

LAMPIRAN



YAYASAN BADAN WAKAF SULTAN AGUNG
UNIVERSITAS ISLAM SULTAN AGUNG (UNISSULA)

Jl. Raya Kaligawe Km.4 Semarang 50112 Telp. (024) 6583584 (8 Sal) Fax (024) 6582455
email : informasi@unissula.ac.id web : www.unissula.ac.id

FAKULTAS TEKNIK

Bismillah Membangun Generasi Khaira Ummah

Nomor : 10 / A.2 / SA-T / XI / 2019
Lampiran : --
Perihal : Bimbingan Tugas Akhir

Kepada : Yth :

1. Prof. Ir. H. Pratikso, MT, Ph.D (Dosen Pembimbing I Tugas Akhir)
 2. Dr. Abdul Rochim, ST, MT (Dosen Pembimbing II Tugas Akhir)
- Dosen Fakultas Teknik Program Studi Teknik Sipil Unissula

Assalamu'alaikum Wr. Wb.

Bersama surat ini kami menghadapkan mahasiswa Fakultas Teknik Program Studi Teknik Sipil UNISSULA yang telah memenuhi syarat untuk mengerjakan Tugas Akhir (TA) :

No	Nama	NIM
1	Muhammad Arif Hakim	30201604450
2	M Ashfal Muna	30201604451

Maka dengan ini kami mohon kepada Bapak / Ibu untuk memberikan Bimbingan Tugas Akhir (TA) kepada mahasiswa yang tersebut diatas.

Wassalamu'alaikum Wr. Wb.

Semarang, 6 Nopember 2019

Sekretaris Program Studi Teknik Sipil



Selvia Agustina, ST, M.Eng

NIK. 210216090



Nomor : 02 / A.2 / SA - T / I / 2020

Pada hari ini, Kamis Tanggal 16 Januari 2020 telah dilaksanakan

Seminar Tugas Akhir, dengan peserta sebagai berikut :

Nama	Muhammad Arif Hakim	30201604450
Nama	Muhammad Ashfal Muna	30201604451

Judul TA : Perencanaan Pondasi Tiang Pancang Pada
Proyek Apartemen Tamansari Cedekia Semarang

0

0

Hasil

: Baik
:
:

Salinan Berita Acara Seminar Tugas Akhir ini dibuat untuk diketahui dan penggunaan seperlunya.

Dosen Pembimbing I

Dosen Pembimbing II

Dosen Pembimbing

Prof. Ir. H. Pratikso, MST, Ph.D

Dr. Abdul Rochim, ST, MT

Lisa Fitriyana, ST, M.Eng, Ph.D

Mengetahui,
Ketua Program Studi Teknik Sipil

Ari Sentani, ST, MSc

Semarang, 16 Januari 2020

Ketua Program Studi Teknik Sipil

Ari Sentani, ST, MSc

NK. 3021406



YAYASAN BADAN WAKAF SULTAN AGUNG
UNIVERSITAS ISLAM SULTAN AGUNG (UNISSULA)

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email : informasi@unissula.ac.id web : www.unissula.ac.id

FAKULTAS TEKNIK

Bismillah Membangun Generasi Khaira Ummah

DOSEN PENGUJI
SEMINAR TUGAS AKHIR

Hari
Tanggal
Waktu

Kamis
16 Januari 2020
09.00 WIB

Judul Tugas Akhir

Perencanaan Pondasi Tiang Pancang Pada

Proyek Apartemen Tamansari Cedekia Semarang

Muhammad Arif Hakim

30201604450

1

Muhammad Ashfal Muna

30201604451

2

NAMA

TANDA TANGAN

Prof. Ir. H. Pratikso, MST, Ph.D

1

Dr. Abdul Rochim, ST, MT

2

Lisa Fitriyana, ST, M.Eng, Ph.D

3

Semarang, 16 Januari 2020

Ketua Program Studi Teknik Sipil

Ari Sentani, ST, MSc

NIK. 210214086



YAYASAN BADAN WAKAF SULTAN AGUNG
UNIVERSITAS ISLAM SULTAN AGUNG (UNISSULA)
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email : informasi@unissula.ac.id web : www.unissula.ac.id

FAKULTAS TEKNIK

Bismillah Membangun Generasi Khaira Ummah

SEMINAR TUGAS AKHIR

Nama Mahasiswa / NIM : M. Arif Hakim (30201604450) / M. Ashfal Muna (302016
Hari / Tanggal : Kamis, 16 Januari 2020
Judul TA : Perencanaan Pondasi Tiang Pancang
Pada Apartemen Tamansari Cendekia Semarang

NO

1

lembar asistensi tdk perlu ditampilkkan

2

Daftar pustaka dari dsn sendiri

3

Moto tuliskan cyotung.

Rep
10/20
02

DOSEN PENGUJI

Prof. Ir. H. Pratikso, MSc, PhD



YAYASAN BADAN WAKAF SULTAN AGUNG
UNIVERSITAS ISLAM SULTAN AGUNG (UNISSULA)
Jl. Raya Kaligawe Km.4 Semarang 50112 Telp. (024) 6583584 (8 Sal) Fax.(024) 6582455
email : informasi@unissula.ac.id web : www.unissula.ac.id

FAKULTAS TEKNIK

Bismillah Membangun Generasi Khaira Ummah

SEMINAR TUGAS AKHIR

Nama Mahasiswa / NIM : M. ARIF / M. ASHFAL

Hari / Tanggal : Kamis, 16 Jan 2020

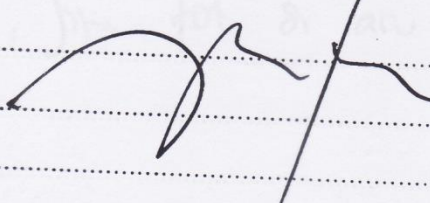
Judul TA : Perencanaan Pondasi Tiang Pancang
pada proyek Apartemen Tamansari Cendekia Semarang

NO

1 Pernyataan Bebas Plagiat
Pernyataan Keaslian } dibuat berkelompok
bukan 1-1.

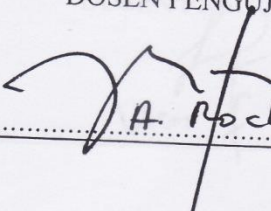
2 Revisi-ABSTRAK
- Judul in English ?

3 AC Bisa diperbanyak & dijilid.

4  18/02/2020.

5

DOSEN PENGUJI


A. Rochim.



SEMINAR TUGAS AKHIR

Nama Mahasiswa / NIM : M. Arif Hakim & M. Ashfal Muna
Hari / Tanggal : Kamis / 16 Januari 2020
Judul TA : Perencanaan Pondasi Tiang Pancang
pada proyek Apartemen Tamansari Cendekia Semarang

NO	
1	- Penulisan Plagiasi & pernyataan ditulis ✓ Sat saja !
2	- Penulisan Sumber Gambar & cet ! ✓
3	- Gambar bor log & sonar jika ada yg jelas ! ✓
4	- Buat daftar pustaka, harus yg dicat di laporan, jika foto di acw, foto usuto ditulis
5	Cttn : perbaiki daftar pustaka

ACC Bend. Darn

DOSEN PENGUJI

Uca f

21/2/2020



SEMINAR TUGAS AKHIR
MAHASISWA FAKULTAS TEKNIK
UNIVERSITAS ISLAM SULTAN AGUNG SEMARANG

Hari : Kamis, 16 Januari 2020
 Tanggal :
 Tempat : Ruang 1.1

NO	NAMA	NIM	TANDA TANGAN
1	R. Abimato D	30201604476	
2	Sinta Pujia A.	30201604504	
3	Prakoso Jati	30201604474	3
4	M. Zryan C M	30201604492	4
5	Zaenal Abidin	30201604522	5
6	Isma f.	30201604346	6
7	Hayu Puspa Perhiwi	30201604417	7
8	Tarra Anhilia	30201604511	8
9	Sufan Sarongko	30201604507	9
10	Syabab Anifutzaqy	30201604510	10
11	Yusuf Sedyo A.	30201604521	11
12	Sindo Gaza W	30201604503	12
13	Feri Elca Irawan	30201604408	13
14	M Imududin Indrawan	30201604436	14
15	Henri Sellostro	30201604419	15
16	M. Fajar Nugroho	30201604453	16
17	Indra Caesono	30201604423	17
18	Bzudin Musa A/B	30201604427	18
19	Hestria Lhal Pratama	30201604416	19
20	M. Zryan C M	30201604492	20

