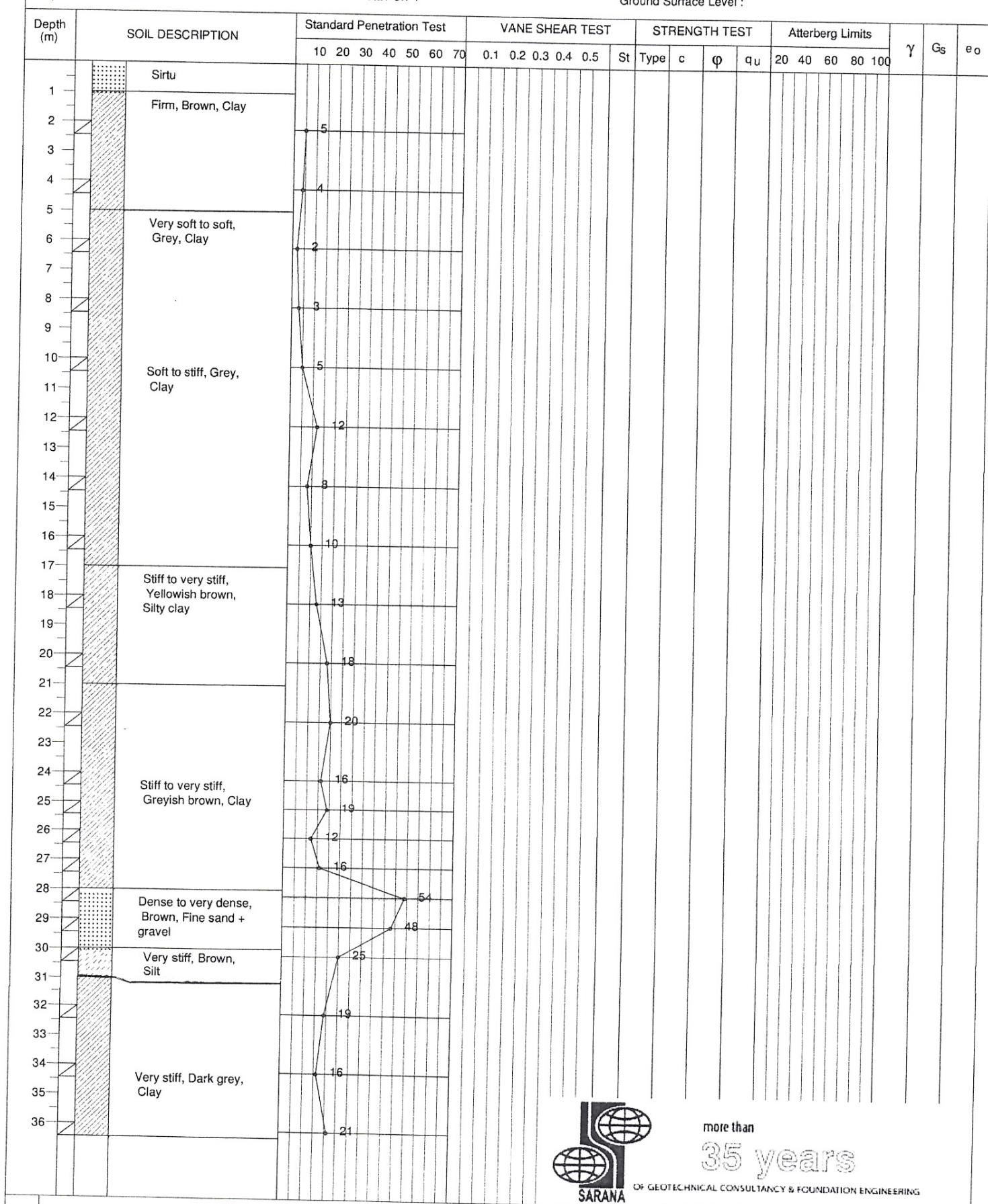


PROJECT : Apartemen Allesandro

LOCATION : Citraland Vittorio, Surabaya
Sta / Ch :Ground Water Level :
Ground Surface Level :

