	0.8-1.1	2.77	1.4	-
24.40	- 24.42	24.41	0.02	argille	20.5	0.4-0.8	2.77	1.0	-
24.42	- 24.52	24.47	0.10	torbe	14.0	0.4-0.8	2.78	0.6	-
24.52	- 24.54	24.53	0.02	argille	12.9	0.4-0.8	2.78	0.5	-
24.54	- 24.58	24.56	0.04	limi argillosi e argille limose	13.1	0.8-1.1	2.79	0.5	-
24.58	- 24.92	24.75	0.34	limi e limi sabbiosi	14.8	0.8-1.1	2.84	0.6	<32
24.92	- 25.14	25.03	0.22	limi argillosi e argille limose	16.8	0.8-1.1	2.86	0.8	-
25.14	- 25.68	25.41	0.54	limi e limi sabbiosi	23.4	0.8-1.1	2.94	1.2	<32
25.68	- 25.76	25.72	0.08	limi argillosi e argille limose	32.5	0.8-1.1	2.92	1.8	-
25.76	- 25.80	25.78	0.04	argille	30.6	0.4-0.8	2.92	1.7	-
25.80	- 25.84	25.82	0.04	limi argillosi e argille limose	31.4	0.8-1.1	2.93	1.7	-
25.84	- 25.88	25.86	0.04	argille	27.7	0.4-0.8	2.93	1.5	-
25.88	- 26.02	25.95	0.14	torbe	20.1	0.4-0.8	2.95	1.0	-
26.02	- 26.04	26.03	0.02	argille	18.2	0.4-0.8	2.94	0.9	-
26.04	- 26.06	26.05	0.02	torbe	18.0	0.4-0.8	2.94	0.8	-
26.06	- 26.16	26.11	0.10	argille	17.3	0.4-0.8	2.96	0.8	-
26.16	- 26.30	26.23	0.14	limi argillosi e argille limose	14.1	0.8-1.1	2.97	0.6	-
26.30	- 26.48	26.39	0.18	limi e limi sabbiosi	13.5	0.8-1.1	3.00	0.5	<32
26.48	- 26.50	26.49	0.02	sabbie limose	15.8	0.8-1.1	2.99	-	<32
26.50	- 26.82	26.66	0.32	limi e limi sabbiosi	19.1	0.8-1.1	3.04	0.9	<32
26.82	- 27.10	26.96	0.28	limi argillosi e argille limose	18.7	0.8-1.1	3.07	0.9	-
27.10	- 27.16	27.13	0.06	limi e limi sabbiosi	18.6	0.8-1.1	3.07	0.9	<32
27.16	- 27.24	27.20	0.08	limi argillosi e argille limose	18.8	0.8-1.1	3.08	0.9	-
27.24	- 27.30	27.27	0.06	limi e limi sabbiosi	20.1	0.8-1.1	3.08	1.0	<32
27.30	- 27.86	27.58	0.56	limi argillosi e argille limose	17.8	0.8-1.1	3.17	0.8	-
27.86	- 28.46	28.16	0.60	limi e limi sabbiosi	17.5	0.8-1.1	3.24	0.8	<32
28.46	- 28.50	28.48	0.04	limi argillosi e argille limose	17.8	0.8-1.1	3.22	0.8	-
28.50	- 28.60	28.55	0.10	limi e limi sabbiosi	18.2	0.8-1.1	3.23	0.8	<32
28.60	- 28.70	28.65	0.10	sabbie limose	24.3	0.8-1.1	3.24	-	<32
28.70	- 28.78	28.74	0.08	limi e limi sabbiosi	26.3	0.8-1.1	3.25	1.4	<32
28.78	- 28.86	28.82	0.08	limi argillosi e argille limose	24.1	0.8-1.1	3.26	1.2	-





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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 accreditato dal Ministero Infrastrutture e Trasporti P.C.S. LL.PP. S.T.G. in base al D.P.R. n. 380/01 art. 59 circ. n. 349/05 Cir. n. 33762 del 06/05/2005

AZIENDA CON SISTEMA DI GESTIONE  
INTEGRATO CERTIFICATO DA DNV  
UNI EN ISO 9001/2000  
UNI EN ISO 14001

**COMMITTENTE  
CANTIERE**

**Comune di Ravenna - Area Infrastrutture Civili - Servizio Edilizia U. O. Impianti Sportivi**  
**Polisportivo Darsena - via Marani, Ravenna**

CPT N°	SCPTU 01	PROF. FALDA (m da p.c.)	2.00	TIPO PUNTA	piezocono G1 - CPL2IN
DATA	30/06/11	PREFORO (m da p.c.)	0.00	Lat.	44.415389°
COMMESSA	9405/11			Long.	12.211533°

Prof. (m) da	a	Prof. media (m)	Pot. strato (m)	Litologia	q <sub>c</sub> media (kg/cm <sup>2</sup> )	γ' (t/m <sup>3</sup> )	σ' <sub>vo</sub> (kg/cm <sup>2</sup> )	C <sub>u</sub> media (kg/cm <sup>2</sup> )	Φ' (1) (gradi)	Φ (2) (gradi)
28.86	- 28.90	28.88	0.04	argille	19.5	0.4-0.8	3.26	0.9	-	-
28.90	- 28.94	28.92	0.04	limi argillosi e argille limose	18.8	0.8-1.1	3.26	0.9	-	-
28.94	- 29.04	28.99	0.10	limi e limi sabbiosi	21.5	0.8-1.1	3.28	1.0	<32	15
29.04	- 29.06	29.05	0.02	sabbie limose	26.5	0.8-1.1	3.28	-	<32	17
29.06	- 29.18	29.12	0.12	limi e limi sabbiosi	27.1	0.8-1.1	3.29	1.4	<32	17
29.18	- 29.26	29.22	0.08	sabbie limose	41.3	0.8-1.1	3.30	-	<32	19
29.26	- 29.52	29.39	0.26	limi e limi sabbiosi	36.5	0.8-1.1	3.34	2.0	<32	18
29.52	- 29.58	29.55	0.06	sabbie limose	54.2	0.8-1.1	3.34	-	<32	20
29.58	- 30.36	29.97	0.78	sabbie	103.8	0.8-1.1	3.46	-	<32	24
30.36	- 30.40	30.38	0.04	sabbie limose	53.8	0.8-1.1	3.43	-	<32	20
30.40	- 30.42	30.41	0.02	limi e limi sabbiosi	41.2	0.8-1.1	3.43	2.3	<32	19
30.42	- 30.44	30.43	0.02	limi argillosi e argille limose	35.6	0.8-1.1	3.43	2.0	-	-
30.44	- 30.50	30.47	0.06	argille	30.7	0.4-0.8	3.44	1.6	-	-

**CPTU28A**

Falda

1.00 m

Comune  
Via  
Localita'  
Committente  
Data

Ravenna  
A. Manzoni  
Lido Adriano  
Geonet  
11-mar-11

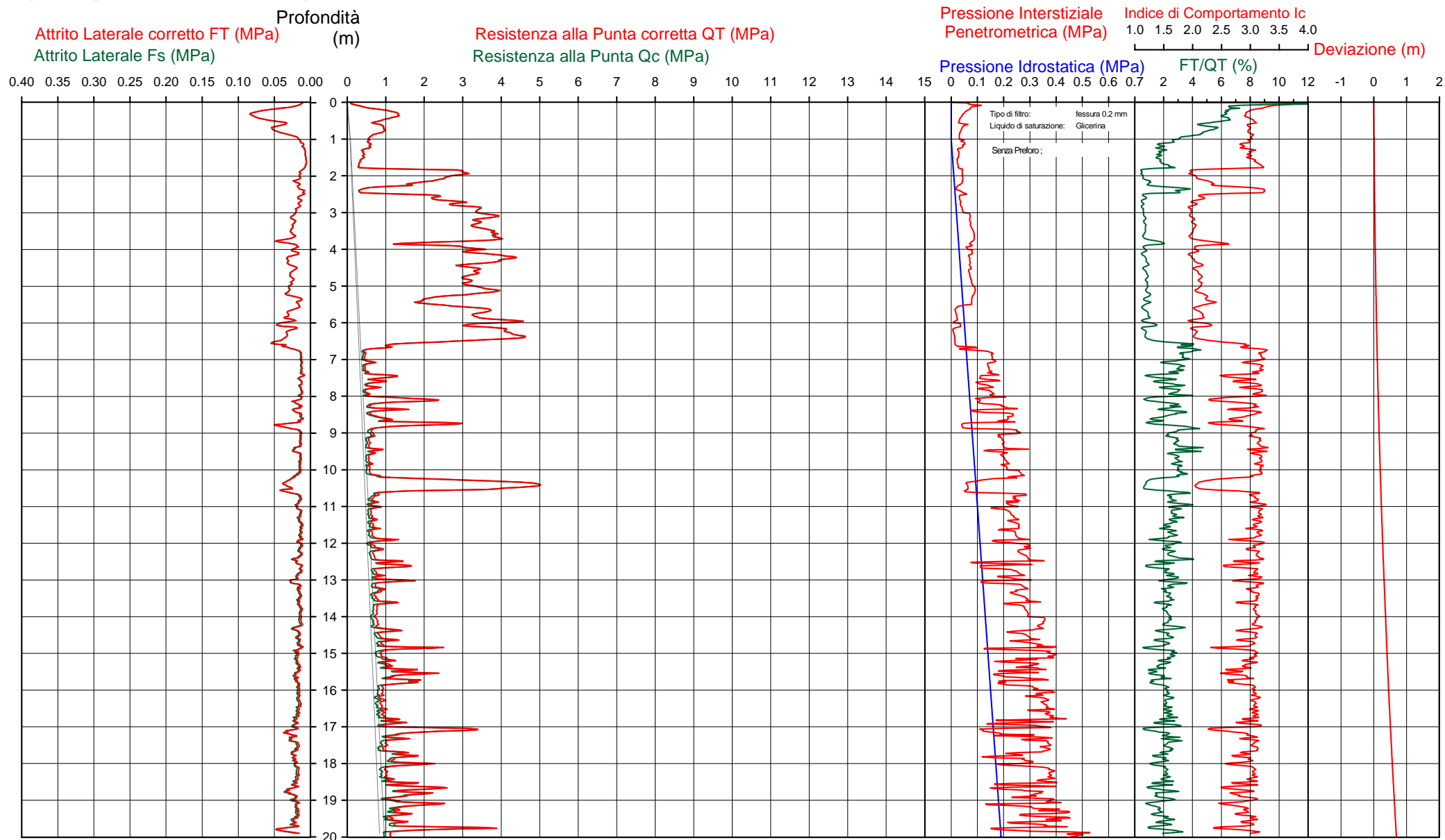
Sigla della Punta  
Azzeramento  
Ultimo taratura guadagno  
Ultimo taratura per deriva termica

Tecnopenta 100707  
Inizio prova  
10-feb-2011  
10-feb-2011



**Società di  
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S.G.T. sas  
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Via Matteotti 50  
48012 Bagnacavallo (RA)  
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**CPTU****3**



Società di  
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Via Matteotti 50  
48012 Bagnacavallo (RA)  
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CPTU

3

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

11 marzo 2011  
A. Manzoni  
Lido Adriano  
Ravenna  
1.00

Vs20
125

QT	Qc1N daN/cm <sup>2</sup>	FT daN/cm <sup>2</sup>	FT/Qc1N %	Qc1N daN/cm <sup>2</sup>	FT daN/cm <sup>2</sup>	Litologia Robertson basato su Fr vs Qc1N	H m	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990 %	Angolo Attrito φ° Robertson °	Coesione Benassi daN/cm <sup>2</sup>	OCR 0.20 Robertson	Modulo Edometrico Benassi daN/cm <sup>2</sup>	Velocità Vs Baldi (sabbie), Mayne & Rix (argille) m/sec
4.2	7.2	0.28	7.2	3.41	argilla-argilla limosa	0.20				Fluida-plastica (Molto Soffice)			0.32	43.79	31.0	67
11.7	20.0	0.73	6.3	2.97	argilla-argilla limosa	0.50				Plastica			0.74	36.89	65.8	146
8.5	14.5	0.42	5.0	3.00	argilla-argilla limosa	0.90				Molle-plastica (Soffice)			0.57	13.45	48.7	120
5.6	9.5	0.13	2.4	2.95	argilla-argilla limosa	1.30			H2O	Molle-plastica (Soffice)			0.40	5.89	26.0	92
3.8	6.5	0.07	1.9	3.06	argilla-argilla limosa	1.80				Fluida-plastica (Molto Soffice)			0.29	3.26	15.6	72
28.5	48.5	0.14	0.5	2.01	sabbia-sabbia limosa	2.00				Mediamente Addensata	43.1	41.3			87.1	117
19.9	33.7	0.17	1.0	2.29	sabbia limosa-limo sabbioso	2.30				Mediamente Addensata	31.1	38.9			64.2	143
5.4	9.1	0.11	2.9	3.05	argilla-argilla limosa	2.50				Molle-plastica (Soffice)			0.39	3.50	30.8	88
24.0	40.8	0.14	0.6	2.12	sabbia limosa-limo sabbioso	2.70				Mediamente Addensata	37.4	39.3			74.0	133
35.0	57.6	0.22	0.6	1.99	sabbia-sabbia limosa	3.70				Mediamente Addensata	48.8	40.6			108.1	131
25.9	42.1	0.33	1.4	2.31	sabbia limosa-limo sabbioso	3.90				Mediamente Addensata	38.4	38.2			92.0	172
36.4	55.7	0.24	0.7	2.02	sabbia-sabbia limosa	4.30				Mediamente Addensata	47.7	39.8			112.8	139
33.5	49.5	0.27	0.8	2.11	sabbia limosa-limo sabbioso	5.20				Mediamente Addensata	43.8	38.7			106.0	156
22.6	33.5	0.19	0.9	2.27	sabbia limosa-limo sabbioso	5.50				Sciolta	30.9	35.8			72.0	170
33.7	46.5	0.26	0.8	2.12	sabbia limosa-limo sabbioso	5.90				Mediamente Addensata	41.7	37.9			106.3	165
39.7	52.0	0.33	0.9	2.10	sabbia limosa-limo sabbioso	6.50				Mediamente Addensata	45.4	38.4			126.9	168
13.1	18.3	0.41	3.7	2.85	limo argilloso-argilla limosa	6.70				Plastica			0.80		75.9	152
5.0	7.2	0.13	3.6	3.15	argilla-argilla limosa	7.40				Fluida-plastica (Molto Soffice)			0.37	1.15	30.6	85
9.8	13.1	0.13	1.7	2.75	limo argilloso-argilla limosa	7.60				Molle-plastica (Soffice)			0.64		37.4	130
6.4	8.6	0.13	2.7	3.03	argilla-argilla limosa	7.80				Molle-plastica (Soffice)			0.46	1.46	34.2	101
5.1	6.8	0.12	3.4	3.16	argilla-argilla limosa	8.00				Molle-plastica (Soffice)			0.37	1.04	31.1	87
17.0	21.1	0.13	0.9	2.46	sabbia limosa-limo sabbioso	8.10				Sciolta	15.6	31.8			54.4	175
9.2	11.5	0.17	2.5	2.92	limo argilloso-argilla limosa	8.60				Molle-plastica (Soffice)			0.61		45.3	119
11.6	14.1	0.13	1.4	2.70	limo argilloso-argilla limosa	8.70				Plastica			0.73		41.1	146
25.0	29.3	0.37	1.8	2.46	sabbia limosa-limo sabbioso	8.80				Sciolta	26.5	33.9			96.7	216
6.8	8.3	0.18	3.3	3.09	argilla-argilla limosa	9.20				Molle-plastica (Soffice)			0.48	1.32	41.3	104
6.3	7.2	0.15	3.4	3.15	argilla-argilla limosa					Molle-plastica (Soffice)			0.44	1.07	38.2	98



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3

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

11 marzo 2011  
A. Manzoni  
Lido Adriano  
Ravenna  
1.00

Vs20
125

QT	Qc1N daN/cm <sup>2</sup>	FT daN/cm <sup>2</sup>	FT/Qc1N %	ftc Robertson	Litologia Robertson 1990 basato su Fr vs Qc1N	H m	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990 %	Angolo Attrito φ° Robertson	Coesione Benassi daN/cm <sup>2</sup>	OCR 0.20 Robertson	Modulo Edometrico Benassi daN/cm <sup>2</sup>	Velocità Vs Baldi (sabbie), Mayne & Rix (argille) m/sec
						10.20									
36.0	38.1	0.32	1.2	2.29	sabbia limosa-limo sabbioso	10.60			Mediamente Addensata	35.1	35.2			120.9	203
6.8	7.1	0.14	3.0	3.12	argilla-argilla limosa				Molle-plastica (Soffice)			0.48	1.01	40.0	105
						11.80									
8.8	8.7	0.12	2.0	2.95	limo argilloso-argilla limosa	11.90			Molle-plastica (Soffice)			0.59		36.2	123
7.9	7.7	0.15	2.8	3.08	argilla-argilla limosa				Molle-plastica (Soffice)			0.54	1.11	42.3	113
						12.50									
11.7	11.1	0.14	1.9	2.83	limo argilloso-argilla limosa	12.70			Plastica			0.73		46.3	146
8.3	7.7	0.16	2.8	3.07	argilla-argilla limosa				Molle-plastica (Soffice)			0.56	1.11	44.7	118
						13.00									
11.4	10.6	0.26	3.3	3.01	argilla-argilla limosa	13.10			Plastica			0.72	1.65	66.5	144
8.0	7.1	0.14	2.5	3.08	argilla-argilla limosa				Molle-plastica (Soffice)			0.55	0.97	39.7	115
						14.30									
9.9	8.4	0.16	2.3	3.00	argilla-argilla limosa				Molle-plastica (Soffice)			0.65	1.20	45.3	131
						14.80									
17.3	14.7	0.13	1.1	2.62	limo argilloso-argilla limosa	14.90			Plastica			0.97		56.7	187
9.7	8.0	0.18	2.6	3.04	argilla-argilla limosa				Molle-plastica (Soffice)			0.64	1.12	49.0	130
						15.30									
14.6	12.0	0.18	1.6	2.79	limo argilloso-argilla limosa				Plastica			0.87		54.2	165
						15.80									
9.3	7.3	0.15	2.4	3.06	argilla-argilla limosa				Molle-plastica (Soffice)			0.62	0.96	44.5	127
						16.70									
11.9	9.1	0.19	2.3	2.97	argilla-argilla limosa	16.90			Plastica			0.75	1.29	54.7	148
9.9	7.5	0.22	3.3	3.12	argilla-argilla limosa	17.00			Molle-plastica (Soffice)			0.65	0.99	57.9	132
29.9	23.9	0.22	0.8	2.39	sabbia limosa-limo sabbioso	17.10			Sciolti	19.8	31.1			95.0	235
17.8	13.8	0.32	2.3	2.82	limo argilloso-argilla limosa	17.20			Plastica			0.99		81.7	191
11.1	8.3	0.21	2.6	3.04	argilla-argilla limosa				Plastica			0.71	1.12	57.0	142
						17.70									
14.5	10.7	0.21	2.0	2.88	limo argilloso-argilla limosa				Plastica			0.86		60.2	167
						18.10									
10.5	7.4	0.17	2.4	3.05	argilla-argilla limosa				Plastica			0.68	0.96	49.5	137
						18.50									
16.1	11.5	0.21	1.8	2.83	limo argilloso-argilla limosa				Plastica			0.93		63.4	176
						19.40									
12.4	8.4	0.21	2.4	3.00	argilla-argilla limosa				Plastica			0.77	1.12	57.9	152
						19.70									
29.4	21.3	0.35	1.5	2.55	sabbia limosa-limo sabbioso	19.80			Sciolti	16.0	30.0			105.5	255
12.7	8.5	0.29	3.1	3.06	argilla-argilla limosa				Plastica			0.78	1.13	75.9	154

Comune  
Via  
Localita'  
Committente  
Data

Ravenna  
A. Manzoni  
Lido Adriano  
Geonet  
11-mar-11

Falda

1.20 m

Sigla della Punta  
Azzeramento  
Ultimo taratura guadagno  
Ultimo taratura per deriva termica

Tecnopenta 100707  
Inizio prova  
10-feb-2011  
10-feb-2011

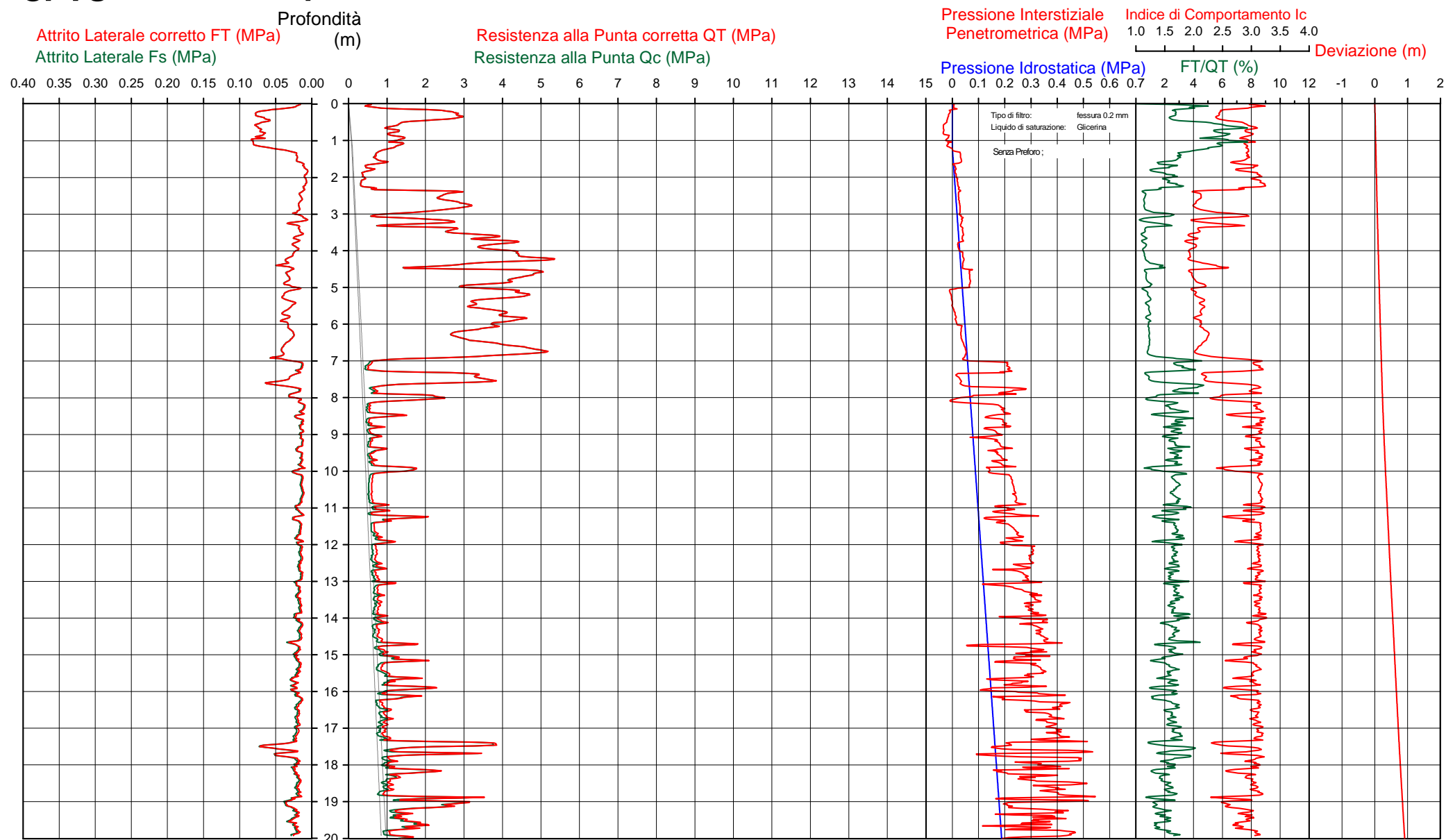


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48012 Bagnacavallo (RA)  
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1

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

11 marzo 2011  
A. Manzoni  
Lido Adriano  
Ravenna  
1.20

Vs20
130

QT	Qc1N daN/cm <sup>2</sup>	FT daN/cm <sup>2</sup>	FT/Qc1N %	Qc1N daN/cm <sup>2</sup>	FT/Qc1N %	Litologia Robertson 1990 basato su Fr vs Qc1N	H m	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990 %	Angolo Attrito φ' Robertson °	Coesione Benassi daN/cm <sup>2</sup>	OCR 0.20 Robertson	Modulo Edometrico Benassi daN/cm <sup>2</sup>	Velocità Vs Baldi (sabbie), Mayne & Rix (argille) m/sec
5.6	9.5	0.21	3.8	3.08	3.08	argilla-argilla limosa	0.10	=====		Molle-plastica (Soffice)			0.40	105.95	34.8	92
18.3	31.2	0.53	3.1	2.63	2.63	limo argilloso-argilla limosa	0.20	=====		Plastica			1.01		110.1	195
28.3	48.0	0.74	2.6	2.43	2.43	sabbia limosa-limo sabbioso	0.40	=====		Mediamente Addensata	42.8	48.2			144.4	199
13.2	22.4	0.72	5.8	2.90	2.90	limo argilloso-argilla limosa		=====		Plastica			0.80		74.4	156
7.3	12.3	0.20	2.8	2.90	2.90	limo argilloso-argilla limosa	1.20	=====	H <sub>2</sub> O	Molle-plastica (Soffice)			0.50		39.5	107
4.0	6.8	0.08	2.4	3.09	3.09	argilla-argilla limosa	1.80	=====		Fluidi-plastica (Molto Soffice)			0.30	2.62	19.1	74
24.0	40.8	0.16	0.8	2.17	2.17	sabbia limosa-limo sabbioso	2.30	=====		Mediamente Addensata	37.4	38.9			75.7	139
7.9	13.4	0.14	2.1	2.81	2.81	limo argilloso-argilla limosa	3.00	=====		Molle-plastica (Soffice)			0.54		34.0	115
22.0	37.1	0.18	1.0	2.24	2.24	sabbia limosa-limo sabbioso	3.10	=====		Sciolti	34.3	37.5			71.4	151
40.5	60.6	0.24	0.6	1.96	1.96	sabbia-sabbia limosa	3.50	=====		Mediamente Addensata	50.5	40.3			124.8	141
25.4	39.1	0.34	1.5	2.34	2.34	sabbia limosa-limo sabbioso	4.30	=====		Mediamente Addensata	36.0	37.2			91.6	184
46.5	64.8	0.32	0.7	1.97	1.97	sabbia-sabbia limosa	4.50	=====		Mediamente Addensata	52.7	40.3			144.6	149
35.8	50.8	0.32	0.9	2.13	2.13	sabbia limosa-limo sabbioso	4.80	=====		Mediamente Addensata	44.7	38.7			115.0	164
42.9	58.7	0.30	0.7	2.01	2.01	sabbia-sabbia limosa	5.00	=====		Mediamente Addensata	49.4	39.5			133.5	150
37.7	50.5	0.33	0.9	2.13	2.13	sabbia limosa-limo sabbioso	5.20	=====		Mediamente Addensata	44.4	38.3			120.7	171
27.9	37.0	0.26	1.0	2.25	2.25	sabbia limosa-limo sabbioso	6.20	=====		Sciolti	34.2	36.0			90.0	187
41.8	52.3	0.39	1.0	2.13	2.13	sabbia limosa-limo sabbioso	6.40	=====		Mediamente Addensata	45.6	38.2			135.6	179
12.6	16.9	0.40	4.0	2.91	2.91	limo argilloso-argilla limosa	6.90	=====		Plastica			0.78		73.2	154
6.6	9.0	0.15	3.1	3.05	3.05	argilla-argilla limosa	7.00	=====		Molle-plastica (Soffice)			0.46	1.57	39.5	100
33.5	40.8	0.34	1.1	2.23	2.23	sabbia limosa-limo sabbioso	7.30	=====		Mediamente Addensata	37.4	36.3			110.4	198
11.5	14.7	0.47	4.8	3.00	3.00	argilla-argilla limosa	7.60	=====		Plastica			0.73	2.83	65.9	145
7.3	9.5	0.19	3.3	3.04	3.04	argilla-argilla limosa	7.70	=====		Molle-plastica (Soffice)			0.51	1.64	42.8	109
20.1	24.4	0.23	1.3	2.48	2.48	sabbia limosa-limo sabbioso	7.90	=====		Sciolti	20.4	32.7			69.3	192
5.6	7.1	0.12	3.0	3.12	3.12	argilla-argilla limosa	8.10	=====		Molle-plastica (Soffice)			0.41	1.09	32.6	93
11.9	14.4	0.16	1.6	2.72	2.72	limo argilloso-argilla limosa	8.40	=====		Plastica			0.75		44.0	149
6.4	7.5	0.14	3.1	3.11	3.11	argilla-argilla limosa	8.50	=====		Molle-plastica (Soffice)			0.46	1.16	38.7	100
10.2	11.3	0.15	2.2	2.87	2.87	limo argilloso-argilla limosa	9.80	=====		Plastica			0.66		45.1	135
16.8	18.2	0.19	1.3	2.56	2.56	sabbia limosa-limo sabbioso	9.90	=====		Sciolti	10.8	30.3			57.4	182



1

11 marzo 2011  
A. Manzoni  
Lido Adriano  
Ravenna  
1.20

Vs20
130

QT	Qc1N	FT	FT/Qnet	Ic	Litologia Robertson	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990 %	Angolo Attrito ϕ' Robertson °	Coesione Benassi daN/cm <sup>q</sup>	OCR 0.20 Robertson	Modulo Edometrico Benassi daN/cm <sup>q</sup>	Velocità Vs Baldi (sabbie), Mayne & Rix (argille) m/sec
daN/cm <sup>q</sup>	Idriss & Esrig 1960	daN/cm <sup>q</sup>	%	Robertson	basato su Fr vs Qc1N	m									
6.4	6.8	0.14	3.1	3.14	argilla-argilla limosa	10.90			Molle-plastica (Soffice)			0.45	0.98	38.3	100
7.8	8.0	0.17	3.1	3.08	argilla-argilla limosa	11.20			Molle-plastica (Soffice)			0.54	1.20	45.7	113
16.6	16.8	0.23	1.6	2.66	limo argilloso-argilla limosa	11.30			Plastica			0.95		62.5	183
7.7	7.6	0.17	3.0	3.10	argilla-argilla limosa	11.90			Molle-plastica (Soffice)			0.53	1.12	45.7	112
9.5	9.1	0.17	2.6	2.99	argilla-argilla limosa	12.00			Molle-plastica (Soffice)			0.62	1.41	48.4	128
7.4	6.9	0.15	2.8	3.12	argilla-argilla limosa	13.00			Molle-plastica (Soffice)			0.51	0.96	40.8	110
10.3	9.4	0.21	2.8	3.00	argilla-argilla limosa	13.10			Plastica			0.67	1.42	55.2	136
8.0	6.9	0.16	3.0	3.13	argilla-argilla limosa	14.60			Molle-plastica (Soffice)			0.54	0.93	46.4	115
11.2	9.4	0.22	3.0	3.02	argilla-argilla limosa	14.80			Plastica			0.71	1.38	65.0	143
9.1	7.5	0.19	3.0	3.10	argilla-argilla limosa	15.00			Molle-plastica (Soffice)			0.61	1.02	52.5	125
13.9	11.4	0.20	1.9	2.84	limo argilloso-argilla limosa	15.20			Plastica			0.83		56.0	161
9.5	7.6	0.17	2.6	3.06	argilla-argilla limosa	15.60			Molle-plastica (Soffice)			0.63	1.04	48.0	128
14.6	11.8	0.27	2.5	2.89	limo argilloso-argilla limosa	15.70			Plastica			0.87		71.2	169
10.7	8.4	0.22	2.7	3.04	argilla-argilla limosa	15.80			Plastica			0.69	1.18	56.8	139
16.8	13.5	0.24	2.1	2.80	limo argilloso-argilla limosa	15.90			Plastica			0.95		72.1	184
12.3	9.7	0.22	2.6	2.98	argilla-argilla limosa	16.10			Plastica			0.76	1.40	63.1	150
15.3	12.1	0.16	1.3	2.73	limo argilloso-argilla limosa	16.20			Plastica			0.90		52.3	174
9.6	7.2	0.19	2.8	3.10	argilla-argilla limosa	17.30			Molle-plastica (Soffice)			0.63	0.94	52.6	129
22.9	17.8	0.24	1.8	2.68	limo argilloso-argilla limosa	17.40			Solido-plastica (Duro)			1.17		89.1	224
34.2	26.9	0.60	2.1	2.54	sabbia limosa-limo sabbioso	17.50			Sciolta	23.6	31.8			146.3	278
13.6	10.0	0.30	3.1	3.01	argilla-argilla limosa	18.10			Plastica			0.82	1.41	81.2	156
17.2	12.5	0.21	1.7	2.79	limo argilloso-argilla limosa	18.30			Plastica			0.97		65.3	181
10.7	7.5	0.17	2.4	3.05	argilla-argilla limosa	18.80			Plastica			0.69	0.97	50.8	139
20.8	15.0	0.24	1.7	2.72	limo argilloso-argilla limosa	19.00			Solido-plastica (Duro)			1.10		78.5	210
27.8	20.3	0.35	1.4	2.57	sabbia limosa-limo sabbioso	19.10			Sciolta	14.3	29.8			99.0	249
15.9	11.0	0.23	1.9	2.86	limo argilloso-argilla limosa	19.80			Plastica			0.92		64.8	176
12.8	7.6	0.23	2.8	3.08	argilla-argilla limosa				Plastica			0.79	1.13	69.9	153

CPTU30A

Comune  
Via  
Localita'  
Committente  
Data

Ravenna  
A. Manzoni  
Lido Adriano  
Geonet  
11-mar-11

Falda

0.50 m

Sigla della Punta  
Azzeramento  
Ultimo taratura guadagno  
Ultimo taratura per deriva termica

Tecnopenta 100707  
Inizio prova  
10-feb-2011  
10-feb-2011

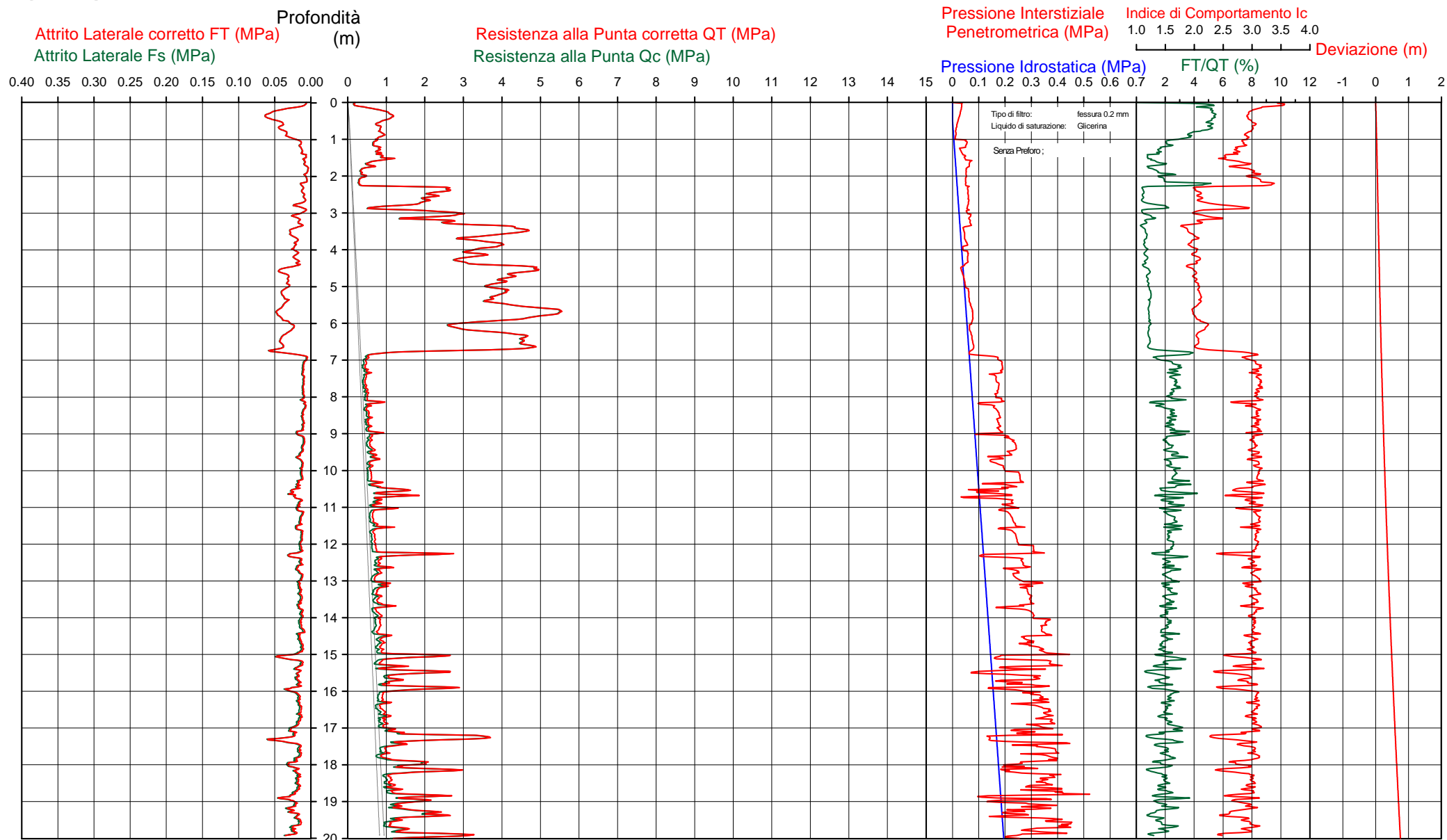


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**2**







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www.geo55.com

CPTU

2

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

11 marzo 2011  
A. Manzoni  
Lido Adriano  
Ravenna  
0.50

Vs20
122

QT	Qc1N daN/cm <sup>2</sup>	FT daN/cm <sup>2</sup>	FT/Qc1N %	lc Robertson	Litologia Robertson 1990 basato su Fr vs Qc1N	H m	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990 %	Angolo Attrito φ° Robertson	Coesione Benassi daN/cm <sup>2</sup>	OCR 0.20 Robertson	Modulo Edometrico Benassi daN/cm <sup>2</sup>	Velocità Vs Baldi (sabbie), Mayne & Rix (argille) m/sec
4.1	7.0	0.20	4.6	3.30	argilla-argilla limosa	0.20		H2O	Fluidico-plastica (Molto Soffice)			0.31	42.53	26.6	65
10.7	18.1	0.56	5.3	2.95	limo argilloso-argilla limosa	0.50			Plastica			0.69		60.6	138
8.2	13.9	0.40	5.0	3.01	argilla-argilla limosa	0.80			Molle-plastica (Soffice)			0.56	16.12	46.8	117
7.9	13.5	0.19	2.4	2.83	limo argilloso-argilla limosa	1.40			Molle-plastica (Soffice)			0.54		37.8	114
9.1	15.5	0.08	0.9	2.57	sabbia limosa-limo sabbioso	1.60			Sciolti	5.5	37.2			29.1	123
5.5	9.3	0.06	1.3	2.83	limo argilloso-argilla limosa	1.80			Molle-plastica (Soffice)			0.40		18.7	91
3.5	6.0	0.06	2.1	3.09	argilla-argilla limosa	2.20			Fluidico-plastica (Molto Soffice)			0.27	3.15	15.1	69
10.0	17.1	0.12	2.9	2.85	limo argilloso-argilla limosa	2.30			Plastica			0.65		56.5	133
26.2	44.6	0.11	0.4	2.01	sabbia-sabbia limosa	2.40			Mediamente Addensata	40.4	41.2			79.8	113
20.3	34.5	0.12	0.6	2.17	sabbia limosa-limo sabbioso	2.80			Mediamente Addensata	31.9	39.4			62.7	128
7.2	12.3	0.12	1.8	2.81	limo argilloso-argilla limosa	2.90			Molle-plastica (Soffice)			0.50		28.6	108
23.3	39.6	0.09	0.4	2.05	sabbia-sabbia limosa	3.00			Mediamente Addensata	36.4	39.6			70.6	117
24.2	41.1	0.18	0.8	2.18	sabbia limosa-limo sabbioso	3.30			Mediamente Addensata	37.6	39.5			76.4	141
38.3	61.2	0.25	0.7	1.98	sabbia-sabbia limosa	4.90			Mediamente Addensata	50.8	40.8			118.9	135
38.6	56.7	0.36	0.9	2.09	sabbia limosa-limo sabbioso	5.50			Mediamente Addensata	48.3	39.6			124.4	155
50.6	69.0	0.43	0.9	2.00	sabbia-sabbia limosa	5.90			Mediamente Addensata	54.7	40.7			161.0	152
32.9	46.2	0.28	0.9	2.16	sabbia limosa-limo sabbioso	6.30			Mediamente Addensata	41.5	37.9			105.2	169
46.1	60.6	0.40	0.9	2.06	sabbia limosa-limo sabbioso	6.70			Mediamente Addensata	50.5	39.5			147.4	157
21.5	29.9	0.51	3.0	2.63	limo argilloso-argilla limosa	6.80			Solido-plastica (Duro)			1.12		125.9	215
5.6	8.7	0.11	2.3	2.96	argilla-argilla limosa	7.00			Molle-plastica (Soffice)			0.41	1.50	25.4	92
4.8	7.1	0.10	2.9	3.11	argilla-argilla limosa	7.80			Fluidico-plastica (Molto Soffice)			0.35	1.11	26.6	84
5.5	7.5	0.10	2.5	3.06	argilla-argilla limosa	8.90			Molle-plastica (Soffice)			0.40	1.16	27.2	91
7.3	9.3	0.18	3.2	3.04	argilla-argilla limosa	9.00			Molle-plastica (Soffice)			0.51	1.54	42.8	109
6.3	7.6	0.12	2.7	3.07	argilla-argilla limosa				Molle-plastica (Soffice)			0.45	1.15	32.7	99



Società di  
Geologia  
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S.G.T. sas.  
di Van Zulphen Albert & C.  
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QT	Qc1N Idriss & E	FT	FT/Qnet daN/cm² %	lc Robertson	Litologia Robertson 1990 basato su Fr vs Qc1N	H m	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990 %	Angolo Attrito φ° Robertson	Coesione Benassi daN/cm²	OCR 0.20 Robertson	Modulo Edometrico Benassi daN/cm²	Velocità Vs Baldi (sabbie), Mayne & Rix (argille) m/sec
						10.30									
8.5	9.7	0.17	2.8	2.99	argilla-argilla limosa	10.50			Molle-plastica (Soffice)			0.57	1.57	46.8	119
12.9	14.4	0.25	2.7	2.83	limo argilloso-argilla limosa	10.70			Plastica			0.79		67.3	156
8.0	8.8	0.16	2.8	3.02	argilla-argilla limosa	11.00			Molle-plastica (Soffice)			0.55	1.37	43.2	116
9.4	10.2	0.18	2.6	2.96	argilla-argilla limosa	11.10			Molle-plastica (Soffice)			0.62	1.65	48.2	128
7.1	7.5	0.13	2.7	3.07	argilla-argilla limosa				Molle-plastica (Soffice)			0.50	1.07	36.9	107
						12.20									
19.3	19.3	0.24	1.6	2.62	limo argilloso-argilla limosa	12.30			Plastica			1.05		71.0	201
8.3	8.1	0.15	2.6	3.03	argilla-argilla limosa				Molle-plastica (Soffice)			0.56	1.18	41.5	117
						13.00									
9.4	9.0	0.16	2.3	2.97	argilla-argilla limosa	13.20			Molle-plastica (Soffice)			0.62	1.33	42.6	128
8.3	7.6	0.13	2.3	3.03	argilla-argilla limosa				Molle-plastica (Soffice)			0.56	1.05	37.8	118
						14.50									
8.9	7.7	0.13	2.0	3.00	argilla-argilla limosa	14.90			Molle-plastica (Soffice)			0.59	1.06	37.2	123
16.5	14.4	0.29	2.3	2.82	limo argilloso-argilla limosa	15.10			Plastica			0.94		74.9	175
10.0	8.5	0.17	2.4	3.00	argilla-argilla limosa	15.40			Molle-plastica (Soffice)			0.65	1.19	47.6	132
21.4	18.4	0.16	0.9	2.51	sabbia limosa-limo sabbioso	15.50			Sciolti	11.2	29.7			68.7	207
14.2	11.9	0.20	1.9	2.84	limo argilloso-argilla limosa	16.00			Plastica			0.85		58.1	162
9.6	7.6	0.17	2.5	3.05	argilla-argilla limosa				Molle-plastica (Soffice)			0.63	1.02	47.7	130
						17.10									
21.2	17.0	0.29	1.8	2.70	limo argilloso-argilla limosa	17.50			Solido-plastica (Duro)			1.11		84.3	194
9.6	7.2	0.15	2.3	3.05	argilla-argilla limosa	17.80			Molle-plastica (Soffice)			0.63	0.92	43.7	129
18.2	13.9	0.23	1.8	2.75	limo argilloso-argilla limosa	18.20			Plastica			1.01		70.7	186
11.8	8.6	0.18	2.1	2.97	argilla-argilla limosa	18.80			Plastica			0.74	1.16	50.5	147
						19.00									
19.7	14.6	0.31	2.1	2.76	limo argilloso-argilla limosa	19.20			Plastica			1.06		85.4	204
13.6	9.7	0.24	2.4	2.95	limo argilloso-argilla limosa	19.40			Plastica			0.82		63.6	161
21.8	16.0	0.22	1.2	2.61	limo argilloso-argilla limosa	19.50			Solido-plastica (Duro)			1.13		73.9	215
13.8	9.8	0.18	1.7	2.87	limo argilloso-argilla limosa	19.70			Plastica			0.83		52.9	163
11.5	8.0	0.17	2.2	3.00	argilla-argilla limosa	19.80			Plastica			0.73	1.04	50.7	146
14.8	10.3	0.24	2.1	2.90	limo argilloso-argilla limosa				Plastica			0.87		64.0	170
22.5	20.0	0.29	1.3	2.56	sabbia limosa-limo sabbioso				Sciolti	13.8	28.3			77.4	217

MORONI DOTT. MAURIZIO GEOLOGO		
Cone Penetration Test (CPTU) - Date: 10/09/2012		CPTU31A
Site: scuola elementare Randi - Test: P1CPT1		

### Company informations

Name: MORONI DOTT. MAURIZIO GEOLOGO

Address: VIA RINO BAGNOLI 1120

Zip code: 47522

City: PIEVESESTINA DI CESENA

P.IVA: 03413810403

E-Mail: moronigeo@libero.it

Phone number: 0547313359

Fax number:

### Site informations

Name: scuola elementare Randi

Date: 07/09/2012

Commissioner:

Locality: Ravenna

### Test informations

Name: P1CPT1

Location: CPT 1

Date: 10/09/2012

Prehole mode:

Prehole depth [cm]: 200

Hydrostatic line [cm]: 0

Ground level [m]: 0

Latitude: 0000.0000N

Longitude: 00000.0000E

Operator:

Comments:

Probe code: MH109

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
201	0.18	5.17	-1.98	2.872222	-1.1	0.18198	2	0.034899	0
202	0.35	14.95	0.81	4.271429	0.231429	0.34919	2	0.069799	1.8
203	0.53	16.66	7.61	3.143396	1.435849	0.52239	1.9	0.102954	1.8
204	0.76	18.05	15.23	2.375	2.003947	0.74477	1.9	0.136109	2.2
205	0.97	19.35	75.1	1.994845	7.742268	0.8949	1.9	0.169265	2.2
206	1.11	22.12	111.04	1.992793	10.003604	0.99896	1.9	0.20242	2.2
207	1.19	24.36	142.85	2.047059	12.004202	1.04715	1.9	0.235575	2.2
208	1.23	26.15	166.05	2.126016	13.5	1.06395	1.9	0.26873	2.2
209	1.23	28.8	177.54	2.341463	14.434146	1.05246	1.9	0.301885	2.2
210	1.22	31.13	180.69	2.551639	14.810656	1.03931	1.9	0.33504	2.2
211	1.19	34.38	187.46	2.889076	15.752941	1.00254	1.9	0.368196	2.2
212	1.15	37.15	188.49	3.230435	16.390435	0.96151	1.9	0.401351	2.2
213	1.12	39.97	187.86	3.56875	16.773214	0.93214	2	0.43625	2.2
214	1.12	39.97	187.86	3.56875	16.773214	0.93214	2	0.47115	2.2
215	1.1	42.29	181.42	3.844545	16.492727	0.91858	1.9	0.504305	2.2
216	1.07	43.59	179.96	4.073832	16.818692	0.89004	2	0.539204	2.2
217	1.04	45.18	184.02	4.344231	17.694231	0.85598	2	0.574104	2.2
218	1.02	46.48	188.56	4.556863	18.486275	0.83144	2	0.609003	2.2
219	1.01	47.3	188.49	4.683168	18.662376	0.82151	2	0.643903	2.2
220	1.02	47.34	190.76	4.641176	18.701961	0.82924	1.9	0.677058	2.2
221	1.05	46.24	192.11	4.40381	18.29619	0.85789	2	0.711958	2.2
222	1.08	45.47	195.33	4.210185	18.086111	0.88467	2	0.746857	2.2
223	1.12	44.45	193.94	3.96875	17.316071	0.92606	1.9	0.780012	2.2
224	1.14	44.16	193.35	3.873684	16.960526	0.94665	2	0.814912	2
225	1.16	43.55	195.15	3.75431	16.823276	0.96485	2	0.849811	2
226	1.17	43.47	203.09	3.715385	17.35812	0.96691	1.9	0.882966	1.8
227	1.19	43.96	210.41	3.694118	17.681513	0.97959	2	0.917866	1.8
228	1.22	43.71	208.18	3.582787	17.063934	1.01182	2	0.952765	1.9
229	1.25	42.53	204.22	3.4024	16.3376	1.04578	2	0.987665	1.9
230	1.27	42.21	203.75	3.323622	16.043307	1.06625	2	1.022564	2
231	1.3	41.72	198.84	3.209231	15.295385	1.10116	2	1.057464	2
232	1.31	42.21	198.73	3.222137	15.170229	1.11127	2	1.092363	2
233	1.29	43.43	196.43	3.366667	15.227132	1.09357	2	1.127263	2
234	1.29	43.63	193.76	3.382171	15.020155	1.09624	1.9	1.160418	2
235	1.27	44.28	191.23	3.486614	15.05748	1.07877	2	1.195318	2
236	1.26	44.32	183	3.51746	14.52381	1.077	2	1.230217	2
237	1.23	44.9	178.09	3.650407	14.478862	1.05191	1.9	1.263372	2
238	1.2	46.12	179.04	3.843333	14.92	1.02096	2	1.298272	2
239	1.19	47.05	182.96	3.953782	15.37479	1.00704	2	1.333171	2
240	1.18	47.3	184.35	4.008475	15.622881	0.99565	2	1.368071	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
241	1.17	47.95	189.99	4.098291	16.238462	0.98001	2	1.40297	2
242	1.17	47.83	188.6	4.088034	16.119658	0.9814	2	1.43787	2
243	1.18	47.67	186.44	4.039831	15.8	0.99356	2	1.472769	2
244	1.17	48.68	197.23	4.160684	16.857265	0.97277	2	1.507669	2
245	1.16	48.85	201.19	4.211207	17.343966	0.95881	2	1.542568	2
246	1.15	49.58	205.61	4.311304	17.87913	0.94439	2	1.577468	2
247	1.15	49.25	201.63	4.282609	17.533043	0.94837	2	1.612367	2
248	1.16	49.3	196.32	4.25	16.924138	0.96368	2	1.647267	2
249	1.19	49.95	195.33	4.197479	16.414286	0.99467	2	1.682166	2
250	1.21	50.56	187.1	4.178512	15.46281	1.0229	2	1.717066	2
251	1.23	50.88	174.91	4.136585	14.220325	1.05509	2	1.751965	2
252	1.2	52.02	167.55	4.335	13.9625	1.03245	2	1.786865	2
253	1.16	53.74	175.16	4.632759	15.1	0.98484	2	1.821764	2
254	1.14	54.47	184.24	4.77807	16.161404	0.95576	2	1.856664	2
255	1.13	55.49	191.45	4.910619	16.942478	0.93855	2	1.891563	2
256	1.16	55.24	178.97	4.762069	15.428448	0.98103	2	1.926463	2
257	1.19	54.8	167.55	4.605042	14.079832	1.02245	2	1.961362	2
258	1.19	54.71	157.12	4.597479	13.203361	1.03288	2	1.996262	2
259	1.18	55.32	154.12	4.688136	13.061017	1.02588	2	2.031161	2
260	1.15	56.34	156.68	4.89913	13.624348	0.99332	2	2.066061	2
261	1.12	57.97	161.51	5.175893	14.420536	0.95849	2	2.10096	2
262	1.12	58.95	163.6	5.263393	14.607143	0.9564	2	2.13586	2
263	1.12	60.46	158.18	5.398214	14.123214	0.96182	2	2.170759	2
264	1.13	60.66	153.72	5.368142	13.60354	0.97628	2	2.205659	2
265	1.13	61.27	152.69	5.422124	13.512389	0.97731	2	2.240558	2
266	1.14	62.37	152.8	5.471053	13.403509	0.9872	2	2.275458	2
267	1.16	63.11	152.8	5.440517	13.172414	1.0072	2	2.310357	2
268	1.21	63.35	149.51	5.235537	12.356198	1.06049	2	2.345257	2
269	1.24	63.92	146.47	5.154839	11.812097	1.09353	2	2.380156	2
270	1.25	64.94	140.32	5.1952	11.2256	1.10968	2	2.415056	2
271	1.24	66.08	137.06	5.329032	11.053226	1.10294	2	2.449955	2
272	1.2	70.44	137.43	5.87	11.4525	1.06257	2	2.484855	2
273	1.19	72.03	138.6	6.052941	11.647059	1.0514	2	2.519754	2
274	1.19	72.76	137.61	6.114286	11.563866	1.05239	2	2.554654	2
275	1.22	73.09	133.51	5.990984	10.943443	1.08649	2	2.589553	2
276	1.26	72.68	127.62	5.768254	10.128571	1.13238	2	2.624453	2
277	1.26	73.7	127.73	5.849206	10.137302	1.13227	2	2.659352	2
278	1.27	74.88	129.89	5.896063	10.227559	1.14011	2	2.694252	2
279	1.28	75.29	126.27	5.882031	9.864844	1.15373	2	2.729151	2
280	1.27	77.16	124.62	6.075591	9.812598	1.14538	2	2.764051	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
281	1.25	79.04	133.4	6.3232	10.672	1.1166	2	2.79895	2
282	1.24	80.46	136.59	6.48871	11.015323	1.10341	2	2.83385	2
283	1.25	81.56	138.6	6.5248	11.088	1.1114	2	2.868749	2
284	1.27	82.5	130.95	6.496063	10.311024	1.13905	2	2.903649	2
285	1.27	83.31	125.97	6.559843	9.918898	1.14403	2	2.938548	2
286	1.26	85.15	127.69	6.757937	10.134127	1.13231	2	2.973448	2
287	1.23	87.39	139.7	7.104878	11.357724	1.0903	2	3.008347	2
288	1.22	89.06	141.68	7.3	11.613115	1.07832	2	3.043247	2
289	1.23	90.12	139.96	7.326829	11.378862	1.09004	2	3.078146	2
290	1.21	91.54	136.84	7.565289	11.309091	1.07316	2	3.113046	2
291	1.19	92.81	141.35	7.79916	11.878151	1.04865	2	3.147945	2
292	1.2	93.54	139.59	7.795	11.6325	1.06041	2	3.182845	2
293	1.19	94.07	137.8	7.905042	11.579832	1.0522	2	3.217744	2
294	1.18	95.25	143.47	8.072034	12.158475	1.03653	2	3.252644	2
295	1.17	95.7	152.44	8.179487	13.02906	1.01756	2	3.287543	2
296	1.18	95.33	149.47	8.078814	12.666949	1.03053	2	3.322443	2
297	1.18	94.72	142.55	8.027119	12.080508	1.03745	2	3.357342	2
298	1.14	95.17	136.62	8.348246	11.984211	1.00338	2	3.392242	2
299	1.14	95.17	136.62	8.348246	11.984211	1.00338	2	3.427141	2
300	1.09	95.78	137.1	8.787156	12.577982	0.9529	2	3.462041	2
301	1.09	95.82	135.53	8.790826	12.433945	0.95447	2	3.49694	2
302	1.09	96.51	133	8.854128	12.201835	0.957	2	3.53184	2
303	1.09	96.51	133	8.854128	12.201835	0.957	2	3.566739	1.1
304	1.09	96.51	133	8.854128	12.201835	0.957	2	3.601639	1.1
305	1.13	109.35	91.68	9.676991	8.113274	1.03832	2	3.636538	1.1
306	1.13	109.26	99.92	9.669027	8.842478	1.03008	2	3.671438	2.7
307	1.13	109.83	109.07	9.719469	9.652212	1.02093	2	3.706337	2.7
308	1.13	109.83	109.07	9.719469	9.652212	1.02093	2	3.741237	2.7
309	1.13	111.42	123.3	9.860177	10.911504	1.0067	2.1	3.77788	2.6
310	1.14	112.16	129.01	9.838596	11.316667	1.01099	2.1	3.814524	2.6
311	1.17	111.46	144.16	9.526496	12.321368	1.02584	2.1	3.851168	2.5
312	1.17	108.41	150.02	9.265812	12.822222	1.01998	2.1	3.887811	2.5
313	1.16	106.21	151.34	9.156034	13.046552	1.00866	2.1	3.924455	2.2
314	1.15	107.02	160.38	9.306087	13.946087	0.98962	2.1	3.961099	2.2
315	1.15	107.76	168.87	9.370435	14.684348	0.98113	2.1	3.997743	2.2
316	1.16	107.39	171.76	9.257759	14.806897	0.98824	2	4.032642	2.3
317	1.15	107.11	179.37	9.313913	15.597391	0.97063	2.1	4.069286	2.3
318	1.17	106.94	183.18	9.140171	15.65641	0.98682	2	4.104185	2.2
319	1.18	107.15	192.07	9.080508	16.277119	0.98793	2.1	4.140829	2.2
320	1.2	106.78	192.69	8.898333	16.0575	1.00731	2.1	4.177473	2.2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
321	1.23	105.8	188.12	8.601626	15.294309	1.04188	2.1	4.214116	2.2
322	1.21	108.08	224.72	8.932231	18.571901	0.98528	2.1	4.25076	2.1
323	1.23	108.9	229.44	8.853659	18.653659	1.00056	2.1	4.287404	2.1
324	1.25	108.65	238.74	8.692	19.0992	1.01126	2.1	4.324047	2.1
325	1.29	108.29	246.46	8.394574	19.105426	1.04354	2.1	4.360691	2.1
326	1.31	108.65	236.54	8.293893	18.056489	1.07346	2.1	4.397335	2.1
327	1.31	110.4	241.92	8.427481	18.467176	1.06808	2.1	4.433979	2.1
328	1.29	111.59	237.16	8.650388	18.384496	1.05284	2.1	4.470622	2.1
329	1.3	111.5	230.32	8.576923	17.716923	1.06968	2.1	4.507266	2.1
330	1.28	112.6	230.76	8.796875	18.028125	1.04924	2.1	4.54391	2.1
331	1.27	113.42	223.95	8.930709	17.633858	1.04605	2.1	4.580553	2.1
332	1.26	114.36	217.44	9.07619	17.257143	1.04256	2.1	4.617197	2.1
333	1.23	115.5	236.87	9.390244	19.257724	0.99313	2.1	4.653841	2.1
334	1.2	115.95	254.29	9.6625	21.190833	0.94571	2.1	4.690485	2.1
335	1.2	115.86	248.95	9.655	20.745833	0.95105	2.1	4.727128	2.1
336	1.22	115.5	231.38	9.467213	18.965574	0.98862	2.1	4.763772	2.1
337	1.22	116.11	230.21	9.517213	18.869672	0.98979	2.1	4.800416	2.1
338	1.21	116.52	227.94	9.629752	18.838017	0.98206	2.1	4.837059	2.1
339	1.18	117.17	223.29	9.929661	18.922881	0.95671	2.1	4.873703	2
340	1.14	117.25	226.66	10.285088	19.882456	0.91334	2.1	4.910347	2
341	1.11	117.21	229.26	10.559459	20.654054	0.88074	2.1	4.946991	2
342	1.09	116.68	232.04	10.704587	21.288073	0.85796	2.1	4.983634	2
343	1.08	115.78	227.68	10.72037	21.081481	0.85232	2.1	5.020278	2
344	1.09	114.44	216.89	10.499083	19.898165	0.87311	2.1	5.056922	2
345	1.09	111.63	210.23	10.241284	19.287156	0.87977	2.1	5.093565	2
346	1.09	111.63	210.23	10.241284	19.287156	0.87977	2.1	5.130209	2
347	1.08	110.28	227.39	10.211111	21.05463	0.85261	2.1	5.166853	2
348	1.09	109.1	233.87	10.009174	21.455963	0.85613	2.1	5.203496	2
349	1.12	107.39	230.83	9.588393	20.609821	0.88917	2.1	5.24014	2
350	1.13	105.11	223.8	9.30177	19.80531	0.9062	2.1	5.276784	2
351	1.14	103.07	214.91	9.041228	18.851754	0.92509	2.1	5.313428	2
352	1.12	101.61	212.97	9.072321	19.015179	0.90703	2.1	5.350071	2
353	1.1	101.16	216.7	9.196364	19.7	0.8833	2.1	5.386715	2
354	1.09	100.18	216.45	9.190826	19.857798	0.87355	2.1	5.423359	2
355	1.09	99.36	211.58	9.115596	19.411009	0.87842	2.1	5.460002	2
356	1.09	99.36	202.06	9.115596	18.537615	0.88794	2.1	5.496646	2
357	1.1	100.22	195.48	9.110909	17.770909	0.90452	2.1	5.53329	2
358	1.09	101.03	196.87	9.268807	18.061468	0.89313	2.1	5.569934	2
359	1.08	101.65	198.37	9.412037	18.367593	0.88163	2.1	5.606577	2
360	1.07	102.46	197.34	9.575701	18.442991	0.87266	2.1	5.643221	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
361	1.05	102.95	200.53	9.804762	19.098095	0.84947	2.1	5.679865	2
362	1.03	103.32	204.08	10.031068	19.813592	0.82592	2.1	5.716508	2
363	1.04	102.3	193.21	9.836538	18.577885	0.84679	2.1	5.753152	2
364	0.99	102.05	232.59	10.308081	23.493939	0.75741	2.1	5.789796	2
365	0.99	102.05	232.59	10.308081	23.493939	0.75741	2.1	5.82644	2
366	0.95	102.54	220.11	10.793684	23.169474	0.72989	2.1	5.863083	2
367	0.95	101.61	207.37	10.695789	21.828421	0.74263	2.1	5.899727	2
368	0.93	101.52	199.43	10.916129	21.444086	0.73057	2.1	5.936371	2
369	0.91	100.91	192.37	11.089011	21.13956	0.71763	2.1	5.973014	2
370	0.88	100.34	188.82	11.402273	21.456818	0.69118	2.1	6.009658	2
371	0.85	99.49	182.26	11.704706	21.442353	0.66774	2.1	6.046302	2
372	0.84	98.63	176.63	11.741667	21.027381	0.66337	2.1	6.082945	2
373	0.82	98.1	173.15	11.963415	21.115854	0.64685	2.1	6.119589	2
374	0.77	96.84	163.49	12.576623	21.232468	0.60651	2.1	6.156233	2
375	0.73	96.31	162.35	13.193151	22.239726	0.56765	2.1	6.192877	2
376	0.69	95.94	172.2	13.904348	24.956522	0.5178	2.1	6.22952	2
377	0.66	94.88	184.57	14.375758	27.965152	0.47543	2.1	6.266164	2
378	0.66	92.44	178.93	14.006061	27.110606	0.48107	2.1	6.302808	2
379	0.66	89.99	178.38	13.634848	27.027273	0.48162	2.1	6.339451	2
380	0.68	87.55	184.94	12.875	27.197059	0.49506	2.1	6.376095	2
381	0.77	82.42	187.97	10.703896	24.411688	0.58203	2.1	6.412739	2
382	0.78	80.83	196.1	10.362821	25.141026	0.5839	2.1	6.449383	2
383	0.75	80.05	243.68	10.673333	32.490667	0.50632	2.1	6.486026	2
384	0.73	78.18	284.74	10.709589	39.005479	0.44526	2.1	6.52267	2
385	0.74	75.37	284.96	10.185135	38.508108	0.45504	2.1	6.559314	2
386	0.76	72.48	276.36	9.536842	36.363158	0.48364	2.1	6.595957	2
387	0.76	71.17	312.34	9.364474	41.097368	0.44766	2.1	6.632601	2
388	0.77	65.88	289.72	8.555844	37.625974	0.48028	2.1	6.669245	2
389	0.78	65.18	280.9	8.35641	36.012821	0.4991	2.1	6.705889	2
390	0.8	65.39	271.57	8.17375	33.94625	0.52843	2.2	6.744276	2
391	0.81	66.41	260.99	8.198765	32.220988	0.54901	2.1	6.78092	2
392	0.81	67.95	256.96	8.388889	31.723457	0.55304	2.1	6.817564	2
393	0.81	68.81	257.04	8.495062	31.733333	0.55296	2.1	6.854207	2
394	0.8	69.71	257.07	8.71375	32.13375	0.54293	2.2	6.892595	2
395	0.8	69.54	244.04	8.6925	30.505	0.55596	2.1	6.929239	2
396	0.75	70.4	245.8	9.386667	32.773333	0.5042	2.1	6.965883	2
397	0.73	71.42	236.94	9.783562	32.457534	0.49306	2.1	7.002526	2
398	0.7	72.52	226.66	10.36	32.38	0.47334	2.1	7.03917	2
399	0.68	73.21	225.56	10.766176	33.170588	0.45444	2.1	7.075814	2
400	0.67	73.82	222.52	11.01791	33.21194	0.44748	2.1	7.112458	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
401	0.67	73.54	223.77	10.976119	33.398507	0.44623	2.1	7.149101	2
402	0.69	72.92	227.39	10.568116	32.955072	0.46261	2.1	7.185745	2
403	0.69	72.92	227.39	10.568116	32.955072	0.46261	2.1	7.222389	3.5
404	0.69	72.92	227.39	10.568116	32.955072	0.46261	2.1	7.259032	3.5
405	0.8	75.74	270.36	9.4675	33.795	0.52964	2.2	7.29742	2.2
406	0.82	73.37	295.32	8.947561	36.014634	0.52468	2.2	7.335808	2.2
407	0.82	72.8	316.8	8.878049	38.634146	0.5032	2.2	7.374196	2
408	0.82	71.13	329.83	8.67439	40.223171	0.49017	2.2	7.412584	2
409	0.81	69.79	340.88	8.616049	42.083951	0.46912	2.2	7.450971	2.1
410	0.78	68.04	324.49	8.723077	41.601282	0.45551	2.2	7.489359	2.1
411	0.74	66.81	344.25	9.028378	46.52027	0.39575	2.2	7.527747	2.1
412	0.67	66.28	353.48	9.892537	52.758209	0.31652	2.2	7.566135	2.1
413	0.62	64.49	256.34	10.401613	41.345161	0.36366	2.2	7.604523	2.1
414	0.57	63.43	267.61	11.12807	46.949123	0.30239	2.2	7.64291	2.1
415	0.54	61.68	245.58	11.422222	45.477778	0.29442	2.2	7.681298	2.1
416	0.51	58.95	168.21	11.558824	32.982353	0.34179	2.2	7.719686	2.1
417	0.51	58.87	111.44	11.543137	21.85098	0.39856	2.2	7.758074	2
418	0.51	59.24	139.99	11.615686	27.44902	0.37001	2.2	7.796462	2
419	0.5	59.93	177.4	11.986	35.48	0.3226	2.2	7.834849	2
420	0.49	60.25	181.28	12.295918	36.995918	0.30872	2.2	7.873237	2
421	0.47	60.7	177.07	12.914894	37.674468	0.29293	2.2	7.911625	2
422	0.45	61.15	165.43	13.588889	36.762222	0.28457	2.2	7.950013	2
423	0.44	61.15	158.15	13.897727	35.943182	0.28185	2.2	7.988401	2
424	0.44	60.05	169.89	13.647727	38.611364	0.27011	2.2	8.026789	2
425	0.45	56.83	177.69	12.628889	39.486667	0.27231	2.2	8.065176	2
426	0.46	55.08	185.45	11.973913	40.315217	0.27455	2.2	8.103564	2
427	0.46	53.45	199.43	11.619565	43.354348	0.26057	2.2	8.141952	2
428	0.46	51.54	213.74	11.204348	46.465217	0.24626	2.2	8.18034	2
429	0.46	49.05	221.86	10.663043	48.230435	0.23814	2.2	8.218728	2
430	0.47	46.77	225.16	9.951064	47.906383	0.24484	2.2	8.257115	2
431	0.47	44.69	231.16	9.508511	49.182979	0.23884	2.2	8.295503	2
432	0.47	43.63	239.21	9.282979	50.895745	0.23079	2.2	8.333891	2
433	0.46	42.7	238.3	9.282609	51.804348	0.2217	2.2	8.372279	2
434	0.45	42.65	240.42	9.477778	53.426667	0.20958	2.2	8.410667	2
435	0.46	42.49	243.6	9.236957	52.956522	0.2164	2.1	8.44731	2
436	0.47	41.72	248.51	8.876596	52.874468	0.22149	2.2	8.485698	2
437	0.49	40.82	255.54	8.330612	52.15102	0.23446	2.2	8.524086	2
438	0.5	39.97	259.93	7.994	51.986	0.24007	2.2	8.562474	2
439	0.52	39.07	270.87	7.513462	52.090385	0.24913	2.2	8.600862	2
440	0.54	38.09	281.41	7.053704	52.112963	0.25859	2.2	8.639249	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
441	0.56	35.28	301.94	6.3	53.917857	0.25806	2.2	8.677637	2
442	0.56	35.04	334.11	6.257143	59.6625	0.22589	2.2	8.716025	2
443	0.56	35.04	368.11	6.257143	65.733929	0.19189	2.2	8.754413	2
444	0.56	35.24	388.24	6.292857	69.328571	0.17176	2.2	8.792801	2
445	0.57	35.16	369.91	6.168421	64.896491	0.20009	2.2	8.831188	2
446	0.58	35.16	335.83	6.062069	57.901724	0.24417	2.2	8.869576	2
447	0.58	35.4	333.31	6.103448	57.467241	0.24669	2.2	8.907964	2
448	0.6	35.69	330.27	5.948333	55.045	0.26973	2.2	8.946352	2
449	0.61	35.85	318.08	5.877049	52.144262	0.29192	2.2	8.98474	2
450	0.66	35.85	307.84	5.431818	46.642424	0.35216	2.2	9.023127	2
451	0.69	36.3	286.79	5.26087	41.563768	0.40321	2.2	9.061515	2
452	0.71	37.15	281.45	5.232394	39.640845	0.42855	2.2	9.099903	2
453	0.72	39.03	289.68	5.420833	40.233333	0.43032	2.2	9.138291	2
454	0.73	41.07	304.21	5.626027	41.672603	0.42579	2.2	9.176679	2
455	0.75	42.21	325	5.628	43.333333	0.425	2.2	9.215067	2
456	0.78	42.12	323.83	5.4	41.516667	0.45617	2.2	9.253454	2
457	0.82	41.27	320.72	5.032927	39.112195	0.49928	2.2	9.291842	2
458	0.82	40.25	306.81	4.908537	37.415854	0.51319	2.2	9.33023	2
459	0.81	38.46	282.73	4.748148	34.904938	0.52727	2.2	9.368618	2
460	0.8	37.15	237.16	4.64375	29.645	0.56284	2.2	9.407006	2
461	0.77	36.95	192.73	4.798701	25.02987	0.57727	2.2	9.445393	2
462	0.75	36.5	247.01	4.866667	32.934667	0.50299	2.2	9.483781	2
463	0.73	36.34	310.4	4.978082	42.520548	0.4196	2.2	9.522169	2
464	0.7	37.03	368.33	5.29	52.618571	0.33167	2.2	9.560557	2
465	0.65	37.97	397.61	5.841538	61.170769	0.25239	2.2	9.598945	2
466	0.62	38.62	392.34	6.229032	63.280645	0.22766	2.2	9.637332	2
467	0.6	38.87	387.33	6.478333	64.555	0.21267	2.2	9.67572	2
468	0.61	38.17	381.36	6.257377	62.518033	0.22864	2.2	9.714108	2
469	0.59	37.28	368.52	6.318644	62.461017	0.22148	2.2	9.752496	2
470	0.59	36.22	353.18	6.138983	59.861017	0.23682	2.2	9.790884	2
471	0.6	35.24	343.26	5.873333	57.21	0.25674	2.2	9.829271	2
472	0.64	34.79	345.61	5.435938	54.001562	0.29439	2.2	9.867659	2
473	0.7	35.04	353	5.005714	50.428571	0.347	2.2	9.906047	2
474	0.71	35.2	387.77	4.957746	54.615493	0.32223	2.2	9.944435	2
475	0.71	34.63	400.18	4.877465	56.36338	0.30982	2.2	9.982823	2
476	0.68	33.9	424.33	4.985294	62.401471	0.25567	2.2	10.021211	2
477	0.64	33	426.34	5.15625	66.615625	0.21366	2.2	10.059598	2
478	0.62	31.45	401.2	5.072581	64.709677	0.2188	2.2	10.097986	2
479	0.62	31.08	378.55	5.012903	61.056452	0.24145	2.2	10.136374	2
480	0.61	31.78	365.3	5.209836	59.885246	0.2447	2.2	10.174762	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
481	0.62	34.51	348.57	5.566129	56.220968	0.27143	2.2	10.21315	2
482	0.62	36.14	347.29	5.829032	56.014516	0.27271	2	10.248049	2
483	0.62	37.81	349.92	6.098387	56.43871	0.27008	2	10.282949	2
484	0.63	39.15	342.68	6.214286	54.393651	0.28732	2	10.317848	2
485	0.64	40.01	338.14	6.251562	52.834375	0.30186	2	10.352748	2
486	0.65	40.82	339.27	6.28	52.195385	0.31073	2	10.387647	2
487	0.66	42.53	348.5	6.443939	52.80303	0.3115	2.2	10.426035	2
488	0.67	43.14	346.52	6.438806	51.719403	0.32348	2	10.460934	2
489	0.69	43.71	342.71	6.334783	49.668116	0.34729	2	10.495834	2
490	0.71	43.75	342.2	6.161972	48.197183	0.3678	2	10.530733	2
491	0.73	44.32	343.08	6.071233	46.99726	0.38692	2.2	10.569121	2
492	0.74	44.98	343.45	6.078378	46.412162	0.39655	2	10.604021	2
493	0.74	45.47	349.92	6.144595	47.286486	0.39008	2	10.63892	2
494	0.74	45.83	355.82	6.193243	48.083784	0.38418	2	10.67382	2
495	0.76	47.38	348.72	6.234211	45.884211	0.41128	2.2	10.712207	2
496	0.76	48.97	343.48	6.443421	45.194737	0.41652	2.2	10.750595	2
497	0.75	50.27	336.38	6.702667	44.850667	0.41362	2	10.785495	2
498	0.76	51.41	326.76	6.764474	42.994737	0.43324	2	10.820394	2
499	0.75	53.04	324.23	7.072	43.230667	0.42577	2.2	10.858782	2
500	0.74	54.92	340.48	7.421622	46.010811	0.39952	2	10.893682	2
501	0.73	56.71	325.4	7.768493	44.575342	0.4046	2	10.928581	2
502	0.73	58.38	330.38	7.99726	45.257534	0.39962	2.2	10.966969	2
503	0.73	58.38	330.38	7.99726	45.257534	0.39962	2.2	11.005357	0
504	0.73	58.38	330.38	7.99726	45.257534	0.39962	2.2	11.043744	1.6
505	0.77	66.41	397.91	8.624675	51.676623	0.37209	2.2	11.082132	1.6
506	0.77	67.47	384.22	8.762338	49.898701	0.38578	2.2	11.12052	2
507	0.73	70.48	383.67	9.654795	52.557534	0.34633	2.2	11.158908	2
508	0.72	71.54	385.35	9.936111	53.520833	0.33465	2.2	11.197296	2
509	0.71	71.91	374.12	10.128169	52.692958	0.33588	2.2	11.235684	2
510	0.71	71.78	357.79	10.109859	50.392958	0.35221	2.2	11.274071	2
511	0.7	71.82	349.3	10.26	49.9	0.3507	2.2	11.312459	2
512	0.69	71.7	344.62	10.391304	49.944928	0.34538	2.2	11.350847	2
513	0.66	71.38	340.52	10.815152	51.593939	0.31948	2.2	11.389235	2
514	0.65	71.09	334.3	10.936923	51.430769	0.3157	2.2	11.427623	2
515	0.65	69.91	328.51	10.755385	50.54	0.32149	2.2	11.46601	2
516	0.64	68.36	322.77	10.68125	50.432812	0.31723	2.2	11.504398	2
517	0.63	65.92	323.68	10.463492	51.377778	0.30632	2.2	11.542786	2
518	0.64	65.43	329.87	10.223438	51.542188	0.31013	2.2	11.581174	2
519	0.65	64.37	335.94	9.903077	51.683077	0.31406	2.2	11.619562	2
520	0.67	62.9	339.49	9.38806	50.670149	0.33051	2.2	11.657949	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
521	0.68	61.52	345.83	9.047059	50.857353	0.33417	2.2	11.696337	2
522	0.69	60.46	353.4	8.762319	51.217391	0.3366	2.2	11.734725	2
523	0.69	59.64	356.37	8.643478	51.647826	0.33363	2.2	11.773113	2
524	0.72	58.79	352.93	8.165278	49.018056	0.36707	2.2	11.811501	2
525	0.78	55.28	331.92	7.087179	42.553846	0.44808	2.2	11.849888	2
526	0.79	54.31	325.11	6.874684	41.153165	0.46489	2.2	11.888276	2
527	0.78	53.61	318.78	6.873077	40.869231	0.46122	2.2	11.926664	2
528	0.77	53.74	326.03	6.979221	42.341558	0.44397	2.2	11.965052	2
529	0.76	54.06	320.28	7.113158	42.142105	0.43972	2.2	12.00344	2
530	0.75	54.71	314.35	7.294667	41.913333	0.43565	2.2	12.041828	2
531	0.74	55.53	310.73	7.504054	41.990541	0.42927	2.2	12.080215	2
532	0.74	56.47	303.99	7.631081	41.07973	0.43601	2.2	12.118603	2
533	0.73	57.52	301.25	7.879452	41.267123	0.42875	2.2	12.156991	2
534	0.72	58.95	295.14	8.1875	40.991667	0.42486	2.3	12.197123	2
535	0.69	59.64	300.3	8.643478	43.521739	0.3897	2.2	12.235511	2
536	0.66	60.95	314.97	9.234848	47.722727	0.34503	2.2	12.273898	2
537	0.64	61.84	315.19	9.6625	49.248438	0.32481	2.2	12.312286	2
538	0.64	62.25	309.56	9.726562	48.36875	0.33044	2.3	12.352418	2
539	0.65	62.21	305.24	9.570769	46.96	0.34476	2.2	12.390806	2
540	0.68	61.07	297.77	8.980882	43.789706	0.38223	2.2	12.429194	2
541	0.7	59.93	300.11	8.561429	42.872857	0.39989	2.3	12.469325	2
542	0.72	58.83	300.92	8.170833	41.794444	0.41908	2.3	12.509457	2
543	0.74	58.14	310.03	7.856757	41.895946	0.42997	2.3	12.549589	2
544	0.74	58.46	319.73	7.9	43.206757	0.42027	2.3	12.589721	2
545	0.74	57.85	320.57	7.817568	43.32027	0.41943	2.3	12.629853	2
546	0.73	57.04	318.56	7.813699	43.638356	0.41144	2.3	12.669984	2
547	0.71	56.38	318.74	7.940845	44.892958	0.39126	2.3	12.710116	2
548	0.68	55.69	321.82	8.189706	47.326471	0.35818	2.3	12.750248	2
549	0.66	54.67	319.4	8.283333	48.393939	0.3406	2.3	12.79038	2
550	0.65	54.35	310.62	8.361538	47.787692	0.33938	2.3	12.830512	2
551	0.63	55.57	308.82	8.820635	49.019048	0.32118	2.2	12.868899	2
552	0.62	57.08	312.78	9.206452	50.448387	0.30722	2.3	12.909031	2
553	0.62	59.15	305.9	9.540323	49.33871	0.3141	2.2	12.947419	2
554	0.62	59.81	300.81	9.646774	48.517742	0.31919	2.2	12.985807	2
555	0.62	60.42	297.19	9.745161	47.933871	0.32281	2.2	13.024195	2
556	0.6	60.7	301.69	10.116667	50.281667	0.29831	2.2	13.062582	2
557	0.58	60.54	309.04	10.437931	53.282759	0.27096	2.2	13.10097	2
558	0.57	60.05	313.36	10.535088	54.975439	0.25664	2.2	13.139358	2
559	0.56	59.07	309.19	10.548214	55.2125	0.25081	2.2	13.177746	2
560	0.57	58.3	304.51	10.22807	53.422807	0.26549	2.2	13.216134	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
561	0.58	56.63	273.8	9.763793	47.206897	0.3062	2.2	13.254521	2
562	0.58	56.06	262.49	9.665517	45.256897	0.31751	2.2	13.292909	2
563	0.59	55.08	269.92	9.335593	45.749153	0.32008	2.2	13.331297	2
564	0.58	54.22	276.07	9.348276	47.598276	0.30393	2.2	13.369685	2
565	0.58	53.33	283.72	9.194828	48.917241	0.29628	2.2	13.408073	2
566	0.57	52.84	302.38	9.270175	53.049123	0.26762	2.2	13.44646	2
567	0.58	52.02	290.78	8.968966	50.134483	0.28922	2.2	13.484848	2
568	0.58	51.17	278.74	8.822414	48.058621	0.30126	2.2	13.523236	2
569	0.58	50.31	279.84	8.674138	48.248276	0.30016	2.2	13.561624	2
570	0.6	47.95	292.28	7.991667	48.713333	0.30772	2.2	13.600012	2
571	0.61	47.14	290.85	7.727869	47.680328	0.31915	2.2	13.638399	2
572	0.61	47.34	294.18	7.760656	48.22623	0.31582	2.2	13.676787	2
573	0.6	47.99	300.81	7.998333	50.135	0.29919	2.2	13.715175	2
574	0.6	48.44	301.39	8.073333	50.231667	0.29861	2.2	13.753563	2
575	0.58	48.89	297.95	8.42931	51.37069	0.28205	2.2	13.791951	2
576	0.57	49.7	294.11	8.719298	51.598246	0.27589	2.2	13.830339	2
577	0.54	50.07	285.25	9.272222	52.824074	0.25475	2.2	13.868726	2
578	0.5	50.76	263.15	10.152	52.63	0.23685	2.2	13.907114	2
579	0.47	51.17	260.84	10.887234	55.497872	0.20916	2.2	13.945502	2
580	0.46	51.45	263.18	11.184783	57.213043	0.19682	2.2	13.98389	2
581	0.46	51.5	263.26	11.195652	57.230435	0.19674	2.2	14.022278	2
582	0.46	51.54	263.08	11.204348	57.191304	0.19692	2.2	14.060665	2
583	0.47	51.58	260.7	10.974468	55.468085	0.2093	2.2	14.099053	2
584	0.46	51.9	260.92	11.282609	56.721739	0.19908	2.2	14.137441	2
585	0.47	51.7	269.44	11	57.32766	0.20056	2.2	14.175829	2
586	0.48	51.62	275.99	10.754167	57.497917	0.20401	2.2	14.214217	2
587	0.49	51.33	281.74	10.47551	57.497959	0.20826	2.2	14.252604	2
588	0.5	50.11	285.58	10.022	57.116	0.21442	2.2	14.290992	2
589	0.5	49.05	284.01	9.81	56.802	0.21599	2.2	14.32938	2
590	0.5	48.15	285.4	9.63	57.08	0.2146	2.2	14.367768	2
591	0.5	47.5	289.65	9.5	57.93	0.21035	2.2	14.406156	2
592	0.51	46.69	292.72	9.154902	57.396078	0.21728	2.2	14.444543	2
593	0.52	46	294.81	8.846154	56.694231	0.22519	2.2	14.482931	2
594	0.53	45.3	290.71	8.54717	54.850943	0.23929	2.2	14.521319	2
595	0.53	45.1	287.19	8.509434	54.186792	0.24281	2.2	14.559707	2
596	0.5	45.55	283.09	9.11	56.618	0.21691	2.3	14.599839	2
597	0.49	45.59	275.01	9.304082	56.12449	0.21499	2.3	14.63997	2
598	0.49	45.42	263.29	9.269388	53.732653	0.22671	2.2	14.678358	2
599	0.48	45.55	256.34	9.489583	53.404167	0.22366	2.3	14.71849	2
600	0.46	46.12	268.89	10.026087	58.454348	0.19111	2.3	14.758622	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
601	0.45	46.57	278.56	10.348889	61.902222	0.17144	2.3	14.798754	2
602	0.45	46.81	278.74	10.402222	61.942222	0.17126	2.3	14.838885	2
603	0.45	46.81	278.74	10.402222	61.942222	0.17126	2.3	14.879017	2
604	0.45	46.81	278.74	10.402222	61.942222	0.17126	2.3	14.919149	2
605	0.42	49.74	315.16	11.842857	75.038095	0.10484	2.3	14.959281	2.2
606	0.43	49.01	330.02	11.397674	76.748837	0.09998	2.3	14.999413	2.2
607	0.44	48.32	327.93	10.981818	74.529545	0.11207	2.3	15.039544	2.1
608	0.44	46.85	311.31	10.647727	70.752273	0.12869	2.3	15.079676	2.1
609	0.44	46.85	311.31	10.647727	70.752273	0.12869	2.3	15.119808	2.1
610	0.45	45.79	307.73	10.175556	68.384444	0.14227	2.3	15.15994	2.1
611	0.45	44.98	294.95	9.995556	65.544444	0.15505	2.3	15.200072	2.2
612	0.45	44.2	279.76	9.822222	62.168889	0.17024	2.3	15.240203	2.2
613	0.44	43.47	282.44	9.879545	64.190909	0.15756	2.3	15.280335	2.2
614	0.44	43.35	303.37	9.852273	68.947727	0.13663	2.3	15.320467	2.1
615	0.43	43.31	323.35	10.072093	75.197674	0.10665	2.3	15.360599	2.1
616	0.42	43.27	330.42	10.302381	78.671429	0.08958	2.3	15.400731	2.1
617	0.4	42.98	322.55	10.745	80.6375	0.07745	2.3	15.440862	2.1
618	0.39	42.78	321.01	10.969231	82.310256	0.06899	2.3	15.480994	2
619	0.38	42.57	324.12	11.202632	85.294737	0.05588	2.3	15.521126	2
620	0.38	42.12	325.18	11.084211	85.573684	0.05482	2.3	15.561258	2
621	0.38	41.43	327.78	10.902632	86.257895	0.05222	2.3	15.60139	2
622	0.38	40.86	331.11	10.752632	87.134211	0.04889	2.3	15.641521	2
623	0.39	39.84	323.76	10.215385	83.015385	0.06624	2.3	15.681653	2
624	0.39	39.27	312.48	10.069231	80.123077	0.07752	2.3	15.721785	2
625	0.4	38.74	303.33	9.685	75.8325	0.09667	2.3	15.761917	2
626	0.39	38.38	294.07	9.841026	75.402564	0.09593	2.3	15.802048	2
627	0.39	37.97	285.66	9.735897	73.246154	0.10434	2.5	15.845668	2
628	0.38	37.6	281.92	9.894737	74.189474	0.09808	2.5	15.889287	2
629	0.37	37.03	274.71	10.008108	74.245946	0.09529	2.3	15.929419	2
630	0.37	36.34	276.32	9.821622	74.681081	0.09368	2.5	15.973038	2
631	0.37	35.97	285.8	9.721622	77.243243	0.0842	2.3	16.01317	2
632	0.38	35.65	317.02	9.381579	83.426316	0.06298	2.3	16.053302	2
633	0.38	35.65	318.12	9.381579	83.715789	0.06188	2.3	16.093434	2
634	0.38	35.61	312.04	9.371053	82.115789	0.06796	2.5	16.137053	2
635	0.38	35.65	306.55	9.381579	80.671053	0.07345	2.3	16.177185	2
636	0.38	35.61	303.52	9.371053	79.873684	0.07648	2.3	16.217317	2
637	0.38	35.36	295.65	9.305263	77.802632	0.08435	2.3	16.257449	2
638	0.38	35	296.56	9.210526	78.042105	0.08344	2.3	16.29758	2
639	0.38	34.91	300.92	9.186842	79.189474	0.07908	2.3	16.337712	2
640	0.38	34.83	308.09	9.165789	81.076316	0.07191	2.3	16.377844	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
641	0.41	34.91	306.04	8.514634	74.643902	0.10396	2.3	16.417976	2
642	0.42	35.16	304.47	8.371429	72.492857	0.11553	2.5	16.461595	2
643	0.42	35.65	305.35	8.488095	72.702381	0.11465	2.5	16.505215	2
644	0.42	36.14	306.96	8.604762	73.085714	0.11304	2.3	16.545346	2
645	0.42	36.67	310.43	8.730952	73.911905	0.10957	2.3	16.585478	2
646	0.42	36.87	316.25	8.778571	75.297619	0.10375	2.3	16.62561	2
647	0.44	36.95	322	8.397727	73.181818	0.118	2.3	16.665742	2
648	0.45	37.03	324.45	8.228889	72.1	0.12555	2.5	16.709361	2
649	0.46	36.95	318.93	8.032609	69.332609	0.14107	2.3	16.749493	2
650	0.47	36.67	312.59	7.802128	66.508511	0.15741	2.3	16.789625	2
651	0.49	36.75	311.68	7.5	63.608163	0.17832	2.5	16.833244	2
652	0.49	37.73	316.88	7.7	64.669388	0.17312	2.3	16.873376	2
653	0.48	39.15	318.01	8.15625	66.252083	0.16199	2.5	16.916995	2
654	0.48	40.09	333.31	8.352083	69.439583	0.14669	2.5	16.960615	2
655	0.49	41.07	343.92	8.381633	70.187755	0.14608	2.3	17.000746	2
656	0.49	41.96	351.57	8.563265	71.74898	0.13843	2.3	17.040878	2
657	0.51	43.22	353.11	8.47451	69.237255	0.15689	2.5	17.084498	2
658	0.52	43.92	347.07	8.446154	66.744231	0.17293	2.5	17.128117	2
659	0.53	44.49	337.55	8.39434	63.688679	0.19245	2.3	17.168249	2
660	0.54	45.42	330.78	8.411111	61.255556	0.20922	2.5	17.211868	2
661	0.54	46.4	323.61	8.592593	59.927778	0.21639	2.5	17.255488	2
662	0.55	47.5	319.66	8.636364	58.12	0.23034	2.5	17.299107	2
663	0.56	48.6	319.73	8.678571	57.094643	0.24027	2.5	17.342726	2
664	0.55	49.95	321.67	9.081818	58.485455	0.22833	2.5	17.386346	2
665	0.54	50.56	327.6	9.362963	60.666667	0.2124	2.5	17.429965	2
666	0.53	50.88	329.83	9.6	62.232075	0.20017	2.5	17.473584	2
667	0.52	50.84	319	9.776923	61.346154	0.201	2.5	17.517204	2
668	0.51	50.56	317.97	9.913725	62.347059	0.19203	2.5	17.560823	2
669	0.5	50.48	320.76	10.096	64.152	0.17924	2.5	17.604443	2
670	0.5	50.27	312.74	10.054	62.548	0.18726	2.5	17.648062	2
671	0.5	50.4	314.79	10.08	62.958	0.18521	2.5	17.691681	2
672	0.49	50.84	322.55	10.37551	65.826531	0.16745	2.5	17.735301	2
673	0.49	50.8	327.97	10.367347	66.932653	0.16203	2.5	17.77892	2
674	0.49	50.6	329.06	10.326531	67.155102	0.16094	2.3	17.819052	2
675	0.49	50.48	322.91	10.302041	65.9	0.16709	2.3	17.859184	2
676	0.48	50.35	316.51	10.489583	65.939583	0.16349	2.5	17.902803	2
677	0.48	49.95	316.11	10.40625	65.85625	0.16389	2.5	17.946423	2
678	0.48	49.5	317.32	10.3125	66.108333	0.16268	2.3	17.986554	2
679	0.48	48.72	317.24	10.15	66.091667	0.16276	2.3	18.026686	2
680	0.48	47.46	335.83	9.8875	69.964583	0.14417	2.5	18.070306	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
681	0.48	47.01	377.85	9.79375	78.71875	0.10215	2.3	18.110437	2
682	0.47	46.4	371.63	9.87234	79.070213	0.09837	2.5	18.154057	2
683	0.48	45.34	361.64	9.445833	75.341667	0.11836	2.5	18.197676	2
684	0.49	44.57	353.29	9.095918	72.1	0.13671	2.3	18.237808	2
685	0.47	44.2	356.88	9.404255	75.931915	0.11312	2.3	18.27794	2
686	0.48	43.84	354.06	9.133333	73.7625	0.12594	2.5	18.321559	2
687	0.48	43.59	352.56	9.08125	73.45	0.12744	2.3	18.361691	2
688	0.5	42.7	346.19	8.54	69.238	0.15381	2.3	18.401823	2
689	0.5	42.78	348.79	8.556	69.758	0.15121	2.3	18.441954	2
690	0.49	42.74	354.17	8.722449	72.279592	0.13583	2.5	18.485574	2
691	0.48	42.41	352.6	8.835417	73.458333	0.1274	2.3	18.525706	2
692	0.47	42.29	354.43	8.997872	75.410638	0.11557	2.5	18.569325	2
693	0.47	42.12	356.22	8.961702	75.791489	0.11378	2.5	18.612944	2
694	0.48	42.29	353.66	8.810417	73.679167	0.12634	2.3	18.653076	2
695	0.49	42.17	345.42	8.606122	70.493878	0.14458	2.3	18.693208	2
696	0.5	41.68	318.01	8.336	63.602	0.18199	2.3	18.73334	2
697	0.52	41.07	307.47	7.898077	59.128846	0.21253	2.5	18.776959	2
698	0.53	40.82	298.94	7.701887	56.403774	0.23106	2.3	18.817091	2
699	0.53	40.98	315.23	7.732075	59.477358	0.21477	2.5	18.86071	2
700	0.53	41.51	351.5	7.832075	66.320755	0.1785	2.5	18.90433	2
701	0.53	42.49	397.54	8.016981	75.007547	0.13246	2.5	18.947949	2
702	0.53	42.53	388.57	8.024528	73.315094	0.14143	2.3	18.988081	2
703	0.53	42.53	388.57	8.024528	73.315094	0.14143	2.3	19.028213	4.6
704	0.53	42.53	388.57	8.024528	73.315094	0.14143	2.3	19.068344	3.6
705	0.59	46.81	367.53	7.933898	62.29322	0.22247	2.3	19.108476	3.6
706	0.6	46.32	385.02	7.72	64.17	0.21498	2.5	19.152096	2
707	0.59	46.61	393.22	7.9	66.647458	0.19678	2.4	19.193971	2
708	0.58	46.97	398.53	8.098276	68.712069	0.18147	2.3	19.234103	2.2
709	0.58	47.26	413.13	8.148276	71.22931	0.16687	2.4	19.275979	2.2
710	0.56	47.34	396.41	8.453571	70.7875	0.16359	2.3	19.316111	2
711	0.55	47.34	399.22	8.607273	72.585455	0.15078	2.4	19.357986	2
712	0.55	47.42	404.64	8.621818	73.570909	0.14536	2.4	19.399862	2
713	0.54	47.46	401.46	8.788889	74.344444	0.13854	2.4	19.441738	2
714	0.54	47.75	407.13	8.842593	75.394444	0.13287	2.4	19.483613	2
715	0.54	47.62	398.57	8.818519	73.809259	0.14143	2.4	19.525489	2
716	0.53	47.38	394.5	8.939623	74.433962	0.1355	2.4	19.567364	2
717	0.52	47.22	381.11	9.080769	73.290385	0.13889	2.4	19.60924	2
718	0.5	46.77	390.22	9.354	78.044	0.10978	2.4	19.651116	2
719	0.49	46.36	387	9.461224	78.979592	0.103	2.4	19.692991	2
720	0.49	45.83	381.4	9.353061	77.836735	0.1086	2.3	19.733123	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
721	0.48	45.02	372.1	9.379167	77.520833	0.1079	2.4	19.774999	2
722	0.47	44.81	366.8	9.534043	78.042553	0.1032	2.4	19.816875	2
723	0.46	44.53	371.3	9.680435	80.717391	0.0887	2.4	19.85875	2
724	0.46	43.88	365.33	9.53913	79.419565	0.09467	2.4	19.900626	2
725	0.45	43.1	371.04	9.577778	82.453333	0.07896	2.4	19.942502	2
726	0.44	42.74	359.73	9.713636	81.756818	0.08027	2.4	19.984377	2
727	0.44	42	347.73	9.545455	79.029545	0.09227	2.4	20.026253	2
728	0.43	41.03	332.1	9.54186	77.232558	0.0979	2.4	20.068128	2
729	0.43	40.62	323.17	9.446512	75.155814	0.10683	2.4	20.110004	2
730	0.42	40.29	330.38	9.592857	78.661905	0.08962	2.4	20.15188	2
731	0.42	39.11	293.34	9.311905	69.842857	0.12666	2.4	20.193755	2
732	0.42	38.34	273.4	9.128571	65.095238	0.1466	2.4	20.235631	2
733	0.43	37.52	262.05	8.725581	60.94186	0.16795	2.4	20.277507	2
734	0.43	36.83	255.32	8.565116	59.376744	0.17468	2.5	20.321126	2
735	0.43	35.97	249.5	8.365116	58.023256	0.1805	2.4	20.363002	2
736	0.43	35.32	255.28	8.213953	59.367442	0.17472	2.4	20.404877	2
737	0.43	34.59	270.8	8.044186	62.976744	0.1592	2.4	20.446753	2
738	0.44	33.49	295.03	7.611364	67.052273	0.14497	2.4	20.488629	2
739	0.45	32.18	275.63	7.151111	61.251111	0.17437	2.5	20.532248	2
740	0.46	31.13	267.43	6.767391	58.136957	0.19257	2.5	20.575868	2
741	0.47	29.74	231.09	6.32766	49.168085	0.23891	2.5	20.619487	2
742	0.49	28.15	212.2	5.744898	43.306122	0.2778	2.5	20.663106	2
743	0.51	27.05	221.17	5.303922	43.366667	0.28883	2.5	20.706726	2
744	0.52	26.44	237.05	5.084615	45.586538	0.28295	2.5	20.750345	2
745	0.52	25.83	238.41	4.967308	45.848077	0.28159	2.5	20.793964	2
746	0.38	16.7	146.25	4.394737	38.486842	0.23375	2.5	20.837584	0.6
747	0.5	25.42	223.11	5.084	44.622	0.27689	2.5	20.881203	0.6
748	0.51	24.93	232.11	4.888235	45.511765	0.27789	2.5	20.924823	1.7
749	0.5	24.81	258.17	4.962	51.634	0.24183	2.5	20.968442	1.7
750	0.5	25.01	288.58	5.002	57.716	0.21142	2.5	21.012061	2
751	0.5	25.5	294.48	5.1	58.896	0.20552	2.5	21.055681	2
752	0.49	25.79	288.69	5.263265	58.916327	0.20131	2.5	21.0993	2
753	0.5	25.71	279.84	5.142	55.968	0.22016	2.5	21.14292	2
754	0.5	25.67	264.43	5.134	52.886	0.23557	2.5	21.186539	1.9
755	0.5	25.18	257.33	5.036	51.466	0.24267	2.5	21.230158	1.9
756	0.51	25.05	242.98	4.911765	47.643137	0.26702	2.5	21.273778	2
757	0.51	24.89	235	4.880392	46.078431	0.275	2.5	21.317397	2
758	0.51	24.61	227.21	4.82549	44.55098	0.28279	2.5	21.361016	1.9
759	0.52	24.77	258.32	4.763462	49.676923	0.26168	2.5	21.404636	1.9
760	0.52	25.42	298.83	4.888462	57.467308	0.22117	2.5	21.448255	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
761	0.52	26.28	342.71	5.053846	65.905769	0.17729	2.5	21.491875	2
762	0.51	27.3	375.8	5.352941	73.686275	0.1342	2.5	21.535494	2
763	0.51	28.15	409.29	5.519608	80.252941	0.10071	2.5	21.579113	2
764	0.5	29.17	399.48	5.834	79.896	0.10052	2.6	21.624476	2
765	0.48	30.51	348.9	6.35625	72.6875	0.1311	2.5	21.668096	2
766	0.46	32.23	337.19	7.006522	73.302174	0.12281	2.5	21.711715	2
767	0.44	32.96	334.44	7.490909	76.009091	0.10556	2.5	21.755335	2
768	0.43	33.85	330.16	7.872093	76.781395	0.09984	2.5	21.798954	2
769	0.42	34.18	333.57	8.138095	79.421429	0.08643	2.5	21.842573	2
770	0.43	33.9	346.05	7.883721	80.476744	0.08395	2.5	21.886193	2
771	0.42	33.49	349.85	7.97381	83.297619	0.07015	2.5	21.929812	2
772	0.42	33.2	340.96	7.904762	81.180952	0.07904	2.5	21.973432	2
773	0.4	32.59	310.29	8.1475	77.5725	0.08971	2.5	22.017051	2
774	0.4	32.35	292.13	8.0875	73.0325	0.10787	2.5	22.06067	2
775	0.39	32.23	284.16	8.264103	72.861538	0.10584	2.5	22.10429	2
776	0.4	32.1	286.35	8.025	71.5875	0.11365	2.5	22.147909	2
777	0.42	31.86	294.7	7.585714	70.166667	0.1253	2.5	22.191528	2
778	0.43	31.61	311.31	7.351163	72.397674	0.11869	2.5	22.235148	2
779	0.45	31.37	343.23	6.971111	76.273333	0.10677	2.5	22.278767	2
780	0.44	31.53	385.1	7.165909	87.522727	0.0549	2.5	22.322387	2
781	0.44	31.37	402.66	7.129545	91.513636	0.03734	2.5	22.366006	1.9
782	0.44	31.33	383.45	7.120455	87.147727	0.05655	2.5	22.409625	1.9
783	0.45	30.43	375.43	6.762222	83.428889	0.07457	2.5	22.453245	2
784	0.45	29.86	333.82	6.635556	74.182222	0.11618	2.5	22.496864	2
785	0.45	28.93	276.32	6.428889	61.404444	0.17368	2.5	22.540484	2
786	0.43	28.11	220.4	6.537209	51.255814	0.2096	2.5	22.584103	2
787	0.43	27.99	223.4	6.509302	51.953488	0.2066	2.5	22.627722	2
788	0.42	28.19	243.49	6.711905	57.97381	0.17651	2.5	22.671342	2
789	0.41	28.48	261.68	6.946341	63.82439	0.14832	2.5	22.714961	2
790	0.39	28.8	274.82	7.384615	70.466667	0.11518	2.5	22.75858	2
791	0.38	29.13	272.92	7.665789	71.821053	0.10708	2.5	22.8022	2
792	0.36	29.21	263.22	8.113889	73.116667	0.09678	2.5	22.845819	2
793	0.36	28.93	246.93	8.036111	68.591667	0.11307	2.6	22.891182	2
794	0.37	28.11	239.1	7.597297	64.621622	0.1309	2.5	22.934802	2
795	0.38	27.83	281.67	7.323684	74.123684	0.09833	2.5	22.978421	2
796	0.38	27.66	273.91	7.278947	72.081579	0.10609	2.5	23.02204	2
797	0.38	27.05	255.21	7.118421	67.160526	0.12479	2.5	23.06566	2
798	0.38	25.5	253.85	6.710526	66.802632	0.12615	2.6	23.111023	2
799	0.37	23.63	252.21	6.386486	68.164865	0.11779	2.6	23.156386	2
800	0.35	20.74	217.4	5.925714	62.114286	0.1326	2.6	23.201749	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
801	0.34	19.8	206.46	5.823529	60.723529	0.13354	2.6	23.247112	2
802	0.34	19.19	200.49	5.644118	58.967647	0.13951	2.6	23.292475	2
803	0.34	19.19	200.49	5.644118	58.967647	0.13951	2.6	23.337838	6.7
804	0.34	19.19	200.49	5.644118	58.967647	0.13951	2.6	23.383201	6.7
805	0.36	18.01	257.33	5.002778	71.480556	0.10267	2.6	23.428564	2.2
806	0.3	13.12	169.12	4.373333	56.373333	0.13088	2.6	23.473927	1.2
807	0.36	17.48	259.01	4.855556	71.947222	0.10099	2.6	23.51929	0.7
808	0.38	17.31	253.34	4.555263	66.668421	0.12666	2.6	23.564653	2
809	0.38	18.21	284.71	4.792105	74.923684	0.09529	2.6	23.610016	2
810	0.38	19.03	303.7	5.007895	79.921053	0.0763	2.6	23.655379	2
811	0.39	19.8	309.85	5.076923	79.448718	0.08015	2.6	23.700742	2
812	0.41	20.33	310.54	4.958537	75.741463	0.09946	2.6	23.746105	2
813	0.42	20.61	314.17	4.907143	74.802381	0.10583	2.6	23.791468	2
814	0.44	20.86	316.44	4.740909	71.918182	0.12356	2.6	23.836831	2
815	0.47	20.9	310.14	4.446809	65.987234	0.15986	2.6	23.882194	2
816	0.49	21.27	347	4.340816	70.816327	0.143	2.6	23.927557	2
817	0.5	22.08	393.11	4.416	78.622	0.10689	2.6	23.97292	2
818	0.49	23.26	420.45	4.746939	85.806122	0.06955	2.6	24.018283	2
819	0.49	24.32	432.86	4.963265	88.338776	0.05714	2.6	24.063646	2
820	0.49	25.18	448.27	5.138776	91.483673	0.04173	2.6	24.109009	2
821	0.49	26.28	402.88	5.363265	82.220408	0.08712	2.6	24.154372	2
822	0.5	27.34	428.43	5.468	85.686	0.07157	2.6	24.199735	1.9
823	0.51	28.07	438.31	5.503922	85.943137	0.07169	2.6	24.245097	1.9
824	0.51	28.93	458.15	5.672549	89.833333	0.05185	2.6	24.29046	2
825	0.51	29.82	472.75	5.847059	92.696078	0.03725	2.6	24.335823	2
826	0.51	30.64	476.74	6.007843	93.478431	0.03326	2.6	24.381186	2
827	0.52	31.21	484.21	6.001923	93.117308	0.03579	2.6	24.426549	2
828	0.53	31.78	498.01	5.996226	93.964151	0.03199	2.6	24.471912	2
829	0.56	32.51	519.34	5.805357	92.739286	0.04066	2.6	24.517275	2
830	0.62	34.79	578.01	5.61129	93.227419	0.04199	2.6	24.562638	2
831	0.63	36.18	541.38	5.742857	85.933333	0.08862	2.6	24.608001	2
832	0.65	37.28	564.69	5.735385	86.875385	0.08531	2.6	24.653364	2
833	0.67	38.3	582.26	5.716418	86.904478	0.08774	2.6	24.698727	2
834	0.69	39.19	589.36	5.67971	85.414493	0.10064	2.6	24.74409	2
835	0.7	40.21	577.32	5.744286	82.474286	0.12268	2.6	24.789453	2
836	0.72	42.17	559.27	5.856944	77.676389	0.16073	2.6	24.834816	2
837	0.73	43.1	552.87	5.90411	75.735616	0.17713	2.6	24.880179	2
838	0.72	43.8	574.31	6.083333	79.765278	0.14569	2.6	24.925542	2
839	0.72	44.53	556.97	6.184722	77.356944	0.16303	2.6	24.970905	2
840	0.72	45.22	555.36	6.280556	77.133333	0.16464	2.6	25.016268	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
841	0.71	45.87	546.06	6.460563	76.909859	0.16394	2.8	25.065118	2
842	0.69	47.3	542.07	6.855072	78.56087	0.14793	2.8	25.113968	2
843	0.69	47.95	524.94	6.949275	76.078261	0.16506	2.6	25.159331	2
844	0.69	49.09	541.27	7.114493	78.444928	0.14873	2.6	25.204694	2
845	0.69	50.52	563.48	7.321739	81.663768	0.12652	2.6	25.250057	2
846	0.69	51.66	575.41	7.486957	83.392754	0.11459	2.8	25.298907	2
847	0.7	52.68	577.39	7.525714	82.484286	0.12261	2.8	25.347756	2
848	0.7	54.06	602.9	7.722857	86.128571	0.0971	2.6	25.393119	2
849	0.72	54.39	618.93	7.554167	85.9625	0.10107	2.6	25.438482	2
850	0.73	53.33	626.29	7.305479	85.793151	0.10371	2.8	25.487332	2
851	0.75	52.47	639.5	6.996	85.266667	0.1105	2.8	25.536182	2
852	0.75	51.86	650.29	6.914667	86.705333	0.09971	2.8	25.585032	2
853	0.74	51.25	658.38	6.925676	88.97027	0.08162	2.8	25.633881	2
854	0.72	50.6	637.85	7.027778	88.590278	0.08215	2.8	25.682731	2
855	0.71	49.78	647.22	7.011268	91.157746	0.06278	2.8	25.731581	2
856	0.7	48.6	613.7	6.942857	87.671429	0.0863	2.8	25.780431	1.9
857	0.71	48.68	613.33	6.856338	86.384507	0.09667	2.8	25.82928	1.9
858	0.69	48.81	618.82	7.073913	89.684058	0.07118	2.8	25.87813	1.9
859	0.67	48.97	632.62	7.308955	94.420896	0.03738	2.8	25.92698	2
860	0.65	48.85	627.49	7.515385	96.536923	0.02251	2.8	25.97583	2
861	0.63	47.99	598.95	7.61746	95.071429	0.03105	2.8	26.02468	2
862	0.58	47.58	573.25	8.203448	98.836207	0.00675	2.8	26.073529	2
863	0.58	47.67	562.05	8.218966	96.905172	0.01795	2.8	26.122379	2
864	0.58	47.42	539.44	8.175862	93.006897	0.04056	2.8	26.171229	2
865	0.57	47.22	519.64	8.284211	91.164912	0.05036	2.8	26.220079	2
866	0.55	47.42	503.09	8.621818	91.470909	0.04691	2.8	26.268928	2
867	0.53	47.14	479.38	8.89434	90.449057	0.05062	2.8	26.317778	2
868	0.51	46.52	461.37	9.121569	90.464706	0.04863	2.8	26.366628	2
869	0.5	46.08	448.16	9.216	89.632	0.05184	2.8	26.415478	2
870	0.48	45.22	416.83	9.420833	86.839583	0.06317	2.8	26.464327	2
871	0.47	44.77	401.75	9.525532	85.478723	0.06825	2.8	26.513177	2
872	0.46	43.67	385.61	9.493478	83.828261	0.07439	2.8	26.562027	2
873	0.44	42.37	369.1	9.629545	83.886364	0.0709	2.8	26.610877	2
874	0.43	40.98	353.04	9.530233	82.102326	0.07696	2.8	26.659727	2
875	0.42	39.84	344.33	9.485714	81.983333	0.07567	2.8	26.708576	2
876	0.4	38.34	340.63	9.585	85.1575	0.05937	2.8	26.757426	2
877	0.4	36.95	324.27	9.2375	81.0675	0.07573	2.8	26.806276	2
878	0.4	36.3	313.44	9.075	78.36	0.08656	2.8	26.855126	2
879	0.39	35.81	306.37	9.182051	78.55641	0.08363	2.8	26.903975	2
880	0.39	35.04	299.49	8.984615	76.792308	0.09051	2.8	26.952825	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
881	0.38	34.1	289.57	8.973684	76.202632	0.09043	2.8	27.001675	2
882	0.38	33.33	274.75	8.771053	72.302632	0.10525	2.8	27.050525	2
883	0.38	32.23	262.27	8.481579	69.018421	0.11773	2.8	27.099374	2
884	0.37	29.9	247.89	8.081081	66.997297	0.12211	2.8	27.148224	2
885	0.37	28.93	247.19	7.818919	66.808108	0.12281	2.8	27.197074	2
886	0.37	28.23	251.88	7.62973	68.075676	0.11812	2.8	27.245924	2
887	0.37	27.54	252.61	7.443243	68.272973	0.11739	2.8	27.294774	2
888	0.37	26.93	253.63	7.278378	68.548649	0.11637	2.8	27.343623	2
889	0.37	26.32	256.82	7.113514	69.410811	0.11318	2.8	27.392473	2
890	0.37	25.46	261.1	6.881081	70.567568	0.1089	2.8	27.441323	2
891	0.38	25.26	270.91	6.647368	71.292105	0.10909	2.8	27.490173	2
892	0.37	25.01	278.45	6.759459	75.256757	0.09155	2.8	27.539022	2
893	0.37	24.73	281.85	6.683784	76.175676	0.08815	2.8	27.587872	2
894	0.37	24.48	276.76	6.616216	74.8	0.09324	2.8	27.636722	2
895	0.37	24.2	270.94	6.540541	73.227027	0.09906	2.8	27.685572	2
896	0.38	24.08	271.09	6.336842	71.339474	0.10891	2.8	27.734421	2
897	0.38	24.16	277.35	6.357895	72.986842	0.10265	2.8	27.783271	2
898	0.38	24.2	286.13	6.368421	75.297368	0.09387	2.8	27.832121	2
899	0.38	24.36	295.9	6.410526	77.868421	0.0841	2.8	27.880971	2
900	0.38	24.53	302.35	6.455263	79.565789	0.07765	2.8	27.929821	2
901	0.38	24.32	310.54	6.4	81.721053	0.06946	2.8	27.97867	2
902	0.38	24.12	312.56	6.347368	82.252632	0.06744	2.8	28.02752	2
903	0.38	24.12	312.56	6.347368	82.252632	0.06744	2.8	28.07637	2
904	0.38	24.12	312.56	6.347368	82.252632	0.06744	2.8	28.12522	2
905	0.41	25.22	368.04	6.15122	89.765854	0.04196	2.8	28.174069	2
906	0.42	25.01	380.74	5.954762	90.652381	0.03926	2.8	28.222919	2
907	0.42	25.18	376.61	5.995238	89.669048	0.04339	2.8	28.271769	2.2
908	0.42	25.26	378.47	6.014286	90.111905	0.04153	2.8	28.320619	2.2
909	0.43	25.34	383.12	5.893023	89.097674	0.04688	2.8	28.369469	2.1
910	0.43	25.58	382.86	5.948837	89.037209	0.04714	2.8	28.418318	2.1
911	0.44	25.75	381.77	5.852273	86.765909	0.05823	2.8	28.467168	2
912	0.44	26.48	370.82	6.018182	84.277273	0.06918	2.8	28.516018	2
913	0.44	26.73	380.41	6.075	86.456818	0.05959	2.8	28.564868	2
914	0.44	26.93	375.03	6.120455	85.234091	0.06497	2.8	28.613717	2
915	0.44	27.05	374.59	6.147727	85.134091	0.06541	2.8	28.662567	2
916	0.44	27.21	377.78	6.184091	85.859091	0.06222	2.8	28.711417	2
917	0.44	27.21	377.34	6.184091	85.759091	0.06266	2.8	28.760267	2
918	0.46	27.58	397.87	5.995652	86.493478	0.06213	2.9	28.81086	2
919	0.47	27.58	404.27	5.868085	86.014894	0.06573	2.8	28.859709	2
920	0.49	27.66	412.18	5.644898	84.118367	0.07782	2.8	28.908559	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
921	0.5	28.03	412.8	5.606	82.56	0.0872	2.8	28.957409	1.9
922	0.5	28.76	424.62	5.752	84.924	0.07538	2.9	29.008002	1.9
923	0.49	29.21	422.5	5.961224	86.22449	0.0675	2.8	29.056852	2
924	0.48	29.29	418.29	6.102083	87.14375	0.06171	2.8	29.105701	2
925	0.46	28.97	391.21	6.297826	85.045652	0.06879	2.8	29.154551	2
926	0.45	28.68	374.78	6.373333	83.284444	0.07522	2.8	29.203401	2
927	0.44	28.44	372.07	6.463636	84.561364	0.06793	2.9	29.253994	2
928	0.44	28.23	368.63	6.415909	83.779545	0.07137	2.9	29.304587	2
929	0.44	27.99	368.15	6.361364	83.670455	0.07185	2.9	29.35518	1.9
930	0.44	27.99	368.11	6.361364	83.661364	0.07189	2.9	29.405773	1.9
931	0.44	28.23	368.55	6.415909	83.761364	0.07145	2.9	29.456366	2
932	0.43	28.31	368.22	6.583721	85.632558	0.06178	2.9	29.506959	2
933	0.43	28.19	365.7	6.555814	85.046512	0.0643	2.9	29.557552	2
934	0.43	27.91	365.26	6.490698	84.944186	0.06474	2.9	29.608144	2
935	0.43	27.78	362.11	6.460465	84.211628	0.06789	2.9	29.658737	2
936	0.42	27.7	358.45	6.595238	85.345238	0.06155	2.9	29.70933	2
937	0.42	27.58	356.48	6.566667	84.87619	0.06352	2.9	29.759923	2
938	0.42	27.3	352.89	6.5	84.021429	0.06711	2.9	29.810516	2
939	0.42	26.07	354.76	6.207143	84.466667	0.06524	2.9	29.861109	2
940	0.42	25.54	353.18	6.080952	84.090476	0.06682	2.9	29.911702	2
941	0.42	25.26	346.92	6.014286	82.6	0.07308	2.9	29.962295	2
942	0.42	24.93	345.83	5.935714	82.340476	0.07417	2.9	30.012888	2
943	0.42	24.4	345.79	5.809524	82.330952	0.07421	2.9	30.063481	2
944	0.41	23.75	340.48	5.792683	83.043902	0.06952	2.9	30.114074	2
945	0.41	23.38	337.44	5.702439	82.302439	0.07256	2.9	30.164667	1.9
946	0.41	22.57	332.14	5.504878	81.009756	0.07786	2.9	30.21526	1.9
947	0.41	22.37	337.59	5.456098	82.339024	0.07241	2.9	30.265853	2
948	0.42	22.08	347.62	5.257143	82.766667	0.07238	2.9	30.316446	2
949	0.42	21.96	356.15	5.228571	84.797619	0.06385	2.9	30.367039	2
950	0.42	21.88	367.86	5.209524	87.585714	0.05214	2.9	30.417631	2
951	0.43	21.8	374.74	5.069767	87.148837	0.05526	2.9	30.468224	2
952	0.43	21.63	374.56	5.030233	87.106977	0.05544	2.9	30.518817	2
953	0.43	21.51	374.52	5.002326	87.097674	0.05548	2.9	30.56941	2
954	0.43	21.67	364.71	5.039535	84.816279	0.06529	2.9	30.620003	2
955	0.42	21.8	356.59	5.190476	84.902381	0.06341	2.9	30.670596	2
956	0.41	21.88	343.89	5.336585	83.87561	0.06611	2.9	30.721189	2
957	0.41	21.8	336.64	5.317073	82.107317	0.07336	2.9	30.771782	2
958	0.41	21.55	336.16	5.256098	81.990244	0.07384	2.9	30.822375	2
959	0.41	21.1	335.58	5.146341	81.84878	0.07442	2.9	30.872968	2
960	0.41	20.7	330.86	5.04878	80.697561	0.07914	2.9	30.923561	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
961	0.4	20.7	322.8	5.175	80.7	0.0772	2.9	30.974154	2
962	0.4	20.86	321.12	5.215	80.28	0.07888	2.9	31.024747	2
963	0.4	21.02	325.33	5.255	81.3325	0.07467	2.9	31.07534	2
964	0.4	21.18	330.38	5.295	82.595	0.06962	2.9	31.125933	2
965	0.4	21.31	330.75	5.3275	82.6875	0.06925	2.9	31.176526	2
966	0.4	21.59	332.06	5.3975	83.015	0.06794	2.9	31.227119	2
967	0.41	21.84	329.06	5.326829	80.258537	0.08094	2.9	31.277711	2
968	0.41	21.59	325.18	5.265854	79.312195	0.08482	2.9	31.328304	2
969	0.41	21.51	322.11	5.246341	78.563415	0.08789	2.9	31.378897	2
970	0.41	21.59	319.55	5.265854	77.939024	0.09045	2.9	31.42949	2
971	0.41	21.84	322.99	5.326829	78.778049	0.08701	2.9	31.480083	2
972	0.42	22.2	330.34	5.285714	78.652381	0.08966	2.9	31.530676	1.9
973	0.42	22.98	339.42	5.471429	80.814286	0.08058	2.9	31.581269	1.9
974	0.42	22.98	350.4	5.471429	83.428571	0.0696	2.9	31.631862	2
975	0.42	23.06	369.18	5.490476	87.9	0.05082	2.9	31.682455	2
976	0.42	23.02	382.75	5.480952	91.130952	0.03725	2.9	31.733048	2
977	0.42	23.14	383.12	5.509524	91.219048	0.03688	2.9	31.783641	2
978	0.43	23.18	383.89	5.390698	89.276744	0.04611	2.9	31.834234	2
979	0.43	23.1	381.66	5.372093	88.75814	0.04834	2.9	31.884827	2
980	0.43	22.98	375	5.344186	87.209302	0.055	2.9	31.93542	2
981	0.42	22.77	361.49	5.421429	86.069048	0.05851	2.9	31.986013	2
982	0.42	22.53	365.37	5.364286	86.992857	0.05463	2.9	32.036606	2
983	0.42	22.45	368.08	5.345238	87.638095	0.05192	2.9	32.087199	2
984	0.42	22.45	373.49	5.345238	88.92619	0.04651	2.9	32.137791	2
985	0.42	22.41	373.24	5.335714	88.866667	0.04676	2.9	32.188384	2
986	0.42	22.45	378.03	5.345238	90.007143	0.04197	2.9	32.238977	2
987	0.43	22.37	387.55	5.202326	90.127907	0.04245	2.9	32.28957	2
988	0.43	22.33	389.89	5.193023	90.672093	0.04011	2.9	32.340163	2
989	0.44	22.53	394.72	5.120455	89.709091	0.04528	2.9	32.390756	2
990	0.44	22.57	400.65	5.129545	91.056818	0.03935	2.9	32.441349	2
991	0.45	22.45	403.84	4.988889	89.742222	0.04616	2.9	32.491942	2
992	0.44	22.61	400.54	5.138636	91.031818	0.03946	2.9	32.542535	2
993	0.44	22.69	397.72	5.156818	90.390909	0.04228	2.9	32.593128	2
994	0.44	22.61	384.58	5.138636	87.404545	0.05542	2.9	32.643721	2
995	0.43	22.73	379.13	5.286047	88.169767	0.05087	2.9	32.694314	2
996	0.43	22.77	375.43	5.295349	87.309302	0.05457	2.9	32.744907	2
997	0.43	22.77	369.69	5.295349	85.974419	0.06031	2.9	32.7955	2
998	0.43	22.81	368.77	5.304651	85.760465	0.06123	2.9	32.846093	2
999	0.43	22.94	368.7	5.334884	85.744186	0.0613	2.9	32.896686	2
1000	0.43	23.18	369.07	5.390698	85.830233	0.06093	2.9	32.947278	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1001	0.43	23.43	373.35	5.448837	86.825581	0.05665	2.9	32.997871	2
1002	0.43	23.47	380.85	5.45814	88.569767	0.04915	2.9	33.048464	2
1003	0.43	23.47	380.85	5.45814	88.569767	0.04915	2.9	33.099057	3.9
1004	0.43	23.47	380.85	5.45814	88.569767	0.04915	2.9	33.14965	2
1005	0.45	26.15	397.47	5.811111	88.326667	0.05253	2.9	33.200243	2
1006	0.45	25.91	406.07	5.757778	90.237778	0.04393	2.9	33.250836	2
1007	0.46	25.79	408.3	5.606522	88.76087	0.0517	2.9	33.301429	2
1008	0.45	25.87	410.61	5.748889	91.246667	0.03939	2.9	33.352022	2
1009	0.45	25.91	412.55	5.757778	91.677778	0.03745	2.9	33.402615	2
1010	0.45	25.75	414.01	5.722222	92.002222	0.03599	2.9	33.453208	2
1011	0.45	25.34	419.39	5.631111	93.197778	0.03061	2.9	33.503801	2
1012	0.46	25.14	425.21	5.465217	92.436957	0.03479	2.9	33.554394	2
1013	0.46	25.42	426.49	5.526087	92.715217	0.03351	2.9	33.604987	2
1014	0.46	25.38	428.21	5.517391	93.08913	0.03179	2.9	33.65558	2
1015	0.46	25.54	428.8	5.552174	93.217391	0.0312	2.9	33.706173	2
1016	0.46	25.5	425.5	5.543478	92.5	0.0345	2.9	33.756766	2
1017	0.45	25.34	416.39	5.631111	92.531111	0.03361	2.9	33.807358	2
1018	0.45	25.34	426.38	5.631111	94.751111	0.02362	2.9	33.857951	2
1019	0.45	25.34	418.66	5.631111	93.035556	0.03134	2.9	33.908544	2
1020	0.46	25.26	420.63	5.491304	91.441304	0.03937	2.9	33.959137	2
1021	0.45	25.14	424.7	5.586667	94.377778	0.0253	2.9	34.00973	2
1022	0.46	24.93	434.87	5.419565	94.536957	0.02513	2.9	34.060323	2
1023	0.46	24.73	439.45	5.376087	95.532609	0.02055	2.9	34.110916	2
1024	0.46	24.81	444.53	5.393478	96.636957	0.01547	2.9	34.161509	2
1025	0.46	24.53	447.5	5.332609	97.282609	0.0125	2.9	34.212102	2
1026	0.47	24.24	450.98	5.157447	95.953191	0.01902	2.9	34.262695	1.9
1027	0.47	24.28	450.76	5.165957	95.906383	0.01924	3.1	34.316774	1.9
1028	0.47	24.36	446.18	5.182979	94.931915	0.02382	2.9	34.367367	2
1029	0.46	24.4	440.32	5.304348	95.721739	0.01968	2.9	34.41796	2
1030	0.46	24.53	440.11	5.332609	95.676087	0.01989	2.9	34.468553	2
1031	0.46	24.44	438.57	5.313043	95.341304	0.02143	2.9	34.519146	2
1032	0.46	24.36	430.19	5.295652	93.519565	0.02981	3.1	34.573224	2
1033	0.46	24.32	425.83	5.286957	92.571739	0.03417	2.9	34.623817	2
1034	0.46	24.28	421.92	5.278261	91.721739	0.03808	2.9	34.67441	2
1035	0.46	24.24	417.78	5.269565	90.821739	0.04222	2.9	34.725003	2
1036	0.46	24.36	416.28	5.295652	90.495652	0.04372	2.9	34.775596	2
1037	0.46	24.32	415.91	5.286957	90.415217	0.04409	2.9	34.826189	2
1038	0.46	24.4	418.11	5.304348	90.893478	0.04189	2.9	34.876782	1.9
1039	0.46	24.73	419.35	5.376087	91.163043	0.04065	2.9	34.927375	2
1040	0.46	24.81	418.62	5.393478	91.004348	0.04138	3.1	34.981454	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1041	0.46	24.65	417.6	5.358696	90.782609	0.0424	2.9	35.032047	2
1042	0.46	24.53	416.32	5.332609	90.504348	0.04368	3.1	35.086125	2
1043	0.46	24.57	416.24	5.341304	90.486957	0.04376	3.1	35.140204	2
1044	0.46	24.65	416.76	5.358696	90.6	0.04324	2.9	35.190797	2
1045	0.46	24.24	434.18	5.269565	94.386957	0.02582	2.9	35.24139	2
1046	0.47	24.2	446	5.148936	94.893617	0.024	2.9	35.291983	2
1047	0.47	24.2	447.28	5.148936	95.165957	0.02272	2.9	35.342576	2
1048	0.47	24.16	446.95	5.140426	95.095745	0.02305	2.9	35.393169	2
1049	0.47	24	447.02	5.106383	95.110638	0.02298	3.1	35.447248	2
1050	0.47	23.79	430.74	5.061702	91.646809	0.03926	2.9	35.497841	2
1051	0.46	23.75	429.13	5.163043	93.28913	0.03087	2.9	35.548434	2
1052	0.46	23.63	432.16	5.136957	93.947826	0.02784	2.9	35.599027	2
1053	0.47	23.67	427.95	5.03617	91.053191	0.04205	2.9	35.64962	2
1054	0.46	23.91	422.72	5.197826	91.895652	0.03728	3.1	35.703698	2
1055	0.46	24.16	420.31	5.252174	91.371739	0.03969	3.1	35.757777	2
1056	0.46	24.16	424.92	5.252174	92.373913	0.03508	3.1	35.811856	2
1057	0.46	24.2	433.41	5.26087	94.219565	0.02659	3.1	35.865935	2
1058	0.46	24.24	434.14	5.269565	94.378261	0.02586	3.1	35.920014	2
1059	0.46	23.71	438.9	5.154348	95.413043	0.0211	3.1	35.974092	2
1060	0.46	23.43	442.34	5.093478	96.16087	0.01766	3.1	36.028171	2
1061	0.46	23.26	442.56	5.056522	96.208696	0.01744	3.1	36.08225	2
1062	0.46	23.14	438.02	5.030435	95.221739	0.02198	3.1	36.136329	2
1063	0.46	22.94	433.81	4.986957	94.306522	0.02619	3.1	36.190408	2
1064	0.46	22.61	430.11	4.915217	93.502174	0.02989	3.1	36.244486	2
1065	0.46	22.33	429.2	4.854348	93.304348	0.0308	3.1	36.298565	2
1066	0.46	22.2	428.65	4.826087	93.184783	0.03135	3.1	36.352644	2
1067	0.46	22	430.77	4.782609	93.645652	0.02923	3.1	36.406723	2
1068	0.46	22.04	433.99	4.791304	94.345652	0.02601	3.1	36.460802	2
1069	0.46	22.16	436.81	4.817391	94.958696	0.02319	3.1	36.514881	2
1070	0.46	22.28	435.68	4.843478	94.713043	0.02432	3.1	36.568959	2
1071	0.46	22.45	435.46	4.880435	94.665217	0.02454	3.1	36.623038	2
1072	0.47	22.57	436.88	4.802128	92.953191	0.03312	3.1	36.677117	2
1073	0.47	22.81	437.43	4.853191	93.070213	0.03257	3.1	36.731196	2
1074	0.47	22.86	439.04	4.86383	93.412766	0.03096	3.1	36.785275	2
1075	0.47	22.98	441.39	4.889362	93.912766	0.02861	3.1	36.839353	2
1076	0.47	23.06	441.42	4.906383	93.919149	0.02858	3.1	36.893432	2
1077	0.47	23.26	440.62	4.948936	93.748936	0.02938	3.1	36.947511	2
1078	0.47	23.47	440.58	4.993617	93.740426	0.02942	3.1	37.00159	2
1079	0.48	23.79	451.96	4.95625	94.158333	0.02804	3.1	37.055669	2
1080	0.48	23.91	459.54	4.98125	95.7375	0.02046	3.1	37.109748	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1081	0.48	24	463.93	5	96.652083	0.01607	3.1	37.163826	2
1082	0.49	24.08	467.59	4.914286	95.426531	0.02241	3.1	37.217905	2
1083	0.49	24.04	464.04	4.906122	94.702041	0.02596	3.1	37.271984	2
1084	0.48	24.12	457.93	5.025	95.402083	0.02207	3.1	37.326063	2
1085	0.48	24.08	452.84	5.016667	94.341667	0.02716	3.1	37.380142	2
1086	0.48	24.08	450.76	5.016667	93.908333	0.02924	3.1	37.43422	2
1087	0.48	24.28	450.35	5.058333	93.822917	0.02965	3.1	37.488299	2
1088	0.48	24.4	450.32	5.083333	93.816667	0.02968	3.1	37.542378	2
1089	0.48	24.36	449	5.075	93.541667	0.031	3.1	37.596457	1.9
1090	0.47	24.44	445.3	5.2	94.744681	0.0247	3.1	37.650536	1.9
1091	0.47	24.48	444.72	5.208511	94.621277	0.02528	3.1	37.704614	2
1092	0.47	24.32	443.55	5.174468	94.37234	0.02645	3.1	37.758693	2
1093	0.47	24.32	437.65	5.174468	93.117021	0.03235	3.1	37.812772	2
1094	0.48	24.28	439.56	5.058333	91.575	0.04044	3.1	37.866851	1.9
1095	0.48	24.44	439.48	5.091667	91.558333	0.04052	3.1	37.92093	1.9
1096	0.48	24.73	439.37	5.152083	91.535417	0.04063	3.1	37.975009	2
1097	0.48	24.85	438.42	5.177083	91.3375	0.04158	3.1	38.029087	2
1098	0.48	25.01	437.98	5.210417	91.245833	0.04202	3.1	38.083166	2
1099	0.48	24.93	439.48	5.19375	91.558333	0.04052	3.1	38.137245	2
1100	0.48	24.89	447.35	5.185417	93.197917	0.03265	3.1	38.191324	2
1101	0.48	25.01	453.5	5.210417	94.479167	0.0265	3.1	38.245403	2
1102	0.48	25.01	453.5	5.210417	94.479167	0.0265	3.1	38.299481	0.6
1103	0.48	25.01	453.5	5.210417	94.479167	0.0265	3.1	38.35356	0.6
1104	0.48	27.09	446.18	5.64375	92.954167	0.03382	3.1	38.407639	2
1105	0.48	26.73	448.12	5.56875	93.358333	0.03188	3.1	38.461718	2
1106	0.48	26.2	451.38	5.458333	94.0375	0.02862	3.1	38.515797	2
1107	0.48	25.99	450.87	5.414583	93.93125	0.02913	3.1	38.569875	2.1
1108	0.48	25.79	448.93	5.372917	93.527083	0.03107	3.1	38.623954	2.1
1109	0.48	25.75	446.47	5.364583	93.014583	0.03353	3.1	38.678033	2
1110	0.48	25.75	446.91	5.364583	93.10625	0.03309	3.1	38.732112	2
1111	0.48	25.71	446.44	5.35625	93.008333	0.03356	3.1	38.786191	2
1112	0.48	25.79	443.91	5.372917	92.48125	0.03609	3.1	38.84027	2
1113	0.47	25.87	443.07	5.504255	94.270213	0.02693	3.1	38.894348	2
1114	0.48	25.91	451.52	5.397917	94.066667	0.02848	3.1	38.948427	2
1115	0.48	25.99	447.75	5.414583	93.28125	0.03225	3.1	39.002506	2
1116	0.48	26.03	445.89	5.422917	92.89375	0.03411	3.1	39.056585	2
1117	0.48	25.87	443.11	5.389583	92.314583	0.03689	3.1	39.110664	2
1118	0.48	25.63	442.85	5.339583	92.260417	0.03715	3.1	39.164742	2
1119	0.48	25.5	444.5	5.3125	92.604167	0.0355	3.1	39.218821	2
1120	0.48	25.46	446.25	5.304167	92.96875	0.03375	3.1	39.2729	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1121	0.49	25.22	439.19	5.146939	89.630612	0.05081	3.1	39.326979	2
1122	0.48	25.38	440.03	5.2875	91.672917	0.03997	3.1	39.381058	2
1123	0.48	25.63	445.67	5.339583	92.847917	0.03433	3.1	39.435136	2
1124	0.48	25.95	452.18	5.40625	94.204167	0.02782	3.1	39.489215	2
1125	0.49	26.15	459.8	5.336735	93.836735	0.0302	3.1	39.543294	2
1126	0.49	26.24	476.05	5.355102	97.153061	0.01395	3.1	39.597373	2
1127	0.5	26.4	486.22	5.28	97.244	0.01378	3.1	39.651452	2
1128	0.5	26.44	489.04	5.288	97.808	0.01096	3.1	39.705531	2
1129	0.5	26.32	488.89	5.264	97.778	0.01111	3.1	39.759609	2
1130	0.5	26.32	489.29	5.264	97.858	0.01071	3.1	39.813688	2
1131	0.5	26.36	487.72	5.272	97.544	0.01228	3.1	39.867767	2
1132	0.5	26.36	485.89	5.272	97.178	0.01411	3.1	39.921846	1.9
1133	0.5	26.36	478.06	5.272	95.612	0.02194	3.1	39.975925	1.9
1134	0.5	26.32	464.77	5.264	92.954	0.03523	3.1	40.030003	2
1135	0.49	25.87	458.41	5.279592	93.553061	0.03159	3.1	40.084082	2
1136	0.5	25.5	457.78	5.1	91.556	0.04222	3.1	40.138161	2
1137	0.5	25.26	457.56	5.052	91.512	0.04244	3.1	40.19224	2
1138	0.5	25.34	458.51	5.068	91.702	0.04149	3.1	40.246319	2
1139	0.5	25.54	460.82	5.108	92.164	0.03918	3.1	40.300397	2
1140	0.51	25.54	470.56	5.007843	92.266667	0.03944	3.1	40.354476	2
1141	0.51	25.63	479.74	5.02549	94.066667	0.03026	3.1	40.408555	2
1142	0.5	25.79	463.97	5.158	92.794	0.03603	3.1	40.462634	2
1143	0.5	25.71	451.93	5.142	90.386	0.04807	3.1	40.516713	2
1144	0.49	25.5	449.29	5.204082	91.691837	0.04071	3.1	40.570792	2
1145	0.5	25.38	456.94	5.076	91.388	0.04306	3.1	40.62487	2
1146	0.5	25.3	465.14	5.06	93.028	0.03486	3.1	40.678949	2
1147	0.5	25.5	468.36	5.1	93.672	0.03164	3.1	40.733028	2
1148	0.5	25.87	476.89	5.174	95.378	0.02311	3.1	40.787107	2
1149	0.52	25.87	467.85	4.975	89.971154	0.05215	3.1	40.841186	2
1150	0.53	25.75	457.71	4.858491	86.360377	0.07229	3.1	40.895264	1.9
1151	0.54	25.75	428.54	4.768519	79.359259	0.11146	3.1	40.949343	1.9
1152	0.54	25.01	454.56	4.631481	84.177778	0.08544	3.1	41.003422	2
1153	0.57	25.18	498.01	4.417544	87.370175	0.07199	3.1	41.057501	2
1154	0.6	27.7	511.91	4.616667	85.318333	0.08809	3.1	41.11158	2
1155	0.69	32.14	482.93	4.657971	69.989855	0.20707	3.1	41.165658	2
1156	0.8	29.98	438.17	3.7475	54.77125	0.36183	3.2	41.22148	2
1157	0.83	29.17	434.69	3.514458	52.372289	0.39531	3.1	41.275559	2
1158	0.81	29.82	449.18	3.681481	55.454321	0.36082	3.1	41.329638	2
1159	0.8	30.47	497.38	3.80875	62.1725	0.30262	3.1	41.383716	2
1160	0.78	32.71	508.11	4.19359	65.142308	0.27189	3.1	41.437795	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1161	0.77	35.16	466.16	4.566234	60.54026	0.30384	3.1	41.491874	2
1162	0.69	37.4	412.58	5.42029	59.794203	0.27742	3.1	41.545953	2
1163	0.64	37.68	394.54	5.8875	61.646875	0.24546	3.1	41.600032	2
1164	0.6	38.78	395.78	6.463333	65.963333	0.20422	3.1	41.65411	2
1165	0.56	39.23	423.89	7.005357	75.694643	0.13611	3.1	41.708189	2
1166	0.52	39.93	430.52	7.678846	82.792308	0.08948	3.1	41.762268	2
1167	0.5	39.4	419.32	7.88	83.864	0.08068	3.1	41.816347	2
1168	0.49	38.54	413.13	7.865306	84.312245	0.07687	3.2	41.872168	2
1169	0.49	38.62	414.85	7.881633	84.663265	0.07515	3.2	41.92799	2
1170	0.5	38.83	423.49	7.766	84.698	0.07651	3.2	41.983811	2
1171	0.51	39.15	442.37	7.676471	86.739216	0.06763	3.1	42.03789	2
1172	0.54	38.46	464.7	7.122222	86.055556	0.0753	3.2	42.093712	2
1173	0.56	36.91	489.4	6.591071	87.392857	0.0706	3.1	42.147791	2
1174	0.58	34.59	498.08	5.963793	85.875862	0.08192	3.2	42.203612	2
1175	0.6	31.94	469.42	5.323333	78.236667	0.13058	3.2	42.259434	1.9
1176	0.59	32.14	458.62	5.447458	77.732203	0.13138	3.2	42.315255	1.9
1177	0.58	31.33	432.09	5.401724	74.498276	0.14791	3.2	42.371077	2
1178	0.56	29.13	418.07	5.201786	74.655357	0.14193	3.2	42.426898	2
1179	0.55	26.97	411.45	4.903636	74.809091	0.13855	3.2	42.48272	1.9
1180	0.57	27.01	427.95	4.738596	75.078947	0.14205	3.2	42.538541	1.9
1181	0.55	26.44	433.55	4.807273	78.827273	0.11645	3.2	42.594363	2
1182	0.55	25.26	426.16	4.592727	77.483636	0.12384	3.2	42.650184	2
1183	0.58	25.75	448.01	4.439655	77.243103	0.13199	3.2	42.706006	2
1184	0.62	27.13	532.37	4.375806	85.866129	0.08763	3.2	42.761827	2
1185	0.66	28.56	546.87	4.327273	82.859091	0.11313	3.2	42.817649	2
1186	0.67	29.62	511.14	4.420896	76.289552	0.15886	3.2	42.87347	2
1187	0.65	30.31	493.72	4.663077	75.956923	0.15628	3.2	42.929292	2
1188	0.64	33.16	511.07	5.18125	79.854688	0.12893	3.2	42.985113	2
1189	0.65	34.55	522.67	5.315385	80.410769	0.12733	3.2	43.040935	2
1190	0.67	35.44	505.76	5.289552	75.486567	0.16424	3.2	43.096756	2
1191	0.69	35.36	487.32	5.124638	70.626087	0.20268	3.2	43.152578	2
1192	0.69	35	477.18	5.072464	69.156522	0.21282	3.2	43.208399	2
1193	0.68	34.91	488.97	5.133824	71.907353	0.19103	3.2	43.264221	1.9
1194	0.66	34.91	492.63	5.289394	74.640909	0.16737	3.2	43.320042	1.9
1195	0.67	36.26	491.09	5.41194	73.297015	0.17891	3.2	43.375864	2
1196	0.66	37.73	493.43	5.716667	74.762121	0.16657	3.2	43.431685	2
1197	0.66	38.13	499.18	5.777273	75.633333	0.16082	3.2	43.487507	2
1198	0.65	37.77	484.79	5.810769	74.583077	0.16521	3.2	43.543328	2
1199	0.64	36.99	474.47	5.779688	74.135938	0.16553	3.2	43.59915	2
1200	0.6	38.17	523.84	6.361667	87.306667	0.07616	3.2	43.654971	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1201	0.59	38.13	526.08	6.462712	89.166102	0.06392	3.2	43.710793	2
1202	0.61	35.08	510.92	5.75082	83.757377	0.09908	3.2	43.766614	2
1203	0.61	35.08	510.92	5.75082	83.757377	0.09908	3.2	43.822436	1.4
1204	0.61	35.08	510.92	5.75082	83.757377	0.09908	3.2	43.878257	1.4
1205	0.81	45.3	435.49	5.592593	53.764198	0.37451	3.2	43.934079	2.2
1206	0.84	47.5	481.06	5.654762	57.269048	0.35894	3.2	43.9899	2.2
1207	1	47.91	481.83	4.791	48.183	0.51817	3.2	44.045722	2
1208	1.18	46.65	471.1	3.95339	39.923729	0.7089	3.2	44.101543	2
1209	1.37	44.45	467.81	3.244526	34.146715	0.90219	3.2	44.157365	1.9
1210	1.49	43.31	478.13	2.906711	32.089262	1.01187	3.2	44.213186	1.9
1211	1.46	43.47	439.59	2.977397	30.108904	1.02041	3.2	44.269008	2
1212	1.28	40.01	211.91	3.125781	16.555469	1.06809	3.2	44.324829	2
1213	1.19	40.82	255.35	3.430252	21.457983	0.93465	3.2	44.380651	2
1214	1.1	42.29	371.34	3.844545	33.758182	0.72866	3.2	44.436472	2
1215	1.01	44.28	451.2	4.384158	44.673267	0.5588	3.2	44.492294	1.9
1216	0.92	47.71	350.99	5.18587	38.151087	0.56901	3.2	44.548115	1.9
1217	0.86	49.82	387.51	5.793023	45.059302	0.47249	3.2	44.603937	2
1218	0.88	49.01	418.69	5.569318	47.578409	0.46131	3.2	44.659758	2
1219	0.97	46.77	456.28	4.821649	47.039175	0.51372	3.2	44.71558	2
1220	0.96	46.65	485.05	4.859375	50.526042	0.47495	3.2	44.771401	2
1221	0.91	46.12	508.22	5.068132	55.848352	0.40178	3.2	44.827223	1.9
1222	0.84	46.36	543.53	5.519048	64.705952	0.29647	3.2	44.883044	1.9
1223	0.76	47.87	564.58	6.298684	74.286842	0.19542	3.2	44.938866	2
1224	0.79	47.54	568.31	6.017722	71.937975	0.22169	3.2	44.994687	2
1225	1.27	45.14	589.58	3.554331	46.423622	0.68042	3.2	45.050509	2
1226	1.58	44.24	457.56	2.8	28.959494	1.12244	3.2	45.10633	2
1227	1.74	44.2	545.8	2.54023	31.367816	1.1942	3.2	45.162152	2
1228	1.81	42.17	516.67	2.329834	28.545304	1.29333	3.2	45.217973	2
1229	1.92	36.75	425.69	1.914062	22.171354	1.49431	3.2	45.273795	2
1230	1.98	34.83	359.4	1.759091	18.151515	1.6206	3.2	45.329616	2
1231	2	36.14	289.02	1.807	14.451	1.71098	3.2	45.385438	2
1232	1.97	37.6	273.73	1.908629	13.894924	1.69627	3.2	45.441259	2
1233	1.94	38.58	226.18	1.98866	11.658763	1.71382	3.2	45.497081	2
1234	1.91	40.13	256.96	2.101047	13.453403	1.65304	3.2	45.552902	1.9
1235	1.88	43.1	320.17	2.292553	17.030319	1.55983	3.2	45.608724	1.9
1236	1.85	47.54	376.42	2.56973	20.347027	1.47358	3.2	45.664545	1.9
1237	1.84	51.94	439.45	2.822826	23.883152	1.40055	3.2	45.720367	1.9
1238	1.86	54.18	478.68	2.912903	25.735484	1.38132	3.2	45.776188	2
1239	1.91	53.53	512.72	2.802618	26.843979	1.39728	3.2	45.83201	2
1240	2	52.35	396.04	2.6175	19.802	1.60396	3.2	45.887831	1.9