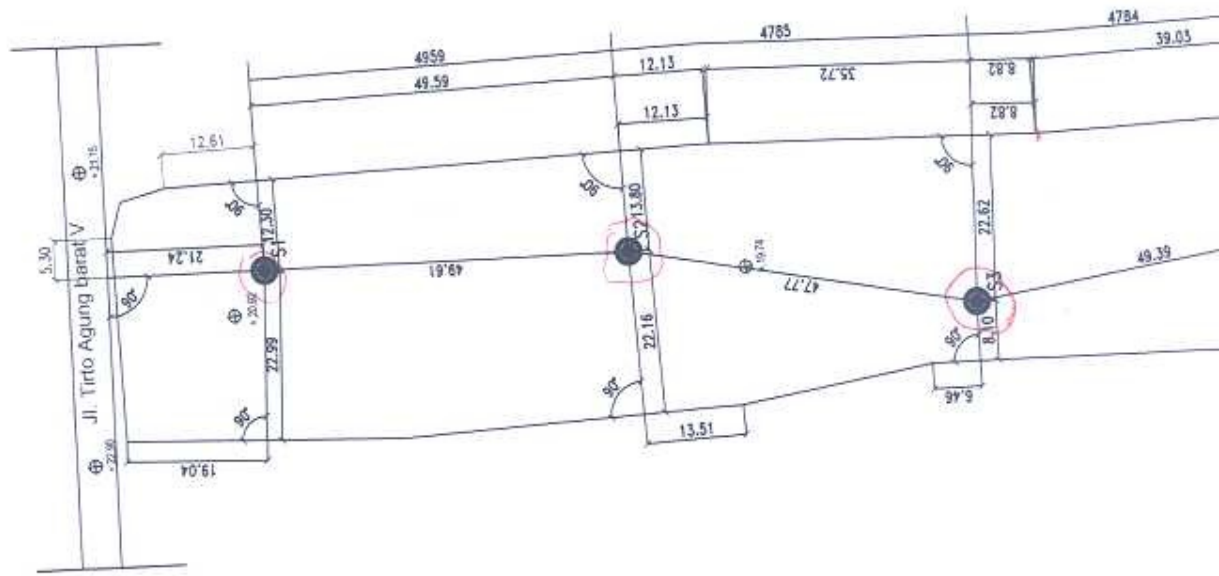
MENGETAHUI

DOSEN PENGUJI

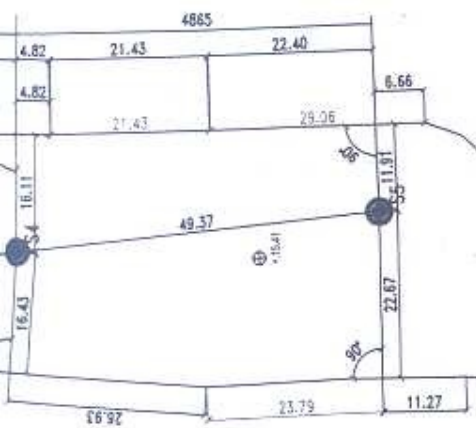
Prof. Ir. H. Pratikso, M.ST, Ph.D.