Depth : 36 m



more than
35 years
OF GEOTECHNICAL CONSULTANCY & FOUNDATION ENGINEERING

NOTATIONS

SPT = Standard Penetration Test (Blows/30cm)
 + = Undisturbed Vane Shear Strength (kg/cm²)
 x = Remolded Vane Shear Strength (kg/cm²)
 qu = Unconfined Compressive Strength (kg/cm²)
 St = Sensitivity

c = Cohesion (kg/cm²)
 ϕ = Angle of internal friction
 UU = Unconsolidated Undrained
 CU = Consolidated Undrained
 CD = Consolidated Drained
 DS = Direct Shear

o = wn = moisture content (%)
 ● = wp = plastic limit (%)
 ▲ = wl = liquid limit (%)
 γ = bulk density (g/cc)
 G_s = specific gravity
 e_o = void ratio

BOREHOLE No

B1

□ -THIN WALLED

□ -S.P.T

□ -CORING

PROJECT : Apartemen Allesandro

LOCATION : Citraland Vittorio, Surabaya
Sta / Ch :

Ground Water Level :
Ground Surface Level :

Depth : 36 m



more than
35 years

OF GEOTECHNICAL CONSULTANCY & FOUNDATION ENGINEERING

NOTATIONS	SPT = Standard Penetration Test (Blows/30cm)	c = Cohesion (kg/cm ²)	o = wn = moisture content (%)	BOREHOLE No B2
	+ = Undisturbed Vane Shear Strength (kg/cm ²)	ϕ = Angle of internal friction	● = wp = plastic limit (%)	
	x = Remolded Vane Shear Strength (kg/cm ²)	UU = Unconsolidated Undrained	▲ = wl = liquid limit (%)	
	q _u = Unconfined Compressive Strength (kg/cm ²)	CU = Consolidated Undrained	γ = bulk density (g/cc)	
	St = Sensitivity	CD = Consolidated Drained	G _s = specific gravity	
		DS = Direct Shear	e ₀ = void ratio	

PROJECT : Apartemen Allesandro

Depth (m)	SOIL DESCRIPTION	Standard Penetration Test							VANE SHEAR TEST			STRENGTH TEST			Atterberg Limits					γ	G_s	e_o		
		10	20	30	40	50	60	70	0.1	0.2	0.3	0.4	0.5	St	Type	c	ϕ	q_u	20				40	60
1	Sirtu																							
2								3																
3								4																
4								2																
5	Very soft to soft, Brown, Clay							6																
6								4																
7								6																
8								9																
9								13																
10								16																
11	Firm to stiff, Grey, Clay							26																
12								17																
13								15																
14								13																
15								45																
16	Stiff to very stiff, Yellowish brown, Silty clay							75																
17								25																
18								25																
19								20																
20	Very stiff, Brown, Sandy silt							22																
21								22																
22	Very stiff, Brown, Clay																							
23																								
24																								
25																								
26																								
27	Dense to very dense, Brown, Fine sand + gravel																							
28																								
29																								
30	Very stiff, Yellowish brown, Silt																							
31																								
32	Very stiff, Dark grey, Clay																							
33																								
34																								
35																								
36																								



more than
35 years

DE GEOFTECHNICAL CONSULTANCY & FOUNDATION ENGINEERING

NOTATIONS	SARANA			BOREHOLE No
	SPT = Standard Penetration Test (Blows/30cm)	c = Cohesion (kg/cm ²)	o = wn = moisture content (%)	
+	= Undisturbed Vane Shear Strength (kg/cm ²)	φ = Angle of internal friction	● = wp = plastic limit (%)	
x	= Remolded Vane Shear Strength (kg/cm ²)	UU = Unconsolidated Undrained	▲ = wl = liquid limit (%)	
q _u	= Unconfined Compressive Strength (kg/cm ²)	CU = Consolidated Undrained	γ = bulk density (g/cc)	
S _t	= Sensitivity	CD = Consolidated Drained	G _s = specific gravity	
		DS = Direct Shear	e _o = void ratio	
 -THIN WALLED	 -S.P.T	 -CORING		