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1241	2.13	49.3	278.92	2.314554	13.094836	1.85108	3.2	45.943653	1.9
1242	2.28	46	320.35	2.017544	14.050439	1.95965	3.2	45.999474	1.9
1243	2.45	46.04	341.25	1.879184	13.928571	2.10875	3.2	46.055296	1.9
1244	2.69	48.28	364.67	1.794796	13.556506	2.32533	3.2	46.111117	2
1245	2.79	49.95	379.31	1.790323	13.595341	2.41069	3.2	46.166939	2
1246	2.88	52.11	408.96	1.809375	14.2	2.47104	3.2	46.22276	2
1247	2.99	55.28	436.56	1.848829	14.600669	2.55344	3.2	46.278582	2
1248	3.18	57	452	1.792453	14.213836	2.728	3.2	46.334403	2
1249	3.4	58.67	490.98	1.725588	14.440588	2.90902	3.2	46.390225	2
1250	3.64	57.85	520	1.589286	14.285714	3.12	3.2	46.446046	1.9
1251	4.18	54.96	527.54	1.314833	12.620574	3.65246	3.2	46.501868	1.9
1252	4.55	55.2	569.78	1.213187	12.522637	3.98022	3.2	46.557689	1.9
1253	4.91	54.92	569.59	1.118534	11.600611	4.34041	3.2	46.613511	1.9
1254	5.23	54.92	592.61	1.050096	11.330975	4.63739	3.2	46.669332	1.9
1255	5.53	54.31	636.06	0.982098	11.501989	4.89394	3.2	46.725154	1.9
1256	5.81	52.35	703.8	0.901033	12.113597	5.1062	3.2	46.780975	1.9
1257	5.9	51.05	742.09	0.865254	12.577797	5.15791	3.2	46.836797	1.9
1258	6	48.72	768.77	0.812	12.812833	5.23123	3.2	46.892618	1.9
1259	6.1	46.04	755.19	0.754754	12.380164	5.34481	3.2	46.94844	1.9
1260	6.17	44.32	713.43	0.718314	11.562885	5.45657	3.2	47.004262	1.9
1261	6.3	40.94	519.53	0.649841	8.246508	5.78047	3.2	47.060083	1.9
1262	6.61	37.4	239.03	0.565809	3.616188	6.37097	3.2	47.115905	1.9
1263	6.69	37.44	232.37	0.559641	3.473393	6.45763	3.2	47.171726	2
1264	6.83	35.97	239.32	0.526647	3.503953	6.59068	3.2	47.227548	2
1265	6.98	34.14	227.46	0.489112	3.258739	6.75254	3.2	47.283369	1.9
1266	7.15	34.02	216.78	0.475804	3.031888	6.93322	3.2	47.339191	1.9
1267	7.35	34.91	209.97	0.474966	2.856735	7.14003	3.2	47.395012	1.9
1268	7.92	32.88	247.96	0.415152	3.130808	7.67204	3.2	47.450834	1.9
1269	8.14	33.28	258.32	0.408845	3.173464	7.88168	3.2	47.506655	1.9
1270	8.31	33.94	291.07	0.408424	3.502647	8.01893	3.2	47.562477	1.9
1271	8.39	33.94	318.19	0.404529	3.792491	8.07181	3.2	47.618298	1.9
1272	8.45	33.77	342.5	0.399645	4.053254	8.1075	3.2	47.67412	1.9
1273	8.44	34.06	354.02	0.403555	4.19455	8.08598	3.2	47.729941	1.9
1274	8.38	34.18	391.32	0.407876	4.66969	7.98868	3.2	47.785763	1.9
1275	8.26	34.22	429.78	0.414286	5.203148	7.83022	3.2	47.841584	2
1276	8.21	34.83	441.86	0.424239	5.381973	7.76814	3.2	47.897406	2
1277	8.19	35.28	469.35	0.430769	5.730769	7.72065	3.2	47.953227	1.9
1278	8.25	34.91	475.53	0.423152	5.764	7.77447	3.2	48.009049	1.9
1279	8.28	34.34	450.06	0.414734	5.435507	7.82994	3.2	48.06487	1.9
1280	8.47	35.85	184.2	0.423259	2.174734	8.2858	3.2	48.120692	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1281	8.65	35.85	221.79	0.414451	2.564046	8.42821	3.2	48.176513	1.9
1282	8.88	36.63	263.73	0.4125	2.969932	8.61627	3.2	48.232335	1.9
1283	9.16	37.93	322.84	0.414083	3.524454	8.83716	3.2	48.288156	2
1284	9.52	38.38	375.91	0.403151	3.948634	9.14409	3.2	48.343978	2
1285	9.87	39.11	421.88	0.396251	4.274367	9.44812	3.2	48.399799	2.1
1286	10.13	40.17	461.04	0.396545	4.551234	9.66896	3.2	48.455621	2.1
1287	10.31	40.58	472.64	0.393598	4.584287	9.83736	3.2	48.511442	2
1288	10.44	42.21	494.31	0.40431	4.73477	9.94569	3.2	48.567264	2
1289	10.3	42.7	532.99	0.414563	5.17466	9.76701	3.2	48.623085	2
1290	10.14	42.08	531.57	0.41499	5.242308	9.60843	3.2	48.678907	2
1291	9.92	41.03	528.46	0.413609	5.327218	9.39154	3.2	48.734728	2.1
1292	9.7	40.78	517.29	0.420412	5.332887	9.18271	3.2	48.79055	2.1
1293	9.43	39.76	501.99	0.421633	5.32333	8.92801	3.2	48.846371	2.1
1294	9.2	38.66	490.21	0.420217	5.32837	8.70979	3.2	48.902193	2.1
1295	8.96	38.13	479.41	0.425558	5.350558	8.48059	3.2	48.958014	2.1
1296	8.71	37.89	471.84	0.435017	5.417222	8.23816	3.2	49.013836	2.1
1297	8.44	38.09	454.85	0.451303	5.389218	7.98515	3.2	49.069657	2.1
1298	8.08	38.87	426.01	0.481064	5.272401	7.65399	3.2	49.125479	2.1
1299	7.7	38.74	271.9	0.503117	3.531169	7.4281	3.2	49.1813	2.1
1300	7.35	37.81	192.26	0.514422	2.615782	7.15774	3.2	49.237122	2.1
1301	7.09	37.48	197.78	0.528632	2.789563	6.89222	3.2	49.292943	2.1
1302	7.02	38.62	238.99	0.550142	3.404416	6.78101	3.2	49.348765	2.1
1303	7.02	38.62	238.99	0.550142	3.404416	6.78101	3.2	49.404586	2.9
1304	7.02	38.62	238.99	0.550142	3.404416	6.78101	3.2	49.460408	1.8
1305	7.29	37.6	194.31	0.515775	2.665432	7.09569	3.2	49.516229	1.8
1306	7.27	37.89	174.61	0.521183	2.401788	7.09539	3.2	49.572051	1.9
1307	7.17	38.25	164.81	0.533473	2.298605	7.00519	3.2	49.627872	1.9
1308	6.97	38.21	150.79	0.548207	2.163415	6.81921	3.2	49.683694	2.1
1309	6.5	36.1	120.92	0.555385	1.860308	6.37908	3.2	49.739515	2.1
1310	6.29	35.48	112.65	0.56407	1.790938	6.17735	3.2	49.795337	2
1311	6.12	35.28	104.16	0.576471	1.701961	6.01584	3.2	49.851158	2
1312	6.04	35.24	103.14	0.583444	1.707616	5.93686	3.2	49.90698	1.9
1313	5.98	35.2	113.05	0.588629	1.890468	5.86695	3.2	49.962801	1.9
1314	5.93	35	124.51	0.590219	2.099663	5.80549	3.2	50.018623	1.9
1315	5.85	35.65	155.69	0.609402	2.661368	5.69431	3.2	50.074444	1.9
1316	5.72	35.93	179.12	0.628147	3.131469	5.54088	3.2	50.130266	2
1317	5.66	36.22	182.74	0.639929	3.228622	5.47726	3.2	50.186087	1.9
1318	5.57	35.4	179.45	0.635548	3.221724	5.39055	3.2	50.241909	1.9
1319	5.49	34.51	226.26	0.628597	4.121311	5.26374	3.2	50.29773	1.9
1320	5.36	29.41	255.32	0.548694	4.763433	5.10468	3.2	50.353552	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1321	5.35	28.35	256.78	0.529907	4.799626	5.09322	3.2	50.409373	1.9
1322	5.42	29.21	263.81	0.53893	4.867343	5.15619	3.2	50.465195	1.9
1323	5.58	30.51	274.49	0.546774	4.919176	5.30551	3.2	50.521016	1.9
1324	5.78	32.31	303.08	0.558997	5.243599	5.47692	3.2	50.576838	1.9
1325	6.08	34.14	336.82	0.561513	5.539803	5.74318	3.2	50.632659	1.9
1326	6.88	36.75	379.68	0.534157	5.518605	6.50032	3.2	50.688481	1.9
1327	7.3	36.26	359.73	0.496712	4.927808	6.94027	3.2	50.744302	1.9
1328	7.69	35.69	400.21	0.464109	5.204291	7.28979	3.2	50.800124	1.9
1329	8.02	34.34	417.6	0.42818	5.206983	7.6024	3.2	50.855945	1.9
1330	8.19	32.88	461.52	0.401465	5.635165	7.72848	3.2	50.911767	1.9
1331	8.23	31.53	485.23	0.383111	5.895869	7.74477	3.2	50.967588	1.9
1332	8.28	30.76	504.81	0.371498	6.096739	7.77519	3.2	51.02341	1.9
1333	8.36	30.68	510.71	0.366986	6.108971	7.84929	3.2	51.079231	1.9
1334	8.46	31.41	504.63	0.371277	5.964894	7.95537	3.2	51.135053	1.9
1335	8.56	32.92	496.29	0.384579	5.79778	8.06371	3.4	51.194359	1.9
1336	9.04	37.32	521.39	0.412832	5.767588	8.51861	3.4	51.253666	1.9
1337	9.38	39.8	517.99	0.424307	5.522281	8.86201	3.4	51.312972	1.9
1338	9.67	42.08	531.38	0.43516	5.49514	9.13862	3.4	51.372278	1.9
1339	9.89	43.35	551.73	0.438322	5.578665	9.33827	3.4	51.431585	1.9
1340	10.05	43.84	431.18	0.436219	4.290348	9.61882	3.4	51.490891	1.9
1341	10.08	44.49	254.55	0.441369	2.525298	9.82545	3.4	51.550197	1.9
1342	9.97	45.02	233.47	0.451555	2.341725	9.73653	3.4	51.609504	1.9
1343	9.82	46.32	236.72	0.47169	2.410591	9.58328	3.4	51.66881	1.9
1344	9.7	46.44	246.09	0.478763	2.53701	9.45391	3.4	51.728117	1.9
1345	9.59	46.61	253.3	0.486027	2.641293	9.3367	3.4	51.787423	1.9
1346	9.48	46.48	262.23	0.490295	2.766139	9.21777	3.4	51.846729	1.9
1347	9.27	47.22	276.4	0.509385	2.981661	8.9936	3.2	51.902551	1.9
1348	9.15	47.54	273.03	0.519563	2.983934	8.87697	3.4	51.961857	1.9
1349	9.02	48.4	265.78	0.536585	2.946563	8.75422	3.2	52.017679	1.9
1350	8.88	49.78	261.28	0.560586	2.942342	8.61872	3.4	52.076985	1.9
1351	8.7	50.23	256.27	0.577356	2.945632	8.44373	3.4	52.136291	1.9
1352	8.51	49.99	253.74	0.587427	2.981669	8.25626	3.2	52.192113	1.9
1353	8.3	49.34	237.6	0.594458	2.862651	8.0624	3.4	52.251419	1.9
1354	7.85	49.7	215.5	0.633121	2.745223	7.6345	3.4	52.310726	1.9
1355	7.6	49.66	203.89	0.653421	2.682763	7.39611	3.4	52.370032	1.9
1356	7.37	49.87	196.79	0.676662	2.670149	7.17321	3.2	52.425854	1.9
1357	7.16	49.82	190.06	0.69581	2.654469	6.96994	3.4	52.48516	1.9
1358	7.01	50.19	184.72	0.715977	2.635093	6.82528	3.2	52.540982	1.9
1359	6.8	50.72	185.23	0.745882	2.723971	6.61477	3.2	52.596803	1.9
1360	6.75	50.76	187.64	0.752	2.779852	6.56236	3.2	52.652625	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1361	6.72	50.68	195.66	0.754167	2.911607	6.52434	3.2	52.708446	1.9
1362	6.69	50.31	202.06	0.752018	3.020329	6.48794	3.2	52.764268	1.9
1363	6.7	50.35	205.32	0.751493	3.064478	6.49468	3.2	52.820089	1.9
1364	6.69	51.05	204.88	0.763079	3.062481	6.48512	3.2	52.875911	1.9
1365	6.62	54.02	216.92	0.816012	3.276737	6.40308	3.2	52.931732	1.9
1366	6.64	54.35	224.79	0.818524	3.385392	6.41521	3.2	52.987554	1.9
1367	6.66	53	234.23	0.795796	3.516967	6.42577	3.2	53.043375	1.9
1368	6.71	52.02	242.36	0.775261	3.611923	6.46764	3.2	53.099197	1.9
1369	6.82	51.17	255.02	0.750293	3.739296	6.56498	3.2	53.155018	1.9
1370	6.98	49.78	272.19	0.713181	3.89957	6.70781	3.2	53.21084	1.9
1371	7.37	48.03	328.26	0.651696	4.454003	7.04174	3.2	53.266661	1.9
1372	7.58	47.75	367.64	0.629947	4.850132	7.21236	3.2	53.322483	1.9
1373	7.78	47.22	400.29	0.606941	5.145116	7.37971	3.2	53.378304	1.9
1374	8.01	46.77	426.93	0.583895	5.329963	7.58307	3.2	53.434126	1.9
1375	8.44	46.16	469.9	0.546919	5.567536	7.9701	3.2	53.489947	1.9
1376	8.7	45.95	489.7	0.528161	5.628736	8.2103	3.2	53.545769	1.9
1377	9	45.63	508.25	0.507	5.647222	8.49175	3.2	53.60159	1.9
1378	9.25	44.85	526.26	0.484865	5.689297	8.72374	3.2	53.657412	1.9
1379	9.47	44.24	545.95	0.467159	5.765048	8.92405	3.2	53.713233	1.9
1380	9.6	43.39	549.79	0.451979	5.726979	9.05021	3.4	53.772539	1.9
1381	9.56	43.67	538.92	0.456799	5.637238	9.02108	3.4	53.831846	1.9
1382	9.47	43.88	523.04	0.463358	5.523126	8.94696	3.4	53.891152	1.9
1383	9.34	44.24	515.68	0.473662	5.521199	8.82432	3.2	53.946974	1.9
1384	9.02	43.18	495.85	0.478714	5.497228	8.52415	3.4	54.00628	1.9
1385	8.61	41.6	466.64	0.483159	5.419744	8.14336	3.2	54.062102	1.9
1386	7.85	38.09	391.39	0.485223	4.98586	7.45861	3.2	54.117923	1.9
1387	7.5	35.77	278.89	0.476933	3.718533	7.22111	3.2	54.173745	1.9
1388	7.2	34.38	147.02	0.4775	2.041944	7.05298	3.2	54.229566	1.9
1389	6.92	32.23	111.12	0.465751	1.60578	6.80888	3.2	54.285388	1.9
1390	6.74	30.11	103.65	0.446736	1.537834	6.63635	3.2	54.341209	1.9
1391	6.65	28.68	105.33	0.431278	1.58391	6.54467	3.2	54.397031	1.9
1392	6.39	28.03	98.53	0.438654	1.541941	6.29147	3.2	54.452852	2
1393	6.51	27.74	100.5	0.426114	1.543779	6.4095	3.2	54.508674	2
1394	7.61	27.05	121	0.355453	1.590013	7.489	3.4	54.56798	2
1395	8.2	30.96	126.3	0.377561	1.540244	8.0737	3.4	54.627286	2
1396	8.66	37.48	121.4	0.432794	1.401848	8.5386	3.4	54.686593	2
1397	9.31	32.84	175.53	0.352739	1.885392	9.13447	3.4	54.745899	2
1398	9.73	35.97	192.22	0.369681	1.97554	9.53778	3.4	54.805206	2
1399	10.21	34.3	303.96	0.335945	2.977081	9.90604	3.4	54.864512	2
1400	10.55	34.3	370.05	0.325118	3.507583	10.17995	3.4	54.923818	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1401	11.27	35.73	520.18	0.317036	4.615617	10.74982	3.4	54.983125	2
1402	11.55	34.55	518.43	0.299134	4.488571	11.03157	3.4	55.042431	2
1403	11.55	34.55	518.43	0.299134	4.488571	11.03157	3.4	55.101737	5.4
1404	11.55	34.55	518.43	0.299134	4.488571	11.03157	3.4	55.161044	1.9
1405	12.62	33.16	98.09	0.262758	0.777258	12.52191	3.4	55.22035	1.9
1406	13.13	33.49	103.21	0.255065	0.786062	13.02679	3.4	55.279657	2.3
1407	13.62	34.06	109.07	0.250073	0.800808	13.51093	3.4	55.338963	2.3
1408	14.04	34.34	105.04	0.244587	0.748148	13.93496	3.4	55.398269	2.1
1409	14.42	34.26	117.96	0.237587	0.818031	14.30204	3.4	55.457576	2.1
1410	14.72	35.12	112.29	0.238587	0.76284	14.60771	3.4	55.516882	2
1411	14.83	34.87	172.97	0.235131	1.166352	14.65703	3.4	55.576188	2
1412	15.22	32.92	181.31	0.216294	1.191261	15.03869	3.4	55.635495	2.1
1413	15.22	33.2	168.69	0.218134	1.108344	15.05131	3.4	55.694801	2.1
1414	15.22	33.94	200.64	0.222996	1.318265	15.01936	3.4	55.754107	2
1415	15.14	34.43	151.23	0.227411	0.998877	14.98877	3.4	55.813414	2
1416	15.11	33.94	157.96	0.224619	1.0454	14.95204	3.4	55.87272	2
1417	14.94	34.02	170.11	0.227711	1.138621	14.76989	3.4	55.932027	2
1418	14.74	33.77	171.03	0.229104	1.160312	14.56897	3.4	55.991333	2
1419	14.46	34.14	163.01	0.2361	1.127317	14.29699	3.4	56.050639	2
1420	14.19	35.61	158.51	0.250951	1.117054	14.03149	3.4	56.109946	2
1421	13.92	34.95	150.75	0.251078	1.082974	13.76925	3.4	56.169252	2
1422	13.6	35.44	150.61	0.260588	1.107426	13.44939	3.4	56.228558	2
1423	12.89	37.07	128.13	0.287587	0.994026	12.76187	3.4	56.287865	2
1424	12.42	36.54	101.09	0.294203	0.813929	12.31891	3.4	56.347171	2.1
1425	11.96	36.46	91.72	0.304849	0.76689	11.86828	3.4	56.406478	2.1
1426	11.55	35.32	92.38	0.305801	0.799827	11.45762	3.4	56.465784	2.1
1427	10.94	33.61	75.36	0.307221	0.688848	10.86464	3.4	56.52509	2.1
1428	10.54	32.96	84.32	0.312713	0.8	10.45568	3.4	56.584397	2
1429	10.18	31.53	82.9	0.309725	0.814342	10.0971	3.4	56.643703	2
1430	9.84	31.45	82.71	0.319614	0.840549	9.75729	3.4	56.703009	2
1431	9.54	31.86	90.33	0.333962	0.946855	9.44967	3.4	56.762316	2
1432	9.35	31.37	105.55	0.335508	1.128877	9.24445	3.4	56.821622	2
1433	9.14	32.8	114.88	0.358862	1.256893	9.02512	3.4	56.880929	2
1434	9.02	35.24	191.23	0.390687	2.120067	8.82877	3.4	56.940235	2
1435	8.99	38.87	219.41	0.432369	2.440601	8.77059	3.4	56.999541	2
1436	9.06	39.44	125.65	0.43532	1.386865	8.93435	3.4	57.058848	2
1437	9.22	38.01	151.41	0.412256	1.642191	9.06859	3.4	57.118154	2
1438	9.43	39.19	191.23	0.415589	2.02789	9.23877	3.4	57.17746	2
1439	9.7	40.58	228.71	0.418351	2.357835	9.47129	3.4	57.236767	2
1440	10.07	42.12	278.3	0.418272	2.763654	9.7917	3.4	57.296073	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1441	10.57	44.24	326.32	0.418543	3.087228	10.24368	3.4	57.35538	2
1442	11.7	47.58	417.27	0.406667	3.56641	11.28273	3.4	57.414686	2
1443	12.23	49.91	467.19	0.408095	3.820033	11.76281	3.4	57.473992	2
1444	12.61	51.33	504.15	0.407058	3.998017	12.10585	3.4	57.533299	2
1445	12.91	52.47	535.37	0.406429	4.14694	12.37463	3.4	57.592605	2
1446	13.07	53.17	552.5	0.406809	4.227238	12.5175	3.4	57.651911	2
1447	13.07	52.55	549.65	0.402066	4.205432	12.52035	3.4	57.711218	2
1448	12.92	52.72	531.93	0.40805	4.117105	12.38807	3.4	57.770524	2
1449	12.71	53.21	507.26	0.418647	3.991031	12.20274	3.4	57.829831	2
1450	12.21	54.35	462.58	0.445127	3.788534	11.74742	3.4	57.889137	2
1451	11.95	53.9	264.36	0.451046	2.212218	11.68564	3.4	57.948443	2
1452	11.67	53.41	185.81	0.457669	1.592202	11.48419	3.4	58.00775	2
1453	11.43	52.96	177.62	0.463342	1.553981	11.25238	3.4	58.067056	2
1454	11.3	52.6	182.23	0.465487	1.612655	11.11777	3.4	58.126362	2
1455	11.18	51.94	183.69	0.46458	1.643023	10.99631	3.4	58.185669	2
1456	11.06	51.13	179.67	0.462297	1.624503	10.88033	3.4	58.244975	2
1457	10.84	49.3	168.25	0.454797	1.552122	10.67175	3.4	58.304282	2
1458	10.3	46.04	154.96	0.44699	1.504466	10.14504	3.4	58.363588	2
1459	10.1	44.65	152.07	0.442079	1.505644	9.94793	3.4	58.422894	2
1460	10.03	43.75	167.22	0.436191	1.667198	9.86278	3.4	58.482201	2
1461	10.08	43.43	195.7	0.430853	1.941468	9.8843	3.4	58.541507	2
1462	10.33	43.71	240.57	0.423136	2.328848	10.08943	3.4	58.600813	2
1463	10.76	45.02	273.62	0.418401	2.542937	10.48638	3.4	58.66012	2
1464	11.35	48.64	311.09	0.428546	2.740881	11.03891	3.4	58.719426	2
1465	11.93	49.95	320.02	0.418692	2.682481	11.60998	3.3	58.77699	2
1466	12.59	48.85	319	0.388006	2.533757	12.271	3.3	58.834554	2
1467	12.41	46.04	294.99	0.370991	2.377035	12.11501	3.3	58.892118	2
1468	12.11	42.57	262.89	0.351528	2.170851	11.84711	3.3	58.949682	2
1469	11.87	41.72	250.63	0.351474	2.111457	11.61937	3.3	59.007246	2
1470	11.72	41.96	249.68	0.35802	2.130375	11.47032	3.3	59.06481	2
1471	11.78	43.22	267.58	0.366893	2.271477	11.51242	3.3	59.122374	2
1472	12.01	46.08	301.8	0.38368	2.512906	11.7082	3.3	59.179938	2
1473	12.37	48.4	346.81	0.391269	2.803638	12.02319	3.3	59.237502	2
1474	12.9	52.68	390.84	0.408372	3.029767	12.50916	3.3	59.295066	2
1475	12.9	52.68	390.84	0.408372	3.029767	12.50916	3.3	59.35263	2
1476	12.51	57.81	337.15	0.46211	2.695044	12.17285	3.3	59.410194	2
1477	12.05	58.99	295.76	0.489544	2.45444	11.75424	3.3	59.467759	2
1478	11.55	58.5	264.47	0.506494	2.289784	11.28553	3.3	59.525323	2
1479	11.04	58.71	228.6	0.531793	2.070652	10.8114	3.3	59.582887	2
1480	10.67	59.36	206.97	0.556326	1.939738	10.46303	3.3	59.640451	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1481	10.46	59.89	205.25	0.572562	1.962237	10.25475	3.3	59.698015	2
1482	10.37	60.13	217	0.579846	2.092575	10.153	3.3	59.755579	2
1483	10.32	60.13	227.9	0.582655	2.208333	10.0921	3.3	59.813143	2
1484	10.31	60.7	238.59	0.588749	2.314161	10.07141	3.3	59.870707	2
1485	10.45	63.07	248	0.603541	2.373206	10.202	3.3	59.928271	2
1486	10.7	64.49	245.73	0.60271	2.296542	10.45427	3.3	59.985835	2
1487	11.08	63.96	264.17	0.577256	2.384206	10.81583	3.3	60.043399	2
1488	11.53	62.45	312.89	0.541631	2.713703	11.21711	3.3	60.100963	2
1489	12.12	60.21	371.12	0.496782	3.062046	11.74888	3.3	60.158527	2
1490	12.71	56.26	427.41	0.442644	3.362785	12.28259	3.3	60.216091	2
1491	13.25	54.92	500.31	0.414491	3.775925	12.74969	3.3	60.273655	2
1492	13.74	52.96	575.85	0.385444	4.191048	13.16415	3.3	60.331219	2
1493	14.18	47.71	679.94	0.33646	4.795063	13.50006	3.3	60.388783	2
1494	14.24	44.2	446.29	0.310393	3.134059	13.79371	3.3	60.446347	2
1495	14.19	42.94	174.98	0.302607	1.233122	14.01502	3.3	60.503911	2
1496	14.13	41.92	197.49	0.296674	1.397665	13.93251	3.3	60.561475	2
1497	14.07	41.68	209.2	0.296233	1.486851	13.8608	3.3	60.619039	2
1498	13.95	41.23	200.27	0.295556	1.435627	13.74973	3.3	60.676603	2
1499	13.78	40.94	178.46	0.297097	1.295065	13.60154	3.3	60.734167	2
1500	13.58	41.27	154.27	0.303903	1.136009	13.42573	3.3	60.791731	2
1501	13.04	43.14	125.21	0.330828	0.960199	12.91479	3.3	60.849295	2
1502	12.74	45.14	120.85	0.354317	0.948587	12.61915	3.3	60.906859	2
1503	12.74	45.14	120.85	0.354317	0.948587	12.61915	3.3	60.964423	2.6
1504	12.74	45.14	120.85	0.354317	0.948587	12.61915	3.3	61.021987	2.6
1505	10.88	38.46	158.33	0.353493	1.455239	10.72167	3.3	61.079551	2.2
1506	10.55	36.99	121.25	0.350616	1.149289	10.42875	3.3	61.137115	2.2
1507	10.15	36.67	91.75	0.361281	0.903941	10.05825	3.3	61.194679	2
1508	9.69	36.91	65.62	0.380908	0.677193	9.62438	3.3	61.252243	2
1509	9.22	37.03	46.19	0.401627	0.500976	9.17381	3.3	61.309807	2
1510	8.73	37.07	28.11	0.424628	0.321993	8.70189	3.3	61.367371	2
1511	8.27	37.2	13.61	0.449819	0.164571	8.25639	3.3	61.424935	2
1512	7.46	38.09	2.09	0.51059	0.028016	7.45791	3.3	61.482499	2
1513	7.2	37.85	6.33	0.525694	0.087917	7.19367	3.3	61.540063	2
1514	7.08	37.4	12.63	0.528249	0.17839	7.06737	3.3	61.597628	2
1515	7.06	36.5	25.91	0.516997	0.366997	7.03409	3.3	61.655192	2
1516	7.08	36.67	40.22	0.517938	0.568079	7.03978	3.3	61.712756	2
1517	7.09	38.21	45.16	0.538928	0.636953	7.04484	3.3	61.77032	2
1518	7.01	39.27	40.52	0.5602	0.578031	6.96948	3.3	61.827884	2
1519	6.79	40.01	30.93	0.589249	0.455523	6.75907	3.3	61.885448	2
1520	6.39	40.66	21.19	0.636307	0.331612	6.36881	3.3	61.943012	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1521	6.01	41.35	14.82	0.68802	0.246589	5.99518	3.3	62.000576	2
1522	5.44	43.14	14.6	0.793015	0.268382	5.4254	3.3	62.05814	2
1523	5.28	44.94	10.72	0.851136	0.20303	5.26928	3.3	62.115704	2
1524	5.22	48.2	9.52	0.923372	0.182375	5.21048	3.3	62.173268	2
1525	5.33	52.6	10.58	0.986867	0.198499	5.31942	3.3	62.230832	2
1526	5.7	57.04	31.4	1.000702	0.550877	5.6686	3.2	62.286653	2
1527	6.18	63.02	67.93	1.019741	1.099191	6.11207	3.3	62.344217	2
1528	6.62	67.63	116.82	1.021601	1.764653	6.50318	3.2	62.400039	2
1529	6.98	71.13	159.06	1.019054	2.278797	6.82094	3.3	62.457603	2
1530	6.97	71.21	122.35	1.021664	1.75538	6.84765	3.3	62.515167	2
1531	6.7	71.58	94.97	1.068358	1.417463	6.60503	3.3	62.572731	2
1532	6.33	70.85	80.08	1.119273	1.265087	6.24992	3.3	62.630295	2
1533	5.87	67.55	86.92	1.150767	1.48075	5.78308	3.3	62.687859	2.1
1534	5.46	60.21	79.82	1.102747	1.461905	5.38018	3.3	62.745423	2.1
1535	5.14	55.2	78.43	1.07393	1.525875	5.06157	3.3	62.802987	2
1536	4.97	54.43	79.79	1.095171	1.605433	4.89021	3.3	62.860551	2
1537	5	55.41	95.41	1.1082	1.9082	4.90459	3.3	62.918115	2
1538	5.25	57.2	108.37	1.089524	2.06419	5.14163	3.3	62.975679	2
1539	5.61	59.44	110.35	1.059537	1.967023	5.49965	3.3	63.033243	2
1540	5.93	61.64	99.18	1.03946	1.672513	5.83082	3.3	63.090807	2
1541	5.89	59.89	102.29	1.016808	1.736672	5.78771	3.2	63.146629	2
1542	5.89	58.87	99.22	0.999491	1.68455	5.79078	3.2	63.20245	2
1543	5.99	59.56	105.59	0.994324	1.762771	5.88441	3.2	63.258272	2
1544	6.28	59.97	96.99	0.954936	1.544427	6.18301	3.2	63.314093	2
1545	6.93	61.72	126.71	0.89062	1.828427	6.80329	3.2	63.369915	2
1546	7.83	65.55	234.38	0.837165	2.993359	7.59562	3.2	63.425736	2
1547	8.86	67.51	322.88	0.761964	3.644244	8.53712	3.2	63.481558	2
1548	9.92	69.05	364.67	0.696069	3.676109	9.55533	3.2	63.537379	2
1549	11.53	74.47	509.39	0.64588	4.417953	11.02061	3.2	63.593201	2
1550	12.25	71.09	550.05	0.580327	4.490204	11.69995	3.2	63.649022	2
1551	12.77	70.72	588.19	0.553798	4.60603	12.18181	3.2	63.704844	2
1552	13.27	69.58	545.73	0.524341	4.112509	12.72427	3.2	63.760665	2
1553	13.63	68.65	514.95	0.503668	3.778063	13.11505	3.2	63.816487	2
1554	13.92	67.18	530.36	0.482615	3.810057	13.38964	3.2	63.872308	2
1555	14.12	64.53	547.27	0.457011	3.87585	13.57273	3.2	63.92813	2
1556	14.23	62.98	545.47	0.442586	3.83324	13.68453	3.2	63.983951	2
1557	14.5	63.76	548.81	0.439724	3.784897	13.95119	3.2	64.039773	2
1558	14.54	64.17	537.9	0.441334	3.69945	14.0021	3.2	64.095594	2
1559	14.43	64.37	515.24	0.446085	3.570617	13.91476	3.2	64.151416	2
1560	14.26	62.74	480.36	0.439972	3.368583	13.77964	3.2	64.207237	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1561	14.03	60.09	449.58	0.428297	3.204419	13.58042	3.2	64.263059	2
1562	13.78	56.63	419.32	0.410958	3.042961	13.36068	3.2	64.31888	2
1563	13.5	53.98	387.11	0.399852	2.867481	13.11289	3.2	64.374702	2
1564	13.15	52.02	350.44	0.395589	2.664943	12.79956	3.2	64.430523	2
1565	12.32	48.93	264.32	0.397159	2.145455	12.05568	3.2	64.486345	2
1566	11.71	47.75	202.91	0.407771	1.732792	11.50709	3.2	64.542166	2
1567	10.94	46.97	145.88	0.429342	1.333455	10.79412	3.2	64.597988	2
1568	10.12	45.75	83.85	0.452075	0.828557	10.03615	3.2	64.653809	2
1569	9.22	44.73	29.83	0.485141	0.323536	9.19017	3.2	64.709631	2
1570	8.34	44.2	-8.64	0.529976	-0.103597	8.34864	3.2	64.765452	2
1571	7.4	43.51	-40.19	0.587973	-0.543108	7.44019	3.2	64.821274	2
1572	6.43	43.51	-50.91	0.676672	-0.791757	6.48091	3.2	64.877095	2
1573	5.55	43.39	-56.8	0.781802	-1.023423	5.6068	3.2	64.932917	2
1574	4.73	44.61	-60.24	0.943129	-1.273573	4.79024	3.2	64.988738	2
1575	3.48	50.19	-58.08	1.442241	-1.668966	3.53808	3.2	65.04456	2
1576	3.09	54.39	-52.78	1.760194	-1.708091	3.14278	3.2	65.100381	2
1577	2.77	60.25	-44.54	2.17509	-1.607942	2.81454	3.2	65.156203	2
1578	2.58	67.99	-37.18	2.635271	-1.441085	2.61718	3.2	65.212024	2
1579	2.44	79.52	-41.91	3.259016	-1.717623	2.48191	3.2	65.267846	2
1580	2.32	97.9	58.12	4.219828	2.505172	2.26188	3.2	65.323667	2
1581	2.39	108.25	209.31	4.529289	8.757741	2.18069	3.2	65.379489	2
1582	2.78	107.92	268.13	3.882014	9.644964	2.51187	3.2	65.43531	2
1583	4.46	95.53	469.31	2.141928	10.522646	3.99069	3.2	65.491132	2
1584	5.44	92.19	588.37	1.694669	10.815625	4.85163	3.2	65.546953	2
1585	6.49	87.92	541.96	1.3547	8.350693	5.94804	3.2	65.602775	2
1586	7.5	87.43	560.96	1.165733	7.479467	6.93904	3.2	65.658596	2
1587	8.38	89.06	611.06	1.062768	7.291885	7.76894	3.2	65.714418	2
1588	9.02	88.41	637.38	0.980155	7.066297	8.38262	3.2	65.770239	2
1589	9.44	86	585.84	0.911017	6.205932	8.85416	3.2	65.826061	2
1590	9.28	84.54	469.49	0.910991	5.059159	8.81051	3.2	65.881882	2
1591	9.28	84.54	469.49	0.910991	5.059159	8.81051	3.2	65.937704	2
1592	8.65	78.71	410.02	0.909942	4.740116	8.23998	3.2	65.993525	2
1593	8.23	76.67	413.35	0.931592	5.022479	7.81665	3.2	66.049347	2
1594	7.88	70.24	375.07	0.891371	4.759772	7.50493	3.2	66.105168	2
1595	7.66	66.77	343.41	0.871671	4.483159	7.31659	3.2	66.16099	2
1596	7.5	66.28	339.42	0.883733	4.5256	7.16058	3.2	66.216811	2
1597	7.47	64.61	334.59	0.864926	4.479116	7.13541	3.2	66.272633	2
1598	7.69	64.08	359.66	0.83329	4.676983	7.33034	3.2	66.328454	2
1599	8.25	65.92	378.98	0.79903	4.593697	7.87102	3.2	66.384276	2
1600	8.76	76.92	258.57	0.878082	2.951712	8.50143	3.2	66.440097	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1601	8.47	81.07	239.65	0.957143	2.829398	8.23035	3.2	66.495919	2
1602	7.83	81.24	222.89	1.037548	2.846616	7.60711	3.2	66.55174	2
1603	7.83	81.24	222.89	1.037548	2.846616	7.60711	3.2	66.607562	1.9
1604	7.83	81.24	222.89	1.037548	2.846616	7.60711	3.2	66.663383	1.9
1605	5.5	69.14	302.82	1.257091	5.505818	5.19718	3.2	66.719205	1.8
1606	5.13	69.5	241.19	1.354776	4.701559	4.88881	3.2	66.775027	1.8
1607	4.75	70.93	203.24	1.493263	4.278737	4.54676	3.2	66.830848	2.2
1608	4.44	72.97	147.42	1.643468	3.32027	4.29258	3.2	66.88667	2.2
1609	4.12	78.46	83.41	1.904369	2.024515	4.03659	3.2	66.942491	2.1
1610	3.91	89.1	54.5	2.278772	1.393862	3.8555	3.2	66.998313	2.1
1611	4.23	100.59	139.48	2.378014	3.2974	4.09052	3.2	67.054134	2
1612	4.85	106.74	323.02	2.200825	6.660206	4.52698	3.2	67.109956	2
1613	5.87	108.12	459.17	1.841908	7.822317	5.41083	3.2	67.165777	1.9
1614	7.04	106.41	533.87	1.511506	7.583381	6.50613	3.2	67.221599	1.9
1615	8.33	100.59	608.13	1.207563	7.30048	7.72187	3.2	67.27742	2
1616	9.51	95.66	682.68	1.005889	7.178549	8.82732	3.2	67.333242	2
1617	10.29	89.59	685.47	0.870651	6.661516	9.60453	3.2	67.389063	2
1618	11.38	81.64	565.79	0.717399	4.971793	10.81421	3.2	67.444885	2
1619	11.77	80.05	577.17	0.680119	4.903738	11.19283	3.2	67.500706	2
1620	11.88	79.85	576.55	0.672138	4.853114	11.30345	3.2	67.556528	2
1621	11.77	77.61	531.46	0.659388	4.515378	11.23854	3.2	67.612349	2
1622	11.38	75.65	472.06	0.664763	4.148155	10.90794	3.2	67.668171	2
1623	10.88	74.02	395.02	0.680331	3.630699	10.48498	3.2	67.723992	2
1624	10.15	71.46	303.19	0.704039	2.987094	9.84681	3.2	67.779814	2
1625	9.27	67.47	210.67	0.727832	2.2726	9.05933	3.2	67.835635	2
1626	8.42	64.25	148.89	0.763064	1.76829	8.27111	3.2	67.891457	2
1627	7.04	63.07	81.98	0.895881	1.164489	6.95802	3.2	67.947278	2
1628	6.56	68.32	102.95	1.041463	1.56936	6.45705	3.2	68.0031	2
1629	6.34	71.46	101.64	1.127129	1.603155	6.23836	3.2	68.058921	2
1630	6.26	75.45	94.9	1.205272	1.515974	6.1651	3.2	68.114743	2
1631	6.48	81.89	125.61	1.263735	1.938426	6.35439	3.2	68.170564	2
1632	7.07	89.87	201.19	1.271146	2.845686	6.86881	3.2	68.226386	2
1633	7.91	93.01	245.54	1.175853	3.104172	7.66446	3.2	68.282207	2
1634	8.67	97.98	333.35	1.130104	3.844867	8.33665	3.2	68.338029	2
1635	10.47	97.57	565.57	0.931901	5.401815	9.90443	3.2	68.39385	2
1636	11.02	98.14	612.56	0.890563	5.558621	10.40744	3.2	68.449672	2
1637	11.32	93.62	615.71	0.827032	5.439134	10.70429	3.2	68.505493	2
1638	11.4	91.87	611.1	0.805877	5.360526	10.7889	3.2	68.561315	2
1639	11.52	91.26	605.13	0.792188	5.252865	10.91487	3.2	68.617136	2
1640	11.64	90.93	604.36	0.781186	5.192096	11.03564	3.2	68.672958	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1641	11.77	88.85	601.11	0.754885	5.107137	11.16889	3.2	68.728779	2
1642	11.91	86.78	588.62	0.728631	4.942233	11.32138	3.2	68.784601	2
1643	11.9	86.08	573.66	0.723361	4.820672	11.32634	3.2	68.840422	2
1644	11.86	85.59	559.46	0.721669	4.717201	11.30054	3.2	68.896244	2
1645	11.77	85.8	543.42	0.728972	4.616992	11.22658	3.2	68.952065	2
1646	11.72	85.35	531.93	0.728242	4.538652	11.18807	3.2	69.007887	2
1647	11.64	86.37	519.82	0.74201	4.465808	11.12018	3.2	69.063708	2
1648	11.57	86.33	510.08	0.746154	4.408643	11.05992	3.2	69.11953	2
1649	11.35	84.82	479.52	0.747313	4.224846	10.87048	3.2	69.175351	2
1650	11.23	83.88	459.61	0.746928	4.092698	10.77039	3.2	69.231173	2
1651	11.12	85.06	440.11	0.764928	3.957824	10.67989	3.2	69.286994	2
1652	11	85.88	435.86	0.780727	3.962364	10.56414	3.2	69.342816	2
1653	10.89	86.04	430.85	0.790083	3.956382	10.45915	3.2	69.398637	2
1654	10.76	84.98	419.9	0.789777	3.902416	10.3401	3.2	69.454459	2
1655	10.65	85.39	411.34	0.801784	3.862347	10.23866	3.2	69.51028	2
1656	10.56	86.45	407.39	0.818655	3.85786	10.15261	3.2	69.566102	2
1657	10.5	87.59	410.86	0.83419	3.912952	10.08914	3.2	69.621923	2
1658	10.46	87.96	422.94	0.840918	4.043403	10.03706	3.2	69.677745	2
1659	10.53	87.35	434.14	0.829535	4.122887	10.09586	3.2	69.733566	2
1660	10.56	87.88	431.32	0.832197	4.08447	10.12868	3.2	69.789388	2
1661	10.45	88.41	411.23	0.846029	3.935215	10.03877	3.2	69.845209	2
1662	10.46	88.89	420.2	0.849809	4.017208	10.0398	3.2	69.901031	2
1663	10.44	88.2	436.85	0.844828	4.184387	10.00315	3.2	69.956852	2
1664	10.19	84.37	395.09	0.827969	3.877233	9.79491	3	70.009188	2
1665	9.19	85.84	346.96	0.934059	3.775408	8.84304	3	70.061524	2
1666	9.25	83.52	350.4	0.902919	3.788108	8.8996	3.2	70.117346	2
1667	9.53	81.07	386.08	0.850682	4.051207	9.14392	3.2	70.173167	2
1668	9.66	77.89	389.64	0.806315	4.03354	9.27036	3.2	70.228989	2
1669	9.66	75.37	419.98	0.780228	4.347619	9.24002	3.2	70.28481	2
1670	9.74	72.44	421.84	0.743737	4.331006	9.31816	3.2	70.340632	2
1671	9.67	69.34	418.04	0.717063	4.323061	9.25196	3.2	70.396453	2
1672	9.57	66.69	407.31	0.696865	4.256113	9.16269	3.2	70.452275	2
1673	9.32	61.39	388.79	0.658691	4.171567	8.93121	3.2	70.508096	2
1674	9.15	59.11	354.35	0.646011	3.872678	8.79565	3.2	70.563918	2
1675	9.09	59.85	350.29	0.658416	3.853575	8.73971	3.2	70.619739	2
1676	9.13	59.89	352.16	0.655969	3.857174	8.77784	3	70.672075	2
1677	9.15	61.19	347.33	0.668743	3.795956	8.80267	3	70.724411	2
1678	9.18	65.22	363.58	0.710458	3.960566	8.81642	3	70.776747	2
1679	9.33	62.29	392.64	0.667631	4.20836	8.93736	3	70.829083	2
1680	9.52	63.15	422.72	0.66334	4.440336	9.09728	3.2	70.884905	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1681	9.7	63.88	441.06	0.658557	4.54701	9.25894	3	70.937241	2
1682	10.12	68.52	478.79	0.677075	4.731126	9.64121	3.2	70.993062	2
1683	10.33	70.44	496.1	0.681897	4.802517	9.8339	3	71.045398	2
1684	10.5	73.98	506.09	0.704571	4.819905	9.99391	3.2	71.10122	2
1685	10.63	76.75	519.09	0.722013	4.883255	10.11091	3.2	71.157041	2
1686	10.73	79.52	529.92	0.7411	4.938677	10.20008	3	71.209377	2
1687	10.85	81.64	541.49	0.752442	4.990691	10.30851	3.2	71.265198	2
1688	10.99	83.52	554.22	0.759964	5.042948	10.43578	3	71.317534	2
1689	11.12	85.27	567.87	0.766817	5.106745	10.55213	3.2	71.373356	2
1690	11.53	88.94	605.83	0.771379	5.25438	10.92417	3	71.425692	2
1691	11.77	89.46	631.7	0.760068	5.367035	11.1383	3.2	71.481513	2
1692	12.04	89.83	657.47	0.746096	5.460714	11.38253	3.2	71.537335	2
1693	12.37	90.56	691.25	0.732094	5.588116	11.67875	3	71.589671	2
1694	12.7	91.09	720.24	0.717244	5.671181	11.97976	3	71.642007	2
1695	13	92.68	747.06	0.712923	5.746615	12.25294	3.2	71.697828	2
1696	13.27	94.43	767.19	0.711605	5.781387	12.50281	3	71.750164	2
1697	13.57	96.47	793.4	0.710906	5.846721	12.7766	3	71.8025	2
1698	14.19	99.16	847.34	0.698802	5.971388	13.34266	3	71.854836	2
1699	14.5	100.26	871.65	0.691448	6.011379	13.62835	3	71.907172	1.9
1700	14.77	101.4	892.33	0.686527	6.041503	13.87767	3	71.959508	2
1701	14.99	103.28	908.87	0.688993	6.063175	14.08113	3	72.011844	2
1702	15.12	104.5	911.61	0.691138	6.029167	14.20839	3	72.06418	2
1703	15.12	104.5	911.61	0.691138	6.029167	14.20839	3	72.116516	4.1
1704	15.12	104.5	911.61	0.691138	6.029167	14.20839	3	72.168852	1.8
1705	15.56	93.5	970.61	0.6009	6.237853	14.58939	3	72.221188	1.8
1706	15.77	95.7	929.62	0.606848	5.894864	14.84038	3	72.273524	2.2
1707	15.96	98.1	899.13	0.614662	5.633647	15.06087	3	72.32586	2.2
1708	16.1	101.48	882.96	0.630311	5.484224	15.21704	3	72.378196	2.1
1709	16.2	103.23	862.68	0.637222	5.325185	15.33732	3.2	72.434017	2.1
1710	16.33	106.25	847.49	0.650643	5.189773	15.48251	3	72.486353	1.9
1711	16.39	108.49	832.19	0.661928	5.077425	15.55781	3	72.538689	1.9
1712	16.41	112.65	795.96	0.686472	4.850457	15.61404	3	72.591025	2
1713	16.38	114.89	782.16	0.701404	4.775092	15.59784	3	72.643361	2
1714	16.37	115.95	769.9	0.708308	4.703115	15.6001	3	72.695697	2
1715	16.38	116.8	763.83	0.713065	4.663187	15.61617	3	72.748033	2
1716	16.41	117.78	762.65	0.717733	4.647471	15.64735	3	72.800369	1.9
1717	16.45	118.51	761.78	0.720426	4.630881	15.68822	3	72.852705	1.9
1718	16.47	121.81	758.52	0.739587	4.605464	15.71148	3	72.905041	2
1719	16.27	123.73	754.46	0.760479	4.637124	15.51554	3	72.957377	2
1720	16.41	124.42	752.52	0.758196	4.58574	15.65748	3	73.009713	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1721	16.37	124.87	746	0.762798	4.557117	15.624	3	73.062049	1.9
1722	16.23	125.76	730.67	0.774861	4.501972	15.49933	3	73.114385	1.9
1723	16.04	126.09	712.29	0.786097	4.440711	15.32771	3	73.166721	1.9
1724	15.61	126.33	675.62	0.809289	4.328123	14.93438	3	73.219057	1.9
1725	15.42	126.17	661.57	0.818223	4.290337	14.75843	3	73.271393	1.9
1726	15.23	125.6	654.91	0.824688	4.300131	14.57509	3	73.323729	2
1727	15.13	124.87	649.05	0.825314	4.289822	14.48095	3	73.376064	2
1728	15.04	125.28	647.51	0.832979	4.305253	14.39249	3	73.4284	2
1729	14.94	125.03	642.21	0.836881	4.298594	14.29779	3	73.480736	2
1730	14.86	124.79	638.14	0.839771	4.294347	14.22186	3	73.533072	2
1731	14.5	126.46	622.37	0.872138	4.292207	13.87763	3	73.585408	2
1732	14.38	123.89	621.93	0.861544	4.324965	13.75807	3	73.637744	2
1733	14.27	123.08	614.32	0.862509	4.304975	13.65568	3	73.69008	2
1734	14.09	122.22	597.34	0.867424	4.239461	13.49266	3	73.742416	2
1735	13.85	121.93	580.43	0.880361	4.19083	13.26957	3	73.794752	2
1736	13.61	120.18	562.71	0.883027	4.134533	13.04729	3	73.847088	2
1737	13.43	119.78	555.65	0.891884	4.137379	12.87435	3	73.899424	2
1738	13.12	117.74	541.01	0.897409	4.123552	12.57899	3	73.95176	2
1739	13.01	118.31	544.01	0.909377	4.181476	12.46599	3	74.004096	2
1740	12.97	117.7	551.51	0.907479	4.252197	12.41849	3	74.056432	2
1741	13.01	118.47	568.28	0.910607	4.368025	12.44172	3	74.108768	2
1742	13.06	117.66	581.67	0.900919	4.453828	12.47833	3	74.161104	2
1743	13.1	117.41	599.02	0.89626	4.572672	12.50098	3	74.21344	2
1744	13.12	116.56	608.5	0.888415	4.637957	12.5115	3	74.265776	2
1745	13.18	115.82	627.02	0.878756	4.75736	12.55298	3	74.318112	2
1746	13.26	115.05	644.55	0.867647	4.86086	12.61545	3	74.370448	2
1747	13.47	114.8	679.83	0.852264	5.046993	12.79017	3	74.422784	2
1748	13.58	114.68	694.18	0.844477	5.111782	12.88582	3	74.47512	2
1749	13.67	114.6	710.1	0.838332	5.194587	12.9599	3	74.527456	2
1750	13.81	114.28	731.73	0.827516	5.298552	13.07827	3	74.579791	2
1751	14.01	113.54	755.22	0.810421	5.390578	13.25478	3	74.632127	2
1752	14.22	113.5	782.75	0.798172	5.504571	13.43725	3	74.684463	2
1753	14.49	113.54	818.72	0.783575	5.650242	13.67128	3	74.736799	2
1754	14.81	113.87	856.86	0.768872	5.785685	13.95314	3	74.789135	2
1755	15.56	113.87	936.46	0.731812	6.01838	14.62354	3	74.841471	2
1756	15.84	115.09	962.74	0.726578	6.077904	14.87726	3	74.893807	2
1757	16.04	115.58	978.37	0.720574	6.099564	15.06163	3.2	74.949629	2
1758	16.23	116.43	993.81	0.717375	6.12329	15.23619	3.2	75.00545	2
1759	16.35	116.48	1001.61	0.712416	6.126055	15.34839	3	75.057786	2
1760	16.44	116.48	999.82	0.708516	6.08163	15.44018	3.2	75.113608	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1761	16.38	117.58	988.22	0.717827	6.033089	15.39178	3.2	75.169429	2
1762	16.13	118.47	938.07	0.73447	5.815685	15.19193	3.2	75.225251	2
1763	15.86	117.05	906.53	0.73802	5.715826	14.95347	3	75.277587	2
1764	15.69	114.72	888.08	0.731166	5.660166	14.80192	3.2	75.333408	2
1765	15.64	114.93	882	0.734847	5.639386	14.758	3	75.385744	2
1766	15.57	114.28	856.17	0.733976	5.498844	14.71383	3	75.43808	2
1767	15.36	118.35	835.63	0.770508	5.440299	14.52437	3.2	75.493902	2
1768	15.23	118.31	815.87	0.776822	5.356993	14.41413	3	75.546238	2
1769	15.19	121.32	819.79	0.798683	5.396906	14.37021	3.2	75.602059	2
1770	15.2	119.98	822.09	0.789342	5.408487	14.37791	3.2	75.657881	2
1771	15.17	118.68	823.12	0.782334	5.425972	14.34688	3	75.710216	2
1772	15.18	118.72	825.82	0.782082	5.440184	14.35418	3	75.762552	2
1773	15.19	119.2	826.89	0.784727	5.443647	14.36311	3.2	75.818374	2
1774	15.15	120.06	825.13	0.792475	5.446403	14.32487	3	75.87071	2
1775	15.12	120.71	824.07	0.798347	5.450198	14.29593	3	75.923046	2
1776	15.12	122.26	827.03	0.808598	5.469775	14.29297	3	75.975382	2
1777	15.2	126.09	838.45	0.829539	5.516118	14.36155	3	76.027718	2
1778	15.25	127.84	850.38	0.838295	5.576262	14.39962	3	76.080054	2
1779	15.34	129.76	859.75	0.845893	5.604628	14.48025	3.2	76.135875	2
1780	15.41	131.14	869.34	0.851006	5.641402	14.54066	3	76.188211	2
1781	15.48	131.35	874.54	0.848514	5.649483	14.60546	3	76.240547	2
1782	15.5	132.4	877.98	0.854194	5.664387	14.62202	3	76.292883	2
1783	15.58	133.3	882.55	0.855584	5.664634	14.69745	3.2	76.348705	2
1784	15.56	133.14	885.96	0.855656	5.69383	14.67404	3	76.401041	2
1785	15.64	131.92	897.3	0.843478	5.737212	14.7427	3	76.453377	2
1786	15.81	130.98	913.19	0.828463	5.776028	14.89681	3	76.505712	2
1787	15.99	131.59	933.35	0.822952	5.837086	15.05665	3	76.558048	2
1788	16.16	131.63	952.16	0.814542	5.892079	15.20784	3.2	76.61387	2
1789	16.5	133.59	988.58	0.809636	5.991394	15.51142	3.2	76.669691	1.9
1790	16.7	132.97	1009.66	0.796228	6.045868	15.69034	3.2	76.725513	1.9
1791	16.97	132.81	1036.23	0.782616	6.106246	15.93377	3.2	76.781334	1.9
1792	17.25	132.32	1062.47	0.767072	6.159246	16.18753	3	76.83367	1.9
1793	17.45	132.53	1075.39	0.759484	6.162693	16.37461	3.2	76.889492	1.9
1794	17.57	135.91	1075.69	0.773534	6.122311	16.49431	3	76.941828	2
1795	17.56	136.93	1069.9	0.779784	6.092825	16.4901	3.2	76.997649	2
1796	17.57	137.25	1063.5	0.781161	6.052931	16.5065	3.2	77.053471	2
1797	17.53	137.82	1054.79	0.786195	6.017056	16.47521	3.2	77.109292	2
1798	17.53	138.68	1053.62	0.791101	6.010382	16.47638	3.2	77.165114	2
1799	17.62	138.96	1060.13	0.788649	6.016629	16.55987	3	77.21745	2
1800	17.69	140.1	1060.21	0.791973	5.993273	16.62979	3	77.269786	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1801	17.8	140.67	1070.09	0.790281	6.011742	16.72991	3.2	77.325607	2
1802	17.91	141.82	1073.09	0.791848	5.991569	16.83691	3	77.377943	2
1803	17.91	141.82	1073.09	0.791848	5.991569	16.83691	3	77.430279	1
1804	17.91	141.82	1073.09	0.791848	5.991569	16.83691	3	77.482615	1
1805	17.67	121.65	1006.95	0.688455	5.698642	16.66305	3	77.534951	2.2
1806	17.98	122.22	967.02	0.679755	5.378309	17.01298	3	77.587287	2.2
1807	18.15	123.69	935.51	0.681488	5.154325	17.21449	3	77.639623	2
1808	18.34	125.52	879.88	0.684406	4.797601	17.46012	3	77.691959	2
1809	18.36	127.88	859.79	0.696514	4.682952	17.50021	3	77.744295	2
1810	18.32	129.39	829.45	0.706277	4.527566	17.49055	3	77.796631	2
1811	18.2	131.35	797.02	0.721703	4.379231	17.40298	3	77.848967	2
1812	18.08	132.49	772.9	0.732799	4.274889	17.3071	3	77.901303	2
1813	18.01	133.67	758.59	0.742199	4.212049	17.25141	3	77.953639	1.9
1814	18.01	133.67	758.59	0.742199	4.212049	17.25141	3	78.005975	1.5
1815	18.01	133.67	758.59	0.742199	4.212049	17.25141	3	78.058311	1.5
1816	17.76	122.22	802.44	0.688176	4.518243	16.95756	3	78.110647	2
1817	17.84	122.26	755.52	0.685314	4.234978	17.08448	3	78.162983	2
1818	17.79	124.05	711.89	0.697302	4.00163	17.07811	3	78.215319	1.9
1819	17.69	130.2	654.32	0.736009	3.698813	17.03568	3	78.267655	1.9
1820	17.67	130.77	633.75	0.740068	3.586587	17.03625	3	78.31999	1.9
1821	17.67	132.81	624.13	0.751613	3.532145	17.04587	3	78.372326	1.9
1822	17.65	134.03	609.74	0.759377	3.454618	17.04026	3	78.424662	2
1823	17.64	135.5	600.04	0.768141	3.401587	17.03996	3	78.476998	2
1824	17.66	137.33	606.52	0.777633	3.434428	17.05348	3	78.529334	2
1825	17.71	137.54	608.17	0.776623	3.434049	17.10183	3	78.58167	2
1826	17.85	141.57	619.59	0.793109	3.471092	17.23041	3	78.634006	1.9
1827	17.95	143.28	630.13	0.798217	3.510474	17.31987	3	78.686342	1.9
1828	18.05	145.07	639.46	0.803712	3.542715	17.41054	3	78.738678	1.9
1829	18.11	147.15	643.34	0.812535	3.552402	17.46666	3	78.791014	1.9
1830	18.12	147.93	641.33	0.816391	3.539349	17.47867	3	78.84335	2
1831	18.13	148.5	649.71	0.819084	3.583618	17.48029	3	78.895686	2
1832	18.19	148.58	668.26	0.816822	3.673777	17.52174	3	78.948022	2
1833	18.27	148.25	684.26	0.81144	3.745265	17.58574	3	79.000358	2
1834	18.37	147.64	702.41	0.803702	3.82368	17.66759	3	79.052694	2
1835	18.49	147.93	721.59	0.800054	3.902596	17.76841	3	79.10503	2
1836	18.61	148.74	741.35	0.799248	3.983611	17.86865	3	79.157366	2
1837	18.65	149.31	756.98	0.80059	4.058874	17.89302	3	79.209702	2
1838	18.71	149.35	767.85	0.798236	4.103955	17.94215	3	79.262038	2
1839	18.74	150.98	787.43	0.805656	4.201868	17.95257	3	79.314374	2
1840	18.69	150.62	788.46	0.805886	4.21862	17.90154	3	79.36671	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1841	18.69	150.37	799.84	0.804548	4.279508	17.89016	3	79.419046	1.9
1842	18.66	150.09	811.48	0.804341	4.348767	17.84852	3	79.471382	2
1843	18.64	149.35	818.43	0.801234	4.390719	17.82157	3	79.523717	2
1844	18.62	149.72	823.19	0.804082	4.420999	17.79681	3	79.576053	2
1845	18.53	150.29	829.41	0.811063	4.476039	17.70059	3	79.628389	2
1846	18.31	149.68	825.02	0.817477	4.505844	17.48498	3	79.680725	2
1847	18.12	149.27	814.37	0.823786	4.494316	17.30563	3	79.733061	2
1848	17.85	149.47	800.17	0.837367	4.482745	17.04983	3	79.785397	2
1849	17.61	150.13	784.39	0.852527	4.454231	16.82561	3	79.837733	2
1850	17.3	149.43	762.91	0.863757	4.409884	16.53709	3	79.890069	2
1851	16.91	149.88	731.03	0.886339	4.323063	16.17897	3	79.942405	2
1852	15.98	150.25	643.78	0.940238	4.028661	15.33622	3	79.994741	2
1853	15.48	149.39	602.24	0.965052	3.890439	14.87776	3	80.047077	2
1854	14.99	149.11	559.53	0.99473	3.732688	14.43047	3	80.099413	2
1855	14.53	149.56	531.68	1.029319	3.659188	13.99832	3	80.151749	2
1856	14.08	148.13	503.46	1.05206	3.57571	13.57654	3	80.204085	2
1857	13.7	147.84	479.93	1.079124	3.503139	13.22007	3	80.256421	2
1858	13.42	146.99	471.73	1.095306	3.515127	12.94827	3	80.308757	2
1859	13.2	145.32	467.66	1.100909	3.542879	12.73234	3	80.361093	2
1860	12.99	142.63	464.96	1.097998	3.579369	12.52504	3	80.413429	2
1861	12.92	140.96	478.9	1.091022	3.706656	12.4411	3	80.465765	2
1862	12.88	139.09	486.48	1.079891	3.777019	12.39352	3	80.518101	2
1863	12.88	138.39	495.11	1.074457	3.844022	12.38489	3	80.570437	1.9
1864	12.89	136.8	512.86	1.061288	3.978743	12.37714	3	80.622773	1.9
1865	12.89	132	525.24	1.02405	4.074787	12.36476	3	80.675109	2
1866	12.84	130.12	527.61	1.013396	4.109112	12.31239	3	80.727444	2
1867	12.75	128.13	520.66	1.004941	4.083608	12.22934	3	80.77978	2
1868	12.68	126.54	519.38	0.99795	4.096057	12.16062	3	80.832116	2
1869	12.67	124.46	522.97	0.98232	4.127624	12.14703	3	80.884452	2
1870	12.72	122.42	537.17	0.962421	4.223035	12.18283	3	80.936788	2
1871	12.87	120.14	562.24	0.933489	4.368609	12.30776	3	80.989124	1.9
1872	13.38	118.47	633.09	0.885426	4.731614	12.74691	3	81.04146	1.9
1873	13.69	118.72	665.7	0.867202	4.862673	13.0243	3	81.093796	2
1874	13.98	118.59	696.96	0.848283	4.985408	13.28304	3	81.146132	2
1875	14.23	119	720.42	0.836261	5.062684	13.50958	3	81.198468	1.9
1876	14.43	119.61	736.78	0.828898	5.105891	13.69322	3	81.250804	1.9
1877	14.6	118.68	751.13	0.812877	5.144726	13.84887	3	81.30314	1.9
1878	14.88	118.59	768.14	0.796976	5.162231	14.11186	3	81.355476	1.9
1879	15.02	118.96	781.83	0.792011	5.20526	14.23817	3	81.407812	1.9
1880	15.16	118.39	787.87	0.780937	5.197032	14.37213	3	81.460148	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1881	15.31	118.59	800.13	0.774592	5.226192	14.50987	3	81.512484	1.9
1882	15.42	118.43	808.11	0.768029	5.240661	14.61189	3	81.56482	1.9
1883	15.52	119.16	809.61	0.767784	5.216559	14.71039	3	81.617156	2
1884	15.52	121.28	795.59	0.781443	5.126224	14.72441	3	81.669492	1.9
1885	15.53	123.12	788.24	0.792788	5.075596	14.74176	3	81.721828	1.9
1886	15.5	124.13	776.56	0.800839	5.010065	14.72344	3	81.774164	2
1887	15.43	125.19	761.67	0.811342	4.936293	14.66833	3	81.8265	2
1888	15.36	126.37	745.86	0.822721	4.855859	14.61414	3	81.878835	2
1889	15.26	128.09	728.58	0.839384	4.774443	14.53142	3	81.931171	2
1890	15.02	128.7	689.42	0.856858	4.590013	14.33058	3	81.983507	1.9
1891	14.92	129.63	674.89	0.868834	4.523391	14.24511	3	82.035843	1.9
1892	14.8	129.67	659.22	0.876149	4.454189	14.14078	3	82.088179	1.9
1893	14.7	130.08	645.87	0.884898	4.393673	14.05413	3	82.140515	1.9
1894	14.66	130.61	638.11	0.890928	4.352729	14.02189	3	82.192851	1.9
1895	14.64	131.22	636.72	0.896311	4.34918	14.00328	3	82.245187	1.9
1896	14.7	130.73	639.06	0.88932	4.347347	14.06094	3	82.297523	1.9
1897	14.7	131.1	638.51	0.891837	4.343605	14.06149	3	82.349859	1.9
1898	14.75	130.37	641.84	0.883864	4.351458	14.10816	3	82.402195	1.9
1899	14.8	129.06	643.45	0.872027	4.347635	14.15655	3	82.454531	1.9
1900	14.77	128.62	636.75	0.870819	4.311104	14.13325	3	82.506867	2
1901	14.73	128.7	628.85	0.873727	4.269179	14.10115	3	82.559203	2
1902	14.62	128.25	611.54	0.877223	4.1829	14.00846	3	82.611539	1.9
1903	14.62	128.25	611.54	0.877223	4.1829	14.00846	3	82.663875	1.8
1904	14.62	128.25	611.54	0.877223	4.1829	14.00846	3	82.716211	1.9
1905	13.62	107.76	457.56	0.791189	3.359471	13.16244	3	82.768547	1.9
1906	13.54	108.21	418.26	0.799188	3.089069	13.12174	3	82.820883	2.2
1907	13.48	108.61	389.05	0.805712	2.886128	13.09095	3	82.873219	2.2
1908	13.52	109.55	385.9	0.810281	2.85429	13.1341	3	82.925555	2
1909	13.58	111.3	380.27	0.819588	2.800221	13.19973	3	82.977891	2
1910	13.66	114.36	385.35	0.837189	2.82101	13.27465	3	83.030227	2
1911	13.74	114.8	390.26	0.835517	2.84032	13.34974	3	83.082562	2
1912	13.85	116.19	397.65	0.838917	2.871119	13.45235	3	83.134898	2
1913	13.96	117.09	408.26	0.838754	2.924499	13.55174	3	83.187234	2
1914	14.03	117.37	408.34	0.836565	2.910478	13.62166	3	83.23957	2
1915	14.12	119	409.11	0.842776	2.89738	13.71089	3	83.291906	2
1916	14.16	119.33	412.11	0.842726	2.910381	13.74789	3	83.344242	2
1917	14.23	120.35	422.28	0.845748	2.967533	13.80772	3	83.396578	2
1918	14.31	121.4	430.37	0.848358	3.007477	13.87963	3	83.448914	2
1919	14.4	121.93	438.13	0.846736	3.042569	13.96187	3	83.50125	2
1920	14.48	122.99	449.66	0.849378	3.105387	14.03034	3	83.553586	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1921	14.79	124.95	485.31	0.844828	3.281339	14.30469	3	83.605922	2
1922	14.98	125.85	504.45	0.84012	3.36749	14.47555	3	83.658258	1.9
1923	15.1	126.46	518.5	0.837483	3.433775	14.5815	3	83.710594	1.9
1924	15.17	126.21	527.25	0.831971	3.47561	14.64275	3	83.76293	2
1925	15.21	126.66	532.19	0.832742	3.498948	14.67781	3	83.815266	2
1926	15.24	127.07	536.73	0.833793	3.52185	14.70327	3	83.867602	2
1927	15.31	125.68	548.07	0.820901	3.579817	14.76193	3	83.919938	2
1928	15.35	127.15	553.75	0.828339	3.607492	14.79625	3	83.972274	1.9
1929	15.35	128.05	556.6	0.834202	3.626059	14.7934	3	84.02461	1.9
1930	15.37	128.9	560.66	0.838647	3.647755	14.80934	3	84.076946	2
1931	15.36	129.31	567.62	0.841862	3.695443	14.79238	3	84.129282	2
1932	15.36	130.08	573.33	0.846875	3.732617	14.78667	3	84.181618	2
1933	15.38	131.71	589.83	0.856372	3.835046	14.79017	3	84.233954	2
1934	15.43	131.87	602.13	0.854634	3.902333	14.82787	3	84.286289	2
1935	15.5	132.61	611.76	0.855548	3.946839	14.88824	3	84.338625	1.9
1936	15.55	133.38	625.77	0.857749	4.024244	14.92423	3	84.390961	1.9
1937	15.64	133.95	644.07	0.856458	4.118095	14.99593	3	84.443297	2
1938	15.72	133.59	654.76	0.849809	4.16514	15.06524	3	84.495633	2
1939	15.44	132.77	621.02	0.859909	4.02215	14.81898	3	84.547969	1.9
1940	15.32	132.81	614.24	0.866906	4.009399	14.70576	3	84.600305	1.9
1941	15.32	132.53	615.71	0.865078	4.018995	14.70429	3	84.652641	2
1942	15.3	130.77	611.65	0.854706	3.997712	14.68835	3	84.704977	2
1943	15.19	130	598.58	0.855826	3.940619	14.59142	3	84.757313	2
1944	14.96	128.98	568.5	0.862166	3.800134	14.3915	3	84.809649	2
1945	14.61	130.25	537.06	0.891513	3.675975	14.07294	3	84.861985	2
1946	14.46	129.1	531.6	0.892808	3.676349	13.9284	3	84.914321	2
1947	14.25	126.58	520.33	0.888281	3.651439	13.72967	3	84.966657	2
1948	14.01	126.5	503.2	0.902926	3.59172	13.5068	3	85.018993	2
1949	13.87	124.42	496.58	0.897044	3.580245	13.37342	3	85.071329	2
1950	13.78	121.2	501.52	0.879536	3.639478	13.27848	3	85.123665	2
1951	13.82	116.88	518.13	0.845731	3.749132	13.30187	3	85.176001	2
1952	13.86	112.65	522.82	0.812771	3.77215	13.33718	3	85.228337	2
1953	13.7	114.72	502.25	0.837372	3.666058	13.19775	3	85.280673	1.9
1954	13.47	113.91	484.06	0.845657	3.593615	12.98594	3	85.333009	1.9
1955	13.35	113.22	480.4	0.84809	3.598502	12.8696	3	85.385345	2
1956	13.17	111.87	464.22	0.849431	3.524829	12.70578	3	85.437681	2
1957	12.96	111.59	446.29	0.861034	3.443596	12.51371	3	85.490016	2
1958	12.69	112.36	424.77	0.885422	3.347281	12.26523	3	85.542352	2
1959	12.09	110.98	376.28	0.917949	3.112324	11.71372	3	85.594688	2
1960	11.81	111.95	359.59	0.947925	3.044793	11.45041	3	85.647024	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1961	11.56	112.52	346.81	0.973356	3.000087	11.21319	3	85.69936	2
1962	11.39	113.09	344.91	0.992888	3.028183	11.04509	3	85.751696	2
1963	11.31	114.48	345.28	1.012202	3.052874	10.96472	3	85.804032	2
1964	11.26	116.68	349.16	1.036234	3.100888	10.91084	3	85.856368	2
1965	11.24	119.57	350.44	1.06379	3.117794	10.88956	3	85.908704	2
1966	11.26	121.36	361.86	1.077798	3.213677	10.89814	3	85.96104	2
1967	11.53	123.77	410.97	1.073461	3.564354	11.11903	3	86.013376	2
1968	11.82	122.59	449.04	1.03714	3.798985	11.37096	3	86.065712	2
1969	12.17	122.22	490.36	1.004273	4.029252	11.67964	3	86.118048	1.9
1970	12.54	120.92	528.05	0.964274	4.210925	12.01195	3	86.170384	1.9
1971	12.86	119.86	559.75	0.932037	4.352644	12.30025	3	86.22272	1.9
1972	13.08	118.43	582.51	0.905428	4.45344	12.49749	3	86.275056	1.9
1973	13.34	115.25	600.08	0.863943	4.498351	12.73992	3	86.327392	1.9
1974	13.38	114.15	594.88	0.853139	4.446039	12.78512	3	86.379728	1.9
1975	13.36	113.58	590.09	0.85015	4.416841	12.76991	3	86.432064	1.9
1976	13.28	112.4	575.05	0.846386	4.330196	12.70495	3	86.4844	1.9
1977	13.18	111.83	556.23	0.848483	4.220258	12.62377	3	86.536736	1.9
1978	12.93	111.14	519.75	0.859551	4.019722	12.41025	3	86.589072	1.9
1979	12.76	111.06	503.13	0.870376	3.943025	12.25687	3	86.641408	1.9
1980	12.63	110.28	488.12	0.873159	3.864766	12.14188	3	86.693743	1.9
1981	12.45	110	469.71	0.883534	3.772771	11.98029	3	86.746079	1.9
1982	12.29	110.08	446.29	0.895688	3.631326	11.84371	3	86.798415	1.9
1983	12.12	110.49	426.49	0.911634	3.518894	11.69351	3	86.850751	1.9
1984	11.77	111.63	394.61	0.948428	3.352676	11.37539	3	86.903087	2
1985	11.63	111.83	381.11	0.961565	3.276956	11.24889	3	86.955423	2
1986	11.49	112.36	367.27	0.977894	3.196432	11.12273	3	87.007759	1.9
1987	11.33	112.89	351.68	0.996381	3.103972	10.97832	3	87.060095	1.9
1988	11.15	113.34	336.82	1.016502	3.020807	10.81318	3	87.112431	1.9
1989	10.98	113.26	322.18	1.031512	2.934244	10.65782	3	87.164767	1.9
1990	10.81	113.5	310.4	1.049954	2.871415	10.4996	3	87.217103	2
1991	10.53	112.89	288.84	1.07208	2.74302	10.24116	3	87.269439	2
1992	10.4	112.36	284.41	1.080385	2.734712	10.11559	3	87.321775	2
1993	10.3	111.46	275.56	1.082136	2.67534	10.02444	3	87.374111	2
1994	10.23	110.89	271.75	1.083969	2.656403	9.95825	3	87.426447	1.9
1995	10.14	110.61	267.43	1.090828	2.637377	9.87257	3	87.478783	1.9
1996	10.05	110	259.38	1.094527	2.580896	9.79062	3	87.531119	2
1997	9.81	109.14	246.02	1.112538	2.507849	9.56398	3	87.583455	2
1998	9.67	108.45	234.02	1.12151	2.420062	9.43598	3	87.635791	2
1999	9.57	108.04	225.89	1.128945	2.360397	9.34411	3	87.688127	1.9
2000	9.43	107.06	215.53	1.135313	2.285578	9.21447	3	87.740463	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
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Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2001	9.33	106.41	210.34	1.140514	2.254448	9.11966	3	87.792799	2
2002	9.27	105.11	205.61	1.133873	2.218015	9.06439	3	87.845135	2
2003	9.27	105.11	205.61	1.133873	2.218015	9.06439	3	87.89747	0.9
2004	9.27	105.11	205.61	1.133873	2.218015	9.06439	3	87.949806	0.9
2005	9.04	87.84	324.42	0.971681	3.588717	8.71558	3	88.002142	2.2
2006	9.14	86.45	279.29	0.945842	3.055689	8.86071	3	88.054478	2.2
2007	9.09	87.67	223.47	0.964466	2.458416	8.86653	3	88.106814	1.9
2008	9.06	88.04	210.19	0.971744	2.319978	8.84981	3	88.15915	1.9
2009	9.04	88.32	202.8	0.976991	2.243363	8.8372	3	88.211486	2
2010	9.11	87.92	208.43	0.965093	2.287925	8.90157	3	88.263822	2
2011	9.25	87.67	219.63	0.947784	2.374378	9.03037	3	88.316158	1.9
2012	9.46	87.51	233.06	0.925053	2.463636	9.22694	3	88.368494	1.9
2013	9.96	88.04	256.93	0.883936	2.579618	9.70307	3	88.42083	2
2014	10.2	89.02	265.34	0.872745	2.601373	9.93466	3	88.473166	2
2015	10.4	90.08	268.71	0.866154	2.58375	10.13129	3	88.525502	2
2016	10.56	90.28	272.37	0.854924	2.579261	10.28763	3	88.577838	2
2017	10.77	89.67	279.36	0.832591	2.593872	10.49064	3	88.630174	1.9
2018	11.04	89.51	292.03	0.810779	2.645199	10.74797	3	88.68251	1.9
2019	11.73	90.12	332.72	0.768286	2.836488	11.39728	3	88.734846	1.9
2020	12.05	90.4	346.67	0.750207	2.876929	11.70333	3	88.787182	1.9
2021	12.3	90.52	346.96	0.735935	2.820813	11.95304	3	88.839518	2
2022	12.47	91.42	349.63	0.733119	2.803769	12.12037	3	88.891854	2
2023	12.62	91.79	351.72	0.727338	2.787005	12.26828	3	88.94419	1.9
2024	12.7	93.54	348.94	0.736535	2.747559	12.35106	3	88.996526	1.9
2025	12.76	98.92	338.76	0.775235	2.654859	12.42124	3	89.048862	1.9
2026	12.81	101.36	339.82	0.791257	2.652771	12.47018	3	89.101197	1.9
2027	12.89	102.87	345.39	0.798061	2.679519	12.54461	3	89.153533	2
2028	13.06	104.42	362.22	0.799541	2.773507	12.69778	3	89.205869	2
2029	13.25	105.15	379.06	0.793585	2.86083	12.87094	3	89.258205	2
2030	13.5	106.98	398.89	0.792444	2.954741	13.10111	3	89.310541	2
2031	13.74	108.49	413.86	0.789592	3.012082	13.32614	3	89.362877	2
2032	14.07	112.44	425.14	0.799147	3.021606	13.64486	3	89.415213	2
2033	14.06	113.83	413.57	0.809602	2.941465	13.64643	3	89.467549	2
2034	13.96	115.78	394.76	0.82937	2.827794	13.56524	3	89.519885	2
2035	13.8	117.41	374.15	0.850797	2.711232	13.42585	3	89.572221	2
2036	13.63	117.78	359.11	0.864123	2.634703	13.27089	3.1	89.6263	1.9
2037	13.53	118.19	353.04	0.87354	2.609313	13.17696	3	89.678636	1.9
2038	13.44	118.23	351.02	0.879688	2.611756	13.08898	3.1	89.732715	2
2039	13.38	117.7	359.62	0.879671	2.687743	13.02038	3	89.785051	2
2040	13.35	118.59	369.29	0.888315	2.766217	12.98071	3	89.837387	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2041	13.35	118.8	372.76	0.889888	2.79221	12.97724	3	89.889723	1.9
2042	13.35	119.08	378.25	0.891985	2.833333	12.97175	3	89.942058	2
2043	13.34	119.73	385.43	0.897526	2.88928	12.95457	3	89.994394	2
2044	13.27	119.57	382.68	0.901055	2.883798	12.88732	3	90.04673	1.9
2045	13.16	119.69	375.32	0.909498	2.851976	12.78468	3	90.099066	1.9
2046	13.03	119.04	364.35	0.913584	2.796239	12.66565	3	90.151402	2
2047	12.87	118.84	353	0.923388	2.742813	12.517	3	90.203738	2
2048	12.75	119.2	348.24	0.934902	2.731294	12.40176	3	90.256074	2
2049	12.65	118.27	348.06	0.934941	2.751462	12.30194	3	90.30841	2
2050	12.6	118.31	356.04	0.938968	2.825714	12.24396	3	90.360746	2
2051	12.62	118.27	367.68	0.937163	2.913471	12.25232	3	90.413082	2
2052	12.76	118.55	400.94	0.929075	3.142163	12.35906	3	90.465418	2
2053	12.84	118.96	416.1	0.92648	3.240654	12.4239	3	90.517754	2
2054	12.89	119.33	428.65	0.925756	3.325446	12.46135	3	90.57009	1.9
2055	12.93	118.96	436.23	0.920031	3.373782	12.49377	3	90.622426	1.9
2056	12.96	118.72	442.96	0.916049	3.417901	12.51704	3	90.674762	2
2057	13.02	118.19	452.66	0.907757	3.476651	12.56734	3.1	90.728841	2
2058	13.08	117.45	462.39	0.897936	3.535092	12.61761	3	90.781177	2
2059	13.07	116.96	465.65	0.894874	3.562739	12.60435	3	90.833513	2
2060	13.01	117.13	460.05	0.900307	3.536126	12.54995	3.1	90.887591	2
2061	12.97	117.7	460.13	0.907479	3.547648	12.50987	3	90.939927	2
2062	12.95	117.9	465.51	0.910425	3.594672	12.48449	3	90.992263	2
2063	12.94	118.31	466.82	0.914297	3.607573	12.47318	3	91.044599	2
2064	12.97	118.8	474.44	0.91596	3.65798	12.49556	3	91.096935	2
2065	13.04	119.49	487.72	0.916334	3.740184	12.55228	3.1	91.151014	2
2066	13.08	120.35	494.86	0.920107	3.783333	12.58514	3	91.20335	2
2067	13.11	121.4	499.91	0.926011	3.813196	12.61009	3.1	91.257429	2
2068	13.17	121.12	508.22	0.919666	3.858922	12.66178	3	91.309765	1.9
2069	13.24	121.08	516.96	0.914502	3.904532	12.72304	3	91.362101	1.9
2070	13.35	121.2	529.7	0.907865	3.96779	12.8203	3	91.414437	1.9
2071	13.64	122.5	559.93	0.898094	4.105059	13.08007	3	91.466773	1.9
2072	13.8	122.79	574.17	0.889783	4.160652	13.22583	3	91.519109	1.9
2073	13.98	123.69	589.54	0.884764	4.217024	13.39046	3	91.571445	1.9
2074	14.11	124.99	601.58	0.885826	4.263501	13.50842	3	91.62378	1.9
2075	14.25	125.72	614.32	0.882246	4.311018	13.63568	3	91.676116	1.9
2076	14.42	126.37	628.66	0.876352	4.359639	13.79134	3	91.728452	1.9
2077	14.64	128.09	646.67	0.874932	4.417145	13.99333	3	91.780788	1.9
2078	14.73	129.59	653.52	0.879769	4.43666	14.07648	3.1	91.834867	1.9
2079	14.87	130.65	667.46	0.878615	4.488635	14.20254	3	91.887203	1.9
2080	14.95	130.82	672.29	0.87505	4.496923	14.27771	3	91.939539	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2081	15.02	131.1	677.27	0.872836	4.509121	14.34273	3	91.991875	1.9
2082	15.06	132.49	680.12	0.879748	4.516069	14.37988	3	92.044211	1.9
2083	15.21	134.16	697.65	0.882051	4.586785	14.51235	3	92.096547	1.9
2084	15.34	134.73	711.6	0.878292	4.638853	14.6284	3	92.148883	1.9
2085	15.44	135.26	726.42	0.876036	4.704793	14.71358	3	92.201219	1.9
2086	15.61	136.23	743.95	0.87271	4.765855	14.86605	3	92.253555	1.9
2087	15.79	137.86	765.47	0.873084	4.847815	15.02453	3	92.305891	1.9
2088	16.39	139.29	834.57	0.849847	5.091946	15.55543	3	92.358227	1.9
2089	16.72	139.82	867.84	0.836244	5.190431	15.85216	3	92.410563	1.9
2090	17	141.12	894.01	0.830118	5.258882	16.10599	3	92.462899	1.9
2091	17.25	141.53	916.15	0.820464	5.311014	16.33385	3	92.515235	1.9
2092	17.45	141.57	931.05	0.811289	5.33553	16.51895	3	92.567571	1.9
2093	17.69	140.72	945.21	0.795478	5.343188	16.74479	3	92.619907	1.9
2094	17.72	141.08	942.25	0.796163	5.317438	16.77775	3	92.672242	1.9
2095	17.72	141.77	928.7	0.800056	5.240971	16.7913	3	92.724578	1.9
2096	17.6	142.02	906.71	0.806932	5.151761	16.69329	3	92.776914	1.9
2097	17.46	142.14	882.66	0.814089	5.055326	16.57734	3	92.82925	1.9
2098	17.31	143.65	857.15	0.829867	4.951762	16.45285	3	92.881586	1.9
2099	17.09	146.46	836.18	0.856992	4.892803	16.25382	3	92.933922	1.9
2100	16.98	146.83	825.79	0.864723	4.86331	16.15421	3	92.986258	2
2101	16.91	147.4	816.64	0.871674	4.829332	16.09336	3	93.038594	2
2102	16.83	149.35	809.83	0.887403	4.811824	16.02017	3	93.09093	2
2103	16.83	149.35	809.83	0.887403	4.811824	16.02017	3	93.143266	1.9
2104	16.83	149.35	809.83	0.887403	4.811824	16.02017	3	93.195602	2
2105	16.04	132.36	600.01	0.825187	3.740711	15.43999	3	93.247938	2
2106	16.06	131.55	514.73	0.819116	3.205044	15.54527	3	93.300274	2
2107	15.76	134.93	427.55	0.856155	2.712881	15.33245	3	93.35261	2
2108	15.55	136.03	397.25	0.874791	2.554662	15.15275	3	93.404946	1.9
2109	15.45	136.56	381.14	0.883883	2.466926	15.06886	3	93.457282	1.9
2110	15.38	137.01	374.59	0.890832	2.435566	15.00541	3	93.509618	2
2111	15.36	137.21	371.56	0.893294	2.41901	14.98844	3	93.561954	2
2112	15.34	137.66	372.1	0.897392	2.425684	14.9679	3	93.61429	1.9
2113	15.3	137.99	369.18	0.901895	2.412941	14.93082	3	93.666626	1.9
2114	15.31	138.07	369.03	0.901829	2.410385	14.94097	3	93.718962	1.9
2115	15.36	138.8	380.05	0.903646	2.474284	14.97995	3	93.771298	1.9
2116	15.45	138.15	390.26	0.894175	2.525955	15.05974	3	93.823634	1.9
2117	15.52	137.54	397.03	0.886211	2.558183	15.12297	3	93.875969	1.9
2118	15.53	138.31	401.6	0.890599	2.585963	15.1284	3	93.928305	1.9
2119	15.65	140.55	419.1	0.898083	2.677955	15.2309	3	93.980641	1.9
2120	15.73	139.66	426.53	0.887858	2.71157	15.30347	3	94.032977	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2121	15.81	139.78	438.28	0.884124	2.77217	15.37172	3	94.085313	1.9
2122	15.92	140.39	456.32	0.881847	2.866332	15.46368	3	94.137649	1.9
2123	16.08	139.86	475.72	0.869776	2.958458	15.60428	3	94.189985	1.9
2124	16.21	139.66	489.95	0.861567	3.022517	15.72005	3	94.242321	2
2125	16.6	140.31	539.11	0.845241	3.247651	16.06089	3	94.294657	2
2126	16.88	140.23	570.33	0.830746	3.378732	16.30967	3	94.346993	1.9
2127	17.17	140.27	595.76	0.816948	3.469773	16.57424	3	94.399329	1.9
2128	17.43	141.08	622.08	0.809409	3.569019	16.80792	3	94.451665	1.9
2129	17.7	141.65	647.7	0.800282	3.659322	17.0523	3	94.504001	1.9
2130	17.93	142.26	670.5	0.793419	3.739543	17.2595	3	94.556337	1.9
2131	18.31	143.77	705.38	0.785199	3.85243	17.60462	3	94.608673	1.9
2132	18.46	144.67	721.63	0.783694	3.909155	17.73837	3	94.661009	1.9
2133	18.58	145.64	734.91	0.783854	3.955382	17.84509	3	94.713345	1.9
2134	18.67	147.44	744.76	0.789716	3.989073	17.92524	3	94.765681	2
2135	18.76	149.19	751.38	0.795256	4.005224	18.00862	3	94.818017	2
2136	18.82	150.29	754.27	0.798565	4.007811	18.06573	3	94.870353	1.9
2137	18.93	153.22	766.5	0.809403	4.049128	18.1635	3	94.922689	1.9
2138	18.99	155.02	777.73	0.816324	4.095471	18.21227	3	94.975025	1.9
2139	19.05	156.32	785.93	0.820577	4.125617	18.26407	3	95.027361	1.9
2140	19.06	157.91	791.31	0.828489	4.151679	18.26869	3	95.079696	1.9
2141	19.09	160.84	799.62	0.842535	4.188685	18.29038	3	95.132032	1.9
2142	19.1	161.7	807.52	0.846597	4.227853	18.29248	3	95.184368	1.9
2143	19.28	163.73	835.67	0.849222	4.334388	18.44433	3	95.236704	1.9
2144	19.35	164.3	851.3	0.849096	4.399483	18.4987	3	95.28904	1.9
2145	19.45	165.08	864.77	0.84874	4.446118	18.58523	3	95.341376	1.9
2146	19.49	166.67	876.33	0.855156	4.496306	18.61367	3	95.393712	1.9
2147	19.58	167.81	893.86	0.857048	4.565169	18.68614	3	95.446048	1.9
2148	19.63	168.13	906.01	0.856495	4.615436	18.72399	3	95.498384	1.9
2149	19.82	168.95	940.12	0.852422	4.74329	18.87988	3	95.55072	1.9
2150	19.95	168.91	957.65	0.846667	4.800251	18.99235	3	95.603056	1.9
2151	20.07	170.17	979.8	0.847882	4.881913	19.0902	3	95.655392	1.9
2152	20.33	170.01	1012.96	0.836252	4.982587	19.31704	3	95.707728	1.9
2153	20.54	169.4	1039.75	0.824732	5.062074	19.50025	3	95.760064	1.9
2154	20.76	169.89	1072.72	0.818353	5.167245	19.68728	3	95.8124	1.9
2155	21.23	169.36	1128.68	0.797739	5.316439	20.10132	3	95.864736	1.9
2156	21.38	169.44	1148.85	0.792516	5.37348	20.23115	3	95.917072	1.9
2157	21.5	168.79	1165.57	0.78507	5.421256	20.33443	3	95.969408	1.9
2158	21.65	168.34	1185.67	0.777552	5.476536	20.46433	3	96.021744	1.9
2159	21.81	169.68	1204.96	0.777992	5.524805	20.60504	3	96.07408	1.9
2160	22.03	168.26	1236.5	0.763777	5.612801	20.7935	3	96.126416	1.9