DOSEN PENGUJI

Pt. Abdul Rochim, ST, M.T



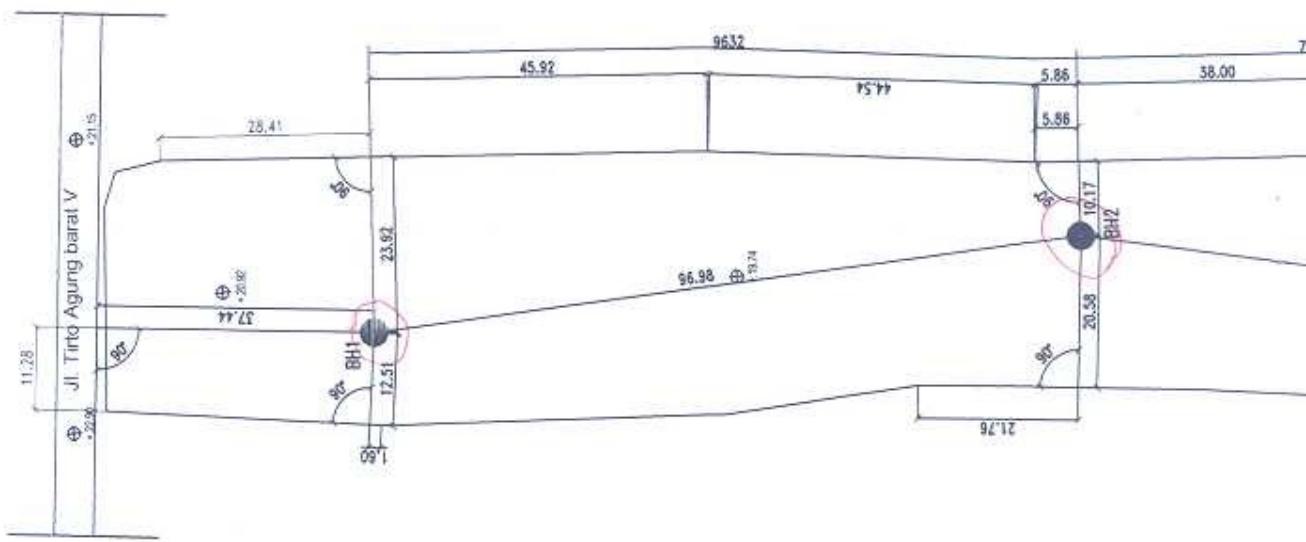
Luas Lahan = 9.029,67 M2

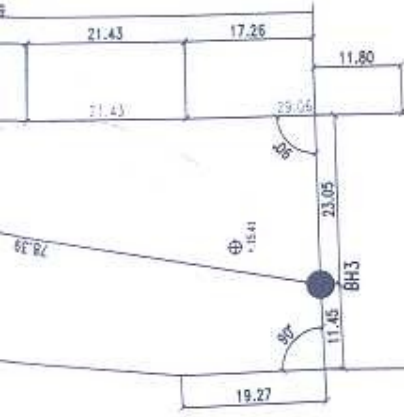


01
 SITE PLAN
 SCALE 1:1000



TITIK SONDIR





01 SITE PLAN
SCALE 1:1000



TITIK BORHOLE

- BH 1 = 40 m
- BH 2 = 40 m
- BH 3 = 60 m

LAPORAN HASIL PENYELIDIKAN TANAH

**PADA PEKERJAAN PEMBANGUNAN
APARTEMENT HIGHRISE**

DI JALAN DURIAN RAYA, BANYUMANIK, SEMARANG, JAWA TENGAH

LAMPIRAN DATA :
SONDIR MANUAL



**LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL - FAKULTAS TEKNIK
UNIVERSITAS DIPONEGORO**



HASIL SONDIR MANUAL

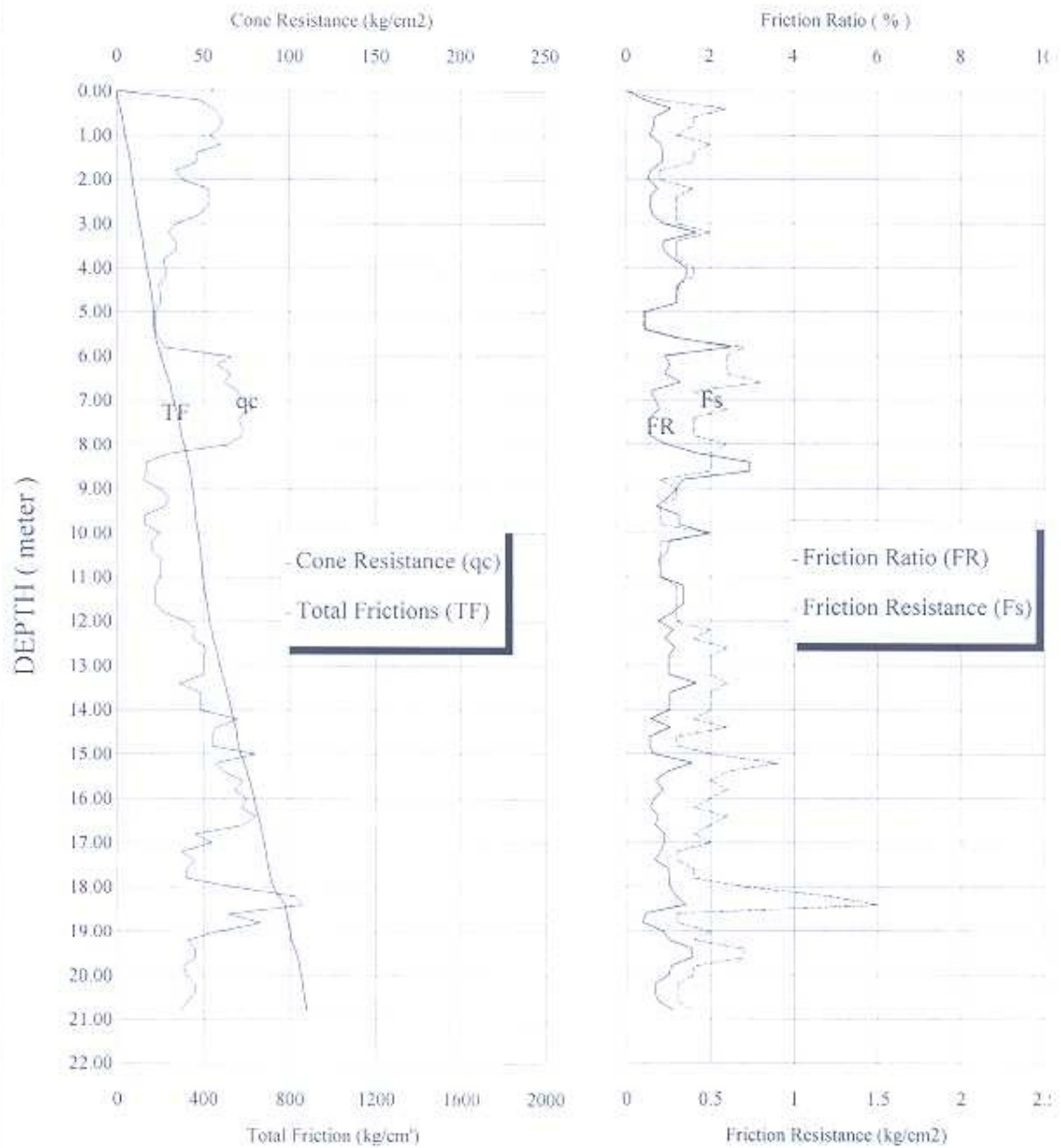
Proyek : Pembangunan Apartemen Highrise
Lokasi : Jl. Durian Raya Banyumanik
Semarang, Jawa Tengah
Titik : S. 1

Tgl. / Bln: 10 November 2015
Team : Anggit

DEPTH (M)	qc kg/cm ²	qc + f kg/cm ²	Fs kg/cm ²	TF kg/cm	FR (Fs/qc)%	DEPTH (M)	qc kg/cm ²	qc + f kg/cm ²	Fs kg/cm ²	TF kg/cm	FR (Fs/qc)%
0.00	0.00	0.00	0.00	0.00	0.00	11.20	22.00	25.00	0.30	404.00	1.36
0.20	48.00	50.00	0.20	4.00	0.42	11.40	22.00	25.00	0.30	410.00	1.36
0.40	56.00	62.00	0.60	16.00	1.07	11.60	22.00	25.00	0.30	416.00	1.36
0.60	60.00	64.00	0.40	24.00	0.67	11.80	27.00	30.00	0.30	422.00	1.11
0.80	60.00	64.00	0.40	32.00	0.67	12.00	40.00	43.00	0.30	428.00	0.75
1.00	54.00	57.00	0.30	38.00	0.56	12.20	45.00	50.00	0.50	438.00	1.11
1.20	60.00	65.00	0.50	48.00	0.83	12.40	44.00	48.00	0.40	446.00	0.91
1.40	46.00	50.00	0.40	56.00	0.87	12.60	52.00	58.00	0.60	458.00	1.15
1.60	46.00	50.00	0.40	64.00	0.87	12.80	50.00	55.00	0.50	468.00	1.00
1.80	34.00	36.00	0.20	68.00	0.59	13.00	50.00	55.00	0.50	478.00	1.00
2.00	38.00	40.00	0.20	72.00	0.53	13.20	50.00	55.00	0.50	488.00	1.00
2.20	53.00	57.00	0.40	80.00	0.75	13.40	36.00	42.00	0.60	500.00	1.67
2.40	53.00	56.00	0.30	86.00	0.57	13.60	48.00	53.00	0.50	510.00	1.04
2.60	53.00	56.00	0.30	92.00	0.57	13.80	48.00	53.00	0.50	520.00	1.04
2.80	47.00	50.00	0.30	98.00	0.64	14.00	48.00	53.00	0.50	530.00	1.04
3.00	34.00	37.00	0.30	104.00	0.88	14.20	70.00	74.00	0.40	538.00	0.57
3.20	30.00	35.00	0.50	114.00	1.67	14.40	57.00	63.00	0.60	550.00	1.05
3.40	34.00	37.00	0.30	120.00	0.88	14.60	55.00	58.00	0.30	556.00	0.55
3.60	34.00	37.00	0.30	126.00	0.88	14.80	55.00	58.00	0.30	562.00	0.55
3.80	27.00	30.00	0.30	132.00	1.11	15.00	80.00	85.00	0.50	572.00	0.63
4.00	28.00	32.00	0.40	140.00	1.43	15.20	57.00	66.00	0.90	590.00	1.58
4.20	28.00	32.00	0.40	148.00	1.43	15.40	62.00	68.00	0.60	602.00	0.97
4.40	24.00	27.00	0.30	154.00	1.25	15.60	73.00	78.00	0.50	612.00	0.68
4.60	25.00	28.00	0.30	160.00	1.20	15.80	68.00	74.00	0.60	624.00	0.88
4.80	25.00	28.00	0.30	166.00	1.20	16.00	75.00	80.00	0.50	634.00	0.67
5.00	22.00	23.00	0.10	168.00	0.45	16.20	72.00	76.00	0.40	642.00	0.56
5.20	22.00	23.00	0.10	170.00	0.45	16.40	80.00	86.00	0.60	654.00	0.75
5.40	22.00	23.00	0.10	172.00	0.45	16.60	73.00	78.00	0.50	664.00	0.68
5.60	24.00	27.00	0.30	178.00	1.25	16.80	45.00	49.00	0.40	672.00	0.89
5.80	28.00	35.00	0.70	192.00	2.50	17.00	55.00	60.00	0.50	682.00	0.91
6.00	66.00	72.00	0.60	204.00	0.91	17.20	37.00	40.00	0.30	688.00	0.81
6.20	58.00	64.00	0.60	216.00	1.03	17.40	45.00	48.00	0.30	694.00	0.67
6.40	66.00	72.00	0.60	228.00	0.91	17.60	40.00	44.00	0.40	702.00	1.00
6.60	62.00	70.00	0.80	244.00	1.29	17.80	40.00	44.00	0.40	710.00	1.00
6.80	70.00	74.00	0.40	252.00	0.57	18.00	68.00	75.00	0.70	724.00	1.03
7.00	72.00	77.00	0.50	262.00	0.69	18.20	103.00	115.00	1.20	748.00	1.17
7.20	78.00	84.00	0.60	274.00	0.77	18.40	107.00	122.00	1.50	778.00	1.40
7.40	70.00	74.00	0.40	282.00	0.57	18.60	64.00	67.00	0.30	784.00	0.47
7.60	72.00	76.00	0.40	290.00	0.56	18.80	83.00	86.00	0.30	790.00	0.36
7.80	72.00	76.00	0.40	298.00	0.56	19.00	58.00	63.00	0.50	800.00	0.86
8.00	64.00	70.00	0.60	310.00	0.94	19.20	40.00	44.00	0.40	808.00	1.00
8.20	30.00	35.00	0.50	320.00	1.67	19.40	45.00	52.00	0.70	822.00	1.56
8.40	17.00	22.00	0.50	330.00	2.94	19.60	45.00	52.00	0.70	836.00	1.56
8.60	17.00	22.00	0.50	340.00	2.94	19.80	38.00	42.00	0.40	844.00	1.05
8.80	15.00	17.00	0.20	344.00	1.33	20.00	40.00	44.00	0.40	852.00	1.00
9.00	25.00	28.00	0.30	350.00	1.20	20.20	45.00	48.00	0.30	858.00	0.67
9.20	30.00	33.00	0.30	356.00	1.00	20.40	45.00	48.00	0.30	864.00	0.67
9.40	28.00	30.00	0.20	360.00	0.71	20.60	40.00	43.00	0.30	870.00	0.75
9.60	16.00	18.00	0.20	364.00	1.25	20.80	36.00	40.00	0.40	878.00	1.11
9.80	16.00	18.00	0.20	368.00	1.25	21.00					
10.00	25.00	30.00	0.50	378.00	2.00	21.20					
10.20	20.00	22.00	0.20	382.00	1.00	21.40					
10.40	20.00	22.00	0.20	386.00	1.00	21.60					
10.60	26.00	28.00	0.20	390.00	0.77	21.80					
10.80	25.00	27.00	0.20	394.00	0.80	22.00					
11.00	25.00	27.00	0.20	398.00	0.80						