more than
35 years

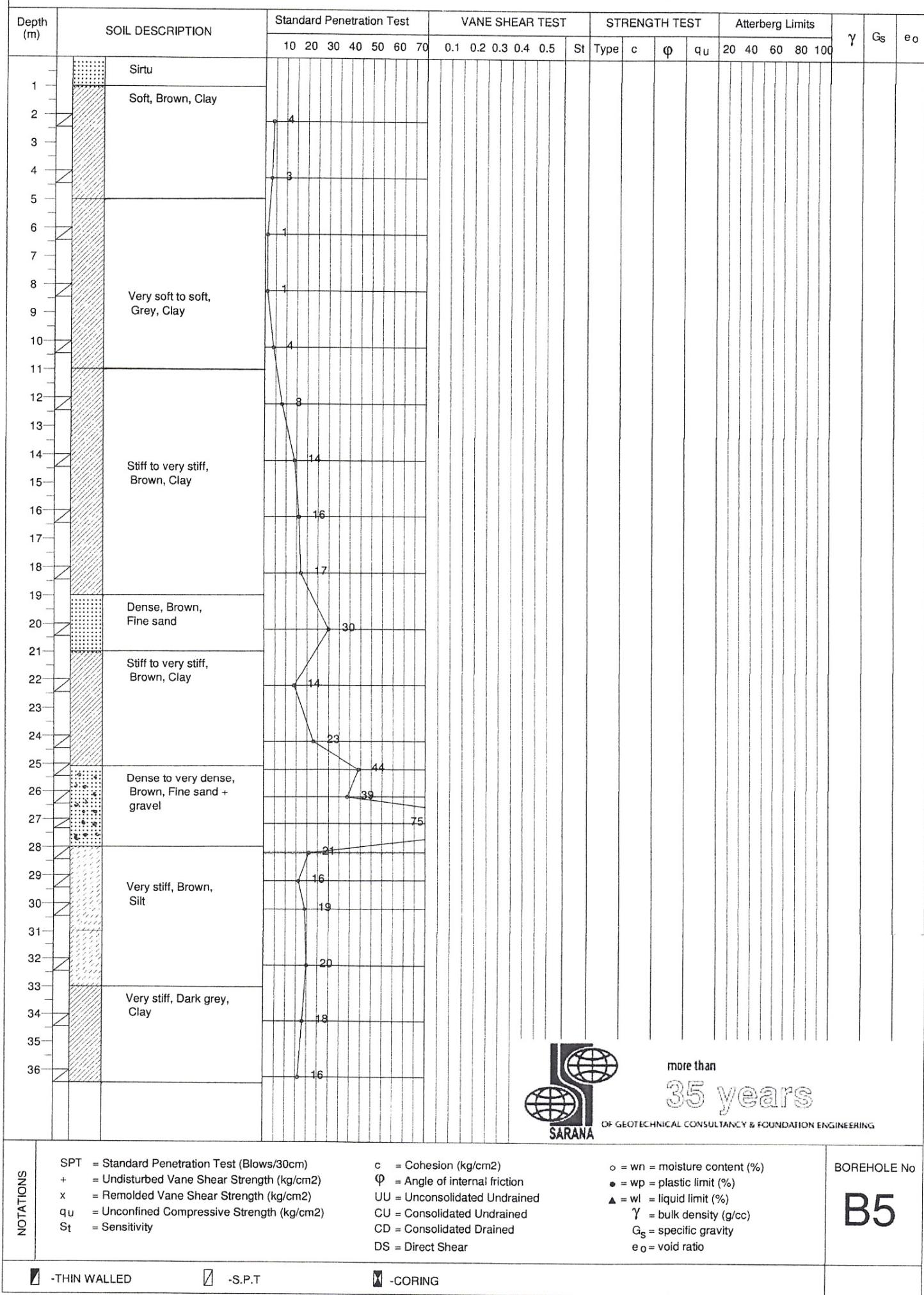
OF GEOTECHNICAL CONSULTANCY & FOUNDATION ENGINEERING