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2161	22.08	167.85	1245.18	0.76019	5.639402	20.83482	3	96.178752	1.9
2162	22.08	165.73	1250.19	0.750589	5.662092	20.82981	3	96.231088	1.9
2163	22.19	164.51	1266.11	0.74137	5.705768	20.92389	3	96.283423	1.9
2164	22.26	163.41	1281.59	0.734097	5.757367	20.97841	3	96.335759	1.9
2165	22.58	160.51	1323.1	0.71085	5.85961	21.2569	3	96.388095	1.9
2166	22.81	158.48	1346.05	0.694783	5.90114	21.46395	3	96.440431	1.9
2167	22.84	156.64	1353.29	0.685814	5.925088	21.48671	3	96.492767	1.9
2168	22.82	152.94	1348.75	0.670202	5.910386	21.47125	3	96.545103	1.9
2169	22.63	149.64	1335.87	0.661246	5.903093	21.29413	3	96.597439	1.9
2170	22.41	144.42	1309.74	0.644444	5.844444	21.10026	3	96.649775	1.9
2171	21.69	138.15	1249.75	0.636929	5.761872	20.44025	3	96.702111	1.9
2172	21.47	135.66	1230.14	0.631858	5.729576	20.23986	3	96.754447	1.9
2173	21.28	136.44	1214.87	0.641165	5.708976	20.06513	3	96.806783	1.9
2174	21.08	132.36	1200.12	0.627894	5.693169	19.87988	3	96.859119	1.9
2175	20.89	131.39	1191.27	0.628961	5.702585	19.69873	3	96.911455	1.9
2176	20.81	130.69	1189.88	0.628015	5.717828	19.62012	3	96.963791	1.9
2177	20.71	129.67	1199.36	0.626123	5.791212	19.51064	3	97.016127	1.9
2178	20.65	130.33	1199.98	0.631138	5.811041	19.45002	3	97.068463	1.9
2179	20.58	130.41	1196.1	0.633673	5.811953	19.3839	3	97.120799	1.9
2180	20.5	132.57	1188.19	0.646683	5.796049	19.31181	3	97.173135	1.9
2181	20.38	136.72	1178.75	0.670854	5.783857	19.20125	3	97.225471	1.9
2182	20.01	146.42	1148.08	0.731734	5.737531	18.86192	3	97.277807	1.9
2183	19.72	149.23	1121.99	0.756744	5.689604	18.59801	3	97.330143	1.9
2184	19.46	152.61	1102.15	0.784224	5.663669	18.35785	3	97.382479	1.9
2185	19.25	156.36	1081.98	0.81226	5.620675	18.16802	3	97.434814	1.9
2186	19.06	158.89	1074.26	0.833631	5.636201	17.98574	3	97.48715	1.9
2187	18.9	160.43	1061.52	0.848836	5.616508	17.83848	3	97.539486	1.9
2188	18.7	161.9	1048.75	0.865775	5.608289	17.65125	3	97.591822	1.9
2189	18.32	162.71	1018.15	0.888155	5.557587	17.30185	3	97.644158	1.9
2190	18.11	162.23	1001.43	0.895803	5.529707	17.10857	3	97.696494	1.9
2191	17.9	161	986.82	0.899441	5.512961	16.91318	3	97.74883	1.9
2192	17.74	158.44	976.5	0.893123	5.50451	16.7635	3	97.801166	1.9
2193	17.55	157.09	955.57	0.8951	5.444843	16.59443	3	97.853502	1.9
2194	17.37	156.4	940.75	0.900403	5.415947	16.42925	3	97.905838	1.9
2195	16.95	155.02	902.21	0.914572	5.322773	16.04779	3	97.958174	1.9
2196	16.73	154.2	889.18	0.921698	5.314883	15.84082	3	98.01051	1.9
2197	16.54	153.02	872.52	0.925151	5.275212	15.66748	3	98.062846	1.9
2198	16.37	153.51	855.07	0.937752	5.223396	15.51493	3	98.115182	1.9
2199	16.23	152.98	849.54	0.942575	5.234381	15.38046	3	98.167518	1.9
2200	16.04	151.88	835.19	0.946883	5.20692	15.20481	3	98.219854	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2201	15.86	150.62	818.5	0.949685	5.160782	15.0415	3	98.27219	1.9
2202	15.65	149.27	791.46	0.953802	5.057252	14.85854	3	98.324526	1.9
2203	15.65	149.27	791.46	0.953802	5.057252	14.85854	3	98.376862	1.9
2204	15.65	149.27	791.46	0.953802	5.057252	14.85854	3	98.429198	1.9
2205	14.72	123.28	411.74	0.8375	2.797147	14.30826	3	98.481534	1.9
2206	14.84	121.85	361.82	0.821092	2.43814	14.47818	3	98.53387	1.9
2207	14.94	120.88	341.25	0.809103	2.284137	14.59875	3	98.586206	1.9
2208	15.1	119.73	332.98	0.792914	2.205166	14.76702	3	98.638541	1.9
2209	15.23	118.84	324.01	0.780302	2.127446	14.90599	3	98.690877	1.9
2210	15.42	118.63	316.95	0.769326	2.055447	15.10305	3	98.743213	1.9
2211	15.47	118.68	321.78	0.767162	2.080026	15.14822	3	98.795549	2
2212	15.48	116.52	315.7	0.752713	2.039406	15.1643	3	98.847885	2
2213	15.48	115.38	314.61	0.745349	2.032364	15.16539	3	98.900221	1.9
2214	15.43	114.19	305.68	0.740052	1.981076	15.12432	3	98.952557	1.9
2215	15.39	113.87	301.39	0.739896	1.95835	15.08861	3	99.004893	1.9
2216	15.15	111.83	275.96	0.738152	1.821518	14.87404	3	99.057229	1.9
2217	15.01	110.49	268.16	0.736109	1.786542	14.74184	3	99.109565	2
2218	14.91	111.63	263.11	0.748692	1.764655	14.64689	3	99.161901	2
2219	14.81	112.85	257.99	0.761985	1.741999	14.55201	3	99.214237	1.9
2220	14.79	113.38	257.11	0.766599	1.738404	14.53289	3	99.266573	1.9
2221	14.81	115.74	268.24	0.781499	1.811209	14.54176	3	99.318909	1.9
2222	15.01	117.21	300	0.780879	1.998668	14.71	3	99.371245	1.9
2223	15.26	117.94	326.61	0.77287	2.140301	14.93339	3	99.423581	1.9
2224	15.47	117.94	345.75	0.762379	2.234971	15.12425	3	99.475917	1.9
2225	15.64	119.94	362.88	0.76688	2.320205	15.27712	3	99.528253	1.9
2226	15.81	122.22	376.9	0.773055	2.383934	15.4331	3	99.580589	1.9
2227	16.23	121.65	413.06	0.749538	2.54504	15.81694	3	99.632925	1.9
2228	16.46	121.04	431.32	0.735358	2.620413	16.02868	3	99.685261	1.9
2229	16.75	120.02	450.17	0.716537	2.687582	16.29983	3	99.737597	1.9
2230	16.98	119.73	463.97	0.705124	2.73245	16.51603	3	99.789933	1.9
2231	17.15	118.72	472.61	0.692245	2.755743	16.67739	3	99.842268	1.9
2232	17.28	119.12	478.1	0.689352	2.766782	16.8019	3	99.894604	1.9
2233	17.37	121.61	484.28	0.700115	2.788025	16.88572	3	99.94694	1.9
2234	17.41	120.79	484.79	0.693797	2.784549	16.92521	3	99.999276	1.9
2235	17.38	121.04	480.77	0.696433	2.766226	16.89923	3	100.051612	1.9
2236	17.32	121.98	477.84	0.704273	2.758891	16.84216	3	100.103948	1.9
2237	17.27	122.87	474.55	0.711465	2.747829	16.79545	3	100.156284	1.9
2238	17.23	124.34	475.17	0.721648	2.757806	16.75483	3	100.20862	1.9
2239	17.11	124.79	466.13	0.72934	2.724313	16.64387	3	100.260956	1.9
2240	17.01	125.6	461.15	0.738389	2.711052	16.54885	3	100.313292	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2241	16.89	126.05	458.55	0.7463	2.71492	16.43145	3	100.365628	1.9
2242	16.8	126.78	454.78	0.754643	2.707024	16.34522	3	100.417964	1.9
2243	16.64	127.35	446.14	0.765325	2.68113	16.19386	3	100.4703	1.9
2244	16.54	128.25	443.47	0.775393	2.681197	16.09653	3	100.522636	1.9
2245	16.33	129.47	437.95	0.792835	2.681874	15.89205	3	100.574972	1.9
2246	16.25	130.61	437.65	0.803754	2.693231	15.81235	3	100.627308	2
2247	16.14	130.69	435.38	0.809727	2.697522	15.70462	3	100.679644	2
2248	16.03	131.22	430.33	0.81859	2.684529	15.59967	3	100.73198	1.9
2249	15.92	130.77	433.77	0.82142	2.724686	15.48623	3	100.784316	1.9
2250	15.88	129.27	439.81	0.814043	2.769584	15.44019	3	100.836652	1.9
2251	15.85	127.84	449.15	0.806562	2.833754	15.40085	3	100.888988	1.9
2252	15.75	125.89	443.4	0.799302	2.815238	15.3066	3	100.941324	1.9
2253	15.66	126.13	445.81	0.805428	2.846807	15.21419	3	100.99366	1.9
2254	15.57	124.5	440.8	0.799615	2.831085	15.1292	3	101.045995	1.9
2255	15.43	123.4	430.85	0.799741	2.792288	14.99915	3	101.098331	1.9
2256	15.32	123.08	424.22	0.803394	2.76906	14.89578	3	101.150667	1.9
2257	14.98	121.53	407.86	0.811282	2.722697	14.57214	3	101.203003	1.9
2258	14.83	121.77	400.4	0.821106	2.699933	14.4296	3	101.255339	1.9
2259	14.69	121.16	399.41	0.824779	2.718924	14.29059	3	101.307675	1.9
2260	14.57	119.37	389.01	0.819286	2.669938	14.18099	3	101.360011	1.9
2261	14.42	118.06	377.26	0.818724	2.616227	14.04274	3	101.412347	1.9
2262	14.19	116.43	359.22	0.820507	2.531501	13.83078	3	101.464683	1.9
2263	13.6	113.09	315.05	0.831544	2.316544	13.28495	3	101.517019	1.9
2264	13.24	112.69	290.63	0.851133	2.195091	12.94937	3	101.569355	1.9
2265	12.84	111.26	262.27	0.866511	2.042601	12.57773	3	101.621691	1.9
2266	12.39	111.71	237.09	0.901614	1.913559	12.15291	3	101.674027	1.9
2267	11.88	110.28	202.43	0.928283	1.703956	11.67757	3	101.726363	2
2268	11.32	109.75	168.69	0.969523	1.490194	11.15131	3	101.778699	2
2269	10.72	108.65	135.71	1.013526	1.265951	10.58429	3	101.831035	2
2270	9.28	106.41	74.7	1.146659	0.804957	9.2053	3	101.883371	2
2271	8.49	104.86	54.42	1.2351	0.640989	8.43558	3	101.935707	2
2272	7.85	103.19	44.32	1.314522	0.564586	7.80568	3	101.988043	2
2273	7.36	101.61	44.36	1.380571	0.602717	7.31564	3	102.040379	2
2274	7.06	100.67	48.05	1.425921	0.680595	7.01195	3	102.092715	2
2275	6.94	100.95	63.94	1.454611	0.921326	6.87606	3	102.145051	2
2276	7.03	102.22	61.23	1.454054	0.870982	6.96877	3	102.197387	2
2277	7.1	102.79	68.44	1.447746	0.963944	7.03156	3	102.249722	2
2278	7.19	101.52	57.35	1.411961	0.797636	7.13265	3	102.302058	2
2279	7.25	99.98	58.05	1.379034	0.80069	7.19195	3	102.354394	2
2280	7.29	99.2	53.62	1.360768	0.735528	7.23638	3	102.40673	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2281	7.35	98.96	71.55	1.346395	0.973469	7.27845	3	102.459066	2
2282	7.44	95.45	86.67	1.28293	1.164919	7.35333	3	102.511402	2
2283	7.7	87.06	123.85	1.130649	1.608442	7.57615	3	102.563738	2
2284	7.83	82.99	138.93	1.059898	1.77433	7.69107	3	102.616074	2
2285	7.89	79.56	152.95	1.008365	1.93853	7.73705	3	102.66841	2
2286	8.03	75.9	169.97	0.945205	2.116687	7.86003	3	102.720746	2
2287	8.3	73.41	180.21	0.884458	2.171205	8.11979	3	102.773082	2
2288	8.64	71.95	190.02	0.832755	2.199306	8.44998	3	102.825418	2
2289	9.32	69.05	216.85	0.74088	2.326717	9.10315	3	102.877754	1.9
2290	9.62	67.51	222.01	0.701767	2.307796	9.39799	3	102.93009	1.9
2291	9.87	64.94	224.43	0.657953	2.27386	9.64557	3	102.982426	1.9
2292	10.12	63.39	232.66	0.626383	2.299012	9.88734	3	103.034762	1.9
2293	10.36	60.91	233.36	0.587934	2.25251	10.12664	3	103.087098	1.9
2294	10.77	59.6	246.93	0.553389	2.292758	10.52307	3	103.139434	1.9
2295	10.93	60.58	249.57	0.554254	2.283349	10.68043	3	103.19177	1.9
2296	11.08	60.78	250.59	0.548556	2.261643	10.82941	3	103.244106	1.9
2297	11.12	60.78	242.87	0.546583	2.184083	10.87713	3	103.296442	1.9
2298	11.15	60.99	229.88	0.546996	2.061704	10.92012	3	103.348778	1.9
2299	11.12	61.8	214.62	0.555755	1.930036	10.90538	3	103.401114	1.9
2300	11.08	64.45	192.33	0.581679	1.73583	10.88767	3	103.453449	1.9
2301	11.04	66.49	181.79	0.602264	1.646649	10.85821	3	103.505785	1.9
2302	11.02	68.48	174.03	0.621416	1.57922	10.84597	3	103.558121	1.9
2303	11.02	68.48	174.03	0.621416	1.57922	10.84597	3	103.610457	1.8
2304	11.02	68.48	174.03	0.621416	1.57922	10.84597	3	103.662793	1.8
2305	10.94	62.17	326.83	0.568282	2.987477	10.61317	3	103.715129	2.1
2306	11.22	63.11	280.9	0.562478	2.503565	10.9391	3.2	103.770951	2.1
2307	11.46	64.12	257.29	0.559511	2.245113	11.20271	3	103.823287	1.9
2308	11.91	65.43	241.63	0.54937	2.028799	11.66837	3	103.875623	1.9
2309	12.17	66.32	246.17	0.544947	2.022761	11.92383	3	103.927959	2
2310	12.46	67.02	255.68	0.537881	2.052006	12.20432	3	103.980295	2
2311	12.74	68.08	260.26	0.53438	2.042857	12.47974	3	104.032631	1.9
2312	12.94	70.07	261.03	0.541499	2.017233	12.67897	3.2	104.088452	1.9
2313	13.55	74.19	298.21	0.547528	2.200812	13.25179	3.2	104.144274	2
2314	13.99	74.15	316.84	0.530021	2.264761	13.67316	3	104.196609	2
2315	14.34	74.11	326.54	0.516806	2.277127	14.01346	3	104.248945	1.9
2316	14.75	75.33	341.03	0.510712	2.312068	14.40897	3	104.301281	1.9
2317	15.04	74.96	345.53	0.498404	2.297407	14.69447	3.2	104.357103	1.9
2318	15.24	74.51	342.68	0.488911	2.248556	14.89732	3	104.409439	1.9
2319	15.5	79.73	338.73	0.514387	2.185355	15.16127	3	104.461775	1.9
2320	15.62	84.49	341.47	0.540909	2.186108	15.27853	3	104.514111	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2321	15.65	87.96	343.56	0.562045	2.195272	15.30644	3	104.566447	1.9
2322	15.74	90.93	347.51	0.5777	2.207814	15.39249	3	104.618783	1.9
2323	15.82	94.35	352.05	0.596397	2.225348	15.46795	3.2	104.674604	1.9
2324	15.86	96.35	353.44	0.607503	2.228499	15.50656	3.2	104.730426	1.9
2325	15.87	102.87	350.22	0.648204	2.206805	15.51978	3	104.782762	1.9
2326	15.78	106.41	347.95	0.674335	2.205006	15.43205	3	104.835098	1.9
2327	15.73	108.73	345.83	0.691227	2.198538	15.38417	3.2	104.890919	1.9
2328	15.72	112.12	347.62	0.713232	2.211323	15.37238	3.2	104.946741	1.9
2329	15.69	115.86	351.94	0.738432	2.243085	15.33806	3.2	105.002562	1.9
2330	15.66	118.63	353.95	0.757535	2.260217	15.30605	3.2	105.058384	1.9
2331	15.64	125.85	365.63	0.804668	2.337788	15.27437	3.2	105.114205	1.9
2332	15.62	128.9	370.16	0.825224	2.369782	15.24984	3	105.166541	1.9
2333	15.59	131.47	374.59	0.843297	2.402758	15.21541	3	105.218877	1.9
2334	15.59	132.93	379.2	0.852662	2.432328	15.2108	3	105.271213	1.9
2335	15.44	132.49	374.63	0.858096	2.42636	15.06537	3	105.323549	1.9
2336	15.4	132.97	379.09	0.863442	2.461623	15.02091	3	105.375885	1.9
2337	15.4	132.36	392.93	0.859481	2.551494	15.00707	3	105.428221	1.9
2338	15.45	132.49	406.47	0.85754	2.630874	15.04353	3	105.480557	1.9
2339	15.49	131.63	418.4	0.849774	2.701097	15.0716	3	105.532893	1.9
2340	15.49	131.26	427.26	0.847385	2.758296	15.06274	3	105.585229	1.9
2341	15.47	130.98	430.63	0.846671	2.783646	15.03937	3.1	105.639308	1.9
2342	15.36	130.77	428.14	0.851367	2.78737	14.93186	3	105.691644	1.9
2343	15.23	130.61	422.87	0.857584	2.776559	14.80713	3	105.743979	1.9
2344	15.11	129.27	418.84	0.855526	2.771939	14.69116	3	105.796315	1.9
2345	14.98	129.23	410.68	0.862684	2.741522	14.56932	3	105.848651	1.9
2346	14.82	129.84	402.34	0.876113	2.714845	14.41766	3	105.900987	1.9
2347	14.54	129.31	390.92	0.88934	2.688583	14.14908	3	105.953323	1.9
2348	14.39	130.16	387.26	0.904517	2.691174	14.00274	3	106.005659	1.9
2349	14.27	130	383.01	0.911002	2.684022	13.88699	3	106.057995	1.9
2350	14.14	129.19	384.77	0.913649	2.721146	13.75523	3	106.110331	1.9
2351	14.05	128.41	387.99	0.91395	2.761495	13.66201	3	106.162667	1.9
2352	14.04	128.49	396.77	0.915171	2.825997	13.64323	3	106.215003	1.9
2353	14.17	128.74	433.52	0.908539	3.059421	13.73648	3	106.267339	1.9
2354	14.3	128.37	453.57	0.897692	3.171818	13.84643	3	106.319675	1.9
2355	14.4	128.21	467.88	0.890347	3.249167	13.93212	3	106.372011	1.9
2356	14.46	128.57	482.78	0.889142	3.338728	13.97722	3.2	106.427832	1.9
2357	14.47	127.52	484.61	0.881272	3.349067	13.98539	3	106.480168	1.9
2358	14.48	127.84	484.87	0.882873	3.34855	13.99513	3	106.532504	1.9
2359	14.37	126.05	484.76	0.877175	3.373417	13.88524	3.1	106.586583	1.9
2360	14.31	125.07	481.43	0.874004	3.364291	13.82857	3	106.638919	1.9



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2361	14.19	124.7	471	0.878788	3.319239	13.719	3.1	106.692998	2
2362	14	124.83	454.2	0.891643	3.244286	13.5458	3	106.745334	2
2363	13.77	123.77	429.89	0.898838	3.121932	13.34011	3.1	106.799413	2
2364	13.47	123.69	405.56	0.918263	3.010839	13.06444	3	106.851749	2
2365	13.17	123.44	383.52	0.937282	2.912073	12.78648	3.2	106.90757	2
2366	12.74	123.44	358.27	0.968917	2.812166	12.38173	3	106.959906	2
2367	12.62	123.48	354.43	0.978447	2.808479	12.26557	3.1	107.013985	2
2368	12.5	123.73	351.79	0.98984	2.81432	12.14821	3	107.066321	1.9
2369	12.42	123.77	355.34	0.996538	2.861031	12.06466	3	107.118657	1.9
2370	12.39	123.73	360.69	0.998628	2.911138	12.02931	3	107.170993	1.9
2371	12.41	123.97	367.79	0.998952	2.963658	12.04221	3.1	107.225072	1.9
2372	12.35	123.65	373.28	1.001215	3.02251	11.97672	3	107.277408	1.9
2373	12.36	123.6	379.97	1	3.074191	11.98003	3	107.329744	1.9
2374	12.35	123.16	378.62	0.997247	3.065749	11.97138	3	107.38208	1.9
2375	12.31	122.99	377.63	0.999106	3.067669	11.93237	3	107.434415	1.9
2376	12.27	122.18	373.64	0.995762	3.045151	11.89636	3.1	107.488494	2
2377	12.21	121.85	370.93	0.997952	3.03792	11.83907	3.1	107.542573	2
2378	12.12	120.75	371.77	0.996287	3.067409	11.74823	3.2	107.598395	1.9
2379	12.07	119.94	368.11	0.993703	3.049793	11.70189	3	107.650731	1.9
2380	12.01	118.84	362.7	0.989509	3.019983	11.6473	3.1	107.704809	2
2381	12	117.94	368.15	0.982833	3.067917	11.63185	3	107.757145	2
2382	12.01	116.03	370.42	0.966112	3.084263	11.63958	3	107.809481	2
2383	12.04	114.93	378.55	0.954568	3.144103	11.66145	3.1	107.86356	2
2384	12.11	113.13	387.48	0.934187	3.19967	11.72252	3.1	107.917639	2
2385	12.15	112.89	393.62	0.929136	3.239671	11.75638	3.1	107.971718	2
2386	12.15	112.56	395.05	0.92642	3.25144	11.75495	3.1	108.025797	2
2387	12.18	111.87	393.59	0.918473	3.231445	11.78641	3.1	108.079875	2
2388	12.13	112.85	391.57	0.930338	3.228112	11.73843	3.1	108.133954	1.9
2389	12.1	113.26	385.46	0.936033	3.18562	11.71454	3.1	108.188033	1.9
2390	12.02	113.91	373.68	0.947671	3.108819	11.64632	3.1	108.242112	1.9
2391	11.96	114.11	366.47	0.954097	3.06413	11.59353	3.1	108.296191	1.9
2392	11.94	114.23	365.08	0.9567	3.057621	11.57492	3.1	108.350269	1.9
2393	11.91	114.68	361.64	0.962888	3.03644	11.54836	3.1	108.404348	1.9
2394	11.89	115.05	357.43	0.96762	3.00614	11.53257	3.1	108.458427	1.9
2395	11.89	115.25	360.25	0.969302	3.029857	11.52975	3.1	108.512506	1.9
2396	12	116.27	369.1	0.968917	3.075833	11.6309	3.1	108.566585	1.9
2397	12.1	117.05	382.9	0.967355	3.164463	11.7171	3.1	108.620663	1.9
2398	12.24	117.41	398.27	0.959232	3.25384	11.84173	3.1	108.674742	1.9
2399	12.42	118.35	413.86	0.952899	3.332206	12.00614	3.1	108.728821	1.9
2400	12.58	119.16	428.14	0.947218	3.403339	12.15186	3.1	108.7829	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2401	12.87	119.82	449.51	0.931002	3.492696	12.42049	3.1	108.836979	1.9
2402	12.98	120.55	457.42	0.928737	3.524037	12.52258	3.1	108.891058	1.9
2403	12.98	120.55	457.42	0.928737	3.524037	12.52258	3.1	108.945136	1.6
2404	12.98	120.55	457.42	0.928737	3.524037	12.52258	3.1	108.999215	1.6
2405	12.97	107.92	412.99	0.832074	3.184194	12.55701	3.1	109.053294	1.9
2406	13.15	108.16	365.66	0.82251	2.780684	12.78434	3.1	109.107373	1.9
2407	13.3	110.24	324.42	0.828872	2.439248	12.97558	3.1	109.161452	1.8
2408	13.38	111.34	320.06	0.832138	2.392078	13.05994	3.1	109.21553	1.8
2409	13.45	112.2	314.06	0.834201	2.335019	13.13594	3.1	109.269609	1.7
2410	13.58	115.17	312.67	0.848085	2.30243	13.26733	3.2	109.325431	1.8
2411	13.62	116.48	310.65	0.855213	2.280837	13.30935	3.1	109.37951	1.8
2412	13.69	118.43	310.73	0.865084	2.269759	13.37927	3.1	109.433588	1.8
2413	13.73	120.47	313.25	0.877422	2.2815	13.41675	3.1	109.487667	1.8
2414	13.93	122.5	327.16	0.879397	2.3486	13.60284	3.2	109.543489	1.8
2415	14.01	124.26	332.58	0.886938	2.373876	13.67742	3.1	109.597567	1.8
2416	14.12	124.99	337.81	0.885198	2.392422	13.78219	3.1	109.651646	1.8
2417	14.15	125.8	339.64	0.889046	2.400283	13.81036	3.2	109.707468	1.8
2418	14.24	127.96	344.33	0.898596	2.418048	13.89567	3.1	109.761547	1.8
2419	14.26	129.67	346.92	0.909327	2.432819	13.91308	3.1	109.815625	1.8
2420	14.31	130.61	352.67	0.912718	2.4645	13.95733	3.2	109.871447	1.8
2421	14.36	130.69	355.2	0.910097	2.473538	14.0048	3.1	109.925526	1.8
2422	14.43	131.67	366.32	0.912474	2.5386	14.06368	3.1	109.979605	1.8
2423	14.49	131.59	372.95	0.908144	2.573844	14.11705	3.2	110.035426	1.8
2424	14.53	132.04	376.75	0.908741	2.592911	14.15325	3.1	110.089505	1.8
2425	14.59	134.4	385.13	0.921179	2.639685	14.20487	3.1	110.143584	1.8
2426	14.6	134.32	389.05	0.92	2.664726	14.21095	3.2	110.199405	1.8
2427	14.67	133.95	399.7	0.913088	2.724608	14.2703	3.1	110.253484	1.8
2428	14.76	134.16	411.92	0.908943	2.790786	14.34808	3.1	110.307563	1.8
2429	14.89	134.12	428.58	0.900739	2.878308	14.46142	3.1	110.361642	1.8
2430	15.19	134.07	460.38	0.88262	3.03081	14.72962	3.1	110.41572	1.8
2431	15.35	134.24	473.37	0.874528	3.083844	14.87663	3.2	110.471542	1.8
2432	15.44	134.28	479.23	0.869689	3.103821	14.96077	3.1	110.525621	1.8
2433	15.49	135.66	485.49	0.875791	3.134216	15.00451	3.1	110.5797	1.8
2434	15.54	136.97	492.04	0.881403	3.166281	15.04796	3.1	110.633778	1.8
2435	15.58	137.54	493.98	0.882798	3.170603	15.08602	3.1	110.687857	1.8
2436	15.58	137.66	497.05	0.883569	3.190308	15.08295	3.1	110.741936	1.8
2437	15.59	137.5	501.99	0.881976	3.219949	15.08801	3.1	110.796015	1.8
2438	15.59	138.15	510.74	0.886145	3.276074	15.07926	3.1	110.850094	1.8
2439	15.59	138.68	512.39	0.889545	3.286658	15.07761	3.1	110.904172	1.8
2440	15.57	138.6	514.99	0.890173	3.307579	15.05501	3.1	110.958251	1.8

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2441	15.52	139	511.33	0.895619	3.294652	15.00867	3.1	111.01233	1.8
2442	15.42	139.9	510.08	0.907263	3.307912	14.90992	3.2	111.068152	1.8
2443	15.38	141.08	513.01	0.917295	3.335566	14.86699	3.1	111.12223	1.8
2444	15.39	141.69	520.81	0.920663	3.384081	14.86919	3.1	111.176309	1.8
2445	15.4	142.14	528.82	0.922987	3.433896	14.87118	3.1	111.230388	1.8
2446	15.37	142.67	532.45	0.928237	3.464216	14.83755	3.1	111.284467	1.8
2447	15.27	142.34	524.76	0.932155	3.436542	14.74524	3.1	111.338546	1.8
2448	15.1	141.29	510.41	0.935695	3.380199	14.58959	3.1	111.392624	1.8
2449	14.93	139.74	501.59	0.935968	3.359612	14.42841	3.1	111.446703	1.8
2450	14.48	135.58	467.08	0.936326	3.225691	14.01292	3.2	111.502525	1.8
2451	14.14	132.53	438.06	0.93727	3.09802	13.70194	3.1	111.556604	1.8
2452	13.65	129.51	393.59	0.948791	2.883443	13.25641	3.1	111.610682	1.8
2453	12.99	126.82	332.21	0.976289	2.557429	12.65779	3.1	111.664761	1.8
2454	12.12	123.28	257	1.017162	2.120462	11.863	3.1	111.71884	1.8
2455	10.04	112.89	129.63	1.124402	1.291135	9.91037	3.1	111.772919	1.9
2456	8.97	107.47	96.8	1.198105	1.079153	8.8732	3.1	111.826998	1.9
2457	8.08	102.58	70.56	1.269554	0.873267	8.00944	3.1	111.881076	1.9
2458	7.28	98.14	53.14	1.348077	0.729945	7.22686	3.1	111.935155	1.9
2459	5.95	89.75	36.64	1.508403	0.615798	5.91336	3.1	111.989234	1.9
2460	5.39	85.92	21.08	1.594063	0.391095	5.36892	3.1	112.043313	1.9
2461	4.88	84.21	17.53	1.725615	0.359221	4.86247	3.2	112.099134	1.9
2462	4.51	85.11	3.66	1.88714	0.081153	4.50634	3.1	112.153213	1.9
2463	4.18	88.98	-3.55	2.128708	-0.084928	4.18355	3.1	112.207292	1.9
2464	3.88	92.68	-54.9	2.38866	-1.414948	3.9349	3.1	112.261371	1.9
2465	3.23	108.45	60.24	3.357585	1.865015	3.16976	3.1	112.31545	1.9
2466	3.03	115.58	23.94	3.814521	0.790099	3.00606	3.1	112.369528	1.9
2467	2.81	120.55	67.2	4.290036	2.391459	2.7428	3.1	112.423607	1.9
2468	2.66	123.65	115.65	4.648496	4.347744	2.54435	3.1	112.477686	1.8
2469	2.42	123.48	86.23	5.102479	3.563223	2.33377	3.1	112.531765	1.8
2470	2.29	123.97	84.03	5.413537	3.669432	2.20597	3.1	112.585844	1.8
2471	2.09	125.28	99.92	5.994258	4.780861	1.99008	3.1	112.639923	1.8
2472	1.88	124.09	118.98	6.600532	6.328723	1.76102	3.1	112.694001	1.9
2473	1.74	118.8	134.94	6.827586	7.755172	1.60506	3.1	112.74808	1.9
2474	1.61	105.92	175.97	6.578882	10.929814	1.43403	3.1	112.802159	1.9
2475	1.59	100.67	203.38	6.331447	12.791195	1.38662	3.1	112.856238	1.9
2476	1.6	95.9	215.86	5.99375	13.49125	1.38414	3.3	112.913802	1.9
2477	1.61	92.15	222.19	5.723602	13.800621	1.38781	3.1	112.967881	1.9
2478	1.69	77.85	231.38	4.606509	13.691124	1.45862	3.3	113.025445	1.8
2479	1.65	70.28	221.83	4.259394	13.444242	1.42817	3.1	113.079523	1.8
2480	1.57	65.51	224.94	4.172611	14.327389	1.34506	3.1	113.133602	1.8

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2481	1.53	61.52	230.57	4.020915	15.069935	1.29943	3.1	113.187681	1.9
2482	1.47	55.98	233.17	3.808163	15.861905	1.23683	3.1	113.24176	1.9
2483	1.36	48.4	222.71	3.558824	16.375735	1.13729	3.1	113.295839	1.9
2484	1.29	46.69	220.11	3.61938	17.062791	1.06989	3.1	113.349918	1.9
2485	1.21	44.57	225.74	3.683471	18.656198	0.98426	3.1	113.403996	1.8
2486	1.15	41.23	240.49	3.585217	20.912174	0.90951	3.1	113.458075	1.8
2487	1.1	36.22	275.88	3.292727	25.08	0.82412	3.1	113.512154	1.8
2488	1.09	34.18	285.44	3.13578	26.187156	0.80456	3.1	113.566233	1.8
2489	1.1	33.08	291.95	3.007273	26.540909	0.80805	3.1	113.620312	1.9
2490	1.09	32.18	300.99	2.952294	27.613761	0.78901	3.2	113.676133	1.9
2491	1.09	31.41	313.76	2.881651	28.785321	0.77624	3.1	113.730212	1.9
2492	1.11	30.68	323.46	2.763964	29.140541	0.78654	3.1	113.784291	1.9
2493	1.13	29.82	340.67	2.638938	30.147788	0.78933	3.1	113.83837	2
2494	1.15	29.13	348.35	2.533043	30.291304	0.80165	3.1	113.892448	2
2495	1.16	28.52	358.49	2.458621	30.90431	0.80151	3.1	113.946527	2
2496	1.19	27.95	370.24	2.348739	31.112605	0.81976	3.1	114.000606	2
2497	1.22	27.5	376.64	2.254098	30.872131	0.84336	3.3	114.05817	2.1
2498	1.24	27.46	385.83	2.214516	31.115323	0.85417	3.1	114.112249	2.1
2499	1.24	27.62	399.37	2.227419	32.207258	0.84063	3.1	114.166328	2.1
2500	1.25	27.13	407.28	2.1704	32.5824	0.84272	3.1	114.220406	2.1
2501	1.26	27.17	410.86	2.156349	32.607937	0.84914	3.1	114.274485	2.1
2502	1.26	27.46	418.26	2.179365	33.195238	0.84174	3.1	114.328564	2.1
2503	1.26	27.46	418.26	2.179365	33.195238	0.84174	3.1	114.382643	4.6
2504	1.26	27.46	418.26	2.179365	33.195238	0.84174	3.1	114.436722	2
2505	1.25	28.76	499.07	2.3008	39.9256	0.75093	3.1	114.490801	2
2506	1.21	30.15	515.83	2.491736	42.630579	0.69417	3.3	114.548365	2
2507	1.2	29.9	519.45	2.491667	43.2875	0.68055	3.1	114.602443	2
2508	1.2	30.03	518.76	2.5025	43.23	0.68124	3.1	114.656522	2.2
2509	1.2	30.19	518.03	2.515833	43.169167	0.68197	3.1	114.710601	2.2
2510	1.21	30.47	522.53	2.518182	43.184298	0.68747	3.1	114.76468	2.1
2511	1.23	31	518.39	2.520325	42.145528	0.71161	3.1	114.818759	2.1
2512	1.23	31.13	513.56	2.530894	41.752846	0.71644	3.1	114.872837	2.2
2513	1.22	31.49	508.55	2.581148	41.684426	0.71145	3.1	114.926916	2.2
2514	1.22	31.94	499.51	2.618033	40.943443	0.72049	3.1	114.980995	2.2
2515	1.21	33.08	488.86	2.733884	40.401653	0.72114	3.1	115.035074	2.2
2516	1.18	35	490.36	2.966102	41.555932	0.68964	3.1	115.089153	2.2
2517	1.16	35.93	484.68	3.097414	41.782759	0.67532	3.1	115.143231	2.1
2518	1.14	35.93	485.42	3.151754	42.580702	0.65458	3.2	115.199053	2.1
2519	1.12	35.08	484.94	3.132143	43.298214	0.63506	3.1	115.253132	2.2
2520	1.09	32.55	494.49	2.986239	45.366055	0.59551	3.1	115.307211	2.2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2521	1.09	32.06	500.71	2.941284	45.936697	0.58929	3.1	115.361289	2.1
2522	1.09	32.06	500.71	2.941284	45.936697	0.58929	3.1	115.415368	2.1
2523	1.09	31.08	495.15	2.851376	45.426606	0.59485	3.1	115.469447	2.1
2524	1.07	30.92	493.83	2.88972	46.152336	0.57617	3.1	115.523526	2.1
2525	1.05	30.92	487.5	2.944762	46.428571	0.5625	3.1	115.577605	2.1
2526	1.03	30.76	483.51	2.986408	46.942718	0.54649	3.1	115.631683	2.1
2527	1	30.07	484.61	3.007	48.461	0.51539	3.1	115.685762	2.2
2528	0.99	29.01	480.8	2.930303	48.565657	0.5092	3.1	115.739841	2.2
2529	0.96	28.07	473.96	2.923958	49.370833	0.48604	3.1	115.79392	2.2
2530	0.94	27.66	472.68	2.942553	50.285106	0.46732	3.1	115.847999	2.2
2531	0.91	27.05	475.57	2.972527	52.26044	0.43443	3.2	115.90382	2.2
2532	0.9	25.83	479.67	2.87	53.296667	0.42033	3.1	115.957899	2.2
2533	0.9	24.93	484.43	2.77	53.825556	0.41557	3.1	116.011978	2.2
2534	0.9	24.08	489.11	2.675556	54.345556	0.41089	3.1	116.066057	2.2
2535	0.9	22.98	488.6	2.553333	54.288889	0.4114	3.1	116.120136	2.2
2536	0.9	22.24	485.27	2.471111	53.918889	0.41473	3.1	116.174214	2
2537	0.9	22.16	487.32	2.462222	54.146667	0.41268	3.1	116.228293	2
2538	0.91	22.16	486.7	2.435165	53.483516	0.4233	3.2	116.284115	2
2539	0.91	22.45	487.79	2.467033	53.603297	0.42221	3.1	116.338193	2
2540	0.9	22.49	488.27	2.498889	54.252222	0.41173	3.1	116.392272	2
2541	0.88	22.12	487.79	2.513636	55.430682	0.39221	3.1	116.446351	2
2542	0.87	21.84	488.67	2.510345	56.168966	0.38133	3.1	116.50043	2
2543	0.87	21.35	488.86	2.454023	56.190805	0.38114	3.2	116.556251	2
2544	0.86	20.86	489.48	2.425581	56.916279	0.37052	3.1	116.61033	2
2545	0.85	20.53	491.82	2.415294	57.861176	0.35818	3.1	116.664409	2
2546	0.85	20.33	491.6	2.391765	57.835294	0.3584	3.1	116.718488	2
2547	0.85	20	489	2.352941	57.529412	0.361	3.1	116.772567	2
2548	0.83	20.08	484.76	2.419277	58.404819	0.34524	3.1	116.826645	2
2549	0.82	20.49	484.61	2.49878	59.09878	0.33539	3.1	116.880724	2
2550	0.81	20.41	483.07	2.519753	59.638272	0.32693	3.1	116.934803	2
2551	0.81	19.92	486.04	2.459259	60.004938	0.32396	3.1	116.988882	2
2552	0.82	19.72	495.11	2.404878	60.379268	0.32489	3.1	117.042961	2
2553	0.83	19.68	506.24	2.371084	60.992771	0.32376	3.1	117.09704	2
2554	0.87	19.39	527.54	2.228736	60.636782	0.34246	3.1	117.151118	2
2555	0.88	19.6	533.43	2.227273	60.617045	0.34657	3.1	117.205197	2
2556	0.9	19.6	534.9	2.177778	59.433333	0.3651	3.1	117.259276	2
2557	0.92	19.68	539.55	2.13913	58.646739	0.38045	3.1	117.313355	2
2558	0.93	19.8	545.29	2.129032	58.633333	0.38471	3.1	117.367434	2
2559	0.94	20.08	552.17	2.13617	58.741489	0.38783	3.1	117.421512	2
2560	0.96	20.17	559.71	2.101042	58.303125	0.40029	3.1	117.475591	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2561	0.97	20.33	564.14	2.095876	58.158763	0.40586	3.1	117.52967	2
2562	1	20.78	563.85	2.078	56.385	0.43615	3.1	117.583749	2
2563	1.04	21.8	576.14	2.096154	55.398077	0.46386	3.1	117.637828	2
2564	1.05	22.45	583.72	2.138095	55.592381	0.46628	3.1	117.691906	2
2565	1.06	23.38	589.14	2.20566	55.579245	0.47086	3.1	117.745985	2
2566	1.07	23.79	588	2.223364	54.953271	0.482	3.1	117.800064	2
2567	1.08	24.08	591.41	2.22963	54.760185	0.48859	3.1	117.854143	2
2568	1.07	24.32	593.46	2.272897	55.463551	0.47654	3.2	117.909964	2
2569	1.07	24.48	590.67	2.28785	55.202804	0.47933	3.1	117.964043	2
2570	1.06	24.69	588.92	2.329245	55.558491	0.47108	3.2	118.019865	2
2571	1.04	25.75	585.66	2.475962	56.313462	0.45434	3.1	118.073944	2
2572	1.02	26.36	579.73	2.584314	56.836275	0.44027	3.2	118.129765	2
2573	1	27.13	586.58	2.713	58.658	0.41342	3.1	118.183844	2
2574	0.98	27.01	587.31	2.756122	59.929592	0.39269	3.1	118.237923	2
2575	0.97	26.73	588.88	2.75567	60.709278	0.38112	3.1	118.292001	2
2576	0.97	26.36	594.19	2.717526	61.256701	0.37581	3.2	118.347823	2
2577	0.97	25.67	598.84	2.646392	61.736082	0.37116	3.1	118.401902	2
2578	0.99	26.11	606.92	2.637374	61.305051	0.38308	3.2	118.457723	2
2579	1.1	26.07	652.75	2.37	59.340909	0.44725	3.2	118.513545	2
2580	1.2	25.83	684.92	2.1525	57.076667	0.51508	3.2	118.569366	2
2581	1.32	25.3	709	1.916667	53.712121	0.611	3.2	118.625188	2
2582	1.43	25.5	732.13	1.783217	51.197902	0.69787	3.2	118.681009	2
2583	1.53	26.32	749.3	1.720261	48.973856	0.7807	3.2	118.736831	2
2584	1.63	27.38	756.1	1.679755	46.386503	0.8739	3.2	118.792652	2
2585	1.71	29.09	752.11	1.70117	43.983041	0.95789	3.2	118.848474	2
2586	1.77	31.37	747.9	1.772316	42.254237	1.0221	3.2	118.904295	2
2587	1.84	35.65	758.41	1.9375	41.217935	1.08159	3.2	118.960117	2
2588	1.85	38.42	768.29	2.076757	41.529189	1.08171	3.2	119.015938	2
2589	1.88	41.19	778.94	2.190957	41.432979	1.10106	3.1	119.070017	2
2590	1.89	44.16	767.49	2.336508	40.607937	1.12251	3.2	119.125839	2
2591	1.95	46.73	731.58	2.39641	37.516923	1.21842	3	119.178175	2
2592	1.99	51.25	722.4	2.575377	36.301508	1.2676	3.2	119.233996	2
2593	2.01	58.3	753.43	2.900498	37.48408	1.25657	3.2	119.289818	2
2594	2.08	64.74	792.96	3.1125	38.123077	1.28704	3.2	119.345639	2
2595	2.14	76.67	850.53	3.58271	39.744393	1.28947	3.2	119.401461	2
2596	2.21	79.24	808.18	3.58552	36.569231	1.40182	3	119.453797	2
2597	2.23	83.23	765.07	3.732287	34.308072	1.46493	3.2	119.509618	2
2598	2.17	88.94	786.44	4.098618	36.241475	1.38356	3	119.561954	2
2599	2.13	91.58	754.75	4.299531	35.434272	1.37525	3.2	119.617776	2
2600	2.09	93.95	721.63	4.495215	34.527751	1.36837	3	119.670112	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2601	1.99	97.94	652.78	4.921608	32.803015	1.33722	3	119.722447	2
2602	1.92	104.01	642.65	5.417188	33.471354	1.27735	3.2	119.778269	2
2603	1.92	104.01	642.65	5.417188	33.471354	1.27735	3.2	119.83409	2
2604	1.92	104.01	642.65	5.417188	33.471354	1.27735	3.2	119.889912	1.8
2605	1.65	115.95	521.65	7.027273	31.615152	1.12835	3.2	119.945734	1.8
2606	1.6	116.31	534.46	7.269375	33.40375	1.06554	3.2	120.001555	1.9
2607	1.57	119.78	545.95	7.629299	34.773885	1.02405	3.2	120.057377	1.9
2608	1.54	121.53	568.42	7.891558	36.91039	0.97158	3.2	120.113198	1.9
2609	1.51	126.09	590.42	8.350331	39.100662	0.91958	3.2	120.16902	1.9
2610	1.51	130.2	604.07	8.622517	40.004636	0.90593	3.2	120.224841	2
2611	1.51	129.43	625.92	8.571523	41.451656	0.88408	3.2	120.280663	2
2612	1.49	128.98	665.67	8.656376	44.675839	0.82433	3.2	120.336484	2
2613	1.5	124.18	669.95	8.278667	44.663333	0.83005	3.2	120.392306	2
2614	1.51	118.72	667.64	7.862252	44.21457	0.84236	3.2	120.448127	2
2615	1.53	112.2	668.67	7.333333	43.703922	0.86133	3.2	120.503949	2
2616	1.51	105.43	692.27	6.982119	45.845695	0.81773	3.2	120.55977	2
2617	1.52	98.79	706.62	6.499342	46.488158	0.81338	3.2	120.615592	2
2618	1.54	92.23	714.12	5.988961	46.371429	0.82588	3.2	120.671413	2
2619	1.55	85.72	724.59	5.530323	46.747742	0.82541	3.2	120.727235	2
2620	1.54	77.32	746.66	5.020779	48.484416	0.79334	3.2	120.783056	2
2621	1.54	74.8	759.29	4.857143	49.304545	0.78071	3.2	120.838878	2
2622	1.55	72.8	770.34	4.696774	49.699355	0.77966	3.2	120.894699	2
2623	1.56	70.97	766.72	4.549359	49.148718	0.79328	3.2	120.950521	2
2624	1.57	69.46	762.58	4.424204	48.571975	0.80742	3.2	121.006342	2
2625	1.58	68.97	772.94	4.36519	48.920253	0.80706	3.2	121.062164	2
2626	1.59	69.87	774.59	4.39434	48.716352	0.81541	3.2	121.117985	2
2627	1.61	70.28	773.23	4.365217	48.026708	0.83677	3.2	121.173807	2
2628	1.61	71.34	781.91	4.431056	48.565839	0.82809	3.2	121.229628	2
2629	1.62	71.05	761.63	4.385802	47.014198	0.85837	3.2	121.28545	2
2630	1.62	72.92	792.19	4.501235	48.900617	0.82781	3.2	121.341271	2.1
2631	1.63	74.02	804.27	4.541104	49.341718	0.82573	3.2	121.397093	2.1
2632	1.61	75.21	808.4	4.671429	50.21118	0.8016	3.2	121.452914	2
2633	1.61	75.25	798.38	4.673913	49.58882	0.81162	3.2	121.508736	2
2634	1.63	75.37	786.08	4.623926	48.225767	0.84392	3.2	121.564557	2
2635	1.63	76.79	791.46	4.711043	48.555828	0.83854	3.2	121.620379	2
2636	1.62	78.14	795.23	4.823457	49.088272	0.82477	3.2	121.6762	2
2637	1.62	79.89	791.13	4.931481	48.835185	0.82887	3.2	121.732022	2
2638	1.62	80.42	785.71	4.964198	48.500617	0.83429	3.2	121.787843	2
2639	1.57	81.19	799.66	5.171338	50.933758	0.77034	3.2	121.843665	2
2640	1.56	81.28	799.77	5.210256	51.267308	0.76023	3.2	121.899486	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2641	1.56	80.83	808	5.18141	51.794872	0.752	3.2	121.955308	2
2642	1.56	81.28	828.94	5.210256	53.137179	0.73106	3.2	122.011129	2
2643	1.59	79.81	798.63	5.019497	50.228302	0.79137	3.2	122.066951	2.1
2644	1.59	79.08	816.05	4.973585	51.323899	0.77395	3.2	122.122772	2.1
2645	1.59	79.97	833.8	5.02956	52.440252	0.7562	3.2	122.178594	2
2646	1.61	80.79	859.64	5.018012	53.393789	0.75036	3.2	122.234415	2
2647	1.69	80.3	900.52	4.751479	53.285207	0.78948	3.2	122.290237	2
2648	1.74	78.59	900.41	4.516667	51.747701	0.83959	3.2	122.346058	2
2649	1.81	76.92	896.68	4.249724	49.540331	0.91332	3.2	122.40188	2
2650	1.86	76.79	900.3	4.128495	48.403226	0.9597	3.2	122.457701	2
2651	1.9	77.2	885.26	4.063158	46.592632	1.01474	3.2	122.513523	2
2652	1.92	78.26	894.48	4.076042	46.5875	1.02552	3.2	122.569344	2
2653	1.95	79.81	892.73	4.092821	45.781026	1.05727	3.1	122.623423	2
2654	1.94	81.6	898.62	4.206186	46.320619	1.04138	3.2	122.679245	2
2655	1.95	83.48	895.91	4.281026	45.944103	1.05409	3	122.731581	2
2656	1.96	85.88	887.93	4.381633	45.302551	1.07207	3.1	122.785659	2
2657	1.96	90.2	852.72	4.602041	43.506122	1.10728	3.2	122.841481	2
2658	1.9	95.21	907.22	5.011053	47.748421	0.99278	3.2	122.897302	2
2659	1.86	98.43	908.32	5.291935	48.834409	0.95168	3.2	122.953124	2
2660	1.85	100.63	907.7	5.439459	49.064865	0.9423	3.2	123.008945	2
2661	1.85	101.61	885.88	5.492432	47.885405	0.96412	3.2	123.064767	2
2662	1.87	102.95	870.55	5.505348	46.553476	0.99945	3.2	123.120588	2
2663	1.85	105.27	866.3	5.69027	46.827027	0.9837	3.1	123.174667	2
2664	1.81	107.55	881.2	5.941989	48.685083	0.9288	3.2	123.230489	2
2665	1.81	106.37	865.31	5.876796	47.807182	0.94469	3	123.282825	2
2666	1.8	107.19	824.62	5.955	45.812222	0.97538	3	123.335161	2
2667	1.78	106.45	821.03	5.980337	46.125281	0.95897	3.2	123.390982	2
2668	1.76	105.96	823.67	6.020455	46.799432	0.93633	3	123.443318	2
2669	1.73	105.39	846.91	6.091908	48.954335	0.88309	3.2	123.49914	2
2670	1.7	104.46	870.91	6.144706	51.23	0.82909	3.1	123.553218	2
2671	1.7	101.73	856.79	5.984118	50.399412	0.84321	3.2	123.60904	2
2672	1.69	98.51	847.78	5.828994	50.164497	0.84222	3.2	123.664861	2
2673	1.66	97.45	855.95	5.870482	51.563253	0.80405	3.1	123.71894	2
2674	1.63	96.59	861.14	5.925767	52.830675	0.76886	3.2	123.774762	2
2675	1.59	96.43	867.11	6.06478	54.53522	0.72289	3.1	123.828841	2
2676	1.56	92.03	852.69	5.899359	54.659615	0.70731	3.2	123.884662	2
2677	1.54	90.61	853.53	5.883766	55.424026	0.68647	3.2	123.940484	2
2678	1.52	89.99	856.57	5.920395	56.353289	0.66343	3.2	123.996305	2
2679	1.51	88.98	849.43	5.892715	56.253642	0.66057	3.1	124.050384	2
2680	1.49	87.39	845.88	5.865101	56.77047	0.64412	3.2	124.106205	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2681	1.45	85.8	847.16	5.917241	58.424828	0.60284	3	124.158541	2
2682	1.42	84.66	854.52	5.961972	60.177465	0.56548	3.1	124.21262	2
2683	1.41	83.72	862.09	5.937589	61.141135	0.54791	3.1	124.266699	2.1
2684	1.4	81.72	857.96	5.837143	61.282857	0.54204	3.2	124.32252	2.1
2685	1.4	80.5	852.43	5.75	60.887857	0.54757	3.2	124.378342	2
2686	1.38	78.91	848.11	5.718116	61.457246	0.53189	3.2	124.434163	2
2687	1.37	77.2	847.09	5.635036	61.831387	0.52291	3.2	124.489985	2.1
2688	1.35	75.53	844.09	5.594815	62.525185	0.50591	3.2	124.545806	2.1
2689	1.33	74.02	839.33	5.565414	63.107519	0.49067	3.2	124.601628	2.1
2690	1.32	72.15	833.95	5.465909	63.17803	0.48605	3.2	124.657449	2.1
2691	1.31	70.56	837.54	5.38626	63.934351	0.47246	3.2	124.713271	2.1
2692	1.31	69.54	840.1	5.308397	64.129771	0.4699	3.2	124.769092	2.1
2693	1.31	68.57	835.05	5.234351	63.744275	0.47495	3.2	124.824914	2.1
2694	1.32	66.98	826.23	5.074242	62.593182	0.49377	3.1	124.878993	2.1
2695	1.32	65.51	818.87	4.962879	62.035606	0.50113	3.2	124.934814	2.1
2696	1.33	63.76	812.5	4.793985	61.090226	0.5175	3.1	124.988893	2.1
2697	1.35	62.41	810.6	4.622963	60.044444	0.5394	3.2	125.044715	2.1
2698	1.38	61.35	809.03	4.445652	58.625362	0.57097	3.2	125.100536	2
2699	1.37	61.6	811.55	4.49635	59.237226	0.55845	3.2	125.156358	2
2700	1.36	61.8	811.55	4.544118	59.672794	0.54845	3.1	125.210436	2
2701	1.36	61.23	809.1	4.502206	59.492647	0.5509	3.2	125.266258	2
2702	1.36	60.95	814.37	4.481618	59.880147	0.54563	3.2	125.322079	2.1
2703	1.36	60.95	814.37	4.481618	59.880147	0.54563	3.2	125.377901	1.9
2704	1.36	60.95	814.37	4.481618	59.880147	0.54563	3.2	125.433722	1.9
2705	1.6	55.08	991.62	3.4425	61.97625	0.60838	3.2	125.489544	2
2706	1.58	57.65	987.56	3.648734	62.503797	0.59244	3.2	125.545365	2
2707	1.57	59.32	966.77	3.778344	61.577707	0.60323	3.2	125.601187	2.1
2708	1.57	60.38	954.32	3.84586	60.784713	0.61568	3.2	125.657008	2.1
2709	1.58	62.62	946.46	3.963291	59.902532	0.63354	3.2	125.71283	2.1
2710	1.58	63.68	931.16	4.03038	58.934177	0.64884	3.2	125.768651	2.1
2711	1.6	66.57	922.45	4.160625	57.653125	0.67755	3.2	125.824473	2.1
2712	1.6	68.2	923.21	4.2625	57.700625	0.67679	3.2	125.880294	2.1
2713	1.62	68.81	911.72	4.247531	56.279012	0.70828	3.2	125.936116	2.2
2714	1.65	70.32	895.11	4.261818	54.249091	0.75489	3.2	125.991938	2.2
2715	1.68	71.62	891.15	4.263095	53.044643	0.78885	3.2	126.047759	2.2
2716	1.73	66.89	899.17	3.866474	51.975145	0.83083	3.2	126.103581	2
2717	1.85	65.18	908.47	3.523243	49.106486	0.94153	3.2	126.159402	2
2718	2.04	64.25	934.6	3.14951	45.813725	1.1054	3.2	126.215224	2
2719	2.25	64.08	982.76	2.848	43.678222	1.26724	3.2	126.271045	2
2720	2.52	63.43	1001.98	2.517063	39.761111	1.51802	3.2	126.326867	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2721	2.83	63.35	988.8	2.238516	34.939929	1.8412	3.2	126.382688	2
2722	3.21	64.74	1029.32	2.016822	32.066044	2.18068	3.2	126.43851	2
2723	4.32	68.77	988.76	1.591898	22.887963	3.33124	3.2	126.494331	2
2724	5.15	75.61	980.16	1.468155	19.032233	4.16984	3.2	126.550153	2
2725	6.09	84.09	1021.01	1.380788	16.765353	5.06899	3.2	126.605974	2
2726	7.12	89.99	1161.95	1.263904	16.319522	5.95805	3.2	126.661796	1.9
2727	8.23	95.01	1215.86	1.154435	14.773512	7.01414	3.2	126.717617	1.9
2728	9.35	101.97	1234.09	1.090588	13.198824	8.11591	3.2	126.773439	2
2729	11.07	116.72	1276.65	1.054381	11.53252	9.79335	3.1	126.827517	1.9
2730	11.56	125.36	1246.64	1.084429	10.784083	10.31336	3.2	126.883339	1.9
2731	11.78	137.5	1201.7	1.167233	10.201188	10.5783	3.1	126.937418	1.9
2732	11.77	143.28	1143.43	1.217332	9.714783	10.62657	3.2	126.993239	1.9
2733	11.6	141.25	1077.11	1.217672	9.285431	10.52289	3.1	127.047318	1.9
2734	11.28	130.04	1019.47	1.152837	9.037855	10.26053	3.2	127.10314	1.9
2735	10.42	95.58	956.01	0.917274	9.17476	9.46399	3.1	127.157218	1.9
2736	10.02	78.87	909.97	0.787126	9.081537	9.11003	3.1	127.211297	1.9
2737	9.74	73.62	865.02	0.755852	8.881109	8.87498	3.1	127.265376	2
2738	9.56	73.54	824.25	0.769247	8.621862	8.73575	3.1	127.319455	2
2739	9.4	75	785.53	0.797872	8.356702	8.61447	3.1	127.373534	1.9
2740	9.27	76.26	756.51	0.822654	8.160841	8.51349	3.1	127.427612	1.9
2741	9.16	77.85	729.97	0.849891	7.969105	8.43003	3.2	127.483434	1.9
2742	8.91	83.88	675.69	0.941414	7.583502	8.23431	3.1	127.537513	1.9
2743	8.76	86.98	651.39	0.992922	7.435959	8.10861	3.1	127.591592	2
2744	8.61	88.89	627.57	1.032404	7.28885	7.98243	3.1	127.64567	2
2745	8.48	90.32	612.85	1.065094	7.227005	7.86715	3.1	127.699749	1.9
2746	8.39	90.73	598.65	1.081406	7.13528	7.79135	3.1	127.753828	1.9
2747	8.34	91.01	587.05	1.091247	7.038969	7.75295	3.1	127.807907	2
2748	8.41	90.28	588.88	1.073484	7.00214	7.82112	3.1	127.861986	2
2749	8.54	91.75	586.5	1.074356	6.867681	7.9535	3.1	127.916064	1.9
2750	8.63	96.47	574.42	1.117845	6.656083	8.05558	3.1	127.970143	1.9
2751	8.65	101.36	547.74	1.171792	6.332254	8.10226	3.1	128.024222	1.9
2752	8.52	105.72	504.7	1.240845	5.923709	8.0153	3.1	128.078301	1.9
2753	7.75	111.99	400.98	1.445032	5.173935	7.34902	3.1	128.13238	1.9
2754	7.15	114.28	364.35	1.598322	5.095804	6.78565	3.1	128.186458	1.9
2755	6.68	113.95	310.03	1.705838	4.641168	6.36997	3.1	128.240537	1.9
2756	6.35	116.84	264.69	1.84	4.168346	6.08531	3.1	128.294616	1.9
2757	6.11	116.64	252.1	1.909002	4.126023	5.8579	3.1	128.348695	1.9
2758	5.98	104.66	252.61	1.750167	4.224247	5.72739	3.1	128.402774	1.9
2759	5.64	98.59	367.2	1.74805	6.510638	5.2728	3.1	128.456853	1.9
2760	5.68	113.5	448.85	1.998239	7.902289	5.23115	3.1	128.510931	1.9