GRAFIK SONDIR MANUAL



Poyek : Pembangunan Apartemen Highrise
Lokasi : Jl. Durian Raya Banyumanik
Semarang, Jawa Tengah
Titik : S. 1



HASIL SONDIR MANUAL

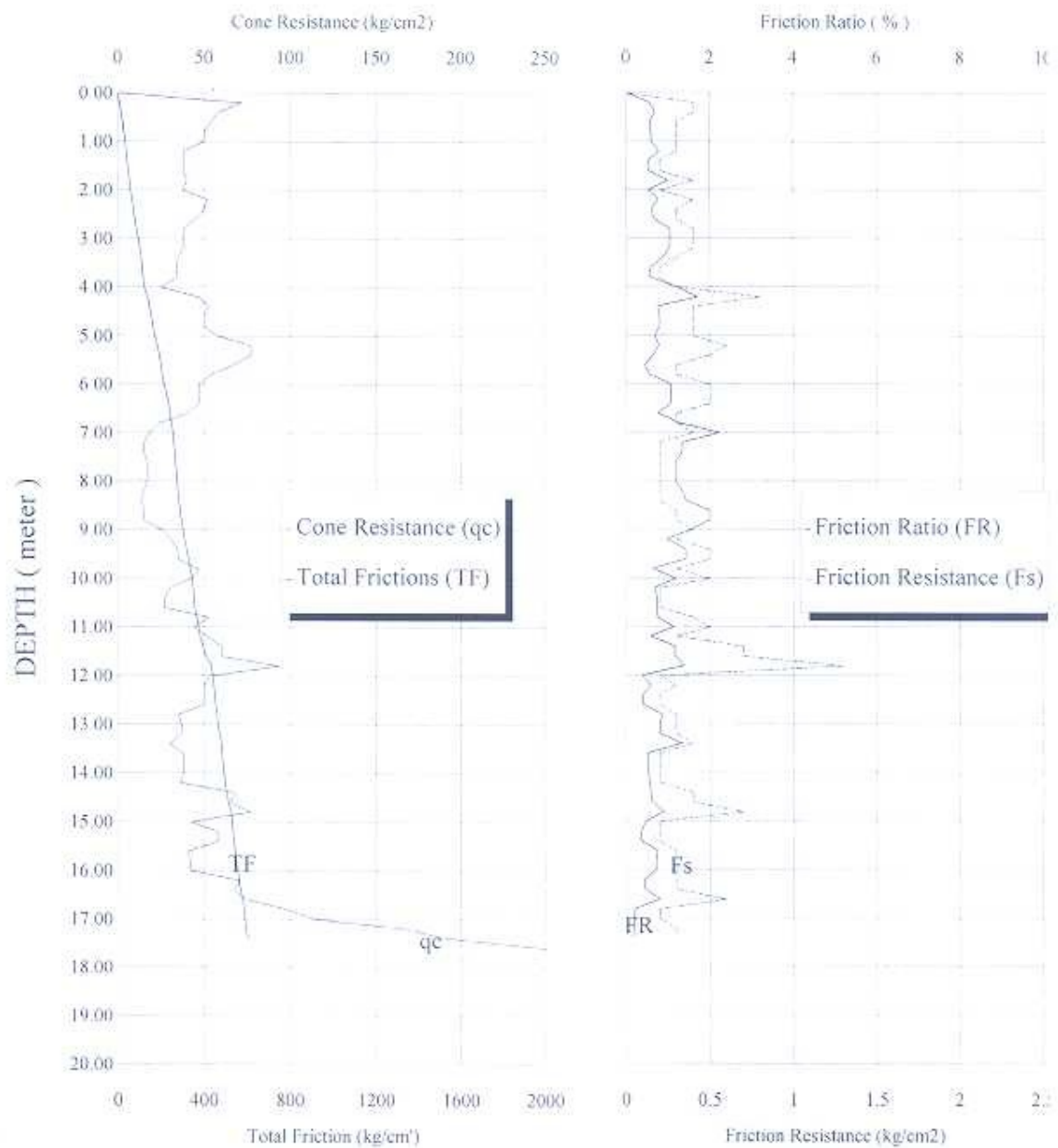
Proyek : Pembangunan Apartemen Highrise
Lokasi : Jl. Durian Raya Banyumanik
Semarang, Jawa Tengah
Titik : S. 2

Tgl. / Bin: 11 November 2015
Team : Anggit

DEPTH (M)	qc kg/cm ²	qc + f kg/cm ²	Fs kg/cm ²	TF kg/cm	FR (Fs/qc)%	DEPTH (M)	qc kg/cm ²	qc + f kg/cm ²	Fs kg/cm ²	TF kg/cm	FR (Fs/qc)%
0.00	0.00	0.00	0.00	0.00	0.00	10.20	30.00	32.00	0.20	350.00	0.67
0.20	72.00	76.00	0.40	8.00	0.56	10.40	27.00	29.00	0.20	354.00	0.74
0.40	58.00	62.00	0.40	16.00	0.69	10.60	27.00	29.00	0.20	358.00	0.74
0.60	54.00	57.00	0.30	22.00	0.56	10.80	53.00	57.00	0.40	366.00	0.75
0.80	50.00	53.00	0.30	28.00	0.60	11.00	44.00	49.00	0.50	376.00	1.14
1.00	50.00	53.00	0.30	34.00	0.60	11.20	52.00	55.00	0.30	382.00	0.58
1.20	38.00	41.00	0.30	40.00	0.79	11.40	60.00	67.00	0.70	396.00	1.17
1.40	38.00	40.00	0.20	44.00	0.53	11.60	60.00	67.00	0.70	410.00	1.17
1.60	38.00	40.00	0.20	48.00	0.53	11.80	94.00	107.00	1.30	436.00	1.38
1.80	40.00	44.00	0.40	56.00	1.00	12.00	53.00	55.00	0.20	440.00	0.38
2.00	38.00	40.00	0.20	60.00	0.53	12.20	50.00	53.00	0.30	446.00	0.60
2.20	52.00	56.00	0.40	68.00	0.77	12.40	50.00	52.00	0.20	450.00	0.40
2.40	50.00	53.00	0.30	74.00	0.60	12.60	50.00	52.00	0.20	454.00	0.40
2.60	45.00	48.00	0.30	80.00	0.67	12.80	35.00	38.00	0.30	460.00	0.86
2.80	38.00	42.00	0.40	88.00	1.05	13.00	37.00	40.00	0.30	466.00	0.81
3.00	38.00	42.00	0.40	96.00	1.05	13.20	37.00	40.00	0.30	472.00	0.81
3.20	38.00	42.00	0.40	104.00	1.05	13.40	30.00	34.00	0.40	480.00	1.33
3.40	35.00	38.00	0.30	110.00	0.86	13.60	38.00	40.00	0.20	484.00	0.53
3.60	34.00	36.00	0.20	114.00	0.59	13.80	38.00	40.00	0.20	488.00	0.53
3.80	34.00	36.00	0.20	118.00	0.59	14.00	38.00	40.00	0.20	492.00	0.53
4.00	25.00	28.00	0.30	124.00	1.20	14.20	36.00	38.00	0.20	496.00	0.56
4.20	47.00	55.00	0.80	140.00	1.70	14.40	68.00	72.00	0.40	504.00	0.59
4.40	53.00	57.00	0.40	148.00	0.75	14.60	65.00	69.00	0.40	512.00	0.62
4.60	50.00	54.00	0.40	156.00	0.80	14.80	77.00	84.00	0.70	526.00	0.91
4.80	50.00	54.00	0.40	164.00	0.80	15.00	42.00	44.00	0.20	530.00	0.48
5.00	58.00	62.00	0.40	172.00	0.69	15.20	58.00	60.00	0.20	534.00	0.34
5.20	77.00	83.00	0.60	184.00	0.78	15.40	58.00	60.00	0.20	538.00	0.34
5.40	77.00	82.00	0.50	194.00	0.65	15.60	40.00	43.00	0.30	544.00	0.75
5.60	67.00	70.00	0.30	200.00	0.45	15.80	42.00	45.00	0.30	550.00	0.71
5.80	54.00	57.00	0.30	206.00	0.56	16.00	42.00	45.00	0.30	556.00	0.71
6.00	47.00	52.00	0.50	216.00	1.06	16.20	71.00	74.00	0.30	562.00	0.42
6.20	47.00	52.00	0.50	226.00	1.06	16.40	67.00	70.00	0.30	568.00	0.45
6.40	47.00	52.00	0.50	236.00	1.06	16.60	74.00	80.00	0.60	580.00	0.81
6.60	40.00	43.00	0.30	242.00	0.75	16.80	98.00	100.00	0.20	584.00	0.20
6.80	24.00	27.00	0.30	248.00	1.25	17.00	114.00	116.00	0.20	588.00	0.18
7.00	18.00	22.00	0.40	256.00	2.22	17.20	167.00	170.00	0.30	594.00	0.18
7.20	15.00	17.00	0.20	260.00	1.33	17.40	192.00	195.00	0.30	600.00	0.16
7.40	15.00	17.00	0.20	264.00	1.33	17.60	250.00				
7.60	17.00	19.00	0.20	268.00	1.18	17.80					
7.80	17.00	19.00	0.20	272.00	1.18	18.00					
8.00	17.00	19.00	0.20	276.00	1.18	18.20					
8.20	15.00	17.00	0.20	280.00	1.33	18.40					
8.40	14.00	16.00	0.20	284.00	1.43	18.60					
8.60	15.00	18.00	0.30	290.00	2.00	18.80					
8.80	15.00	18.00	0.30	296.00	2.00	19.00					
9.00	26.00	30.00	0.40	304.00	1.54	19.20					
9.20	31.00	34.00	0.30	310.00	0.97	19.40					
9.40	35.00	40.00	0.50	320.00	1.43	19.60					
9.60	35.00	40.00	0.50	330.00	1.43	19.80					
9.80	47.00	50.00	0.30	336.00	0.64	20.00					
10.00	42.00	47.00	0.50	346.00	1.19						



