

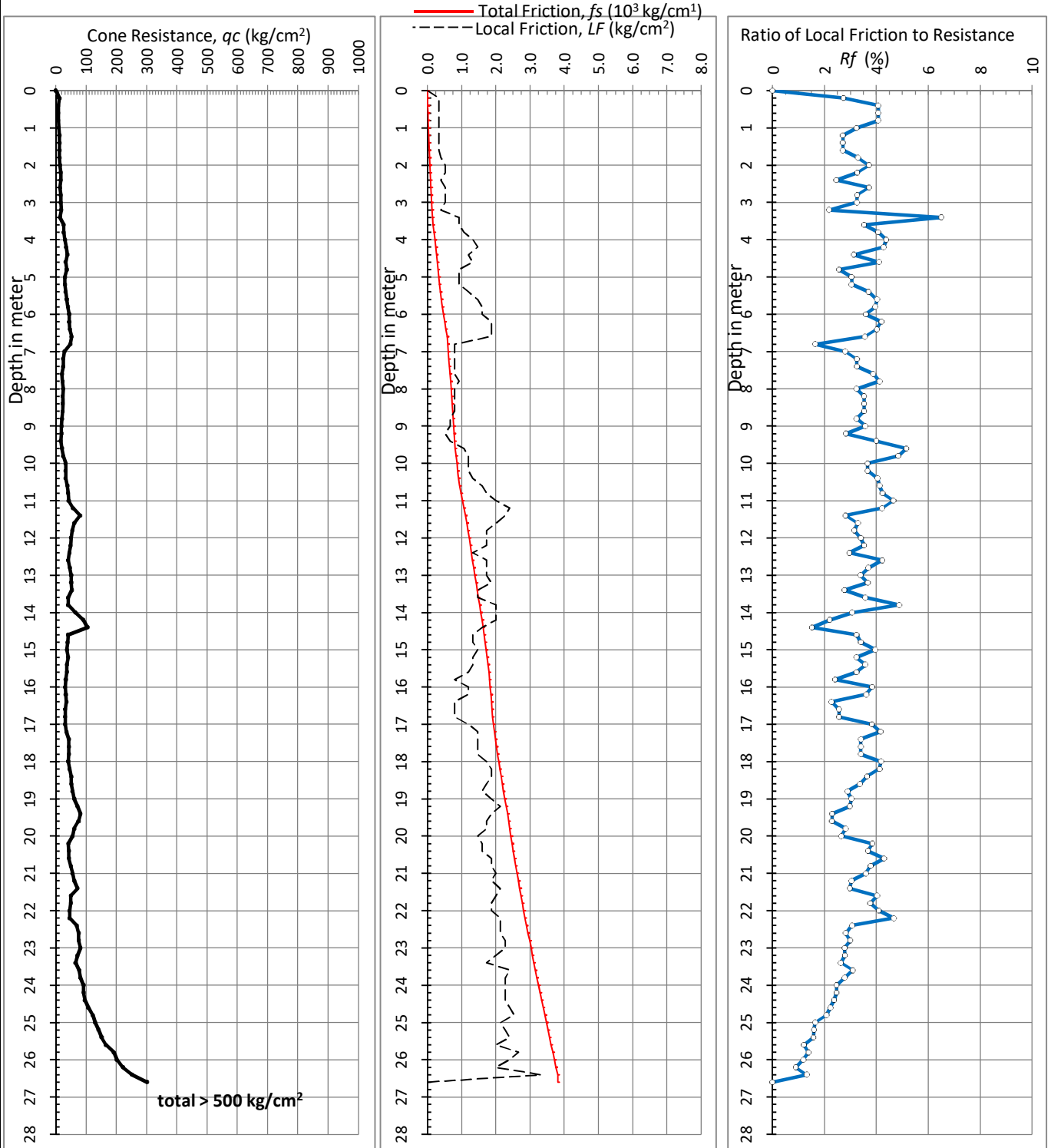
GRAPH OF CONE PENETRATION TEST (CPT)