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2761	5.99	121.73	407.46	2.03222	6.802337	5.58254	3.1	128.56501	1.9
2762	6.54	123.28	436.37	1.885015	6.672324	6.10363	3.1	128.619089	1.9
2763	7.03	129.51	620.36	1.842248	8.824467	6.40964	3.1	128.673168	1.9
2764	8.46	131.02	777.15	1.5487	9.18617	7.68285	3.1	128.727247	1.9
2765	9.07	137.21	827.58	1.512789	9.124366	8.24242	3.1	128.781325	1.9
2766	9.64	140.31	887.9	1.455498	9.210581	8.7521	3.1	128.835404	1.9
2767	10.2	138.19	948.14	1.354804	9.29549	9.25186	3.1	128.889483	1.9
2768	10.76	134.24	981.22	1.247584	9.119145	9.77878	3.1	128.943562	1.9
2769	11.17	132.45	983.27	1.185765	8.802775	10.18673	3.1	128.997641	1.9
2770	11.76	131.47	958.42	1.117942	8.14983	10.80158	3.1	129.051719	1.9
2771	11.91	132.53	921.53	1.112762	7.737448	10.98847	3.1	129.105798	1.9
2772	11.85	135.34	867.62	1.14211	7.321688	10.98238	3.1	129.159877	1.9
2773	11.59	132.08	803.79	1.139603	6.935203	10.78621	3.1	129.213956	1.9
2774	11.27	121.36	745.38	1.076841	6.613842	10.52462	3.2	129.269777	1.9
2775	10.53	93.86	680.93	0.891358	6.466572	9.84907	3.2	129.325599	1.9
2776	10.04	81.52	690.99	0.811952	6.882371	9.34901	3.1	129.379678	1.9
2777	9.67	69.58	686.75	0.719545	7.101861	8.98325	3.1	129.433757	1.9
2778	9.39	62.33	656.19	0.663791	6.988179	8.73381	3.1	129.487835	1.9
2779	9.15	60.54	622.37	0.661639	6.801858	8.52763	3.1	129.541914	1.9
2780	8.92	60.42	587.45	0.677354	6.585762	8.33255	3.2	129.597736	1.9
2781	8.51	63.43	531.46	0.745358	6.245123	7.97854	3.2	129.653557	1.9
2782	8.34	66.45	507.12	0.796763	6.080576	7.83288	3.1	129.707636	1.9
2783	8.16	69.87	484.65	0.85625	5.939338	7.67535	3.2	129.763458	1.9
2784	8	72.92	470.92	0.9115	5.8865	7.52908	3.1	129.817536	1.9
2785	7.73	77.12	442.96	0.997671	5.730401	7.28704	3.1	129.871615	1.9
2786	7.61	78.46	430.37	1.031012	5.655322	7.17963	3.1	129.925694	1.9
2787	7.5	79.28	419.83	1.057067	5.597733	7.08017	3.2	129.981515	1.9
2788	7.45	79.32	413.53	1.064698	5.550738	7.03647	3.2	130.037337	1.9
2789	7.4	78.95	407.72	1.066892	5.50973	6.99228	3.2	130.093158	1.9
2790	7.35	78.3	397.61	1.065306	5.40966	6.95239	3.2	130.14898	1.9
2791	6.96	78.06	358.75	1.121552	5.154454	6.60125	3.1	130.203059	1.9
2792	6.67	76.71	330.12	1.150075	4.949325	6.33988	3.2	130.25888	1.9
2793	6.29	76.59	291.11	1.217647	4.62814	5.99889	3.2	130.314702	1.9
2794	5.94	76.39	262.56	1.286027	4.420202	5.67744	3.2	130.370523	1.9
2795	5.65	75.33	245.98	1.333274	4.353628	5.40402	3.2	130.426345	1.9
2796	5.13	75.65	227.54	1.474659	4.435478	4.90246	3.2	130.482166	1.9
2797	4.94	79.97	236.8	1.618826	4.793522	4.7032	3.3	130.53973	1.9
2798	4.82	86.29	247.23	1.790249	5.129253	4.57277	3.2	130.595552	1.9
2799	4.77	91.87	246.68	1.925996	5.171488	4.52332	3.2	130.651373	1.9
2800	4.75	97.78	237.97	2.058526	5.009895	4.51203	3.3	130.708937	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2801	4.81	103.36	246.02	2.148857	5.114761	4.56398	3.2	130.764759	1.9
2802	5.35	112.89	281.63	2.110093	5.264112	5.06837	3.3	130.822323	1.9
2803	5.35	112.89	281.63	2.110093	5.264112	5.06837	3.3	130.879887	2
2804	5.35	112.89	281.63	2.110093	5.264112	5.06837	3.3	130.937451	1.9
2805	6.49	108.65	423.16	1.674114	6.520185	6.06684	3.2	130.993272	1.9
2806	6.61	114.23	416.76	1.728139	6.304992	6.19324	3.2	131.049094	2
2807	6.74	120.43	420.16	1.786795	6.233828	6.31984	3.2	131.104915	2
2808	6.88	125.03	404.75	1.817297	5.882994	6.47525	3.2	131.160737	1.9
2809	7.14	128.94	398.38	1.805882	5.579552	6.74162	3.2	131.216558	1.9
2810	7.24	119.94	421.4	1.65663	5.820442	6.8186	3.3	131.274123	1.8
2811	7.33	101.32	446.51	1.382265	6.091542	6.88349	3.2	131.329944	1.8
2812	7.36	81.15	458.22	1.102582	6.225815	6.90178	3.2	131.385766	2
2813	7.38	70.6	452.29	0.95664	6.128591	6.92771	3.2	131.441587	2
2814	7.34	65.27	452.18	0.889237	6.16049	6.88782	3.2	131.497409	1.9
2815	7.35	60.09	440.25	0.817551	5.989796	6.90975	3.1	131.551487	1.9
2816	7.33	60.46	421.33	0.824829	5.748022	6.90867	3.3	131.609051	1.9
2817	7.34	62.78	406.29	0.855313	5.535286	6.93371	3.3	131.666615	1.9
2818	7.36	64.41	397.28	0.875136	5.397826	6.96272	3.1	131.720694	1.9
2819	7.47	66.94	392.89	0.896118	5.259572	7.07711	3.3	131.778258	1.9
2820	7.83	75.37	396.99	0.96258	5.070115	7.43301	3.1	131.832337	1.9
2821	8.13	80.83	390.59	0.994219	4.804305	7.73941	3.3	131.889901	1.8
2822	8.37	87.06	389.45	1.040143	4.652927	7.98055	3.3	131.947465	1.8
2823	8.53	91.5	387.4	1.072685	4.541618	8.1426	3.1	132.001544	1.9
2824	8.64	97.45	384.73	1.127894	4.452894	8.25527	3.1	132.055623	1.9
2825	8.94	111.63	395.34	1.248658	4.422148	8.54466	3.1	132.109702	1.9
2826	9.1	117.74	387.95	1.293846	4.263187	8.71205	3.1	132.16378	1.9
2827	9.27	123.52	385.21	1.33247	4.155448	8.88479	3.3	132.221344	1.9
2828	9.5	129.92	396.85	1.367579	4.177368	9.10315	3.3	132.278908	1.9
2829	9.69	134.65	432.13	1.389577	4.459546	9.25787	3.3	132.336472	2
2830	9.96	128.82	489.95	1.293373	4.919177	9.47005	3.1	132.390551	2
2831	10.27	115.25	524.76	1.122201	5.10964	9.74524	3.3	132.448115	2
2832	10.58	94.72	554.55	0.895274	5.241493	10.02545	3.3	132.505679	2
2833	11.15	79.52	621.42	0.713184	5.573274	10.52858	3.3	132.563243	2
2834	11.54	80.54	654.91	0.69792	5.67513	10.88509	3.3	132.620807	2
2835	12	86.04	679.98	0.717	5.6665	11.32002	3.3	132.678371	2
2836	12.43	93.46	696.89	0.751891	5.606516	11.73311	3.3	132.735935	2
2837	12.88	100.71	713.65	0.78191	5.540761	12.16635	3.3	132.793499	2
2838	13.28	107.23	712.22	0.807455	5.363102	12.56778	3.3	132.851063	2
2839	13.46	113.01	699.48	0.839599	5.196731	12.76052	3.3	132.908627	2
2840	13.44	113.7	676.54	0.845982	5.03378	12.76346	3.3	132.966192	2

MORONI DOTT. MAURIZIO GEOLOGO	
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Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2841	12.84	107.59	587.71	0.837928	4.577181	12.25229	3.3	133.023756	2
2842	12.43	98.79	572.3	0.794771	4.604183	11.8577	3.3	133.08132	2
2843	12	85.59	570.8	0.71325	4.756667	11.4292	3.3	133.138884	2
2844	11.69	70.28	551.77	0.601198	4.720017	11.13823	3.3	133.196448	2
2845	11.45	64.98	535.12	0.567511	4.673537	10.91488	3.3	133.254012	2.1
2846	11.32	65.75	526.85	0.58083	4.654152	10.79315	3.3	133.311576	2.1
2847	11.28	66.81	526.41	0.592287	4.666755	10.75359	3.3	133.36914	2
2848	11.29	69.71	527.98	0.617449	4.676528	10.76202	3.3	133.426704	2
2849	11.42	73.05	541.67	0.639667	4.74317	10.87833	3.3	133.484268	2
2850	11.65	77.36	565.75	0.664034	4.856223	11.08425	3.3	133.541832	2
2851	12.25	84.45	619.11	0.689388	5.053959	11.63089	3.3	133.599396	2
2852	12.44	87.35	623.76	0.70217	5.014148	11.81624	3.3	133.65696	2
2853	12.46	89.59	610.69	0.719021	4.901204	11.84931	3.3	133.714524	2
2854	12.46	90.56	601.11	0.726806	4.824318	11.85889	3.3	133.772088	2
2855	12.46	89.87	594.01	0.721268	4.767335	11.86599	3.3	133.829652	2
2856	12.5	88.98	590.97	0.71184	4.72776	11.90903	3.3	133.887216	2
2857	12.5	89.22	582.18	0.71376	4.65744	11.91782	3.3	133.94478	2
2858	12.47	89.67	565.97	0.719086	4.538653	11.90403	3.3	134.002344	2
2859	12.37	89.34	554.4	0.722231	4.481811	11.8156	3.3	134.059908	2
2860	12.23	88.65	537.83	0.724857	4.397629	11.69217	3.3	134.117472	2
2861	11.97	90.04	507.23	0.752214	4.23751	11.46277	3.3	134.175036	2
2862	11.9	90.52	502.58	0.760672	4.223361	11.39742	3.3	134.2326	2
2863	11.87	90.56	502.73	0.762932	4.235299	11.36727	3.3	134.290164	2
2864	11.86	90.61	505.69	0.763997	4.263828	11.35431	3.3	134.347728	2
2865	11.89	90.48	509.09	0.760976	4.281665	11.38091	3.3	134.405292	2
2866	11.9	90.44	511.69	0.76	4.299916	11.38831	3.3	134.462856	2
2867	11.86	89.67	509.35	0.756071	4.294688	11.35065	3.3	134.52042	2
2868	11.83	88.61	508.91	0.749028	4.30186	11.32109	3.3	134.577984	2
2869	11.78	88.24	511.55	0.749066	4.34253	11.26845	3.3	134.635548	2
2870	11.73	87.55	511.91	0.746377	4.364109	11.21809	3.3	134.693112	2
2871	11.67	87.43	511.44	0.749186	4.382519	11.15856	3.3	134.750676	2
2872	11.65	86.94	512.28	0.746266	4.397253	11.13772	3.3	134.80824	2
2873	11.65	86.37	516.41	0.741373	4.432704	11.13359	3.3	134.865804	2
2874	11.65	85.96	517.84	0.737854	4.444979	11.13216	3.3	134.923368	2
2875	11.63	85.68	518.39	0.736715	4.457352	11.11161	3.3	134.980932	2
2876	11.62	85.47	519.31	0.735542	4.469105	11.10069	3.4	135.040239	2
2877	11.59	84.9	517.26	0.732528	4.462985	11.07274	3.3	135.097803	2
2878	11.49	85.02	507.34	0.739948	4.415492	10.98266	3.4	135.157109	2
2879	11.32	85.68	488.34	0.75689	4.313958	10.83166	3.3	135.214673	2
2880	10.85	85.23	441.64	0.78553	4.070415	10.40836	3.3	135.272237	2

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Cone Penetration Test (CPTU) - Date: 10/09/2012	
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Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2881	10.51	84.41	409.11	0.80314	3.892578	10.10089	3.3	135.329801	2
2882	10.14	82.7	376.35	0.815582	3.711538	9.76365	3.3	135.387365	2
2883	9.7	81.44	339.31	0.839588	3.498041	9.36069	3.3	135.444929	2
2884	9.28	80.42	305.27	0.866595	3.289547	8.97473	3.3	135.502493	2
2885	8.88	79.24	279.51	0.892342	3.147635	8.60049	3.3	135.560057	2
2886	8.52	78.26	263.92	0.918545	3.097653	8.25608	3.3	135.617621	2.1
2887	8.23	77.16	255.24	0.937546	3.101337	7.97476	3.3	135.675185	2.1
2888	7.97	76.39	250.59	0.958469	3.144166	7.71941	3.4	135.734492	2
2889	7.77	75.21	249.2	0.967954	3.207207	7.5208	3.4	135.793798	2
2890	7.6	73.7	246.83	0.969737	3.247763	7.35317	3.4	135.853105	2
2891	7.35	71.25	250.92	0.969388	3.413878	7.09908	3.4	135.912411	2
2892	7.26	69.71	254.62	0.960193	3.507163	7.00538	3.4	135.971717	2
2893	7.17	67.83	258.21	0.946025	3.601255	6.91179	3.4	136.031024	2
2894	7.08	66.45	262.75	0.938559	3.711158	6.81725	3.4	136.09033	2
2895	7.01	65.18	266.99	0.929815	3.808702	6.74301	3.4	136.149636	2
2896	6.96	64.17	271.13	0.921983	3.895546	6.68887	3.4	136.208943	2
2897	6.92	63.31	273.8	0.914884	3.956647	6.6462	3.4	136.268249	2
2898	6.92	62.62	279.07	0.904913	4.032803	6.64093	3.4	136.327556	2
2899	6.97	61.19	292.98	0.877905	4.203443	6.67702	3.4	136.386862	2
2900	7.04	60.74	303.22	0.862784	4.307102	6.73678	3.4	136.446168	1.9
2901	7.14	60.13	313.95	0.842157	4.397059	6.82605	3.4	136.505475	1.9
2902	7.26	59.64	326.32	0.821488	4.494766	6.93368	3.4	136.564781	2
2903	7.26	59.64	326.32	0.821488	4.494766	6.93368	3.4	136.624087	1.2
2904	7.26	59.64	326.32	0.821488	4.494766	6.93368	3.4	136.683394	0.7
2905	7.3	52.19	539.18	0.714932	7.386027	6.76082	3.4	136.7427	0.7
2906	7.44	51.54	484.76	0.692742	6.515591	6.95524	3.4	136.802007	1.9
2907	7.47	51.62	414.34	0.691031	5.54672	7.05566	3.4	136.861313	1.9
2908	7.47	51.62	414.34	0.691031	5.54672	7.05566	3.4	136.920619	2
2909	7.47	51.74	370.35	0.692637	4.957831	7.09965	3.4	136.979926	2
2910	7.44	51.74	357.46	0.69543	4.80457	7.08254	3.4	137.039232	2.3
2911	7.4	51.25	342.09	0.692568	4.622838	7.05791	3.4	137.098538	2.3
2912	7.36	51.13	329.94	0.694701	4.48288	7.03006	3.4	137.157845	2.1
2913	7.31	50.92	318.41	0.69658	4.355814	6.99159	3.4	137.217151	2.1
2914	7.27	50.84	307.95	0.699312	4.235901	6.96205	3.4	137.276458	2.1
2915	7.2	50.6	300.33	0.702778	4.17125	6.89967	3.4	137.335764	2.1
2916	7.14	50.52	293.16	0.707563	4.105882	6.84684	3.4	137.39507	2.1
2917	7.11	50.31	288.07	0.707595	4.051617	6.82193	3.4	137.454377	2.1
2918	7.1	50.27	284.27	0.708028	4.003803	6.81573	3.4	137.513683	2
2919	7.12	50.11	285.22	0.703792	4.005899	6.83478	3.4	137.572989	2
2920	7.29	49.01	297.99	0.672291	4.087654	6.99201	3.4	137.632296	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2921	7.45	48.52	311.64	0.651275	4.183087	7.13836	3.4	137.691602	2
2922	7.67	48.36	329.25	0.630508	4.292699	7.34075	3.3	137.749166	2
2923	7.91	48.15	345.28	0.608723	4.365107	7.56472	3.4	137.808473	2
2924	8.15	48.2	361.56	0.591411	4.436319	7.78844	3.4	137.867779	2
2925	8.42	48.52	378.73	0.576247	4.497981	8.04127	3.4	137.927085	2
2926	8.69	49.25	397.76	0.566743	4.577215	8.29224	3.4	137.986392	2
2927	8.99	50.23	413.86	0.558732	4.60356	8.57614	3.4	138.045698	2
2928	9.46	50.48	408.78	0.533615	4.321142	9.05122	3.4	138.105004	2
2929	9.62	50.19	396.52	0.521726	4.12183	9.22348	3.4	138.164311	2
2930	9.69	49.54	386.56	0.511249	3.989267	9.30344	3.4	138.223617	2
2931	9.7	48.85	376.13	0.503608	3.877629	9.32387	3.4	138.282924	2
2932	9.58	48.2	351.32	0.503132	3.667223	9.22868	3.4	138.34223	2
2933	9.31	47.3	314.35	0.508056	3.376477	8.99565	3.4	138.401536	2
2934	8.73	46.24	245.54	0.529668	2.8126	8.48446	3.4	138.460843	2
2935	7.78	48.68	183.33	0.625707	2.356427	7.59667	3.4	138.520149	2
2936	5.74	51.45	84.91	0.896341	1.479268	5.65509	3.4	138.579455	2
2937	4.87	54.47	57.13	1.11848	1.173101	4.81287	3.4	138.638762	2
2938	4.24	58.71	50.25	1.38467	1.185142	4.18975	3.4	138.698068	2
2939	3.77	64.65	43.63	1.714854	1.157294	3.72637	3.4	138.757375	2
2940	3.4	74.15	39.78	2.180882	1.17	3.36022	3.4	138.816681	2
2941	3.2	84.74	42.46	2.648125	1.326875	3.15754	3.4	138.875987	2
2942	3.1	93.99	61.01	3.031935	1.968065	3.03899	3.4	138.935294	2
2943	3	104.21	80.15	3.473667	2.671667	2.91985	3.4	138.9946	2
2944	2.82	119	125.35	4.219858	4.445035	2.69465	3.4	139.053906	2
2945	2.65	129.47	120.19	4.88566	4.535472	2.52981	3.4	139.113213	2
2946	2.43	135.87	157.6	5.591358	6.485597	2.2724	3.4	139.172519	2
2947	2.26	135.05	196.68	5.975664	8.702655	2.06332	3.4	139.231826	2
2948	2.11	131.63	245.29	6.238389	11.625118	1.86471	3.4	139.291132	2
2949	1.97	136.19	279.4	6.913198	14.182741	1.6906	3.4	139.350438	2
2950	1.9	135.99	311.64	7.157368	16.402105	1.58836	3.3	139.408002	2
2951	1.84	132.36	371.15	7.193478	20.171196	1.46885	3.3	139.465566	2
2952	1.78	133.14	462.87	7.479775	26.003933	1.31713	3.4	139.524873	2
2953	1.75	132.65	493.94	7.58	28.225143	1.25606	3.3	139.582437	2
2954	1.69	130.53	517.92	7.723669	30.646154	1.17208	3.4	139.641743	2
2955	1.66	131.47	528.2	7.91988	31.819277	1.1318	3.4	139.70105	2
2956	1.64	126.78	536.21	7.730488	32.695732	1.10379	3.3	139.758614	2
2957	1.62	112.2	543.35	6.925926	33.540123	1.07665	3.4	139.81792	2
2958	1.6	97.86	550.01	6.11625	34.375625	1.04999	3.4	139.877226	2
2959	1.6	99.04	548.15	6.19	34.259375	1.05185	3.3	139.93479	2
2960	1.58	90.12	555.87	5.703797	35.181646	1.02413	3.4	139.994097	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2961	1.58	79.4	567.95	5.025316	35.946203	1.01205	3.3	140.051661	2
2962	1.58	72.19	574.97	4.568987	36.390506	1.00503	3.4	140.110967	2
2963	1.6	67.75	575.63	4.234375	35.976875	1.02437	3.3	140.168531	2
2964	1.61	65.02	576.11	4.038509	35.78323	1.03389	3.4	140.227837	2
2965	1.62	64	575.82	3.950617	35.544444	1.04418	3.4	140.287144	2
2966	1.62	63.8	578.3	3.938272	35.697531	1.0417	3.4	140.34645	2
2967	1.62	63.64	580.94	3.928395	35.860494	1.03906	3.4	140.405757	2
2968	1.61	64.08	582.95	3.980124	36.208075	1.02705	3.4	140.465063	2
2969	1.61	64.04	578.38	3.97764	35.924224	1.03162	3.4	140.524369	2
2970	1.6	63.92	569.92	3.995	35.62	1.03008	3.4	140.583676	2
2971	1.59	65.31	563.88	4.107547	35.464151	1.02612	3.4	140.642982	2
2972	1.57	66.16	562.46	4.214013	35.825478	1.00754	3.4	140.702288	2
2973	1.56	67.18	562.86	4.30641	36.080769	0.99714	3.4	140.761595	2
2974	1.53	67.3	568.02	4.398693	37.12549	0.96198	3.4	140.820901	2
2975	1.53	66.85	566.81	4.369281	37.046405	0.96319	3.4	140.880208	2
2976	1.52	66.28	567.87	4.360526	37.359868	0.95213	3.4	140.939514	2
2977	1.52	66	570.58	4.342105	37.538158	0.94942	3.4	140.99882	2
2978	1.51	65.79	577.24	4.356954	38.227815	0.93276	3.3	141.056384	2
2979	1.5	65.14	582.99	4.342667	38.866	0.91701	3.3	141.113948	2
2980	1.53	63.55	582.99	4.153595	38.103922	0.94701	3.3	141.171512	2
2981	1.54	63.76	582.92	4.14026	37.851948	0.95708	3.4	141.230819	2
2982	1.54	63.51	584.12	4.124026	37.92987	0.95588	3.3	141.288383	2
2983	1.54	63.23	587.71	4.105844	38.162987	0.95229	3.3	141.345947	2
2984	1.54	62.66	590.05	4.068831	38.314935	0.94995	3.4	141.405253	2
2985	1.55	62.21	590.31	4.013548	38.084516	0.95969	3.3	141.462817	2
2986	1.55	61.8	596.35	3.987097	38.474194	0.95365	3.4	141.522124	2
2987	1.55	61.6	604.11	3.974194	38.974839	0.94589	3.4	141.58143	2
2988	1.57	60.7	604.22	3.866242	38.48535	0.96578	3.4	141.640736	2
2989	1.58	60.66	612.85	3.839241	38.787975	0.96715	3.4	141.700043	2
2990	1.6	60.54	615.34	3.78375	38.45875	0.98466	3.4	141.759349	2
2991	1.61	60.54	617.32	3.760248	38.342857	0.99268	3.4	141.818655	2
2992	1.63	60.95	622.85	3.739264	38.211656	1.00715	3.4	141.877962	2
2993	1.65	61.15	620.8	3.706061	37.624242	1.0292	3.3	141.935526	2
2994	1.67	61.15	613.77	3.661677	36.752695	1.05623	3.4	141.994832	2
2995	1.72	61.72	597.85	3.588372	34.758721	1.12215	3.3	142.052396	2
2996	1.73	62.74	590.2	3.62659	34.115607	1.1398	3.3	142.10996	1.9
2997	1.73	64.29	585.15	3.716185	33.823699	1.14485	3.3	142.167524	1.9
2998	1.73	65.71	581.41	3.798266	33.607514	1.14859	3.4	142.226831	1.9
2999	1.73	67.1	578.56	3.878613	33.442775	1.15144	3.4	142.286137	1.9
3000	1.73	68.08	571.57	3.93526	33.038728	1.15843	3.3	142.343701	1.9



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
3001	1.74	69.18	561.91	3.975862	32.293678	1.17809	3.3	142.401265	1.9
3002	1.75	71.38	562.38	4.078857	32.136	1.18762	3.3	142.458829	2
3003	1.75	71.38	562.38	4.078857	32.136	1.18762	3.3	142.516393	2
3004	1.75	71.38	562.38	4.078857	32.136	1.18762	3.3	142.573957	2
3005	1.77	78.06	658.16	4.410169	37.184181	1.11184	3.3	142.631521	1.8
3006	1.78	79.36	652.53	4.458427	36.658989	1.12747	3.3	142.689085	1.8
3007	1.78	80.62	644.33	4.529213	36.198315	1.13567	3.3	142.746649	2
3008	1.78	82.01	634.85	4.607303	35.66573	1.14515	3.3	142.804213	2
3009	1.79	83.84	628.85	4.683799	35.131285	1.16115	3.3	142.861777	2
3010	1.8	85.19	629.91	4.732778	34.995	1.17009	3.3	142.919341	2
3011	1.81	85.43	634.41	4.71989	35.050276	1.17559	3.3	142.976905	2.1
3012	1.81	85.43	634.41	4.71989	35.050276	1.17559	3.3	143.034469	2.1
3013	1.82	84.45	636.72	4.64011	34.984615	1.18328	3.3	143.092033	2.1
3014	1.82	84.62	638.11	4.649451	35.060989	1.18189	3.3	143.149597	2.1
3015	1.83	84.78	640.63	4.632787	35.007104	1.18937	3.3	143.207162	2.1
3016	1.84	84.45	645.13	4.589674	35.061413	1.19487	3.3	143.264726	2.1
3017	1.88	84.37	644.37	4.487766	34.275	1.23563	3.3	143.32229	2
3018	1.9	84.62	647.99	4.453684	34.104737	1.25201	3.3	143.379854	2
3019	1.92	85.43	647.4	4.449479	33.71875	1.2726	3.3	143.437418	2
3020	1.94	85.96	642.76	4.430928	33.131959	1.29724	3.3	143.494982	2
3021	1.96	85.92	638.91	4.383673	32.597449	1.32109	3.3	143.552546	2
3022	1.98	86.65	635.8	4.376263	32.111111	1.3442	3.3	143.61011	2
3023	2.04	87.14	597.66	4.271569	29.297059	1.44234	3.3	143.667674	2.1
3024	2.05	88.81	585.81	4.332195	28.576098	1.46419	3.3	143.725238	2.1
3025	2.06	90.69	580.28	4.402427	28.168932	1.47972	3.3	143.782802	2.1
3026	2.08	92.93	576.66	4.467788	27.724038	1.50334	3.3	143.840366	2.1
3027	2.07	95.53	573.11	4.614976	27.686473	1.49689	3.3	143.89793	2.1
3028	2.06	97.61	569.08	4.73835	27.625243	1.49092	3.3	143.955494	2.1
3029	2.09	99.65	553.2	4.767943	26.4689	1.5368	3.3	144.013058	2.1
3030	2.1	102.26	531.71	4.869524	25.319524	1.56829	3.3	144.070622	2.1
3031	2.08	105.35	532.52	5.064904	25.601923	1.54748	3.3	144.128186	2.1
3032	2.07	108.98	537.75	5.264734	25.978261	1.53225	3.3	144.18575	2
3033	2.06	111.91	543.28	5.432524	26.372816	1.51672	3.3	144.243314	2
3034	2.04	113.58	548.77	5.567647	26.90049	1.49123	3.3	144.300878	2.1
3035	2.08	114.56	559.78	5.507692	26.9125	1.52022	3.3	144.358442	2.1
3036	2.08	115.5	573.33	5.552885	27.563942	1.50667	3.4	144.417748	2.1
3037	2.09	114.85	567.36	5.495215	27.146411	1.52264	3.4	144.477055	2.1
3038	2.08	114.76	562.97	5.517308	27.065865	1.51703	3.4	144.536361	2
3039	2.09	113.66	551.04	5.438278	26.36555	1.53896	3.3	144.593925	2
3040	2.12	111.95	537.42	5.28066	25.35	1.58258	3.3	144.651489	2.1

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
3041	2.12	111.34	530.94	5.251887	25.04434	1.58906	3.3	144.709053	2.1
3042	2.11	111.55	528.49	5.28673	25.046919	1.58151	3.3	144.766617	2
3043	2.12	110.69	509.68	5.221226	24.041509	1.61032	3.4	144.825924	2
3044	2.1	111.1	497.2	5.290476	23.67619	1.6028	3.3	144.883488	2.1
3045	2.07	111.42	489.33	5.382609	23.63913	1.58067	3.4	144.942794	2.1
3046	2.02	112.77	483.11	5.582673	23.916337	1.53689	3.2	144.998616	2.1
3047	2.02	112.69	470.34	5.578713	23.284158	1.54966	3.3	145.05618	2.1
3048	2	113.54	454.31	5.677	22.7155	1.54569	3.2	145.112001	2
3049	1.96	114.97	442.08	5.865816	22.555102	1.51792	3.2	145.167823	2
3050	1.91	117.98	452.7	6.176963	23.701571	1.4573	3.3	145.225387	2.1
3051	1.87	119.33	456.65	6.381283	24.419786	1.41335	3.2	145.281208	2.1
3052	1.84	119.37	452.55	6.4875	24.595109	1.38745	3.3	145.338772	2.1
3053	1.8	119.94	451.85	6.663333	25.102778	1.34815	3.2	145.394594	2.1
3054	1.75	119.08	457.67	6.804571	26.152571	1.29233	3.2	145.450415	2.1
3055	1.73	117.9	461.63	6.815029	26.683815	1.26837	3.2	145.506237	2.1
3056	1.72	116.48	469.57	6.772093	27.300581	1.25043	3.2	145.562058	2.1
3057	1.71	115.13	480.99	6.732749	28.12807	1.22901	3.2	145.61788	2.1
3058	1.69	111.63	529.59	6.605325	31.336686	1.16041	3.2	145.673701	2.1
3059	1.69	111.63	529.59	6.605325	31.336686	1.16041	3.2	145.729523	2.1
3060	1.71	105.19	574.13	6.151462	33.574854	1.13587	3.2	145.785344	2.1
3061	1.71	100.95	589.91	5.903509	34.497661	1.12009	3.2	145.841166	2.1
3062	1.71	96.31	602.64	5.632164	35.242105	1.10736	3.2	145.896987	2.1
3063	1.7	92.36	612.52	5.432941	36.030588	1.08748	3.2	145.952809	2.1
3064	1.71	89.1	617.39	5.210526	36.104678	1.09261	3.2	146.00863	2.1
3065	1.71	86.21	619.33	5.04152	36.218129	1.09067	3.2	146.064452	2.1
3066	1.71	83.84	611.02	4.902924	35.732164	1.09898	3.2	146.120273	2.1
3067	1.71	81.44	600.01	4.762573	35.088304	1.10999	3.2	146.176095	2.1
3068	1.7	79.81	596.82	4.694706	35.107059	1.10318	3.2	146.231916	2.1
3069	1.68	79.28	597.12	4.719048	35.542857	1.08288	3.2	146.287738	2.1
3070	1.68	78.38	595.4	4.665476	35.440476	1.0846	3.2	146.343559	2.1
3071	1.69	77.73	597.7	4.599408	35.366864	1.0923	3.2	146.399381	2.1
3072	1.68	77.41	612.82	4.607738	36.477381	1.06718	3.2	146.455202	2.1
3073	1.7	77.69	610.47	4.57	35.91	1.08953	3.2	146.511024	2
3074	1.72	78.63	610.26	4.571512	35.480233	1.10974	3.2	146.566845	2
3075	1.73	79.73	612.63	4.608671	35.412139	1.11737	3.2	146.622667	2.1
3076	1.76	80.95	613.92	4.599432	34.881818	1.14608	3.2	146.678488	2.1
3077	1.79	81.89	611.17	4.57486	34.143575	1.17883	3.2	146.73431	2
3078	1.83	82.74	603.56	4.521311	32.981421	1.22644	3.2	146.790131	2
3079	1.85	83.6	597.77	4.518919	32.311892	1.25223	3.2	146.845953	2.1
3080	1.86	84.25	595.65	4.52957	32.024194	1.26435	3.2	146.901774	2.1

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: P1CPT1	

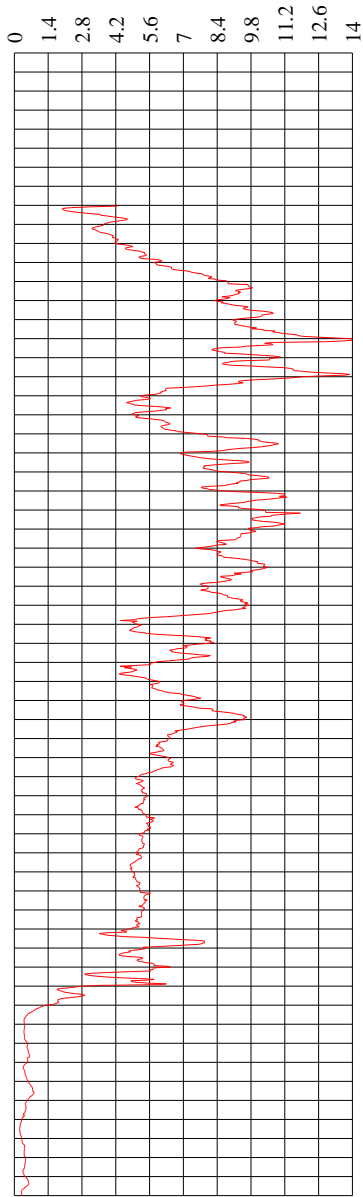
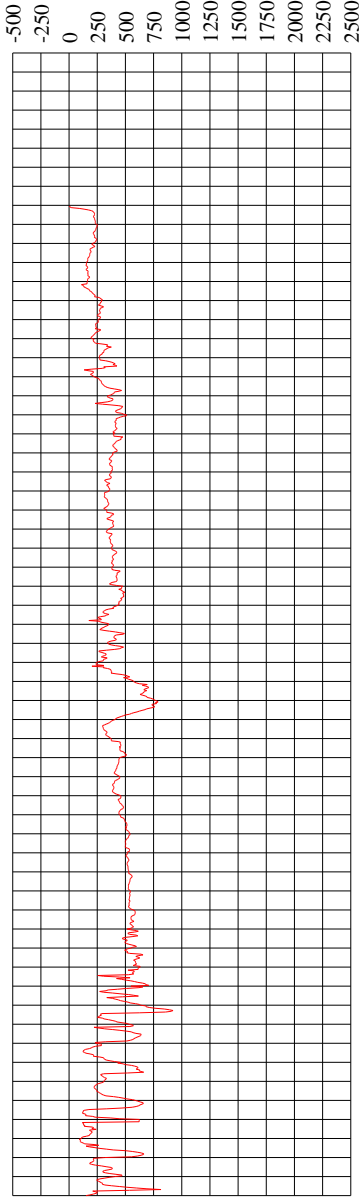
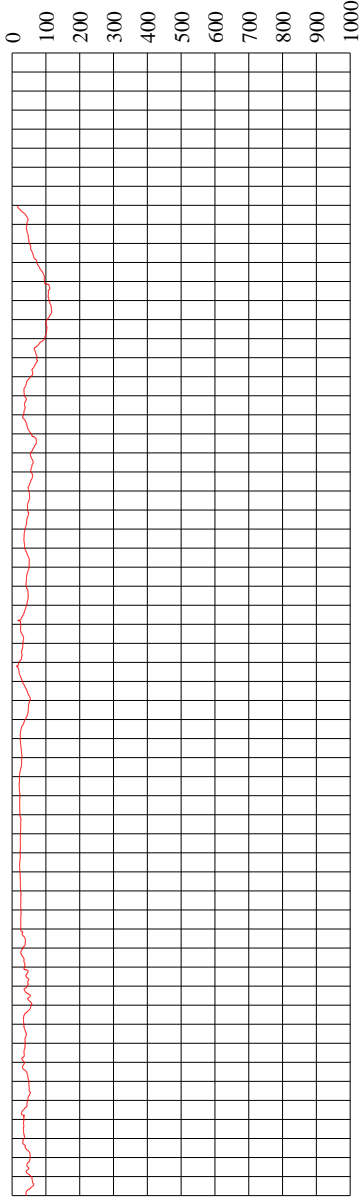
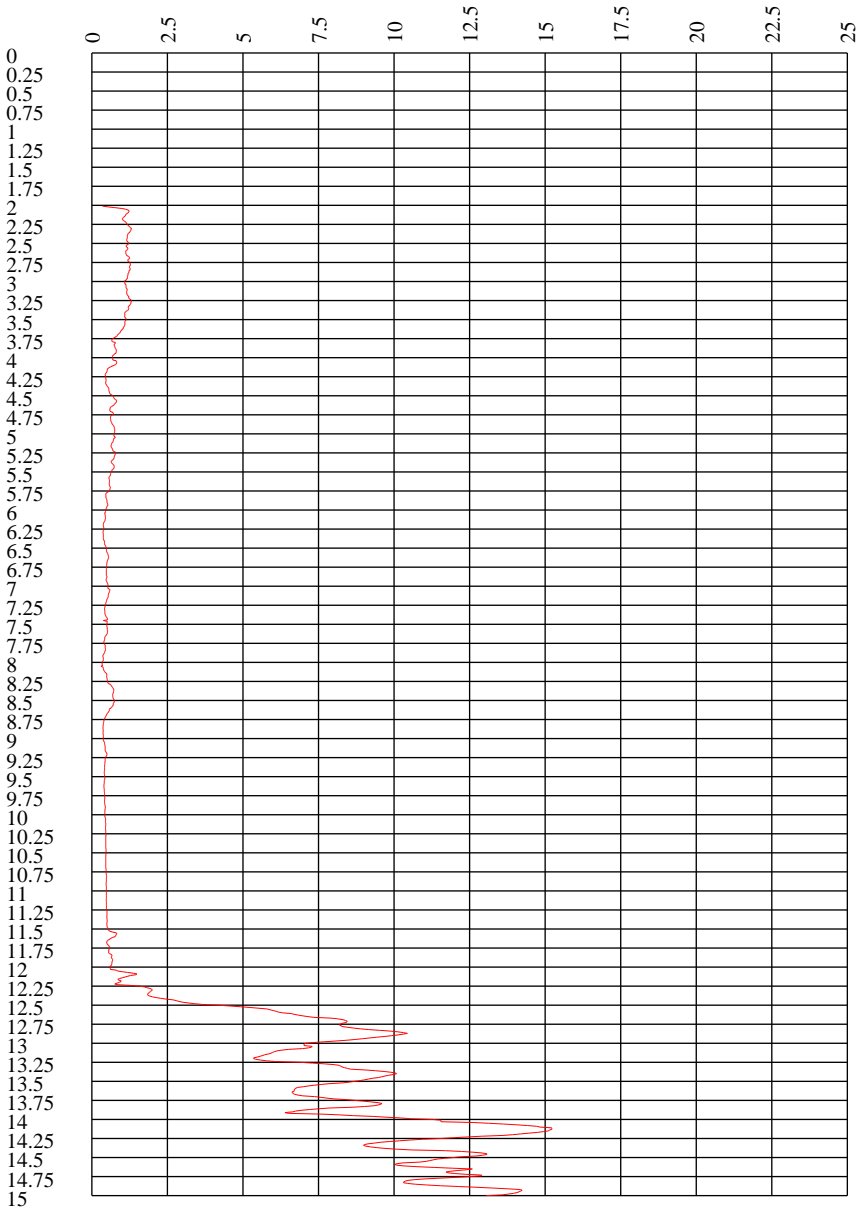
Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
3081	1.85	84.58	596.9	4.571892	32.264865	1.2531	3.2	146.957596	2
3082	1.86	84.33	598.69	4.533871	32.187634	1.26131	3.2	147.013417	2
3083	1.86	84.33	598.69	4.533871	32.187634	1.26131	3.2	147.069239	2
3084	1.92	85.27	603.41	4.441146	31.427604	1.31659	3.2	147.12506	2
3085	1.97	85.76	592.87	4.353299	30.094924	1.37713	3.2	147.180882	2
3086	2.02	86.82	579.11	4.29802	28.668812	1.44089	3.2	147.236703	2.1
3087	2.04	89.22	572.74	4.373529	28.07549	1.46726	3.2	147.292525	2.1
3088	2.03	92.81	585.88	4.571921	28.861084	1.44412	3.2	147.348346	2
3089	2.04	94.07	577.65	4.611275	28.316176	1.46235	3.2	147.404168	2
3090	2.04	94.76	558.17	4.645098	27.361275	1.48183	3.2	147.459989	2
3091	2.02	95.58	525.02	4.731683	25.991089	1.49498	3.2	147.515811	2
3092	1.98	97.37	502.07	4.917677	25.357071	1.47793	3.2	147.571632	2
3093	1.93	98.71	485.85	5.114508	25.173575	1.44415	3.2	147.627454	2
3094	1.83	103.72	478.13	5.66776	26.127322	1.35187	3.2	147.683275	2
3095	1.82	104.99	485.49	5.768681	26.675275	1.33451	3.2	147.739097	2
3096	1.82	105.88	497.57	5.817582	27.339011	1.32243	3.2	147.794918	2
3097	1.84	109.06	521.14	5.927174	28.322826	1.31886	3.2	147.85074	2
3098	1.84	112.32	560.26	6.104348	30.448913	1.27974	3.2	147.906561	2
3099	1.86	112.77	601.25	6.062903	32.325269	1.25875	3.2	147.962383	2
3100	1.91	110.93	631.15	5.807853	33.044503	1.27885	3.2	148.018204	2

Qc [MPa]

Fs [KPa]

U2 [KPa]

Rf [%]

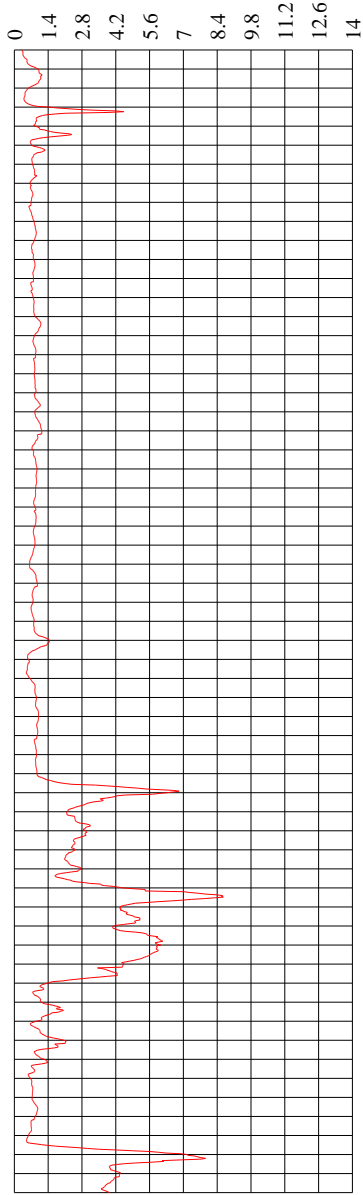
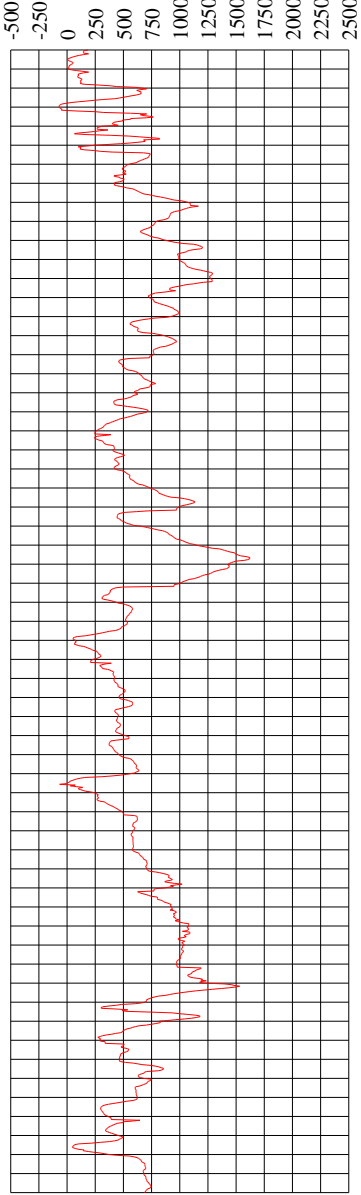
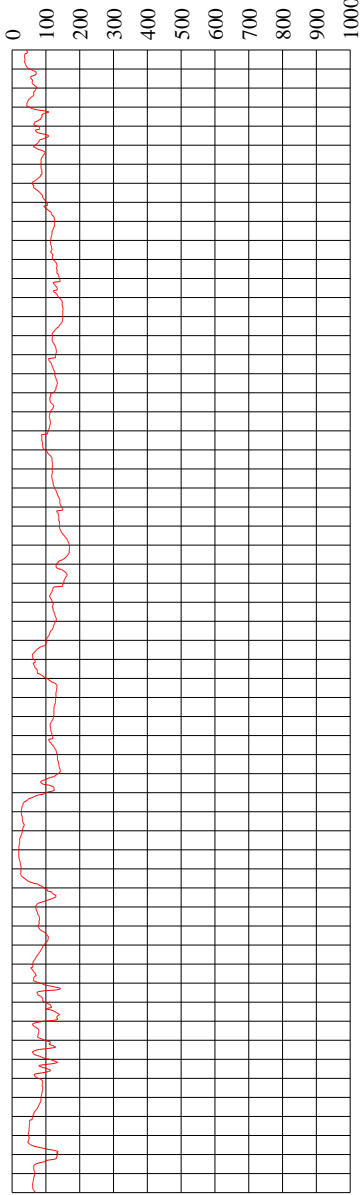
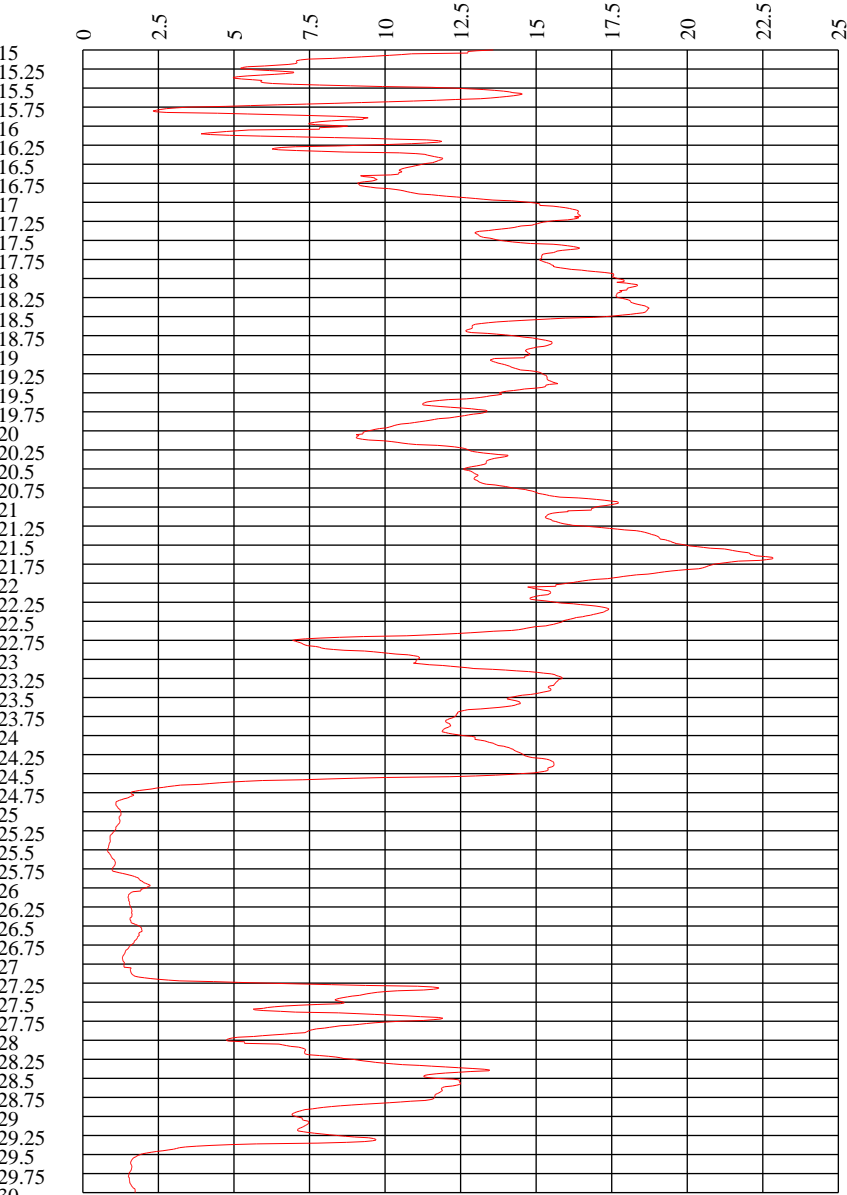


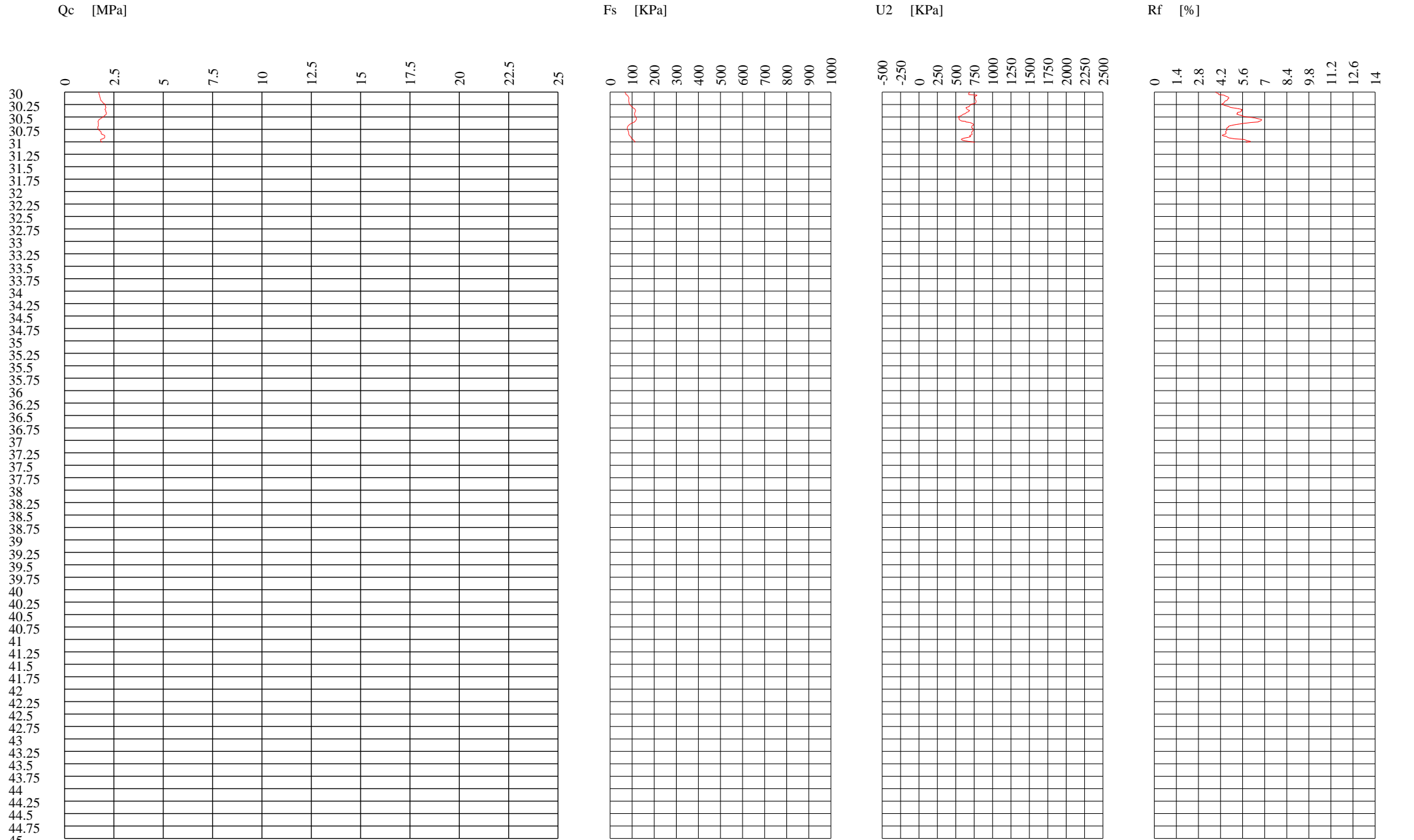
Qc [MPa]

Fs [KPa]

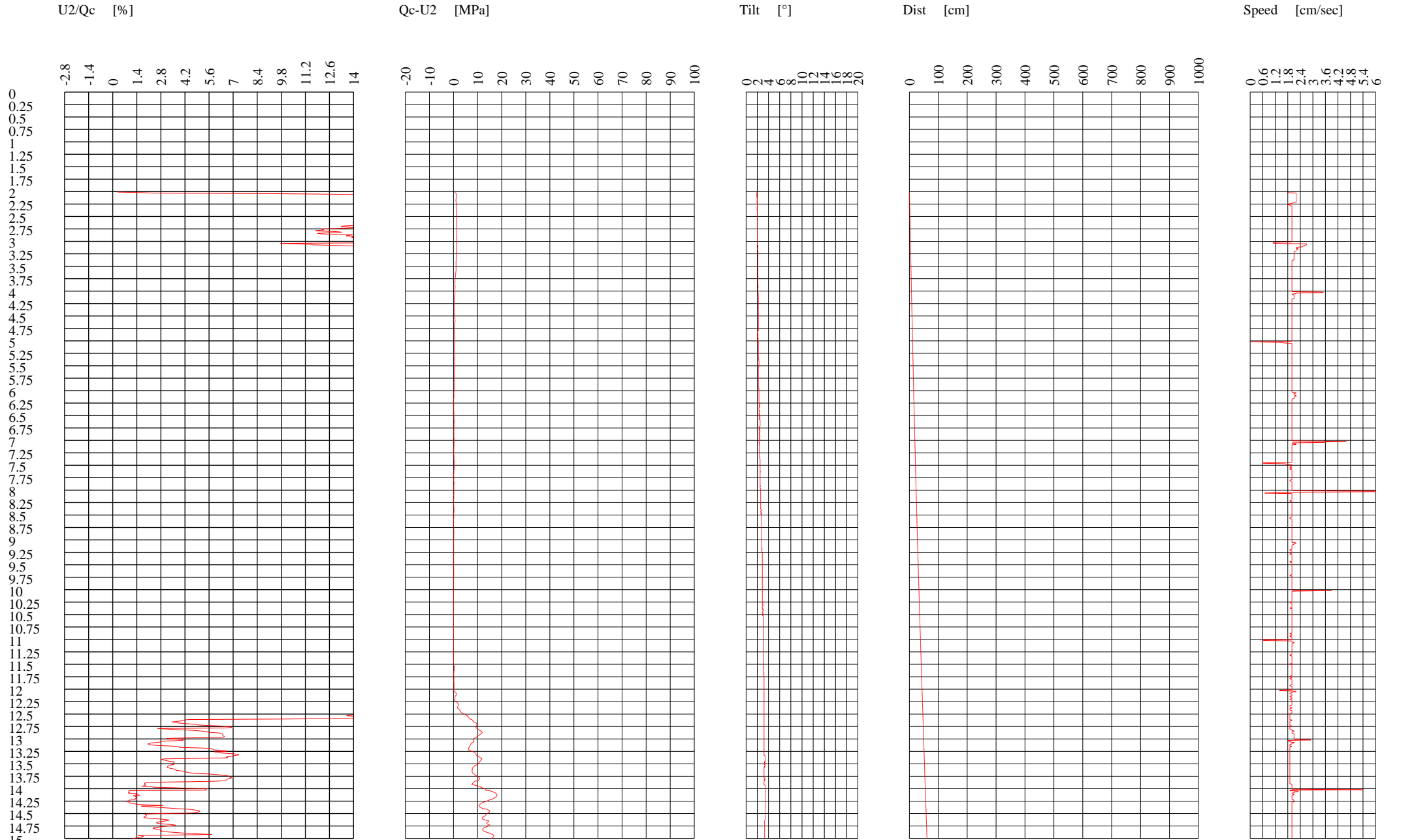
U2 [KPa]

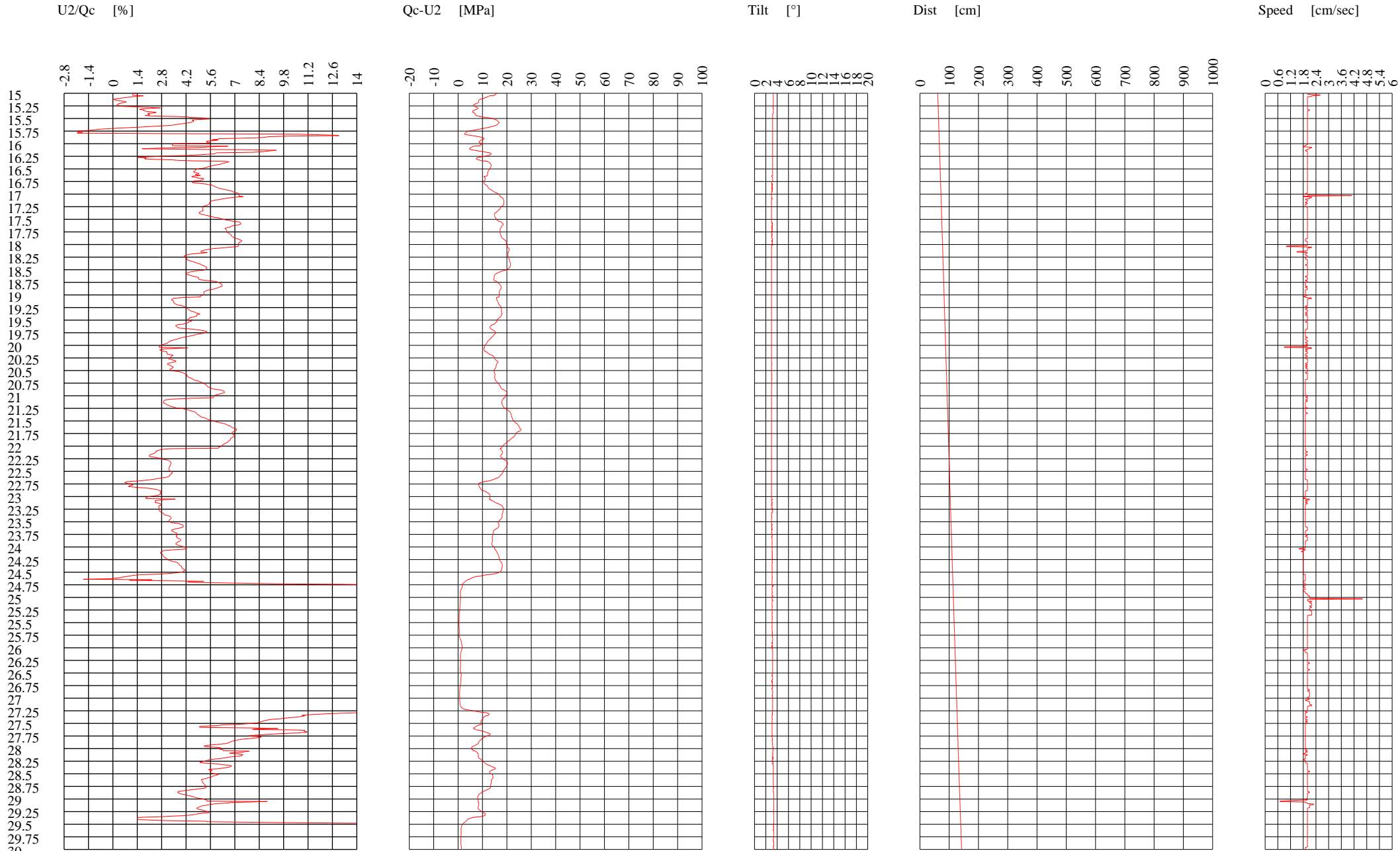
Rf [%]

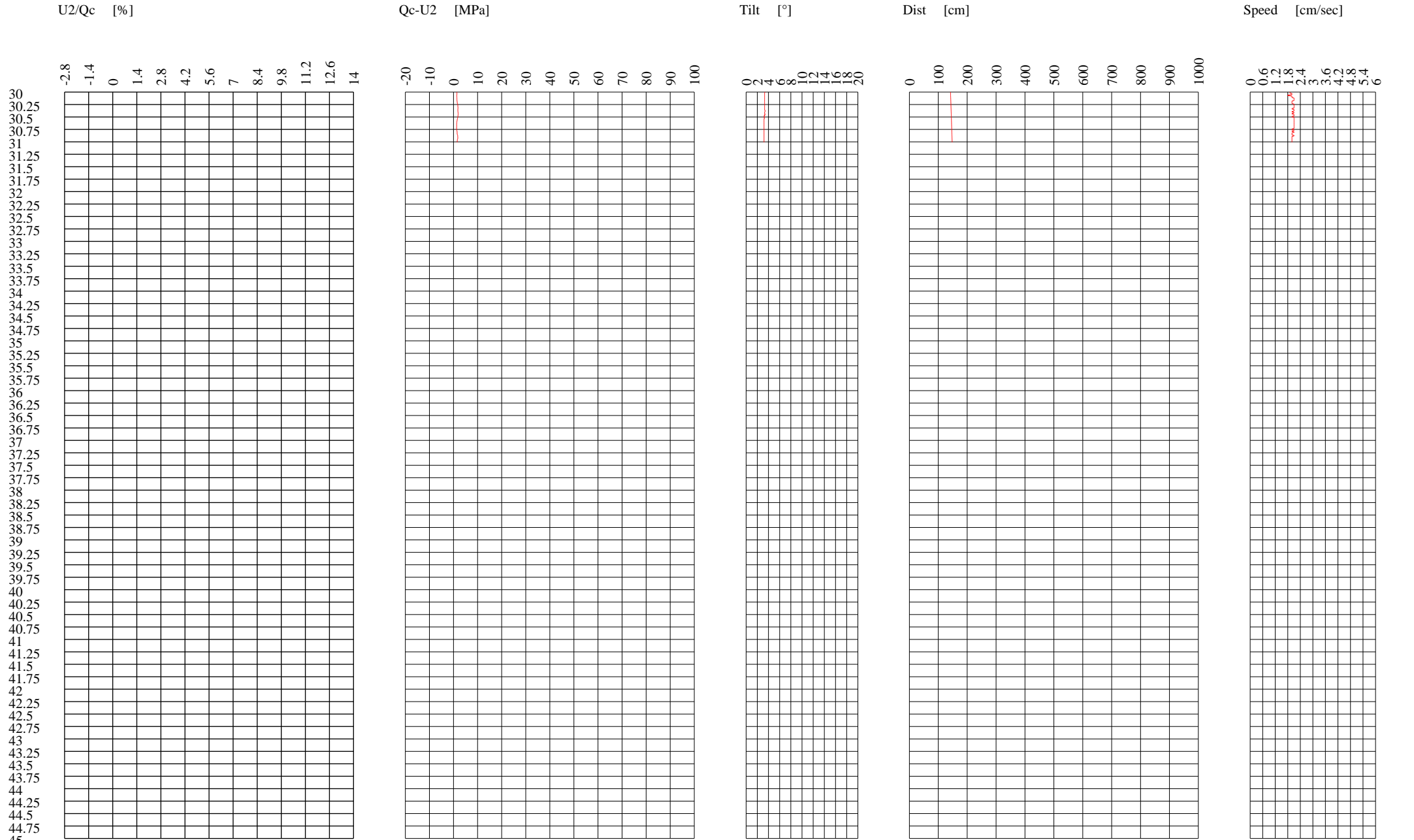












MORONI DOTT. MAURIZIO GEOLOGO		
Cone Penetration Test (CPTU) - Date: 10/09/2012		CPTU32A
Site: scuola elementare Randi - Test: CPT2		

## Company informations

Name: MORONI DOTT. MAURIZIO GEOLOGO

Address: VIA RINO BAGNOLI 1120

Zip code: 47522

City: PIEVESESTINA DI CESENA

P.IVA: 03413810403

E-Mail: moronigeo@libero.it

Phone number: 0547313359

Fax number:

## Site informations

Name: scuola elementare Randi

Date: 07/09/2012

Commissioner:

Locality: Ravenna

## Test informations

Name: CPT2

Location: CPT2

Date: 10/09/2012

Prehole mode:

Prehole depth [cm]: 160

Hydrostatic line [cm]: 0

Ground level [m]: 0

Latitude: 0000.0000N

Longitude: 00000.0000E

Operator:

Comments:

Probe code: MH109

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
161	0.24	1.55	1.39	0.645833	0.579167	0.23861	1.2	0.020942	0
162	0.27	1.83	1.35	0.677778	0.5	0.26865	1.2	0.041885	1.6
163	0.28	1.67	1.83	0.596429	0.653571	0.27817	1.2	0.062827	1.6
164	0.28	1.47	3.33	0.525	1.189286	0.27667	1.2	0.08377	2
165	0.29	1.22	2.42	0.42069	0.834483	0.28758	1.2	0.104712	2
166	0.27	1.26	2.67	0.466667	0.988889	0.26733	1.2	0.125655	2
167	0.27	1.47	3	0.544444	1.111111	0.267	1.2	0.146597	2
168	0.27	1.63	2.49	0.603704	0.922222	0.26751	1.3	0.169284	2
169	0.26	1.3	1.5	0.5	0.576923	0.2585	1.2	0.190227	2
170	0.24	1.14	1.72	0.475	0.716667	0.23828	1.3	0.212914	2
171	0.24	1.34	3.11	0.558333	1.295833	0.23689	1.2	0.233856	2
172	0.24	1.39	3.55	0.579167	1.479167	0.23645	1.3	0.256544	2
173	0.23	1.43	3.07	0.621739	1.334783	0.22693	1.3	0.279231	2
174	0.22	1.39	2.45	0.631818	1.113636	0.21755	1.3	0.301918	2
175	0.23	1.83	3.73	0.795652	1.621739	0.22627	1.3	0.324606	2
176	0.24	2.08	5.38	0.866667	2.241667	0.23462	1.3	0.347293	2
177	0.25	1.83	6.4	0.732	2.56	0.2436	1.3	0.36998	2
178	0.27	1.55	8.56	0.574074	3.17037	0.26144	1.3	0.392668	2
179	0.28	1.96	6.59	0.7	2.353571	0.27341	1.3	0.415355	2
180	0.3	2.16	9.88	0.72	3.293333	0.29012	1.3	0.438042	2
181	0.31	3.06	4.61	0.987097	1.487097	0.30539	1.3	0.46073	2
182	0.36	3.18	3.33	0.883333	0.925	0.35667	1.3	0.483417	2
183	0.36	3.18	3.33	0.883333	0.925	0.35667	1.3	0.506104	6.3
184	0.36	3.18	3.33	0.883333	0.925	0.35667	1.3	0.528792	2.7
185	0.7	2.61	3.92	0.372857	0.56	0.69608	1.5	0.554969	2.7
186	0.7	2.61	3.92	0.372857	0.56	0.69608	1.5	0.581146	1.7
187	1.56	4.93	6.81	0.316026	0.436538	1.55319	1.6	0.609067	1.7
188	1.56	4.93	6.81	0.316026	0.436538	1.55319	1.6	0.636989	2.3
189	2.2	6.19	7.43	0.281364	0.337727	2.19257	1.6	0.664911	2.3
190	3.67	9.17	19.51	0.249864	0.531608	3.65049	1.6	0.692832	2.3
191	3.67	9.17	19.51	0.249864	0.531608	3.65049	1.6	0.720754	2.3
192	4.01	16.58	30.82	0.413466	0.768579	3.97918	1.6	0.748676	2.3
193	4.22	24.24	39.27	0.574408	0.930569	4.18073	1.6	0.776597	2.3
194	4.35	30.19	48.68	0.694023	1.11908	4.30132	1.6	0.804519	2.3
195	4.47	36.71	55.08	0.821253	1.232215	4.41492	1.6	0.83244	2.2
196	4.62	42.98	52.74	0.930303	1.141558	4.56726	1.6	0.860362	2.2
197	4.47	56.22	70.27	1.257718	1.572036	4.39973	1.6	0.888284	2.2
198	4.47	56.22	70.27	1.257718	1.572036	4.39973	1.6	0.916205	2.2
199	4.48	51.62	62.15	1.152232	1.387277	4.41785	1.6	0.944127	2.2
200	4.48	51.62	62.15	1.152232	1.387277	4.41785	1.6	0.972049	2.2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
201	4.43	55.45	59.25	1.251693	1.337472	4.37075	1.6	0.99997	2.2
202	4.43	63.31	58.85	1.42912	1.328442	4.37115	1.6	1.027892	2.2
203	4.52	64.69	56.69	1.431195	1.254204	4.46331	1.6	1.055814	2.2
204	4.5	69.05	51.93	1.534444	1.154	4.44807	1.6	1.083735	2.1
205	4.42	73.33	47.91	1.65905	1.083937	4.37209	1.6	1.111657	2.1
206	4.34	78.59	47.47	1.810829	1.093779	4.29253	1.6	1.139578	2.2
207	4.42	79.52	47.36	1.799095	1.071493	4.37264	1.6	1.1675	2.2
208	4.46	82.13	45.68	1.84148	1.024215	4.41432	1.6	1.195422	2.1
209	4.56	87.43	47.58	1.917325	1.043421	4.51242	1.6	1.223343	2.1
210	4.53	93.66	47.58	2.06755	1.050331	4.48242	1.6	1.251265	2.1
211	4.31	100.46	41.28	2.330858	0.957773	4.26872	1.6	1.279187	2.1
212	4.15	105.72	37.81	2.54747	0.911084	4.11219	1.6	1.307108	2.1
213	4.16	106.53	38.28	2.560817	0.920192	4.12172	1.6	1.33503	2.1
214	4.16	113.01	38.65	2.716587	0.929087	4.12135	1.6	1.362952	2.1
215	4.22	122.42	33.34	2.900948	0.790047	4.18666	1.6	1.390873	2.1
216	4.22	122.42	33.34	2.900948	0.790047	4.18666	1.6	1.418795	2.1
217	4.3	125.97	34.55	2.929535	0.803488	4.26545	1.6	1.446716	2.1
218	4.26	130.33	34.29	3.05939	0.80493	4.22571	1.6	1.474638	2.1
219	4.32	131.18	36.23	3.036574	0.838657	4.28377	1.6	1.50256	2.1
220	4.4	131.71	37.29	2.993409	0.8475	4.36271	1.8	1.533971	2.1
221	4.46	132.57	35.14	2.972422	0.787892	4.42486	1.8	1.565381	2.1
222	4.46	134.65	31.84	3.019058	0.713901	4.42816	1.8	1.596792	2.1
223	4.46	132.81	34.22	2.977803	0.767265	4.42578	1.6	1.624714	2.1
224	4.58	125.64	39.53	2.743231	0.8631	4.54047	1.6	1.652635	2.1
225	4.76	118.96	42.86	2.49916	0.90042	4.71714	1.8	1.684046	2.1
226	4.87	116.48	42.93	2.391786	0.88152	4.82707	1.8	1.715457	2.1
227	4.92	117.33	41.25	2.384756	0.838415	4.87875	1.8	1.746868	2.1
228	4.91	117.7	39.01	2.397149	0.794501	4.87099	1.8	1.778278	2.1
229	4.78	123.36	31.37	2.580753	0.656276	4.74863	1.8	1.809689	2
230	4.74	126.7	30.71	2.672996	0.64789	4.70929	1.8	1.8411	2
231	4.73	126.58	30.78	2.67611	0.65074	4.69922	1.8	1.872511	2.1
232	4.63	128.41	30.34	2.773434	0.655292	4.59966	1.8	1.903921	2.1
233	4.55	128.57	28.11	2.825714	0.617802	4.52189	1.8	1.935332	2
234	4.5	130.53	27.34	2.900667	0.607556	4.47266	1.8	1.966743	2
235	4.6	129.31	28.73	2.811087	0.624565	4.57127	1.8	1.998154	2
236	4.69	127.88	28.8	2.726652	0.614072	4.6612	1.8	2.029564	2
237	4.73	128.94	27.85	2.726004	0.588795	4.70215	1.8	2.060975	2
238	4.7	135.17	25.18	2.875957	0.535745	4.67482	1.8	2.092386	2
239	4.7	135.17	25.18	2.875957	0.535745	4.67482	1.8	2.123797	2
240	4.54	142.55	19.91	3.139868	0.438546	4.52009	1.8	2.155207	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
241	4.43	143.77	18.37	3.245372	0.414673	4.41163	1.8	2.186618	2
242	4.41	145.12	17.93	3.290703	0.406576	4.39207	1.8	2.218029	2
243	4.42	145.12	17.49	3.283258	0.395701	4.40251	1.8	2.24944	2
244	4.43	143.49	17.97	3.239052	0.405643	4.41203	1.8	2.28085	2.1
245	4.42	140.39	16.73	3.176244	0.378507	4.40327	1.8	2.312261	2.1
246	4.4	137.9	15.88	3.134091	0.360909	4.38412	1.8	2.343672	2
247	4.39	134.73	15.04	3.069021	0.342597	4.37496	1.8	2.375083	2
248	4.28	133.99	12.26	3.130607	0.286449	4.26774	1.8	2.406494	2
249	4.19	136.8	12.19	3.264916	0.290931	4.17781	1.8	2.437904	2
250	4.06	135.95	9.22	3.348522	0.227094	4.05078	1.8	2.469315	2
251	3.95	137.99	7.72	3.493418	0.195443	3.94228	1.8	2.500726	2
252	3.85	138.56	7.91	3.598961	0.205455	3.84209	1.8	2.532137	2
253	3.83	138.03	7.17	3.603916	0.187206	3.82283	1.8	2.563547	2
254	3.8	139.57	7.94	3.672895	0.208947	3.79206	1.8	2.594958	2
255	3.86	140.84	9.19	3.648705	0.238083	3.85081	1.8	2.626369	2
256	3.98	142.63	10.43	3.583668	0.26206	3.96957	1.8	2.65778	2
257	4.02	146.83	10.17	3.652488	0.252985	4.00983	1.8	2.68919	2
258	4.04	154.57	9.44	3.82599	0.233663	4.03056	1.8	2.720601	2
259	4.08	157.95	10.1	3.871324	0.247549	4.0699	1.8	2.752012	2
260	4.11	160.6	10.43	3.907543	0.253771	4.09957	1.8	2.783423	2
261	4.06	170.54	7.76	4.200493	0.191133	4.05224	1.8	2.814833	2
262	3.99	177.1	6.66	4.438596	0.166917	3.98334	1.8	2.846244	2
263	3.91	181.5	5.64	4.641944	0.144246	3.90436	1.8	2.877655	2
264	3.83	184.35	4.79	4.813316	0.125065	3.82521	1.8	2.909066	2
265	3.81	184.51	3.84	4.842782	0.100787	3.80616	1.8	2.940476	2
266	3.73	186.91	2.93	5.010992	0.078552	3.72707	1.8	2.971887	2
267	3.52	188.95	0.51	5.367898	0.014489	3.51949	1.8	3.003298	2
268	3.42	191.31	-0.51	5.59386	-0.014912	3.42051	1.8	3.034709	2
269	3.31	192.7	-1.79	5.821752	-0.054079	3.31179	1.8	3.066119	2
270	3.19	190.87	-3	5.983386	-0.094044	3.193	1.8	3.09753	2
271	3.08	188.95	-4.06	6.13474	-0.131818	3.08406	1.8	3.128941	2
272	2.98	187.36	-5.2	6.287248	-0.174497	2.9852	1.8	3.160352	2
273	2.87	185.77	-6.08	6.472822	-0.211847	2.87608	1.8	3.191763	2
274	2.77	185.24	-6.92	6.687365	-0.249819	2.77692	1.8	3.223173	2
275	2.68	183.25	-7.8	6.837687	-0.291045	2.6878	1.9	3.256328	2
276	2.6	182.07	-8.53	7.002692	-0.328077	2.60853	1.8	3.287739	2
277	2.42	180.23	-10.21	7.447521	-0.421901	2.43021	1.8	3.31915	2
278	2.31	180.97	-10.94	7.834199	-0.473593	2.32094	1.8	3.350561	2
279	2.22	179.42	-11.82	8.081982	-0.532432	2.23182	1.9	3.383716	2
280	2.13	176.28	-12.3	8.276056	-0.577465	2.1423	1.9	3.416871	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
281	2.13	176.28	-12.3	8.276056	-0.577465	2.1423	1.9	3.450026	6.5
282	2.13	176.28	-12.3	8.276056	-0.577465	2.1423	1.9	3.483181	6.5
283	1.92	162.31	9.37	8.453646	0.488021	1.91063	1.8	3.514592	2.8
284	1.92	162.31	9.37	8.453646	0.488021	1.91063	1.8	3.546003	2.8
285	1.85	158.48	8.97	8.566486	0.484865	1.84103	1.8	3.577414	2.8
286	1.8	155.83	8.38	8.657222	0.465556	1.79162	1.9	3.610569	2.6
287	1.75	151.8	8.31	8.674286	0.474857	1.74169	1.8	3.64198	2.6
288	1.71	146.58	8.05	8.57193	0.47076	1.70195	1.8	3.67339	2.6
289	1.69	141.16	7.98	8.352663	0.472189	1.68202	1.8	3.704801	2.6
290	1.69	135.5	7.8	8.017751	0.461538	1.6822	1.9	3.737956	2.6
291	1.69	135.5	7.8	8.017751	0.461538	1.6822	1.9	3.771112	2.5
292	1.62	121.57	6.99	7.504321	0.431481	1.61301	1.9	3.804267	2.5
293	1.63	118.96	6.99	7.29816	0.428834	1.62301	1.8	3.835677	2.1
294	1.64	111.71	6.84	6.811585	0.417073	1.63316	1.9	3.868833	2.1
295	1.67	109.47	7.03	6.55509	0.420958	1.66297	1.9	3.901988	2
296	1.7	106.13	7.21	6.242941	0.424118	1.69279	1.8	3.933399	2
297	1.73	101.89	7.03	5.889595	0.406358	1.72297	1.8	3.964809	2
298	1.75	98.79	6.81	5.645143	0.389143	1.74319	1.9	3.997965	2
299	1.77	96.59	7.1	5.457062	0.40113	1.7629	1.8	4.029375	2
300	1.77	91.54	6.73	5.171751	0.380226	1.76327	1.9	4.06253	2
301	1.77	89.42	6.37	5.051977	0.359887	1.76363	1.9	4.095686	2
302	1.76	87.63	5.97	4.978977	0.339205	1.75403	1.8	4.127096	2
303	1.74	86.37	5.71	4.963793	0.328161	1.73429	1.9	4.160252	2
304	1.72	84.13	4.9	4.891279	0.284884	1.7151	1.8	4.191662	2
305	1.69	83.31	4.21	4.929586	0.249112	1.68579	1.8	4.223073	2
306	1.66	83.6	3.73	5.036145	0.224699	1.65627	1.8	4.254484	2
307	1.65	83.6	3.44	5.066667	0.208485	1.64656	1.9	4.287639	2
308	1.63	83.56	2.89	5.12638	0.177301	1.62711	1.8	4.31905	2
309	1.55	85.68	1.83	5.527742	0.118065	1.54817	1.9	4.352205	2
310	1.53	86.45	1.46	5.650327	0.095425	1.52854	1.9	4.38536	2
311	1.51	87.06	1.17	5.765563	0.077483	1.50883	1.9	4.418515	2
312	1.5	86.57	1.06	5.771333	0.070667	1.49894	1.8	4.449926	2
313	1.49	86.9	0.99	5.832215	0.066443	1.48901	1.8	4.481337	2
314	1.47	87.71	0.77	5.966667	0.052381	1.46923	1.9	4.514492	2
315	1.47	87.63	0.44	5.961224	0.029932	1.46956	1.9	4.547647	2
316	1.47	88.04	0.48	5.989116	0.032653	1.46952	1.8	4.579058	2
317	1.47	88.45	0.44	6.017007	0.029932	1.46956	1.9	4.612213	2
318	1.46	88.69	0.62	6.074658	0.042466	1.45938	1.9	4.645368	2
319	1.48	87.39	0.84	5.90473	0.056757	1.47916	1.9	4.678523	2
320	1.5	85.72	1.06	5.714667	0.070667	1.49894	1.9	4.711679	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
321	1.51	84.05	1.24	5.566225	0.082119	1.50876	1.9	4.744834	2
322	1.52	83.15	1.28	5.470395	0.084211	1.51872	1.9	4.777989	2
323	1.53	81.56	1.21	5.330719	0.079085	1.52879	1.9	4.811144	2
324	1.52	78.06	0.91	5.135526	0.059868	1.51909	1.8	4.842555	2
325	1.5	77.32	0.88	5.154667	0.058667	1.49912	1.9	4.87571	2
326	1.47	76.71	0.66	5.218367	0.044898	1.46934	1.9	4.908865	2
327	1.46	76.26	0.95	5.223288	0.065068	1.45905	1.9	4.94202	2
328	1.45	75.45	2.31	5.203448	0.15931	1.44769	1.9	4.975176	2
329	1.46	74.02	3.48	5.069863	0.238356	1.45652	1.9	5.008331	2
330	1.45	73.13	4.1	5.043448	0.282759	1.4459	1.9	5.041486	2
331	1.44	72.19	6.88	5.013194	0.477778	1.43312	1.9	5.074641	2
332	1.46	71.05	6.99	4.866438	0.478767	1.45301	1.9	5.107796	2
333	1.46	70.93	6.88	4.858219	0.471233	1.45312	1.9	5.140952	2
334	1.46	71.46	6.88	4.894521	0.471233	1.45312	1.9	5.174107	2
335	1.46	71.78	6.73	4.916438	0.460959	1.45327	1.9	5.207262	2
336	1.46	72.92	6.77	4.994521	0.463699	1.45323	1.9	5.240417	2
337	1.44	74.02	7.03	5.140278	0.488194	1.43297	1.9	5.273572	2
338	1.42	76.02	8.23	5.353521	0.579577	1.41177	1.9	5.306727	2
339	1.39	76.79	9.19	5.52446	0.661151	1.38081	1.9	5.339883	2
340	1.38	76.75	9.04	5.561594	0.655072	1.37096	1.9	5.373038	2
341	1.38	77.28	8.89	5.6	0.644203	1.37111	1.9	5.406193	2
342	1.38	77.57	9.11	5.621014	0.660145	1.37089	1.9	5.439348	2
343	1.39	78.26	9.19	5.630216	0.661151	1.38081	1.9	5.472503	2
344	1.42	77.94	9	5.488732	0.633803	1.411	1.9	5.505659	2
345	1.45	78.06	9.15	5.383448	0.631034	1.44085	1.9	5.538814	2
346	1.47	78.55	9	5.343537	0.612245	1.461	1.9	5.571969	2
347	1.48	78.67	8.86	5.315541	0.598649	1.47114	1.9	5.605124	2
348	1.5	77.2	8.53	5.146667	0.568667	1.49147	1.9	5.638279	2
349	1.5	76.39	8.38	5.092667	0.558667	1.49162	1.9	5.671434	2
350	1.49	76.55	9.66	5.137584	0.648322	1.48034	1.9	5.70459	2
351	1.46	76.31	12.3	5.226712	0.842466	1.4477	1.9	5.737745	2
352	1.45	75.98	13.58	5.24	0.936552	1.43642	1.9	5.7709	2
353	1.45	75.57	12.96	5.211724	0.893793	1.43704	1.9	5.804055	2
354	1.35	78.02	11.89	5.779259	0.880741	1.33811	1.9	5.83721	2
355	1.32	79.97	11.64	6.058333	0.881818	1.30836	1.9	5.870365	2
356	1.28	81.72	11.82	6.384375	0.923438	1.26818	1.9	5.903521	2
357	1.23	83.35	12.85	6.776423	1.044715	1.21715	1.9	5.936676	2
358	1.22	84.45	14.09	6.922131	1.154918	1.20591	1.9	5.969831	2
359	1.23	84.45	16.36	6.865854	1.330081	1.21364	1.9	6.002986	2
360	1.26	83.8	20.97	6.650794	1.664286	1.23903	1.9	6.036141	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
361	1.28	83.48	30.49	6.521875	2.382031	1.24951	1.9	6.069297	2
362	1.28	82.25	44.39	6.425781	3.467969	1.23561	1.9	6.102452	2
363	1.25	80.91	49.67	6.4728	3.9736	1.20033	1.9	6.135607	2
364	1.24	77.69	51.86	6.265323	4.182258	1.18814	2	6.170506	2
365	1.24	73.49	51.57	5.926613	4.158871	1.18843	2	6.205406	2
366	1.24	69.95	52.3	5.641129	4.217742	1.1877	1.9	6.238561	2
367	1.23	67.06	51.6	5.452033	4.195122	1.1784	2	6.273461	2
368	1.2	61.31	47.98	5.109167	3.998333	1.15202	2	6.30836	2
369	1.19	59.72	45.79	5.018487	3.847899	1.14421	2	6.34326	2
370	1.16	59.19	44.87	5.102586	3.868103	1.11513	2	6.378159	2
371	1.13	58.99	44.58	5.220354	3.945133	1.08542	2	6.413059	2
372	1.1	58.62	41.87	5.329091	3.806364	1.05813	2	6.447958	2
373	1.08	58.83	40.22	5.447222	3.724074	1.03978	2	6.482858	2
374	1.05	59.15	37.51	5.633333	3.572381	1.01249	2	6.517757	2
375	0.99	60.38	37.55	6.09899	3.792929	0.95245	2	6.552657	2
376	1	60.62	42.49	6.062	4.249	0.95751	2	6.587556	2
377	1	60.74	49.63	6.074	4.963	0.95037	2	6.622456	2
378	0.99	59.77	49.3	6.037374	4.979798	0.9407	2	6.657355	2
379	0.97	59.11	47.91	6.093814	4.939175	0.92209	2	6.692255	2
380	0.94	57.89	47.03	6.158511	5.003191	0.89297	2	6.727154	2
381	0.94	57.89	47.03	6.158511	5.003191	0.89297	2	6.762054	3.5
382	0.94	57.89	47.03	6.158511	5.003191	0.89297	2	6.796953	2
383	1.07	53	35.57	4.953271	3.324299	1.03443	1.9	6.830108	2
384	1.11	49.46	41.36	4.455856	3.726126	1.06864	2	6.865008	1.7
385	1.12	47.75	46.74	4.263393	4.173214	1.07326	2	6.899907	1.7
386	1.12	46.48	52.26	4.15	4.666071	1.06774	2	6.934807	1.9
387	1.11	45.02	63.43	4.055856	5.714414	1.04657	1.9	6.967962	1.9
388	1.11	44.65	71.33	4.022523	6.426126	1.03867	2	7.002861	1.8
389	1.11	43.67	88.61	3.934234	7.982883	1.02139	2	7.037761	1.8
390	1.12	43.22	103.06	3.858929	9.201786	1.01694	2	7.07266	1.9
391	1.12	42.86	107.05	3.826786	9.558036	1.01295	2	7.10756	1.9
392	1.12	42.21	117.56	3.76875	10.496429	1.00244	1.9	7.140715	1.9
393	1.12	42.57	141.53	3.800893	12.636607	0.97847	2	7.175615	1.9
394	1.09	39.88	194.05	3.658716	17.802752	0.89595	1.9	7.20877	2.2
395	1.06	38.78	231.71	3.658491	21.859434	0.82829	1.9	7.241925	2.2
396	1.04	37.28	232.22	3.584615	22.328846	0.80778	2	7.276824	2.1
397	1	35.73	230.1	3.573	23.01	0.7699	1.9	7.30998	2.1
398	0.99	34.06	232.88	3.440404	23.523232	0.75712	1.9	7.343135	2.1
399	0.98	32.67	221.43	3.333673	22.594898	0.75857	1.9	7.37629	2.1
400	0.96	33.53	220.36	3.492708	22.954167	0.73964	2	7.411189	2.1

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
401	0.98	35.57	226	3.629592	23.061224	0.754	2	7.446089	2.1
402	1.03	37.03	240.82	3.595146	23.380583	0.78918	2	7.480988	2.1
403	1.09	38.25	256.71	3.509174	23.551376	0.83329	2	7.515888	2.1
404	1.12	38.83	268.49	3.466964	23.972321	0.85151	2	7.550787	2.1
405	1.17	38.38	274.05	3.280342	23.423077	0.89595	2	7.585687	2.1
406	1.24	36.67	243.75	2.957258	19.657258	0.99625	2	7.620586	2.1
407	1.27	36.34	224.21	2.861417	17.654331	1.04579	2	7.655486	2.1
408	1.25	36.67	218.94	2.9336	17.5152	1.03106	1.9	7.688641	2.1
409	1.17	37.52	204.66	3.206838	17.492308	0.96534	2	7.723541	2.1
410	1.12	37.36	186.95	3.335714	16.691964	0.93305	2	7.75844	2.1
411	1.04	36.46	175.82	3.505769	16.905769	0.86418	2	7.79334	2.1
412	0.96	34.71	168.98	3.615625	17.602083	0.79102	1.9	7.826495	2.1
413	0.89	32.23	162.32	3.621348	18.238202	0.72768	1.9	7.85965	2.1
414	0.84	30.15	158	3.589286	18.809524	0.682	1.9	7.892805	2.1
415	0.82	28.8	152.69	3.512195	18.620732	0.66731	2	7.927705	2.1
416	0.8	28.11	148.67	3.51375	18.58375	0.65133	2	7.962604	2.1
417	0.77	27.66	146.8	3.592208	19.064935	0.6232	2	7.997504	2.1
418	0.74	26.56	144.75	3.589189	19.560811	0.59525	1.9	8.030659	2.1
419	0.73	25.01	143.54	3.426027	19.663014	0.58646	1.9	8.063814	2.1
420	0.72	23.63	145.56	3.281944	20.216667	0.57444	2	8.098713	2.1
421	0.74	22.65	160.74	3.060811	21.721622	0.57926	1.9	8.131869	2.1
422	0.85	19.31	223.07	2.271765	26.243529	0.62693	2	8.166768	2.1
423	0.97	17.4	268.35	1.793814	27.664948	0.70165	2	8.201668	2.1
424	1.12	16.3	309.12	1.455357	27.6	0.81088	2	8.236567	2.1
425	1.24	15.16	335.5	1.222581	27.056452	0.9045	2	8.271467	2.1
426	1.28	14.18	357.21	1.107812	27.907031	0.92279	1.9	8.304622	2.1
427	1.27	13.85	397.98	1.090551	31.337008	0.87202	2	8.339521	2.1
428	1.25	13.53	440.14	1.0824	35.2112	0.80986	2	8.374421	2.1
429	1.24	13.4	423.78	1.080645	34.175806	0.81622	1.9	8.407576	2
430	1.23	13.85	386.96	1.126016	31.460163	0.84304	2	8.442475	2
431	1.2	15.73	355.52	1.310833	29.626667	0.84448	2	8.477375	2.1
432	1.18	18.29	337.26	1.55	28.581356	0.84274	2	8.512274	2.1
433	1.16	23.34	320.83	2.012069	27.657759	0.83917	2	8.547174	2.1
434	1.17	25.58	324.71	2.186325	27.752991	0.84529	2	8.582073	2.1
435	1.19	28.11	328.92	2.362185	27.640336	0.86108	2	8.616973	2.1
436	1.19	30.84	332.58	2.591597	27.947899	0.85742	2	8.651872	2.1
437	1.19	33.81	330.31	2.841176	27.757143	0.85969	2	8.686772	2.1
438	1.18	37.4	325.73	3.169492	27.604237	0.85427	2	8.721671	2.1
439	1.19	40.37	317.46	3.392437	26.677311	0.87254	2	8.756571	2.1
440	1.18	42.78	304.94	3.625424	25.842373	0.87506	2	8.79147	2.1