GRAFIK SONDIR MANUAL



Poyek : Pembangunan Apartemen Highrise
Lokasi : Jl. Durian Raya Banyumanik
Semarang, Jawa Tengah
Titik : S. 2



HASIL SONDIR MANUAL

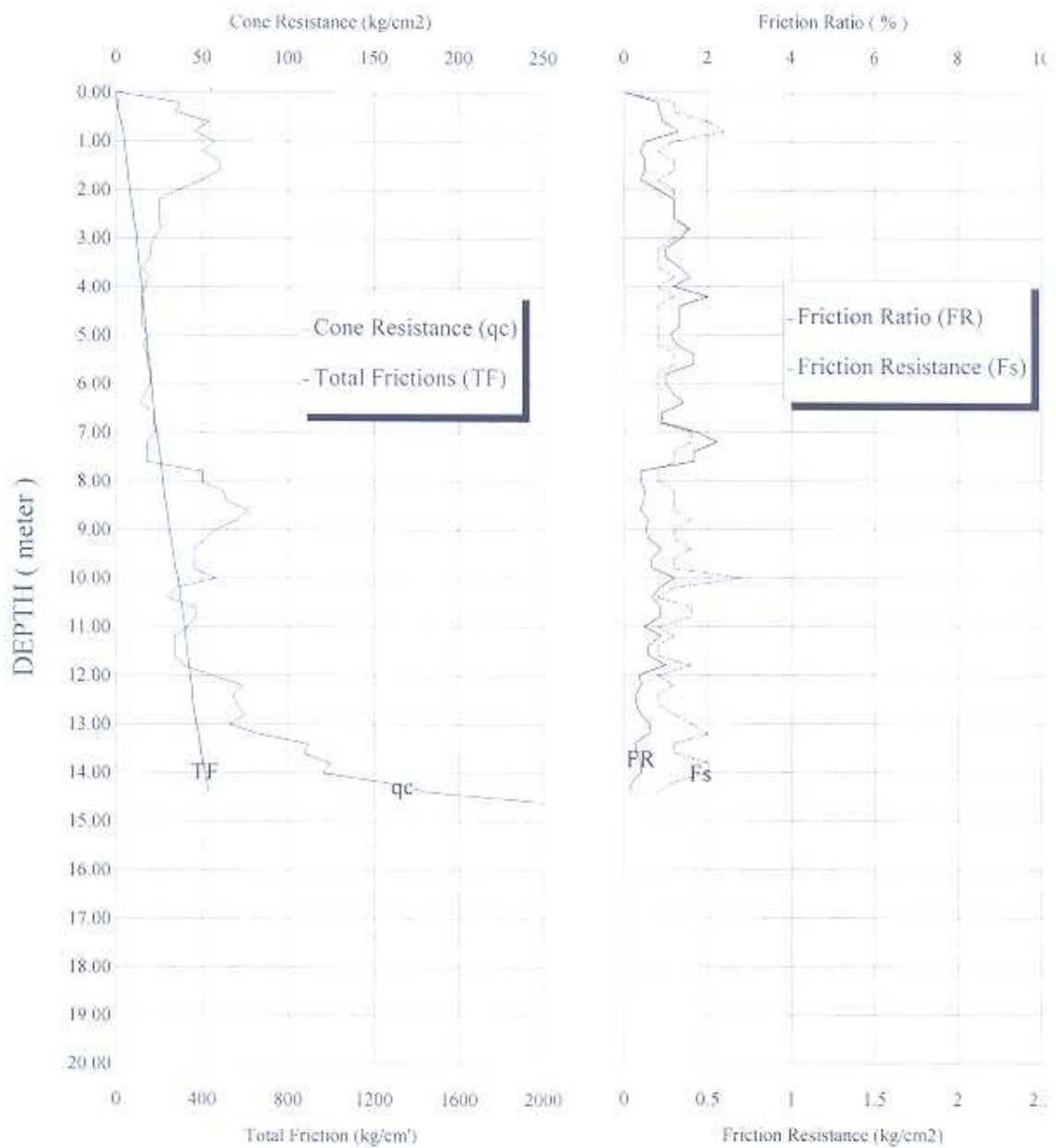
Proyek : Pembangunan Apartemen Highrise
Lokasi : Jl. Durian Raya Banyumanik
Semarang, Jawa Tengah
Titik : S. 3