ASTM D 3441 - 98

PROJECT : SOIL INVESTIGATION FOR PEMALANG-BATANG TOLL ROAD
 JOB NO. : 3389
 CLIENT : PT. SUMBER MITRA JAYA
 LOCATION : STA 345+530L
 POINT NO. : **SO-I-124** COORDINATES : E=336927.151; N=9233530.798
 PLACE : - ELEVATION : + m
 REMARKS : -

PT. SOILENS

DATE : 1-Oct-16
 WEATHER : Clear
 OPERATOR : Untung Suparman
 DRAWN BY : Tofocidy R
 CHECKED BY : -



Remarks:

Dutch Cone Penetrometer 10-ton Capacity :

Length of Rod	=	100 cm
Weight of inner Rod	=	1400 g
Weight of Cone	=	700 g
Projected area of Cone	=	10 cm^2
Area of Friction Sleeve	=	150 cm^2
Area of Plunger	=	20 cm^2

DATA

10 TON-CPT

PT, S O I L E N S

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 PROJECT SOIL INVESTIGATION FOR PEMALANG-BATANG TOLL ROAD
 CLIENT PT. SUMBER MITRA JAYA
 POINT NO. SO-I-124
 LOCATION STA 345+530L
 COORDINATE E=336927.151; N=9233530.798
 ELEVATION + m
 DATE 1-Oct-16
 OPERATOR Untung Suparman
 RECORDED BY
 DRAWN BY Tofocidy R
 CHECKED BY
 REMARKS CPT 10 TON CAPACITY

No.	Depth (meter)	1st Reading, M-1 (kg/cm ²)	2nd Reading, M-2 (kg/cm ²)	Local friction, LF (kg/cm ²)	Total friction, fs (kg/cm ¹)	(10 ³ kg/cm ¹)	Cone Resistance , qc (kg/cm ²)	Ratio LF/qc, Rf (%)
0	0.00			0.00	0	0	0	0
1	0.20	6		0.33	7	0.007	12.11	2.73
2	0.40	4	6.5	0.33	13	0.013	8.11	4.07
3	0.60	4	6.5	0.33	20	0.020	8.11	4.07
4	0.80	4	6.5	0.33	26	0.026	8.11	4.07
5	1.00	5	7.5	0.33	33	0.033	10.18	3.24
6	1.20	6	8.5	0.33	40	0.040	12.18	2.71
7	1.40	6	8.5	0.33	46	0.046	12.18	2.71
8	1.60	6	8.5	0.33	53	0.053	12.18	2.71
9	1.80	6	8.5	0.40	61	0.061	12.18	3.29
10	2.00	7	10	0.53	71	0.071	14.25	3.72
11	2.20	8	12	0.53	82	0.082	16.25	3.26
12	2.40	8	12	0.40	90	0.090	16.25	2.46
13	2.60	7	10	0.53	101	0.101	14.25	3.72
14	2.80	8	12	0.53	111	0.111	16.25	3.26
15	3.00	8	12	0.53	122	0.122	16.32	3.25
16	3.20	9	13	0.40	130	0.130	18.32	2.18
17	3.40	7	10	0.93	148	0.148	14.32	6.50
18	3.60	13	20	0.93	167	0.167	26.32	3.53
19	3.80	13	20	1.07	188	0.188	26.32	4.07
20	4.00	15	23	1.33	215	0.215	30.39	4.38
21	4.20	17	27	1.47	244	0.244	34.39	4.28
22	4.40	19	30	1.20	268	0.268	38.39	3.13
23	4.60	16	25	1.33	295	0.295	32.39	4.11
24	4.80	18	28	0.93	314	0.314	36.39	2.56
25	5.00	15	22	0.93	332	0.332	30.46	3.05
26	5.20	15	22	0.93	351	0.351	30.46	3.05
27	5.40	16	23	1.20	375	0.375	32.46	3.70
28	5.60	18	27	1.47	404	0.404	36.46	4.03
29	5.80	20	31	1.60	436	0.436	40.46	3.96
30	6.00	22	34	1.60	468	0.468	44.53	3.59
31	6.20	22	34	1.87	506	0.506	44.53	4.20
32	6.40	23	37	1.87	543	0.543	46.53	4.02
33	6.60	26	40	1.87	580	0.580	52.53	3.56
34	6.80	24	38	0.80	596	0.596	48.53	1.65
35	7.00	14	20	0.80	612	0.612	28.60	2.80
36	7.20	12	18	0.80	628	0.628	24.60	3.25
37	7.40	12	18	0.80	644	0.644	24.60	3.25
38	7.60	10	16	0.80	660	0.660	20.60	3.88
39	7.80	11	17	0.93	679	0.679	22.60	4.12
40	8.00	12	19	0.80	695	0.695	24.67	3.24
41	8.20	11	17	0.80	711	0.711	22.67	3.53
42	8.40	11	17	0.80	727	0.727	22.67	3.53