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
441	1.18	44.53	289.13	3.773729	24.502542	0.89087	2	8.82637	2.1
442	1.16	46.32	270.5	3.993103	23.318966	0.8895	2	8.861269	2.1
443	1.14	47.01	250.34	4.123684	21.959649	0.88966	2	8.896169	2.1
444	1.1	47.26	234.89	4.296364	21.353636	0.86511	2	8.931068	2.1
445	1.06	47.1	226.22	4.443396	21.341509	0.83378	2	8.965968	2.1
446	1.03	45.3	214.98	4.398058	20.871845	0.81502	2	9.000867	2
447	1.01	45.34	209.6	4.489109	20.752475	0.8004	2	9.035767	2
448	1	44.94	203.82	4.494	20.382	0.79618	2	9.070666	2.1
449	0.96	44.24	197.38	4.608333	20.560417	0.76262	2	9.105566	2.1
450	0.93	43.39	192.99	4.665591	20.751613	0.73701	2	9.140465	2.1
451	0.91	42.86	193.57	4.70989	21.271429	0.71643	2	9.175365	2.1
452	0.88	42.98	198	4.884091	22.5	0.682	2	9.210264	2
453	0.89	42.53	200.89	4.778652	22.57191	0.68911	2	9.245164	2
454	0.89	42.25	204.33	4.747191	22.958427	0.68567	2	9.280063	2.1
455	0.9	42.53	208.21	4.725556	23.134444	0.69179	2	9.314963	2.1
456	0.9	42.37	210.85	4.707778	23.427778	0.68915	2	9.349862	2
457	0.9	42.37	215.5	4.707778	23.944444	0.6845	2	9.384762	2
458	0.88	42.21	221.13	4.796591	25.128409	0.65887	2	9.419661	2.1
459	0.88	42.21	221.13	4.796591	25.128409	0.65887	2	9.454561	2.1
460	0.88	40.25	225.78	4.573864	25.656818	0.65422	2	9.48946	2.1
461	0.88	37.03	226.66	4.207955	25.756818	0.65334	2	9.52436	2.1
462	0.88	35.53	229.55	4.0375	26.085227	0.65045	2	9.559259	2.1
463	0.88	34.47	239.61	3.917045	27.228409	0.64039	2	9.594159	2.1
464	0.88	33.65	243.2	3.823864	27.636364	0.6368	2	9.629058	2.1
465	0.87	33.33	251.58	3.831034	28.917241	0.61842	2	9.663958	2.1
466	0.86	32.8	263.88	3.813953	30.683721	0.59612	2	9.698857	2
467	0.85	32.27	274.86	3.796471	32.336471	0.57514	2	9.733757	2
468	0.85	31.33	284.92	3.685882	33.52	0.56508	2	9.768656	2.1
469	0.84	30.72	276.84	3.657143	32.957143	0.56316	2	9.803556	2.1
470	0.84	30.43	270.94	3.622619	32.254762	0.56906	2	9.838455	2.1
471	0.83	29.41	261.65	3.543373	31.524096	0.56835	2	9.873355	2.1
472	0.83	29.17	251.07	3.514458	30.249398	0.57893	2	9.908254	2.1
473	0.81	29.66	245.07	3.661728	30.255556	0.56493	2	9.943154	2.1
474	0.81	30.43	243.64	3.75679	30.079012	0.56636	2	9.978053	2.1
475	0.79	30.27	241.92	3.831646	30.622785	0.54808	2	10.012953	2.1
476	0.78	29.41	243.82	3.770513	31.258974	0.53618	2	10.047852	2.1
477	0.79	28.48	245.58	3.605063	31.086076	0.54442	2	10.082752	2.1
478	0.78	27.66	241.63	3.546154	30.978205	0.53837	2	10.117651	2.1
479	0.77	27.38	237.71	3.555844	30.871429	0.53229	2	10.152551	2.1
480	0.76	27.25	237.09	3.585526	31.196053	0.52291	2	10.18745	2.1



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
481	0.75	27.34	247.56	3.645333	33.008	0.50244	2	10.22235	2.1
482	0.75	27.34	247.56	3.645333	33.008	0.50244	2	10.257249	3.5
483	0.75	27.34	247.56	3.645333	33.008	0.50244	2	10.292149	3.5
484	0.46	10.14	226.73	2.204348	49.28913	0.23327	2.2	10.330537	1.9
485	0.82	26.4	305.09	3.219512	37.206098	0.51491	2	10.365436	1.9
486	0.83	25.95	313.8	3.126506	37.807229	0.5162	2	10.400336	2
487	0.84	25.83	326.94	3.075	38.921429	0.51306	2	10.435235	2
488	0.85	25.5	357.14	3	42.016471	0.49286	2	10.470135	1.9
489	0.86	25.1	369.43	2.918605	42.956977	0.49057	2	10.505034	1.9
490	0.87	25.1	362.55	2.885057	41.672414	0.50745	2	10.539934	2.1
491	0.86	25.3	354.35	2.94186	41.203488	0.50565	2	10.574833	2.1
492	0.86	25.67	346.74	2.984884	40.318605	0.51326	2	10.609733	2
493	0.87	26.03	338.84	2.991954	38.947126	0.53116	2	10.644632	2
494	0.86	26.68	328.81	3.102326	38.233721	0.53119	2	10.679532	2
495	0.86	27.09	295.83	3.15	34.398837	0.56417	2	10.714431	2
496	0.86	26.89	289.24	3.126744	33.632558	0.57076	2	10.749331	2
497	0.85	27.87	285.88	3.278824	33.632941	0.56412	2	10.78423	2
498	0.85	28.84	281.63	3.392941	33.132941	0.56837	2	10.81913	2
499	0.84	30.19	274.49	3.594048	32.677381	0.56551	2.1	10.855773	2
500	0.82	30.76	271.79	3.75122	33.145122	0.54821	2.1	10.892417	2
501	0.81	31.86	264.72	3.933333	32.681481	0.54528	2.1	10.929061	2
502	0.8	32.67	256.85	4.08375	32.10625	0.54315	2.1	10.965704	2.1
503	0.8	32.47	253.71	4.05875	31.71375	0.54629	2.1	11.002348	2.1
504	0.79	32.63	251.25	4.13038	31.803797	0.53875	2.1	11.038992	2
505	0.78	32.88	250.12	4.215385	32.066667	0.52988	2.1	11.075636	2
506	0.77	32.71	251.44	4.248052	32.654545	0.51856	2.1	11.112279	2
507	0.77	32.31	254.22	4.196104	33.015584	0.51578	2.1	11.148923	2
508	0.77	32.06	256.19	4.163636	33.271429	0.51381	2.1	11.185567	2
509	0.76	31.57	256.85	4.153947	33.796053	0.50315	2.1	11.22221	2
510	0.74	29.98	247.85	4.051351	33.493243	0.49215	2.1	11.258854	2
511	0.71	28.72	240.02	4.04507	33.805634	0.46998	2.1	11.295498	2
512	0.69	28.15	229.73	4.07971	33.294203	0.46027	2.1	11.332141	2
513	0.66	27.66	216.92	4.190909	32.866667	0.44308	2.1	11.368785	2
514	0.63	26.97	205.47	4.280952	32.614286	0.42453	2.1	11.405429	2
515	0.62	26.11	193.94	4.21129	31.280645	0.42606	2.1	11.442073	2
516	0.59	25.58	182.3	4.335593	30.898305	0.4077	2.1	11.478716	2
517	0.57	24.93	173.99	4.373684	30.524561	0.39601	2.1	11.51536	2
518	0.55	24.16	159.06	4.392727	28.92	0.39094	2.1	11.552004	2
519	0.55	24.16	159.06	4.392727	28.92	0.39094	2.1	11.588647	2
520	0.54	24.48	150.13	4.533333	27.801852	0.38987	2.1	11.625291	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
521	0.53	24.65	146.87	4.650943	27.711321	0.38313	2.1	11.661935	2
522	0.53	25.1	145.77	4.735849	27.503774	0.38423	2.1	11.698579	2
523	0.52	25.42	146.62	4.888462	28.196154	0.37338	2.1	11.735222	2.1
524	0.51	25.46	147.09	4.992157	28.841176	0.36291	2.1	11.771866	2.1
525	0.51	25.01	149.54	4.903922	29.321569	0.36046	2.1	11.80851	2
526	0.51	24.2	153.09	4.745098	30.017647	0.35691	2.1	11.845153	2
527	0.52	23.18	154.81	4.457692	29.771154	0.36519	2.1	11.881797	2
528	0.54	21.92	158.62	4.059259	29.374074	0.38138	2.1	11.918441	2
529	0.55	19.56	168.14	3.556364	30.570909	0.38186	2.1	11.955085	2
530	0.55	18.7	178.93	3.4	32.532727	0.37107	2.1	11.991728	2
531	0.56	17.72	185.23	3.164286	33.076786	0.37477	2.1	12.028372	2
532	0.57	16.74	190.02	2.936842	33.336842	0.37998	2.1	12.065016	2
533	0.57	16.13	191.89	2.829825	33.664912	0.37811	2.1	12.101659	2
534	0.57	15.85	203.24	2.780702	35.65614	0.36676	2.1	12.138303	2
535	0.57	15.68	207.04	2.750877	36.322807	0.36296	2.1	12.174947	2
536	0.57	15.77	210.41	2.766667	36.914035	0.35959	2.1	12.21159	2
537	0.58	15.73	204.85	2.712069	35.318966	0.37515	2.1	12.248234	2
538	0.58	15.89	206.97	2.739655	35.684483	0.37303	2.1	12.284878	2
539	0.59	16.38	225.6	2.776271	38.237288	0.3644	2.1	12.321522	2
540	0.6	16.78	234.6	2.796667	39.1	0.3654	1.9	12.354677	2
541	0.61	17.27	241.85	2.831148	39.647541	0.36815	1.9	12.387832	2.1
542	0.62	17.84	213.23	2.877419	34.391935	0.40677	1.9	12.420987	2.1
543	0.63	18.09	214.54	2.871429	34.053968	0.41546	1.9	12.454142	2
544	0.64	18.33	212.02	2.864062	33.128125	0.42798	1.9	12.487298	2
545	0.65	18.54	208.25	2.852308	32.038462	0.44175	1.9	12.520453	2
546	0.65	18.46	204.41	2.84	31.447692	0.44559	2.1	12.557096	2
547	0.65	18.54	206.46	2.852308	31.763077	0.44354	1.9	12.590252	2
548	0.64	18.46	205.39	2.884375	32.092188	0.43461	1.9	12.623407	2
549	0.64	18.37	209.49	2.870312	32.732812	0.43051	1.9	12.656562	2
550	0.63	18.37	210.63	2.915873	33.433333	0.41937	1.9	12.689717	2
551	0.63	18.54	210.56	2.942857	33.422222	0.41944	1.9	12.722872	2
552	0.63	18.7	216.12	2.968254	34.304762	0.41388	1.9	12.756027	2
553	0.63	18.86	219.85	2.993651	34.896825	0.41015	1.9	12.789183	2
554	0.63	19.07	228.12	3.026984	36.209524	0.40188	1.9	12.822338	2
555	0.63	19.27	228.05	3.05873	36.198413	0.40195	1.9	12.855493	2
556	0.64	19.56	230.5	3.05625	36.015625	0.4095	1.9	12.888648	2
557	0.65	19.72	234.64	3.033846	36.098462	0.41536	1.9	12.921803	2
558	0.66	19.8	239.51	3	36.289394	0.42049	1.9	12.954959	2
559	0.68	20.21	240.38	2.972059	35.35	0.43962	1.9	12.988114	2
560	0.67	20.45	241.81	3.052239	36.091045	0.42819	1.9	13.021269	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
561	0.67	20.49	243.71	3.058209	36.374627	0.42629	1.9	13.054424	2
562	0.67	20.41	248.95	3.046269	37.156716	0.42105	1.9	13.087579	2
563	0.67	20.61	251.8	3.076119	37.58209	0.4182	1.9	13.120734	2
564	0.67	20.7	252.35	3.089552	37.664179	0.41765	1.9	13.15389	2
565	0.68	20.66	251.18	3.038235	36.938235	0.42882	1.9	13.187045	2
566	0.67	20.61	250.63	3.076119	37.407463	0.41937	1.9	13.2202	2
567	0.67	20.61	250.63	3.076119	37.407463	0.41937	1.9	13.253355	2
568	0.66	20.86	251.69	3.160606	38.134848	0.40831	1.9	13.28651	2
569	0.66	20.98	258.72	3.178788	39.2	0.40128	1.9	13.319665	2
570	0.65	20.98	259.23	3.227692	39.881538	0.39077	1.9	13.352821	2
571	0.65	20.98	261.98	3.227692	40.304615	0.38802	1.9	13.385976	2
572	0.65	20.86	261.68	3.209231	40.258462	0.38832	1.9	13.419131	2
573	0.65	20.7	260.59	3.184615	40.090769	0.38941	1.9	13.452286	2
574	0.64	20.74	258.72	3.240625	40.425	0.38128	1.9	13.485441	2
575	0.64	20.86	256.3	3.259375	40.046875	0.3837	1.9	13.518597	2
576	0.64	21.35	260.81	3.335938	40.751562	0.37919	1.9	13.551752	2
577	0.64	21.35	260.81	3.335938	40.751562	0.37919	1.9	13.584907	2
578	0.65	21.76	266.81	3.347692	41.047692	0.38319	1.9	13.618062	2
579	0.66	21.88	270.98	3.315152	41.057576	0.38902	1.9	13.651217	2
580	0.67	21.8	271.68	3.253731	40.549254	0.39832	1.9	13.684372	2
581	0.68	21.76	275.19	3.2	40.469118	0.40481	1.9	13.717528	2
582	0.68	21.76	275.19	3.2	40.469118	0.40481	1.9	13.750683	3
583	0.68	21.76	275.19	3.2	40.469118	0.40481	1.9	13.783838	2.1
584	0.73	19.92	318.78	2.728767	43.668493	0.41122	2	13.818737	2.1
585	0.73	20.08	320.97	2.750685	43.968493	0.40903	2	13.853637	2.3
586	0.74	20.37	320.32	2.752703	43.286486	0.41968	2	13.888536	2.3
587	0.74	20.78	319.8	2.808108	43.216216	0.4202	2	13.923436	2.4
588	0.74	21.06	318.45	2.845946	43.033784	0.42155	2	13.958335	2.4
589	0.74	21.27	318.34	2.874324	43.018919	0.42166	2	13.993235	2.4
590	0.74	21.35	318.01	2.885135	42.974324	0.42199	2	14.028134	2.2
591	0.74	21.39	314.72	2.890541	42.52973	0.42528	2	14.063034	2.2
592	0.73	21.59	315.7	2.957534	43.246575	0.4143	2	14.097933	2.1
593	0.73	21.84	312.81	2.991781	42.850685	0.41719	2	14.132833	2.1
594	0.73	21.8	310.62	2.986301	42.550685	0.41938	2	14.167732	2
595	0.73	21.76	309.48	2.980822	42.394521	0.42052	2	14.202632	2
596	0.73	21.92	312.96	3.00274	42.871233	0.41704	2	14.237531	2
597	0.73	22.08	313.91	3.024658	43.00137	0.41609	2	14.272431	2
598	0.73	22.2	319.33	3.041096	43.743836	0.41067	2	14.30733	2
599	0.73	22.16	326.94	3.035616	44.786301	0.40306	2	14.34223	2
600	0.74	21.96	330.97	2.967568	44.725676	0.40903	2	14.377129	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
601	0.74	21.71	334.92	2.933784	45.259459	0.40508	2	14.412029	2
602	0.74	21.35	341.03	2.885135	46.085135	0.39897	2	14.446928	2
603	0.75	21.14	337.12	2.818667	44.949333	0.41288	2	14.481828	2
604	0.75	21.06	337.74	2.808	45.032	0.41226	2	14.516727	2
605	0.76	21.02	342.31	2.765789	45.040789	0.41769	2	14.551627	2
606	0.77	20.9	345.97	2.714286	44.931169	0.42403	2	14.586526	2.1
607	0.78	20.7	358.16	2.653846	45.917949	0.42184	2	14.621426	2.1
608	0.8	20.57	365.33	2.57125	45.66625	0.43467	2	14.656325	2
609	0.81	20.57	368.59	2.539506	45.504938	0.44141	2	14.691225	2
610	0.81	20.94	364.31	2.585185	44.976543	0.44569	2	14.726124	2
611	0.81	21.59	359.51	2.665432	44.383951	0.45049	2	14.761024	2
612	0.79	22.24	364.42	2.81519	46.129114	0.42558	2	14.795923	2
613	0.77	22.73	360.28	2.951948	46.78961	0.40972	2	14.830823	2
614	0.75	23.3	349.6	3.106667	46.613333	0.4004	2	14.865722	2
615	0.74	23.96	341.84	3.237838	46.194595	0.39816	2	14.900622	2
616	0.73	24.48	335.76	3.353425	45.994521	0.39424	2	14.935521	2
617	0.71	25.1	330.27	3.535211	46.516901	0.37973	2	14.970421	2
618	0.7	25.1	325.99	3.585714	46.57	0.37401	2	15.00532	2
619	0.69	25.3	324.53	3.666667	47.033333	0.36547	2	15.04022	2
620	0.69	25.58	323.21	3.707246	46.842029	0.36679	2	15.075119	2
621	0.69	25.54	321.12	3.701449	46.53913	0.36888	2	15.110019	2
622	0.69	25.01	318.63	3.624638	46.178261	0.37137	2	15.144918	2
623	0.69	24.57	318.3	3.56087	46.130435	0.3717	2	15.179818	2
624	0.68	24.36	319.33	3.582353	46.960294	0.36067	2	15.214717	2
625	0.68	24	318.89	3.529412	46.895588	0.36111	2	15.249617	2
626	0.67	23.34	316.11	3.483582	47.180597	0.35389	2	15.284516	2
627	0.66	22.08	314.02	3.345455	47.578788	0.34598	2	15.319416	2
628	0.66	21.47	313.29	3.25303	47.468182	0.34671	2	15.354315	2
629	0.66	20.66	311.93	3.130303	47.262121	0.34807	2.2	15.392703	2
630	0.66	20.17	312.19	3.056061	47.301515	0.34781	2.1	15.429347	2
631	0.66	19.84	313.69	3.006061	47.528788	0.34631	2.1	15.465991	2
632	0.67	19.35	313.44	2.88806	46.78209	0.35656	2.2	15.504378	2
633	0.67	19.11	313.33	2.852239	46.765672	0.35667	2.2	15.542766	2
634	0.67	19.11	321.05	2.852239	47.91791	0.34895	2.2	15.581154	2
635	0.67	19.03	326.65	2.840299	48.753731	0.34335	2	15.616053	2
636	0.68	18.82	334.99	2.767647	49.263235	0.34501	2.2	15.654441	2
637	0.7	18.17	346.37	2.595714	49.481429	0.35363	2.2	15.692829	2
638	0.7	18.05	348.94	2.578571	49.848571	0.35106	2.2	15.731217	2
639	0.71	18.17	353	2.559155	49.71831	0.357	2.2	15.769605	2
640	0.72	18.33	357.72	2.545833	49.683333	0.36228	2.2	15.807993	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
641	0.73	18.29	361.86	2.505479	49.569863	0.36814	2.2	15.84638	2
642	0.73	17.97	364.35	2.461644	49.910959	0.36565	2.2	15.884768	2
643	0.74	17.76	368.66	2.4	49.818919	0.37134	2.2	15.923156	2
644	0.75	17.4	370.64	2.32	49.418667	0.37936	2.2	15.961544	2
645	0.75	16.99	374.56	2.265333	49.941333	0.37544	2.2	15.999932	2
646	0.74	16.87	378.36	2.27973	51.12973	0.36164	2.2	16.038319	2
647	0.73	17.36	375.32	2.378082	51.413699	0.35468	2.2	16.076707	2
648	0.73	17.6	372.03	2.410959	50.963014	0.35797	2.2	16.115095	2
649	0.73	17.76	370.09	2.432877	50.69726	0.35991	2.2	16.153483	2
650	0.74	17.97	374.12	2.428378	50.556757	0.36588	2.2	16.191871	2
651	0.74	18.33	376.35	2.477027	50.858108	0.36365	2.2	16.230258	2
652	0.75	18.5	376.13	2.466667	50.150667	0.37387	2.2	16.268646	2
653	0.75	18.46	373.17	2.461333	49.756	0.37683	2.2	16.307034	2
654	0.73	18.98	366.5	2.6	50.205479	0.3635	2.2	16.345422	2
655	0.72	19.23	368.19	2.670833	51.1375	0.35181	2.2	16.38381	2
656	0.72	19.43	369.4	2.698611	51.305556	0.3506	2.2	16.422197	2
657	0.71	19.43	359.29	2.73662	50.604225	0.35071	2.2	16.460585	2
658	0.7	19.51	353.26	2.787143	50.465714	0.34674	2.2	16.498973	2
659	0.69	19.68	347.03	2.852174	50.294203	0.34297	2.2	16.537361	2
660	0.68	19.88	340.26	2.923529	50.038235	0.33974	2.2	16.575749	2
661	0.65	20.49	324.12	3.152308	49.864615	0.32588	2.2	16.614137	2
662	0.65	20.86	323.32	3.209231	49.741538	0.32668	2.2	16.652524	2
663	0.64	20.82	333.16	3.253125	52.05625	0.30684	2.2	16.690912	2
664	0.65	20.7	341.07	3.184615	52.472308	0.30893	2.2	16.7293	2
665	0.66	20.53	348.42	3.110606	52.790909	0.31158	2.2	16.767688	2
666	0.67	20.33	357.54	3.034328	53.364179	0.31246	2.2	16.806076	2
667	0.68	20.13	361.71	2.960294	53.192647	0.31829	2.2	16.844463	2
668	0.69	19.68	358.82	2.852174	52.002899	0.33118	2.2	16.882851	2
669	0.69	19.43	355.38	2.815942	51.504348	0.33462	2.2	16.921239	2
670	0.68	19.23	355.71	2.827941	52.310294	0.32429	2.2	16.959627	2.1
671	0.69	18.29	354.76	2.650725	51.414493	0.33524	2.2	16.998015	2.1
672	0.7	18.05	355.05	2.578571	50.721429	0.34495	2.2	17.036402	2
673	0.71	17.93	352.38	2.525352	49.630986	0.35762	2.2	17.07479	2
674	0.71	17.8	349.12	2.507042	49.171831	0.36088	2.2	17.113178	2
675	0.71	17.64	344.91	2.484507	48.578873	0.36509	2.3	17.15331	2
676	0.72	17.4	343.89	2.416667	47.7625	0.37611	2.3	17.193442	2
677	0.72	17.36	349.63	2.411111	48.559722	0.37037	2.3	17.233573	2
678	0.72	17.52	354.57	2.433333	49.245833	0.36543	2.3	17.273705	2
679	0.74	17.76	357.21	2.4	48.271622	0.38279	2.2	17.312093	2
680	0.74	18.37	355.71	2.482432	48.068919	0.38429	2.3	17.352225	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
681	0.73	19.68	352.93	2.69589	48.346575	0.37707	2.3	17.392357	2
682	0.73	19.68	352.93	2.69589	48.346575	0.37707	2.3	17.432488	1.9
683	0.73	19.68	352.93	2.69589	48.346575	0.37707	2.3	17.47262	1.8
684	0.79	16.54	378.36	2.093671	47.893671	0.41164	2.2	17.511008	1.8
685	0.8	17.03	379.68	2.12875	47.46	0.42032	2.4	17.552884	1.9
686	0.8	17.31	371.37	2.16375	46.42125	0.42863	2.4	17.594759	1.9
687	0.81	17.15	368.19	2.117284	45.455556	0.44181	2.4	17.636635	2.1
688	0.81	17.56	366.47	2.167901	45.24321	0.44353	2.3	17.676767	2.1
689	0.81	17.93	363.43	2.21358	44.867901	0.44657	2.2	17.715155	2.2
690	0.8	18.05	357.06	2.25625	44.6325	0.44294	2.4	17.75703	2.2
691	0.79	18.33	348.1	2.320253	44.063291	0.4419	2.4	17.798906	2
692	0.77	18.74	341.1	2.433766	44.298701	0.4289	2.4	17.840782	2
693	0.77	19.43	334.81	2.523377	43.481818	0.43519	2.4	17.882657	2
694	0.76	19.56	335.07	2.573684	44.088158	0.42493	2.4	17.924533	2
695	0.76	19.84	332.69	2.610526	43.775	0.42731	2.4	17.966408	2
696	0.76	20.13	332.69	2.648684	43.775	0.42731	2.2	18.004796	2
697	0.77	20.45	334.85	2.655844	43.487013	0.43515	2.4	18.046672	2
698	0.76	20.49	335.25	2.696053	44.111842	0.42475	2.4	18.088548	2
699	0.75	20.66	336.97	2.754667	44.929333	0.41303	2.4	18.130423	2
700	0.75	20.61	338.65	2.748	45.153333	0.41135	2.4	18.172299	2
701	0.8	19.19	342.09	2.39875	42.76125	0.45791	2.3	18.212431	2
702	0.84	18.62	329.28	2.216667	39.2	0.51072	2.4	18.254306	2
703	0.87	18.33	276.58	2.106897	31.790805	0.59342	2.4	18.296182	2
704	0.87	18.5	268.38	2.126437	30.848276	0.60162	2.4	18.338058	2
705	0.85	18.37	289.13	2.161176	34.015294	0.56087	2.4	18.379933	2
706	0.85	17.76	293.93	2.089412	34.58	0.55607	2.4	18.421809	2
707	0.85	16.62	280.57	1.955294	33.008235	0.56943	2.3	18.461941	2
708	0.84	15.48	262.12	1.842857	31.204762	0.57788	2.4	18.503816	2
709	0.77	14.18	277.13	1.841558	35.990909	0.49287	2.4	18.545692	2
710	0.75	13.2	282.84	1.76	37.712	0.46716	2.4	18.587568	2
711	0.75	12.02	284.3	1.602667	37.906667	0.4657	2.4	18.629443	2
712	0.74	10.88	285.03	1.47027	38.517568	0.45497	2.4	18.671319	2
713	0.75	10.31	293.31	1.374667	39.108	0.45669	2.4	18.713195	2
714	0.77	10.02	308.97	1.301299	40.125974	0.46103	2.4	18.75507	2
715	0.82	9.86	326.43	1.202439	39.808537	0.49357	2.4	18.796946	2
716	0.88	10.18	341.91	1.156818	38.853409	0.53809	2.4	18.838822	2
717	0.93	11	353.33	1.182796	37.992473	0.57667	2.4	18.880697	2
718	1.09	13.12	292.13	1.20367	26.800917	0.79787	2.4	18.922573	2
719	1.13	13.89	245.36	1.229204	21.713274	0.88464	2.4	18.964449	2
720	1.12	14.01	229.81	1.250893	20.51875	0.89019	2.4	19.006324	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
721	1.08	13.28	221.68	1.22963	20.525926	0.85832	2.4	19.0482	2
722	1.02	12.18	215.53	1.194118	21.130392	0.80447	2.4	19.090076	2
723	0.97	10.96	209.93	1.129897	21.642268	0.76007	2.4	19.131951	2
724	0.92	9.86	202.25	1.071739	21.983696	0.71775	2.4	19.173827	2
725	0.88	9.13	196.21	1.0375	22.296591	0.68379	2.4	19.215703	2
726	0.85	9.33	194.31	1.097647	22.86	0.65569	2.4	19.257578	2
727	0.84	9.94	182.74	1.183333	21.754762	0.65726	2.4	19.299454	2
728	0.81	9.41	171.32	1.161728	21.150617	0.63868	2.4	19.341329	2
729	0.77	8.64	157.63	1.122078	20.471429	0.61237	2.4	19.383205	2
730	0.72	7.7	149.07	1.069444	20.704167	0.57093	2.4	19.425081	2
731	0.69	7.33	146.87	1.062319	21.285507	0.54313	2.4	19.466956	2
732	0.69	7.82	149.11	1.133333	21.610145	0.54089	2.4	19.508832	2
733	0.68	7.62	152.36	1.120588	22.405882	0.52764	2.4	19.550708	2
734	0.67	7.25	155.47	1.08209	23.204478	0.51453	2.4	19.592583	2
735	0.67	7.37	157.01	1.1	23.434328	0.51299	2.4	19.634459	2
736	0.66	7.62	158.22	1.154545	23.972727	0.50178	2.4	19.676335	2
737	0.65	8.03	163.12	1.235385	25.095385	0.48688	2.4	19.71821	2
738	0.65	8.15	167.66	1.253846	25.793846	0.48234	2.4	19.760086	2
739	0.66	8.23	172.6	1.24697	26.151515	0.4874	2.4	19.801962	2
740	0.66	8.47	177.62	1.283333	26.912121	0.48238	2.4	19.843837	2
741	0.66	8.84	184.75	1.339394	27.992424	0.47525	2.4	19.885713	2
742	0.67	8.96	194.41	1.337313	29.016418	0.47559	2.5	19.929332	2
743	0.68	8.84	202.36	1.3	29.758824	0.47764	2.5	19.972952	2
744	0.69	8.64	211.21	1.252174	30.610145	0.47879	2.5	20.016571	2
745	0.71	9.13	233.5	1.285915	32.887324	0.4765	2.5	20.060191	2
746	0.73	9.45	247.92	1.294521	33.961644	0.48208	2.5	20.10381	2
747	0.74	9.29	258.39	1.255405	34.917568	0.48161	2.5	20.147429	2
748	0.74	9.29	267.58	1.255405	36.159459	0.47242	2.5	20.191049	2
749	0.76	9.45	274.82	1.243421	36.160526	0.48518	2.5	20.234668	2
750	0.77	9.49	280.61	1.232468	36.442857	0.48939	2.5	20.278287	2
751	0.78	9.78	288.62	1.253846	37.002564	0.49138	2.4	20.320163	2
752	0.8	10.23	299.2	1.27875	37.4	0.5008	2.4	20.362039	2
753	0.81	10.8	311.24	1.333333	38.424691	0.49876	2.5	20.405658	2
754	0.82	11.37	323.46	1.386585	39.446341	0.49654	2.4	20.447534	2
755	0.83	12.22	333.02	1.472289	40.122892	0.49698	2.5	20.491153	2
756	0.84	12.71	340.7	1.513095	40.559524	0.4993	2.4	20.533029	2
757	0.84	12.96	348.5	1.542857	41.488095	0.4915	2.5	20.576648	2
758	0.85	13.32	356.7	1.567059	41.964706	0.4933	2.4	20.618524	2
759	0.87	13.81	362.66	1.587356	41.685057	0.50734	2.4	20.6604	2
760	0.88	14.67	376.02	1.667045	42.729545	0.50398	2.5	20.704019	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
761	0.94	16.13	409.11	1.715957	43.52234	0.53089	2.5	20.747638	2
762	0.96	16.46	413.5	1.714583	43.072917	0.5465	2.4	20.789514	2
763	0.96	17.93	414.82	1.867708	43.210417	0.54518	2.4	20.83139	2
764	0.95	18.66	419.21	1.964211	44.127368	0.53079	2.4	20.873265	2
765	0.95	18.9	419.87	1.989474	44.196842	0.53013	2.5	20.916885	2
766	0.95	19.03	420.38	2.003158	44.250526	0.52962	2.5	20.960504	2
767	0.95	19.39	421.92	2.041053	44.412632	0.52808	2.5	21.004123	2
768	0.94	19.88	420.96	2.114894	44.782979	0.51904	2.5	21.047743	2
769	0.92	20.45	423.34	2.222826	46.015217	0.49666	2.5	21.091362	2
770	0.92	20.86	428.28	2.267391	46.552174	0.49172	2.5	21.134982	2
771	0.91	20.9	427.11	2.296703	46.935165	0.48289	2.5	21.178601	2
772	0.91	20.86	431.87	2.292308	47.458242	0.47813	2.5	21.22222	2
773	0.91	20.61	436.74	2.264835	47.993407	0.47326	2.5	21.26584	2
774	0.91	20.82	444.35	2.287912	48.82967	0.46565	2.5	21.309459	2
775	0.92	21.02	453.17	2.284783	49.257609	0.46683	2.5	21.353079	2
776	0.95	21.14	463.05	2.225263	48.742105	0.48695	2.5	21.396698	2
777	0.96	21.14	475.24	2.202083	49.504167	0.48476	2.5	21.440317	2
778	0.96	21.02	484.21	2.189583	50.438542	0.47579	2.5	21.483937	2
779	1.01	20.7	500.42	2.049505	49.546535	0.50958	2.5	21.527556	2
780	1.03	20.53	509.42	1.993204	49.458252	0.52058	2.5	21.571176	2
781	1.03	20.53	509.42	1.993204	49.458252	0.52058	2.5	21.614795	2.9
782	1.03	20.53	509.42	1.993204	49.458252	0.52058	2.5	21.658414	2.5
783	0.79	10.18	453.54	1.288608	57.410127	0.33646	2.5	21.702034	2.5
784	1.1	21.02	468.47	1.910909	42.588182	0.63153	2.5	21.745653	2
785	1.07	22.04	473.92	2.059813	44.291589	0.59608	2.5	21.789272	2
786	1.02	22.2	461.44	2.176471	45.239216	0.55856	2.5	21.832892	2.1
787	0.98	21.96	446.69	2.240816	45.580612	0.53331	2.5	21.876511	2.1
788	0.95	21.55	415.51	2.268421	43.737895	0.53449	2.5	21.920131	2.1
789	0.92	21.63	411.38	2.351087	44.715217	0.50862	2.5	21.96375	2.1
790	0.89	21.8	396.77	2.449438	44.580899	0.49323	2.4	22.005626	2.1
791	0.83	22.33	370.71	2.690361	44.663855	0.45929	2.5	22.049245	2.1
792	0.83	22.33	370.71	2.690361	44.663855	0.45929	2.5	22.092864	2.1
793	0.79	22.86	368.92	2.893671	46.698734	0.42108	2.5	22.136484	2.1
794	0.77	22.53	363.83	2.925974	47.250649	0.40617	2.5	22.180103	2.1
795	0.75	22.24	358.09	2.965333	47.745333	0.39191	2.5	22.223723	2.1
796	0.74	21.88	355.23	2.956757	48.004054	0.38477	2.5	22.267342	2.1
797	0.74	20.98	358.89	2.835135	48.498649	0.38111	2.5	22.310961	2.1
798	0.73	19.68	357.79	2.69589	49.012329	0.37221	2.5	22.354581	2.1
799	0.73	18.58	357.14	2.545205	48.923288	0.37286	2.5	22.3982	2.1
800	0.72	18.05	356.4	2.506944	49.5	0.3636	2.5	22.44182	2.1

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
801	0.72	17.68	366.03	2.455556	50.8375	0.35397	2.5	22.485439	2.1
802	0.72	17.36	363.43	2.411111	50.476389	0.35657	2.5	22.529058	2.1
803	0.72	16.87	365.15	2.343056	50.715278	0.35485	2.5	22.572678	2.1
804	0.7	16.13	366.87	2.304286	52.41	0.33313	2.5	22.616297	2.1
805	0.7	14.1	364.78	2.014286	52.111429	0.33522	2.5	22.659916	2.1
806	0.69	13.16	357.03	1.907246	51.743478	0.33297	2.5	22.703536	2.1
807	0.69	12.51	352.38	1.813043	51.069565	0.33762	2.5	22.747155	2
808	0.69	12.3	350.33	1.782609	50.772464	0.33967	2.5	22.790775	2
809	0.68	12.3	349.78	1.808824	51.438235	0.33022	2.5	22.834394	2.1
810	0.68	12.34	346.7	1.814706	50.985294	0.3333	2.5	22.878013	2.1
811	0.67	12.55	344.03	1.873134	51.347761	0.32597	2.5	22.921633	2
812	0.66	12.71	342.39	1.925758	51.877273	0.31761	2.5	22.965252	2
813	0.66	12.91	343.41	1.956061	52.031818	0.31659	2.5	23.008872	2.1
814	0.66	12.75	348.06	1.931818	52.736364	0.31194	2.5	23.052491	2.1
815	0.66	11.81	353.95	1.789394	53.628788	0.30605	2.5	23.09611	2
816	0.67	11.49	356.55	1.714925	53.216418	0.31345	2.5	23.13973	2
817	0.67	11.28	360.1	1.683582	53.746269	0.3099	2.5	23.183349	2
818	0.69	11.12	368.08	1.611594	53.344928	0.32192	2.5	23.226968	2
819	0.7	11.12	379.02	1.588571	54.145714	0.32098	2.5	23.270588	2
820	0.72	11	380.7	1.527778	52.875	0.3393	2.5	23.314207	2
821	0.72	10.67	376.79	1.481944	52.331944	0.34321	2.5	23.357827	2
822	0.72	10.39	371.34	1.443056	51.575	0.34866	2.6	23.40319	2
823	0.71	10.14	361.82	1.428169	50.960563	0.34818	2.6	23.448553	2
824	0.69	9.98	352.93	1.446377	51.149275	0.33707	2.6	23.493916	2
825	0.68	9.66	349.82	1.420588	51.444118	0.33018	2.6	23.539279	2
826	0.68	9.33	352.6	1.372059	51.852941	0.3274	2.6	23.584642	2
827	0.68	9.25	354.79	1.360294	52.175	0.32521	2.6	23.630005	2
828	0.67	9.21	355.71	1.374627	53.091045	0.31429	2.6	23.675368	2
829	0.67	9	354.1	1.343284	52.850746	0.3159	2.6	23.720731	2
830	0.67	8.76	351.13	1.307463	52.407463	0.31887	2.6	23.766094	2
831	0.67	8.8	351.39	1.313433	52.446269	0.31861	2.5	23.809713	2
832	0.69	9.13	352.3	1.323188	51.057971	0.3377	2.6	23.855076	2
833	0.75	8.84	320.21	1.178667	42.694667	0.42979	2.6	23.900439	2
834	0.79	9	339.24	1.139241	42.941772	0.45076	2.6	23.945802	2
835	0.77	8.6	325.59	1.116883	42.284416	0.44441	2.6	23.991165	2
836	0.76	7.94	357.17	1.044737	46.996053	0.40283	2.6	24.036528	2
837	0.74	7.5	297.92	1.013514	40.259459	0.44208	2.7	24.083634	2
838	0.71	7.54	388.02	1.061972	54.650704	0.32198	2.6	24.128997	2
839	0.69	7.62	405.3	1.104348	58.73913	0.2847	2.6	24.17436	2
840	0.69	7.74	417.19	1.121739	60.462319	0.27281	2.6	24.219723	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
841	0.69	7.66	398.27	1.110145	57.72029	0.29173	2.6	24.265086	2
842	0.69	7.46	379.09	1.081159	54.94058	0.31091	2.6	24.310449	2
843	0.68	7.7	388.98	1.132353	57.202941	0.29102	2.6	24.355812	2
844	0.68	7.62	396.08	1.120588	58.247059	0.28392	2.6	24.401175	2
845	0.67	7.58	396.63	1.131343	59.198507	0.27337	2.7	24.448282	2
846	0.66	7.58	392.67	1.148485	59.495455	0.26733	2.7	24.495388	2
847	0.66	7.62	389.89	1.154545	59.074242	0.27011	2.7	24.542495	2
848	0.66	7.58	388.17	1.148485	58.813636	0.27183	2.7	24.589601	2
849	0.66	7.62	387.73	1.154545	58.74697	0.27227	2.7	24.636707	2
850	0.66	7.46	387.59	1.130303	58.725758	0.27241	2.6	24.68207	2
851	0.68	7.17	380.12	1.054412	55.9	0.29988	2.7	24.729177	2
852	0.69	6.93	384.73	1.004348	55.757971	0.30527	2.6	24.77454	2
853	0.69	7.01	389.42	1.015942	56.437681	0.30058	2.7	24.821646	2
854	0.7	7.21	389.6	1.03	55.657143	0.3104	2.7	24.868753	2
855	0.71	7.37	383.41	1.038028	54.001408	0.32659	2.7	24.915859	2
856	0.73	7.54	382.64	1.032877	52.416438	0.34736	2.6	24.961222	2
857	0.73	7.62	380.41	1.043836	52.110959	0.34959	2.7	25.008329	2
858	0.74	7.86	373.35	1.062162	50.452703	0.36665	2.6	25.053692	2
859	0.74	8.11	371.99	1.095946	50.268919	0.36801	2.7	25.100798	2
860	0.74	8.23	371.52	1.112162	50.205405	0.36848	2.7	25.147905	2
861	0.74	8.84	372.58	1.194595	50.348649	0.36742	2.7	25.195011	2
862	0.75	9	386.85	1.2	51.58	0.36315	2.7	25.242118	2
863	0.76	9.25	388.28	1.217105	51.089474	0.37172	2.7	25.289224	2
864	0.77	9.41	389.23	1.222078	50.549351	0.38077	2.7	25.33633	2
865	0.77	9.61	391.39	1.248052	50.82987	0.37861	2.7	25.383437	2
866	0.77	9.7	388.83	1.25974	50.497403	0.38117	2.7	25.430543	2
867	0.77	9.82	387.62	1.275325	50.34026	0.38238	2.7	25.47765	2
868	0.78	9.94	397.94	1.274359	51.017949	0.38206	2.7	25.524756	2
869	0.8	9.98	397.76	1.2475	49.72	0.40224	2.7	25.571863	2
870	0.82	9.98	401.53	1.217073	48.967073	0.41847	2.7	25.618969	2
871	0.84	10.06	409.69	1.197619	48.772619	0.43031	2.7	25.666076	2
872	0.85	10.18	410.61	1.197647	48.307059	0.43939	2.7	25.713182	2
873	0.85	10.31	404.68	1.212941	47.609412	0.44532	2.7	25.760288	2
874	0.84	10.47	403.36	1.246429	48.019048	0.43664	2.7	25.807395	2
875	0.83	10.43	401.16	1.256627	48.33253	0.42884	2.7	25.854501	2
876	0.83	10.43	401.16	1.256627	48.33253	0.42884	2.7	25.901608	2
877	0.83	10.23	397.32	1.23253	47.86988	0.43268	2.7	25.948714	2
878	0.83	10.27	386.56	1.237349	46.573494	0.44344	2.7	25.995821	2
879	0.82	10.55	383.23	1.286585	46.735366	0.43677	2.7	26.042927	2
880	0.82	10.96	380.49	1.336585	46.40122	0.43951	2.7	26.090034	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
881	0.81	11.37	375.95	1.403704	46.41358	0.43405	2.7	26.13714	2
882	0.81	11.37	375.95	1.403704	46.41358	0.43405	2.7	26.184247	2.1
883	0.81	11.37	375.95	1.403704	46.41358	0.43405	2.7	26.231353	2.1
884	0.84	11.45	353.62	1.363095	42.097619	0.48638	2.7	26.278459	2.1
885	0.83	11.33	356	1.36506	42.891566	0.474	2.7	26.325566	2.5
886	0.81	11.37	351.46	1.403704	43.390123	0.45854	2.7	26.372672	2.5
887	0.81	11.24	348.06	1.387654	42.97037	0.46194	2.7	26.419779	2.1
888	0.79	10.96	346.67	1.387342	43.882278	0.44333	2.7	26.466885	2.1
889	0.79	10.96	346.67	1.387342	43.882278	0.44333	2.7	26.513992	2.1
890	0.78	10.92	346.41	1.4	44.411538	0.43359	2.7	26.561098	2.2
891	0.77	10.8	352.45	1.402597	45.772727	0.41755	2.8	26.609948	2.2
892	0.77	10.39	357.32	1.349351	46.405195	0.41268	2.8	26.658798	2
893	0.76	10.06	360.25	1.323684	47.401316	0.39975	2.8	26.707647	2
894	0.76	9.66	362.44	1.271053	47.689474	0.39756	2.7	26.754754	2.1
895	0.76	9.25	365.3	1.217105	48.065789	0.3947	2.8	26.803604	2.1
896	0.76	8.8	368.48	1.157895	48.484211	0.39152	2.8	26.852453	2
897	0.75	8.43	367.93	1.124	49.057333	0.38207	2.8	26.901303	2
898	0.74	7.7	370.42	1.040541	50.056757	0.36958	2.7	26.94841	2
899	0.74	7.33	371.37	0.990541	50.185135	0.36863	2.9	26.999003	2
900	0.74	6.97	372.73	0.941892	50.368919	0.36727	2.8	27.047852	2
901	0.75	6.68	372.69	0.890667	49.692	0.37731	2.7	27.094959	2
902	0.73	6.48	370.46	0.887671	50.747945	0.35954	2.7	27.142065	2
903	0.73	6.36	373.35	0.871233	51.143836	0.35665	2.7	27.189172	2
904	0.73	5.87	369.14	0.80411	50.567123	0.36086	2.8	27.238021	2
905	0.73	5.74	369.87	0.786301	50.667123	0.36013	2.9	27.288614	2
906	0.72	5.66	371.41	0.786111	51.584722	0.34859	2.9	27.339207	2
907	0.72	5.62	375.91	0.780556	52.209722	0.34409	2.8	27.388057	2
908	0.73	5.7	380.7	0.780822	52.150685	0.3493	2.9	27.43865	2
909	0.73	5.7	384.66	0.780822	52.693151	0.34534	2.9	27.489243	2
910	0.73	5.58	384.33	0.764384	52.647945	0.34567	2.9	27.539836	2
911	0.73	5.46	383.3	0.747945	52.506849	0.3467	2.8	27.588686	2
912	0.73	5.5	381.4	0.753425	52.246575	0.3486	2.9	27.639279	2
913	0.73	5.38	372.87	0.736986	51.078082	0.35713	2.9	27.689872	2
914	0.72	5.7	368.52	0.791667	51.183333	0.35148	2.9	27.740465	2
915	0.71	5.58	367.42	0.785915	51.749296	0.34258	2.9	27.791057	2
916	0.7	5.38	368.08	0.768571	52.582857	0.33192	2.8	27.839907	2
917	0.7	5.3	367.13	0.757143	52.447143	0.33287	2.9	27.8905	2
918	0.7	5.26	367.02	0.751429	52.431429	0.33298	2.9	27.941093	2
919	0.69	5.17	366.87	0.749275	53.169565	0.32313	2.9	27.991686	2
920	0.69	5.05	366.94	0.731884	53.17971	0.32306	2.9	28.042279	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
921	0.69	4.93	366.61	0.714493	53.131884	0.32339	2.9	28.092872	2
922	0.7	5.13	369.8	0.732857	52.828571	0.3302	2.9	28.143465	2
923	0.7	5.21	367.86	0.744286	52.551429	0.33214	2.9	28.194058	2
924	0.7	5.17	368.08	0.738571	52.582857	0.33192	2.9	28.244651	2
925	0.71	5.21	368.19	0.733803	51.857746	0.34181	2.9	28.295244	2
926	0.71	5.13	369.98	0.722535	52.109859	0.34002	2.9	28.345837	2
927	0.71	4.93	372.91	0.694366	52.522535	0.33709	2.9	28.39643	2
928	0.71	4.81	374.41	0.677465	52.733803	0.33559	2.9	28.447023	2
929	0.72	4.81	376.75	0.668056	52.326389	0.34325	2.9	28.497615	2
930	0.72	4.69	376.83	0.651389	52.3375	0.34317	2.9	28.548208	2
931	0.72	4.52	375.84	0.627778	52.2	0.34416	2.9	28.598801	2
932	0.73	4.6	375.11	0.630137	51.384932	0.35489	2.9	28.649394	2
933	0.72	4.77	372.54	0.6625	51.741667	0.34746	2.9	28.699987	2
934	0.72	4.85	372.25	0.673611	51.701389	0.34775	2.9	28.75058	2
935	0.71	4.77	373.06	0.671831	52.543662	0.33694	2.9	28.801173	2
936	0.71	4.69	373.17	0.660563	52.559155	0.33683	2.9	28.851766	2
937	0.7	4.69	376.24	0.67	53.748571	0.32376	2.9	28.902359	2
938	0.7	4.73	373.82	0.675714	53.402857	0.32618	2.9	28.952952	2
939	0.69	4.85	375	0.702899	54.347826	0.315	2.9	29.003545	2
940	0.69	4.81	374.23	0.697101	54.236232	0.31577	2.9	29.054138	2
941	0.69	4.69	374.34	0.67971	54.252174	0.31566	2.9	29.104731	2
942	0.69	4.6	374.67	0.666667	54.3	0.31533	2.9	29.155324	2
943	0.69	4.56	373.64	0.66087	54.150725	0.31636	2.9	29.205917	2
944	0.69	4.69	373.28	0.67971	54.098551	0.31672	2.9	29.25651	2
945	0.69	4.93	374.34	0.714493	54.252174	0.31566	2.9	29.307103	2
946	0.69	4.89	377.63	0.708696	54.728986	0.31237	2.9	29.357695	2
947	0.69	4.81	382.17	0.697101	55.386957	0.30783	2.9	29.408288	2
948	0.69	4.77	383.96	0.691304	55.646377	0.30604	2.9	29.458881	2
949	0.7	4.64	383.82	0.662857	54.831429	0.31618	2.9	29.509474	2
950	0.71	4.69	384.62	0.660563	54.171831	0.32538	2.9	29.560067	2
951	0.71	4.73	385.39	0.666197	54.280282	0.32461	2.9	29.61066	2
952	0.7	4.77	387.62	0.681429	55.374286	0.31238	2.9	29.661253	2
953	0.7	4.64	388.46	0.662857	55.494286	0.31154	2.9	29.711846	2
954	0.7	4.6	388.43	0.657143	55.49	0.31157	2.9	29.762439	2
955	0.71	4.64	394.43	0.653521	55.553521	0.31557	2.9	29.813032	2
956	0.7	4.73	387.81	0.675714	55.401429	0.31219	2.9	29.863625	2
957	0.7	4.73	389.01	0.675714	55.572857	0.31099	2.9	29.914218	2
958	0.7	4.73	393.55	0.675714	56.221429	0.30645	2.9	29.964811	2
959	0.71	4.64	394.98	0.653521	55.630986	0.31502	2.9	30.015404	2
960	0.7	4.69	397.1	0.67	56.728571	0.3029	2.9	30.065997	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
961	0.7	4.81	394.25	0.687143	56.321429	0.30575	2.9	30.11659	2
962	0.71	4.97	400.14	0.7	56.357746	0.30986	2.9	30.167182	2
963	0.72	5.05	407.72	0.701389	56.627778	0.31228	2.9	30.217775	2
964	0.73	5.17	412.29	0.708219	56.478082	0.31771	2.9	30.268368	2
965	0.73	5.26	413.86	0.720548	56.693151	0.31614	2.9	30.318961	2
966	0.74	5.5	415.84	0.743243	56.194595	0.32416	3.1	30.37304	2
967	0.74	5.7	415.88	0.77027	56.2	0.32412	3.1	30.427119	2
968	0.74	5.91	417.08	0.798649	56.362162	0.32292	2.9	30.477712	2
969	0.74	5.95	424.26	0.804054	57.332432	0.31574	2.9	30.528305	2
970	0.74	6.03	423.89	0.814865	57.282432	0.31611	3.1	30.582384	2
971	0.74	6.19	425.61	0.836486	57.514865	0.31439	3.1	30.636462	2
972	0.74	6.56	425.61	0.886486	57.514865	0.31439	3.1	30.690541	2
973	0.73	6.64	425.83	0.909589	58.332877	0.30417	3.1	30.74462	2
974	0.73	6.76	426.27	0.926027	58.393151	0.30373	2.9	30.795213	2
975	0.74	6.84	428.94	0.924324	57.964865	0.31106	3.1	30.849292	2
976	0.74	6.89	431.18	0.931081	58.267568	0.30882	2.9	30.899885	2
977	0.75	6.93	432.09	0.924	57.612	0.31791	3.1	30.953964	2
978	0.76	7.09	436.59	0.932895	57.446053	0.32341	3.1	31.008042	2
979	0.76	7.29	442.23	0.959211	58.188158	0.31777	3.1	31.062121	2
980	0.77	7.41	444.17	0.962338	57.684416	0.32583	3.1	31.1162	2
981	0.77	7.58	444.72	0.984416	57.755844	0.32528	3.1	31.170279	2
982	0.77	7.58	444.72	0.984416	57.755844	0.32528	3.1	31.224358	5.6
983	0.77	7.58	444.72	0.984416	57.755844	0.32528	3.1	31.278436	5.6
984	0.8	8.11	410.06	1.01375	51.2575	0.38994	2.9	31.329029	5.6
985	0.8	8.11	410.06	1.01375	51.2575	0.38994	2.9	31.379622	2.6
986	0.81	8.31	413.53	1.025926	51.053086	0.39647	3.1	31.433701	2.6
987	0.8	8.51	410.72	1.06375	51.34	0.38928	3.1	31.48778	2.5
988	0.78	8.43	407.13	1.080769	52.196154	0.37287	3.1	31.541859	2.5
989	0.67	6.52	389.78	0.973134	58.176119	0.28022	3.1	31.595938	1.2
990	0.78	8.39	420.34	1.075641	53.889744	0.35966	3.1	31.650016	1.4
991	0.78	8.43	424.15	1.080769	54.378205	0.35585	3.1	31.704095	1.4
992	0.78	8.23	426.89	1.055128	54.729487	0.35311	3.1	31.758174	2.1
993	0.79	7.99	430.04	1.011392	54.435443	0.35996	3	31.81051	2.1
994	0.78	7.78	424.51	0.997436	54.424359	0.35549	3.1	31.864589	2.2
995	0.78	7.78	424.51	0.997436	54.424359	0.35549	3.1	31.918668	2.2
996	0.6	3.42	357.54	0.57	59.59	0.24246	3.1	31.972746	0
997	0.69	7.7	412.95	1.115942	59.847826	0.27705	3.1	32.026825	0
998	0.77	7.86	413.39	1.020779	53.687013	0.35661	3.1	32.080904	1.5
999	0.77	7.74	420.42	1.005195	54.6	0.34958	3.1	32.134983	1.5
1000	0.77	7.33	418.29	0.951948	54.323377	0.35171	3.1	32.189062	2.2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1001	0.77	6.97	417.6	0.905195	54.233766	0.3524	3.1	32.24314	2.2
1002	0.77	6.89	419.68	0.894805	54.503896	0.35032	3.1	32.297219	2.2
1003	0.77	6.97	424.4	0.905195	55.116883	0.3456	3.1	32.351298	2.2
1004	0.78	6.93	427.7	0.888462	54.833333	0.3523	3.1	32.405377	2.2
1005	0.77	7.01	430.7	0.91039	55.935065	0.3393	3.1	32.459456	2.2
1006	0.77	6.97	430.33	0.905195	55.887013	0.33967	3.1	32.513535	2.2
1007	0.76	7.01	423.49	0.922368	55.722368	0.33651	3.1	32.567613	2.2
1008	0.75	7.09	428.72	0.945333	57.162667	0.32128	3.1	32.621692	2.2
1009	0.75	6.97	438.24	0.929333	58.432	0.31176	3.1	32.675771	2.2
1010	0.73	7.17	424.77	0.982192	58.187671	0.30523	3.1	32.72985	2.2
1011	0.73	6.84	423.53	0.936986	58.017808	0.30647	3.1	32.783929	2.2
1012	0.73	6.52	420.67	0.893151	57.626027	0.30933	3.1	32.838007	2.2
1013	0.73	6.44	418.62	0.882192	57.345205	0.31138	3.1	32.892086	2
1014	0.74	6.44	417.89	0.87027	56.471622	0.32211	3.1	32.946165	2
1015	0.74	6.4	416.86	0.864865	56.332432	0.32314	3.1	33.000244	2
1016	0.75	6.4	417.16	0.853333	55.621333	0.33284	3.1	33.054323	2
1017	0.76	6.44	418.4	0.847368	55.052632	0.3416	3.1	33.108401	2
1018	0.76	6.27	418.26	0.825	55.034211	0.34174	3.1	33.16248	2
1019	0.76	6.44	420.31	0.847368	55.303947	0.33969	3.1	33.216559	2
1020	0.77	6.56	422.65	0.851948	54.88961	0.34735	3.1	33.270638	2
1021	0.77	6.6	423.49	0.857143	54.998701	0.34651	3.1	33.324717	2
1022	0.77	6.4	424.29	0.831169	55.102597	0.34571	3.1	33.378796	2
1023	0.76	6.11	425.76	0.803947	56.021053	0.33424	3.1	33.432874	2
1024	0.76	6.07	424.66	0.798684	55.876316	0.33534	3.1	33.486953	2
1025	0.75	6.27	423.23	0.836	56.430667	0.32677	3.1	33.541032	2
1026	0.75	6.36	422.35	0.848	56.313333	0.32765	3.1	33.595111	2
1027	0.75	6.44	426.12	0.858667	56.816	0.32388	3.1	33.64919	2
1028	0.74	6.6	429.42	0.891892	58.02973	0.31058	3.1	33.703268	2
1029	0.74	6.68	432.24	0.902703	58.410811	0.30776	3.1	33.757347	2
1030	0.75	6.6	433.26	0.88	57.768	0.31674	3.1	33.811426	2
1031	0.75	6.48	433.99	0.864	57.865333	0.31601	3.1	33.865505	2
1032	0.75	6.48	434.8	0.864	57.973333	0.3152	3.1	33.919584	2
1033	0.75	6.44	435.82	0.858667	58.109333	0.31418	3.1	33.973662	2
1034	0.75	6.44	438.82	0.858667	58.509333	0.31118	3.1	34.027741	2
1035	0.75	6.36	441.02	0.848	58.802667	0.30898	3.1	34.08182	2
1036	0.75	6.4	443.47	0.853333	59.129333	0.30653	3.1	34.135899	2
1037	0.75	6.36	444.09	0.848	59.212	0.30591	3.1	34.189978	2
1038	0.75	6.23	445.63	0.830667	59.417333	0.30437	3.3	34.247542	2
1039	0.75	6.23	447.17	0.830667	59.622667	0.30283	3.1	34.301621	2
1040	0.75	6.27	447.83	0.836	59.710667	0.30217	3.1	34.355699	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1041	0.76	6.19	452.77	0.814474	59.575	0.30723	3.1	34.409778	2
1042	0.76	6.11	455.77	0.803947	59.969737	0.30423	3.3	34.467342	2
1043	0.77	6.19	461.66	0.803896	59.955844	0.30834	3.1	34.521421	2
1044	0.78	6.4	467.96	0.820513	59.994872	0.31204	3.3	34.578985	2
1045	0.79	6.4	470.15	0.810127	59.512658	0.31985	3.3	34.636549	2
1046	0.79	6.31	470.85	0.798734	59.601266	0.31915	3.1	34.690628	2
1047	0.79	6.23	468.91	0.788608	59.355696	0.32109	3.3	34.748192	2
1048	0.78	6.27	465.62	0.803846	59.694872	0.31438	3.3	34.805756	2
1049	0.78	6.44	470.08	0.825641	60.266667	0.30992	3.3	34.86332	2
1050	0.79	6.31	469.75	0.798734	59.462025	0.32025	3.3	34.920884	2
1051	0.81	6.64	473.37	0.819753	58.440741	0.33663	3.3	34.978448	2
1052	0.81	6.84	475.9	0.844444	58.753086	0.3341	3.1	35.032527	2
1053	0.81	6.8	477.73	0.839506	58.979012	0.33227	3.3	35.090091	2
1054	0.81	6.76	478.28	0.834568	59.046914	0.33172	3.3	35.147655	2
1055	0.8	6.89	475.9	0.86125	59.4875	0.3241	3.3	35.205219	2
1056	0.78	7.17	466.38	0.919231	59.792308	0.31362	3.3	35.262783	2
1057	0.78	7.01	443.69	0.898718	56.883333	0.33631	3.3	35.320347	2
1058	0.77	7.41	442.59	0.962338	57.479221	0.32741	3.3	35.377911	2
1059	0.77	7.74	440.47	1.005195	57.203896	0.32953	3.3	35.435475	2
1060	0.77	7.82	436.59	1.015584	56.7	0.33341	3.3	35.493039	2
1061	0.77	8.56	433.52	1.111688	56.301299	0.33648	3.3	35.550603	2
1062	0.77	8.76	430.66	1.137662	55.92987	0.33934	3.3	35.608167	2
1063	0.77	8.72	436.85	1.132468	56.733766	0.33315	3.3	35.665731	2
1064	0.76	8.6	441.79	1.131579	58.130263	0.31821	3.3	35.723295	2
1065	0.76	8.47	440.54	1.114474	57.965789	0.31946	3.3	35.780859	2
1066	0.76	8.39	438.93	1.103947	57.753947	0.32107	3.3	35.838423	2
1067	0.76	8.43	437.73	1.109211	57.596053	0.32227	3.3	35.895987	2
1068	0.77	8.64	437.36	1.122078	56.8	0.33264	3.3	35.953551	2
1069	0.77	9	433.04	1.168831	56.238961	0.33696	3.3	36.011115	2
1070	0.76	7.86	427.66	1.034211	56.271053	0.33234	3.3	36.068679	2
1071	0.75	7.46	425.8	0.994667	56.773333	0.3242	3.3	36.126243	2
1072	0.75	7.33	422.98	0.977333	56.397333	0.32702	3.3	36.183807	2
1073	0.75	7.29	418.44	0.972	55.792	0.33156	3.3	36.241371	2
1074	0.75	7.29	418.26	0.972	55.768	0.33174	3.3	36.298935	2
1075	0.75	7.37	418.77	0.982667	55.836	0.33123	3.3	36.356499	2
1076	0.74	7.5	419.94	1.013514	56.748649	0.32006	3.3	36.414064	2
1077	0.74	7.74	423.49	1.045946	57.228378	0.31651	3.3	36.471628	2
1078	0.74	7.74	423.56	1.045946	57.237838	0.31644	3.3	36.529192	2
1079	0.74	7.9	424.33	1.067568	57.341892	0.31567	3.3	36.586756	1.9
1080	0.75	8.11	426.71	1.081333	56.894667	0.32329	3.3	36.64432	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1081	0.75	8.19	428.91	1.092	57.188	0.32109	3.3	36.701884	2
1082	0.75	8.19	428.91	1.092	57.188	0.32109	3.3	36.759448	4.9
1083	0.75	8.19	428.91	1.092	57.188	0.32109	3.3	36.817012	2.3
1084	0.78	8.6	418.66	1.102564	53.674359	0.36134	3.3	36.874576	2.3
1085	0.78	8.6	418.66	1.102564	53.674359	0.36134	3.3	36.93214	2.8
1086	0.79	8.51	418.11	1.077215	52.925316	0.37189	3.3	36.989704	2.8
1087	0.79	8.39	420.38	1.062025	53.212658	0.36962	3.3	37.047268	2.8
1088	0.79	8.39	423.75	1.062025	53.639241	0.36625	3.4	37.106574	2.4
1089	0.78	8.31	427.88	1.065385	54.85641	0.35212	3.3	37.164138	2.4
1090	0.78	8.23	439.63	1.055128	56.362821	0.34037	3.4	37.223445	2.4
1091	0.78	8.19	445.34	1.05	57.094872	0.33466	3.4	37.282751	2.4
1092	0.78	7.94	450.17	1.017949	57.714103	0.32983	3.3	37.340315	2.4
1093	0.79	7.74	456.76	0.979747	57.817722	0.33324	3.4	37.399621	2.4
1094	0.8	7.37	458.33	0.92125	57.29125	0.34167	3.3	37.457185	2.4
1095	0.8	7.17	459.65	0.89625	57.45625	0.34035	3.3	37.514749	2
1096	0.81	7.13	460.13	0.880247	56.806173	0.34987	3.3	37.572313	2
1097	0.8	6.89	461.04	0.86125	57.63	0.33896	3.3	37.629877	2
1098	0.81	6.68	444.02	0.824691	54.817284	0.36598	3.4	37.689184	2
1099	0.81	6.68	441.94	0.824691	54.560494	0.36806	3.4	37.74849	2
1100	0.81	6.56	440.51	0.809877	54.383951	0.36949	3.4	37.807797	2
1101	0.8	6.52	442.26	0.815	55.2825	0.35774	3.3	37.865361	2
1102	0.8	6.48	443.66	0.81	55.4575	0.35634	3.3	37.922925	2
1103	0.8	6.36	443.62	0.795	55.4525	0.35638	3.4	37.982231	2
1104	0.79	6.27	444.53	0.793671	56.26962	0.34547	3.4	38.041537	2
1105	0.8	6.27	437.36	0.78375	54.67	0.36264	3.5	38.102586	2
1106	0.79	6.52	437.8	0.825316	55.417722	0.3522	3.5	38.163634	2
1107	0.79	6.76	436.96	0.855696	55.311392	0.35304	3.3	38.221198	2
1108	0.8	6.68	434.84	0.835	54.355	0.36516	3.5	38.282247	2
1109	0.79	6.68	437.21	0.84557	55.343038	0.35279	3.4	38.341553	2
1110	0.79	6.89	436.96	0.872152	55.311392	0.35304	3.4	38.40086	2
1111	0.79	6.8	437.58	0.860759	55.389873	0.35242	3.4	38.460166	2
1112	0.79	6.72	440.51	0.850633	55.760759	0.34949	3.4	38.519473	2
1113	0.8	6.8	450.79	0.85	56.34875	0.34921	3.5	38.580521	2
1114	0.8	6.72	459.58	0.84	57.4475	0.34042	3.5	38.64157	2
1115	0.8	6.36	464.44	0.795	58.055	0.33556	3.5	38.702618	2
1116	0.81	6.27	469.35	0.774074	57.944444	0.34065	3.5	38.763667	2
1117	0.81	6.31	468.32	0.779012	57.817284	0.34168	3.5	38.824715	2
1118	0.81	6.52	467.66	0.804938	57.735802	0.34234	3.5	38.885764	2
1119	0.81	6.11	467.96	0.754321	57.77284	0.34204	3.5	38.946812	2
1120	0.81	5.83	444.2	0.719753	54.839506	0.3658	3.5	39.007861	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1121	0.81	6.11	465.51	0.754321	57.47037	0.34449	3.5	39.068909	2
1122	0.82	6.31	468.07	0.769512	57.081707	0.35193	3.5	39.129958	2
1123	0.87	6.44	481.65	0.74023	55.362069	0.38835	3.5	39.191006	2
1124	1.01	6.76	498.41	0.669307	49.347525	0.51159	3.5	39.252055	2
1125	1.17	6.8	487.03	0.581197	41.626496	0.68297	3.5	39.313104	2
1126	1.3	7.13	467.55	0.548462	35.965385	0.83245	3.5	39.374152	1.9
1127	1.38	6.23	325.51	0.451449	23.587681	1.05449	3.5	39.435201	1.9
1128	1.34	4.16	203.38	0.310448	15.177612	1.13662	3.5	39.496249	2
1129	1.26	4.89	297.44	0.388095	23.606349	0.96256	3.5	39.557298	2
1130	1.19	8.23	405.15	0.691597	34.046218	0.78485	3.5	39.618346	1.9
1131	1.12	14.18	305.24	1.266071	27.253571	0.81476	3.5	39.679395	1.9
1132	1.13	16.09	297.7	1.423894	26.345133	0.8323	3.5	39.740443	2
1133	1.23	17.31	358.49	1.407317	29.145528	0.87151	3.5	39.801492	2
1134	1.21	18.5	370.27	1.528926	30.600826	0.83973	3.5	39.86254	2
1135	1.16	19.07	360.32	1.643966	31.062069	0.79968	3.5	39.923589	2
1136	1.11	17.8	339.49	1.603604	30.584685	0.77051	3.5	39.984637	1.9
1137	1.02	18.54	347.84	1.817647	34.101961	0.67216	3.5	40.045686	1.9
1138	0.94	20.29	351.86	2.158511	37.431915	0.58814	3.5	40.106735	2
1139	0.88	21.18	354.32	2.406818	40.263636	0.52568	3.5	40.167783	2
1140	0.84	23.06	356.18	2.745238	42.402381	0.48382	3.5	40.228832	2
1141	0.84	23.1	353.91	2.75	42.132143	0.48609	3.5	40.28988	2
1142	0.84	22.86	367.27	2.721429	43.722619	0.47273	3.5	40.350929	2
1143	0.86	21.96	385.13	2.553488	44.782558	0.47487	3.5	40.411977	2
1144	0.89	19.56	410.97	2.197753	46.176404	0.47903	3.5	40.473026	2
1145	0.93	16.01	433.85	1.721505	46.650538	0.49615	3.5	40.534074	2
1146	0.94	14.38	435.79	1.529787	46.360638	0.50421	3.5	40.595123	2
1147	0.93	14.34	419.46	1.541935	45.103226	0.51054	3.5	40.656171	2
1148	0.91	14.75	397.76	1.620879	43.70989	0.51224	3.5	40.71722	1.9
1149	0.88	15.4	395.42	1.75	44.934091	0.48458	3.5	40.778268	1.9
1150	0.87	14.99	400.36	1.722989	46.018391	0.46964	3.5	40.839317	2
1151	0.88	12.87	420.78	1.4625	47.815909	0.45922	3.5	40.900366	2
1152	0.9	10.55	437.47	1.172222	48.607778	0.46253	3.5	40.961414	2
1153	0.96	9.21	459.58	0.959375	47.872917	0.50042	3.5	41.022463	2
1154	0.98	9.17	471	0.935714	48.061224	0.509	3.5	41.083511	2
1155	0.94	9.53	471.73	1.01383	50.184043	0.46827	3.5	41.14456	2
1156	0.93	9.29	450.79	0.998925	48.472043	0.47921	3.5	41.205608	2
1157	0.91	10.1	440.18	1.10989	48.371429	0.46982	3.6	41.268399	2
1158	0.92	11.86	459.61	1.28913	49.957609	0.46039	3.6	41.331189	2
1159	0.95	13.73	496.29	1.445263	52.241053	0.45371	3.6	41.39398	2
1160	1.09	15.77	549.68	1.446789	50.429358	0.54032	3.6	41.45677	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1161	1.04	15.44	423.01	1.484615	40.674038	0.61699	3.6	41.519561	2
1162	1	14.46	393.66	1.446	39.366	0.60634	3.6	41.582351	2
1163	0.96	14.46	407.2	1.50625	42.416667	0.5528	3.6	41.645142	2
1164	0.89	16.99	441.17	1.908989	49.569663	0.44883	3.6	41.707932	1.9
1165	0.9	17.68	448.19	1.964444	49.798889	0.45181	3.6	41.770723	1.9
1166	0.91	18.09	448.63	1.987912	49.3	0.46137	3.6	41.833513	2
1167	0.89	18.58	446.07	2.08764	50.120225	0.44393	3.6	41.896304	2
1168	0.89	19.47	451.6	2.18764	50.741573	0.4384	3.6	41.959095	1.9
1169	0.92	17.84	459.58	1.93913	49.954348	0.46042	3.6	42.021885	1.9
1170	0.93	16.78	488.49	1.804301	52.525806	0.44151	3.6	42.084676	2
1171	1.06	14.46	528.38	1.364151	49.84717	0.53162	3.6	42.147466	2
1172	1.12	15.2	549.72	1.357143	49.082143	0.57028	3.6	42.210257	1.9
1173	1.12	15.48	527.32	1.382143	47.082143	0.59268	3.6	42.273047	1.9
1174	1.07	15.89	470.08	1.485047	43.93271	0.59992	3.6	42.335838	2
1175	1.04	17.11	378	1.645192	36.346154	0.662	3.6	42.398628	2
1176	1.05	14.71	363.1	1.400952	34.580952	0.6869	3.6	42.461419	2
1177	1.01	14.01	379.39	1.387129	37.563366	0.63061	3.6	42.524209	2
1178	0.92	15.68	403.36	1.704348	43.843478	0.51664	3.6	42.587	2
1179	0.91	16.5	427.33	1.813187	46.959341	0.48267	3.6	42.64979	2
1180	0.96	16.66	455.88	1.735417	47.4875	0.50412	3.6	42.712581	2
1181	1	17.48	492.3	1.748	49.23	0.5077	3.6	42.775371	2
1182	1	17.48	492.3	1.748	49.23	0.5077	3.6	42.838162	2.2
1183	1	17.48	492.3	1.748	49.23	0.5077	3.6	42.900952	2.2
1184	1.38	22.41	385.13	1.623913	27.907971	0.99487	3.7	42.965485	2.1
1185	1.62	23.06	376.46	1.423457	23.238272	1.24354	3.6	43.028275	2.1
1186	1.86	24.81	297.37	1.333871	15.987634	1.56263	3.6	43.091066	2
1187	1.89	24.53	226.55	1.297884	11.986772	1.66345	3.6	43.153856	2
1188	1.78	25.71	204.08	1.444382	11.465169	1.57592	3.6	43.216647	2
1189	1.65	25.34	181.61	1.535758	11.006667	1.46839	3.6	43.279437	2
1190	1.53	22.37	157.05	1.462092	10.264706	1.37295	3.7	43.34397	2
1191	1.39	21.96	164.66	1.579856	11.846043	1.22534	3.6	43.40676	2
1192	1.27	23.18	188.78	1.825197	14.864567	1.08122	3.6	43.469551	2
1193	1.15	27.25	353.07	2.369565	30.701739	0.79693	3.6	43.532341	2
1194	1.22	28.4	402.7	2.327869	33.008197	0.8173	3.6	43.595132	2
1195	1.31	29.33	444.13	2.238931	33.903053	0.86587	3.6	43.657922	2
1196	1.39	29.58	464.33	2.128058	33.405036	0.92567	3.6	43.720713	2
1197	1.4	29.01	460.23	2.072143	32.873571	0.93977	3.6	43.783503	2
1198	1.34	27.99	433.08	2.088806	32.319403	0.90692	3.6	43.846294	2
1199	1.25	26.81	395.93	2.1448	31.6744	0.85407	3.7	43.910826	2
1200	1.22	27.5	377.7	2.254098	30.959016	0.8423	3.7	43.975358	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1201	1.54	28.93	578.05	1.878571	37.535714	0.96195	3.7	44.039891	2
1202	1.77	28.6	665.59	1.615819	37.603955	1.10441	3.6	44.102681	2
1203	1.94	28.48	637.34	1.468041	32.852577	1.30266	3.6	44.165472	2
1204	1.96	27.99	444.68	1.428061	22.687755	1.51532	3.6	44.228262	2
1205	1.91	23.22	184.2	1.215707	9.643979	1.7258	3.6	44.291053	2
1206	1.87	16.95	177.32	0.906417	9.482353	1.69268	3.7	44.355585	2
1207	1.8	14.54	183.51	0.807778	10.195	1.61649	3.7	44.420117	2
1208	1.6	21.06	176.66	1.31625	11.04125	1.42334	3.6	44.482908	2
1209	1.5	24.48	209.49	1.632	13.966	1.29051	3.7	44.54744	2
1210	1.42	28.52	232.44	2.008451	16.369014	1.18756	3.7	44.611972	2
1211	1.37	31.82	246.46	2.322628	17.989781	1.12354	3.7	44.676505	2
1212	1.31	33.81	245.4	2.580916	18.732824	1.0646	3.7	44.741037	2
1213	1.3	33.49	254.73	2.576154	19.594615	1.04527	3.7	44.805569	2
1214	1.31	30.68	279.84	2.341985	21.361832	1.03016	3.7	44.870102	2
1215	1.3	28.35	296.75	2.180769	22.826923	1.00325	3.7	44.934634	2
1216	1.33	26.48	291.48	1.990977	21.915789	1.03852	3.7	44.999166	2
1217	1.38	26.15	289.13	1.894928	20.951449	1.09087	3.7	45.063699	2
1218	1.38	28.07	301.47	2.034058	21.845652	1.07853	3.7	45.128231	2
1219	1.45	29.66	352.3	2.045517	24.296552	1.0977	3.7	45.192763	2
1220	1.58	30.39	423.67	1.923418	26.814557	1.15633	3.7	45.257296	2
1221	1.81	29.33	514.04	1.620442	28.4	1.29596	3.7	45.321828	2
1222	2.1	25.99	590.89	1.237619	28.137619	1.50911	3.7	45.38636	2
1223	2.39	26.68	635.47	1.116318	26.588703	1.75453	3.7	45.450892	2
1224	2.5	30.39	667.53	1.2156	26.7012	1.83247	3.7	45.515425	2
1225	2.61	30.31	674.6	1.161303	25.846743	1.9354	3.7	45.579957	2
1226	2.69	27.7	670.86	1.02974	24.939033	2.01914	3.7	45.644489	2
1227	2.84	24.97	272.52	0.879225	9.595775	2.56748	3.7	45.709022	2
1228	3.03	24.53	260.11	0.809571	8.584488	2.76989	3.7	45.773554	2
1229	3.26	25.63	228.34	0.786196	7.004294	3.03166	3.7	45.838086	2
1230	3.59	28.11	276.87	0.783008	7.712256	3.31313	3.7	45.902619	2
1231	4.42	31.13	375.87	0.704299	8.503846	4.04413	3.7	45.967151	2
1232	4.79	30.68	343.85	0.640501	7.178497	4.44615	3.7	46.031683	2
1233	5.08	29.9	314.97	0.588583	6.200197	4.76503	3.7	46.096216	2
1234	5.28	28.6	254.25	0.541667	4.815341	5.02575	3.7	46.160748	2
1235	5.42	28.72	207.37	0.529889	3.826015	5.21263	3.7	46.22528	2
1236	5.51	28.03	209.9	0.508711	3.809437	5.3001	3.7	46.289812	2
1237	5.59	27.78	248.22	0.496959	4.440429	5.34178	3.7	46.354345	2
1238	5.77	26.4	257.51	0.457539	4.462912	5.51249	3.7	46.418877	2
1239	5.99	26.11	256.74	0.435893	4.286144	5.73326	3.7	46.483409	2
1240	6.29	24.89	249.97	0.395707	3.974086	6.04003	3.7	46.547942	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1241	6.62	23.3	283.02	0.351964	4.275227	6.33698	3.8	46.614216	2
1242	6.91	21.63	279	0.313025	4.037627	6.631	3.7	46.678748	2
1243	7.15	20.04	263	0.28028	3.678322	6.887	3.7	46.74328	2
1244	7.34	18.7	307.07	0.254768	4.183515	7.03293	3.8	46.809554	2
1245	7.33	16.87	265.53	0.23015	3.62251	7.06447	3.7	46.874086	2
1246	7.32	16.66	231.75	0.227596	3.165984	7.08825	3.7	46.938619	2
1247	7.23	16.99	254.33	0.234993	3.517704	6.97567	3.7	47.003151	2
1248	7.12	17.36	213.37	0.24382	2.99677	6.90663	3.7	47.067683	2
1249	7	17.31	197.56	0.247286	2.822286	6.80244	3.7	47.132216	2
1250	6.75	18.01	208.1	0.266815	3.082963	6.5419	3.7	47.196748	2
1251	6.65	17.76	204.26	0.267068	3.071579	6.44574	3.7	47.26128	2
1252	6.53	18.09	199.36	0.277029	3.052986	6.33064	3.7	47.325813	2
1253	6.38	18.29	187.28	0.286677	2.935423	6.19272	3.7	47.390345	2
1254	6.21	18.78	174.03	0.302415	2.802415	6.03597	3.7	47.454877	2
1255	6.05	20.08	165.68	0.331901	2.738512	5.88432	3.7	47.519409	2
1256	5.89	21.63	158.84	0.367233	2.696774	5.73116	3.7	47.583942	2
1257	5.66	23.67	160.34	0.418198	2.832862	5.49966	3.7	47.648474	2
1258	5.59	24.24	169.56	0.433631	3.033274	5.42044	3.7	47.713006	2
1259	5.52	24.57	184.75	0.445109	3.34692	5.33525	3.7	47.777539	2
1260	5.5	24.57	197.38	0.446727	3.588727	5.30262	3.7	47.842071	2
1261	5.47	26.03	214.73	0.475868	3.925594	5.25527	3.7	47.906603	2
1262	5.42	27.09	232.7	0.499815	4.293358	5.1873	3.7	47.971136	2
1263	5.44	27.34	275.04	0.502574	5.055882	5.16496	3.8	48.03741	2
1264	5.47	28.27	296.56	0.516819	5.421572	5.17344	3.8	48.103683	2
1265	5.49	28.31	314.79	0.515665	5.73388	5.17521	3.8	48.169957	2
1266	5.51	27.17	319.51	0.493103	5.79873	5.19049	3.8	48.236231	2
1267	5.55	26.15	323.83	0.471171	5.834775	5.22617	3.8	48.302505	2
1268	5.64	24.97	332.36	0.44273	5.892908	5.30764	3.8	48.368779	2
1269	5.74	24.36	351.94	0.42439	6.131359	5.38806	3.8	48.435053	2
1270	5.95	23.55	400.69	0.395798	6.734286	5.54931	3.8	48.501327	2
1271	6.15	21.8	429.53	0.354472	6.984228	5.72047	3.8	48.567601	2
1272	6.35	20.04	440.65	0.315591	6.93937	5.90935	3.8	48.633875	2
1273	6.48	18.37	410.35	0.283488	6.332562	6.06965	3.8	48.700149	2
1274	6.5	18.29	335.14	0.281385	5.156	6.16486	3.8	48.766422	2
1275	6.4	16.95	248.76	0.264844	3.886875	6.15124	3.8	48.832696	2
1276	6.23	16.05	210.88	0.257624	3.384912	6.01912	3.8	48.89897	2
1277	5.83	14.95	170.74	0.256432	2.928645	5.65926	3.8	48.965244	2
1278	5.65	15.52	149.69	0.27469	2.649381	5.50031	3.8	49.031518	2
1279	5.47	16.17	128.65	0.295612	2.35192	5.34135	3.8	49.097792	2
1280	5.3	16.95	109.07	0.319811	2.057925	5.19093	3.8	49.164066	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1281	5.16	18.05	100.21	0.349806	1.942054	5.05979	3.8	49.23034	1.9
1282	5.16	18.05	100.21	0.349806	1.942054	5.05979	3.8	49.296614	2
1283	5.16	18.05	100.21	0.349806	1.942054	5.05979	3.8	49.362888	2
1284	4.96	18.98	178.93	0.382661	3.60746	4.78107	3.8	49.429161	1.8
1285	4.97	19.6	175.49	0.394366	3.530986	4.79451	3.8	49.495435	1.8
1286	4.99	21.35	186.07	0.427856	3.728858	4.80393	3.8	49.561709	2
1287	5.17	23.06	227.72	0.446035	4.404642	4.94228	3.8	49.627983	2
1288	5.46	24.36	276.8	0.446154	5.069597	5.1832	3.8	49.694257	2.2
1289	5.74	25.95	310.4	0.452091	5.407666	5.4296	3.8	49.760531	2.2
1290	5.99	27.91	324.74	0.465943	5.421369	5.66526	3.8	49.826805	2
1291	6.38	31.65	336.2	0.496082	5.269592	6.0438	3.8	49.893079	2
1292	6.54	31.61	357.21	0.483333	5.461927	6.18279	3.8	49.959353	1.9
1293	6.8	31.37	371.37	0.461324	5.461324	6.42863	3.8	50.025627	1.9
1294	7.15	31.49	410.2	0.44042	5.737063	6.7398	4	50.095383	1.9
1295	7.53	32.06	468.21	0.425764	6.217928	7.06179	3.8	50.161657	1.9
1296	7.95	32.02	528.35	0.402767	6.645912	7.42165	4	50.231413	1.9
1297	8.35	32.02	573.95	0.383473	6.873653	7.77605	4	50.30117	2
1298	8.96	29.37	594.22	0.32779	6.63192	8.36578	4	50.370926	2
1299	9.15	28.97	605.83	0.316612	6.621093	8.54417	4	50.440683	2
1300	9.32	29.13	618.89	0.312554	6.640451	8.70111	3.8	50.506957	2
1301	9.46	29.29	634.41	0.309619	6.706237	8.82559	4	50.576713	2
1302	9.5	30.39	661.82	0.319895	6.966526	8.83818	4	50.64647	2
1303	9.51	26.89	667.79	0.282755	7.021977	8.84221	3.8	50.712744	2
1304	9.6	24.24	676.5	0.2525	7.046875	8.9235	3.8	50.779017	2
1305	9.75	23.91	656.55	0.245231	6.733846	9.09345	4	50.848774	2
1306	9.88	23.63	645.46	0.23917	6.532996	9.23454	3.8	50.915048	2
1307	9.92	24	264.69	0.241935	2.668246	9.65531	4	50.984804	2
1308	9.78	24.85	221.72	0.25409	2.267076	9.55828	4	51.054561	2
1309	9.53	25.54	208.65	0.267996	2.189402	9.32135	4	51.124317	2
1310	9.24	25.18	184.31	0.272511	1.994697	9.05569	3.9	51.192333	2
1311	8.89	24.4	148.26	0.274466	1.667717	8.74174	4	51.262089	2
1312	8.54	25.05	117.08	0.293326	1.37096	8.42292	4	51.331845	2
1313	8.24	26.07	95.3	0.316383	1.156553	8.1447	3.9	51.399861	2
1314	7.97	26.32	87.07	0.330238	1.092472	7.88293	4	51.469617	2
1315	7.72	26.73	80.74	0.346244	1.045855	7.63926	4	51.539374	2
1316	7.5	26.44	80.23	0.352533	1.069733	7.41977	4	51.60913	2
1317	7.15	27.62	84.03	0.386294	1.175245	7.06597	4	51.678887	2
1318	7.02	27.54	99.84	0.392308	1.422222	6.92016	4	51.748643	2
1319	6.82	27.78	97.94	0.407331	1.43607	6.72206	4	51.8184	2
1320	6.62	27.99	95.49	0.42281	1.442447	6.52451	4	51.888156	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1321	6.38	28.52	79.13	0.447022	1.240282	6.30087	4	51.957913	2
1322	5.99	27.87	33.67	0.465275	0.562104	5.95633	4	52.027669	2
1323	5.46	26.28	-21.92	0.481319	-0.401465	5.48192	4	52.097426	2
1324	5	25.01	-51.06	0.5002	-1.0212	5.05106	4	52.167182	2
1325	4.53	24.24	-61.01	0.535099	-1.346799	4.59101	4	52.236938	2
1326	4.03	23.18	-64.89	0.575186	-1.610174	4.09489	4	52.306695	2.1
1327	3.57	22.41	-66.54	0.627731	-1.863866	3.63654	4	52.376451	2.1
1328	3.21	22.08	-67.45	0.68785	-2.101246	3.27745	4	52.446208	2
1329	2.86	20.29	-64.82	0.709441	-2.266434	2.92482	4	52.515964	2
1330	2.79	19.6	-62.11	0.702509	-2.226165	2.85211	4	52.585721	2
1331	2.65	18.78	-59.51	0.708679	-2.24566	2.70951	4	52.655477	2
1332	2.57	18.37	-56.11	0.714786	-2.183268	2.62611	4	52.725234	2
1333	2.52	17.48	-55.48	0.693651	-2.201587	2.57548	4	52.79499	2
1334	2.42	17.36	-53.25	0.717355	-2.200413	2.47325	4	52.864747	2.1
1335	2.37	16.7	-50.29	0.704641	-2.121941	2.42029	4	52.934503	2.1
1336	2.23	20.13	-47.4	0.902691	-2.125561	2.2774	3.9	53.002519	2.1
1337	2.18	18.21	-42.16	0.835321	-1.933945	2.22216	3.9	53.070534	2.1
1338	2.16	19.51	-35.54	0.903241	-1.64537	2.19554	4	53.14029	2
1339	1.9	30.88	-15.74	1.625263	-0.828421	1.91574	3.9	53.208306	2
1340	1.94	29.7	11.13	1.530928	0.573711	1.92887	3.9	53.276321	2
1341	2.02	29.01	32.46	1.436139	1.606931	1.98754	3.9	53.344336	2
1342	1.93	31.61	27.3	1.637824	1.414508	1.9027	4	53.414093	2
1343	1.93	36.26	62.8	1.878756	3.253886	1.8672	4	53.483849	2.1
1344	2	35.73	63.9	1.7865	3.195	1.9361	4.1	53.555347	2.1
1345	2.05	40.66	95.71	1.983415	4.66878	1.95429	4.1	53.626844	2
1346	2.2	43.47	175.93	1.975909	7.996818	2.02407	4.1	53.698341	2
1347	2.58	42.7	290.78	1.655039	11.270543	2.28922	4.1	53.769839	2
1348	3.2	40.82	401.64	1.275625	12.55125	2.79836	4.1	53.841336	2
1349	3.87	42.78	217.51	1.105426	5.620413	3.65249	4.1	53.912834	2
1350	4.49	42.57	144.13	0.948107	3.210022	4.34587	4.1	53.984331	2
1351	4.19	40.25	83.23	0.960621	1.986396	4.10677	4.1	54.055829	2
1352	3.7	38.46	12.99	1.039459	0.351081	3.68701	4.1	54.127326	2
1353	3.22	36.42	-31.33	1.131056	-0.972981	3.25133	4.1	54.198824	2
1354	2.87	35.85	-42.42	1.249129	-1.478049	2.91242	4.1	54.270321	2
1355	2.68	36.87	-43.11	1.375746	-1.608582	2.72311	4.1	54.341818	2
1356	2.66	39.64	-31.55	1.490226	-1.18609	2.69155	4.1	54.413316	2
1357	2.97	43.84	41.83	1.476094	1.408418	2.92817	4.1	54.484813	2
1358	4.42	56.14	423.6	1.270136	9.58371	3.9964	4.1	54.556311	2
1359	5.46	53.9	621.09	0.987179	11.375275	4.83891	4.1	54.627808	2
1360	6.39	51.5	741.43	0.805947	11.602973	5.64857	4.1	54.699306	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1361	7.5	46.57	318.89	0.620933	4.251867	7.18111	4.1	54.770803	2
1362	7.72	45.83	227.35	0.593653	2.944948	7.49265	4.1	54.842301	2
1363	7.97	44.32	204.59	0.556085	2.567001	7.76541	4.1	54.913798	2
1364	8.35	43.92	243.35	0.525988	2.914371	8.10665	4.1	54.985295	2
1365	8.78	44.12	303.77	0.502506	3.459795	8.47623	4	55.055052	2
1366	9.71	46.2	438.53	0.475798	4.516272	9.27147	4.1	55.126549	2
1367	10.2	47.46	495.77	0.465294	4.86049	9.70423	4.1	55.198047	2
1368	10.58	50.72	543.86	0.479395	5.140454	10.03614	4.1	55.269544	2
1369	10.89	52.6	582.99	0.483012	5.353444	10.30701	4.1	55.341042	2
1370	11.1	52.92	603.23	0.476757	5.434505	10.49677	4.1	55.412539	2
1371	11.19	52.47	604.4	0.468901	5.401251	10.5856	4.1	55.484037	2
1372	11.26	52.6	602.97	0.46714	5.354973	10.65703	4	55.553793	2
1373	11.24	52.68	594.11	0.468683	5.285676	10.64589	4.1	55.62529	2
1374	11.12	52.39	570.36	0.471133	5.129137	10.54964	4.1	55.696788	2
1375	11.12	52.39	570.36	0.471133	5.129137	10.54964	4.1	55.768285	2
1376	11	50.44	545.18	0.458545	4.956182	10.45482	4.1	55.839783	2
1377	10.95	50.03	546.68	0.456895	4.992511	10.40332	4.1	55.91128	2
1378	10.99	50.27	557.92	0.457416	5.076615	10.43208	4.1	55.982778	2
1379	11.04	50.03	565.79	0.45317	5.124909	10.47421	4.1	56.054275	2
1380	10.92	49.95	546.54	0.457418	5.004945	10.37346	4.1	56.125773	2
1381	10.69	49.91	517.92	0.466885	4.844902	10.17208	4.1	56.19727	2
1382	10.69	49.91	517.92	0.466885	4.844902	10.17208	4.1	56.268767	2
1383	10.69	49.91	517.92	0.466885	4.844902	10.17208	4.1	56.340265	2
1384	9.7	41.03	185.85	0.42299	1.915979	9.51415	4.1	56.411762	2
1385	9.59	37.97	107.53	0.395933	1.121272	9.48247	4.1	56.48326	2
1386	9.29	35.12	104.38	0.378041	1.123574	9.18562	4.1	56.554757	2
1387	9.01	33.04	93.8	0.366704	1.041065	8.9162	4.1	56.626255	2.1
1388	8.79	30.55	77.85	0.347554	0.885666	8.71215	4.1	56.697752	2.1
1389	8.55	29.21	58.38	0.341637	0.682807	8.49162	4.1	56.76925	2
1390	8.33	28.64	50.58	0.343818	0.607203	8.27942	4.1	56.840747	2
1391	7.92	26.36	56.25	0.332828	0.710227	7.86375	4.1	56.912244	2
1392	7.85	25.63	67.56	0.326497	0.860637	7.78244	4.1	56.983742	2
1393	7.88	24.53	86.89	0.311294	1.102665	7.79311	4.1	57.055239	2
1394	7.89	22.57	97.43	0.286058	1.234854	7.79257	4.1	57.126737	2
1395	7.86	21.23	103.61	0.270102	1.318193	7.75639	4.1	57.198234	2
1396	7.82	19.76	104.2	0.252685	1.332481	7.7158	4.1	57.269732	2
1397	7.69	18.46	87.25	0.240052	1.13459	7.60275	4.1	57.341229	2
1398	7.46	17.48	60.02	0.234316	0.804558	7.39998	4.1	57.412727	2
1399	6.86	16.34	10.5	0.238192	0.153061	6.8495	4.1	57.484224	2
1400	6.57	15.89	-1.46	0.241857	-0.022222	6.57146	4.1	57.555721	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1401	6.24	15.11	-8.86	0.242147	-0.141987	6.24886	4.1	57.627219	2
1402	5.96	14.71	8.13	0.246812	0.136409	5.95187	4.1	57.698716	2
1403	5.68	15.2	50.14	0.267606	0.882746	5.62986	4.1	57.770214	2
1404	5.39	14.46	68.62	0.268275	1.273098	5.32138	4.1	57.841711	2
1405	5.18	15.2	91.68	0.293436	1.769884	5.08832	4.1	57.913209	2
1406	4.81	17.07	122.28	0.354886	2.542204	4.68772	4.1	57.984706	2
1407	4.62	19.43	134.5	0.420563	2.911255	4.4855	4.1	58.056204	2
1408	4.67	22.57	189.14	0.483298	4.050107	4.48086	4.1	58.127701	2
1409	5.25	24.2	182.37	0.460952	3.473714	5.06763	4.1	58.199198	2
1410	5.76	27.83	172.13	0.48316	2.988368	5.58787	4.1	58.270696	2
1411	6.27	34.22	155.69	0.545774	2.483094	6.11431	4.1	58.342193	2
1412	6.63	47.01	184.57	0.70905	2.783861	6.44543	4.1	58.413691	2
1413	7.13	45.75	189.11	0.641655	2.652314	6.94089	4	58.483447	2
1414	7.3	42.08	193.9	0.576438	2.656164	7.1061	4	58.553204	2
1415	7.54	41.27	161.11	0.547347	2.136737	7.37889	4.1	58.624701	2
1416	7.88	40.29	182.04	0.511294	2.310152	7.69796	4.1	58.696199	1.9
1417	8.31	39.56	156.97	0.476053	1.888929	8.15303	4	58.765955	1.9
1418	8.66	39.84	201.26	0.460046	2.324018	8.45874	4	58.835712	2
1419	8.91	39.68	227.94	0.445342	2.558249	8.68206	4	58.905468	2
1420	9.22	38.78	259.42	0.420607	2.813666	8.96058	4	58.975225	2
1421	9.3	38.83	251.44	0.417527	2.703656	9.04856	4	59.044981	2
1422	9.22	39.19	217.51	0.425054	2.359111	9.00249	4	59.114737	2
1423	8.96	39.23	169.23	0.437835	1.888728	8.79077	4	59.184494	2
1424	8.58	38.42	120.3	0.447786	1.402098	8.4597	4	59.25425	2
1425	8.12	35.97	73.78	0.44298	0.908621	8.04622	4	59.324007	2
1426	7.36	29.37	44.1	0.399049	0.599185	7.3159	4	59.393763	2
1427	7.1	29.94	50.54	0.42169	0.711831	7.04946	4	59.46352	2
1428	6.92	30.92	60.94	0.446821	0.880636	6.85906	4	59.533276	2
1429	6.83	32.31	83.96	0.47306	1.229283	6.74604	4	59.603033	2
1430	7.09	34.87	150.28	0.491819	2.119605	6.93972	4	59.672789	2
1431	7.5	36.83	194.2	0.491067	2.589333	7.3058	4	59.742546	2
1432	7.88	39.27	231.6	0.49835	2.939086	7.6484	4	59.812302	2
1433	8.27	46.57	278.92	0.56312	3.372672	7.99108	4	59.882059	2
1434	9	48.89	347.29	0.543222	3.858778	8.65271	4	59.951815	2
1435	9.21	47.05	370.6	0.510858	4.023887	8.8394	4	60.021572	2
1436	9.22	43.39	348.53	0.470607	3.780152	8.87147	4	60.091328	2
1437	8.94	40.21	269.04	0.449776	3.009396	8.67096	4	60.161085	2
1438	8.34	38.66	182.19	0.463549	2.184532	8.15781	4	60.230841	2
1439	7.73	37.07	108.66	0.47956	1.405692	7.62134	4.1	60.302339	2
1440	6.8	35.08	36.31	0.515882	0.533971	6.76369	4.1	60.373836	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1441	6.5	36.99	36.6	0.569077	0.563077	6.4634	4.1	60.445333	2
1442	6.35	40.25	56.88	0.633858	0.895748	6.29312	3.9	60.513349	2
1443	6.39	44.65	106.32	0.698748	1.66385	6.28368	3.9	60.581364	2
1444	6.64	48.6	172.24	0.731928	2.593976	6.46776	3.9	60.649379	2
1445	7.1	52.47	243.31	0.739014	3.426901	6.85669	3.9	60.717395	2
1446	7.77	52.51	337.77	0.675804	4.347104	7.43223	4.1	60.788892	1.9
1447	9.33	45.06	419.61	0.482958	4.497428	8.91039	4	60.858648	1.9
1448	9.98	40.58	205.58	0.406613	2.05992	9.77442	3.9	60.926664	2
1449	10.41	35.65	223.66	0.342459	2.148511	10.18634	3.9	60.994679	2
1450	10.67	36.99	240.09	0.346673	2.250141	10.42991	4.1	61.066177	2
1451	10.8	38.74	261.03	0.358704	2.416944	10.53897	4.1	61.137674	2
1452	10.94	39.6	158.44	0.361974	1.448263	10.78156	4.1	61.209171	2
1453	11.09	41.07	172.31	0.370334	1.553742	10.91769	4.1	61.280669	2
1454	11.55	41.43	222.12	0.358701	1.923117	11.32788	4.1	61.352166	2
1455	11.75	40.74	210.37	0.346723	1.790383	11.53963	4.1	61.423664	2
1456	11.8	40.94	197.27	0.346949	1.67178	11.60273	4.1	61.495161	1.9
1457	11.86	40.54	184.79	0.341821	1.558094	11.67521	4.1	61.566659	1.9
1458	11.85	39.64	168.87	0.334515	1.425063	11.68113	4.1	61.638156	2
1459	11.84	39.15	184.94	0.330659	1.561993	11.65506	4.1	61.709654	2
1460	12.41	36.83	225.56	0.296777	1.817566	12.18444	4.1	61.781151	2
1461	13.47	33.73	213.3	0.250408	1.583519	13.2567	4.1	61.852648	1.9
1462	13.95	32.75	269.99	0.234767	1.935412	13.68001	4.1	61.924146	1.9
1463	14.28	32.27	279.29	0.22598	1.955812	14.00071	4.1	61.995643	1.9
1464	14.5	32.14	277.35	0.221655	1.912759	14.22265	4.1	62.067141	1.9
1465	13.88	31.57	174.43	0.22745	1.2567	13.70557	4.1	62.138638	1.9
1466	14.27	31.33	189.66	0.219552	1.329082	14.08034	4	62.208395	1.9
1467	14.21	31.08	196.87	0.218719	1.385433	14.01313	4.1	62.279892	1.9
1468	14.14	31.37	207.33	0.221853	1.466266	13.93267	4	62.349649	1.9
1469	14.02	32.55	221.39	0.232168	1.579101	13.79861	4	62.419405	1.9
1470	13.99	33	240.38	0.235883	1.718227	13.74962	4	62.489162	1.9
1471	13.97	33.49	252.5	0.239728	1.807445	13.7175	4	62.558918	1.9
1472	13.71	35.32	249.57	0.257622	1.82035	13.46043	4	62.628674	1.9
1473	13.59	36.14	261.17	0.265931	1.921781	13.32883	4	62.698431	1.9
1474	13.52	37.28	275.78	0.27574	2.039793	13.24422	4	62.768187	1.9
1475	13.62	37.52	302.27	0.275477	2.21931	13.31773	4	62.837944	1.9
1476	13.81	37.36	339.13	0.270529	2.455684	13.47087	4	62.9077	2
1477	14.03	37.64	377.01	0.268282	2.68717	13.65299	4	62.977457	2
1478	14.6	35.97	480.88	0.24637	3.293699	14.11912	4	63.047213	1.9
1479	14.85	34.34	487.17	0.231246	3.280606	14.36283	4	63.11697	1.9
1480	14.97	33.33	454.05	0.222645	3.033066	14.51595	4	63.186726	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1481	14.92	33.12	415.44	0.221984	2.78445	14.50456	4	63.256483	1.9
1482	14.92	33.12	415.44	0.221984	2.78445	14.50456	4	63.326239	5.2
1483	14.92	33.12	415.44	0.221984	2.78445	14.50456	4	63.395996	5.2
1484	14.19	19.51	132.01	0.137491	0.930303	14.05799	4	63.465752	1.6
1485	14.88	24	165.03	0.16129	1.109073	14.71497	4	63.535509	1.9
1486	15.04	26.36	165.76	0.175266	1.102128	14.87424	4	63.605265	1.9
1487	15.13	27.95	166.23	0.184732	1.098678	14.96377	4	63.675022	1.9
1488	15.15	29.82	168.65	0.196832	1.113201	14.98135	4	63.744778	1.9
1489	15.1	30.84	158.47	0.204238	1.04947	14.94153	4	63.814535	1.9
1490	14.73	31.08	114.7	0.210998	0.778683	14.6153	4	63.884291	1.9
1491	14.38	30.27	86.85	0.210501	0.603964	14.29315	4	63.954047	1.9
1492	14.01	30.15	71.33	0.215203	0.509136	13.93867	4	64.023804	1.9
1493	13.65	30.39	57.79	0.222637	0.42337	13.59221	4	64.09356	1.9
1494	13.22	32.06	40.04	0.242511	0.302874	13.17996	4	64.163317	1.9
1495	12.42	33.85	28.62	0.272544	0.230435	12.39138	4	64.233073	1.9
1496	12.01	32.88	21.59	0.273772	0.179767	11.98841	4	64.30283	1.9
1497	11.62	33	27.63	0.283993	0.23778	11.59237	4.1	64.374327	1.9
1498	11.27	32.02	25.58	0.284117	0.226974	11.24442	4	64.444084	1.9
1499	10.85	31.61	20.35	0.291336	0.187558	10.82965	4	64.51384	1.9
1500	10.38	32.92	10.17	0.317148	0.097977	10.36983	4.1	64.585338	1.9
1501	9.88	33.98	5.89	0.343927	0.059615	9.87411	4	64.655094	1.9
1502	8.91	32.31	-1.94	0.362626	-0.021773	8.91194	4.1	64.726592	1.9
1503	8.46	30.96	1.61	0.365957	0.019031	8.45839	4	64.796348	2
1504	8.06	30.43	15.66	0.377543	0.194293	8.04434	4	64.866105	2
1505	7.77	31.45	53.25	0.404762	0.685328	7.71675	4	64.935861	2
1506	7.58	32.71	75.54	0.43153	0.99657	7.50446	4	65.005617	2
1507	7.51	32.88	106.76	0.437816	1.421571	7.40324	4	65.075374	2
1508	7.65	32.35	125.72	0.422876	1.643399	7.52428	4	65.14513	2
1509	8.7	34.26	169.97	0.393793	1.953678	8.53003	3.9	65.213146	2
1510	9.55	36.34	204.74	0.380524	2.143874	9.34526	3.9	65.281161	2
1511	10.46	37.36	244.45	0.35717	2.336998	10.21555	3.9	65.349176	2
1512	11.31	39.31	281.01	0.347569	2.484615	11.02899	3.9	65.417192	1.9
1513	12.03	40.41	314.61	0.33591	2.615212	11.71539	3.9	65.485207	1.9
1514	12.58	43.27	330.53	0.343959	2.627424	12.24947	3.9	65.553222	1.9
1515	13.22	44.45	263.84	0.336233	1.995764	12.95616	3.9	65.621237	1.9
1516	13.46	44.28	246.46	0.328975	1.831055	13.21354	3.9	65.689253	2
1517	13.62	45.59	257.88	0.334728	1.893392	13.36212	3.9	65.757268	2
1518	13.64	46.77	272.3	0.342889	1.996334	13.3677	3.9	65.825283	2
1519	13.61	45.51	281.37	0.334386	2.067377	13.32863	3.9	65.893299	2
1520	13.58	43.14	267.25	0.317673	1.967968	13.31275	3.9	65.961314	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1521	13.57	42.61	276.14	0.314001	2.03493	13.29386	3.9	66.029329	2
1522	13.5	42.25	270.39	0.312963	2.002889	13.22961	3.9	66.097344	2
1523	13.48	41.92	268.24	0.310979	1.989911	13.21176	3.9	66.16536	2
1524	13.42	41.11	262.27	0.306334	1.954322	13.15773	3.9	66.233375	2
1525	13.35	40.13	259.78	0.300599	1.945918	13.09022	3.9	66.30139	2
1526	13.27	38.87	255.79	0.292916	1.927581	13.01421	3.9	66.369406	2
1527	13.27	38.46	263.4	0.289827	1.984928	13.0066	3.9	66.437421	2
1528	13.38	39.19	295.72	0.2929	2.210164	13.08428	3.9	66.505436	2
1529	13.51	39.84	318.19	0.294893	2.355218	13.19181	3.9	66.573452	2
1530	13.62	40.45	327.97	0.29699	2.408003	13.29203	3.9	66.641467	1.9
1531	13.69	41.31	339.68	0.301753	2.481227	13.35032	3.9	66.709482	1.9
1532	13.8	41.6	344.84	0.301449	2.498841	13.45516	3.9	66.777497	1.9
1533	13.8	42.12	338.03	0.305217	2.449493	13.46197	3.9	66.845513	1.9
1534	13.73	42.78	325.59	0.31158	2.371377	13.40441	3.9	66.913528	1.9
1535	13.55	44.61	310	0.329225	2.287823	13.24	4.1	66.985025	1.9
1536	13.5	45.14	308.68	0.33437	2.286519	13.19132	4.1	67.056523	1.9
1537	13.54	45.55	315.45	0.336411	2.329764	13.22455	4.1	67.12802	1.9
1538	13.55	45.63	313.98	0.336753	2.317196	13.23602	3.9	67.196036	2
1539	13.56	46.2	314.79	0.340708	2.32146	13.24521	3.9	67.264051	2
1540	13.48	47.46	307.65	0.352077	2.28227	13.17235	3.9	67.332066	2
1541	13.35	47.3	285.84	0.354307	2.141124	13.06416	4.1	67.403564	2
1542	12.99	47.26	248.55	0.363818	1.913395	12.74145	3.9	67.471579	2
1543	12.81	47.83	240.13	0.37338	1.874551	12.56987	3.9	67.539594	2
1544	12.74	47.05	244.15	0.369309	1.916405	12.49585	4.1	67.611092	2
1545	12.7	46.16	253.19	0.363465	1.993622	12.44681	4.1	67.682589	2
1546	12.78	46.85	278.37	0.366588	2.178169	12.50163	3.9	67.750604	2
1547	13.1	48.93	329.94	0.373511	2.518626	12.77006	4.1	67.822102	2
1548	13.72	50.44	416.24	0.367638	3.033819	13.30376	4.1	67.893599	2
1549	14.43	49.82	480.29	0.345253	3.328413	13.94971	4.1	67.965097	2
1550	14.96	50.31	510.12	0.336297	3.409893	14.44988	4.1	68.036594	2
1551	15.15	51.78	504.96	0.341782	3.333069	14.64504	3.9	68.104609	2
1552	15	51.66	458.37	0.3444	3.0558	14.54163	4.1	68.176107	2
1553	14.89	51.82	439.23	0.348019	2.949832	14.45077	4.1	68.247604	2
1554	14.8	52.11	431.87	0.352095	2.918041	14.36813	4.1	68.319102	2
1555	14.76	52.15	434.32	0.35332	2.942547	14.32568	4.1	68.390599	2
1556	14.8	52.07	445.71	0.351824	3.011554	14.35429	4.1	68.462097	2
1557	14.81	51.78	449.29	0.349629	3.033693	14.36071	4.1	68.533594	2
1558	14.81	51.54	454.01	0.348008	3.065564	14.35599	4.1	68.605092	2
1559	14.79	51.09	453.61	0.345436	3.067005	14.33639	4.1	68.676589	2
1560	14.77	51.21	450.43	0.346716	3.049628	14.31957	4.1	68.748086	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1561	14.57	49.7	430	0.341112	2.95127	14.14	4.1	68.819584	2
1562	14.2	47.38	400.65	0.333662	2.821479	13.79935	3.9	68.887599	2
1563	13.96	46.61	373.53	0.333883	2.675716	13.58647	4.1	68.959097	2
1564	13.72	45.26	354.39	0.329883	2.583017	13.36561	3.9	69.027112	2
1565	13.48	44.28	332.25	0.328487	2.464763	13.14775	3.9	69.095127	2
1566	13.19	43.8	303.52	0.33207	2.301137	12.88648	3.9	69.163143	2
1567	12.84	43.75	264.21	0.340732	2.05771	12.57579	3.9	69.231158	2
1568	12.34	43.92	206.24	0.355916	1.671313	12.13376	3.9	69.299173	2
1569	11.68	43.51	130.92	0.372517	1.12089	11.54908	3.9	69.367188	2.1
1570	10.85	43.27	50.76	0.398802	0.467834	10.79924	3.9	69.435204	2.1
1571	10.02	43.39	8.2	0.433034	0.081836	10.0118	4.1	69.506701	2.1
1572	8.63	44.81	-10.87	0.519235	-0.125956	8.64087	4.1	69.578199	2.1
1573	8.14	45.47	6.77	0.5586	0.08317	8.13323	3.9	69.646214	2.1
1574	7.87	45.22	37.48	0.574587	0.476239	7.83252	4.1	69.717711	2.1
1575	7.89	47.46	94.61	0.601521	1.199113	7.79539	4.1	69.789209	2.1
1576	8.19	51.05	139.33	0.623321	1.701221	8.05067	4.1	69.860706	2.1
1577	8.57	52.43	146.18	0.611785	1.705718	8.42382	4.1	69.932204	2.1
1578	8.97	55.98	166.82	0.62408	1.859755	8.80318	3.9	70.000219	2
1579	9.47	60.62	228.42	0.640127	2.412038	9.24158	3.9	70.068234	2
1580	9.95	62.33	304.69	0.626432	3.062211	9.64531	3.9	70.136249	2
1581	10.16	58.05	279.73	0.571358	2.753248	9.88027	3.9	70.204265	2
1582	10.16	58.05	279.73	0.571358	2.753248	9.88027	3.9	70.27228	2
1583	10.16	58.05	279.73	0.571358	2.753248	9.88027	3.9	70.340295	1.8
1584	9.18	35.36	235.77	0.385185	2.568301	8.94423	4.1	70.411793	1.8
1585	9.03	33.77	171.1	0.373976	1.894795	8.8589	4.1	70.48329	2.2
1586	8.74	33.53	133.37	0.383638	1.525973	8.60663	4	70.553047	2.2
1587	8.46	32.8	111.33	0.387707	1.315957	8.34867	4	70.622803	2.1
1588	7.94	32.18	94.32	0.40529	1.187909	7.84568	3.9	70.690818	2.1
1589	7.67	33.49	85.2	0.436636	1.110821	7.5848	3.9	70.758834	2
1590	7.39	34.63	82.38	0.468606	1.11475	7.30762	4.1	70.830331	2
1591	7.13	34.87	79.35	0.48906	1.112903	7.05065	3.9	70.898347	2
1592	6.86	34.95	77.26	0.509475	1.126239	6.78274	4	70.968103	2
1593	6.58	33.69	76.93	0.512006	1.169149	6.50307	4	71.037859	2
1594	6.32	30.07	78.54	0.475791	1.242722	6.24146	4.1	71.109357	2
1595	6.05	28.56	76.93	0.472066	1.27157	5.97307	4	71.179113	2
1596	5.5	29.54	81.07	0.537091	1.474	5.41893	4	71.24887	2
1597	5.22	30.15	77.7	0.577586	1.488506	5.1423	4	71.318626	2
1598	4.94	30.47	79.64	0.616802	1.612146	4.86036	4	71.388383	2
1599	4.73	30.6	95.27	0.646934	2.014165	4.63473	4	71.458139	2
1600	4.62	30.76	114.85	0.665801	2.485931	4.50515	4	71.527896	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1601	4.53	30.96	125.83	0.683444	2.777704	4.40417	4	71.597652	2
1602	4.43	31.61	126.85	0.713544	2.863431	4.30315	4	71.667409	2
1603	4.27	32.92	125.75	0.77096	2.944965	4.14425	3.9	71.735424	2
1604	4.27	33.98	133.29	0.795785	3.121546	4.13671	4	71.80518	2
1605	4.49	36.14	152.33	0.8049	3.39265	4.33767	3.9	71.873196	2
1606	4.71	39.27	151.85	0.833758	3.223992	4.55815	4	71.942952	2
1607	4.92	43.59	146.47	0.885976	2.977033	4.77353	4	72.012709	2
1608	5.14	51.82	153.06	1.008171	2.977821	4.98694	3.9	72.080724	2
1609	5.49	54.14	189.8	0.986157	3.457195	5.3002	3.9	72.148739	2
1610	5.83	48.85	168.69	0.837907	2.893482	5.66131	3.9	72.216755	2
1611	6.16	42.7	88.64	0.693182	1.438961	6.07136	3.9	72.28477	2
1612	6.22	42.82	107.27	0.688424	1.724598	6.11273	3.9	72.352785	2
1613	6.23	42.12	120.89	0.676083	1.940449	6.10911	3.9	72.4208	2
1614	6.16	41.15	120.85	0.668019	1.961851	6.03915	4	72.490557	2
1615	6.07	39.64	116.75	0.653048	1.923394	5.95325	3.9	72.558572	2
1616	5.92	38.74	108.33	0.654392	1.829899	5.81167	3.9	72.626588	2
1617	5.5	36.79	105.19	0.668909	1.912545	5.39481	3.9	72.694603	2
1618	5.3	35.93	105.04	0.677925	1.981887	5.19496	3.9	72.762618	2
1619	5.16	35.08	108.44	0.679845	2.10155	5.05156	3.9	72.830633	2
1620	5.01	34.06	100.68	0.67984	2.009581	4.90932	3.9	72.898649	2
1621	4.8	33.53	99.22	0.698542	2.067083	4.70078	3.9	72.966664	2
1622	4.61	29.54	103.83	0.640781	2.252278	4.50617	3.9	73.034679	2
1623	4.39	29.33	119.06	0.668109	2.712073	4.27094	4	73.104436	2
1624	4.17	29.74	118.54	0.713189	2.842686	4.05146	3.9	73.172451	2
1625	3.72	32.59	124.29	0.876075	3.341129	3.59571	4	73.242207	2
1626	3.48	33.12	118.69	0.951724	3.410632	3.36131	3.9	73.310223	2
1627	3.29	33.77	115.95	1.026444	3.524316	3.17405	4	73.379979	2
1628	3.15	34.79	117.15	1.104444	3.719048	3.03285	4	73.449736	2
1629	3.08	36.46	123.41	1.183766	4.006818	2.95659	4	73.519492	2
1630	3.07	38.3	128.65	1.247557	4.190554	2.94135	4	73.589249	2
1631	3.12	41.76	131.9	1.338462	4.227564	2.9881	4	73.659005	2
1632	3.92	55.16	181.64	1.407143	4.633673	3.73836	3.9	73.72702	2
1633	4.56	59.19	191.3	1.298026	4.195175	4.3687	3.9	73.795036	2
1634	5.29	59.52	231.42	1.125142	4.374669	5.05858	3.9	73.863051	2
1635	5.93	59.81	186.95	1.0086	3.152614	5.74305	3.9	73.931066	1.9
1636	6.35	58.95	167.4	0.928346	2.63622	6.1826	4	74.000823	1.9
1637	6.55	55.24	148.37	0.843359	2.265191	6.40163	4	74.070579	2
1638	6.62	50.4	92.41	0.761329	1.395921	6.52759	4	74.140336	2
1639	6.69	47.95	117.7	0.716741	1.759342	6.5723	4	74.210092	2
1640	6.93	44.77	157.49	0.646032	2.272583	6.77251	4	74.279849	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1641	7.35	42.37	182.26	0.576463	2.479728	7.16774	4	74.349605	2
1642	7.8	41.72	191.96	0.534872	2.461026	7.60804	4	74.419362	2
1643	8.22	41.72	193.1	0.507543	2.349148	8.0269	3.9	74.487377	2
1644	8.53	42.7	188.93	0.500586	2.214889	8.34107	4	74.557133	2
1645	9.05	44.65	181.02	0.49337	2.000221	8.86898	4	74.62689	1.9
1646	9.3	42.7	165.21	0.45914	1.776452	9.13479	4	74.696646	1.9
1647	9.42	38.78	143.8	0.411677	1.526539	9.2762	4	74.766403	2
1648	9.46	35.77	112.1	0.378118	1.184989	9.3479	4	74.836159	2
1649	9.37	35.04	102.4	0.373959	1.09285	9.2676	4	74.905916	2
1650	9.16	35.69	100.25	0.389629	1.094432	9.05975	4	74.975672	2
1651	9	34.22	107.89	0.380222	1.198778	8.89211	4	75.045429	2
1652	8.88	35.16	125.75	0.395946	1.416104	8.75425	4	75.115185	2
1653	8.85	35.16	126.38	0.397288	1.428023	8.72362	4	75.184942	2
1654	8.73	36.1	114.48	0.413517	1.31134	8.61552	4	75.254698	2
1655	8.51	38.05	103.69	0.447121	1.218449	8.40631	4	75.324455	2
1656	8.21	40.66	103.61	0.49525	1.261998	8.10639	4	75.394211	2
1657	7.91	42.41	98.6	0.536157	1.246523	7.8114	4	75.463968	2
1658	7.53	41.92	90.99	0.556707	1.208367	7.43901	4	75.533724	2
1659	6.63	42.17	66.87	0.636048	1.008597	6.56313	4	75.60348	2
1660	6.17	44.53	64.93	0.721718	1.05235	6.10507	4	75.673237	2
1661	5.55	49.3	81.8	0.888288	1.473874	5.4682	4	75.742993	2
1662	5.57	49.66	109.29	0.891562	1.962118	5.46071	4	75.81275	2
1663	5.57	48.4	120.85	0.868941	2.169659	5.44915	4	75.882506	2
1664	5.6	47.95	138.49	0.85625	2.473036	5.46151	4	75.952263	2
1665	5.72	47.91	141.79	0.837587	2.478846	5.57821	4	76.022019	2
1666	5.76	48.36	139.04	0.839583	2.413889	5.62096	4	76.091776	2
1667	5.53	46.57	131.43	0.842134	2.376673	5.39857	4	76.161532	2
1668	5.03	46.65	124.14	0.927435	2.467992	4.90586	4	76.231289	2
1669	4.61	43.67	128.35	0.947289	2.784165	4.48165	4	76.301045	2
1670	4.24	41.11	115.25	0.969575	2.71816	4.12475	4	76.370802	2
1671	3.9	40.45	104.27	1.037179	2.67359	3.79573	4	76.440558	2
1672	3.58	38.83	96	1.084637	2.681564	3.484	4.2	76.513796	2
1673	3.13	40.86	115.25	1.305431	3.682109	3.01475	4	76.583553	2
1674	2.39	46.52	98.56	1.946444	4.123849	2.29144	4	76.653309	2
1675	2.15	50.4	128.57	2.344186	5.98	2.02143	4	76.723066	2
1676	2.13	54.47	141.05	2.557277	6.622066	1.98895	4	76.792822	2
1677	2.36	57.24	165.46	2.425424	7.011017	2.19454	4	76.862579	2
1678	2.89	66.65	224.24	2.306228	7.75917	2.66576	4	76.932335	2
1679	3.66	70.03	265.34	1.913388	7.249727	3.39466	4	77.002092	1.9
1680	5.39	59.93	465.94	1.111874	8.644527	4.92406	4	77.071848	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1681	6.19	53.57	516.6	0.865428	8.345719	5.6734	4	77.141605	1.9
1682	6.19	53.57	516.6	0.865428	8.345719	5.6734	4	77.211361	1.9
1683	6.19	53.57	516.6	0.865428	8.345719	5.6734	4	77.281118	0.4
1684	7.12	25.18	465.25	0.353652	6.53441	6.65475	4	77.350874	1.9
1685	7.41	26.24	407.17	0.354116	5.494872	7.00283	4	77.420631	1.9
1686	7.69	27.17	379.61	0.353316	4.936411	7.31039	4	77.490387	1.9
1687	7.75	27.87	362.95	0.359613	4.683226	7.38705	4	77.560143	2
1688	8.23	28.48	352.6	0.346051	4.284326	7.8774	4	77.6299	1.9
1689	8.49	29.7	344.69	0.349823	4.059953	8.14531	4	77.699656	1.9
1690	8.89	31.37	327.75	0.352868	3.686727	8.56225	4	77.769413	1.9
1691	9.08	32.75	325.55	0.360683	3.585352	8.75445	4	77.839169	1.9
1692	9.24	34.59	326.9	0.374351	3.537879	8.9131	4	77.908926	2
1693	9.47	36.01	336.86	0.380253	3.557128	9.13314	4	77.978682	2
1694	9.7	36.58	347.95	0.377113	3.587113	9.35205	4	78.048439	1.9
1695	9.97	37.32	363.21	0.374323	3.643029	9.60679	4	78.118195	1.9
1696	10.6	39.93	402.37	0.376698	3.795943	10.19763	4	78.187952	1.9
1697	10.92	42.49	421.55	0.389103	3.860348	10.49845	4	78.257708	1.9
1698	11.22	45.71	437.69	0.407398	3.90098	10.78231	4	78.327465	1.9
1699	11.42	47.54	443.22	0.416287	3.881086	10.97678	4	78.397221	1.9
1700	11.65	49.58	447.83	0.425579	3.844034	11.20217	4	78.466978	1.9
1701	11.82	51.74	451.93	0.437733	3.823435	11.36807	4	78.536734	1.9
1702	11.98	53.78	459.72	0.448915	3.837396	11.52028	4	78.606491	1.9
1703	12.34	58.26	478.68	0.472123	3.879092	11.86132	4	78.676247	1.9
1704	12.51	60.29	487.57	0.481934	3.897442	12.02243	4	78.746004	1.9
1705	12.65	62.58	495.04	0.494704	3.91336	12.15496	4	78.81576	1.9
1706	12.82	64.74	508.51	0.504992	3.966537	12.31149	4	78.885516	1.9
1707	13.01	66.32	524.03	0.509762	4.027902	12.48597	4	78.955273	1.9
1708	13.39	69.3	551.48	0.51755	4.118596	12.83852	4	79.025029	1.9
1709	13.53	70.97	559.09	0.524538	4.132225	12.97091	4	79.094786	1.9
1710	13.65	73.13	568.86	0.535751	4.167473	13.08114	4	79.164542	1.9
1711	13.75	74.76	573.51	0.543709	4.170982	13.17649	4	79.234299	1.9
1712	13.79	75.78	571.9	0.549529	4.147208	13.2181	4	79.304055	1.9
1713	13.8	76.88	568.17	0.557101	4.117174	13.23183	4	79.373812	1.9
1714	13.79	78.06	564.29	0.566062	4.092023	13.22571	4	79.443568	1.9
1715	13.83	79.32	568.93	0.573536	4.113738	13.26107	4	79.513325	1.9
1716	13.85	80.14	574.72	0.578628	4.149603	13.27528	4	79.583081	1.9
1717	13.94	81.28	590.16	0.58307	4.233572	13.34984	4	79.652838	1.9
1718	14.05	81.93	606.6	0.583132	4.317438	13.4434	4	79.722594	1.9
1719	14.22	82.7	626.47	0.581575	4.405556	13.59353	4	79.792351	1.9
1720	14.51	84.45	658.6	0.582012	4.538939	13.8514	4	79.862107	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1721	14.68	85.15	679.54	0.580041	4.629019	14.00046	4	79.931864	1.9
1722	14.86	86.57	702.19	0.582571	4.72537	14.15781	4.1	80.003361	1.9
1723	15.07	86.21	724.85	0.572064	4.809887	14.34515	4	80.073118	1.9
1724	15.31	85.64	753.47	0.559373	4.921424	14.55653	4	80.142874	1.9
1725	15.53	85.31	775.57	0.549324	4.994012	14.75443	4	80.21263	1.9
1726	15.81	86.78	795.41	0.548893	5.031056	15.01459	4	80.282387	1.9
1727	15.88	86.69	801.56	0.545907	5.047607	15.07844	4	80.352143	1.9
1728	15.96	86.61	805.8	0.542669	5.048872	15.1542	4	80.4219	1.9
1729	15.99	85.72	803.97	0.536085	5.027955	15.18603	4	80.491656	2
1730	16.03	86.57	807.96	0.54005	5.040299	15.22204	4	80.561413	1.9
1731	16.06	86.29	800.86	0.537298	4.986675	15.25914	4	80.631169	1.9
1732	16.07	89.59	806.06	0.557498	5.01593	15.26394	4	80.700926	1.9
1733	16.04	90.24	797.06	0.562594	4.969202	15.24294	4	80.770682	1.9
1734	15.96	92.36	797.35	0.578697	4.995927	15.16265	4	80.840439	1.9
1735	15.92	93.91	798.96	0.589887	5.018593	15.12104	4	80.910195	1.9
1736	15.96	95.05	808.07	0.595551	5.063095	15.15193	4	80.979952	1.9
1737	16.02	95.94	818.8	0.598876	5.111111	15.2012	4	81.049708	1.9
1738	16.04	96.72	820.63	0.602993	5.116147	15.21937	4	81.119465	1.9
1739	16	97.78	818.87	0.611125	5.117938	15.18113	4	81.189221	1.9
1740	15.95	98.31	815.36	0.616364	5.111975	15.13464	4	81.258978	1.9
1741	15.94	99.32	815.25	0.623087	5.114492	15.12475	4	81.328734	1.9
1742	15.92	101.08	814.41	0.634925	5.115641	15.10559	4	81.398491	1.9
1743	15.86	103.32	818.21	0.65145	5.158953	15.04179	4	81.468247	1.9
1744	15.86	103.32	818.21	0.65145	5.158953	15.04179	4	81.538003	2
1745	15.81	104.74	816.78	0.662492	5.166224	14.99322	4	81.60776	2
1746	15.82	105.8	820.22	0.668774	5.184703	14.99978	4	81.677516	2
1747	15.84	106.66	825.82	0.673359	5.21351	15.01418	4	81.747273	2
1748	15.87	105.8	832.45	0.666667	5.245432	15.03755	4	81.817029	2
1749	15.92	105.64	839.7	0.663568	5.274497	15.0803	4	81.886786	2
1750	15.96	105.35	849.61	0.660088	5.323371	15.11039	4	81.956542	2
1751	16.08	105.43	863.67	0.655659	5.371082	15.21633	4	82.026299	2
1752	16.19	106.33	882.37	0.656763	5.450093	15.30763	4	82.096055	2
1753	16.59	106.94	929.8	0.644605	5.604581	15.6602	4	82.165812	2
1754	16.77	107.8	950.08	0.642815	5.665355	15.81992	4	82.235568	2
1755	16.94	107.96	963.88	0.637308	5.689965	15.97612	4	82.305325	2
1756	17.01	108.08	964.86	0.635391	5.67231	16.04514	4	82.375081	2
1757	17.08	108.65	965.49	0.636124	5.652752	16.11451	4	82.444838	2
1758	17.1	109.18	966.29	0.63848	5.650819	16.13371	4	82.514594	2
1759	17.11	109.55	961.35	0.640269	5.618644	16.14865	4.1	82.586092	2
1760	17.11	109.96	961.97	0.642665	5.622268	16.14803	4	82.655848	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1761	17.09	112.2	956.59	0.656524	5.597367	16.13341	4	82.725604	2
1762	17.15	114.07	961.9	0.665131	5.608746	16.1881	4.1	82.797102	2
1763	17.19	115.17	963.36	0.669983	5.604188	16.22664	4	82.866858	2
1764	17.23	116.35	971.01	0.675276	5.635577	16.25899	4.1	82.938356	2
1765	17.25	116.92	970.35	0.677797	5.625217	16.27965	4	83.008112	2
1766	17.32	117.86	976.98	0.680485	5.640762	16.34302	4	83.077869	2
1767	17.36	118.63	980.75	0.683353	5.649482	16.37925	4	83.147625	2
1768	17.41	118.92	986.93	0.683056	5.668754	16.42307	4	83.217382	2
1769	17.47	119.16	993.92	0.682084	5.689296	16.47608	4	83.287138	2
1770	17.62	119	1005.34	0.675369	5.705675	16.61466	4	83.356895	2
1771	17.61	119.49	1000.15	0.678535	5.679443	16.60985	4.1	83.428392	2
1772	17.58	119.94	989.46	0.682253	5.628328	16.59054	4	83.498149	2
1773	17.47	120.1	976.61	0.687464	5.590212	16.49339	4	83.567905	2
1774	17.42	120.71	971.6	0.692939	5.577497	16.4484	4	83.637662	2
1775	17.34	121.24	958.68	0.699193	5.52872	16.38132	4	83.707418	2
1776	17.31	122.55	958.9	0.707972	5.539573	16.3511	4.1	83.778915	2
1777	17.3	123.48	934.93	0.713757	5.40422	16.36507	4	83.848672	2
1778	17.52	124.83	987.67	0.7125	5.637386	16.53233	4.1	83.920169	2
1779	17.73	124.87	1008.67	0.704287	5.689058	16.72133	4.1	83.991667	2
1780	17.89	124.5	1022.18	0.69592	5.713695	16.86782	4.1	84.063164	2
1781	18.02	124.62	1030.01	0.691565	5.715927	16.98999	4.1	84.134662	2
1782	18.02	124.62	1030.01	0.691565	5.715927	16.98999	4.1	84.206159	2.1
1783	18.02	124.62	1030.01	0.691565	5.715927	16.98999	4.1	84.277657	1.5
1784	17.28	107.11	1084.14	0.61985	6.273958	16.19586	4	84.347413	1.5
1785	17.53	106.49	874.32	0.607473	4.987564	16.65568	4	84.41717	1.7
1786	17.55	106.9	797.02	0.609117	4.541425	16.75298	4.1	84.488667	1.7
1787	17.59	107.84	744.21	0.613076	4.23087	16.84579	4.1	84.560164	1.8
1788	17.61	107.72	695.71	0.611698	3.950653	16.91429	4.1	84.631662	1.8
1789	17.67	109.55	632.54	0.619977	3.57974	17.03746	4	84.701418	1.9
1790	17.7	111.14	615.56	0.62791	3.47774	17.08444	4	84.771175	1.8
1791	17.77	112.08	605.02	0.630726	3.404727	17.16498	4.1	84.842672	1.8
1792	17.88	112.6	602.02	0.629754	3.367002	17.27798	4.1	84.91417	1.8
1793	17.96	113.75	598.8	0.633352	3.334076	17.3612	4.1	84.985667	1.8
1794	18.12	115.42	595.32	0.636976	3.28543	17.52468	4	85.055424	1.9
1795	18.19	116.96	595.21	0.642991	3.272183	17.59479	4	85.12518	1.9
1796	18.26	117.13	601.07	0.641457	3.291731	17.65893	4.1	85.196678	1.9
1797	15.67	130.86	355.23	0.835099	2.266943	15.31477	4.1	85.268175	0
1798	16.97	130.16	668.63	0.767001	3.940071	16.30137	4	85.337931	0.5
1799	18.72	124.13	712.95	0.663088	3.808494	18.00705	4.1	85.409429	0.5
1800	19.12	122.95	743.15	0.643044	3.886768	18.37685	4.1	85.480926	1.9