NOTATIONS	SPT = Standard Penetration Test (Blows/30cm)	c = Cohesion (kg/cm ²)	o = wn = moisture content (%)	BOREHOLE No B4
	+ = Undisturbed Vane Shear Strength (kg/cm ²)	ϕ = Angle of internal friction	● = wp = plastic limit (%)	
	x = Remolded Vane Shear Strength (kg/cm ²)	UU = Unconsolidated Undrained	▲ = wl = liquid limit (%)	
	q _u = Unconfined Compressive Strength (kg/cm ²)	CU = Consolidated Undrained	γ' = bulk density (g/cc)	
	St = Sensitivity	CD = Consolidated Drained	G _s = specific gravity	
		DS = Direct Shear	e ₀ = void ratio	

PROJECT : Apartemen Allesandro

LOCATION : Citraland Vittorio, Surabaya
Sta / Ch :Ground Water Level :
Ground Surface Level :

Depth : 36 m



more than

35 years

OF GEOTECHNICAL CONSULTANCY & FOUNDATION ENGINEERING

NOTATIONS

SPT = Standard Penetration Test (Blows/30cm)
 + = Undisturbed Vane Shear Strength (kg/cm²)
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 St = Sensitivity

c = Cohesion (kg/cm²)
 ϕ = Angle of internal friction
 UU = Undrained Undrained
 CU = Consolidated Undrained
 CD = Consolidated Drained
 DS = Direct Shear

o = w_n = moisture content (%)
 ● = w_p = plastic limit (%)
 ▲ = w_l = liquid limit (%)
 γ = bulk density (g/cc)
 G_s = specific gravity
 e₀ = void ratio