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43	8.60	11	17	0.80	743	0.743	22.67	3.53
44	8.80	10	16	0.67	756	0.756	20.67	3.24
45	9.00	9	14	0.67	770	0.770	18.74	3.58
46	9.20	9	14	0.53	780	0.780	18.74	2.83
47	9.40	8	12	0.67	794	0.794	16.74	4.00
48	9.60	10	15	1.07	815	0.815	20.74	5.16
49	9.80	12	20	1.20	839	0.839	24.74	4.85
50	10.00	16	25	1.20	863	0.863	32.81	3.66
51	10.20	16	25	1.20	887	0.887	32.81	3.66
52	10.40	16	25	1.33	914	0.914	32.81	4.05
53	10.60	19	29	1.60	946	0.946	38.81	4.12
54	10.80	20	32	1.73	980	0.980	40.81	4.24
55	11.00	21	34	2.00	1020	1.020	42.88	4.66
56	11.20	28	43	2.40	1068	1.068	56.88	4.22
57	11.40	40	58	2.27	1114	1.114	80.88	2.81
58	11.60	30	47	2.00	1154	1.154	60.88	3.29
59	11.80	27	42	1.73	1188	1.188	54.88	3.15
60	12.00	25	38	1.73	1223	1.223	50.95	3.40
61	12.20	24	37	1.73	1258	1.258	48.95	3.53
62	12.40	22	35	1.33	1284	1.284	44.95	2.96
63	12.60	20	30	1.73	1319	1.319	40.95	4.23
64	12.80	23	36	1.73	1353	1.353	46.95	3.69
65	13.00	25	38	1.73	1388	1.388	51.02	3.39
66	13.20	25	38	1.87	1425	1.425	51.02	3.67
67	13.40	26	40	1.47	1455	1.455	53.02	2.77
68	13.60	20	31	1.47	1484	1.484	41.02	3.58
69	13.80	20	31	2.00	1524	1.524	41.02	4.88
70	14.00	32	47	2.00	1564	1.564	65.09	3.07
71	14.20	45	60	2.00	1604	1.604	91.09	2.20
72	14.40	52	67	1.60	1636	1.636	105.09	1.52
73	14.60	20	32	1.33	1663	1.663	41.09	3.24
74	14.80	19	29	1.33	1689	1.689	39.09	3.40
75	15.00	18	28	1.47	1719	1.719	37.16	3.96
76	15.20	20	31	1.33	1745	1.745	41.16	3.23
77	15.40	18	28	1.33	1772	1.772	37.16	3.58
78	15.60	18	28	1.20	1796	1.796	37.16	3.23
79	15.80	16	25	0.80	1812	1.812	33.16	2.41
80	16.00	15	21	1.20	1836	1.836	31.23	3.84
81	16.20	16	25	1.20	1860	1.860	33.23	3.61
82	16.40	17	26	0.80	1876	1.876	35.23	2.27
83	16.60	15	21	0.80	1892	1.892	31.23	2.56
84	16.80	15	21	0.80	1908	1.908	31.23	2.56
85	17.00	15	21	1.20	1932	1.932	31.30	3.83
86	17.20	17	26	1.47	1961	1.961	35.30	4.16
87	17.40	21	32	1.47	1991	1.991	43.30	3.40
88	17.60	21	32	1.47	2020	2.020	43.30	3.40
89	17.80	21	32	1.47	2050	2.050	43.30	3.40
90	18.00	20	31	1.73	2084	2.084	41.37	4.18
91	18.20	22	35	1.87	2122	2.122	45.37	4.12
92	18.40	25	39	1.87	2159	2.159	51.37	3.64
93	18.60	25	39	1.73	2194	2.194	51.37	3.37
94	18.80	27	40	1.60	2226	2.226	55.37	2.89
95	19.00	30	42	1.87	2263	2.263	61.44	3.04
96	19.20	35	49	2.13	2306	2.306	71.44	2.98
97	19.40	40	56	1.87	2343	2.343	81.44	2.30
98	19.60	37	51	1.73	2378	2.378	75.44	2.29
99	19.80	30	43	1.73	2412	2.412	61.44	2.82
100	20.00	27	40	1.47	2442	2.442	55.51	2.65
101	20.20	20	31	1.60	2474	2.474	41.51	3.85
102	20.40	21	33	1.60	2506	2.506	43.51	3.68
103	20.60	21	33	1.87	2543	2.543	43.51	4.30
104	20.80	24	38	1.87	2580	2.580	49.51	3.78
105	21.00	27	41	2.00	2620	2.620	55.58	3.60
106	21.20	30	45	1.87	2658	2.658	61.58	3.04