Tgl. / Bln: 11 November 2015
Team : Anggit

DEPTH (M)	qc kg/cm 2	qc + f kg/cm 2	Fs kg/cm 2	TF kg/cm	FR (Fs/qc)%	DEPTH (M)	qc kg/cm 2	qc + f kg/cm 2	Fs kg/cm 2	TF kg/cm	FR (Fs/qc)%
0.00	0.00	0.00	0.00	0.00	0.00	10.20	35.00	38.00	0.30	296.00	0.86
0.20	37.00	40.00	0.30	6.00	0.81	10.40	30.00	32.00	0.20	300.00	0.67
0.40	35.00	38.00	0.30	12.00	0.86	10.60	46.00	50.00	0.40	308.00	0.87
0.60	54.00	59.00	0.50	22.00	0.93	10.80	46.00	50.00	0.40	316.00	0.87
0.80	46.00	52.00	0.60	34.00	1.30	11.00	42.00	44.00	0.20	320.00	0.48
1.00	57.00	60.00	0.30	40.00	0.53	11.20	34.00	37.00	0.30	326.00	0.88
1.20	51.00	53.00	0.20	44.00	0.39	11.40	34.00	36.00	0.20	330.00	0.59
1.40	60.00	63.00	0.30	50.00	0.50	11.60	34.00	36.00	0.20	334.00	0.59
1.60	60.00	63.00	0.30	56.00	0.50	11.80	40.00	44.00	0.40	342.00	1.00
1.80	50.00	52.00	0.20	60.00	0.40	12.00	56.00	58.00	0.20	346.00	0.36
2.00	36.00	39.00	0.30	66.00	0.83	12.20	74.00	77.00	0.30	352.00	0.41
2.20	25.00	28.00	0.30	72.00	1.20	12.40	68.00	70.00	0.20	356.00	0.29
2.40	25.00	28.00	0.30	78.00	1.20	12.60	70.00	72.00	0.20	360.00	0.29
2.60	25.00	28.00	0.30	84.00	1.20	12.80	75.00	78.00	0.30	366.00	0.40
2.80	26.00	30.00	0.40	92.00	1.54	13.00	66.00	70.00	0.40	374.00	0.61
3.00	22.00	25.00	0.30	98.00	1.36	13.20	83.00	88.00	0.50	384.00	0.60
3.20	20.00	22.00	0.20	102.00	1.00	13.40	112.00	115.00	0.30	390.00	0.27
3.40	20.00	22.00	0.20	106.00	1.00	13.60	109.00	112.00	0.30	396.00	0.28
3.60	15.00	17.00	0.20	110.00	1.33	13.80	125.00	130.00	0.50	406.00	0.40
3.80	19.00	22.00	0.30	116.00	1.58	14.00	120.00	125.00	0.50	416.00	0.42
4.00	17.00	19.00	0.20	120.00	1.18	14.20	157.00	160.00	0.30	422.00	0.19
4.20	15.00	18.00	0.30	126.00	2.00	14.40	183.00	185.00	0.20	426.00	0.11
4.40	15.00	17.00	0.20	130.00	1.33	14.60	250.00				
4.60	15.00	17.00	0.20	134.00	1.33	14.80					
4.80	15.00	17.00	0.20	138.00	1.33	15.00					
5.00	18.00	20.00	0.20	142.00	1.11	15.20					
5.20	16.00	18.00	0.20	146.00	1.25	15.40					
5.40	18.00	21.00	0.30	152.00	1.67	15.60					
5.60	18.00	21.00	0.30	158.00	1.67	15.80					
5.80	20.00	22.00	0.20	162.00	1.00	16.00					
6.00	20.00	22.00	0.20	166.00	1.00	16.20					
6.20	17.00	19.00	0.20	170.00	1.18	16.40					
6.40	14.00	16.00	0.20	174.00	1.43	16.60					
6.60	22.00	24.00	0.20	178.00	0.91	16.80					
6.80	22.00	24.00	0.20	182.00	0.91	17.00					
7.00	23.00	27.00	0.40	190.00	1.74	17.20					
7.20	18.00	22.00	0.40	198.00	2.22	17.40					
7.40	18.00	21.00	0.30	204.00	1.67	17.60					
7.60	18.00	21.00	0.30	210.00	1.67	17.80					
7.80	51.00	53.00	0.20	214.00	0.39	18.00					
8.00	50.00	52.00	0.20	218.00	0.40	18.20					
8.20	62.00	65.00	0.30	224.00	0.48	18.40					
8.40	64.00	67.00	0.30	230.00	0.47	18.60					
8.60	77.00	80.00	0.30	236.00	0.39	18.80					
8.80	70.00	74.00	0.40	244.00	0.57	19.00					
9.00	57.00	60.00	0.30	250.00	0.53	19.20					
9.20	52.00	55.00	0.30	256.00	0.58	19.40					
9.40	45.00	49.00	0.40	264.00	0.89	19.60					
9.60	45.00	48.00	0.30	270.00	0.67	19.80					
9.80	45.00	48.00	0.30	276.00	0.67	20.00					
10.00	58.00	65.00	0.70	290.00	1.21						



GRAFIK SONDIR MANUAL



Poyck : Pembangunan Apartemen Highrise
Lokasi : Jl. Durian Raya Banyumanik
Semarang, Jawa Tengah
Titik : S. 3



HASIL SONDIR MANUAL

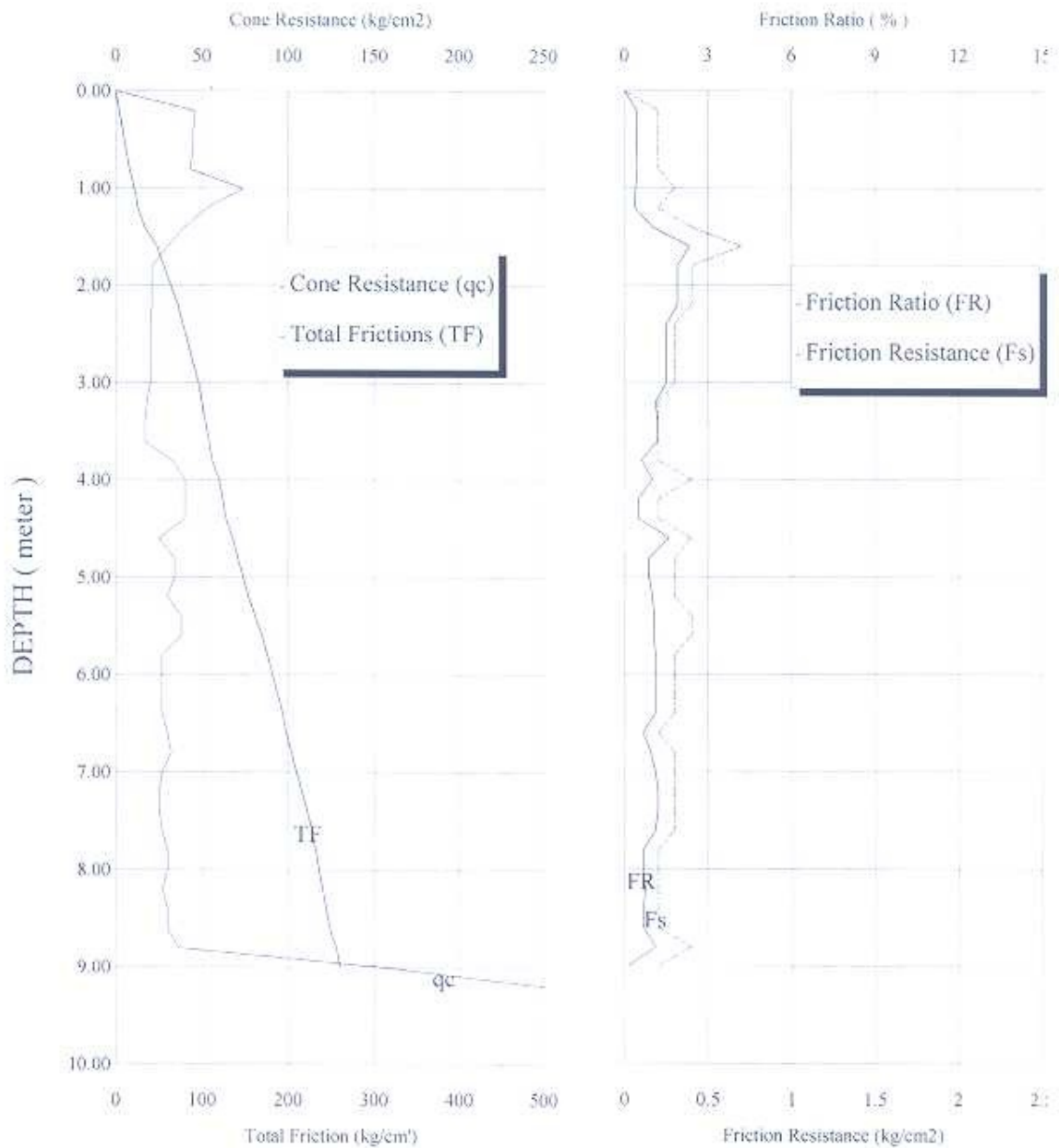
Proyek : Pembangunan Apartemen Highrise
Lokasi : Jl. Durian Raya Banyumanik
Semarang, Jawa Tengah
Titik : S.4