BOREHOLE No

B5

-THIN WALLED

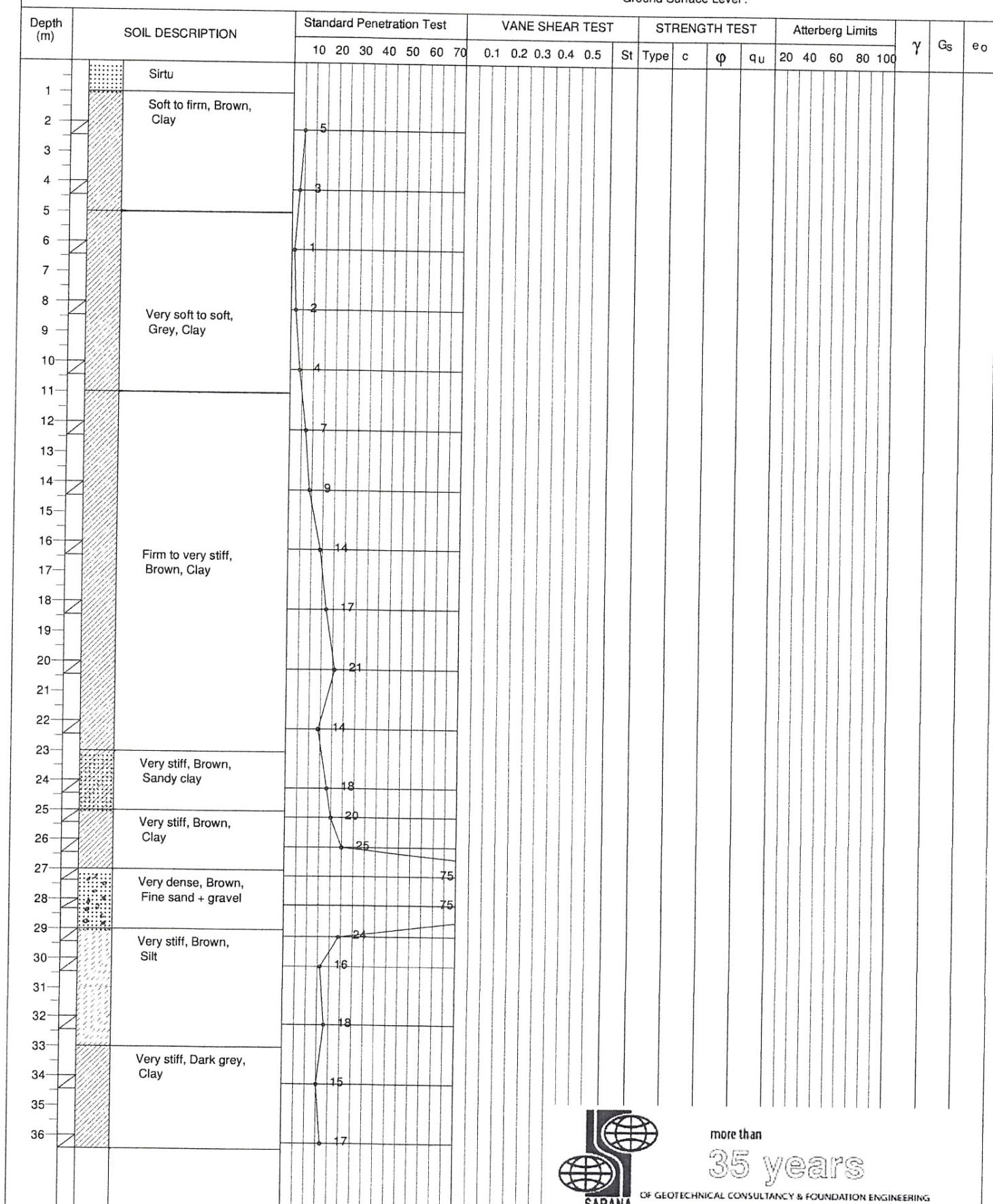
-S.P.T

-CORING

PROJECT : Apartemen Allesandro

LOCATION : Citraland Vittorio, Surabaya
Sta / Ch :Ground Water Level :
Ground Surface Level :