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107	21.40	35	49	2.13	2700	2.700	71.58	2.98
108	21.60	24	40	2.00	2740	2.740	49.58	4.03
109	21.80	24	39	1.87	2778	2.778	49.58	3.77
110	22.00	22	36	1.87	2815	2.815	45.65	4.10
111	22.20	22	36	2.13	2858	2.858	45.65	4.67
112	22.40	34	50	2.13	2900	2.900	69.65	3.06
113	22.60	37	53	2.13	2943	2.943	75.65	2.82
114	22.80	37	53	2.27	2988	2.988	75.65	3.00
115	23.00	40	57	2.27	3034	3.034	81.72	2.78
116	23.20	35	52	2.00	3074	3.074	71.72	2.79
117	23.40	32	47	1.73	3108	3.108	65.72	2.63
118	23.60	38	51	2.40	3156	3.156	77.72	3.09
119	23.80	40	58	2.27	3202	3.202	81.72	2.78
120	24.00	45	62	2.27	3247	3.247	91.79	2.47
121	24.20	45	62	2.27	3293	3.293	91.79	2.47
122	24.40	47	64	2.27	3338	3.338	95.79	2.37
123	24.60	53	70	2.40	3386	3.386	107.79	2.23
124	24.80	60	78	2.53	3437	3.437	121.79	2.08
125	25.00	64	83	2.13	3479	3.479	129.86	1.64
126	25.20	70	86	2.27	3525	3.525	141.86	1.60
127	25.40	75	92	2.40	3573	3.573	151.86	1.58
128	25.60	82	100	2.00	3613	3.613	165.86	1.21
129	25.80	95	110	2.67	3666	3.666	191.86	1.39
130	26.00	100	120	2.40	3714	3.714	201.93	1.19
131	26.20	110	128	2.00	3754	3.754	221.93	0.90
132	26.40	125	140	3.33	3821	3.821	251.93	1.32
133	26.60	150	175	0.00	3821	3.821	301.93	0.00