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1801	19.28	122.83	756.14	0.637085	3.921888	18.52386	4.1	85.552424	1.9
1802	19.4	122.83	765.84	0.633144	3.947629	18.63416	4.1	85.623921	1.9
1803	19.43	122.99	766.09	0.63299	3.94282	18.66391	4.1	85.695419	1.9
1804	19.44	123.44	771	0.634979	3.966049	18.669	4.1	85.766916	1.9
1805	19.46	124.7	775.87	0.640802	3.986999	18.68413	4.1	85.838414	1.9
1806	19.49	125.28	780.59	0.642791	4.00508	18.70941	4.1	85.909911	1.9
1807	19.4	126.21	779.49	0.650567	4.01799	18.62051	4.1	85.981408	1.9
1808	19.33	126.82	774.07	0.656079	4.004501	18.55593	4.1	86.052906	1.9
1809	19.19	128.82	763.2	0.671287	3.977071	18.4268	4.1	86.124403	1.9
1810	18.96	128.98	748.49	0.680274	3.947732	18.21151	4.1	86.195901	1.9
1811	18.85	129.63	747.61	0.687692	3.966101	18.10239	4.1	86.267398	1.9
1812	18.7	130.08	753.32	0.695615	4.028449	17.94668	4.1	86.338896	1.9
1813	18.76	128.9	764.3	0.6871	4.074094	17.9957	4.1	86.410393	1.9
1814	18.73	129.19	771.11	0.689749	4.116978	17.95889	4.1	86.481891	1.9
1815	18.79	132.36	795.67	0.704417	4.23454	17.99433	4.1	86.553388	1.9
1816	18.91	130.86	814.59	0.692015	4.307721	18.09541	4.1	86.624885	1.9
1817	19.03	131.75	837.28	0.692328	4.39979	18.19272	4.1	86.696383	1.9
1818	19.21	130.25	872.31	0.678032	4.540916	18.33769	4.1	86.76788	1.9
1819	19.2	129.35	877.69	0.673698	4.571302	18.32231	4.1	86.839378	1.9
1820	19.12	128.82	873.62	0.673745	4.569142	18.24638	4.1	86.910875	1.9
1821	19	129.35	868.68	0.680789	4.572	18.13132	4.1	86.982373	2
1822	18.81	127.92	860.15	0.680064	4.572834	17.94985	4.1	87.05387	2
1823	18.68	127.72	850.09	0.683726	4.550803	17.82991	4.1	87.125368	1.9
1824	18.61	128.09	859.61	0.688286	4.619076	17.75039	4.1	87.196865	1.9
1825	18.69	127.76	890.79	0.683574	4.766132	17.79921	4.1	87.268362	1.9
1826	18.76	128.57	904.73	0.685341	4.822655	17.85527	4.1	87.33986	1.9
1827	18.87	130.16	918.57	0.689772	4.867886	17.95143	4.1	87.411357	1.9
1828	18.91	130.73	935.73	0.691327	4.948334	17.97427	4.1	87.482855	1.9
1829	18.96	129.63	945.76	0.683703	4.988186	18.01424	4.1	87.554352	2
1830	19.05	130.41	961.61	0.684567	5.047822	18.08839	4.1	87.62585	2
1831	19.21	129.72	985.47	0.675273	5.129984	18.22453	4.1	87.697347	1.9
1832	19.24	129.76	991.58	0.674428	5.153742	18.24842	4.1	87.768845	1.9
1833	19.27	130.33	994.25	0.676336	5.159574	18.27575	4.1	87.840342	1.9
1834	19.24	130.37	995.13	0.677599	5.172193	18.24487	4.1	87.911839	1.9
1835	19.26	129.96	1002.56	0.674766	5.2054	18.25744	4.1	87.983337	1.9
1836	19.33	130.61	1015.59	0.675685	5.253958	18.31441	4.1	88.054834	1.9
1837	19.39	131.3	1027.38	0.677153	5.298504	18.36262	4.1	88.126332	1.9
1838	19.5	131.67	1042.6	0.675231	5.346667	18.4574	4.1	88.197829	1.9
1839	19.63	133.14	1057.64	0.678248	5.387876	18.57236	4.1	88.269327	1.9
1840	19.74	134.07	1066.28	0.679179	5.401621	18.67372	4.1	88.340824	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1841	19.82	134.07	1076.31	0.676438	5.430424	18.74369	4.1	88.412322	2
1842	19.88	133.83	1082.71	0.673189	5.446227	18.79729	4.1	88.483819	1.9
1843	20.1	134.36	1096.95	0.668458	5.457463	19.00305	4.1	88.555316	1.9
1844	20.09	134.89	1102.29	0.671429	5.48676	18.98771	4.1	88.626814	2
1845	20.15	135.38	1115.47	0.671861	5.535831	19.03453	4.1	88.698311	2
1846	20.26	135.01	1119.09	0.666387	5.523643	19.14091	4.1	88.769809	1.9
1847	20.31	134.65	1124.14	0.662974	5.534909	19.18586	4.1	88.841306	1.9
1848	20.39	135.38	1131.54	0.663953	5.549485	19.25846	4.1	88.912804	1.9
1849	20.6	135.95	1154.01	0.659951	5.60199	19.44599	4.1	88.984301	1.9
1850	20.71	135.62	1163.85	0.654853	5.619749	19.54615	4.1	89.055799	1.9
1851	20.83	135.91	1177.07	0.652472	5.65084	19.65293	4.1	89.127296	1.9
1852	21	135.87	1194.05	0.647	5.685952	19.80595	4.1	89.198793	1.9
1853	21.14	136.32	1205.8	0.644844	5.703879	19.9342	4.1	89.270291	1.9
1854	21.25	135.75	1211.03	0.638824	5.698965	20.03897	4.1	89.341788	1.9
1855	21.28	135.75	1202.43	0.637923	5.650517	20.07757	4.1	89.413286	1.9
1856	21.19	135.34	1190.94	0.638697	5.620293	19.99906	4.1	89.484783	1.9
1857	21.15	134.89	1180.25	0.637778	5.580378	19.96975	4.1	89.556281	1.9
1858	20.99	134.36	1159.54	0.640114	5.52425	19.83046	4.1	89.627778	1.9
1859	20.58	134.48	1103.94	0.65345	5.36414	19.47606	4.1	89.699276	1.9
1860	20.32	134.44	1078.58	0.661614	5.307972	19.24142	4.1	89.770773	1.9
1861	19.87	136.03	1032.35	0.6846	5.195521	18.83765	4.1	89.84227	1.9
1862	19.63	136.48	1012.11	0.695262	5.155935	18.61789	4.1	89.913768	1.9
1863	19.41	136.23	990.74	0.701855	5.104276	18.41926	4.1	89.985265	1.9
1864	19.35	138.15	992.75	0.713953	5.130491	18.35725	4.1	90.056763	1.9
1865	19.39	138.43	1004.79	0.713925	5.182001	18.38521	4.1	90.12826	1.9
1866	19.46	138.15	1015.12	0.709918	5.216444	18.44488	4.1	90.199758	1.9
1867	19.56	138.11	1027.41	0.706084	5.252607	18.53259	4.1	90.271255	1.9
1868	19.64	137.42	1029.57	0.699695	5.24221	18.61043	4.1	90.342753	1.9
1869	19.7	137.46	1032.06	0.697766	5.238883	18.66794	4.1	90.41425	1.9
1870	19.91	137.58	1046.88	0.69101	5.258061	18.86312	4.1	90.485747	1.9
1871	19.94	137.17	1046.99	0.687914	5.250702	18.89301	4.1	90.557245	1.9
1872	20.02	137.46	1053.33	0.686613	5.261389	18.96667	4.1	90.628742	1.9
1873	20.05	136.8	1048.27	0.682294	5.228279	19.00173	4.1	90.70024	1.9
1874	20.06	135.17	1046.22	0.673829	5.215454	19.01378	4.1	90.771737	1.9
1875	20.07	134.52	1034.73	0.670254	5.155605	19.03527	4.1	90.843235	1.9
1876	20.02	134.03	1026.5	0.669481	5.127373	18.9935	4.1	90.914732	1.9
1877	19.97	133.99	1011.31	0.670956	5.064146	18.95869	4.1	90.98623	1.9
1878	19.59	132.04	907.66	0.674017	4.633282	18.68234	4.1	91.057727	1.9
1879	17.55	139.37	872.63	0.794131	4.972251	16.67737	4.1	91.129224	1.5
1880	19.31	133.14	945.43	0.689487	4.896064	18.36457	4.1	91.200722	1.1

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1881	19.31	133.14	945.43	0.689487	4.896064	18.36457	4.1	91.272219	1.9
1882	19.31	133.14	945.43	0.689487	4.896064	18.36457	4.1	91.343717	1.9
1883	17.36	120.35	972.66	0.69326	5.60288	16.38734	4.1	91.415214	1.3
1884	18.08	114.28	873.48	0.63208	4.831195	17.20652	4.1	91.486712	1.6
1885	17.96	112.24	688.98	0.624944	3.836192	17.27102	4.1	91.558209	1.6
1886	17.8	112.85	613.37	0.633989	3.445899	17.18663	4.1	91.629707	1.7
1887	17.64	113.58	552.9	0.643878	3.134354	17.0871	4.1	91.701204	1.7
1888	17.27	114.23	456.5	0.661436	2.643312	16.8135	4.1	91.772701	1.8
1889	17.08	114.23	418.44	0.668794	2.449883	16.66156	4.1	91.844199	1.8
1890	16.88	114.68	383.6	0.679384	2.272512	16.4964	4.2	91.917437	1.9
1891	16.72	115.25	357.1	0.689294	2.135766	16.3629	4.1	91.988935	1.9
1892	16.5	116.19	328.15	0.704182	1.988788	16.17185	4.1	92.060432	1.9
1893	16.13	116.56	293.38	0.722629	1.818847	15.83662	4.1	92.131929	1.9
1894	15.99	117.13	278.56	0.73252	1.742089	15.71144	4.1	92.203427	1.9
1895	15.81	117.05	269.15	0.740354	1.702404	15.54085	4.1	92.274924	1.9
1896	15.72	116.15	264.69	0.738868	1.683779	15.45531	4.1	92.346422	1.9
1897	15.61	116.43	259.52	0.745868	1.662524	15.35048	4.1	92.417919	1.9
1898	15.57	116.88	263.04	0.750674	1.689403	15.30696	4.1	92.489417	1.9
1899	15.46	116.11	255.83	0.751035	1.654787	15.20417	4.1	92.560914	2.1
1900	15.27	113.66	249.9	0.744335	1.636542	15.0201	4.1	92.632412	2.1
1901	15.17	112.48	249.2	0.741463	1.642716	14.9208	4.1	92.703909	2.1
1902	15.17	112.48	249.2	0.741463	1.642716	14.9208	4.1	92.775406	2.1
1903	14.89	111.1	236.54	0.746138	1.588583	14.65346	4.1	92.846904	2.1
1904	14.69	110.32	225.05	0.750987	1.531995	14.46495	4.1	92.918401	2.1
1905	14.5	109.1	214.62	0.752414	1.480138	14.28538	4.1	92.989899	2
1906	14.31	108	210.04	0.754717	1.467785	14.09996	4.1	93.061396	2
1907	14.12	106.37	204.85	0.753329	1.450779	13.91515	4.1	93.132894	2.1
1908	13.97	105.84	202.58	0.757623	1.450107	13.76742	4.2	93.206132	2.1
1909	13.81	105.48	200.56	0.763794	1.452281	13.60944	4.2	93.27937	2.1
1910	13.65	105.03	196.46	0.769451	1.439267	13.45354	4.1	93.350868	2
1911	13.56	105.23	203.49	0.776032	1.500664	13.35651	4.2	93.424106	2
1912	13.46	104.74	221.97	0.778158	1.649108	13.23803	4.1	93.495603	2
1913	13.44	104.5	230.28	0.77753	1.713393	13.20972	4.1	93.567101	2
1914	13.42	103.81	236.39	0.773547	1.761475	13.18361	4.1	93.638598	2
1915	13.42	103.81	242.76	0.773547	1.808942	13.17724	4.2	93.711836	2
1916	13.39	103.64	245.73	0.77401	1.835176	13.14427	4.2	93.785074	2
1917	13.39	103.72	249.75	0.774608	1.865198	13.14025	4.1	93.856572	2
1918	13.37	103.11	254.8	0.771204	1.905759	13.1152	4.2	93.92981	2
1919	13.34	102.5	255.1	0.768366	1.912294	13.0849	4.1	94.001308	2
1920	13.3	102.54	257.04	0.770977	1.932632	13.04296	4.1	94.072805	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1921	13.31	102.62	266.99	0.770999	2.005935	13.04301	4.1	94.144302	2
1922	13.36	102.34	277.02	0.766018	2.073503	13.08298	4.1	94.2158	2
1923	13.58	101.97	312.12	0.750884	2.29838	13.26788	4.2	94.289038	2
1924	13.76	100.87	328.99	0.733067	2.390916	13.43101	4.2	94.362276	2
1925	13.92	100.83	342.61	0.724353	2.461279	13.57739	4.2	94.435514	2
1926	14.11	100.99	357.39	0.715734	2.532884	13.75261	4.1	94.507012	2
1927	14.26	100.99	364.09	0.708205	2.553226	13.89591	4.1	94.578509	2
1928	14.35	101.03	365.19	0.704042	2.544878	13.98481	4.1	94.650007	2
1929	14.46	101.16	365.59	0.699585	2.528285	14.09441	4.1	94.721504	2
1930	14.54	101.61	369.69	0.698831	2.542572	14.17031	4.1	94.793002	2
1931	14.78	101.56	383.71	0.687145	2.596143	14.39629	4.2	94.86624	2
1932	14.93	102.26	390.04	0.68493	2.612458	14.53996	4.2	94.939478	2
1933	15.02	102.79	389.34	0.684354	2.592144	14.63066	4.1	95.010975	2
1934	15.05	102.62	381.11	0.68186	2.532292	14.66889	4.1	95.082473	2
1935	15.04	102.91	374.26	0.684242	2.488431	14.66574	4.1	95.15397	2
1936	15.04	104.17	366.36	0.69262	2.435904	14.67364	4.1	95.225468	2
1937	15.01	104.05	360.21	0.693205	2.3998	14.64979	4.2	95.298706	2
1938	15.01	104.62	352.74	0.697002	2.350033	14.65726	4.2	95.371944	2
1939	14.91	106.09	339.46	0.711536	2.276727	14.57054	4.2	95.445182	2
1940	14.86	106.25	332.17	0.715007	2.23533	14.52783	4.2	95.518421	2
1941	14.83	106.53	332.03	0.718341	2.238908	14.49797	4.2	95.591659	2
1942	14.82	106.94	328.26	0.721592	2.21498	14.49174	4.2	95.664897	2
1943	14.81	107.31	330.53	0.724578	2.231803	14.47947	4.2	95.738135	2
1944	14.82	107.02	329.61	0.722132	2.224089	14.49039	4.2	95.811373	2
1945	14.81	106.74	330.97	0.720729	2.234774	14.47903	4.1	95.882871	2
1946	14.82	106.9	331.48	0.721323	2.236707	14.48852	4.2	95.956109	2
1947	14.85	106.94	332.72	0.720135	2.240539	14.51728	4.2	96.029347	2
1948	14.87	106.21	332.32	0.714257	2.234835	14.53768	4.2	96.102585	2
1949	14.74	103.81	313.76	0.704274	2.12863	14.42624	4.2	96.175824	2
1950	14.59	104.13	300.08	0.713708	2.056751	14.28992	4.2	96.249062	2
1951	14.39	103.76	281.34	0.721056	1.955108	14.10866	4.1	96.320559	2
1952	14.15	103.11	255.83	0.728693	1.807986	13.89417	4.2	96.393797	2
1953	13.87	103.15	228.93	0.743691	1.650541	13.64107	4.2	96.467036	2
1954	13.51	102.79	197.67	0.760844	1.463138	13.31233	4.2	96.540274	2
1955	13.14	103.81	167.44	0.79003	1.274277	12.97256	4.2	96.613512	2
1956	12.74	104.21	137.5	0.817975	1.079278	12.6025	4.2	96.68675	2
1957	12.07	104.01	96.91	0.861723	0.8029	11.97309	4.2	96.759988	2
1958	11.74	105.19	78.1	0.895997	0.665247	11.6619	4.2	96.833227	2
1959	11.48	106.25	71.08	0.925523	0.619164	11.40892	4.2	96.906465	2
1960	11.21	105.92	60.46	0.944871	0.53934	11.14954	4.2	96.979703	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
1961	10.96	106.74	82.38	0.973905	0.751642	10.87762	4.2	97.052941	2
1962	11	106.09	113.68	0.964455	1.033455	10.88632	4.2	97.126179	2
1963	11.19	104.82	159.5	0.936729	1.42538	11.0305	4.2	97.199418	2
1964	11.51	103.19	204.41	0.896525	1.775934	11.30559	4.2	97.272656	2
1965	11.86	101.16	235.41	0.852951	1.984907	11.62459	4.2	97.345894	2
1966	12.13	98.55	251.33	0.812448	2.07197	11.87867	4.2	97.419132	2
1967	12.31	94.03	245.69	0.763851	1.995857	12.06431	4.2	97.49237	2
1968	12.31	91.87	239.76	0.746304	1.947685	12.07024	4.2	97.565609	2
1969	12.28	90.77	223.58	0.739169	1.820684	12.05642	4.2	97.638847	2
1970	12.18	89.83	199.76	0.737521	1.640066	11.98024	4.2	97.712085	2
1971	12.05	89.42	173.85	0.742075	1.442739	11.87615	4.2	97.785323	2
1972	11.88	89.46	154.6	0.75303	1.301347	11.7254	4.2	97.858561	2
1973	11.76	89.02	142.74	0.756973	1.213776	11.61726	4.2	97.9318	2
1974	11.62	87.88	129.71	0.756282	1.116265	11.49029	4.2	98.005038	2
1975	11.51	86.9	122.75	0.754996	1.066464	11.38725	4.2	98.078276	2
1976	11.38	86.41	132.2	0.759315	1.161687	11.2478	4.2	98.151514	2
1977	11.38	86.94	141.57	0.763972	1.244025	11.23843	4.2	98.224752	2
1978	11.44	87.59	154.12	0.765647	1.347203	11.28588	4.2	98.297991	2
1979	11.55	88.2	171.8	0.763636	1.487446	11.3782	4.2	98.371229	2
1980	11.68	88.24	184.86	0.755479	1.582705	11.49514	4.2	98.444467	2
1981	11.68	88.24	184.86	0.755479	1.582705	11.49514	4.2	98.517705	3.2
1982	11.68	88.24	184.86	0.755479	1.582705	11.49514	4.2	98.590943	2.7
1983	10.84	76.71	868.1	0.707657	8.008303	9.9719	4.2	98.664182	1.6
1984	11.77	73.01	752.22	0.620306	6.390994	11.01778	4.2	98.73742	1.6
1985	12.27	72.88	600.89	0.593969	4.897229	11.66911	4.2	98.810658	2
1986	12.49	73.01	552.03	0.584548	4.419776	11.93797	4.2	98.883896	2
1987	12.69	73.82	515.02	0.581718	4.058471	12.17498	4.2	98.957134	1.8
1988	12.92	75.45	489.84	0.583978	3.791331	12.43016	4.2	99.030373	1.8
1989	13.11	77.32	464.92	0.589779	3.546301	12.64508	4.2	99.103611	1.9
1990	13.5	79.89	432.97	0.591778	3.207185	13.06703	4.2	99.176849	1.9
1991	13.71	81.89	425.17	0.597301	3.101167	13.28483	4.2	99.250087	1.9
1992	13.92	83.56	417.85	0.600287	3.001796	13.50215	4.2	99.323325	1.9
1993	14.15	85.88	419.24	0.606926	2.962827	13.73076	4.2	99.396564	1.9
1994	14.38	87.79	414.23	0.610501	2.880598	13.96577	4.2	99.469802	1.9
1995	14.86	91.54	416.17	0.616016	2.800606	14.44383	4.2	99.54304	1.9
1996	15.12	93.46	419.94	0.618122	2.777381	14.70006	4.2	99.616278	1.9
1997	15.43	96.31	431.58	0.624174	2.797019	14.99842	4.2	99.689516	1.8
1998	15.72	98.31	440.36	0.625382	2.801272	15.27964	4.2	99.762755	1.9
1999	15.99	100.1	446.84	0.626016	2.794497	15.54316	4.2	99.835993	1.9
2000	16.45	103.36	445.78	0.628328	2.709909	16.00422	4.2	99.909231	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2001	16.62	105.19	437.84	0.632912	2.634416	16.18216	4.2	99.982469	1.9
2002	16.75	107.31	436.96	0.640657	2.608716	16.31304	4.2	100.055707	1.9
2003	16.87	109.02	432.86	0.646236	2.565857	16.43714	4.2	100.128946	1.9
2004	17.09	112.77	430.11	0.65986	2.516735	16.65989	4.2	100.202184	1.9
2005	17.25	114.07	429.56	0.661275	2.490203	16.82044	4.2	100.275422	1.9
2006	17.31	116.19	427.84	0.671231	2.471635	16.88216	4.2	100.34866	1.9
2007	17.43	117.9	423.93	0.67642	2.432186	17.00607	4.2	100.421898	1.9
2008	17.45	119.69	422.39	0.685903	2.420573	17.02761	4.2	100.495137	1.9
2009	17.56	122.5	415.62	0.697608	2.366856	17.14438	4.2	100.568375	1.9
2010	17.59	123.77	414.45	0.703638	2.356168	17.17555	4.2	100.641613	1.9
2011	17.68	125.07	418.29	0.70741	2.365894	17.26171	4.2	100.714851	1.9
2012	17.75	126.62	419.32	0.713352	2.362366	17.33068	4.2	100.788089	1.9
2013	17.81	127.8	420.71	0.717574	2.362212	17.38929	4.2	100.861328	1.9
2014	17.85	129.47	418.22	0.725322	2.342969	17.43178	4.2	100.934566	1.9
2015	17.77	130.29	411.27	0.733202	2.314406	17.35873	4.2	101.007804	1.9
2016	17.68	131.1	402.55	0.741516	2.276867	17.27745	4.2	101.081042	1.9
2017	17.55	133.18	392.75	0.75886	2.237892	17.15725	4.2	101.15428	1.9
2018	17.41	133.71	383.41	0.768007	2.20224	17.02659	4.2	101.227518	1.9
2019	17.26	134.69	387.59	0.780359	2.245597	16.87241	4.2	101.300757	1.9
2020	17.24	135.22	396.52	0.784339	2.3	16.84348	4.2	101.373995	1.9
2021	17.32	135.42	416.76	0.781871	2.406236	16.90324	4.2	101.447233	1.9
2022	17.48	135.17	441.46	0.773284	2.525515	17.03854	4.2	101.520471	1.9
2023	17.65	135.42	461.41	0.767252	2.614221	17.18859	4.2	101.593709	1.9
2024	17.98	135.58	501.12	0.75406	2.787097	17.47888	4.2	101.666948	1.9
2025	18.14	135.66	521.21	0.74785	2.873264	17.61879	4.2	101.740186	1.9
2026	18.27	135.79	534.9	0.74324	2.92775	17.7351	4.2	101.813424	1.8
2027	18.42	135.87	550.27	0.737622	2.987351	17.86973	4.2	101.886662	1.8
2028	18.59	137.17	568.72	0.73787	3.059279	18.02128	4.2	101.9599	1.9
2029	18.68	137.05	581.85	0.733672	3.114829	18.09815	4.2	102.033139	1.9
2030	18.82	137.09	596.38	0.728427	3.168863	18.22362	4.2	102.106377	1.8
2031	18.93	136.15	612.89	0.719229	3.237665	18.31711	4.2	102.179615	1.8
2032	19.03	136.56	625.52	0.717604	3.28702	18.40448	4.2	102.252853	1.8
2033	19.13	135.87	635.4	0.710246	3.321485	18.4946	4.2	102.326091	1.8
2034	19.12	136.23	641.03	0.7125	3.352667	18.47897	4.2	102.39933	1.9
2035	19.14	136.85	644.44	0.714995	3.36698	18.49556	4.2	102.472568	1.9
2036	19.1	137.66	643.67	0.720733	3.37	18.45633	4.2	102.545806	1.8
2037	19.04	138.8	649.34	0.728992	3.410399	18.39066	4.2	102.619044	1.9
2038	19.03	139	652.75	0.730426	3.43011	18.37725	4.2	102.692282	1.9
2039	19.05	139.78	658.31	0.733753	3.455696	18.39169	4.2	102.765521	1.9
2040	19.02	140.63	657.65	0.73938	3.457676	18.36235	4.2	102.838759	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2041	18.99	141.53	661.93	0.745287	3.485677	18.32807	4.2	102.911997	1.9
2042	18.92	142.67	665.12	0.75407	3.515433	18.25488	4.2	102.985235	1.9
2043	18.9	143.04	664.9	0.756825	3.517989	18.2351	4.2	103.058473	1.9
2044	18.81	143.61	660.1	0.763477	3.509304	18.1499	4.2	103.131712	1.9
2045	18.74	143.97	655.93	0.76825	3.50016	18.08407	4.2	103.20495	1.9
2046	18.61	144.83	652.23	0.778238	3.504729	17.95777	4.2	103.278188	1.9
2047	18.57	146.17	664.46	0.78713	3.578137	17.90554	4.2	103.351426	1.9
2048	18.54	146.26	671.12	0.788889	3.619849	17.86888	4.2	103.424664	1.9
2049	18.55	146.01	680.85	0.787116	3.67035	17.86915	4.2	103.497903	1.8
2050	18.61	146.46	693.48	0.786996	3.726384	17.91652	4.2	103.571141	1.9
2051	18.71	146.3	718.59	0.781935	3.840673	17.99141	4.2	103.644379	1.9
2052	18.78	146.26	734.36	0.778807	3.91033	18.04564	4.2	103.717617	1.8
2053	18.87	146.22	747.36	0.774881	3.960572	18.12264	4.2	103.790855	1.8
2054	18.94	146.01	760.93	0.770908	4.017582	18.17907	4.2	103.864094	1.8
2055	19.11	144.91	785.49	0.758294	4.110361	18.32451	4.2	103.937332	1.8
2056	19.19	144.71	795.23	0.754091	4.143981	18.39477	4.2	104.01057	1.8
2057	19.23	144.38	800.42	0.750806	4.16235	18.42958	4.2	104.083808	1.8
2058	19.27	144.67	802.44	0.750752	4.164193	18.46756	4.2	104.157046	1.8
2059	19.23	144.18	802.62	0.749766	4.173791	18.42738	4.2	104.230285	1.8
2060	19.13	142.87	792.74	0.746837	4.143962	18.33726	4.2	104.303523	1.8
2061	18.9	143.12	770.96	0.757249	4.079153	18.12904	4.2	104.376761	1.9
2062	18.78	143.65	764.48	0.764909	4.070714	18.01552	4.2	104.449999	1.9
2063	18.56	144.06	750.47	0.776185	4.043481	17.80953	4.2	104.523237	1.9
2064	18.48	144.5	750.43	0.781926	4.060768	17.72957	4.2	104.596476	1.8
2065	18.45	144.71	751.09	0.784336	4.070949	17.69891	4.2	104.669714	1.8
2066	18.46	144.59	755.33	0.783261	4.091712	17.70467	4.2	104.742952	1.9
2067	18.46	145.64	763.86	0.788949	4.13792	17.69614	4.2	104.81619	1.9
2068	18.44	145.89	764.23	0.791161	4.144414	17.67577	4.2	104.889428	1.8
2069	18.48	146.79	776.56	0.794318	4.202165	17.70344	4.2	104.962667	1.8
2070	18.55	146.58	784.17	0.790189	4.227332	17.76583	4.2	105.035905	1.9
2071	18.63	146.13	796.65	0.78438	4.276167	17.83335	4.2	105.109143	1.8
2072	18.87	145.36	824.47	0.770323	4.36921	18.04553	4.2	105.182381	1.8
2073	18.98	145.12	833.69	0.764594	4.392466	18.14631	4.2	105.255619	1.9
2074	19.06	144.91	836.26	0.760283	4.387513	18.22374	4.2	105.328858	1.9
2075	19.15	144.67	845.37	0.755457	4.414465	18.30463	4.2	105.402096	1.9
2076	19.25	144.38	853.09	0.750026	4.431636	18.39691	4.2	105.475334	1.9
2077	19.42	144.02	866.08	0.741607	4.459732	18.55392	4.2	105.548572	1.8
2078	19.54	144.1	874.25	0.737462	4.474156	18.66575	4.2	105.62181	1.8
2079	19.6	144.02	877.28	0.734796	4.475918	18.72272	4.2	105.695049	1.8
2080	19.68	144.79	881.97	0.735722	4.481555	18.79803	4.2	105.768287	1.8



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2081	19.85	145.52	892.73	0.733098	4.49738	18.95727	4.2	105.841525	1.9
2082	19.85	145.52	892.73	0.733098	4.49738	18.95727	4.2	105.914763	1.8
2083	19.85	145.52	892.73	0.733098	4.49738	18.95727	4.2	105.988001	1.8
2084	19.65	121.85	1101.67	0.620102	5.606463	18.54833	4.2	106.06124	1.8
2085	19.86	122.71	1015.15	0.617875	5.111531	18.84485	4.2	106.134478	1.8
2086	19.98	123.97	944.95	0.62047	4.729479	19.03505	4.2	106.207716	1.9
2087	20.06	125.28	880.61	0.624526	4.38988	19.17939	4.2	106.280954	1.9
2088	20.16	127.8	781.43	0.633929	3.876141	19.37857	4.2	106.354192	1.9
2089	20.22	128.94	743.73	0.637685	3.67819	19.47627	4.2	106.42743	1.9
2090	20.26	130	716.54	0.641658	3.536723	19.54346	4.2	106.500669	1.9
2091	20.36	131.71	693.19	0.646906	3.404666	19.66681	4.2	106.573907	1.8
2092	20.49	134.69	647.66	0.657345	3.160859	19.84234	4.2	106.647145	1.8
2093	20.46	135.91	628.19	0.664272	3.070332	19.83181	4.2	106.720383	1.9
2094	20.46	136.48	607.99	0.667058	2.971603	19.85201	4.2	106.793621	1.9
2095	20.4	137.58	586.76	0.674412	2.876275	19.81324	4.2	106.86686	1.9
2096	20.32	138.68	570.51	0.68248	2.807628	19.74949	4.2	106.940098	1.9
2097	20.3	139.7	559.93	0.688177	2.758276	19.74007	4.2	107.013336	1.9
2098	20.33	143.57	551.7	0.706198	2.713724	19.7783	4.2	107.086574	1.9
2099	20.32	143.73	551.66	0.707333	2.714862	19.76834	4.4	107.163293	2
2100	20.4	145.2	554.4	0.711765	2.717647	19.8456	4.2	107.236531	2
2101	20.48	145.85	559.6	0.712158	2.732422	19.9204	4.2	107.30977	1.9
2102	20.58	147.15	571.79	0.715015	2.778377	20.00821	4.2	107.383008	1.9
2103	20.77	147.56	590.27	0.710448	2.841935	20.17973	4.2	107.456246	1.9
2104	21.19	149.72	634.3	0.70656	2.993393	20.5557	4.2	107.529484	1.9
2105	21.41	150	654.28	0.700607	3.055955	20.75572	4.4	107.606203	1.9
2106	21.62	149.8	674.08	0.692877	3.117854	20.94592	4.2	107.679442	1.9
2107	21.83	149.68	689.46	0.685662	3.158314	21.14054	4.2	107.75268	2
2108	22.01	149.96	711.6	0.681327	3.233076	21.2984	4.2	107.825918	2
2109	22.26	150.13	734.58	0.674438	3.3	21.52542	4.2	107.899156	1.9
2110	22.34	151.51	742.67	0.678201	3.324396	21.59733	4.2	107.972394	1.9
2111	22.25	152.73	735.97	0.686427	3.30773	21.51403	4.2	108.045632	1.9
2112	22.16	153.67	731.65	0.693457	3.30167	21.42835	4.4	108.122352	1.9
2113	22.12	154.69	731.51	0.699322	3.307007	21.38849	4.2	108.19559	1.9
2114	22.08	154.85	733.41	0.701313	3.321603	21.34659	4.4	108.272309	2
2115	22.03	155.63	739.6	0.706446	3.35724	21.2904	4.4	108.349028	2
2116	22.11	157.34	759.21	0.711624	3.433786	21.35079	4.4	108.425747	1.9
2117	22.18	157.99	777.04	0.712308	3.503336	21.40296	4.2	108.498985	1.9
2118	22.24	158.68	793.84	0.713489	3.569424	21.44616	4.2	108.572223	1.9
2119	22.37	159.37	816.05	0.712427	3.647966	21.55395	4.2	108.645461	1.9
2120	22.47	159.7	831.02	0.710725	3.698353	21.63898	4.2	108.7187	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2121	22.55	159.54	848.33	0.707494	3.761996	21.70167	4.2	108.791938	2
2122	22.74	159.41	883.8	0.701011	3.886544	21.8562	4.2	108.865176	2
2123	22.91	160.07	907.66	0.698691	3.961851	22.00234	4.2	108.938414	2
2124	23.05	159.86	928.89	0.693536	4.029892	22.12111	4.2	109.011652	1.9
2125	23.24	159.78	957.47	0.687522	4.119923	22.28253	4.2	109.084891	1.9
2126	23.48	160.47	983.68	0.683433	4.189438	22.49632	4.4	109.16161	2
2127	23.68	159.66	1010.72	0.67424	4.268243	22.66928	4.4	109.238329	2
2128	23.86	159.86	1031.37	0.669992	4.32259	22.82863	4.4	109.315048	1.9
2129	24.16	159.46	1078.43	0.660017	4.4637	23.08157	4.3	109.390026	1.9
2130	24.31	157.95	1096.84	0.649733	4.511888	23.21316	4.4	109.466745	2
2131	24.38	156.85	1114.81	0.643355	4.572642	23.26519	4.4	109.543464	2
2132	24.49	157.17	1129.89	0.641772	4.613679	23.36011	4.2	109.616703	1.9
2133	24.49	157.26	1131.9	0.64214	4.621886	23.3581	4.2	109.689941	1.9
2134	24.51	156.44	1149.47	0.63827	4.6898	23.36053	4.4	109.76666	1.9
2135	24.77	155.3	1186.25	0.626968	4.789059	23.58375	4.4	109.843379	1.9
2136	24.84	154.61	1200.05	0.622424	4.831119	23.63995	4.3	109.918358	2
2137	24.86	154.61	1206.09	0.621923	4.851529	23.65391	4.4	109.995077	2
2138	24.76	154.32	1199.25	0.623263	4.843498	23.56075	4.4	110.071796	2
2139	24.47	152.57	1172.42	0.623498	4.791255	23.29758	4.4	110.148515	2
2140	24.19	151.23	1150.97	0.625176	4.758041	23.03903	4.3	110.223493	2
2141	23.96	149.52	1142.15	0.62404	4.766903	22.81785	4.3	110.298472	2
2142	23.66	145.93	1128.54	0.616779	4.769822	22.53146	4.3	110.373451	2
2143	23.6	144.75	1130.73	0.613347	4.791229	22.46927	4.3	110.44843	1.9
2144	23.57	143.85	1136.33	0.61031	4.821086	22.43367	4.3	110.523408	1.9
2145	23.66	143.53	1161.4	0.606636	4.908707	22.4986	4.3	110.598387	2
2146	23.83	143.04	1183.51	0.600252	4.966471	22.64649	4.3	110.673366	2
2147	23.77	140.76	1171.72	0.592175	4.929407	22.59828	4.3	110.748345	2
2148	23.19	135.3	1131.24	0.583441	4.878137	22.05876	4.2	110.821583	2
2149	22.94	131.55	1113.09	0.573452	4.85218	21.82691	4.3	110.896561	1.9
2150	22.69	126.62	1093.25	0.558043	4.818202	21.59675	4.3	110.97154	1.9
2151	22.43	123.77	1076.82	0.551806	4.800802	21.35318	4.3	111.046519	1.9
2152	22.27	122.38	1071.62	0.549529	4.811944	21.19838	4.3	111.121498	1.9
2153	22.23	120.75	1075.28	0.543185	4.837067	21.15472	4.3	111.196476	1.9
2154	22.39	122.67	1097.94	0.547879	4.903707	21.29206	4.3	111.271455	1.9
2155	22.46	123.52	1112.73	0.549955	4.954274	21.34727	4.3	111.346434	1.9
2156	22.55	123.32	1123.56	0.546874	4.982528	21.42644	4.3	111.421413	1.9
2157	22.53	121.85	1126.3	0.540834	4.999112	21.4037	4.3	111.496391	1.9
2158	22.51	121.36	1131.46	0.539138	5.026477	21.37854	4.3	111.57137	1.9
2159	22.46	120.63	1126.56	0.537088	5.01585	21.33344	4.3	111.646349	1.9
2160	22.32	120.83	1112.43	0.541353	4.984005	21.20757	4.3	111.721327	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2161	22.03	122.26	1082.49	0.55497	4.913709	20.94751	4.3	111.796306	1.9
2162	21.78	125.44	1057.61	0.575941	4.855877	20.72239	4.3	111.871285	1.9
2163	21.54	127.39	1041.06	0.591411	4.833148	20.49894	4.3	111.946264	1.9
2164	21.28	127.43	1010.69	0.598825	4.749483	20.26931	4.3	112.021242	1.9
2165	20.55	129.27	931.63	0.629051	4.533479	19.61837	4.3	112.096221	1.9
2166	20.04	130.53	879	0.651347	4.386228	19.161	4.3	112.1712	1.9
2167	19.57	129.63	841.93	0.662391	4.302146	18.72807	4.3	112.246179	1.9
2168	19.27	126.7	825.42	0.657499	4.283446	18.44458	4.3	112.321157	1.9
2169	19.09	125.4	802.07	0.656888	4.201519	18.28793	4.3	112.396136	1.9
2170	18.69	125.6	762.43	0.672017	4.079347	17.92757	4.3	112.471115	1.9
2171	18.19	122.67	727.45	0.674382	3.999175	17.46255	4.3	112.546093	1.9
2172	18.01	120.96	710.54	0.671627	3.945253	17.29946	4.3	112.621072	1.9
2173	17.85	120.83	697.8	0.676919	3.909244	17.1522	4.3	112.696051	1.9
2174	17.67	119.57	684.62	0.676684	3.874477	16.98538	4.3	112.77103	1.9
2175	17.45	118.84	674.27	0.681032	3.864011	16.77573	4.3	112.846008	1.9
2176	17.34	118.68	661.02	0.684429	3.812111	16.67898	4.3	112.920987	1.9
2177	17.17	118.96	646.45	0.692836	3.764997	16.52355	4.3	112.995966	1.9
2178	17.01	119.49	631.85	0.702469	3.71458	16.37815	4.3	113.070945	1.9
2179	16.91	120.83	615.09	0.714548	3.637433	16.29491	4.3	113.145923	2
2180	16.77	120.55	604.95	0.718843	3.607335	16.16505	4.3	113.220902	2
2181	16.67	121.24	594.66	0.727295	3.567247	16.07534	4.3	113.295881	1.9
2182	16.67	121.24	594.66	0.727295	3.567247	16.07534	4.3	113.370859	2
2183	16.67	121.24	594.66	0.727295	3.567247	16.07534	4.3	113.445838	1.7
2184	16.27	107.06	978.44	0.658021	6.013768	15.29156	4.3	113.520817	1.7
2185	16.44	106.21	892.62	0.646046	5.429562	15.54738	4.3	113.595796	1.9
2186	16.55	106.09	818.5	0.641027	4.945619	15.7315	4.3	113.670774	1.9
2187	16.67	105.6	760.13	0.633473	4.559868	15.90987	4.3	113.745753	2
2188	16.73	104.17	704.72	0.622654	4.212313	16.02528	4.3	113.820732	2
2189	16.75	100.3	615.49	0.598806	3.674567	16.13451	4.3	113.895711	2
2190	16.8	98.47	586.83	0.586131	3.493036	16.21317	4.3	113.970689	2
2191	16.87	97.25	564.1	0.576467	3.343806	16.3059	4.3	114.045668	2
2192	16.98	95.29	548.59	0.56119	3.230801	16.43141	4.3	114.120647	2
2193	17.04	94.19	532.48	0.552758	3.124883	16.50752	4.3	114.195625	2
2194	17.1	94.31	523.73	0.55152	3.062749	16.57627	4.3	114.270604	2
2195	17.21	95.53	522.97	0.555084	3.038757	16.68703	4.3	114.345583	2
2196	17.31	94.19	518.39	0.544136	2.994743	16.79161	4.3	114.420562	2
2197	17.62	94.23	527.54	0.53479	2.993984	17.09246	4.3	114.49554	2
2198	17.77	94.8	528.71	0.533483	2.975295	17.24129	4.3	114.570519	2
2199	17.88	94.35	528.93	0.527685	2.958221	17.35107	4.3	114.645498	2
2200	18.13	94.39	541.08	0.520629	2.984446	17.58892	4.3	114.720477	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2201	18.33	95.09	545.73	0.518767	2.97725	17.78427	4.3	114.795455	2
2202	18.53	96.31	554.62	0.519752	2.993092	17.97538	4.3	114.870434	2
2203	18.69	99.49	539.98	0.532317	2.889139	18.15002	4.3	114.945413	2
2204	18.63	100.42	525.27	0.539023	2.819485	18.10473	4.3	115.020391	2
2205	18.56	101.03	511.8	0.544343	2.757543	18.0482	4.3	115.09537	2
2206	18.43	101.16	489.73	0.548888	2.657244	17.94027	4.3	115.170349	2
2207	18.3	102.09	473.74	0.557869	2.588743	17.82626	4.3	115.245328	2
2208	18.14	101.81	457.09	0.561246	2.519791	17.68291	4.3	115.320306	2
2209	18.01	103.03	445.05	0.572071	2.471127	17.56495	4.3	115.395285	2
2210	17.77	105.43	428.43	0.593303	2.410974	17.34157	4.3	115.470264	2
2211	17.67	106.13	423.42	0.600623	2.396265	17.24658	4.3	115.545243	2
2212	17.62	107.47	421.11	0.609932	2.389955	17.19889	4.3	115.620221	2
2213	17.55	109.88	422.06	0.626097	2.4049	17.12794	4.3	115.6952	2
2214	17.58	111.63	429.46	0.634983	2.44289	17.15054	4.4	115.771919	2
2215	17.63	113.3	435.68	0.642655	2.471242	17.19432	4.3	115.846898	2
2216	17.67	115.42	445.52	0.653198	2.521336	17.22448	4.3	115.921876	2
2217	17.76	115.99	453.72	0.653097	2.55473	17.30628	4.3	115.996855	2
2218	17.9	115.66	475.46	0.646145	2.656201	17.42454	4.3	116.071834	2
2219	18.07	115.38	496.76	0.638517	2.749087	17.57324	4.3	116.146813	2
2220	18.25	114.97	519.49	0.629973	2.846521	17.73051	4.3	116.221791	2
2221	18.52	115.42	541.12	0.623218	2.921814	17.97888	4.3	116.29677	2
2222	18.83	116.6	570.22	0.619225	3.028253	18.25978	4.3	116.371749	2
2223	19.11	116.56	591.88	0.609942	3.097227	18.51812	4.3	116.446728	2
2224	19.57	116.88	616.99	0.597241	3.152734	18.95301	4.3	116.521706	2
2225	19.69	117.29	616.59	0.595683	3.131488	19.07341	4.3	116.596685	2
2226	19.79	118.1	620.61	0.596766	3.135978	19.16939	4.3	116.671664	2
2227	19.85	117.74	617.94	0.593149	3.113048	19.23206	4.3	116.746642	2
2228	19.9	117.41	615.71	0.59	3.09402	19.28429	4.3	116.821621	2
2229	19.91	116.6	614.5	0.585635	3.086389	19.2955	4.3	116.8966	2
2230	19.94	117.37	610.55	0.588616	3.061936	19.32945	4.3	116.971579	2
2231	19.9	118.15	602.39	0.593719	3.027085	19.29761	4.3	117.046557	2
2232	19.89	119.73	592.8	0.601961	2.980392	19.2972	4.3	117.121536	2
2233	19.86	120.79	586.1	0.608207	2.951158	19.2739	4.3	117.196515	2
2234	19.75	120.92	573.91	0.612253	2.905873	19.17609	4.3	117.271494	2
2235	19.7	121.65	566.45	0.617513	2.875381	19.13355	4.3	117.346472	2
2236	19.58	121.16	550.23	0.618795	2.810163	19.02977	4.5	117.424931	2
2237	19.41	121.2	534.82	0.62442	2.755384	18.87518	4.3	117.49991	2
2238	19.01	121.49	500.75	0.639085	2.63414	18.50925	4.3	117.574889	2
2239	18.8	121.08	486.92	0.644043	2.59	18.31308	4.3	117.649868	2
2240	18.62	120.88	477.47	0.649194	2.564286	18.14253	4.3	117.724846	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2241	18.52	120.35	475.75	0.649838	2.568844	18.04425	4.3	117.799825	2
2242	18.45	119.98	478.68	0.650298	2.594472	17.97132	4.3	117.874804	2
2243	18.49	119.49	486.73	0.646241	2.632396	18.00327	4.3	117.949782	2
2244	18.5	119.86	495.26	0.647892	2.677081	18.00474	4.3	118.024761	2
2245	18.53	121.12	503.75	0.653643	2.718564	18.02625	4.3	118.09974	2
2246	18.62	122.1	516.6	0.655747	2.774436	18.1034	4.3	118.174719	2
2247	18.63	120.02	518.21	0.64423	2.781589	18.11179	4.3	118.249697	2
2248	18.47	118.47	506.72	0.641419	2.743476	17.96328	4.3	118.324676	2
2249	18.4	116.43	505.07	0.632772	2.744946	17.89493	4.3	118.399655	2
2250	18.29	114.89	489.95	0.628157	2.678786	17.80005	4.3	118.474634	2
2251	18.15	113.26	470.63	0.624022	2.593003	17.67937	4.3	118.549612	2
2252	17.9	112.03	448.52	0.625866	2.505698	17.45148	4.3	118.624591	1.9
2253	17.4	113.13	418.73	0.650172	2.406494	16.98127	4.3	118.69957	1.9
2254	17.21	113.7	414.96	0.660662	2.411156	16.79504	4.3	118.774548	2
2255	17.24	112.56	425.9	0.6529	2.470418	16.8141	4.3	118.849527	2
2256	17.19	111.91	427.15	0.651018	2.484875	16.76285	4.3	118.924506	2
2257	17.15	113.09	428.06	0.659417	2.495977	16.72194	4.3	118.999485	2
2258	17.1	112.28	427.84	0.656608	2.501988	16.67216	4.3	119.074463	1.9
2259	17.07	112.44	442.34	0.658699	2.59133	16.62766	4.3	119.149442	1.9
2260	17.13	113.34	451.3	0.661646	2.634559	16.6787	4.3	119.224421	2
2261	17.51	115.25	499.21	0.658195	2.850999	17.01079	4.3	119.2994	1.9
2262	17.75	117.78	524.8	0.663549	2.95662	17.2252	4.3	119.374378	2
2263	18.05	119.41	558.14	0.661551	3.092188	17.49186	4.3	119.449357	2
2264	18.75	119.45	613.04	0.637067	3.269547	18.13696	4.3	119.524336	2
2265	18.94	120.63	608.53	0.636906	3.212936	18.33147	4.3	119.599314	2
2266	18.98	120.71	585.88	0.635985	3.086828	18.39412	4.3	119.674293	2
2267	19.01	120.59	568.17	0.63435	2.988795	18.44183	4.3	119.749272	2
2268	19.05	121.45	554.08	0.637533	2.908556	18.49592	4.3	119.824251	1.9
2269	19.09	121.73	549.65	0.637664	2.879256	18.54035	4.3	119.899229	1.9
2270	19.06	118.35	541.78	0.620934	2.842497	18.51822	4.3	119.974208	1.9
2271	18.76	110.24	519.16	0.587633	2.767377	18.24084	4.3	120.049187	1.9
2272	18.53	106.09	504.3	0.572531	2.721533	18.0257	4.3	120.124166	2
2273	18.38	105.43	497.79	0.573613	2.708324	17.88221	4.3	120.199144	2
2274	18.23	104.33	485.09	0.572298	2.660943	17.74491	4.3	120.274123	2
2275	18.12	103.81	474.91	0.572903	2.620916	17.64509	4.3	120.349102	2
2276	17.98	104.38	463.75	0.580534	2.579255	17.51625	4.3	120.42408	2
2277	17.63	106.25	431.39	0.602666	2.446909	17.19861	4.3	120.499059	2
2278	17.47	108.25	416.46	0.619634	2.383858	17.05354	4.3	120.574038	2
2279	17.35	108.61	414.93	0.625994	2.391527	16.93507	4.3	120.649017	2
2280	17.23	109.35	407.64	0.634649	2.365873	16.82236	4.3	120.723995	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2281	17.23	109.35	407.64	0.634649	2.365873	16.82236	4.3	120.798974	1.9
2282	17.23	109.35	407.64	0.634649	2.365873	16.82236	4.3	120.873953	1.9
2283	16.41	106.41	963.22	0.648446	5.869714	15.44678	4.3	120.948932	1.8
2284	16.69	106.13	875.34	0.63589	5.244697	15.81466	4.5	121.027391	1.9
2285	16.81	106.13	794.64	0.63135	4.727186	16.01536	4.3	121.102369	1.9
2286	16.88	106.94	735.2	0.633531	4.35545	16.1448	4.3	121.177348	1.9
2287	17	108.29	638.25	0.637	3.754412	16.36175	4.5	121.255807	1.9
2288	17.06	109.51	603.19	0.641911	3.535698	16.45681	4.3	121.330786	1.9
2289	17.13	109.96	573.8	0.641915	3.349679	16.5562	4.3	121.405765	1.9
2290	17.21	111.1	550.67	0.645555	3.199709	16.65933	4.3	121.480743	1.9
2291	17.29	112.28	529.04	0.649393	3.059803	16.76096	4.3	121.555722	1.9
2292	17.35	113.46	514	0.653948	2.962536	16.836	4.3	121.630701	1.9
2293	17.44	113.34	502.1	0.649885	2.879014	16.9379	4.3	121.70568	1.9
2294	17.57	114.11	478.06	0.649459	2.720888	17.09194	4.4	121.782399	2
2295	17.6	114.23	469.27	0.649034	2.666307	17.13073	4.3	121.857377	2
2296	17.62	113.7	455.37	0.645289	2.584393	17.16463	4.3	121.932356	2
2297	17.58	114.19	438.9	0.649545	2.496587	17.1411	4.5	122.010815	2
2298	17.5	114.52	422.61	0.6544	2.414914	17.07739	4.3	122.085794	2
2299	17.41	113.79	404.82	0.65359	2.325215	17.00518	4.3	122.160773	2
2300	17.14	113.3	372.43	0.661027	2.17287	16.76757	4.3	122.235751	2
2301	16.95	113.05	354.65	0.666962	2.09233	16.59535	4.5	122.31421	2
2302	16.77	112.97	340.48	0.673643	2.030292	16.42952	4.3	122.389189	1.9
2303	16.54	112.6	320.17	0.680774	1.935732	16.21983	4.4	122.465908	1.9
2304	16.26	113.62	301.83	0.69877	1.856273	15.95817	4.3	122.540887	2
2305	16.02	113.09	287.74	0.70593	1.79613	15.73226	4.3	122.615866	2
2306	15.81	113.66	274.9	0.718912	1.738773	15.5351	4.4	122.692585	2
2307	15.47	113.38	259.45	0.732902	1.677117	15.21055	4.3	122.767563	2
2308	15.28	112.97	251.58	0.739332	1.646466	15.02842	4.4	122.844282	2
2309	15.08	112.08	237.86	0.743236	1.577321	14.84214	4.5	122.922741	2
2310	14.87	112.65	230.83	0.757566	1.55232	14.63917	4.3	122.99772	2
2311	14.62	112.56	216.52	0.769904	1.480985	14.40348	4.4	123.074439	2
2312	14.39	113.26	209.57	0.787074	1.456359	14.18043	4.3	123.149418	2
2313	14.01	111.06	198.26	0.792719	1.415132	13.81174	4.4	123.226137	2
2314	13.91	110.69	204	0.795758	1.466571	13.706	4.5	123.304596	2
2315	13.78	108.25	198.95	0.785559	1.443759	13.58105	4.4	123.381315	2
2316	13.64	106.05	199.94	0.777493	1.465836	13.44006	4.3	123.456294	2
2317	13.54	103.36	203.86	0.763368	1.505613	13.33614	4.3	123.531273	2
2318	13.51	102.42	208.32	0.758105	1.541969	13.30168	4.3	123.606251	2
2319	13.4	101.65	201.92	0.758582	1.506866	13.19808	4.5	123.68471	2
2320	13.27	102.42	197.2	0.771816	1.486059	13.0728	4.3	123.759689	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2321	13.07	99.65	197.34	0.762433	1.50987	12.87266	4.5	123.838148	2
2322	12.96	99.69	195.33	0.769213	1.507176	12.76467	4.3	123.913127	2
2323	12.86	98.26	193.79	0.764075	1.506921	12.66621	4.3	123.988106	2
2324	12.77	97	193.68	0.759593	1.51668	12.57632	4.4	124.064825	2
2325	12.72	96.19	192.77	0.756211	1.515487	12.52723	4.3	124.139803	2
2326	12.6	94.39	186.29	0.749127	1.478492	12.41371	4.4	124.216522	2
2327	12.5	94.88	184.09	0.75904	1.47272	12.31591	4.5	124.294982	2
2328	12.42	94.84	186.69	0.763607	1.50314	12.23331	4.4	124.371701	2
2329	12.31	95.66	188.74	0.777092	1.533225	12.12126	4.3	124.446679	2
2330	12.26	96.35	190.54	0.785889	1.55416	12.06946	4.3	124.521658	2
2331	12.24	96.84	194.52	0.791176	1.589216	12.04548	4.3	124.596637	2
2332	12.23	96.51	198.59	0.789125	1.623794	12.03141	4.5	124.675096	2
2333	12.21	96.31	201.15	0.78878	1.64742	12.00885	4.4	124.751815	2
2334	12.24	95.98	213.89	0.78415	1.747467	12.02611	4.5	124.830274	2
2335	12.31	95.33	223	0.774411	1.811535	12.087	4.4	124.906993	2
2336	12.41	94.6	237.49	0.762288	1.913699	12.17251	4.5	124.985452	2
2337	12.67	94.15	267.39	0.743094	2.110418	12.40261	4.3	125.060431	2
2338	12.82	94.11	278.34	0.734087	2.171139	12.54166	4.3	125.13541	2
2339	12.99	94.03	289.57	0.723865	2.229176	12.70043	4.3	125.210388	2
2340	13.17	93.5	295.06	0.709947	2.240395	12.87494	4.5	125.288847	2
2341	13.3	93.13	301.14	0.700226	2.264211	12.99886	4.5	125.367306	2
2342	13.39	93.29	300.63	0.696714	2.245183	13.08937	4.5	125.445766	2
2343	13.49	92.97	300.04	0.689177	2.224166	13.18996	4.5	125.524225	2
2344	13.62	93.58	307.21	0.687078	2.25558	13.31279	4.5	125.602684	2
2345	13.75	93.91	315.08	0.682982	2.291491	13.43492	4.5	125.681143	2
2346	14.1	94.43	331.41	0.669716	2.350426	13.76859	4.3	125.756122	2
2347	14.26	94.96	335.4	0.665919	2.352034	13.9246	4.5	125.834581	2
2348	14.42	96.31	341.29	0.667892	2.366782	14.07871	4.5	125.91304	2
2349	14.57	97.21	341.58	0.667193	2.344406	14.22842	4.5	125.991499	2
2350	14.67	97.78	338.14	0.66653	2.304976	14.33186	4.5	126.069958	2
2351	14.78	98.47	342.13	0.666238	2.314817	14.43787	4.5	126.148417	2
2352	14.91	99.28	356.81	0.665862	2.393092	14.55319	4.3	126.223396	2
2353	15.22	101.61	364.38	0.667608	2.394087	14.85562	4.5	126.301855	2
2354	15.37	102.58	364.93	0.667404	2.374301	15.00507	4.5	126.380314	2
2355	15.5	104.17	367.6	0.672065	2.371613	15.1324	4.5	126.458773	2
2356	15.62	105.35	367.9	0.674456	2.355314	15.2521	4.5	126.537232	2
2357	15.69	106.49	369.4	0.678713	2.354366	15.3206	4.3	126.612211	2
2358	15.77	106.94	362.22	0.678123	2.296893	15.40778	4.5	126.69067	2
2359	15.79	107.88	352.34	0.683217	2.231412	15.43766	4.5	126.769129	2
2360	15.81	109.43	347.51	0.692157	2.198039	15.46249	4.3	126.844108	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2361	15.9	113.62	339.49	0.714591	2.135157	15.56051	4.5	126.922567	2
2362	15.96	115.33	338.51	0.722619	2.12099	15.62149	4.5	127.001026	2
2363	16.01	117.21	338.29	0.732105	2.112992	15.67171	4.5	127.079485	2
2364	16.06	118.8	339.02	0.739726	2.110959	15.72098	4.3	127.154464	2
2365	16.11	120.06	341.21	0.745251	2.118001	15.76879	4.5	127.232923	2
2366	16.18	121.2	343.85	0.749073	2.125155	15.83615	4.5	127.311382	2
2367	16.26	122.95	346.41	0.75615	2.130443	15.91359	4.5	127.389841	2
2368	16.34	123.85	349.12	0.757956	2.136597	15.99088	4.5	127.4683	2
2369	16.4	124.87	354.06	0.761402	2.158902	16.04594	4.5	127.546759	2
2370	16.47	125.64	356.95	0.762842	2.167274	16.11305	4.5	127.625218	2
2371	16.54	126.17	359.66	0.762817	2.174486	16.18034	4.5	127.703677	2
2372	16.57	126.13	355.38	0.761195	2.144719	16.21462	4.5	127.782137	2
2373	16.64	126.37	359.66	0.759435	2.161418	16.28034	4.5	127.860596	2
2374	16.69	126.95	361.23	0.760635	2.16435	16.32877	4.5	127.939055	2
2375	16.75	128.13	367.16	0.764955	2.192	16.38284	4.5	128.017514	2
2376	16.85	128.45	373.93	0.762315	2.219169	16.47607	4.5	128.095973	2
2377	16.92	128.98	379.39	0.762293	2.242258	16.54061	4.5	128.174432	2
2378	17	129.31	382.53	0.760647	2.250176	16.61747	4.5	128.252891	2
2379	17.08	129.84	388.57	0.760187	2.275	16.69143	4.5	128.33135	2
2380	17.16	130.45	396.08	0.760198	2.308159	16.76392	4.3	128.406329	2
2381	17.41	131.43	414.38	0.754911	2.380126	16.99562	4.5	128.484788	2
2382	17.41	131.43	414.38	0.754911	2.380126	16.99562	4.5	128.563247	1.5
2383	17.41	131.43	414.38	0.754911	2.380126	16.99562	4.5	128.641706	1.5
2384	17.31	114.23	1057.17	0.659908	6.107279	16.25283	4.5	128.720165	1.8
2385	17.48	114.32	963.29	0.654005	5.510812	16.51671	4.5	128.798624	1.8
2386	17.65	114.97	893.31	0.651388	5.061246	16.75669	4.5	128.877084	1.9
2387	17.75	115.66	828.53	0.651606	4.667775	16.92147	4.5	128.955543	1.9
2388	17.78	116.96	773.67	0.657818	4.35135	17.00633	4.5	129.034002	2
2389	17.86	119.04	728.95	0.666517	4.081467	17.13105	4.5	129.112461	2
2390	17.99	122.34	668.41	0.680044	3.715453	17.32159	4.5	129.19092	1.9
2391	18.12	124.09	644.26	0.684823	3.555519	17.47574	4.5	129.269379	1.9
2392	18.15	126.17	622.92	0.695152	3.432066	17.52708	4.5	129.347838	2
2393	18.27	127.56	613.11	0.698194	3.355829	17.65689	4.5	129.426297	2
2394	18.4	127.92	605.42	0.695217	3.290326	17.79458	4.5	129.504756	2
2395	18.52	128.62	599.2	0.694492	3.235421	17.9208	4.5	129.583215	2
2396	18.81	131.3	595.21	0.698033	3.164327	18.21479	4.5	129.661674	2
2397	18.95	132.36	596.57	0.69847	3.148127	18.35343	4.5	129.740134	2
2398	19.12	134.24	598.4	0.702092	3.129707	18.5216	4.5	129.818593	2
2399	19.26	134.73	600.63	0.699533	3.118536	18.65937	4.5	129.897052	2
2400	19.37	135.22	602.46	0.69809	3.110274	18.76754	4.5	129.975511	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2401	19.47	134.93	597.74	0.693015	3.070056	18.87226	4.5	130.05397	2
2402	19.52	135.01	591.08	0.69165	3.028074	18.92892	4.5	130.132429	2
2403	19.47	134.93	571.94	0.693015	2.937545	18.89806	4.5	130.210888	2
2404	19.38	134.28	557.08	0.692879	2.87451	18.82292	4.5	130.289347	2
2405	19.27	133.46	540.17	0.692579	2.803166	18.72983	4.5	130.367806	2
2406	19.11	133.3	523.48	0.697541	2.739299	18.58652	4.5	130.446265	2
2407	18.94	132.4	503.79	0.69905	2.659926	18.43621	4.5	130.524725	2
2408	18.75	131.14	489.29	0.699413	2.609547	18.26071	4.5	130.603184	2
2409	18.58	129.43	477.62	0.696609	2.570614	18.10238	4.5	130.681643	2
2410	18.26	127.43	457.09	0.697864	2.503231	17.80291	4.4	130.758362	2
2411	18.09	126.46	448.27	0.69906	2.477999	17.64173	4.5	130.836821	2
2412	18	124.83	449.33	0.6935	2.496278	17.55067	4.5	130.91528	2
2413	17.91	123.2	446.91	0.687884	2.49531	17.46309	4.5	130.993739	2
2414	17.81	121.32	449.36	0.68119	2.523077	17.36064	4.5	131.072198	2
2415	17.77	119.86	450.57	0.674508	2.535566	17.31943	4.5	131.150657	2
2416	17.73	118.35	453.39	0.667513	2.557191	17.27661	4.5	131.229116	2
2417	17.65	116.56	450.9	0.660397	2.554674	17.1991	4.5	131.307575	2
2418	17.37	113.05	433.26	0.650835	2.494301	16.93674	4.5	131.386035	2
2419	17.07	110.16	402.41	0.645343	2.357411	16.66759	4.5	131.464494	2
2420	16.63	106.98	363.61	0.643295	2.18647	16.26639	4.5	131.542953	2
2421	15.99	103.11	298.94	0.644841	1.869543	15.69106	4.5	131.621412	2
2422	15.15	99.93	220.84	0.659604	1.45769	14.92916	4.5	131.699871	2
2423	14.22	95.58	133.73	0.672152	0.940436	14.08627	4.5	131.77833	2
2424	13	90.56	33.74	0.696615	0.259538	12.96626	4.5	131.856789	2
2425	10.62	80.26	-52.01	0.755744	-0.489736	10.67201	4.5	131.935248	2
2426	10.62	80.26	-52.01	0.755744	-0.489736	10.67201	4.5	132.013707	2
2427	8.27	71.91	-62.29	0.869528	-0.753204	8.33229	4.5	132.092166	2
2428	7.17	68.61	-63.1	0.956904	-0.880056	7.2331	4.5	132.170625	2
2429	6.29	67.87	-62.69	1.079014	-0.996661	6.35269	4.5	132.249085	2
2430	5.64	67.22	-62.04	1.191844	-1.1	5.70204	4.5	132.327544	2
2431	5.1	66.61	-61.52	1.306078	-1.206275	5.16152	4.5	132.406003	2
2432	4.68	69.18	-59.55	1.478205	-1.272436	4.73955	4.5	132.484462	2
2433	4.42	73.25	-57.97	1.65724	-1.311538	4.47797	4.5	132.562921	2
2434	4.22	79.2	-55.7	1.876777	-1.319905	4.2757	4.5	132.64138	2
2435	3.55	101.93	-56.07	2.871268	-1.579437	3.60607	4.5	132.719839	2
2436	3.19	109.1	-55.19	3.420063	-1.730094	3.24519	4.5	132.798298	2
2437	2.96	113.38	-53.91	3.830405	-1.821284	3.01391	4.5	132.876757	2
2438	2.71	115.13	-53.18	4.248339	-1.962362	2.76318	4.5	132.955216	2
2439	2.46	119.08	-52.59	4.84065	-2.137805	2.51259	4.5	133.033676	2
2440	2.22	121.28	-50.62	5.463063	-2.28018	2.27062	4.5	133.112135	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2441	2.03	120.39	-46.96	5.930542	-2.3133	2.07696	4.5	133.190594	2
2442	1.87	116.11	-41.47	6.209091	-2.217647	1.91147	4.5	133.269053	2
2443	1.77	112.24	-30.19	6.341243	-1.70565	1.80019	4.5	133.347512	2
2444	1.71	107.88	-6.95	6.308772	-0.406433	1.71695	4.5	133.425971	2
2445	1.6	91.79	64.85	5.736875	4.053125	1.53515	4.5	133.50443	2
2446	1.54	81.68	106.36	5.303896	6.906494	1.43364	4.5	133.582889	2
2447	1.51	72.64	145.77	4.810596	9.653642	1.36423	4.5	133.661348	2
2448	1.47	65.27	186.77	4.440136	12.705442	1.28323	4.5	133.739807	2
2449	1.43	54.84	212.13	3.834965	14.834266	1.21787	4.5	133.818266	2
2450	1.41	45.1	241.81	3.198582	17.149645	1.16819	4.5	133.896726	2
2451	1.42	38.99	286.97	2.745775	20.209155	1.13303	4.5	133.975185	2
2452	1.46	31.7	366.69	2.171233	25.115753	1.09331	4.5	134.053644	2
2453	1.5	28.19	405.41	1.879333	27.027333	1.09459	4.5	134.132103	2
2454	1.54	24.93	437.65	1.618831	28.418831	1.10235	4.5	134.210562	2
2455	1.58	22.77	443.4	1.441139	28.063291	1.1366	4.5	134.289021	2
2456	1.55	21.51	437.18	1.387742	28.205161	1.11282	4.5	134.36748	2
2457	1.49	21.59	437.32	1.448993	29.350336	1.05268	4.5	134.445939	2
2458	1.44	21.67	449.62	1.504861	31.223611	0.99038	4.5	134.524398	2.1
2459	1.42	21.39	478.28	1.506338	33.68169	0.94172	4.5	134.602857	2.1
2460	1.42	21.43	503.93	1.509155	35.488028	0.91607	4.5	134.681317	2
2461	1.41	20.66	529.92	1.465248	37.582979	0.88008	4.5	134.759776	2
2462	1.41	20.49	553.56	1.453191	39.259574	0.85644	4.5	134.838235	2
2463	1.42	19.88	596.64	1.4	42.016901	0.82336	4.5	134.916694	2
2464	1.44	19.68	609.96	1.366667	42.358333	0.83004	4.5	134.995153	2
2465	1.46	19.88	616.99	1.361644	42.259589	0.84301	4.5	135.073612	2
2466	1.48	19.76	617.14	1.335135	41.698649	0.86286	4.5	135.152071	2
2467	1.48	20.66	624.71	1.395946	42.210135	0.85529	4.5	135.23053	2
2468	1.5	20.98	631.7	1.398667	42.113333	0.8683	4.5	135.308989	2
2469	1.54	20.08	625.7	1.303896	40.62987	0.9143	4.5	135.387448	2
2470	1.54	20.57	624.16	1.335714	40.52987	0.91584	4.5	135.465908	2
2471	1.55	21.39	621.78	1.38	40.114839	0.92822	4.5	135.544367	2.1
2472	1.58	23.34	627.35	1.477215	39.705696	0.95265	4.5	135.622826	2.1
2473	1.58	23.34	627.35	1.477215	39.705696	0.95265	4.5	135.701285	2.1
2474	1.65	25.95	635.07	1.572727	38.489091	1.01493	4.5	135.779744	2.1
2475	1.67	27.34	633.02	1.637126	37.905389	1.03698	4.5	135.858203	2.1
2476	1.67	29.05	628.88	1.739521	37.657485	1.04112	4.5	135.936662	2.1
2477	1.68	29.7	613.44	1.767857	36.514286	1.06656	4.5	136.015121	2.1
2478	1.66	31.13	594.19	1.875301	35.794578	1.06581	4.5	136.09358	2.1
2479	1.63	32.14	569.7	1.971779	34.95092	1.0603	4.5	136.172039	2.1
2480	1.61	32.71	542.58	2.031677	33.700621	1.06742	4.5	136.250498	2.1