Tgl. / Bln: 12 November 2015
Team : Anggit

DEPTH (M)	qc kg/cm ²	qc + f kg/cm ²	Fs kg/cm ²	TF kg/cm	FR (Fs/qc)%	DEPTH (M)	qc kg/cm ²	qc + f kg/cm ²	Fs kg/cm ²	TF kg/cm	FR (Fs/qc)%
0.00	0.00	0.00	0.00	0.00	0.00	5.20	30.00	33.00	0.30	154.00	1.00
0.20	46.00	48.00	0.20	4.00	0.43	5.40	38.00	42.00	0.40	162.00	1.05
0.40	45.00	47.00	0.20	8.00	0.44	5.60	38.00	42.00	0.40	170.00	1.05
0.60	45.00	47.00	0.20	12.00	0.44	5.80	27.00	30.00	0.30	176.00	1.11
0.80	43.00	45.00	0.20	16.00	0.47	6.00	27.00	30.00	0.30	182.00	1.11
1.00	74.00	77.00	0.30	22.00	0.41	6.20	27.00	30.00	0.30	188.00	1.11
1.20	53.00	55.00	0.20	26.00	0.38	6.40	27.00	30.00	0.30	194.00	1.11
1.40	40.00	44.00	0.40	34.00	1.00	6.60	30.00	32.00	0.20	198.00	0.67
1.60	30.00	37.00	0.70	48.00	2.33	6.80	32.00	35.00	0.30	204.00	0.94
1.80	21.00	25.00	0.40	56.00	1.90	7.00	27.00	30.00	0.30	210.00	1.11
2.00	21.00	25.00	0.40	64.00	1.90	7.20	25.00	28.00	0.30	216.00	1.20
2.20	21.00	25.00	0.40	72.00	1.90	7.40	25.00	28.00	0.30	222.00	1.20
2.40	20.00	23.00	0.30	78.00	1.50	7.60	27.00	30.00	0.30	228.00	1.11
2.60	20.00	23.00	0.30	84.00	1.50	7.80	30.00	32.00	0.20	232.00	0.67
2.80	20.00	23.00	0.30	90.00	1.50	8.00	30.00	32.00	0.20	236.00	0.67
3.00	20.00	23.00	0.30	96.00	1.50	8.20	27.00	29.00	0.20	240.00	0.74
3.20	18.00	20.00	0.20	100.00	1.11	8.40	30.00	32.00	0.20	244.00	0.67
3.40	17.00	19.00	0.20	104.00	1.18	8.60	30.00	32.00	0.20	248.00	0.67
3.60	17.00	19.00	0.20	108.00	1.18	8.80	36.00	40.00	0.40	256.00	1.11
3.80	33.00	35.00	0.20	112.00	0.61	9.00	154.00	156.00	0.20	260.00	0.13
4.00	40.00	44.00	0.40	120.00	1.00	9.20	250.00				
4.20	40.00	42.00	0.20	124.00	0.50	9.40					
4.40	40.00	42.00	0.20	128.00	0.50	9.60					
4.60	25.00	29.00	0.40	136.00	1.60	9.80					
4.80	34.00	37.00	0.30	142.00	0.88	10.00					
5.00	34.00	37.00	0.30	148.00	0.88						



GRAFIK SONDIR MANUAL



Poyek : Pembangunan Apartemen Highrise
Lokasi : Jl. Durian Raya Banyumanik
Semarang, Jawa Tengah
Titik : S.4



HASIL SONDIR MANUAL

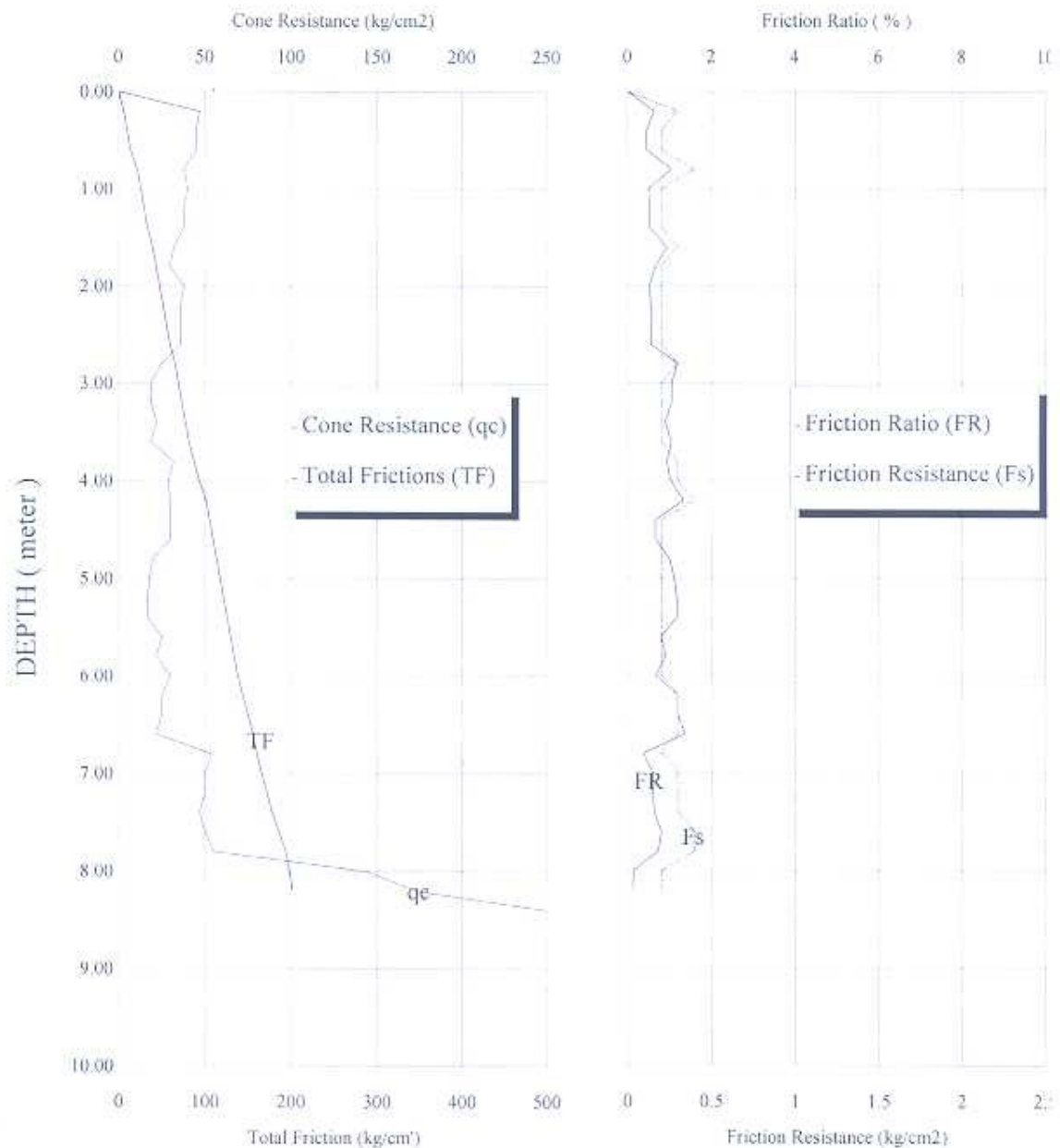
Proyek : Pembangunan Apartemen Highrise
Lokasi : Jl. Durian Raya Banyumanik
Semarang, Jawa Tengah
Titik : S.5