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2481	1.57	34.1	519.75	2.171975	33.105096	1.05025	4.6	136.330697	2.1
2482	1.57	34.1	519.75	2.171975	33.105096	1.05025	4.6	136.410896	2.1
2483	1.57	34.1	519.75	2.171975	33.105096	1.05025	4.6	136.491095	1.7
2484	1.45	37.64	580.28	2.595862	40.01931	0.86972	4.5	136.569554	1.7
2485	1.4	38.54	583.43	2.752857	41.673571	0.81657	4.6	136.649753	2
2486	1.34	38.54	580.98	2.876119	43.356716	0.75902	4.5	136.728212	2
2487	1.28	38.83	577.79	3.033594	45.139844	0.70221	4.5	136.806671	2
2488	1.23	38.17	571.42	3.103252	46.456911	0.65858	4.6	136.88687	2
2489	1.21	37.4	575.3	3.090909	47.545455	0.6347	4.7	136.968809	2
2490	1.19	35.65	606.85	2.995798	50.995798	0.58315	4.6	137.049008	2
2491	1.2	34.51	617.21	2.875833	51.434167	0.58279	4.6	137.129207	2
2492	1.2	33.24	625.52	2.77	52.126667	0.57448	4.7	137.211145	2
2493	1.22	32.1	631.3	2.631148	51.745902	0.5887	4.7	137.293084	2
2494	1.23	30.88	631.48	2.510569	51.339837	0.59852	4.7	137.375022	2
2495	1.22	29.9	634.15	2.45082	51.979508	0.58585	4.7	137.456961	2
2496	1.23	28.56	635.98	2.321951	51.705691	0.59402	4.7	137.538899	2
2497	1.23	27.25	635.36	2.215447	51.655285	0.59464	4.7	137.620838	2
2498	1.22	23.59	639.83	1.933607	52.445082	0.58017	4.7	137.702776	2
2499	1.22	21.96	642.21	1.8	52.640164	0.57779	4.7	137.784715	2
2500	1.2	20.94	642.79	1.745	53.565833	0.55721	4.7	137.866653	2
2501	1.19	19.8	641.84	1.663866	53.936134	0.54816	4.7	137.948592	2
2502	1.19	18.94	641.07	1.591597	53.871429	0.54893	4.7	138.03053	2
2503	1.16	18.21	640.82	1.569828	55.243103	0.51918	4.7	138.112469	2
2504	1.15	17.56	637.45	1.526957	55.430435	0.51255	4.7	138.194407	2
2505	1.14	16.7	637.19	1.464912	55.89386	0.50281	4.7	138.276346	2
2506	1.12	16.66	644.66	1.4875	57.558929	0.47534	4.7	138.358284	2
2507	1.12	16.17	648.94	1.44375	57.941071	0.47106	4.7	138.440223	2
2508	1.14	15.56	652.6	1.364912	57.245614	0.4874	4.7	138.522161	2
2509	1.15	15.4	653.7	1.33913	56.843478	0.4963	4.7	138.6041	2
2510	1.14	15.36	649.2	1.347368	56.947368	0.4908	4.7	138.686038	2
2511	1.13	14.5	641.88	1.283186	56.80354	0.48812	4.7	138.767977	2
2512	1.12	14.22	626.83	1.269643	55.966964	0.49317	4.7	138.849915	2
2513	1.11	14.06	588.48	1.266667	53.016216	0.52152	4.7	138.931854	2
2514	1.08	14.54	558.06	1.346296	51.672222	0.52194	4.7	139.013792	2
2515	1.05	15.36	558.8	1.462857	53.219048	0.4912	4.7	139.095731	2
2516	1.02	15.07	570.58	1.477451	55.939216	0.44942	4.7	139.177669	2
2517	0.98	13.36	577.13	1.363265	58.890816	0.40287	4.7	139.259608	2
2518	0.96	11.61	579.29	1.209375	60.342708	0.38071	4.7	139.341546	2
2519	0.93	9.37	589.14	1.007527	63.348387	0.34086	4.7	139.423485	2
2520	0.92	8.51	596.57	0.925	64.844565	0.32343	4.7	139.505423	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2521	0.92	8.11	607.29	0.881522	66.009783	0.31271	4.7	139.587362	2
2522	0.93	7.94	619.81	0.853763	66.646237	0.31019	4.7	139.6693	2
2523	0.95	7.7	637.92	0.810526	67.149474	0.31208	4.7	139.751239	2
2524	0.97	7.21	650.11	0.743299	67.021649	0.31989	4.7	139.833178	2
2525	0.99	6.76	656.66	0.682828	66.329293	0.33334	4.7	139.915116	2
2526	1.03	6.89	658.68	0.668932	63.949515	0.37132	4.7	139.997055	2
2527	1.04	7.33	668.7	0.704808	64.298077	0.3713	4.7	140.078993	2
2528	1.05	7.5	673.97	0.714286	64.187619	0.37603	4.7	140.160932	2
2529	1.07	7.33	676.9	0.685047	63.261682	0.3931	4.7	140.24287	2
2530	1.08	7.09	680.78	0.656481	63.035185	0.39922	4.8	140.326548	2
2531	1.1	6.97	687.81	0.633636	62.528182	0.41219	4.7	140.408486	2
2532	1.11	6.93	689.02	0.624324	62.073874	0.42098	4.7	140.490425	2
2533	1.12	7.01	683.12	0.625893	60.992857	0.43688	4.7	140.572363	2
2534	1.13	7.29	683.09	0.645133	60.450442	0.44691	4.7	140.654302	2
2535	1.15	7.09	692.68	0.616522	60.233043	0.45732	4.7	140.73624	2
2536	1.17	6.93	705.82	0.592308	60.326496	0.46418	4.7	140.818179	2
2537	1.2	6.89	723.24	0.574167	60.27	0.47676	4.7	140.900117	2
2538	1.24	7.01	737.29	0.565323	59.458871	0.50271	4.7	140.982056	2
2539	1.28	7.25	748.05	0.566406	58.441406	0.53195	4.8	141.065734	2
2540	1.36	8.15	738.46	0.599265	54.298529	0.62154	4.7	141.147672	2
2541	1.38	8.72	731.54	0.631884	53.010145	0.64846	4.8	141.23135	2
2542	1.38	9.17	725.03	0.664493	52.538406	0.65497	4.8	141.315028	2
2543	1.38	9.49	713.76	0.687681	51.721739	0.66624	4.8	141.398706	2
2544	1.36	9.57	704.68	0.703676	51.814706	0.65532	4.8	141.482384	2
2545	1.35	9.61	702.89	0.711852	52.065926	0.64711	4.8	141.566062	2
2546	1.33	9.53	705.96	0.716541	53.079699	0.62404	4.8	141.649739	2
2547	1.33	9.53	717.31	0.716541	53.933083	0.61269	4.8	141.733417	2
2548	1.35	9.82	733.34	0.727407	54.321481	0.61666	4.8	141.817095	2
2549	1.38	10.31	756.14	0.747101	54.792754	0.62386	4.8	141.900773	2
2550	1.42	10.8	781.43	0.760563	55.030282	0.63857	4.8	141.984451	2
2551	1.47	11.16	807.49	0.759184	54.931293	0.66251	4.8	142.068129	2
2552	1.54	11.69	829.41	0.759091	53.857792	0.71059	4.8	142.151806	2
2553	1.61	12.43	852.87	0.77205	52.973292	0.75713	4.8	142.235484	2
2554	1.69	13.28	878.89	0.785799	52.005325	0.81111	4.8	142.319162	2
2555	1.85	15.32	945.21	0.828108	51.092432	0.90479	4.8	142.40284	2
2556	1.96	16.09	969.88	0.820918	49.483673	0.99012	4.8	142.486518	2
2557	2.05	16.7	970.43	0.814634	47.338049	1.07957	4.8	142.570196	2
2558	2.12	18.5	960.77	0.872642	45.31934	1.15923	4.8	142.653874	2
2559	2.16	19.92	950.66	0.922222	44.012037	1.20934	4.8	142.737551	2
2560	2.2	21.96	901.55	0.998182	40.979545	1.29845	4.8	142.821229	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2561	2.24	30.11	795.15	1.344196	35.497768	1.44485	4.8	142.904907	2
2562	2.22	34.63	723.35	1.55991	32.583333	1.49665	4.8	142.988585	2
2563	2.19	38.58	663.07	1.761644	30.277169	1.52693	4.8	143.072263	2
2564	2.13	44.28	616.88	2.078873	28.961502	1.51312	4.8	143.155941	2
2565	2.06	49.54	590.49	2.404854	28.664563	1.46951	4.8	143.239618	2
2566	1.96	56.18	579.33	2.866327	29.557653	1.38067	4.8	143.323296	2
2567	1.88	60.99	562.42	3.244149	29.915957	1.31758	4.8	143.406974	2
2568	1.73	67.34	526.59	3.892486	30.438728	1.20341	4.8	143.490652	2
2569	1.69	70.24	520.81	4.156213	30.817116	1.16919	4.8	143.57433	2
2570	1.65	72.19	518.21	4.375152	31.406667	1.13179	4.8	143.658008	2
2571	1.63	74.23	520.33	4.553988	31.922086	1.10967	4.8	143.741685	2
2572	1.61	77.41	529.11	4.808075	32.863975	1.08089	5	143.828841	2
2573	1.57	79.16	537.79	5.042038	34.25414	1.03221	5	143.915997	2
2574	1.54	79.73	558.25	5.177273	36.25	0.98175	5	144.003153	2
2575	1.51	77.57	614.28	5.137086	40.680795	0.89572	5	144.090308	2
2576	1.52	75.29	637.85	4.953289	41.963816	0.88215	4.9	144.175725	2
2577	1.54	71.46	667.86	4.64026	43.367532	0.87214	5	144.262881	2
2578	1.57	68.77	692.31	4.380255	44.096178	0.87769	5	144.350037	2
2579	1.59	64.94	704.46	4.084277	44.30566	0.88554	5	144.437193	2
2580	1.63	62.09	719.65	3.809202	44.150307	0.91035	5	144.524348	2
2581	1.65	58.1	727.56	3.521212	44.094545	0.92244	4.8	144.608026	2
2582	1.65	58.1	727.56	3.521212	44.094545	0.92244	4.8	144.691704	1.8
2583	1.65	58.1	727.56	3.521212	44.094545	0.92244	4.8	144.775382	1.8
2584	1.64	43.55	846.39	2.655488	51.609146	0.79361	4.8	144.85906	1.8
2585	1.66	42.53	827.51	2.562048	49.85	0.83249	4.8	144.942738	2.2
2586	1.65	41.76	829.05	2.530909	50.245455	0.82095	4.8	145.026415	2.2
2587	1.67	39.97	820.26	2.393413	49.117365	0.84974	4.8	145.110093	2.2
2588	1.65	40.94	823.37	2.481212	49.901212	0.82663	4.8	145.193771	2.2
2589	1.64	42.04	827.43	2.563415	50.453049	0.81257	4.8	145.277449	2.1
2590	1.64	42.53	813.09	2.593293	49.578659	0.82691	4.8	145.361127	2.1
2591	1.65	42.74	806.32	2.590303	48.867879	0.84368	4.8	145.444805	2.1
2592	1.63	44.08	825.57	2.704294	50.648466	0.80443	4.8	145.528482	2.1
2593	1.64	45.1	839.88	2.75	51.212195	0.80012	4.8	145.61216	2.1
2594	1.67	45.06	832.3	2.698204	49.838323	0.8377	5	145.699316	2.1
2595	1.69	45.06	823.52	2.666272	48.728994	0.86648	4.8	145.782994	2.2
2596	1.71	45.67	804.56	2.67076	47.050292	0.90544	5	145.87015	2.2
2597	1.73	46.28	802.51	2.675145	46.387861	0.92749	4.8	145.953827	2.2
2598	1.73	47.1	809.5	2.722543	46.791908	0.9205	4.8	146.037505	2.2
2599	1.74	47.14	809.32	2.709195	46.512644	0.93068	4.8	146.121183	2.1
2600	1.75	47.62	805.04	2.721143	46.002286	0.94496	4.8	146.204861	2.1

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2601	1.72	47.87	777.84	2.78314	45.223256	0.94216	5	146.292017	2.1
2602	1.68	48.07	759.51	2.86131	45.208929	0.92049	4.9	146.377434	2.1
2603	1.65	48.15	764.74	2.918182	46.347879	0.88526	4.9	146.462851	2.1
2604	1.64	49.21	783.3	3.00061	47.762195	0.8567	4.9	146.548268	2.1
2605	1.64	49.7	786.59	3.030488	47.962805	0.85341	4.9	146.633684	2.1
2606	1.67	47.99	772.21	2.873653	46.24012	0.89779	5	146.72084	2.2
2607	1.67	47.99	772.21	2.873653	46.24012	0.89779	5	146.807996	2.2
2608	1.69	51.33	797.61	3.037278	47.195858	0.89239	5	146.895152	2.1
2609	1.7	53.78	827.36	3.163529	48.668235	0.87264	5	146.982307	2.1
2610	1.72	53.7	838.6	3.122093	48.755814	0.8814	5	147.069463	2.2
2611	1.74	51.82	857.78	2.978161	49.297701	0.88222	5	147.156619	2.2
2612	1.76	51.13	884.27	2.905114	50.242614	0.87573	5	147.243775	2.1
2613	1.79	50.72	909.12	2.83352	50.788827	0.88088	5	147.33093	2.1
2614	1.8	49.7	929.91	2.761111	51.661667	0.87009	5	147.418086	2
2615	1.82	49.01	944.74	2.692857	51.908791	0.87526	5	147.505242	2
2616	1.86	47.46	940.38	2.551613	50.558065	0.91962	5	147.592398	2.1
2617	1.88	46.57	918.09	2.477128	48.834574	0.96191	5	147.679553	2.1
2618	1.93	46.16	882.26	2.39171	45.712953	1.04774	5	147.766709	2
2619	1.96	48.97	808.66	2.498469	41.258163	1.15134	4.9	147.852126	2
2620	1.96	51.25	792.7	2.614796	40.443878	1.1673	5	147.939282	2
2621	1.93	54.14	793.29	2.805181	41.103109	1.13671	5	148.026437	2
2622	1.92	56.87	811.44	2.961979	42.2625	1.10856	5	148.113593	2
2623	1.95	57.69	814.95	2.958462	41.792308	1.13505	5	148.200749	2
2624	1.99	59.28	825.82	2.978894	41.498492	1.16418	5	148.287905	2
2625	2.02	60.99	824.73	3.019307	40.828218	1.19527	5	148.37506	2
2626	2.03	63.92	831.97	3.148768	40.983744	1.19803	5	148.462216	2
2627	2.04	66.65	833.22	3.267157	40.844118	1.20678	5	148.549372	2
2628	2.07	67.42	837.5	3.257005	40.458937	1.2325	5	148.636528	2
2629	2.09	68.85	838.41	3.294258	40.115311	1.25159	5	148.723683	2
2630	2.11	71.62	840.21	3.394313	39.820379	1.26979	5	148.810839	2
2631	2.07	74.15	812.54	3.582126	39.25314	1.25746	5	148.897995	2
2632	2.04	75.33	804.78	3.692647	39.45	1.23522	5	148.985151	2
2633	2.01	75.33	795.08	3.747761	39.556219	1.21492	5	149.072306	2
2634	1.98	74.64	775.21	3.769697	39.15202	1.20479	5	149.159462	2
2635	1.95	74.19	756.47	3.804615	38.793333	1.19353	5	149.246618	2
2636	1.91	74.35	750.76	3.89267	39.306806	1.15924	5	149.333774	2
2637	1.86	76.39	741.65	4.106989	39.873656	1.11835	5	149.420929	2
2638	1.81	77.53	741.9	4.283425	40.98895	1.0681	5	149.508085	2
2639	1.77	76.39	738.21	4.315819	41.70678	1.03179	5	149.595241	2
2640	1.73	74.72	746.4	4.319075	43.144509	0.9836	5	149.682397	2



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2641	1.7	74.88	752.48	4.404706	44.263529	0.94752	5	149.769552	2
2642	1.68	74.68	771.18	4.445238	45.903571	0.90882	5	149.856708	2
2643	1.67	74.76	788.49	4.476647	47.21497	0.88151	5	149.943864	2
2644	1.68	73.13	807.82	4.352976	48.084524	0.87218	5	150.03102	2
2645	1.69	71.78	837.94	4.247337	49.582249	0.85206	5.1	150.119914	2
2646	1.7	69.54	869.27	4.090588	51.133529	0.83073	5	150.20707	2
2647	1.74	67.51	902.35	3.879885	51.859195	0.83765	5	150.294225	2
2648	1.77	64.65	935.95	3.652542	52.878531	0.83405	5	150.381381	2
2649	1.85	57.61	971.86	3.114054	52.532973	0.87814	5	150.468537	2
2650	1.89	54.59	968.49	2.88836	51.242857	0.92151	5	150.555693	2
2651	1.95	52.92	960.18	2.713846	49.24	0.98982	5.1	150.644587	2
2652	1.97	51.41	954.95	2.609645	48.474619	1.01505	5.1	150.733481	2
2653	2	50.48	950.26	2.524	47.513	1.04974	5.1	150.822375	2.1
2654	2.06	49.09	952.9	2.38301	46.257282	1.1071	5	150.909531	2.1
2655	2.18	48.2	960.62	2.211009	44.065138	1.21938	5.1	150.998426	2.1
2656	2.31	49.21	979.76	2.130303	42.413853	1.33024	5.1	151.08732	2.1
2657	2.43	51.05	985.18	2.100823	40.542387	1.44482	5	151.174476	2
2658	2.55	52.6	967.21	2.062745	37.929804	1.58279	5.1	151.26337	2
2659	2.7	56.59	891.92	2.095926	33.034074	1.80808	5.1	151.352264	2
2660	2.77	61.19	858.95	2.209025	31.009025	1.91105	5.1	151.441158	2
2661	2.86	74.19	805.69	2.594056	28.170979	2.05431	5	151.528314	2.1
2662	2.92	80.58	781.28	2.759589	26.756164	2.13872	5.1	151.617208	2
2663	2.95	85.35	768.33	2.89322	26.045085	2.18167	5.1	151.706103	2
2664	2.99	88.28	764.85	2.952508	25.580268	2.22515	5.1	151.794997	2.1
2665	3.02	88.32	765.44	2.924503	25.345695	2.25456	5.1	151.883891	2.1
2666	3.06	86	763.24	2.810458	24.942484	2.29676	5.1	151.972786	2
2667	3.17	84.9	774.4	2.678233	24.429022	2.3956	5.1	152.06168	2
2668	3.35	84.7	784.1	2.528358	23.40597	2.5659	5.1	152.150574	2
2669	3.51	84.37	785.93	2.403704	22.391168	2.72407	5.1	152.239469	2
2670	3.89	83.52	746.37	2.147044	19.186889	3.14363	5.1	152.328363	2
2671	4.08	81.52	723.09	1.998039	17.722794	3.35691	5.1	152.417257	2
2672	4.25	79.4	691.4	1.868235	16.268235	3.5586	5.1	152.506151	2
2673	4.4	77.98	659.92	1.772273	14.998182	3.74008	5.1	152.595046	2
2674	4.48	75.45	614.94	1.684152	13.726339	3.86506	5.1	152.68394	2
2675	4.51	73.54	559.6	1.630599	12.407982	3.9504	5.1	152.772834	2
2676	4.48	72.27	491.49	1.61317	10.970759	3.98851	5.2	152.863467	2
2677	4.4	72.27	423.01	1.6425	9.613864	3.97699	5.1	152.952361	2.1
2678	4.31	71.54	365.85	1.659861	8.488399	3.94415	5.1	153.041256	2.1
2679	4.19	69.3	321.49	1.653938	7.672792	3.86851	5.1	153.13015	2
2680	3.93	65.43	265.53	1.664885	6.756489	3.66447	5.1	153.219044	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2681	3.81	67.71	251.73	1.777165	6.607087	3.55827	5.1	153.307938	2
2682	3.81	67.71	251.73	1.777165	6.607087	3.55827	5.1	153.396833	1.9
2683	3.81	67.71	251.73	1.777165	6.607087	3.55827	5.1	153.485727	1.9
2684	4.3	110.69	647.11	2.574186	15.04907	3.65289	5.1	153.574621	1.9
2685	4.16	100.83	510.89	2.423798	12.28101	3.64911	5.1	153.663516	1.9
2686	3.96	93.01	408.63	2.348737	10.318939	3.55137	5.1	153.75241	2.2
2687	3.75	88.2	336.35	2.352	8.969333	3.41365	5.1	153.841304	2.2
2688	3.56	84.09	295.1	2.362079	8.289326	3.2649	5.1	153.930198	2
2689	3.39	81.07	275.7	2.391445	8.132743	3.1143	5.1	154.019093	2
2690	3.11	77.12	290.05	2.479743	9.326367	2.81995	5.1	154.107987	2
2691	3.04	74.84	344.4	2.461842	11.328947	2.6956	5.1	154.196881	2
2692	3.14	73.09	448.12	2.327707	14.271338	2.69188	5.1	154.285776	2
2693	3.47	73.37	601.62	2.114409	17.337752	2.86838	5.1	154.37467	2
2694	4.04	77.36	771.73	1.914851	19.102228	3.26827	5.1	154.463564	2
2695	4.73	84.82	913.55	1.793235	19.313953	3.81645	5.1	154.552459	2
2696	5.45	92.32	965.16	1.693945	17.709358	4.48484	5.1	154.641353	2
2697	6.16	99.28	921.68	1.611688	14.962338	5.23832	5.1	154.730247	2
2698	6.9	109.47	705.71	1.586522	10.227681	6.19429	5.1	154.819141	2
2699	7	112.77	608.97	1.611	8.699571	6.39103	5.2	154.909774	2
2700	7.02	110.49	532.12	1.573932	7.580057	6.48788	5.1	154.998668	2
2701	6.96	99.57	464.77	1.430603	6.67773	6.49523	5.2	155.089301	2
2702	6.89	88.69	408.23	1.287228	5.924964	6.48177	5.1	155.178195	2
2703	6.8	79.52	356.51	1.169412	5.242794	6.44349	5.2	155.268828	2
2704	6.63	72.27	317.21	1.090045	4.784465	6.31279	5.1	155.357722	2
2705	6.22	59.64	260.07	0.958842	4.18119	5.95993	5.2	155.448355	2
2706	6.03	57.16	234.64	0.947927	3.891211	5.79536	5.2	155.538987	2
2707	5.84	56.02	200.89	0.959247	3.439897	5.63911	5.1	155.627882	2
2708	5.59	54.59	163.71	0.976565	2.928623	5.42629	5.1	155.716776	2
2709	5.26	52.23	108.88	0.992966	2.069962	5.15112	5.1	155.80567	2
2710	4.85	51.66	59.58	1.065155	1.228454	4.79042	5.2	155.896303	2
2711	4.45	52.96	18.81	1.190112	0.422697	4.43119	5.2	155.986935	2
2712	4.07	54.39	-13.32	1.336364	-0.327273	4.08332	5.1	156.07583	2
2713	3.45	63.64	-70.12	1.844638	-2.032464	3.52012	5.2	156.166462	2
2714	3.19	71.46	-74.88	2.240125	-2.347335	3.26488	5.1	156.255356	2
2715	2.99	80.42	-70.42	2.689632	-2.355184	3.06042	5.1	156.344251	2
2716	2.97	89.55	11.82	3.015152	0.39798	2.95818	5.1	156.433145	2
2717	3.19	96.59	252.21	3.0279	7.90627	2.93779	5.1	156.522039	2
2718	3.66	102.3	542.33	2.795082	14.81776	3.11767	5.1	156.610934	2
2719	4.39	105.35	811.99	2.399772	18.496355	3.57801	5.1	156.699828	2
2720	6.14	100.59	1079.75	1.638274	17.585505	5.06025	5.1	156.788722	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2721	6.87	99.57	941.92	1.449345	13.710626	5.92808	5.1	156.877617	2
2722	6.67	108	536.98	1.61919	8.050675	6.13302	5.1	156.966511	0.7
2723	6.8	104.7	574.39	1.539706	8.446912	6.22561	5.1	157.055405	0.7
2724	7.37	102.62	541.19	1.392402	7.343148	6.82881	5.1	157.144299	2
2725	7.39	92.03	405.99	1.245332	5.493775	6.98401	5.1	157.233194	2
2726	7.36	82.21	361.71	1.116984	4.914538	6.99829	5.1	157.322088	2
2727	7.35	74.23	333.13	1.009932	4.532381	7.01687	5.1	157.410982	2
2728	7.29	68.32	311.31	0.937174	4.27037	6.97869	5.1	157.499877	2
2729	7.21	62.41	298.91	0.865603	4.14577	6.91109	5.1	157.588771	2
2730	7.17	58.62	293.71	0.817573	4.096374	6.87629	5.1	157.677665	2
2731	7.02	55.28	255.21	0.787464	3.63547	6.76479	5.2	157.768298	2
2732	6.88	54.27	216.41	0.788808	3.145494	6.66359	5.1	157.857192	2
2733	6.65	54.06	166.67	0.812932	2.506316	6.48333	5.1	157.946086	2
2734	6.35	56.55	113.68	0.890551	1.790236	6.23632	5.1	158.034981	2
2735	5.98	61.15	56.91	1.022575	0.951672	5.92309	5.1	158.123875	2
2736	5.52	68.08	6.44	1.233333	0.116667	5.51356	5.1	158.212769	2
2737	5.07	75.74	-41.5	1.493886	-0.81854	5.1115	5.1	158.301664	2
2738	4.63	87.35	-81.51	1.886609	-1.760475	4.71151	5.1	158.390558	2
2739	3.96	109.92	-78.25	2.775758	-1.97601	4.03825	5.2	158.48119	2
2740	3.65	119.25	-77.33	3.267123	-2.11863	3.72733	5.1	158.570085	2
2741	3.39	126.95	-75.03	3.744838	-2.213274	3.46503	5.2	158.660717	2
2742	3.17	134.73	-65.37	4.250158	-2.062145	3.23537	5.2	158.75135	2
2743	2.99	143.49	-5.56	4.798997	-0.185953	2.99556	5.2	158.841983	2
2744	2.84	151.19	96.84	5.323592	3.409859	2.74316	5.2	158.932615	2
2745	2.74	155.42	206.57	5.672263	7.539051	2.53343	5.2	159.023248	2
2746	2.63	150.41	301.36	5.719011	11.458555	2.32864	5.2	159.11388	2
2747	2.6	130.53	490.36	5.020385	18.86	2.10964	5.2	159.204513	2
2748	2.79	127.35	608.13	4.564516	21.796774	2.18187	5.2	159.295145	2
2749	3.03	125.97	725.47	4.157426	23.942904	2.30453	5.2	159.385778	2
2750	3.2	124.7	835.45	3.896875	26.107812	2.36455	5.2	159.476411	2
2751	3.51	119.9	948.36	3.415954	27.018803	2.56164	5.2	159.567043	2
2752	3.95	116.43	1024.81	2.947595	25.944557	2.92519	5.2	159.657676	2
2753	5.02	105.07	946.93	2.093028	18.863147	4.07307	5.3	159.750046	2
2754	5.59	100.91	882.26	1.805188	15.782826	4.70774	5.3	159.842417	2
2755	6.04	99.04	781.06	1.639735	12.931457	5.25894	5.2	159.933049	2
2756	6.34	97.61	690.26	1.53959	10.887382	5.64974	5.2	160.023682	2
2757	6.46	94.96	606.23	1.469969	9.384365	5.85377	5.2	160.114315	2
2758	6.5	93.54	523.11	1.439077	8.047846	5.97689	5.2	160.204947	2
2759	6.42	95.98	430	1.495016	6.697819	5.99	5.2	160.29558	2
2760	6.22	101.36	344.4	1.629582	5.536977	5.8756	5.3	160.38795	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2761	6.2	115.99	287.34	1.870806	4.634516	5.91266	5.4	160.482059	2
2762	6.46	129.67	389.38	2.007276	6.027554	6.07062	5.4	160.576167	2
2763	7	148.13	543.61	2.116143	7.765857	6.45639	5.4	160.670275	2
2764	7.63	162.47	649.45	2.129358	8.511796	6.98055	5.4	160.764384	2
2765	8.35	160.19	626.98	1.918443	7.508743	7.72302	5.4	160.858492	1.9
2766	8.87	156.93	554.33	1.769222	6.249493	8.31567	5.4	160.9526	1.9
2767	9.3	150.04	446.66	1.613333	4.802796	8.85334	5.4	161.046709	2
2768	9.31	140.19	407.72	1.5058	4.379377	8.90228	5.4	161.140817	2
2769	9.35	126.58	387.81	1.353797	4.147701	8.96219	5.4	161.234925	2
2770	9.42	112.65	362.84	1.19586	3.851805	9.05716	5.4	161.329034	2
2771	9.44	106.9	339.71	1.132415	3.598623	9.10029	5.4	161.423142	2
2772	9.39	103.15	317.75	1.098509	3.383919	9.07225	5.4	161.51725	2
2773	9.37	96.88	289.46	1.033938	3.089221	9.08054	5.4	161.611358	2
2774	9.33	94.52	277.6	1.013076	2.975348	9.0524	5.4	161.705467	2
2775	9.32	91.99	272.7	0.987017	2.925966	9.0473	5.4	161.799575	2
2776	9.31	87.47	272.77	0.939527	2.92986	9.03723	5.4	161.893683	2
2777	9.33	84.58	273.84	0.906538	2.935048	9.05616	5.4	161.987792	2
2778	9.37	83.31	270.87	0.889114	2.890822	9.09913	5.4	162.0819	2
2779	9.38	82.86	268.53	0.883369	2.862793	9.11147	5.4	162.176008	2
2780	8.99	81.4	206.75	0.905451	2.299778	8.78325	5.4	162.270117	2
2781	8.44	82.21	146.84	0.974052	1.73981	8.29316	5.4	162.364225	2
2782	8.44	82.21	146.84	0.974052	1.73981	8.29316	5.4	162.458333	2.1
2783	8.44	82.21	146.84	0.974052	1.73981	8.29316	5.4	162.552442	2.1
2784	7	82.82	614.06	1.183143	8.772286	6.38594	5.4	162.64655	1.7
2785	6.23	97.9	321.27	1.571429	5.156822	5.90873	5.4	162.740658	1.8
2786	5.77	115.46	238.11	2.00104	4.12669	5.53189	5.4	162.834767	1.8
2787	5.53	132	212.49	2.38698	3.842495	5.31751	5.4	162.928875	1.8
2788	5.49	148.29	216.05	2.701093	3.935337	5.27395	5.4	163.022983	1.8
2789	5.58	186.71	313.62	3.346057	5.62043	5.26638	5.4	163.117091	1.8
2790	5.94	208.34	452.07	3.507407	7.610606	5.48793	5.4	163.2112	1.8
2791	6.53	221.91	615.42	3.398315	9.424502	5.91458	5.4	163.305308	1.8
2792	8.69	232.14	960.44	2.671346	11.052244	7.72956	5.4	163.399416	1.7
2793	9.8	233.11	1162.1	2.378673	11.858163	8.6379	5.4	163.493525	1.7
2794	10.91	221.14	1178.93	2.026948	10.805958	9.73107	5.4	163.587633	1.9
2795	11.78	211.6	1091.9	1.796265	9.2691	10.6881	5.4	163.681741	1.9
2796	12.54	203.5	944	1.622807	7.527911	11.596	5.4	163.77585	1.9
2797	13.01	196.24	839.4	1.508378	6.45196	12.1706	5.4	163.869958	1.9
2798	13.47	171.03	376.86	1.26971	2.797773	13.09314	5.4	163.964066	1.9
2799	13.51	155.5	349.92	1.150999	2.590081	13.16008	5.4	164.058175	1.9
2800	13.46	145.44	347.22	1.080535	2.579643	13.11278	5.4	164.152283	1.9

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2801	13.38	138.72	333.2	1.036771	2.490284	13.0468	5.4	164.246391	1.9
2802	13.32	132.16	325.15	0.992192	2.441066	12.99485	5.4	164.3405	1.9
2803	13.31	117.58	316.95	0.883396	2.381292	12.99305	5.4	164.434608	1.9
2804	13.34	109.26	322.07	0.81904	2.414318	13.01793	5.4	164.528716	1.9
2805	13.39	98.39	326.25	0.734802	2.43652	13.06375	5.4	164.622824	1.9
2806	13.5	91.38	336.13	0.676889	2.489852	13.16387	5.4	164.716933	2
2807	13.65	89.71	347.88	0.657216	2.548571	13.30212	5.6	164.814516	2
2808	13.83	84.74	360.06	0.612726	2.603471	13.46994	5.4	164.908624	1.9
2809	14	82.29	366.54	0.587786	2.618143	13.63346	5.4	165.002732	1.9
2810	14.03	81.03	341.1	0.577548	2.431219	13.6889	5.4	165.096841	2
2811	13.97	79.24	327.93	0.567215	2.347387	13.64207	5.4	165.190949	2
2812	13.85	78.02	318.23	0.563321	2.29769	13.53177	5.4	165.285057	1.9
2813	13.81	76.96	318.6	0.557277	2.307024	13.4914	5.4	165.379166	1.9
2814	13.82	76.63	328.84	0.554486	2.37945	13.49116	5.4	165.473274	1.9
2815	13.97	76.26	350.11	0.545884	2.506156	13.61989	5.4	165.567382	1.9
2816	14.51	77.04	404.13	0.530944	2.785183	14.10587	5.4	165.661491	1.9
2817	14.91	77.53	437.87	0.519987	2.936754	14.47213	5.4	165.755599	1.9
2818	15.35	78.67	471.47	0.512508	3.071466	14.87853	5.4	165.849707	1.9
2819	15.83	79.52	500.75	0.502337	3.163298	15.32925	5.4	165.943815	1.9
2820	16.36	80.09	528.97	0.489548	3.233313	15.83103	5.4	166.037924	1.9
2821	17.31	80.71	551.07	0.466262	3.183536	16.75893	5.4	166.132032	1.9
2822	17.65	81.36	546.76	0.460963	3.09779	17.10324	5.4	166.22614	1.9
2823	17.85	82.42	536.98	0.461737	3.008291	17.31302	5.4	166.320249	1.9
2824	17.91	83.92	514.18	0.468565	2.87091	17.39582	5.4	166.414357	1.9
2825	18	85.72	503.79	0.476222	2.798833	17.49621	5.4	166.508465	1.9
2826	18.03	86.57	483.8	0.480144	2.683306	17.5462	5.4	166.602574	1.9
2827	17.89	90.08	428.17	0.503522	2.393348	17.46183	5.4	166.696682	1.9
2828	17.65	91.66	393	0.51932	2.226629	17.257	5.4	166.79079	1.9
2829	17.34	93.86	348.42	0.541292	2.009343	16.99158	5.4	166.884899	1.9
2830	17	96.76	314.06	0.569176	1.847412	16.68594	5.4	166.979007	1.9
2831	16.64	98.67	287.3	0.592969	1.726562	16.3527	5.4	167.073115	1.9
2832	16.11	100.02	286.17	0.620857	1.77635	15.82383	5.4	167.167224	1.9
2833	15.97	98.92	301.87	0.619411	1.890232	15.66813	5.4	167.261332	1.9
2834	15.91	98.59	325.92	0.619673	2.048523	15.58408	5.4	167.35544	1.9
2835	15.99	99.85	356	0.624453	2.226391	15.634	5.4	167.449548	2
2836	16.08	100.87	381.77	0.627301	2.374192	15.69823	5.4	167.543657	2
2837	16.2	101.44	401.13	0.626173	2.476111	15.79887	5.4	167.637765	2
2838	16.33	101.97	422.5	0.624434	2.587263	15.9075	5.4	167.731873	2
2839	16.65	102.13	454.89	0.613393	2.732072	16.19511	5.4	167.825982	2
2840	16.79	101.73	467.85	0.605896	2.78648	16.32215	5.4	167.92009	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2841	16.94	101.93	480.04	0.601712	2.833766	16.45996	5.4	168.014198	2
2842	17.15	102.18	496.87	0.595802	2.897201	16.65313	5.4	168.108307	2
2843	17.36	103.44	509.39	0.595853	2.934274	16.85061	5.4	168.202415	2
2844	17.56	105.31	520.59	0.599715	2.964636	17.03941	5.4	168.296523	2
2845	17.96	108.41	535.85	0.603619	2.983575	17.42415	5.4	168.390632	2
2846	18.14	109.59	542.03	0.604135	2.988037	17.59797	5.4	168.48474	2
2847	18.33	110.24	552.21	0.601418	3.012602	17.77779	5.4	168.578848	2
2848	18.51	109.75	552.54	0.592923	2.985089	17.95746	5.4	168.672957	2
2849	18.58	109.43	537.53	0.588967	2.893057	18.04247	5.4	168.767065	2
2850	18.53	108.61	516.31	0.586131	2.786346	18.01369	5.4	168.861173	1.9
2851	18.29	107.55	468.47	0.588026	2.561345	17.82153	5.6	168.958756	1.9
2852	18.08	106.17	442.67	0.587223	2.448396	17.63733	5.6	169.056339	1.9
2853	17.78	105.6	410.17	0.593926	2.306918	17.36983	5.4	169.150447	1.9
2854	17.37	105.19	376.28	0.605584	2.166264	16.99372	5.6	169.24803	2
2855	16.95	104.62	343.67	0.617227	2.027552	16.60633	5.4	169.342138	2
2856	16.5	104.82	316.69	0.635273	1.919333	16.18331	5.4	169.436247	2
2857	16.12	103.93	295.39	0.644727	1.832444	15.82461	5.4	169.530355	2
2858	15.78	103.03	284.27	0.652915	1.801458	15.49573	5.4	169.624463	2
2859	15.27	100.87	287.71	0.660576	1.884152	14.98229	5.4	169.718572	2
2860	15.13	100.38	295.54	0.66345	1.953338	14.83446	5.6	169.816155	2
2861	15.15	101.44	341.36	0.669571	2.253201	14.80864	5.4	169.910263	2
2862	15.24	101.93	364.86	0.668832	2.394094	14.87514	5.6	170.007846	2
2863	15.37	102.22	389.01	0.665062	2.530969	14.98099	5.6	170.105429	2
2864	15.41	102.34	397.94	0.664114	2.582349	15.01206	5.6	170.203012	2
2865	15.27	101.65	376.17	0.665684	2.463458	14.89383	5.6	170.300595	2
2866	15.09	101.16	355.63	0.670378	2.356726	14.73437	5.6	170.398177	2
2867	14.8	100.06	320.72	0.676081	2.167027	14.47928	5.6	170.49576	2
2868	14.38	98.35	276.69	0.683936	1.924131	14.10331	5.6	170.593343	2
2869	13.88	95.78	223.99	0.690058	1.613761	13.65601	5.6	170.690926	2
2870	13.27	93.38	168.06	0.703693	1.266466	13.10194	5.6	170.788509	2
2871	12.6	90.97	116.93	0.721984	0.928016	12.48307	5.6	170.886092	2
2872	11.09	88.08	23.72	0.794229	0.213886	11.06628	5.6	170.983675	2
2873	10.27	86.78	-18.99	0.844985	-0.184907	10.28899	5.6	171.081258	2
2874	9.49	85.23	-49.85	0.898103	-0.52529	9.53985	5.6	171.178841	2
2875	8.69	84.25	-67.93	0.969505	-0.781703	8.75793	5.6	171.276424	2
2876	7.99	82.78	-73.89	1.036045	-0.924781	8.06389	5.6	171.374006	2
2877	7.38	82.17	-61.93	1.113415	-0.83916	7.44193	5.6	171.471589	2
2878	6.86	82.29	-40.55	1.199563	-0.591108	6.90055	5.6	171.569172	2
2879	6.46	84.58	-5.56	1.309288	-0.086068	6.46556	5.6	171.666755	2
2880	5.94	86.25	56.84	1.45202	0.956902	5.88316	5.6	171.764338	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2881	5.94	86.25	56.84	1.45202	0.956902	5.88316	5.6	171.861921	2.1
2882	5.94	86.25	56.84	1.45202	0.956902	5.88316	5.6	171.959504	2.1
2883	3.8	62.17	580.76	1.636053	15.283158	3.21924	5.6	172.057087	1.8
2884	5.63	82.17	500.09	1.459503	8.882593	5.12991	5.6	172.15467	1.8
2885	5.57	81.76	365	1.467864	6.552962	5.205	5.6	172.252253	2
2886	5.84	80.38	296.71	1.37637	5.080651	5.54329	5.6	172.349835	2
2887	6.19	80.34	292.06	1.2979	4.718255	5.89794	5.6	172.447418	2
2888	6.59	80.05	290.45	1.214719	4.407436	6.29955	5.6	172.545001	2
2889	7.05	80.01	311.42	1.134894	4.417305	6.73858	5.6	172.642584	2
2890	7.56	79.04	349.16	1.045503	4.618519	7.21084	5.6	172.740167	2
2891	8.13	75.78	348.68	0.932103	4.288807	7.78132	5.6	172.83775	2
2892	8.65	74.23	317.94	0.85815	3.675607	8.33206	5.6	172.935333	2
2893	9.08	72.97	272.3	0.803634	2.998899	8.8077	5.6	173.032916	2
2894	9.4	69.38	170.52	0.738085	1.814043	9.22948	5.6	173.130499	2
2895	9.4	66.57	138.2	0.708191	1.470213	9.2618	5.6	173.228082	2
2896	9.25	60.13	107.09	0.650054	1.15773	9.14291	5.6	173.325664	2
2897	8.96	51.54	75.98	0.575223	0.847991	8.88402	5.6	173.423247	2
2898	8.5	42.45	44.03	0.499412	0.518	8.45597	5.6	173.52083	2
2899	7.85	36.54	3.95	0.465478	0.050318	7.84605	5.6	173.618413	2
2900	6.93	36.99	-63.46	0.533766	-0.915729	6.99346	5.6	173.715996	2
2901	6.01	41.51	-88.9	0.690682	-1.479201	6.0989	5.7	173.815316	2
2902	4.5	50.27	-76.82	1.117111	-1.707111	4.57682	5.6	173.912899	2
2903	3.97	56.3	-74.33	1.418136	-1.872292	4.04433	5.6	174.010482	2
2904	3.58	64.94	-65.26	1.813966	-1.822905	3.64526	5.6	174.108065	2
2905	3.38	73.86	-41.39	2.185207	-1.224556	3.42139	5.6	174.205647	2
2906	3.18	85.43	-11.16	2.686478	-0.350943	3.19116	5.7	174.304967	2
2907	3.01	97.86	31.33	3.251163	1.040864	2.97867	5.7	174.404287	2
2908	2.91	106.37	83.81	3.655326	2.880069	2.82619	5.7	174.503607	2
2909	2.83	113.13	140.72	3.997527	4.972438	2.68928	5.7	174.602926	2
2910	2.74	119.29	190.17	4.35365	6.940511	2.54983	5.6	174.700509	2
2911	2.65	126.54	228.93	4.775094	8.638868	2.42107	5.7	174.799829	2
2912	2.42	132.08	322.55	5.457851	13.328512	2.09745	5.7	174.899149	2
2913	2.29	130.77	407.9	5.71048	17.812227	1.8821	5.6	174.996732	2
2914	2.17	126.99	452.33	5.852074	20.8447	1.71767	5.7	175.096051	2
2915	2.05	119.61	500.57	5.834634	24.418049	1.54943	5.7	175.195371	2
2916	1.97	113.95	611.68	5.784264	31.049746	1.35832	5.6	175.292954	2
2917	1.91	108.9	617.06	5.701571	32.306806	1.29294	5.6	175.390537	2
2918	1.87	104.99	627.68	5.614439	33.565775	1.24232	5.6	175.48812	2
2919	1.84	99.69	634.7	5.417935	34.494565	1.2053	5.6	175.585703	2
2920	1.8	92.48	646.42	5.137778	35.912222	1.15358	5.6	175.683286	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2921	1.77	84.45	654.61	4.771186	36.983616	1.11539	5.6	175.780869	2
2922	1.77	72.92	638.66	4.119774	36.082486	1.13134	5.6	175.878452	2
2923	1.74	69.67	639.1	4.004023	36.729885	1.1009	5.7	175.977771	2.1
2924	1.73	67.14	615.74	3.880925	35.591908	1.11426	5.6	176.075354	2.1
2925	1.69	64.04	632.36	3.789349	37.417751	1.05764	5.6	176.172937	2
2926	1.67	59.81	653.95	3.581437	39.158683	1.01605	5.6	176.27052	2
2927	1.67	57	680.56	3.413174	40.752096	0.98944	5.7	176.36984	2
2928	1.68	55.49	708.08	3.302976	42.147619	0.97192	5.6	176.467423	2
2929	1.69	54.02	736.08	3.19645	43.55503	0.95392	5.6	176.565005	2
2930	1.72	52.88	762.69	3.074419	44.342442	0.95731	5.6	176.662588	2
2931	1.73	52.07	781.25	3.009827	45.15896	0.94875	5.6	176.760171	2
2932	1.73	52.27	794.28	3.021387	45.912139	0.93572	5.6	176.857754	2
2933	1.74	52.51	802.99	3.017816	46.148851	0.93701	5.6	176.955337	2
2934	1.77	51.66	792.96	2.918644	44.8	0.97704	5.6	177.05292	2
2935	1.79	51.29	777.81	2.865363	43.453073	1.01219	5.6	177.150503	2
2936	1.8	51.45	766.13	2.858333	42.562778	1.03387	5.6	177.248086	2
2937	1.79	52.31	757.71	2.922346	42.330168	1.03229	5.6	177.345669	2.1
2938	1.77	52.8	753.91	2.983051	42.593785	1.01609	5.6	177.443252	2.1
2939	1.77	53.12	750.91	3.00113	42.424294	1.01909	5.6	177.540834	2.1
2940	1.76	53.08	745.42	3.015909	42.353409	1.01458	5.6	177.638417	2
2941	1.76	53.21	740.4	3.023295	42.068182	1.0196	5.6	177.736	2
2942	1.76	54.02	734.99	3.069318	41.760795	1.02501	5.6	177.833583	2
2943	1.77	55.12	729.46	3.114124	41.212429	1.04054	5.6	177.931166	2
2944	1.78	56.3	731.03	3.162921	41.069101	1.04897	5.6	178.028749	2
2945	1.78	57.04	736.27	3.204494	41.363483	1.04373	5.6	178.126332	2
2946	1.78	57.4	746.11	3.224719	41.916292	1.03389	5.6	178.223915	2
2947	1.77	57.85	757.38	3.268362	42.789831	1.01262	5.6	178.321498	2
2948	1.77	58.18	769.46	3.287006	43.472316	1.00054	5.6	178.419081	2
2949	1.78	58.5	777.4	3.286517	43.674157	1.0026	5.6	178.516663	2
2950	1.79	58.3	779.49	3.256983	43.546927	1.01051	5.6	178.614246	2
2951	1.81	57.97	779.89	3.202762	43.087845	1.03011	5.7	178.713566	2
2952	1.83	57.57	773.3	3.145902	42.256831	1.0567	5.6	178.811149	2
2953	1.83	57.57	773.3	3.145902	42.256831	1.0567	5.6	178.908732	2
2954	1.85	57.04	771.26	3.083243	41.68973	1.07874	5.6	179.006315	2.1
2955	1.86	56.63	771.73	3.044624	41.49086	1.08827	5.6	179.103898	2.1
2956	1.88	56.79	774.88	3.020745	41.217021	1.10512	5.6	179.201481	2
2957	1.89	56.87	766.31	3.008995	40.545503	1.12369	5.7	179.3008	2
2958	1.9	57.08	761.26	3.004211	40.066316	1.13874	5.6	179.398383	2
2959	1.91	57.48	762.21	3.009424	39.906283	1.14779	5.6	179.495966	2
2960	1.92	58.3	761.89	3.036458	39.681771	1.15811	5.6	179.593549	2.1



MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

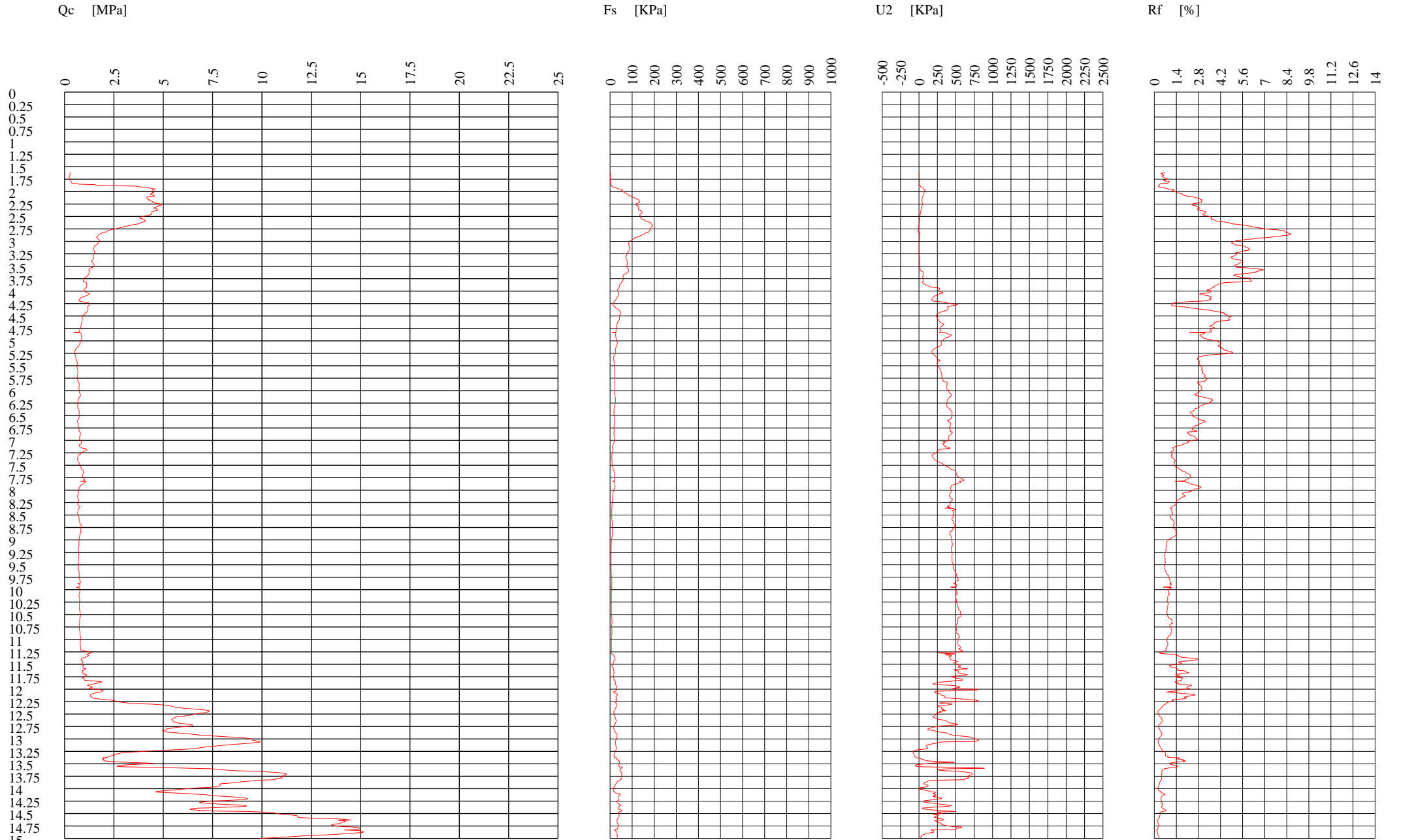
Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
2961	1.98	58.95	739.27	2.977273	37.336869	1.24073	5.6	179.691132	2
2962	2	59.72	726.86	2.986	36.343	1.27314	5.6	179.788715	2
2963	2.04	62.54	714.67	3.065686	35.032843	1.32533	5.7	179.888035	2
2964	2.07	63.84	700.73	3.084058	33.851691	1.36927	5.6	179.985618	2
2965	2.09	64.37	680.96	3.079904	32.581818	1.40904	5.7	180.084937	2
2966	2.12	65.55	669.33	3.091981	31.57217	1.45067	5.6	180.18252	2
2967	2.15	66.81	659.04	3.107442	30.653023	1.49096	5.6	180.280103	2
2968	2.17	67.87	656.22	3.12765	30.240553	1.51378	5.6	180.377686	2
2969	2.19	68.73	644.44	3.138356	29.426484	1.54556	5.6	180.475269	2
2970	2.21	70.48	647.84	3.18914	29.314027	1.56216	5.7	180.574589	2
2971	2.24	71.25	651.17	3.180804	29.070089	1.58883	5.7	180.673908	2
2972	2.35	72.84	662.7	3.099574	28.2	1.6873	5.7	180.773228	2
2973	2.4	73.9	645.06	3.079167	26.8775	1.75494	5.6	180.870811	2
2974	2.44	74.88	617.76	3.068852	25.318033	1.82224	5.7	180.970131	2
2975	2.47	76.63	593.2	3.102429	24.016194	1.8768	5.6	181.067714	2
2976	2.48	78.79	571.61	3.177016	23.04879	1.90839	5.6	181.165297	2
2977	2.49	80.71	549.32	3.241365	22.061044	1.94068	5.6	181.262879	2
2978	2.51	82.05	530.47	3.268924	21.134263	1.97953	5.6	181.360462	2
2979	2.52	84.05	518.35	3.335317	20.569444	2.00165	5.6	181.458045	2
2980	2.52	86.61	505.84	3.436905	20.073016	2.01416	5.6	181.555628	2
2981	2.52	86.61	505.84	3.436905	20.073016	2.01416	5.6	181.653211	1.9
2982	2.52	86.61	505.84	3.436905	20.073016	2.01416	5.6	181.750794	1.9
2983	2.57	95.94	781.8	3.733074	30.420233	1.7882	5.6	181.848377	1.9
2984	2.6	99.93	767.49	3.843462	29.518846	1.83251	5.7	181.947697	2
2985	2.58	103.64	752.08	4.017054	29.150388	1.82792	5.7	182.047016	2
2986	2.58	105.84	739.08	4.102326	28.646512	1.84092	5.7	182.146336	2.3
2987	2.56	108.86	736.49	4.252344	28.769141	1.82351	5.6	182.243919	2.3
2988	2.55	111.34	730.01	4.366275	28.627843	1.81999	5.7	182.343239	2
2989	2.57	112.28	725.54	4.368872	28.231128	1.84446	5.6	182.440822	2
2990	2.58	112.81	720.02	4.372481	27.907752	1.85998	5.6	182.538405	2
2991	2.61	112.2	704.1	4.298851	26.977011	1.9059	5.6	182.635987	2
2992	2.62	112.44	674.6	4.291603	25.748092	1.9454	5.6	182.73357	2
2993	2.6	112.56	618.01	4.329231	23.769615	1.98199	5.7	182.83289	2
2994	2.57	112.85	590.56	4.391051	22.978988	1.97944	5.7	182.93221	2
2995	2.51	114.48	572.05	4.560956	22.790837	1.93795	5.7	183.03153	2
2996	2.47	113.79	551.66	4.606883	22.334413	1.91834	5.7	183.130849	2
2997	2.46	113.38	537.53	4.608943	21.850813	1.92247	5.7	183.230169	2
2998	2.45	111.83	517.26	4.56449	21.112653	1.93274	5.7	183.329489	2
2999	2.46	111.26	497.68	4.522764	20.230894	1.96232	5.7	183.428809	2
3000	2.46	111.55	481.35	4.534553	19.567073	1.97865	5.7	183.528128	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
3001	2.45	112.73	462.1	4.601224	18.861224	1.9879	5.7	183.627448	2
3002	2.43	115.09	444.2	4.736214	18.279835	1.9858	5.7	183.726768	2
3003	2.42	117.05	427.99	4.836777	17.685537	1.99201	5.7	183.826088	2
3004	2.32	124.38	442.15	5.361207	19.05819	1.87785	5.7	183.925407	2
3005	2.28	127.11	459.03	5.575	20.132895	1.82097	5.7	184.024727	2
3006	2.27	126.29	470.85	5.563436	20.742291	1.79915	5.7	184.124047	2
3007	2.26	125.11	477.58	5.535841	21.131858	1.78242	5.7	184.223367	2
3008	2.25	123.44	476.89	5.486222	21.195111	1.77311	5.7	184.322686	2
3009	2.27	121.81	471.4	5.366079	20.76652	1.7986	5.7	184.422006	2
3010	2.25	120.71	473.15	5.364889	21.028889	1.77685	5.7	184.521326	2
3011	2.23	120.06	475.75	5.383857	21.334081	1.75425	5.8	184.622382	2
3012	2.17	116.39	490.03	5.363594	22.582028	1.67997	5.7	184.721702	2
3013	2.15	113.26	488.64	5.267907	22.727442	1.66136	5.7	184.821022	2
3014	2.12	110.16	488.56	5.196226	23.045283	1.63144	5.7	184.920341	2
3015	2.08	107.63	496.91	5.174519	23.889904	1.58309	5.7	185.019661	2
3016	2.04	104.13	499.54	5.104412	24.487255	1.54046	5.8	185.120717	2
3017	2	99.65	498.26	4.9825	24.913	1.50174	5.8	185.221774	2
3018	1.98	96.43	498.55	4.870202	25.179293	1.48145	5.7	185.321094	2
3019	1.96	94.15	493.69	4.803571	25.188265	1.46631	5.7	185.420413	2
3020	1.92	93.17	495.7	4.852604	25.817708	1.4243	5.8	185.52147	2
3021	1.85	91.34	515.65	4.937297	27.872973	1.33435	5.8	185.622526	2
3022	1.85	90.08	543.24	4.869189	29.364324	1.30676	5.8	185.723582	2
3023	1.83	87.39	567.47	4.77541	31.00929	1.26253	5.8	185.824638	2
3024	1.83	85.15	592.14	4.653005	32.357377	1.23786	5.8	185.925695	2
3025	1.82	82.78	617.25	4.548352	33.914835	1.20275	5.7	186.025015	2
3026	1.82	80.75	638.25	4.436813	35.068681	1.18175	5.8	186.126071	2
3027	1.81	78.18	659.99	4.319337	36.463536	1.15001	5.8	186.227127	2
3028	1.8	75.94	684.81	4.218889	38.045	1.11519	5.8	186.328183	2
3029	1.8	73.9	710.02	4.105556	39.445556	1.08998	5.8	186.42924	2
3030	1.8	71.91	725.32	3.995	40.295556	1.07468	5.8	186.530296	2
3031	1.8	67.47	750.06	3.748333	41.67	1.04994	5.8	186.631352	2
3032	1.8	65.47	758.19	3.637222	42.121667	1.04181	5.8	186.732409	2
3033	1.81	64	768.55	3.535912	42.461326	1.04145	5.8	186.833465	2
3034	1.8	63.31	782.71	3.517222	43.483889	1.01729	5.8	186.934521	2
3035	1.81	62.09	796.47	3.430387	44.003867	1.01353	5.8	187.035577	2
3036	1.83	61.07	794.39	3.337158	43.40929	1.03561	5.8	187.136634	2
3037	1.85	60.29	778.61	3.258919	42.087027	1.07139	5.8	187.23769	2
3038	1.85	60.42	765.36	3.265946	41.370811	1.08464	5.8	187.338746	2
3039	1.85	62.17	747.98	3.360541	40.431351	1.10202	5.8	187.439803	2
3040	1.85	63.07	742.09	3.409189	40.112973	1.10791	5.8	187.540859	2

MORONI DOTT. MAURIZIO GEOLOGO	
Cone Penetration Test (CPTU) - Date: 10/09/2012	
Site: scuola elementare Randi - Test: CPT2	

Depth [cm]	Qc [MPa]	Fs [KPa]	U2 [KPa]	Rf [%]	U2/Qc [%]	Qc-U2 [MPa]	Tilt [°]	Dist [cm]	Speed [cm/sec]
3041	1.85	63.51	739.67	3.432973	39.982162	1.11033	5.8	187.641915	2
3042	1.86	64.94	750.83	3.491398	40.367204	1.10917	5.8	187.742972	2
3043	1.89	65.31	757.09	3.455556	40.057672	1.13291	5.8	187.844028	2
3044	1.94	66.16	766.02	3.410309	39.485567	1.17398	5.8	187.945084	2
3045	1.98	67.26	775.79	3.39697	39.181313	1.20421	5.8	188.04614	2.1
3046	2	68.48	778.14	3.424	38.907	1.22186	5.8	188.147197	2.1
3047	2.01	69.14	779.93	3.439801	38.802488	1.23007	5.8	188.248253	2
3048	2.04	69.83	785.71	3.423039	38.515196	1.25429	5.8	188.349309	2
3049	2.06	70.15	762.73	3.40534	37.025728	1.29727	5.8	188.450366	2
3050	2.15	70.36	681.44	3.272558	31.694884	1.46856	5.8	188.551422	2
3051	2.15	71.42	653.04	3.32186	30.373953	1.49696	5.8	188.652478	2
3052	2.15	73.33	630.71	3.410698	29.335349	1.51929	5.8	188.753535	2
3053	2.14	75.65	624.53	3.535047	29.183645	1.51547	5.8	188.854591	2
3054	2.13	78.42	627.24	3.68169	29.447887	1.50276	5.8	188.955647	2
3055	2.13	80.91	642.06	3.798592	30.143662	1.48794	5.8	189.056703	2
3056	2.13	83.31	672.77	3.911268	31.585446	1.45723	5.8	189.15776	2
3057	2.14	84.25	687.15	3.936916	32.109813	1.45285	5.8	189.258816	2
3058	2.15	85.27	691.94	3.966047	32.183256	1.45806	5.8	189.359872	2
3059	2.15	86.53	688.36	4.024651	32.016744	1.46164	5.8	189.460929	2
3060	2.14	88.85	676.5	4.151869	31.61215	1.4635	5.8	189.561985	2
3061	2.11	89.59	628.3	4.245972	29.777251	1.4817	5.8	189.663041	2
3062	2.07	89.67	612.74	4.331884	29.600966	1.45726	5.8	189.764098	2
3063	2.01	89.51	601.14	4.453234	29.907463	1.40886	5.8	189.865154	2
3064	1.97	88.41	598.58	4.487817	30.384772	1.37142	5.8	189.96621	2
3065	1.95	86.57	606.78	4.439487	31.116923	1.34322	5.8	190.067266	2
3066	1.95	85.19	613.95	4.368718	31.484615	1.33605	5.8	190.168323	2
3067	1.96	83.96	631.04	4.283673	32.195918	1.32896	5.8	190.269379	2
3068	1.93	82.82	707.83	4.291192	36.67513	1.22217	5.8	190.370435	2.1
3069	1.93	82.82	707.83	4.291192	36.67513	1.22217	5.8	190.471492	2.1
3070	1.95	79.32	791.27	4.067692	40.577949	1.15873	5.8	190.572548	2
3071	1.97	77.89	829.59	3.953807	42.111168	1.14041	5.8	190.673604	2
3072	2	76.43	856.71	3.8215	42.8355	1.14329	5.8	190.77466	2
3073	2.04	74.51	866.6	3.652451	42.480392	1.1734	5.8	190.875717	2
3074	2.04	73.01	871.79	3.578922	42.734804	1.16821	5.8	190.976773	2
3075	2.03	72.03	885.59	3.548276	43.625123	1.14441	5.8	191.077829	2
3076	2.02	70.52	892.33	3.491089	44.174752	1.12767	5.8	191.178886	2
3077	2.02	68.81	891.23	3.406436	44.120297	1.12877	5.8	191.279942	2.1
3078	2	67.18	879.08	3.359	43.954	1.12092	5.8	191.380998	2.1
3079	1.99	66.37	885.88	3.335176	44.516583	1.10412	5.8	191.482055	2
3080	2.06	66.12	937.27	3.209709	45.498544	1.12273	5.8	191.583111	2

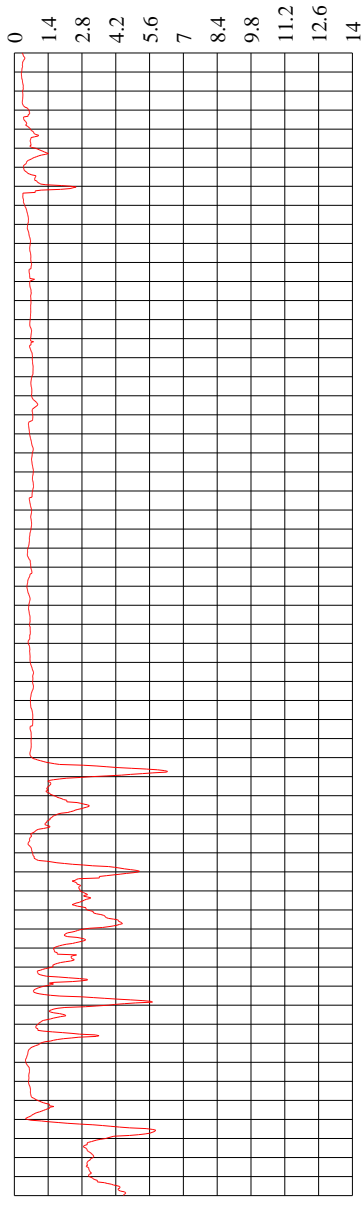
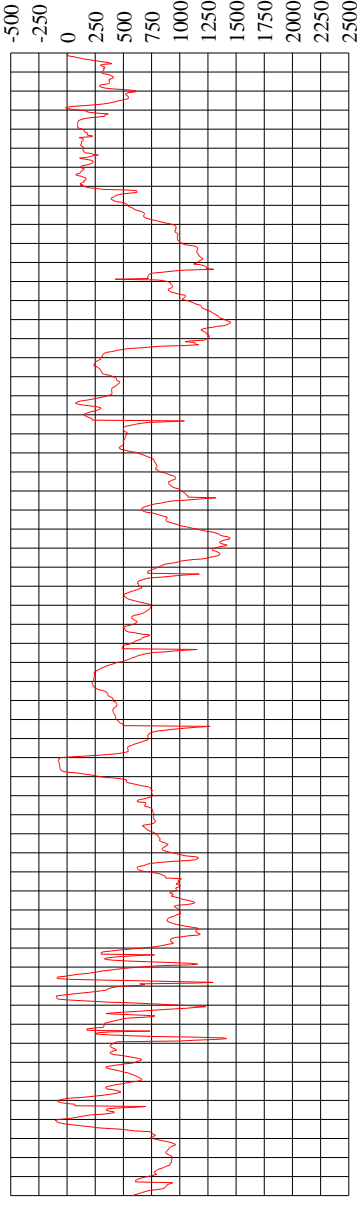
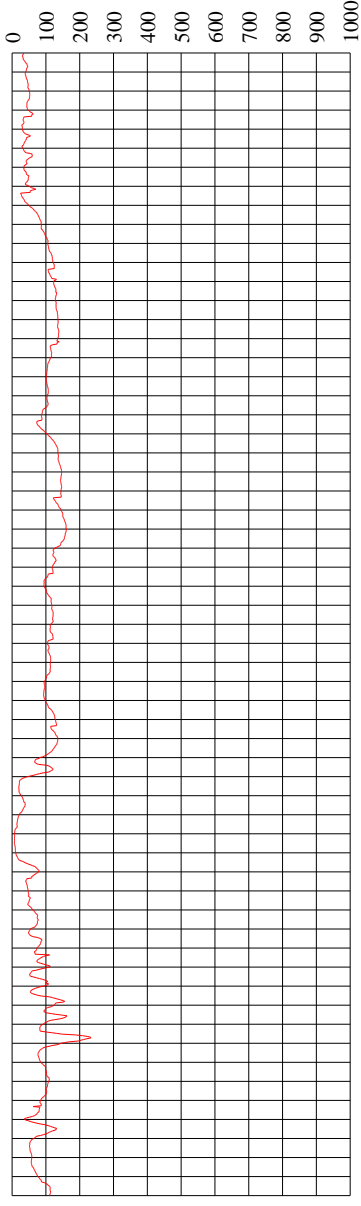
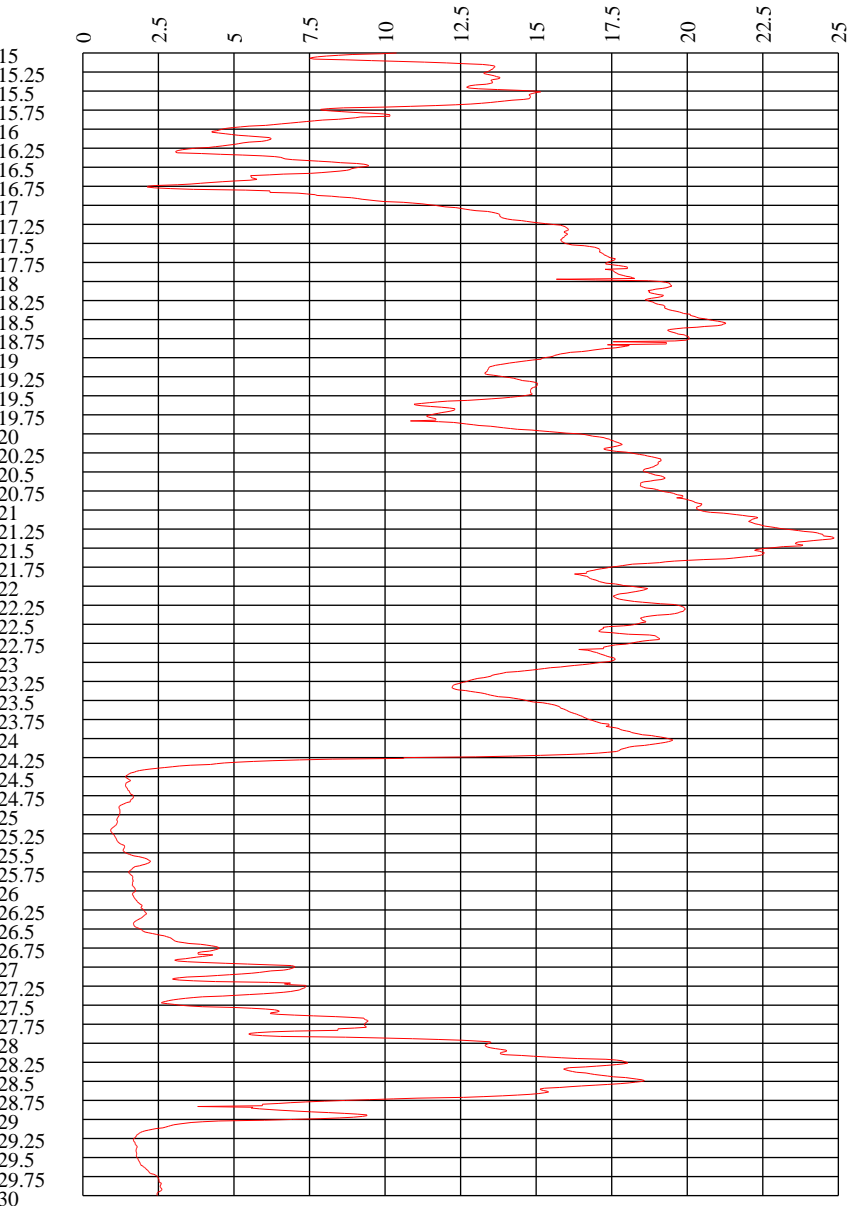


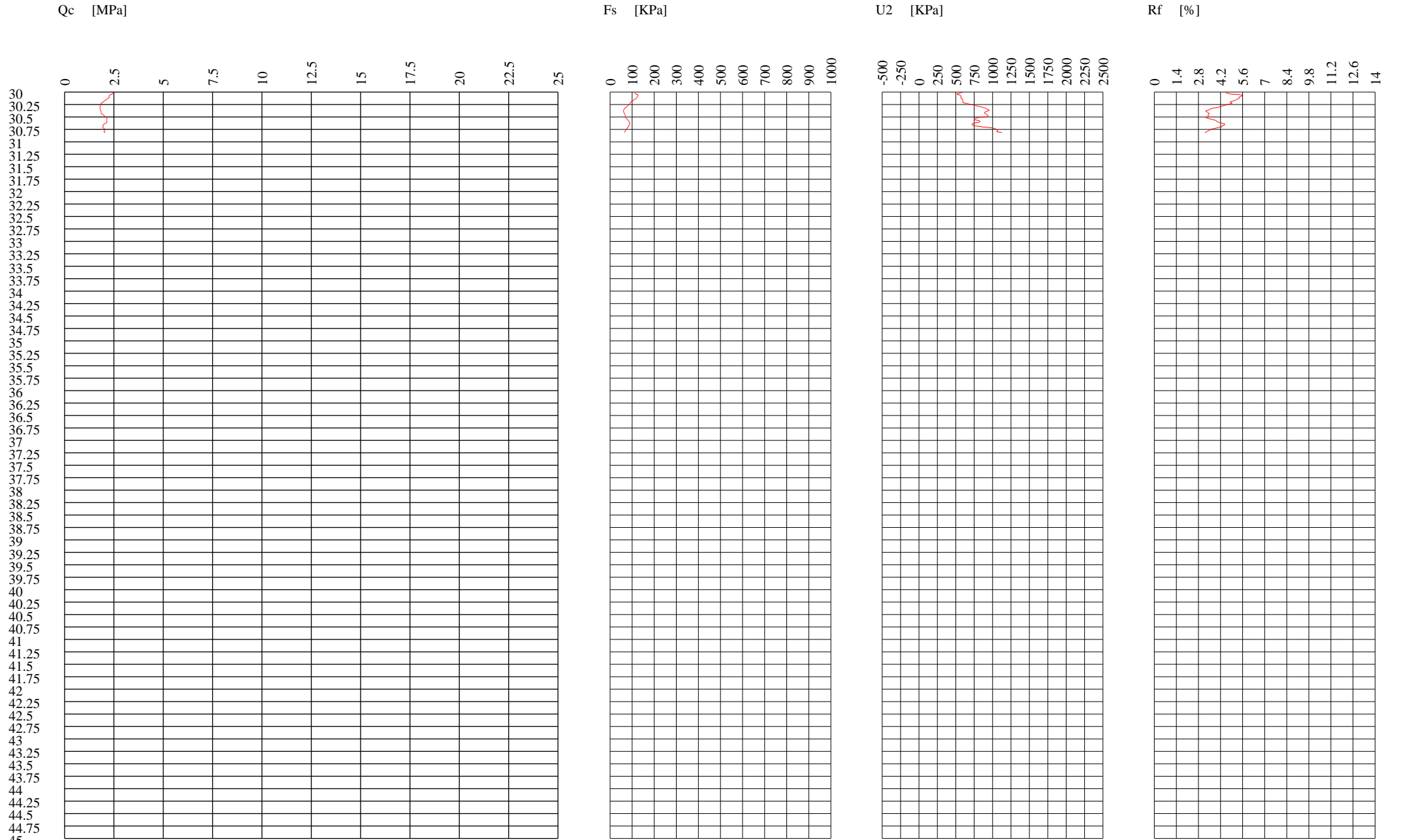
Qc [MPa]

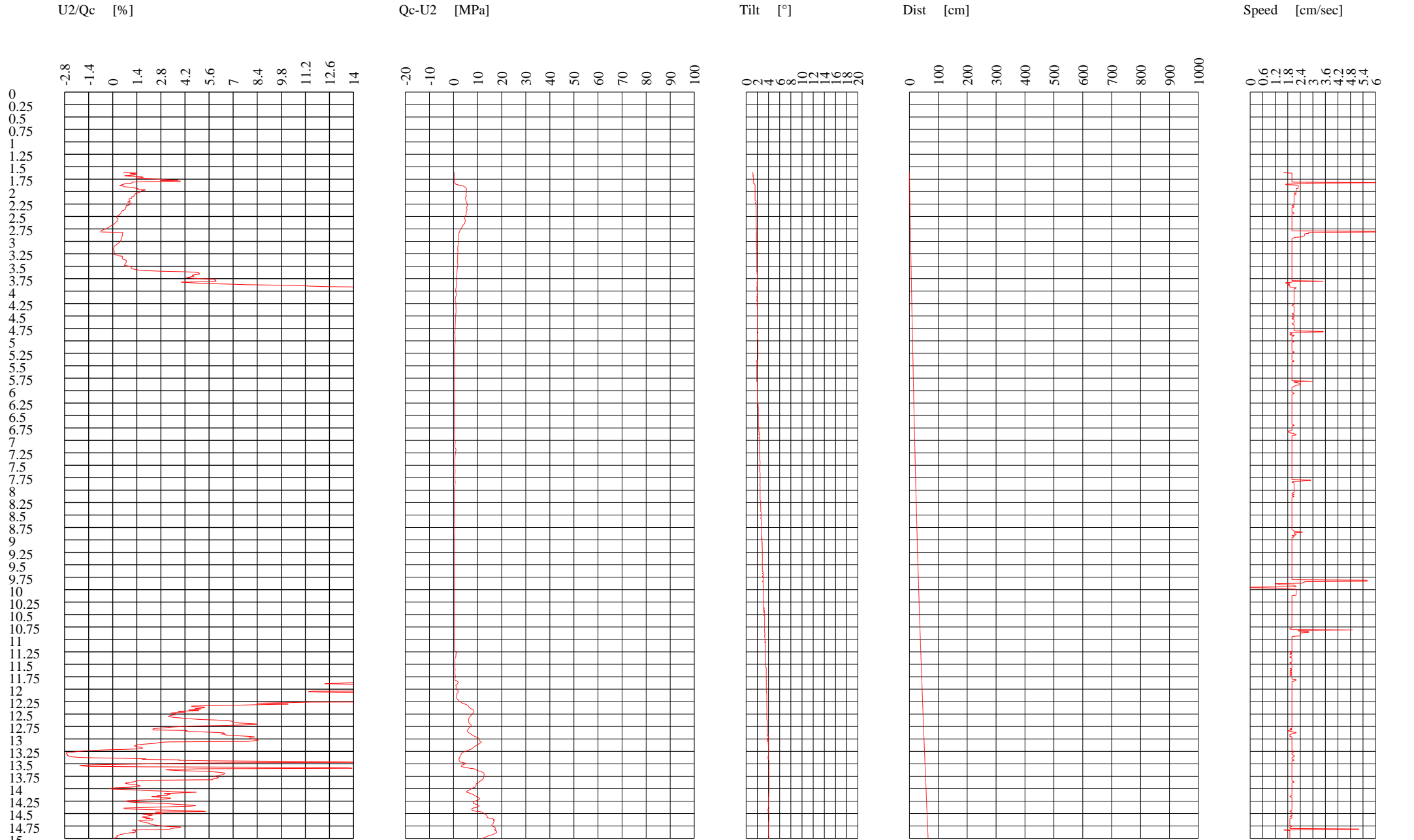
Fs [KPa]

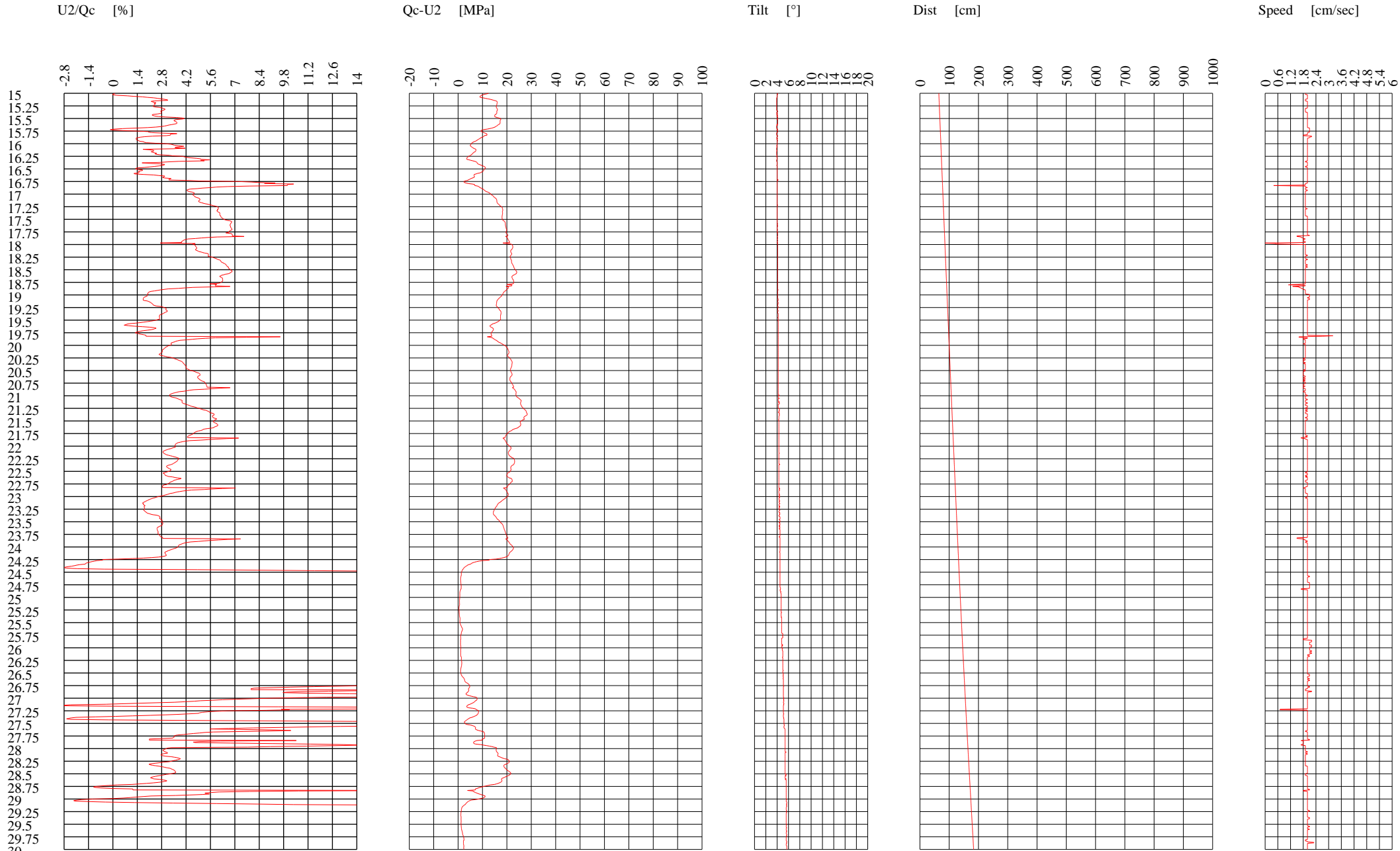
U2 [KPa]

Rf [%]

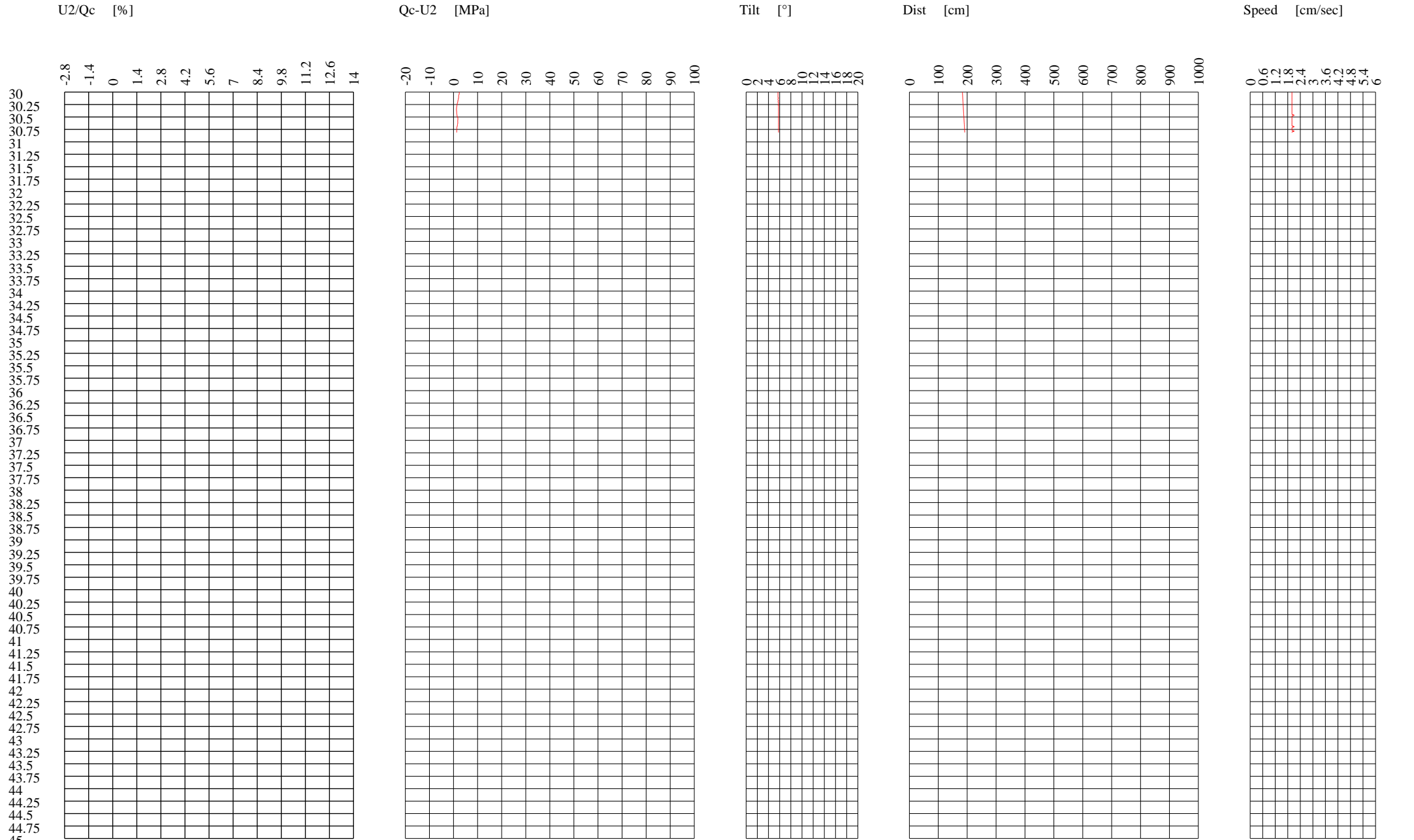














CPTU

1

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29 marzo 2012  
PUA ESP  
Borgo Montone  
Ravenna  
3.00

QT	Qc1N	FT	FT/Qnet	IC	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 199	Angolo Attrito $\phi$ Robertson	Coesione Benassi	OCR 0.20 Robertson	Modulo Edometrico Benassi	Velocità Vs Baldi (sabbie), Mayne & Rix (argille)
daN/cm <sup>2</sup>	Idriss & E	daN/cm <sup>2</sup>	%	Robertson		m				%	°	daN/cm <sup>2</sup>		daN/cm <sup>2</sup>	m/sec
8.2	7.7	0.16	2.6	3.06	argilla-argilla limosa	10.90			Molle-plastica (Soffice)			0.56	1.16	41.3	117
16.4	15.4	0.13	1.6	2.75	limo argilloso-argilla limosa	11.50			Plastica			0.94		60.2	182
110.5	106.0	0.21	0.2	1.53	sabbia-sabbia limosa	11.60			Addensata	68.9	40.4			332.1	210
278.7	278.2	0.24	0.1	1.05	ghiaia-sabbia	12.30			Molto addensato	>90	44.8			836.4	239



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

Vs12
114

Comune  
Via  
Località  
Commitente  
Data

Ravenna  
PUA ESP  
Borgo Montone  
Servin  
29-mar-12

Falda

1.60 m

Sigla della Punta  
Azzeramento  
Ultimo taratura guadagno  
Ultimo taratura per derva termica

Tecnopenta 100707

Inizio prova

29-feb-2012

29-feb-2012

S.G.T. sas  
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Via Matteotti 50  
48012 Bagnacavallo (RA)  
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Società di  
Geologia  
Territoriale

CPTU

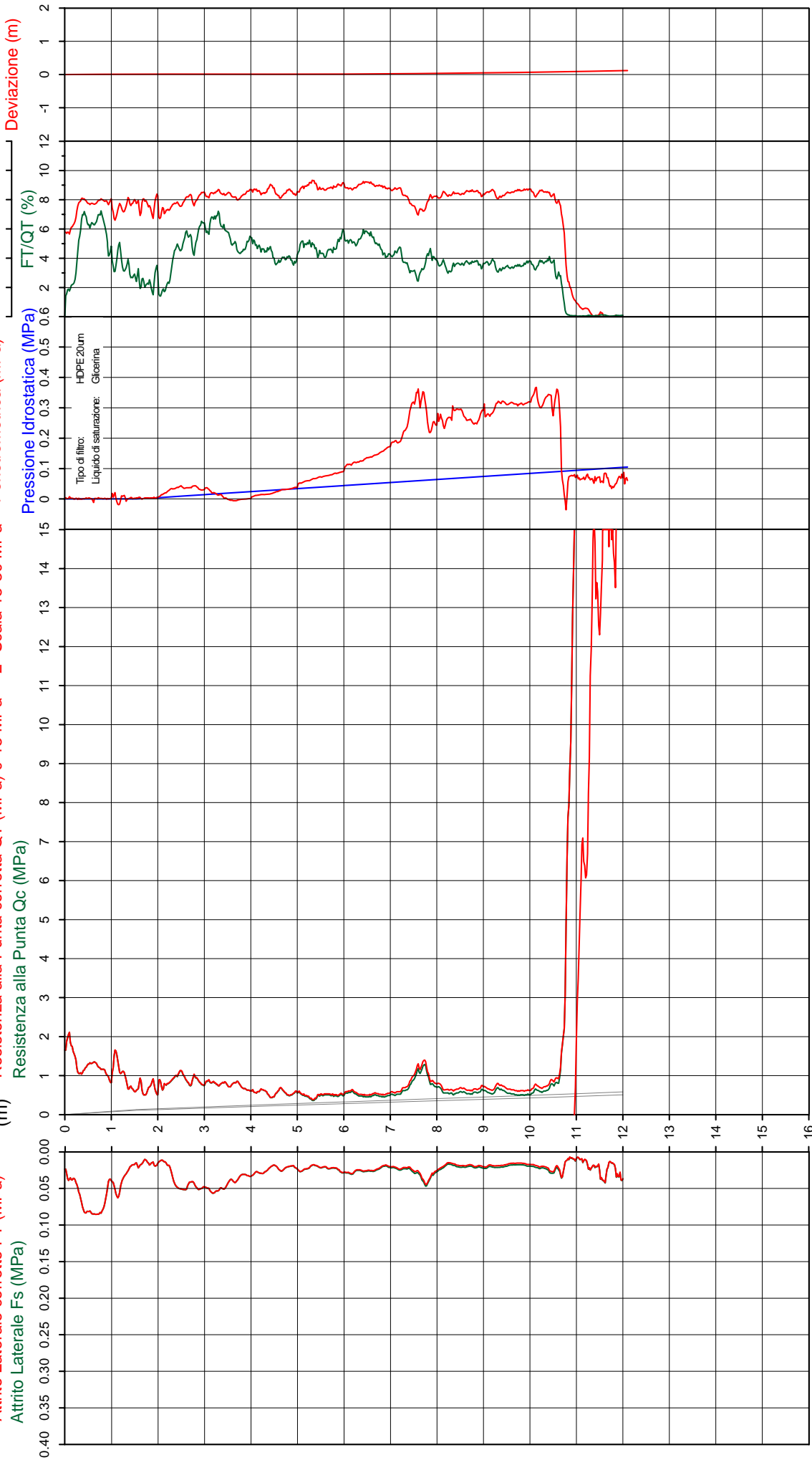
2

Attrito Laterale corretto FT (MPa)  
Attrito Laterale Fs (MPa)

Resistenza alla Punta corretta QT (MPa) 0-15 MPa - 2° Scala 15-30 MPa  
Resistenza alla Punta Qc (MPa)

Pressione Interstiziale  
Penetrometrica (MPa)

Indice di Comportamento Ic



CPTU

2

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29 marzo 2012  
PUA ESP  
Borgo Montone  
Ravenna  
1.60

Vs12
114

QT	Qc1N	FT	FT/Qnet	ic	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 199	Angolo Attrito $\phi$ Robertson	Coesione Benassi	OCR 0.20 Robertson	Modulo Edometrico Benassi	Velocità Vs Baldi (sabbie), Mayne & Rix (argille)
daN/cm <sup>2</sup>	Idriss & B	daN/cm <sup>2</sup>	%	Robertson		m				%	°	daN/cm <sup>2</sup>	Robertson	daN/cm <sup>2</sup>	m/sec
18.2	31.0	0.35	1.9	2.49	sabbia limosa-limo sabbioso	0.20			Sciolta	28.3	50.6			74.3	170
11.8	20.1	0.66	5.7	2.92	limo argilloso-argilla limosa	0.50			Plastica			0.74		66.8	147
12.8	21.7	0.84	6.7	2.95	argilla-argilla limosa	0.80			Plastica			0.79	21.14	71.0	155
10.1	17.1	0.55	5.4	2.97	argilla-argilla limosa	1.00			Plastica			0.66	11.96	57.1	133
12.5	21.2	0.47	3.8	2.80	limo argilloso-argilla limosa	1.30			Plastica			0.77		72.3	152
6.9	11.7	0.19	2.9	2.94	limo argilloso-argilla limosa	1.70			Molle-plastica (Soffice)			0.48		39.2	105
5.7	9.8	0.13	2.3	2.94	limo argilloso-argilla limosa	1.80			Molle-plastica (Soffice)			0.41		26.3	94
8.0	13.6	0.16	2.1	2.79	limo argilloso-argilla limosa	1.90			Molle-plastica (Soffice)			0.55		34.2	116
6.1	10.3	0.18	3.2	3.00	argilla-argilla limosa	2.00			Molle-plastica (Soffice)			0.43	3.74	36.7	97
8.4	14.3	0.23	2.7	2.83	limo argilloso-argilla limosa	2.40			Molle-plastica (Soffice)			0.57		44.6	119
10.4	17.7	0.50	5.1	2.94	limo argilloso-argilla limosa	2.60			Plastica			0.67		59.5	136
8.2	13.9	0.46	6.1	3.07	argilla-argilla limosa	3.80			Molle-plastica (Soffice)			0.56	3.82	46.0	117
6.2	10.6	0.30	5.5	3.13	argilla-argilla limosa	4.30			Molle-plastica (Soffice)			0.44	2.38	42.0	99
5.0	8.4	0.22	5.2	3.20	argilla-argilla limosa	4.50			Fluid-plastica (Molto Soffice)			0.36	1.72	33.1	85
5.9	10.1	0.22	4.4	3.09	argilla-argilla limosa	4.80			Molle-plastica (Soffice)			0.42	2.04	38.0	96
5.4	9.1	0.23	5.0	3.16	argilla-argilla limosa	5.20			Molle-plastica (Soffice)			0.39	1.72	35.6	90
4.2	7.1	0.19	5.9	3.29	argilla-argilla limosa	5.40			Fluid-plastica (Molto Soffice)			0.32	1.21	29.1	78
5.2	8.2	0.22	5.4	3.21	argilla-argilla limosa	6.00			Molle-plastica (Soffice)			0.38	1.47	34.8	88
6.1	9.2	0.29	5.7	3.19	argilla-argilla limosa	6.20			Molle-plastica (Soffice)			0.43	1.67	41.3	97
5.3	7.7	0.24	5.8	3.25	argilla-argilla limosa	6.90			Molle-plastica (Soffice)			0.38	1.31	36.1	89
5.7	8.0	0.21	4.6	3.18	argilla-argilla limosa	7.20			Molle-plastica (Soffice)			0.41	1.35	36.8	93
6.9	9.4	0.22	3.9	3.08	argilla-argilla limosa	7.40			Molle-plastica (Soffice)			0.48	1.67	43.2	106
11.6	15.0	0.31	3.0	2.86	limo argilloso-argilla limosa	7.80			Plastica			0.73		68.3	145
8.4	10.8	0.28	4.0	3.04	argilla-argilla limosa	8.10			Molle-plastica (Soffice)			0.57	1.93	48.5	119
6.5	8.1	0.18	3.6	3.12	argilla-argilla limosa	8.90			Molle-plastica (Soffice)			0.46	1.31	39.7	101
7.1	8.4	0.19	3.5	3.10	argilla-argilla limosa	9.40			Molle-plastica (Soffice)			0.49	1.36	41.1	107
7.0	8.0	0.19	3.5	3.12	argilla-argilla limosa				Molle-plastica (Soffice)			0.49	1.24	41.0	106

H2O

Vs12
114

CPTU

2

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29 marzo 2012  
PUA ESP  
Borgo Montone  
Ravenna  
1.60

QT	Qc1N	FT	FT/Qnet	ic	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 199	Angolo Attrito $\phi$ Robertson	Coesione Benassi	OCR 0.20 Robertson	Modulo Edometrico Benassi	Velocità Vs Baldi (sabbie), Mayne & Rix (argille)
daN/cm <sup>2</sup>	Idriss & B	daN/cm <sup>2</sup>	%	Robertson		m				%	°	daN/cm <sup>2</sup>	Robertson	daN/cm <sup>2</sup>	m/sec
									Sciolta	23.5	32.9			95.4	174
25.3	26.7	0.23	1.7	2.50	sabbia limosa-limo sabbioso	10.60			Mediamente Addensata	64.6	40.4			270.3	193
90.1	92.9	0.08	0.1	1.52	sabbia-sabbia limosa	10.80			Molto addensata	85.2	43.6			513.5	211
171.1	173.5	0.09	0.1	1.24	ghiaia-sabbia	10.90			Molto addensato	>90	45.4			764.4	223
254.7	255.6	0.18	0.1	1.07	ghiaia-sabbia	11.10			Molto addensato	>90	46.2			939.2	232
313.0	313.0	0.27	0.1	1.00	ghiaia-sabbia	11.50			Molto addensato	>90	47.2			1205.6	241
401.7	401.9	0.35	0.1	0.88	ghiaia-sabbia	11.90			Molto addensato	>90					

Comune  
Via  
Località  
Comune  
Data

Ravenna  
PUA ESP  
Borgo Montone  
Servizi  
29-mar-12

Falda

3.90 m

Sigla della Punta  
Azzeramento  
Ultimo taratura guadagno  
Ultimo taratura per derva termica

Tecnopenta 100707  
Inizio prova  
29-feb-2012  
29-feb-2012

S.G.T. sas  
di Van Zutphen Albert & C.  
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48012 Bagnacavallo (RA)  
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SGT Società di  
Geologia  
Territoriale

CPTU 3

Profondità  
(m)

Attrito Laterale corretto FT (MPa)

Attrito Laterale Fs (MPa)

Resistenza alla Punta corretta QT (MPa) 0-15 MPa - 2° Scala 15-30 MPa

Resistenza alla Punta Qc (MPa)

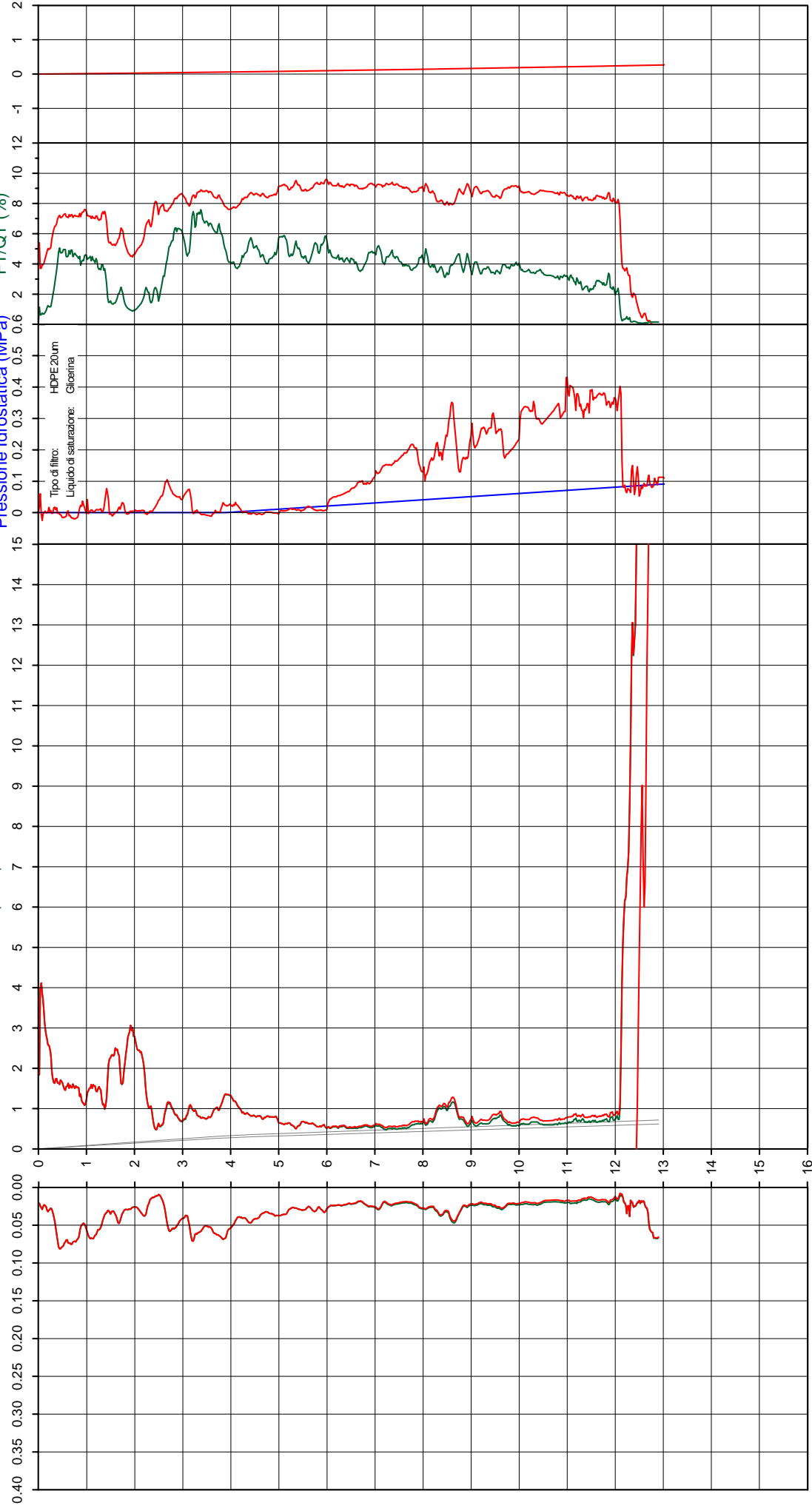
Pressione Interstiziale  
Penetrometrica (MPa)

Indice di Comportamento Ic

Pressione Idrostatica (MPa)

FT/QT (%)

Deviiazione (m)



CPTU

3

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29 marzo 2012  
PUA ESP  
Borgo Montone  
Ravenna  
3.90

QT	Qc1N	FT	FT/Qc	Ic	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 19	Angolo Attrito φ Robertson	Coesione Benassi	OCR 0.20 Robertson	Modulo Edometrico Benassi	Velocità Vs Baldi (sabbie), Mape & Rix (argille)
daN/mq	daN/mq	daN/mq	%			m				%	°	daN/mq		daN/mq	m/sec
28.7	48.7	0.27	1.0	2.17	sabbia limosa-limo sabbioso	0.30			Mediamente Addensata	43.3	50.9			93.7	108
15.9	27.0	0.70	4.5	2.76	limo argilloso-argilla limosa	0.80			Plastica			0.92		91.5	178
12.6	21.5	0.55	4.4	2.84	limo argilloso-argilla limosa	1.00			Plastica			0.78		72.7	153
15.0	25.5	0.62	4.2	2.77	limo argilloso-argilla limosa	1.30			Plastica			0.88		86.7	172
11.0	18.7	0.40	3.7	2.84	limo argilloso-argilla limosa	1.40			Plastica			0.70		63.9	141
23.5	39.9	0.33	1.5	2.32	sabbia limosa-limo sabbioso	2.20			Mediamente Addensata	36.7	38.7			84.3	170
10.9	18.5	0.22	2.0	2.69	limo argilloso-argilla limosa	2.40			Plastica			0.70		45.8	138
5.7	9.7	0.13	2.4	2.95	argilla-argilla limosa	2.60			Molle-plastica (Soffice)			0.41	2.35	27.0	93
10.5	17.6	0.48	4.7	2.92	limo argilloso-argilla limosa	2.80			Plastica			0.68		60.3	137
7.9	12.9	0.45	6.1	3.10	argilla-argilla limosa	3.10			Molle-plastica (Soffice)			0.54	2.80	44.1	114
8.8	12.9	0.58	7.1	3.14	argilla-argilla limosa	3.70			Molle-plastica (Soffice)			0.59	2.70	48.3	122
11.5	15.3	0.66	6.2	3.04	argilla-argilla limosa	3.90			Plastica			0.73	3.19	64.4	144
12.1	15.6	0.48	4.2	2.93	limo argilloso-argilla limosa	4.20			Plastica			0.75		69.6	149
8.1	10.3	0.39	5.3	3.13	argilla-argilla limosa	5.00			Molle-plastica (Soffice)			0.55	1.96	46.3	117
6.1	7.4	0.30	5.8	3.27	argilla-argilla limosa	5.80			Molle-plastica (Soffice)			0.44	1.29	42.2	98
5.6	6.2	0.23	5.1	3.30	argilla-argilla limosa	7.70			Molle-plastica (Soffice)			0.41	0.99	37.5	93
7.2	7.3	0.25	4.4	3.20	argilla-argilla limosa	8.30			Molle-plastica (Soffice)			0.50	1.18	41.3	107
11.3	11.1	0.37	3.8	3.02	argilla-argilla limosa	8.70			Plastica			0.72	1.93	65.5	143
7.5	7.1	0.24	4.1	3.19	argilla-argilla limosa	9.80			Molle-plastica (Soffice)			0.52	1.10	43.4	111
7.2	6.4	0.19	3.5	3.20	argilla-argilla limosa				Molle-plastica (Soffice)			0.50	0.94	41.8	108



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Vs13  
120



**3**

29 marzo 2012  
PUA ESP  
Borgo Montone  
Ravenna  
3.90

QT	Qc1N Idriss & Boulton daN/mq	FT daN/mq	FT/Qnetic %		Litologia Robertson 1990 basato su Fr vs Qc1N m	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990 %	Angolo Attrito $\phi'$ Robertson °	Coesione Benassi daN/mq	OCR 0.20 Robertson	Modulo Edometrico Benassi daN/mq	Velocità Vs Baldi (sabbie), Maye & Rix (argille) m/sec
	8.3	7.0	0.16	2.5	3.08	11.00			Molle-plastica (Soffice)			0.56	1.04	40.8	118
	59.6	53.1	0.21	0.4	1.93	12.10			Mediamente Addensata	46.1	36.2			180.3	199
	142.1	133.2	0.21	0.2	1.41	12.30			Addensata	76.5	41.1			426.8	224
	288.2	287.4	0.37	0.1	1.08	12.50			Molto addensato	90	44.5			865.3	246
	432.4	449.0	0.66	0.2	0.91	12.80			Molto addensato	90	46.3			1299.0	262



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Ravenna  
PUA ESP  
Borgo Mont  
Servin  
29/03/2012

2.90 m

Falsa

Sigla della Punta	Tecropenta 100707
Azzeramento	Inizio prova
Ultimo taratura guadagno	29-feb-2012
Ultimo taratura per deriva termica	29-feb-2012

**2.90 m**

Sigla della Punta	Tecropenta 100707
Azzeramento	Inizio prova
Ultimo taratura guadagno	29-feb-2012
Ultimo taratura per deriva termica	29-feb-2012



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# CPTU

4

dità  
(m)

Attrito Laterale corretto FT (MPa)

Attrito Laterale  $F_s$  (MPa)

Resistenza alla Punta corretta QT (MPa) 0-15 MPa - 2° Scala 15-30 MPa

Resistenza alla Punta Qc (MPa)

## Pressione Interstiziale Penetrometrica (MPa)

precise interpretation (MDs)

Indice di Comportamento Ic

ET/OT (%)

Deviazione (m)

CPTU39A

CPTU

4

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29/03/2012  
PUA ESP  
Borgo Montone  
Ravenna  
2.90

Vs13
117

QT	Qc1N	FT	FT/Qnet	ic	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 19 %	Angolo Attrito $\phi$ Robertson °	Coesione Benassi daN/mq	OCR 0.20 Robertson	Modulo Edometrico Benassi daN/mq	Velocità Vs Baldi (sabbie), Mape & Rix (argille)
daN/mq	Idriss & Benassi daN/mq	%		Robertson		m									
24.1	41.0	0.31	1.6	2.34	sabbia limosa-limo sabbioso	0.30			Mediamente Addensata	37.6	50.3			90.1	144
17.4	29.5	0.60	3.5	2.65	limo argilloso-argilla limosa	0.90			Plastica			0.98		101.2	181
13.1	22.3	0.36	2.8	2.70	limo argilloso-argilla limosa	1.10			Plastica			0.80		71.0	158
19.3	32.9	0.45	2.4	2.53	sabbia limosa-limo sabbioso	1.30			Sciolta	30.3	39.9			91.3	188
16.0	27.2	0.46	2.9	2.64	limo argilloso-argilla limosa	1.50			Plastica			0.92		90.5	179
20.3	34.5	0.43	2.2	2.48	sabbia limosa-limo sabbioso	1.60			Sciolta	31.9	38.8			89.1	188
11.6	19.7	0.38	3.4	2.80	limo argilloso-argilla limosa	1.90			Plastica			0.73		67.4	144
8.9	15.1	0.41	5.0	2.98	argilla-argilla limosa	2.70			Molle-plastica (Soffice)			0.60	4.13	50.9	123
7.3	12.0	0.46	6.8	3.15	argilla-argilla limosa	3.10		H2O	Molle-plastica (Soffice)			0.50	2.64	40.3	108
9.7	15.2	0.46	5.1	2.99	argilla-argilla limosa	3.40			Molle-plastica (Soffice)			0.64	3.36	55.3	130
7.1	11.1	0.32	5.1	3.09	argilla-argilla limosa	3.80			Molle-plastica (Soffice)			0.50	2.29	40.7	107
8.8	13.0	0.31	3.9	2.96	argilla-argilla limosa	4.20			Molle-plastica (Soffice)			0.59	2.70	50.8	122
6.7	9.7	0.29	4.9	3.13	argilla-argilla limosa	4.70			Molle-plastica (Soffice)			0.47	1.88	44.1	103
5.6	7.8	0.24	5.1	3.21	argilla-argilla limosa	5.10			Molle-plastica (Soffice)			0.40	1.42	36.9	92
4.2	5.9	0.19	5.7	3.34	argilla-argilla limosa	5.30			Fluido-plastica (Molto Soffice)			0.32	0.98	29.0	78
5.9	7.6	0.25	5.2	3.23	argilla-argilla limosa	6.90			Molle-plastica (Soffice)			0.42	1.30	39.3	95
5.5	6.4	0.23	5.5	3.30	argilla-argilla limosa	8.20			Molle-plastica (Soffice)			0.40	1.01	37.5	92
8.0	8.8	0.28	4.2	3.13	argilla-argilla limosa	8.40			Molle-plastica (Soffice)			0.54	1.47	45.9	115
11.5	12.3	0.42	4.1	3.00	argilla-argilla limosa	8.80			Plastica			0.73	2.20	66.4	145
8.1	8.6	0.31	4.8	3.17	argilla-argilla limosa	9.00			Molle-plastica (Soffice)			0.55	1.42	46.7	117
6.9	7.2	0.25	4.7	3.23	argilla-argilla limosa	9.30			Molle-plastica (Soffice)			0.48	1.12	44.9	105
8.6	8.8	0.26	3.7	3.10	argilla-argilla limosa	9.70			Molle-plastica (Soffice)			0.58	1.43	50.1	121
6.7	6.6	0.21	4.2	3.23	argilla-argilla limosa				Molle-plastica (Soffice)			0.47	0.97	42.8	104

CPTU

4

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29/03/2012  
PUA ESP  
Borgo Montone  
Ravenna  
2.90

Vs13
117

QT	Qc1N	FT	FT/Qnet	ic	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 19 %	Angolo Attrito $\phi$ Robertson °	Coesione Benassi daN/mq	OCR 0.20 Robertson	Modulo Edometrico Benassi daN/mq	Velocità Vs Baldi (sabbie), Mape & Rix (argille)
daN/mq	Idriss & Benassi daN/mq	%		Robertson		m									
						10.80									
8.1	7.5	0.25	4.0	3.17	argilla-argilla limosa	11.70			Molle-plastica (Soffice)			0.55	1.12	46.7	116
10.2	9.2	0.31	3.8	3.08	argilla-argilla limosa	11.90			Plastica			0.66	1.45	59.4	135
57.7	54.1	0.16	0.4	1.92	sabbia-sabbia limosa	12.10			Mediamente Addensata	46.7	36.6			174.8	204
127.8	122.1	0.19	0.2	1.44	sabbia-sabbia limosa	12.50			Addensata	73.6	41.0			383.8	216
201.6	196.2	0.15	0.1	1.19	ghiaia-sabbia	12.70			Molto addensata	89.3	43.2			605.0	231
335.3	321.1	0.19	0.1	0.98	ghiaia-sabbia				Molto addensato	90	45.6			1006.2	246





**5**

29 marzo 2012  
PUA ESP  
Borgo Montone  
Ravenna  
3.00

QT	Qc1N	FT	FT/Qnet	ftc	Litologia Robertson 1990	H	Litologia grafica	Falda idrica	Addensamento (Sabbia)	Densità Relativa	Angolo Attrito $\phi'$	Coesione	OCR	Modulo Edometrico	Velocità Vs
daN/mq	Idriss & Esch	daN/mq	%	Robertson	basato su Fr vs Qc1N	m			Consistenza (Argilla)	Tatsuoka 1990 %	Robertson *	Benassi daN/mq	0.20 Robertson	Benassi daN/mq	Mayer & Rix (argille) m/sec
33.7	32.1	0.11	0.7	2.24	sabbia limosa-limo sabbioso	11.00			Sciolti	29.5	33.6			104.4	214
109.3	106.1	0.12	0.1	1.48	sabbia-sabbia limosa	11.20			Addensata	68.9	40.5			328.1	208
169.1	165.4	0.07	0.0	1.28	gliaia-sabbia	11.40			Addensata	83.6	42.7			507.2	221
234.6	231.5	0.18	0.1	1.14	gliaia-sabbia	12.10			Molto addensato	90	44.2			704.0	232
340.0	342.1	0.26	0.1	0.95	gliaia-sabbia	12.30			Molto addensato	90	45.7			1020.2	246
403.4	410.7	0.25	0.1	0.86	gliaia-sabbia				Molto addensato	90	46.4			1210.3	252



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di Van Zutphen Albert & C.  
Via Matteotti 50  
48012 Bagnacavallo (RA)  
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Ravenna  
PUA ESP  
Borgo Mon  
Servin  
29-mar-12

230 m

<b>Fata</b>	Sigla della Punta Azzeramento	Tecnopenta 100707
	Ultimo taratura guadagno	Inizio prova
	Ultimo taratura per deriva termica	29-feb-2012
		29-feb-2012

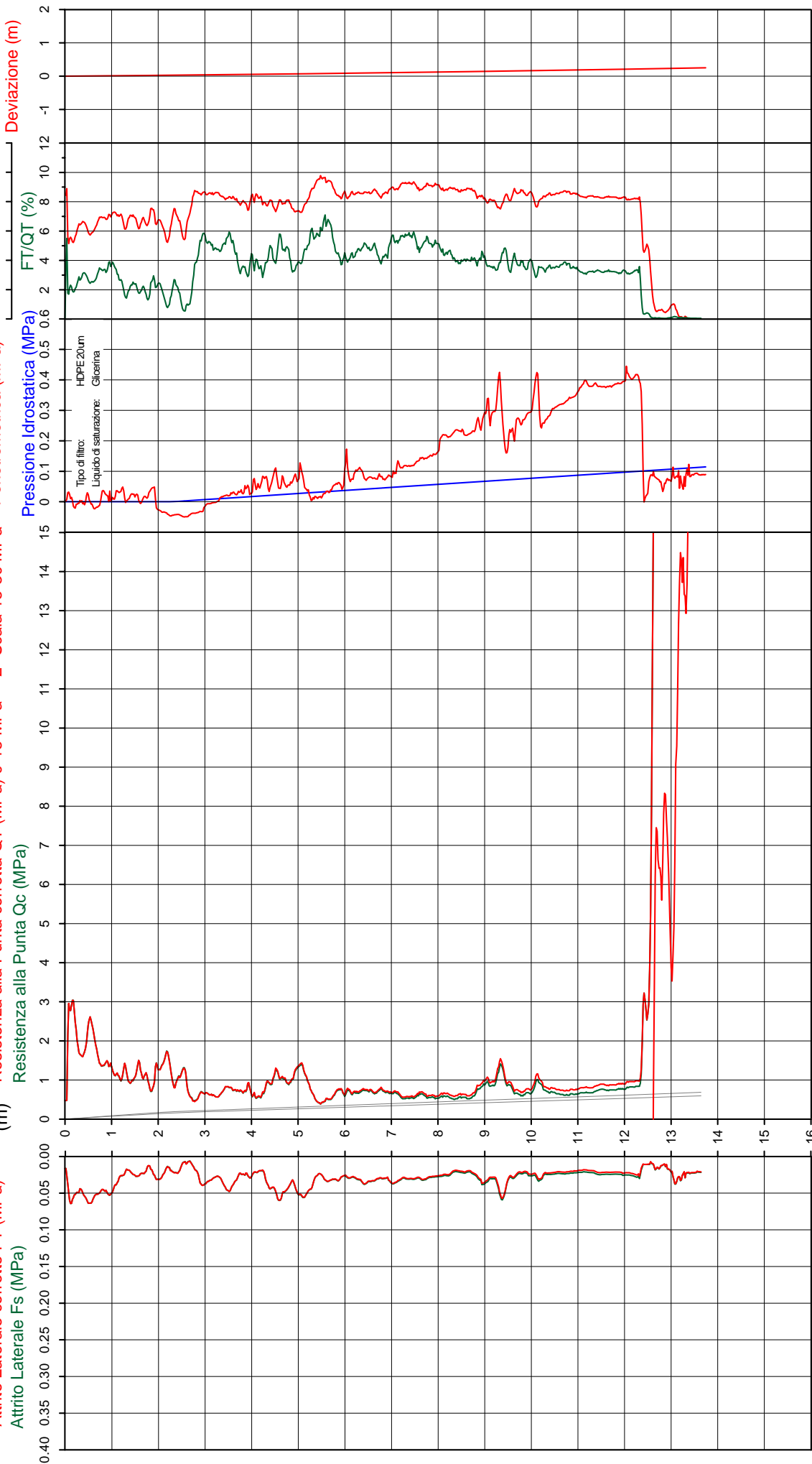


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Via Matteotti 50  
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## 6

Profondità  
Attrito Laterale corretto FT (MPa)  
(m)



CPTU

6

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29 marzo 2012  
PUA ESP  
Borgo Montone  
Ravenna  
2.30

Vs13
123

QT	Qc1N	FT	FT/Qnet	IC	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1959	Angolo Attrito $\phi$ Robertson	Coesione Benassi daN/mq	OCR 0.20 Robertson	Modulo Edometrico Benassi daN/mq	Velocità Vs Baldi (sabbie), Mape & Rix (argille)
daN/mq	Idriss & Benassi daN/mq	%		Robertson		m				%	°				m/sec
22.5	38.3	0.49	2.5	2.51	sabbia limosa-limo sabbioso				Mediamente Addensata	35.3	49.9			108.6	182
16.3	27.8	0.47	2.9	2.63	limo argilloso-argilla limosa	0.30			Plastica			0.94		92.2	181
21.3	36.3	0.58	2.8	2.53	sabbia limosa-limo sabbioso	0.40			Sciolta	33.5	44.3			114.0	197
14.1	24.0	0.49	3.5	2.73	limo argilloso-argilla limosa	0.70			Plastica			0.85		82.2	165
11.1	18.8	0.28	2.6	2.73	limo argilloso-argilla limosa	1.00			Plastica			0.71		55.3	141
11.8	20.0	0.22	1.9	2.64	limo argilloso-argilla limosa	1.50			Plastica			0.74		47.6	147
7.8	13.2	0.19	2.5	2.85	limo argilloso-argilla limosa	1.80			Molle-plastica (Soffice)			0.53		38.1	114
13.0	22.1	0.29	2.3	2.66	limo argilloso-argilla limosa	1.90			Plastica			0.79		60.1	157
14.6	24.9	0.18	1.3	2.47	sabbia limosa-limo sabbioso	2.10			Sciolta	21.1	34.9			50.7	156
9.8	16.7	0.20	2.2	2.73	limo argilloso-argilla limosa	2.30			Molle-plastica (Soffice)			0.64		43.7	131
12.3	20.9	0.09	0.7	2.41	sabbia limosa-limo sabbioso	2.50			Sciolta	15.3	33.3			38.4	141
6.5	11.1	0.08	1.3	2.76	limo argilloso-argilla limosa	2.60			Molle-plastica (Soffice)			0.46		22.4	102
5.2	8.8	0.21	4.3	3.13	argilla-argilla limosa	2.70			Molle-plastica (Soffice)			0.38	2.17	33.1	88
6.4	10.8	0.33	5.6	3.13	argilla-argilla limosa	2.90			Molle-plastica (Soffice)			0.45	2.54	43.3	100
7.7	13.0	0.33	4.6	3.01	argilla-argilla limosa	3.40			Molle-plastica (Soffice)			0.53	2.83	44.2	113
6.3	10.4	0.21	3.9	3.05	argilla-argilla limosa	4.00			Molle-plastica (Soffice)			0.45	2.11	39.3	99
10.4	15.8	0.47	4.9	2.97	argilla-argilla limosa	4.30			Plastica			0.67	3.43	59.4	136
12.1	17.5	0.46	4.1	2.89	limo argilloso-argilla limosa	4.80			Plastica			0.75		69.8	149
6.7	9.9	0.37	6.5	3.21	argilla-argilla limosa	5.20			Molle-plastica (Soffice)			0.47	1.89	47.8	102
4.4	6.5	0.27	7.8	3.39	argilla-argilla limosa	5.40			Fluido-plastica (Molto Soffice)			0.33	1.09	33.0	79
5.6	8.1	0.32	7.0	3.29	argilla-argilla limosa	5.60			Molle-plastica (Soffice)			0.41	1.44	40.8	92
7.2	9.6	0.31	5.2	3.15	argilla-argilla limosa	5.80			Molle-plastica (Soffice)			0.50	1.73	41.0	108
6.2	7.4	0.25	5.3	3.24	argilla-argilla limosa	7.20			Molle-plastica (Soffice)			0.44	1.19	41.4	98
9.4	10.4	0.31	3.9	3.05	argilla-argilla limosa	8.80			Molle-plastica (Soffice)			0.62	1.79	54.4	128
12.0	13.0	0.43	4.1	2.99	argilla-argilla limosa	9.20			Plastica			0.75	2.31	69.6	148
7.7	8.2	0.24	3.9	3.14	argilla-argilla limosa	9.50			Molle-plastica (Soffice)			0.53	1.30	44.8	113
						10.00									

H2O

Vs13
123

CPTU

6

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29 marzo 2012  
PUA ESP  
Borgo Montone  
Ravenna  
2.30

QT	Qc1N	FT	FT/Qnet	IC	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1959	Angolo Attrito $\phi$ Robertson	Coesione Benassi daN/mq	OCR 0.20 Robertson	Modulo Edometrico Benassi daN/mq	Velocità Vs Baldi (sabbie), Mape & Rix (argille)
daN/mq	Idriss & Benassi daN/mq	%		Robertson		m				%	°				m/sec
10.0	10.4	0.26	3.2	3.00	argilla-argilla limosa	10.20			Molle-plastica (Soffice)			0.65	1.73	58.3	133
7.7	7.8	0.22	3.6	3.13	argilla-argilla limosa	11.00			Molle-plastica (Soffice)			0.53	1.20	45.0	113
8.8	8.4	0.21	3.1	3.07	argilla-argilla limosa	12.30			Molle-plastica (Soffice)			0.59	1.28	51.4	122
22.5	21.0	0.14	1.1	2.45	sabbia limosa-limo sabbioso	12.50			Sciolta	15.5	30.8			74.4	190
64.0	60.9	0.09	0.2	1.81	sabbia-sabbia limosa	12.60			Mediamente Addensata	50.6	37.4			192.4	195
199.7	196.2	0.15	0.1	1.19	ghiaia-sabbia	12.70			Molto addensata	89.2	43.4			599.4	227
246.4	243.7	0.22	0.1	1.11	ghiaia-sabbia	13.40			Molto addensato	90	44.3			739.4	234
403.7	411.2	0.21	0.1	0.86	ghiaia-sabbia	140.00			Molto addensato	90	46.4			1211.2	253



CPTU

7

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29/03/2012  
PUA ESP  
Borgo Montone  
Ravenna  
2.00

QT	Qc1N	FT	FT/Qnet	IC	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990	Angolo Attrito $\phi$ Robertson	Coesione Benassi	OCR 0.20 Robertson	Modulo Edometrico Benassi	Velocità Vs Baldi (sabbie), Mape & Bix (argille)
da N/mq	da N/mq	da N/mq	%			m				%	°	da N/mq		da N/mq	m/sec
9.8	10.5	0.26	3.3	3.01	argilla-argilla limosa	10.10			Molle-plastica (Soffice)			0.64	1.75	57.0	130
7.8	8.1	0.21	3.6	3.11	argilla-argilla limosa	10.40			Molle-plastica (Soffice)			0.54	1.25	45.5	114
9.0	8.8	0.21	3.1	3.05	argilla-argilla limosa	11.20			Molle-plastica (Soffice)			0.60	1.35	53.6	124
11.9	11.2	0.28	3.0	2.95	argilla-argilla limosa	12.60			Plastica			0.75	1.80	68.2	148
55.4	52.9	0.14	0.4	1.93	sabbia-sabbia limosa	12.80			Mediamente Addensata	46.0	36.6			167.5	201
135.2	131.1	0.12	0.1	1.37	sabbia-sabbia limosa	13.00			Addensata	75.9	41.5			405.8	215
55.1	51.5	0.07	0.1	1.81	sabbia-sabbia limosa	13.40			Mediamente Addensata	45.1	36.3			165.3	192
31.8	29.0	0.08	0.3	2.11	sabbia limosa-limo sabbioso	13.80			Sciolta	26.1	32.8			95.8	190
284.3	284.1	0.65	0.3	1.22	ghiaia-sabbia	13.90			Molto addensato	90	44.9			856.5	239
349.0	354.6	2.62	0.7	1.43	sabbia-sabbia limosa	14.50			Molto addensato	90	45.7			1093.3	250



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Vs14
120

Comune  
Via  
Località  
Comittente  
Data

Ravenna  
PUA ESP  
Borgo Montone  
Servizi  
29-mar-12

Falda

Sigla della Punta  
Azzeramento  
Ultimo taratura guadagno  
Ultimo taratura per deriva termica

200 m

Tecnopenta 100707  
Inizio prova  
29-feb-2012  
29-feb-2012



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Via Matteotti 50  
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8

Profondità  
(m)

Attrito Laterale corretto FT (MPa)

Attrito Laterale Fs (MPa)

Resistenza alla Punta corretta QT (MPa) 0-15 MPa - 2° Scala 15-30 MPa

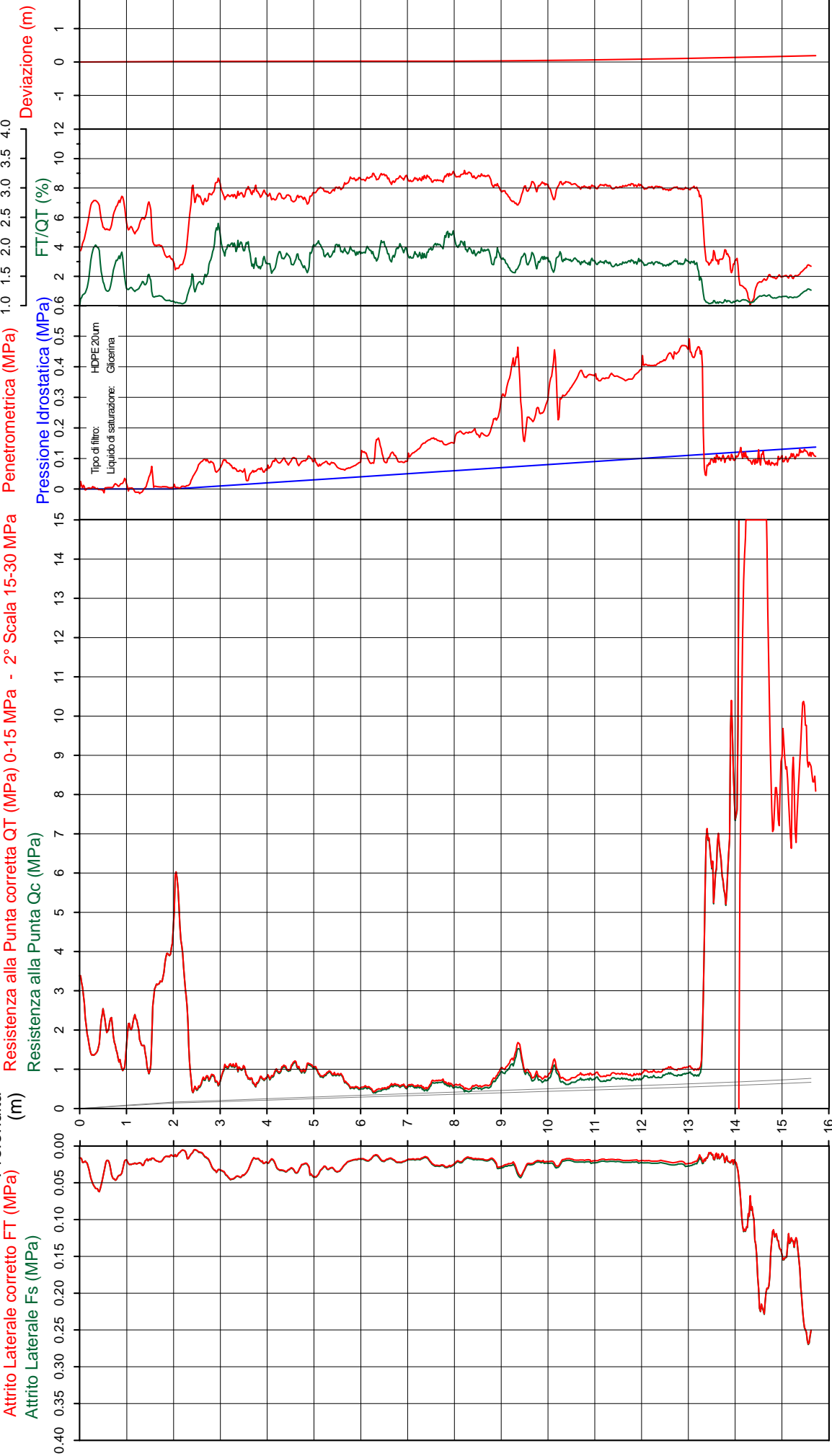
Resistenza alla Punta Qc (MPa)

Pressione Interstiziale

Pressione Idrostatica (MPa)

Indice di Comportamento Ic

Penetrometrica (MPa)



CPTU

8

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29 marzo 2012  
PUA ESP  
Borgo Montone  
Ravenna  
2.00

Vs15
128

QT	Qc1N	FT	FT/Qnet	IC	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990	Angolo Attrito φ° Robertson	Coesione Benassi daN/mq	OCR 0.20 Robertson	Modulo Edometrico Benassi daN/mq	Velocità Vs Baldi (sabbie), Mape & Rix (argille)
daN/mq	Idriss & Benassi daN/mq	%			Robertson	m				%	°				m/sec
30.5	51.9	0.20	0.7	2.04	sabbia-sabbia limosa	0.10	.....		Mediamente Addensata	45.3	54.5			94.6	93
19.5	33.2	0.25	1.3	2.36	sabbia limosa-limo sabbioso	0.20	.....		Sciolti	30.6	49.5			67.7	141
14.2	24.2	0.52	3.7	2.75	limo argilloso-argilla limosa	0.40	.....		Plastica			0.85		82.5	166
21.6	36.7	0.36	1.7	2.38	sabbia limosa-limo sabbioso	0.70	.....		Sciolti	33.9	44.4			82.5	163
13.3	22.5	0.36	2.8	2.69	limo argilloso-argilla limosa	1.00	.....		Plastica			0.81		71.4	157
19.6	33.3	0.24	1.3	2.35	sabbia limosa-limo sabbioso	1.40	.....		Sciolti	30.7	40.1			66.9	157
10.4	17.7	0.18	1.9	2.68	limo argilloso-argilla limosa	1.50	.....		Plastica			0.67		41.3	136
37.5	60.8	0.14	0.4	1.89	sabbia-sabbia limosa	2.30	.....		Mediamente Addensata	50.6	41.3			113.9	134
10.9	18.6	0.13	1.4	2.62	limo argilloso-argilla limosa	2.40	.....		Plastica			0.70		38.7	141
4.9	8.4	0.06	1.3	2.87	limo argilloso-argilla limosa	2.50	.....		Fluido-plastica (Molto Soffice)			0.36		17.1	85
7.1	12.1	0.13	1.9	2.82	limo argilloso-argilla limosa	2.80	.....		Molle-plastica (Soffice)			0.50		29.2	107
7.4	12.6	0.32	4.8	3.03	argilla-argilla limosa	3.00	.....		Molle-plastica (Soffice)			0.51	3.42	42.4	109
10.2	17.3	0.40	4.1	2.89	limo argilloso-argilla limosa	3.60	.....		Plastica			0.66		58.9	134
7.3	12.4	0.20	3.1	2.93	limo argilloso-argilla limosa	4.00	.....		Molle-plastica (Soffice)			0.50		43.6	109
10.1	16.2	0.31	3.3	2.85	limo argilloso-argilla limosa	5.10	.....		Plastica			0.66		59.2	134
8.8	13.4	0.30	3.8	2.95	argilla-argilla limosa	5.40	.....		Molle-plastica (Soffice)			0.59	2.77	51.2	123
8.2	12.3	0.30	4.2	3.01	argilla-argilla limosa	5.70	.....		Molle-plastica (Soffice)			0.56	2.45	47.6	117
5.5	8.2	0.19	4.1	3.15	argilla-argilla limosa	6.20	.....		Molle-plastica (Soffice)			0.40	1.45	35.0	92
4.7	6.9	0.14	3.8	3.19	argilla-argilla limosa	6.40	.....		Fluido-plastica (Molto Soffice)			0.35	1.14	29.4	83
5.7	7.8	0.18	4.1	3.16	argilla-argilla limosa	7.50	.....		Molle-plastica (Soffice)			0.41	1.32	36.0	93
6.1	7.7	0.21	4.5	3.19	argilla-argilla limosa	8.70	.....		Molle-plastica (Soffice)			0.44	1.25	39.4	97
7.8	9.2	0.22	3.5	3.07	argilla-argilla limosa	9.00	.....		Molle-plastica (Soffice)			0.53	1.56	45.4	112
11.5	13.2	0.25	2.5	2.85	limo argilloso-argilla limosa	9.30	.....		Plastica			0.73		56.8	145
16.1	18.1	0.35	2.4	2.73	limo argilloso-argilla limosa	9.40	.....		Plastica			0.93		76.8	180
12.1	13.7	0.37	3.5	2.93	limo argilloso-argilla limosa	9.50	.....		Plastica			0.76		70.6	150
8.5	9.5	0.22	3.2	3.04	argilla-argilla limosa	10.00	.....		Molle-plastica (Soffice)			0.57	1.57	49.7	120

H2O

Vs15
128

CPTU

8

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29 marzo 2012  
PUA ESP  
Borgo Montone  
Ravenna  
2.00

QT	Qc1N	FT	FT/Qnet	IC	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990	Angolo Attrito φ° Robertson	Coesione Benassi daN/mq	OCR 0.20 Robertson	Modulo Edometrico Benassi daN/mq	Velocità Vs Baldi (sabbie), Mape & Rix (argille)
daN/mq	Idriss & Benassi daN/mq	%			Robertson	m				%	°				m/sec
10.6	11.5	0.23	2.6	2.91	limo argilloso-argilla limosa	10.20	.....		Plastica			0.68		54.2	137
8.3	8.8	0.19	3.0	3.04	argilla-argilla limosa	11.10	.....		Molle-plastica (Soffice)			0.56	1.39	48.2	118
8.9	8.9	0.19	2.8	3.02	argilla-argilla limosa	12.50	.....		Molle-plastica (Soffice)			0.60	1.37	48.5	124
10.5	9.8	0.21	2.6	2.97	argilla-argilla limosa	13.30	.....		Plastica			0.68	1.54	53.2	137
65.5	61.7	0.16	0.3	1.80	sabbia-sabbia limosa	14.00	.....		Mediamente Addensata	51.1	37.4			197.4	196
193.8	190.0	0.70	0.4	1.47	sabbia-sabbia limosa	14.20	.....		Molto addensata	88.2	43.1			586.2	226
348.7	351.6	0.95	0.3	1.14	ghiaia-sabbia	14.40	.....		Molto addensato	90	45.8			1051.4	247
316.2	316.6	1.94	0.6	1.40	sabbia-sabbia limosa	14.70	.....		Molto addensato	90	45.3			975.9	246
235.1	229.3	1.72	0.7	1.54	sabbia-sabbia limosa		.....		Molto addensato	90	43.6			735.0	240





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Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29/03/2012  
PUA ESP  
Borgo Montone  
Ravenna  
4.00

QT	Qc1N	FT	FT/Qnet	lc	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 199	Angolo Attrito $\phi$ Robertson	Coesione Benassi	OCR 0.20 Robertson	Modulo Edometrico Benassi	Velocità Vs Baldi (sabbie), Mayne & Rix (argille)
daN/cm <sup>2</sup>	Idriss & E	daN/cm <sup>2</sup>	%	Robertson		m				%	°	daN/cm <sup>2</sup>	Robertson	Benassi daN/cm <sup>2</sup>	m/sec
9.0	7.8	0.16	2.2	3.01	argilla-argilla limosa				Molle-plastica (Soffice)			0.60	1.22	39.4	124
7.7	6.6	0.14	2.4	3.10	argilla-argilla limosa	10.50			Molle-plastica (Soffice)			0.53	0.96	36.6	113
13.4	11.4	0.23	2.2	2.90	limo argilloso-argilla limosa	11.10			Plastica			0.81		60.0	156
115.1	107.2	0.24	0.2	1.57	sabbia-sabbia limosa	11.30			Addensata	69.3	40.0			346.3	216
298.0	297.3	0.31	0.1	1.05	ghiaia-sabbia	11.80			Molto addensato	>90	44.6			894.5	249
192.8	182.5	0.11	0.1	1.23	ghiaia-sabbia	12.70			Molto addensata	86.9	42.3			578.4	238
346.3	352.6	0.41	0.1	0.97	ghiaia-sabbia	13.00			Molto addensato	>90	45.0			1039.6	258



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Vs13
134

Comune  
Via  
Località  
Committente  
Data

Ravenna  
PUA ESP  
Borgo Montone  
Servin  
29/03/2012

Falda

4.20 m

Sigla della Punta  
Azzeramento  
Ultimo taratura guadagno  
Ultimo taratura per deriva termica

Tecnopenta 100707

Inizio prova

29-feb-2012

29-feb-2012



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10

Attrito Laterale corretto FT (MPa)

Attrito Laterale Fs (MPa)

Resistenza alla Punta corretta QT (MPa) 0-15 MPa - 2° Scala 15-30 MPa

Resistenza alla Punta Qc (MPa)

Pressione Interstiziale

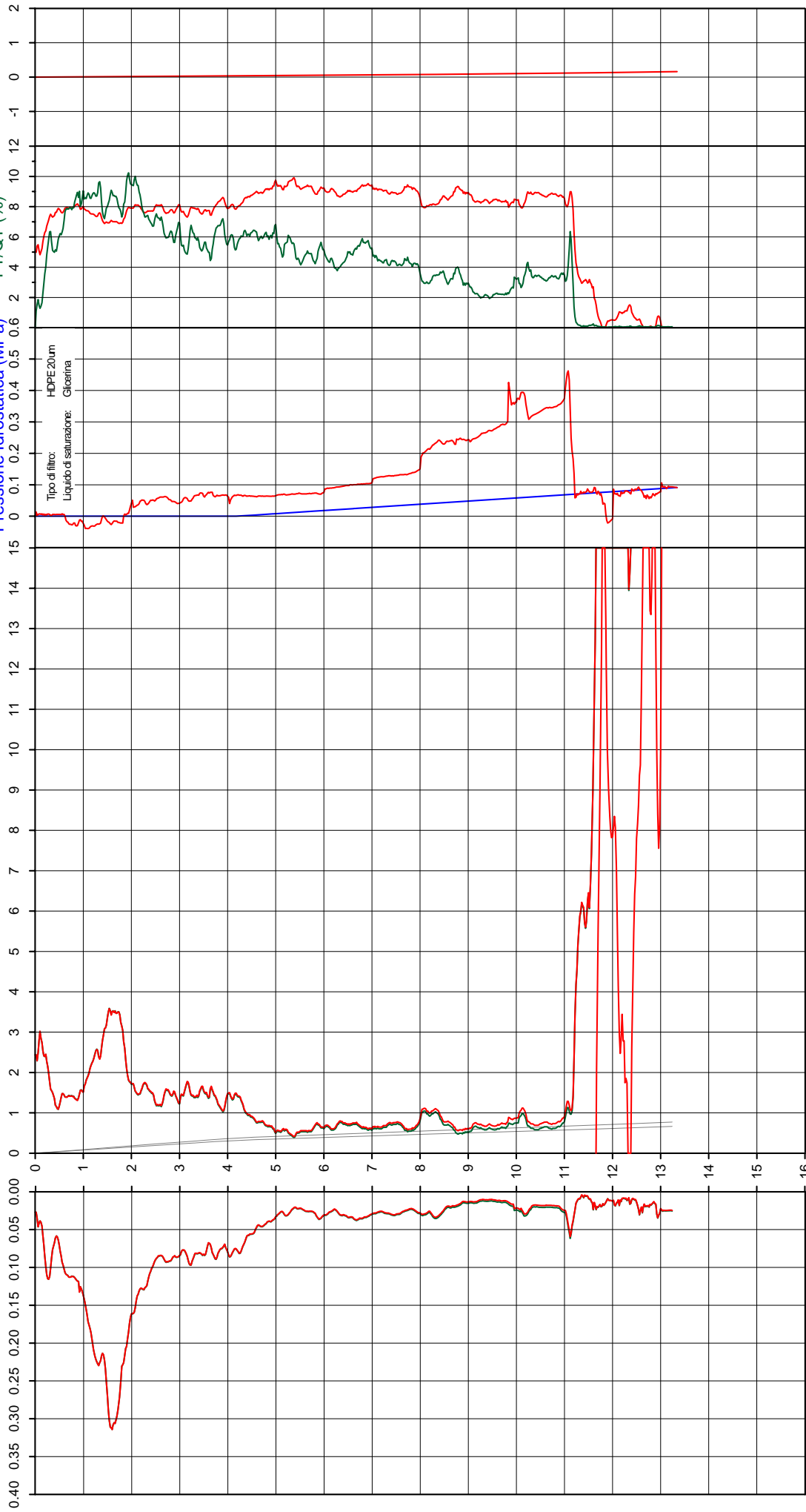
Penetrometrica (MPa)

Indice di Comportamento Ic

FT/QT (%)

Pressione Idrostatica (MPa)

Deviiazione (m)



CPTU

10

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29/03/2012  
PUA ESP  
Borgo Montone  
Ravenna  
4.20

Vs13
138

QT	Qc1N	FT	FT/Qnet	ic	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1993	Angolo Attrito $\phi$ Robertson	Coesione Benassi	OCR 0.20 Robertson	Modulo Edometrico Benassi	Velocità Vs Baldi (sabbie), Mayne & Rix (argille)
daN/cm <sup>2</sup>	Idriss & Benassi	daN/cm <sup>2</sup>	%	Robertson		m				%	°	daN/cm <sup>2</sup>	Robertson	daN/cm <sup>2</sup>	m/sec
24.4	41.5	0.69	3.0	2.47	sabbia limosa-limo sabbioso	0.30			Mediamente Addensata	38.0	50.2			143.9	181
13.5	22.9	0.78	5.8	2.90	limo argilloso-argilla limosa	0.60			Plastica			0.82		75.9	159
14.2	24.1	1.18	8.4	2.99	argilla-argilla limosa	1.00			Plastica			0.85	18.64	75.8	165
22.3	38.0	1.97	8.9	2.88	limo argilloso-argilla limosa	1.40			Solido-plastica (Duro)			1.15		117.6	218
31.3	53.2	2.38	7.7	2.73	limo argilloso-argilla limosa	1.50			Semi solida (Molto duro)			1.40		170.3	272
34.5	58.6	2.91	8.5	2.74	terreni duri a grana fine	1.80			fortemente sovraconsolidato			1.47		184.1	289
25.7	43.6	2.16	8.6	2.83	limo argilloso-argilla limosa	1.90			Solido-plastica (Duro)			1.25		136.2	240
16.4	27.7	1.41	8.8	2.96	argilla-argilla limosa	2.40			Plastica			0.94	7.68	86.9	181
13.1	21.3	0.89	7.1	2.98	argilla-argilla limosa	2.70			Plastica			0.80	5.13	72.5	158
15.0	21.0	0.84	5.8	2.93	limo argilloso-argilla limosa	3.70			Plastica			0.88		84.7	171
12.6	15.7	0.78	6.7	3.06	argilla-argilla limosa	4.00			Plastica			0.78	3.22	69.8	153
13.3	15.7	0.76	6.1	3.04	argilla-argilla limosa	4.40			Plastica			0.81	3.14	74.5	158
8.0	9.3	0.47	6.6	3.23	argilla-argilla limosa	4.90			Molle-plastica (Soffice)			0.54	1.70	44.4	115
5.7	6.4	0.31	6.5	3.35	argilla-argilla limosa	5.30			Molle-plastica (Soffice)			0.41	1.09	40.2	93
4.4	4.9	0.22	6.6	3.45	argilla-argilla limosa	5.40			Fluido-plastica (Molto Soffice)			0.32	0.76	31.0	79
6.2	6.7	0.27	5.3	3.28	argilla-argilla limosa	6.30			Molle-plastica (Soffice)			0.44	1.12	41.5	98
7.0	7.0	0.30	5.3	3.27	argilla-argilla limosa	7.70			Molle-plastica (Soffice)			0.49	1.15	39.9	106
6.6	6.2	0.25	4.8	3.28	argilla-argilla limosa	8.00			Molle-plastica (Soffice)			0.46	0.97	43.0	102
10.6	9.9	0.30	3.3	3.02	argilla-argilla limosa	8.40			Plastica			0.68	1.67	61.6	138
7.8	7.2	0.22	3.5	3.15	argilla-argilla limosa	8.70			Molle-plastica (Soffice)			0.54	1.13	45.5	114
5.9	5.3	0.15	3.5	3.27	argilla-argilla limosa	9.00			Molle-plastica (Soffice)			0.42	0.76	36.0	95
7.0	6.1	0.12	2.2	3.10	argilla-argilla limosa	9.80			Molle-plastica (Soffice)			0.49	0.91	30.7	106
9.3	8.0	0.21	2.8	3.06	argilla-argilla limosa				Molle-plastica (Soffice)			0.62	1.26	50.2	127



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CPTU

10

Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29/03/2012  
PUA ESP  
Borgo Montone  
Ravenna  
4.20

Vs13
138

QT	Qc1N	FT	FT/Qnet	ic	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1993	Angolo Attrito $\phi$ Robertson	Coesione Benassi	OCR 0.20 Robertson	Modulo Edometrico Benassi	Velocità Vs Baldi (sabbie), Mayne & Rix (argille)
daN/cm <sup>2</sup>	Idriss & Benassi	daN/cm <sup>2</sup>	%	Robertson		m				%	°	daN/cm <sup>2</sup>	Robertson	daN/cm <sup>2</sup>	m/sec
7.6	6.3	0.20	3.4	3.20	argilla-argilla limosa	10.20			Molle-plastica (Soffice)			0.52	0.92	44.0	111
13.0	10.7	0.41	4.1	3.04	argilla-argilla limosa	11.00			Plastica			0.80	1.73	75.1	156
60.4	53.2	0.10	0.2	1.82	sabbia-sabbia limosa	11.60			Mediamente Addensata	46.2	36.2			181.6	201
156.5	147.0	0.19	0.1	1.35	sabbia-sabbia limosa	11.70			Addensata	79.7	41.4			469.8	229
251.3	245.9	0.15	0.1	1.09	ghiaia-sabbia	12.10			Molto addensato	>90	43.8			754.1	244
168.6	157.8	0.11	0.1	1.28	ghiaia-sabbia	12.40			Addensata	82.1	41.7			506.0	233
283.2	281.0	0.20	0.1	1.04	ghiaia-sabbia	13.10			Molto addensato	>90	44.1			849.7	251
409.3	426.8	0.25	0.1	0.84	ghiaia-sabbia				Molto addensato	>90	45.7			1228.2	266



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Comune  
Via  
Localita'  
Committente  
Data

Ravenna  
Missiroli  
Ospedale Civile  
Politecnica  
29/03/2010

Falda

0.80 m

CPTU46A

Sigla della Punta  
Azzeramento  
Ultimo taratura guadagno  
Ultimo taratura per deriva termica

Tecnopenta 010104  
Inizio prova  
14-mar-2010  
14-mar-2010



Società di  
Geologia  
Territoriale

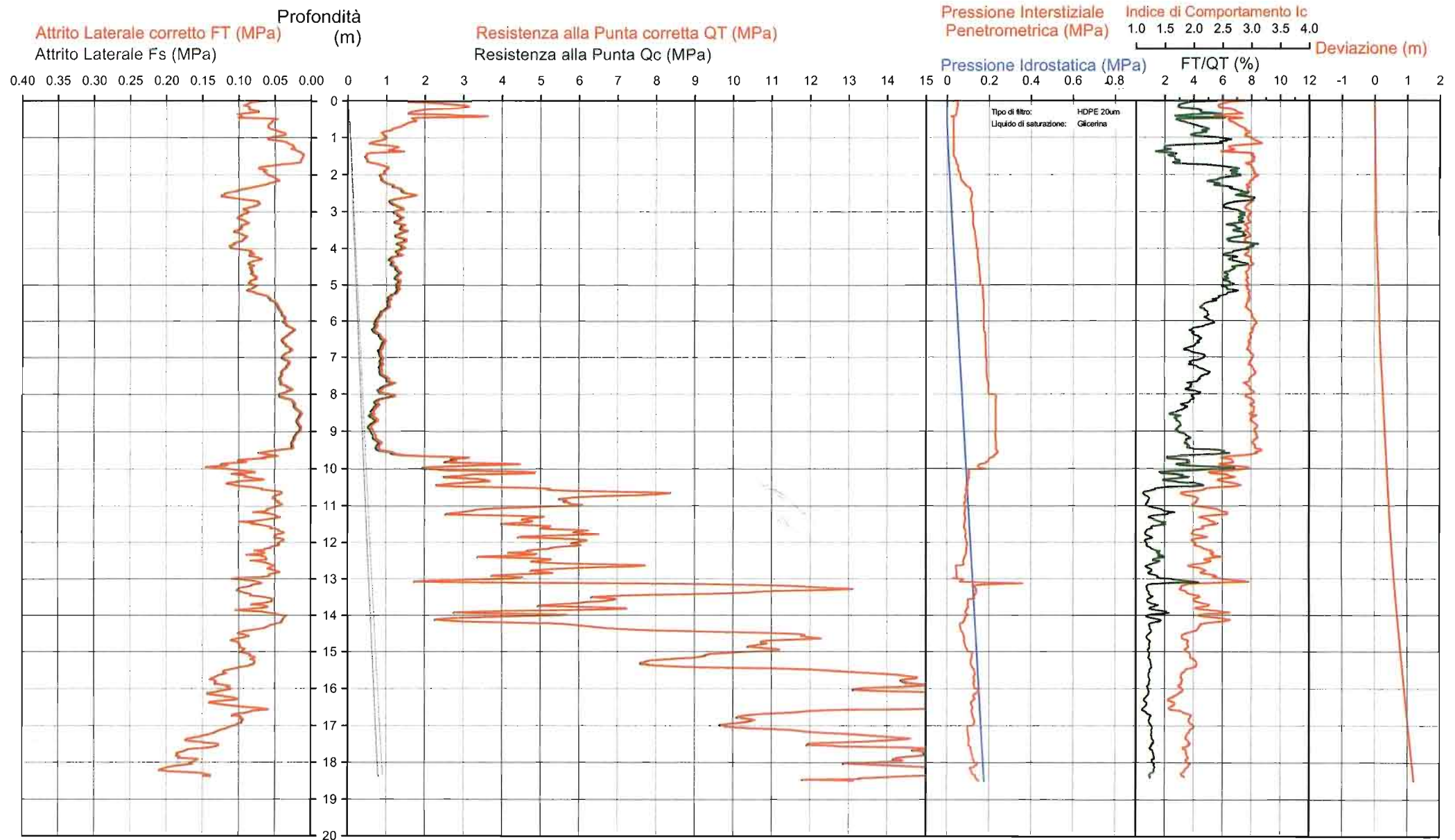
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Società di  
Geologia  
Territoriale

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CPTU

1

Data 29/03/2010  
Cantiere / Via Missiroli  
Località Ospedale Civile  
Comune Ravenna  
Profondità falda idrica m. 0.80

QT	Qc1N	FT	FT/Qnet	lc	Litologia Robertson 1990	H	Litologia grafica	Falda	Addensamento (Sabbia)	Densità	Angolo	Coesione	OCR	Modulo	Velocità Vs
daN/cm²	daN/cm²	daN/cm²	%	Robertson	basato su Fr vs Qc1N	m		Idrica	Consistenza (Argilla)	Relativa	Attrito φ'	Benassi	Benassi	Edometrico	Baldi (sabbie),
										Tatsuoka 1990	Robertson	daN/cm²	Robertson	Benassi	Mayne & Rix (argille)
										%	*			daN/cm²	m/sec
22.1	37.5	0.80	3.8	2.62	limo argilloso-argilla limosa	0.10			Solido-plastica (Duro)			1.14		127.9	218
30.0	51.1	0.89	3.0	2.44	sabbia limosa-limo sabbioso	0.20			Addensata	44.8	51.0			172.5	208
20.0	33.9	0.85	4.4	2.69	limo argilloso-argilla limosa	0.40			Plastica			1.07		114.9	205
24.7	41.9	0.88	3.9	2.59	sabbia limosa-limo sabbioso	0.50			Mediamente Addensata	38.3	45.9			142.8	232
14.7	24.9	0.56	4.0	2.76	limo argilloso-argilla limosa	0.80			Plastica					84.9	168
9.6	16.4	0.43	4.5	2.93	limo argilloso-argilla limosa	1.00		H2O	Molle-plastica (Soffice)			0.63		55.5	130
7.9	13.5	0.44	5.7	3.07	argilla-argilla limosa	1.20			Molle-plastica (Soffice)			0.54	9.35	44.8	114
12.1	20.6	0.23	2.0	2.63	limo argilloso-argilla limosa	1.40			Plastica			0.76		50.0	150
5.0	8.5	0.13	2.6	3.02	argilla-argilla limosa	1.60			Molle-plastica (Soffice)			0.37	4.86	25.7	86
5.8	9.9	0.16	2.8	2.99	argilla-argilla limosa	1.70			Molle-plastica (Soffice)			0.42	5.34	32.1	95
9.4	15.9	0.56	6.2	3.03	argilla-argilla limosa	2.20			Molle-plastica (Soffice)			0.62	7.85	52.5	128
12.1	20.6	0.72	6.1	2.95	limo argilloso-argilla limosa	2.40			Plastica			0.75		68.0	149
15.8	26.9	1.13	7.4	2.92	limo argilloso-argilla limosa	2.60			Plastica			0.92		86.7	177
12.3	20.9	0.88	7.4	3.00	argilla-argilla limosa	2.80			Plastica			0.76	8.22	67.3	151
13.4	22.8	0.90	7.0	2.95	argilla-argilla limosa	3.30			Plastica			0.81	8.21	74.1	160
14.1	24.0	0.96	7.1	2.94	limo argilloso-argilla limosa	4.20			Plastica			0.85		77.9	165
12.1	20.6	0.80	7.0	2.99	argilla-argilla limosa	4.60			Plastica			0.76	5.45	67.1	150
13.4	22.6	0.80	6.4	2.93	limo argilloso-argilla limosa	5.10			Plastica			0.81		74.7	160
12.3	20.3	0.72	6.3	2.96	argilla-argilla limosa	5.40			Plastica			0.76	4.71	68.8	151
10.8	17.6	0.48	4.9	2.93	limo argilloso-argilla limosa	5.70			Plastica			0.69		61.8	140
8.9	14.4	0.40	5.0	3.01	argilla-argilla limosa	5.90			Molle-plastica (Soffice)			0.60	3.01	50.9	124
7.8	12.4	0.34	5.1	3.06	argilla-argilla limosa	6.20			Molle-plastica (Soffice)			0.53	2.46	44.2	113
8.7	13.3	0.33	4.3	2.99	argilla-argilla limosa	6.70			Molle-plastica (Soffice)			0.59	2.65	50.5	121
9.2	13.1	0.35	4.5	3.01	argilla-argilla limosa	7.60			Molle-plastica (Soffice)			0.61	2.52	52.7	126
11.1	14.9	0.40	4.1	2.94	limo argilloso-argilla limosa	7.80			Plastica			0.71		64.2	142
9.1	12.2	0.32	4.1	3.01	argilla-argilla limosa	8.00			Molle-plastica (Soffice)			0.61	2.27	52.8	126
11.9	15.5	0.42	4.0	2.92	limo argilloso-argilla limosa	8.10			Plastica			0.74		68.7	148
8.1	10.6	0.24	3.7	3.03	argilla-argilla limosa	8.40			Molle-plastica (Soffice)			0.55	1.87	47.0	116
6.9	8.8	0.16	3.1	3.05	argilla-argilla limosa	9.10			Molle-plastica (Soffice)			0.48	1.44	41.2	105
8.8	10.5	0.33	4.5	3.08	argilla-argilla limosa	9.60			Molle-plastica (Soffice)			0.59	1.80	50.5	121
30.3	33.3	0.94	3.6	2.63	limo argilloso-argilla limosa				Semi solida (Molto duro)			1.37		176.1	257

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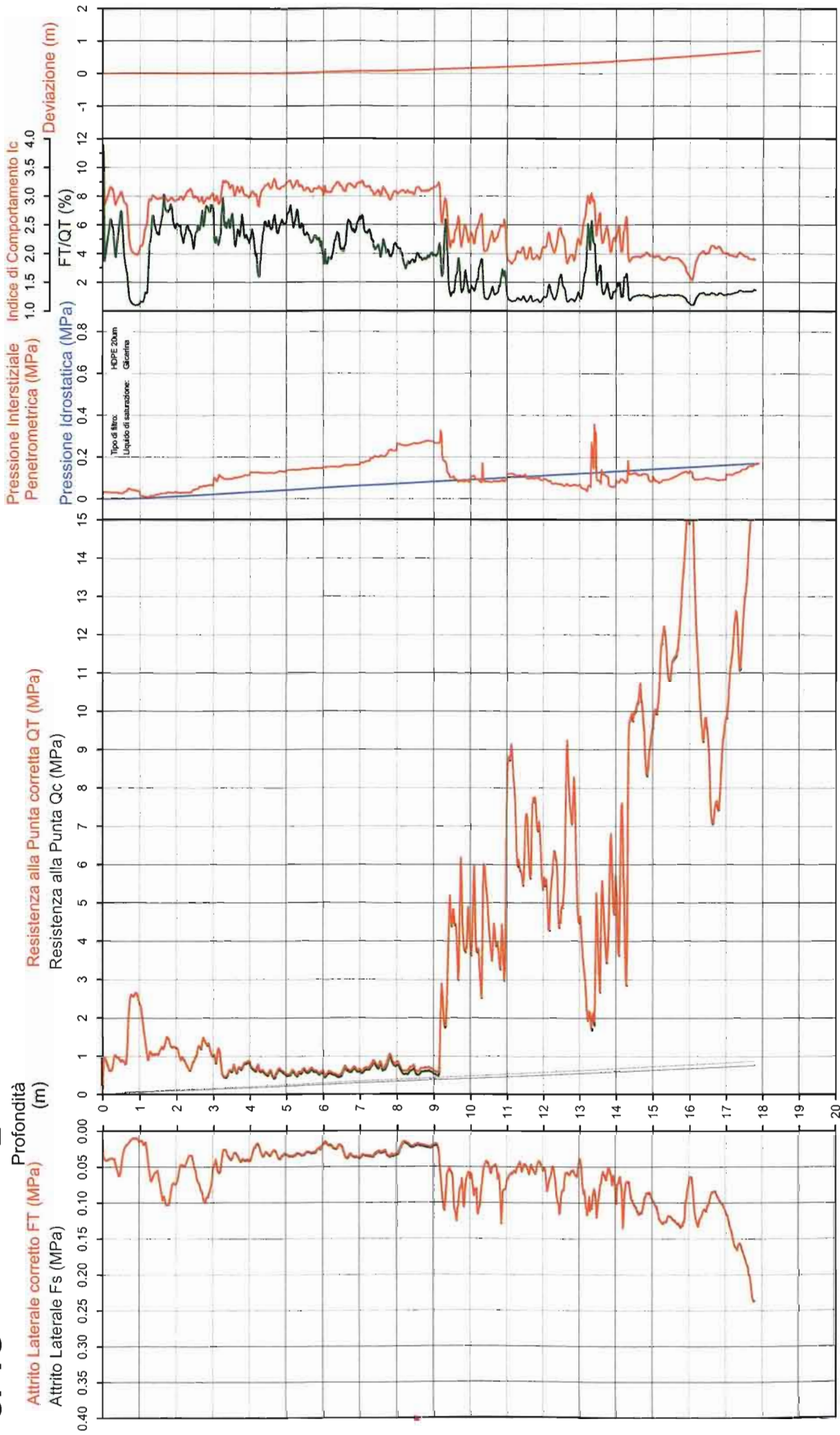
Data 29/03/2010  
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Comune Ravenna  
Profondità falda idrica m. 0.80

QT	Qc1N	FT	FT/Qnet	lc	Litologia Robertson 1990	H	Litologia grafica	Falda	Addensamento (Sabbia)	Densità	Angolo	Coesione	OCR	Modulo	Velocità Vs
daN/cm²	daN/cm²	daN/cm²	%	Robertson	basato su Fr vs Qc1N	m		Idrica	Consistenza (Argilla)	Relativa	Attrito φ'	Benassi	Benassi	Edometrico	Baldi (sabbie),
										Tatsuoka 1990	Robertson	daN/cm²	Robertson	Benassi	Mayne & Rix (argille)
										%	*			daN/cm²	m/sec
59.2	61.9	0.50	0.9	2.05	sabbia limosa-limo sabbioso	10.50			Mediamente Addensata	51.2	38.1			190.3	198
33.5	34.7	0.59	2.0	2.45	sabbia limosa-limo sabbioso	11.10			Sciolta	32.1	34.5			138.5	252
52.2	51.8	0.58	1.2	2.18	sabbia limosa-limo sabbioso	11.30			Mediamente Addensata	45.3	36.7			176.8	224
27.8	26.4	0.90	3.8	2.74	limo argilloso-argilla limosa	13.00			Solido-plastica (Duro)			1.31		161.3	253
105.0	101.6	0.88	0.9	1.89	sabbia-sabbia limosa	13.10			Mediamente Addensata	67.5	40.2			338.4	208
74.5	70.8	0.70	1.0	2.02	sabbia-sabbia limosa	13.40			Mediamente Addensata	55.6	38.2			240.9	199
60.2	56.4	0.72	1.3	2.17	sabbia limosa-limo sabbioso	13.60			Mediamente Addensata	48.1	36.9			206.5	238
35.7	32.5	0.44	1.5	2.40	sabbia limosa-limo sabbioso	13.90			Sciolta	29.9	33.5			127.7	247
59.5	54.6	0.57	1.0	2.13	sabbia limosa-limo sabbioso	14.20			Mediamente Addensata	47.0	36.6			193.4	223
108.3	101.0	0.96	0.9	1.88	sabbia-sabbia limosa	14.40			Mediamente Addensata	67.3	39.8			347.4	214
89.4	81.5	0.83	1.0	1.97	sabbia-sabbia limosa	15.00			Mediamente Addensata	60.2	38.6			288.9	211
78.1	70.1	0.81	1.1	2.05	sabbia limosa-limo sabbioso	15.30			Mediamente Addensata	55.3	37.7			257.2	208
150.1	139.4	1.18	0.8	1.74	sabbia-sabbia limosa	15.40			Addensata	78.0	41.1			474.0	229
104.7	92.2	1.00	1.0	1.93	sabbia-sabbia limosa	16.60			Mediamente Addensata	64.3	38.8			339.8	222
142.0	126.8	1.62	1.2	1.88	sabbia-sabbia limosa	17.10			Mediamente Addensata	74.8	40.2			475.9	234

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## CPTU 2



### CPTU

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Ravenna  
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QT	Qc1N	FT	FT/Qc1N	Litologia Robertson	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990 %	Angolo Attrito φ° Robertson	Coesione Benassi daN/cm²	OCR a2e Robertson	Modulo Edometrico Benassi daN/cm²	Velocità Vs Baldi (sabbie), Mayne & Rix (argille) m/sec
daN/cm²	daN/cm²	daN/cm²	%	Robertson	m									
7.1	12.0	0.36	5.8	3.12 argilla-argilla limosa	0.30			Molle-plastica (Soffice)			0.49	50.01	39.8	107
9.8	16.7	0.41	4.3	2.91 limo argilloso-argilla limosa	0.40			Molle-plastica (Soffice)			0.64		56.8	132
9.3	15.8	0.51	5.5	3.00 argilla-argilla limosa	0.60			Molle-plastica (Soffice)			0.62	20.55	52.8	127
9.8	16.7	0.22	2.4	2.75 limo argilloso-argilla limosa	0.70			Molle-plastica (Soffice)			0.64		45.8	132
25.2	42.8	0.12	0.5	2.05 sabbia limosa-limo sabbioso	1.00			Mediamente Addensata	39.0	43.4			76.9	105
18.4	31.3	0.16	0.9	2.30 sabbia limosa-limo sabbioso	1.20			Mediamente Addensata	28.6	41.1			59.0	136
11.0	18.8	0.65	5.9	2.96 argilla-argilla limosa	1.70			Plastica			0.70	11.26	62.3	141
12.9	22.0	0.83	6.6	2.95 limo argilloso-argilla limosa	2.10			Plastica			0.79		72.0	156
8.3	14.1	0.43	5.4	3.04 argilla-argilla limosa	2.50			Molle-plastica (Soffice)			0.56	6.16	47.2	118
12.4	21.1	0.75	6.2	2.94 limo argilloso-argilla limosa	2.80			Plastica			0.77		69.7	151
11.4	19.4	0.68	6.1	2.96 argilla-argilla limosa	3.20			Plastica			0.72	7.04	64.2	144
6.5	11.0	0.42	7.1	3.20 argilla-argilla limosa	3.30			Molle-plastica (Soffice)			0.46	3.58	47.1	101
4.9	8.3	0.27	6.2	3.25 argilla-argilla limosa	3.40			Fluido-plastica (Molto Soffice)			0.36	2.55	34.2	85
7.3	12.3	0.37	5.7	3.09 argilla-argilla limosa	4.00			Molle-plastica (Soffice)			0.50	3.64	41.0	108
6.4	10.8	0.29	5.4	3.11 argilla-argilla limosa	4.80			Molle-plastica (Soffice)			0.45	2.69	42.8	100
6.1	10.4	0.31	6.1	3.17 argilla-argilla limosa	5.00			Molle-plastica (Soffice)			0.44	2.11	42.6	98
5.6	9.0	0.20	4.5	3.13 argilla-argilla limosa	6.00			Molle-plastica (Soffice)			0.40	1.61	35.9	92
6.7	10.1	0.34	6.1	3.18 argilla-argilla limosa	6.50			Molle-plastica (Soffice)			0.47	1.83	46.9	104
8.1	11.3	0.31	4.6	3.06 argilla-argilla limosa	7.30			Molle-plastica (Soffice)			0.55	2.07	46.5	116
8.8	11.8	0.32	4.4	3.04 argilla-argilla limosa	7.80			Molle-plastica (Soffice)			0.59	2.16	50.8	122
6.9	8.8	0.20	3.8	3.10 argilla-argilla limosa	8.10			Molle-plastica (Soffice)			0.48	1.45	42.6	105
23.6	27.5	0.86	4.2	2.73 limo argilloso-argilla limosa	9.20			Solido-plastica (Duro)			1.19		136.4	228
43.0	46.6	0.74	1.9	2.33 sabbia limosa-limo sabbioso	9.40			Mediamente Addensata	41.8	36.6			173.4	246



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QT	Qc1N	FT	FT/Qc	fc	Litologia Robertson 1990	H	Litologia grafica	Falda idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990 %	Angolo Attrito $\phi^*$ Robertson	Coesione Benassi daN/cm <sup>2</sup>	OCR $\sigma_{cr}$ Robertson	Modulo Edometrico Benassi daN/cm <sup>2</sup>	Velocità Vs Baldi (sabbie), Mayne & Rix (argille) m/sec
daN/cm <sup>2</sup>	daN/cm <sup>2</sup>	daN/cm <sup>2</sup>	%	Robertson	basato su Fr vs Qc1N	m									
						11.00									
70.2	71.4	0.53	0.8	1.97	sabbia-sabbia limosa			Mediamente Addensata	55.9	38.8				221.2	191
						12.00		Mediamente Addensata	45.7	36.8				192.6	240
53.2	52.4	0.74	1.5	2.23	sabbia limosa-limo sabbioso			Mediamente Addensata	57.9	38.8				245.4	198
78.0	75.9	0.59	0.8	1.94	sabbia-sabbia limosa			Mediamente Addensata	40.8	35.7				159.3	239
47.2	45.2	0.53	1.2	2.23	sabbia limosa-limo sabbioso			Solido-plastica (Duro)			1.25			147.2	236
25.6	24.0	0.97	4.5	2.80	limo argilloso-argilla limosa			Plastica			1.06	3.08		110.0	202
19.5	18.1	1.02	6.0	2.98	argilla-argilla limosa			Mediamente Addensata	39.6	35.3				190.7	264
47.1	43.6	0.77	1.9	2.36	sabbia limosa-limo sabbioso										
						14.30		Mediamente Addensata	62.8	39.1				311.4	210
95.0	88.1	0.96	1.0	1.97	sabbia-sabbia limosa			Mediamente Addensata	69.6	40.0				388.2	220
117.8	108.4	1.24	1.1	1.91	sabbia-sabbia limosa			Addensata	78.6	41.2				466.9	229
152.7	142.0	0.77	0.5	1.61	sabbia-sabbia limosa			Mediamente Addensata	70.3	39.9				395.5	223
121.8	110.6	1.15	1.0	1.87	sabbia-sabbia limosa			Mediamente Addensata	61.6	38.5				325.1	217
96.0	84.9	1.13	1.2	2.02	sabbia-sabbia limosa			Mediamente Addensata	54.0	37.2				265.4	236
78.3	67.5	0.92	1.2	2.10	sabbia limosa-limo sabbioso			Mediamente Addensata	61.9	38.5				328.5	220
98.1	85.6	1.10	1.2	2.00	sabbia-sabbia limosa			Mediamente Addensata	72.0	39.9				456.0	230
130.6	116.4	1.74	1.4	1.95	sabbia-sabbia limosa										

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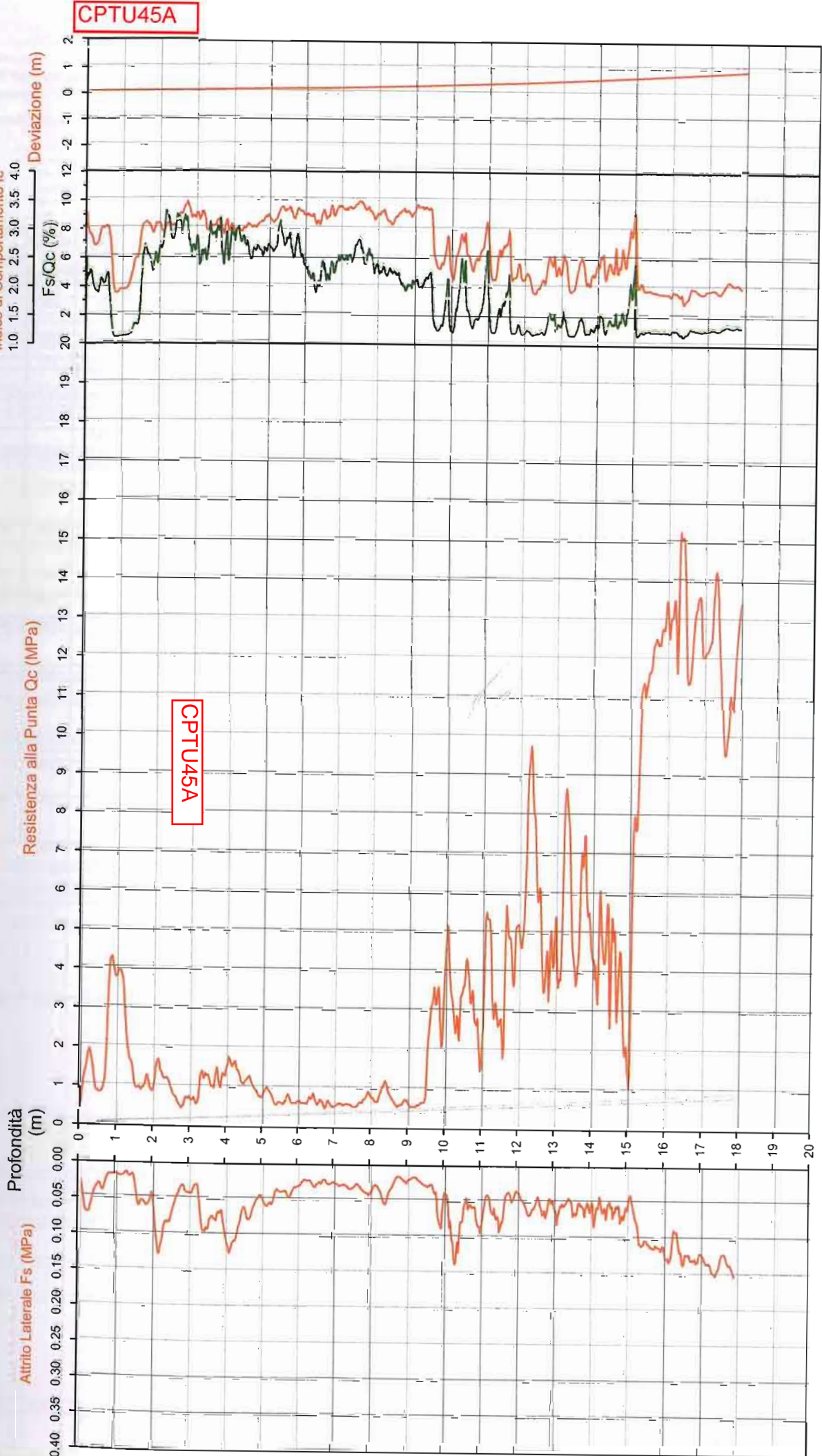
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Ultimo taratura guadagno  
Ultimo taratura per deriva termica

Ravenna  
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Ravenna  
0.80

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Qc	Qc1N	Fs	Fs/Qnet	ic	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda Idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990 %	Angolo Attrito φ Robertson °	Coesione Benassi daN/cm²	OCR o2o Robertson	Modulo Edometrico Benassi daN/cm²	Velocità Vs Baldi (sabbie), Mayne & Rix (argille) m/sec
9.2	15.7	0.45	5.0	2.99	argilla-argilla limosa	0.10			Molle-plastica (Soffice)			0.61	174.39	52.6	126
15.0	25.6	0.62	4.2	2.77	limo argilloso-argilla limosa	0.40			Plastica			0.88		96.8	170
8.2	13.9	0.37	4.6	2.99	argilla-argilla limosa	0.60			Molle-plastica (Soffice)			0.56	17.99	47.0	117
12.3	20.9	0.35	3.1	2.74	limo argilloso-argilla limosa	0.70			Plastica			0.77		74.3	152
37.3	63.4	0.21	0.6	1.93	sabbia-sabbia limosa	1.20		H2O	Mediamente Addensata	51.9	45.0			114.5	106
18.7	31.8	0.20	1.1	2.34	sabbia limosa-limo sabbioso	1.40			Mediamente Addensata	29.1	40.7			62.1	148
9.9	16.8	0.52	5.6	2.97	argilla-argilla limosa	2.00			Molle-plastica (Soffice)			0.65	9.02	55.9	131
13.1	22.3	1.02	8.0	3.00	argilla-argilla limosa	2.40			Plastica			0.80	10.16	70.7	157
8.2	13.9	0.69	8.9	3.18	argilla-argilla limosa	2.60			Molle-plastica (Soffice)			0.56	5.67	43.1	116
4.9	8.4	0.40	9.0	3.35	argilla-argilla limosa	2.80			Fluida-plastica (Molto Soffice)			0.36	3.09	38.9	85
6.3	10.7	0.40	6.9	3.20	argilla-argilla limosa	3.20			Molle-plastica (Soffice)			0.45	3.70	45.3	99
11.9	20.2	0.83	7.4	3.01	argilla-argilla limosa	4.00			Plastica			0.74	6.31	65.0	148
15.5	26.4	1.14	7.7	2.94	limo argilloso-argilla limosa	4.30			Plastica			0.90		84.3	175
11.5	19.6	0.75	7.0	3.00	argilla-argilla limosa	4.70			Plastica			0.73	5.05	63.7	145
8.5	14.4	0.56	7.3	3.11	argilla-argilla limosa	5.20			Molle-plastica (Soffice)			0.57	3.32	46.6	120
6.1	10.3	0.43	8.3	3.26	argilla-argilla limosa	6.00			Molle-plastica (Soffice)			0.44	2.03	47.1	98
5.9	9.3	0.28	6.1	3.21	argilla-argilla limosa	7.00			Molle-plastica (Soffice)			0.42	1.66	41.2	95
5.4	7.8	0.33	8.2	3.35	argilla-argilla limosa	7.70			Molle-plastica (Soffice)			0.39	1.27	40.8	90
7.0	9.5	0.38	6.9	3.23	argilla-argilla limosa	8.20			Molle-plastica (Soffice)			0.49	1.64	39.0	106
9.6	12.3	0.48	5.9	3.11	argilla-argilla limosa	8.50			Molle-plastica (Soffice)			0.63	2.26	53.9	129
5.7	7.2	0.24	5.9	3.28	argilla-argilla limosa	9.40			Molle-plastica (Soffice)			0.41	1.09	39.3	93
9.9	11.7	0.32	4.8	3.07	argilla-argilla limosa	9.50			Molle-plastica (Soffice)			0.65	2.05	56.5	132
30.7	34.6	0.40	1.4	2.36	sabbia limosa-limo sabbioso	9.80			Sciolti	31.9	34.8			107.6	221
24.7	27.7	0.86	3.9	2.72	limo argilloso-argilla limosa	9.90			Solido-plastica (Duro)			1.22		142.9	234
38.6	42.2	0.66	2.0	2.36	sabbia limosa-limo sabbioso				Mediamente Addensata	38.5	36.0			159.4	241



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Qc	Qc1N	Fs	Fs/Qnet	ic	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda Idrica	Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990 %	Angolo Attrito φ Robertson °	Coesione Benassi daN/cm²	OCR o2o Robertson	Modulo Edometrico Benassi daN/cm²	Velocità Vs Baldi (sabbie), Mayne & Rix (argille) m/sec
26.2	28.7	1.22	5.1	2.78	limo argilloso-argilla limosa	10.20			Solido-plastica (Duro)			1.27		149.8	244
35.0	37.4	0.63	1.9	2.42	sabbia limosa-limo sabbioso	10.40			Sciolti	34.5	35.1			142.9	249
24.8	26.3	0.78	3.5	2.70	limo argilloso-argilla limosa	10.90			Solido-plastica (Duro)			1.22		144.2	235
17.8	18.9	0.90	5.9	2.96	argilla-argilla limosa	11.00			Plastica			0.99	3.46	100.5	191
44.0	45.6	0.57	1.6	2.28	sabbia limosa-limo sabbioso	11.30			Mediamente Addensata	41.1	36.2			160.9	232
29.5	30.5	0.71	2.6	2.57	sabbia limosa-limo sabbioso	11.40			Sciolti	27.8	33.6			150.2	258
25.5	26.1	0.81	3.6	2.71	limo argilloso-argilla limosa	11.60			Solido-plastica (Duro)			1.24		148.1	239
47.5	47.8	0.45	1.0	2.17	sabbia limosa-limo sabbioso	12.10			Mediamente Addensata	42.6	36.3			154.6	215
76.9	76.1	0.62	0.8	1.96	sabbia-sabbia limosa	12.50			Mediamente Addensata	58.0	38.9			244.0	195
44.4	43.2	0.62	1.6	2.31	sabbia limosa-limo sabbioso	12.80			Mediamente Addensata	39.3	35.5			163.5	243
46.1	44.2	0.60	1.4	2.28	sabbia limosa-limo sabbioso	13.20			Mediamente Addensata	40.0	35.6			164.2	250
77.8	74.5	0.53	0.7	1.93	sabbia-sabbia limosa	13.40			Mediamente Addensata	57.3	38.6			242.5	200
48.2	45.2	0.61	1.4	2.27	sabbia limosa-limo sabbioso	13.70			Mediamente Addensata	40.8	35.6			171.0	246
70.4	66.3	0.61	0.9	2.02	sabbia-sabbia limosa	13.80			Mediamente Addensata	53.4	37.8			224.8	199
45.0	41.0	0.63	1.5	2.33	sabbia limosa-limo sabbioso	14.80			Mediamente Addensata	37.6	34.9			164.7	262
19.0	16.4	0.67	4.5	2.94	limo argilloso-argilla limosa	15.00			Plastica			1.04		109.4	195
77.1	70.1	0.69	1.1	2.07	sabbia limosa-limo sabbioso	15.30			Mediamente Addensata	55.3	37.8			256.5	227
126.8	115.4	1.23	1.0	1.86	sabbia-sabbia limosa	17.40			Mediamente Addensata	71.7	40.1			412.1	225
104.9	90.9	1.34	1.3	2.02	sabbia-sabbia limosa	17.80			Mediamente Addensata	63.9	38.6			362.9	225
118.4	103.4	1.48	1.3	1.97	sabbia-sabbia limosa				Mediamente Addensata	68.1	39.2			407.0	229



# CPTU

4

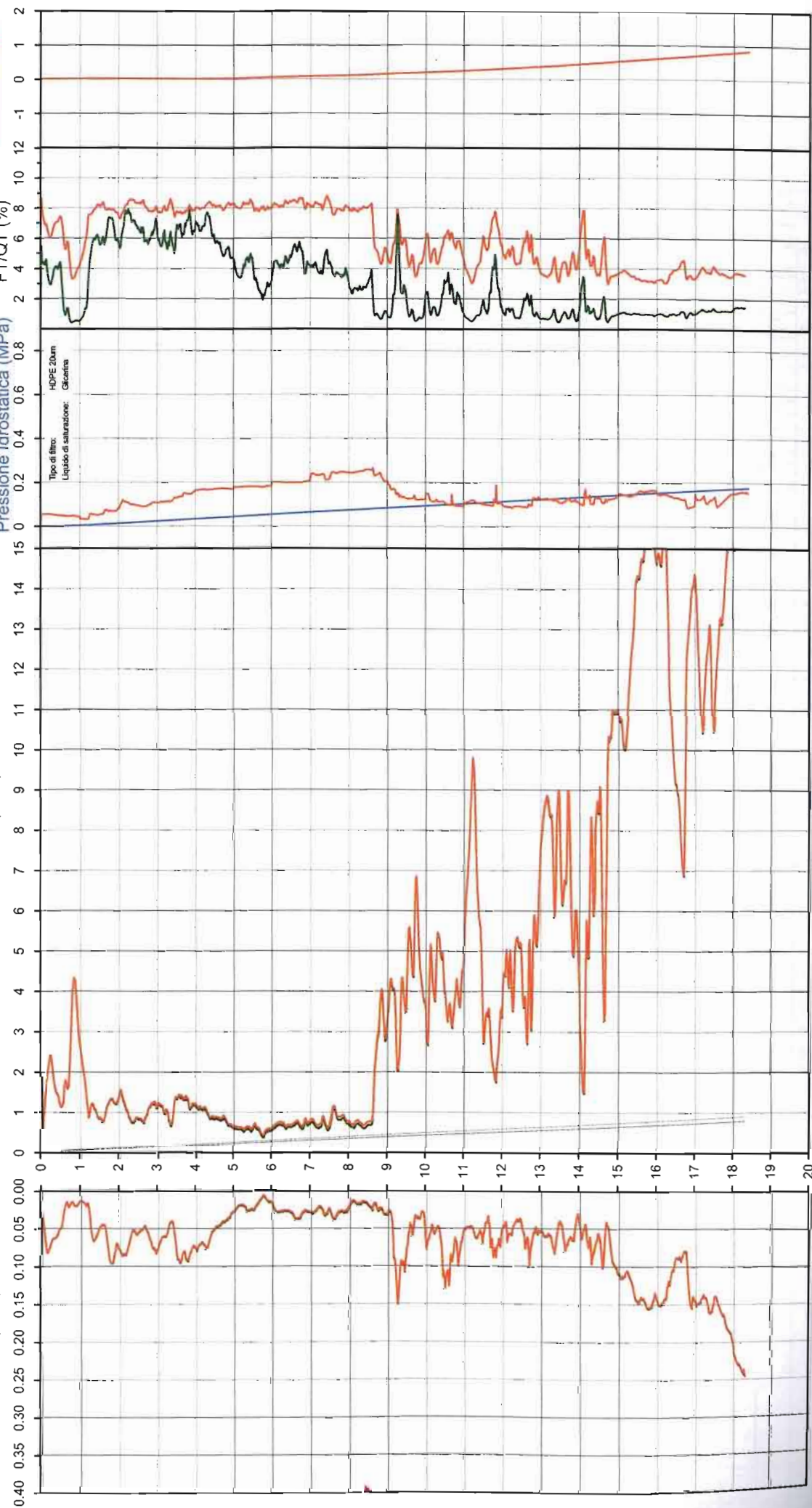
Profondità (m)  
Atrito Laterale corretto FT (MPa)  
Atrito Laterale Fs (MPa)

Resistenza alla Punta corretta QT (MPa)  
Resistenza alla Punta Qc (MPa)

Pressione Interstiziale  
Penetrometrica (MPa)

Indice di Comportamento Ic  
FT/QT (%)

Deviazione (m)



## CPTU

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Data  
Cantiere / Via  
Località  
Comune  
Profondità falda idrica m.

29 marzo 2010  
Missiroli  
Ospedale Civile  
Ravenna  
0.80

QT	Qc1N	FT	FT/Qc1N	Ic	Litologia Robertson 1990 basato su Fr vs Qc1N	H	Litologia grafica	Falda idrica
daN/cm²	daN/cm²	daN/cm²	%	Robertson		m		
11.9	20.2	0.51	4.4	2.88	limo argilloso-argilla limosa	0.10		
21.2	36.1	0.73	3.5	2.60	limo argilloso-argilla limosa	0.30		
14.1	24.0	0.48	3.5	2.73	limo argilloso-argilla limosa	0.60		
16.8	28.5	0.18	1.1	2.38	sabbia limosa-limo sabbioso	0.70		
33.6	57.2	0.17	0.5	1.96	sabbia-sabbia limosa	1.00		
17.8	30.3	0.17	1.1	2.35	sabbia limosa-limo sabbioso	1.20		
11.0	18.7	0.55	5.1	2.92	limo argilloso-argilla limosa	1.40		
8.6	14.7	0.50	5.9	3.05	argilla-argilla limosa	1.60		
11.9	20.2	0.79	6.7	2.98	argilla-argilla limosa	1.90		
13.2	22.5	0.80	6.3	2.92	limo argilloso-argilla limosa	2.20		
8.5	14.4	0.56	6.9	3.10	argilla-argilla limosa	2.70		
11.3	19.2	0.65	6.0	2.97	argilla-argilla limosa	3.30		
7.5	12.7	0.41	6.0	3.10	argilla-argilla limosa	3.40		
13.5	22.9	0.83	6.4	2.93	limo argilloso-argilla limosa	3.80		
11.5	19.6	0.75	6.9	3.00	argilla-argilla limosa	4.30		
8.9	15.2	0.49	6.0	3.04	argilla-argilla limosa	4.80		
6.9	11.8	0.29	4.8	3.06	argilla-argilla limosa	5.10		
6.3	10.7	0.20	3.8	3.03	argilla-argilla limosa	5.70		
5.4	9.0	0.11	2.5	2.99	argilla-argilla limosa	6.00		
7.2	11.1	0.29	4.7	3.07	argilla-argilla limosa	7.00		
7.8	11.1	0.27	4.3	3.05	argilla-argilla limosa	7.60		
10.4	14.2	0.33	3.6	2.92	limo argilloso-argilla limosa	7.70		
9.0	12.2	0.27	3.6	2.97	argilla-argilla limosa	7.90		
7.5	9.8	0.18	2.9	2.99	argilla-argilla limosa	8.60		
32.6	38.0	0.34	1.1	2.28	sabbia limosa-limo sabbioso	9.20		
25.2	29.2	1.32	6.0	2.82	limo argilloso-argilla limosa	9.30		
36.4	41.2	0.95	2.8	2.50	sabbia limosa-limo sabbioso	9.50		
49.5	54.7	0.52	1.1	2.14	sabbia limosa-limo sabbioso	9.70		
64.4	69.9	0.35	0.8	1.89	sabbia-sabbia limosa	9.80		
43.6	47.2	0.59	1.5	2.25	sabbia limosa-limo sabbioso			



Società di  
Geologia  
Territoriale

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

Vs18  
161

Addensamento (Sabbia) Consistenza (Argilla)	Densità Relativa Tatsuoka 1990 %	Angolo Attrito φ Robertson °	Coesione Benassi daN/cm²	OCR a20 Robertson	Modulo Edometrico Benassi daN/cm²	Velocità Vs Baldi (sabbie), Mayne & Rix (argille) m/sec
Plastica			0.75		88.5	148
Solido-plastica (Duro)			1.11		123.5	206
Plastica			0.84		82.0	164
Mediamente Addensata	25.6	42.4			55.7	146
Mediamente Addensata	48.6	44.7			103.1	103
Mediamente Addensata	27.6	40.9			58.7	140
Plastica			0.70		62.8	141
Molle-plastica (Soffice)			0.58	8.53	48.7	121
Plastica			0.75	10.77	66.1	147
Plastica			0.81		74.2	158
Molle-plastica (Soffice)			0.57	5.98	46.9	120
Plastica			0.72	6.92	63.4	143
Molle-plastica (Soffice)			0.52	4.09	42.1	111
Plastica			0.82		75.4	160
Plastica			0.73	5.54	63.9	146
Molle-plastica (Soffice)			0.60	3.80	50.3	124
Molle-plastica (Soffice)			0.48	2.64	45.2	106
Molle-plastica (Soffice)			0.45	2.17	39.3	100
Molle-plastica (Soffice)			0.39	1.66	26.6	90
Molle-plastica (Soffice)			0.50	2.11	41.5	108
Molle-plastica (Soffice)			0.53	2.04	45.0	113
Plastica			0.67		60.7	137
Molle-plastica (Soffice)			0.60	2.26	52.3	125
Molle-plastica (Soffice)			0.52	1.70	42.3	111
Mediamente Addensata	35.0	35.7			108.5	197
Solido-plastica (Duro)			1.23		141.7	237
Mediamente Addensata	37.7	36.0			201.2	273
Mediamente Addensata	47.1	37.7			163.8	203
Mediamente Addensata	55.2	39.1			197.5	180
Mediamente Addensata	42.2	36.7			156.5	223