Tgl. / Bln: 12 November 2015
Team : Anggit

DEPTH (M)	qc kg/cm ²	qc + f kg/cm ²	Fs kg/cm ²	TF kg/cm	FR (Fs/qc)%	DEPTH (M)	qc kg/cm ²	qc + f kg/cm ²	Fs kg/cm ²	TF kg/cm	FR (Fs/qc)%
0.00	0.00	0.00	0.00	0.00	0.00	5.20	17.00	19.00	0.20	122.00	1.18
0.20	47.00	50.00	0.30	6.00	0.64	5.40	17.00	19.00	0.20	126.00	1.18
0.40	45.00	47.00	0.20	10.00	0.44	5.60	25.00	27.00	0.20	130.00	0.80
0.60	45.00	47.00	0.20	14.00	0.44	5.80	22.00	24.00	0.20	134.00	0.91
0.80	38.00	42.00	0.40	22.00	1.05	6.00	30.00	32.00	0.20	138.00	0.67
1.00	40.00	42.00	0.20	26.00	0.50	6.20	25.00	28.00	0.30	144.00	1.20
1.20	38.00	40.00	0.20	30.00	0.53	6.40	25.00	28.00	0.30	150.00	1.20
1.40	38.00	40.00	0.20	34.00	0.53	6.60	22.00	25.00	0.30	156.00	1.36
1.60	32.00	35.00	0.30	40.00	0.94	6.80	54.00	56.00	0.20	160.00	0.37
1.80	30.00	32.00	0.20	44.00	0.67	7.00	50.00	53.00	0.30	166.00	0.60
2.00	38.00	40.00	0.20	48.00	0.53	7.20	50.00	53.00	0.30	172.00	0.60
2.20	36.00	38.00	0.20	52.00	0.56	7.40	47.00	50.00	0.30	178.00	0.64
2.40	36.00	38.00	0.20	56.00	0.56	7.60	50.00	54.00	0.40	186.00	0.80
2.60	36.00	38.00	0.20	60.00	0.56	7.80	55.00	59.00	0.40	194.00	0.73
2.80	25.00	28.00	0.30	66.00	1.20	8.00	144.00	146.00	0.20	198.00	0.14
3.00	19.00	21.00	0.20	70.00	1.05	8.20	173.00	175.00	0.20	202.00	0.12
3.20	19.00	21.00	0.20	74.00	1.05	8.40	250.00				
3.40	22.00	24.00	0.20	78.00	0.91	8.60					
3.60	19.00	21.00	0.20	82.00	1.05	8.80					
3.80	32.00	35.00	0.30	88.00	0.94	9.00					
4.00	29.00	32.00	0.30	94.00	1.03	9.20					
4.20	30.00	34.00	0.40	102.00	1.33	9.40					
4.40	30.00	32.00	0.20	106.00	0.67	9.60					
4.60	30.00	32.00	0.20	110.00	0.67	9.80					
4.80	20.00	22.00	0.20	114.00	1.00	10.00					
5.00	18.00	20.00	0.20	118.00	1.11						



GRAFIK SONDIR MANUAL



Poyck : Pembangunan Apartemen Highrise
Lokasi : Jl. Durian Raya Banyumanik
Semarang, Jawa Tengah
Titik : S.5

LAPORAN HASIL PENYELIDIKAN TANAH

**PADA PEKERJAAN PEMBANGUNAN
APARTEMENT HIGHRISE**

DI JALAN DURIAN RAYA, BANYUMANIK, SEMARANG, JAWA TENGAH

LAMPIRAN DATA :
BORING MESIN



**LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL - FAKULTAS TEKNIK
UNIVERSITAS DIPONEGORO**



BORE LOG

Project : Pekerjaan Pembangunan Apartemen Highrise		Location : Jalan Durian Raya, Banyumanik Semarang, Jawa Tengah		Bore Hole No : BH. 2															
Date of drilling : Nopember 2015		Described by : Andi RAS, ST		Coordinate X:															
Bore Machine : Longer 24		Checked by : Ir. Sri Hardiyati, MT		Y:															
Pump : Sunchin		Date of photograph :		Elevation:															
Master bore : Slamet		Sample store at : Semarang		Inclination:															
Drilling methode : Rotary		Ground Water Depth : -8.00 meter		Azimuth:															
Diameter of hole : 73 mm																			
Date	Depth (m)	Depth (m)	Thickness (m)	sample	Symbol	Layer Tipe	DESCRIPTION	Field Test SPT											
								Depth (m)	N'	10	30	50							
Nopember 2015	1	0,00																	
	2							2,00											
	3			6,00		LANAU kelepungan	sedikit butir kasar, lunak, warna coklat agak kemerahan	2,45	8										
	4							4,00											
	5				4,50			4,45	8										
	6	6,00			5,00			6,00											
	7							6,45	10										
	8							8,00											
	9			6,00		LANAU kelepungan	teguh sampai kaku, warna coklat	8,45	17										
	10				9,50			10,00											
	11				10,00			10,45	21										
	12	12,00						12,00											
	13							12,45	26										
	14			3,00		LANAU butir kasar	campur pasir, kaku sampai keras, warna coklat	14,00											
	15	15,00			14,50			14,45	48										
	16	16,00		1,00	15,00	BATU PASIR	kompak, keras, warna abu-abu	16,00											
	17							16,45	56										
	18			4,00		PASIR kelanauan	padat, warna abu-abu kecoklatan	18,00											
	19							18,45	53										
	20	20,00			19,50			20,00											
				20,00															

NOTE :



BORE LOG

Project : Pekerjaan Pembangunan Apartemen Highrise		Location : Jalan Durian Raya, Banyumanik Semarang, Jawa Tengah		Bore Hole No : BH. 2								
Date of drilling : Nopember 2015		Described by : Andi RAS, ST		Coordinate : X								
Bore Machine : Cocoon		Checked by : Ir. Sili Hardiyati, MT		Y								
Pump : Sunchin		Date of photograph :		Elevation :								
Master bore : Slamet		Sample store at : Semarang		Inclination :								
Drilling methode : Rotary		Ground Water Depth : -8,00 meter		Azimuth :								
Diameter of hole : 73 mm												
Date	Depth (m)	Depth (m)	Thickness (m)	sample	Symbol	Layer Type	DESCRIPTION	Field Test SPT				
								Depth (m)	N	10	30	50
Nopember 2015	21	20,00		20,00		BATU PASIR KOMPAK	keras, warna abu-abu	20,45	> 60			
	22		3,00					22,00	> 60			
	23	23,00				BATU PASIR BOULDERAN DAN PASIR	selang seling, keras, warna abu-abu	22,45	> 60			
	24							24,00	> 60			
	25			24,50				24,45	> 60			
	26			25,00				26,00	> 60			
	27							26,45	> 60			
	28							28,00	> 60			
	29							28,45	> 60			
	30			29,50				30,00	> 60			
	31			30,00				30,45	> 60			
	32							32,00	> 60			
	33					32,45	> 60					
	34					34,00	> 60					
	35			34,50		34,45	> 60					
	36			35,00		36,00	> 60					
37					36,45	> 60						
38					38,00	> 60						
39					38,45	> 60						
40	40,00		39,50		40,00	> 60						
			40,00			40,45	> 60					
End Off Boring												

NOTE :



BORE LOG

Project : Pekerjaan Pembangunan Apartemen Highrise				Location : Jalan Durian Raya, Banyumanik Semarang, Jawa Tengah				Bore Hole No : BH. 3				
Date of drilling : Nopember 2015				Described by : Andi RAS. ST				Coordinate : X				
Bore Machine : Cocen				Checked by : Ir. Siti Hardiyati. MT				Y				
Pump : Sunchin				Date of photograph : Senterang				Elevation				
Master bore : Slamet				Sample store at : Senterang				Inclination				
Drilling methode : Rotary				Ground Water Depth : 6,00 meter				Azimuth				
Diameter of hole : 73 mm												
Date	Depth (m)	Depth (m)	Thickness (m)	sample	Symbol	Layer Type	DESCRIPTION	Field Test SPT				
								Depth (m)	N'	10	30	50
Nopember 2015	21	20,00	20,00			PASIR	padat, warna abu-abu kecoklatan	20,45	57			
	22							22,00				
	23		5,00					22,45	59			
	24							24,00				
	25	25,00		24,50				24,45	> 60			
	26			25,00		PASIR kelanauan (padas)	padat, warna coklat abu-abu	26,00	> 60			
	27	27,00						26,45	> 60			
	28							28,00	> 60			
	29							28,45	> 60			
	30			29,50		PASIR	padat, warna abu-abu kecoklatan	30,00	> 60			
	31		6,00	30,00				30,45	> 60			
	32							32,00	> 60			
	33	33,00						32,45	> 60			
	34					PASIR BOULDERAN	padat, warna abu-abu	34,00	> 60			
	35	35,00		34,50				34,45	> 60			
	36			35,00				36,00	> 60			
37							36,45	> 60				
38					BATU PASIR boulderan	tersisipi pasir selang seling, keras, warna abu-abu	38,00	> 60				
39							38,45	> 60				
40	40,00						40,00	> 60				
						End Off Boring	40,45	> 60				

NOTE :

PERENCANAAN PONDASI TIANG PANCANG PADA PROYEK APARTEMEN TAMANSARI CENDEKIA SEMARANG

ORIGINALITY REPORT

23%

SIMILARITY INDEX

19%

INTERNET SOURCES

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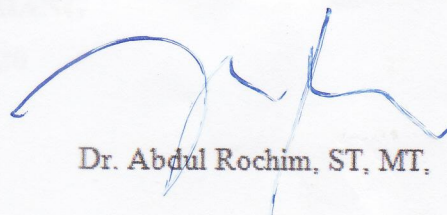
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