Depth : 36 m



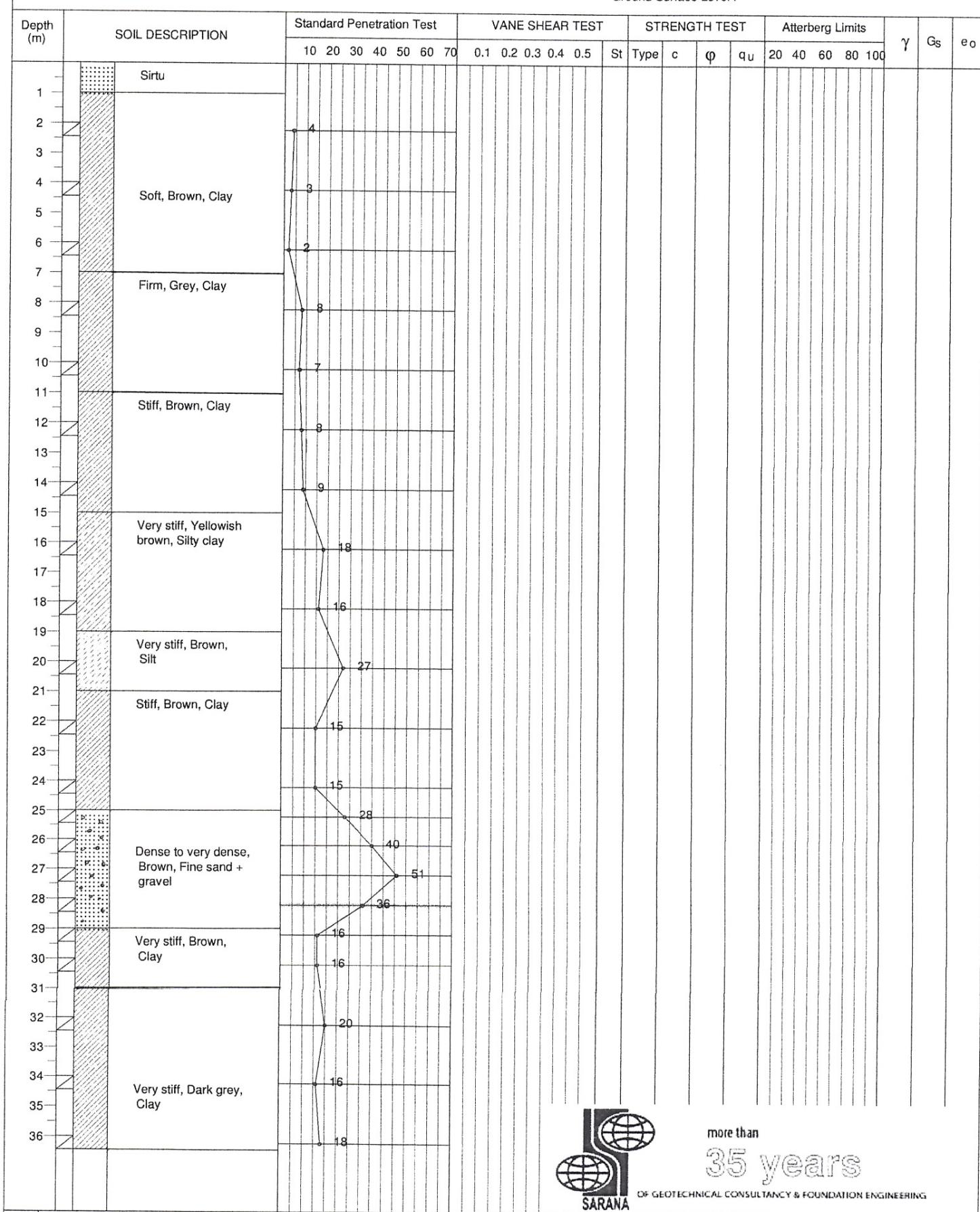
more than
35 years
OF GEOTECHNICAL CONSULTANCY & FOUNDATION ENGINEERING

NOTATIONS	SPT = Standard Penetration Test (Blows/30cm)	c = Cohesion (kg/cm ²)	$\circ = w_n$ = moisture content (%)	BOREHOLE No
	+ = Undisturbed Vane Shear Strength (kg/cm ²)	Φ = Angle of internal friction	$\bullet = w_p$ = plastic limit (%)	
	x = Remolded Vane Shear Strength (kg/cm ²)	UU = Unconsolidated Undrained	$\Delta = w_l$ = liquid limit (%)	
	q <u>u</u> = Unconfined Compressive Strength (kg/cm ²)	CU = Consolidated Undrained	γ = bulk density (g/cc)	
	St = Sensitivity	CD = Consolidated Drained	G_s = specific gravity	
		DS = Direct Shear	e_o = void ratio	
	-THIN WALLED	-S.P.T	-CORING	

PROJECT : Apartemen Allesandro

LOCATION : Citraland Vittorio, Surabaya
Sta / Ch :Ground Water Level :
Ground Surface Level :

Depth : 36 m



more than
35 years

OF GEOTECHNICAL CONSULTANCY & FOUNDATION ENGINEERING

NOTATIONS

SPT = Standard Penetration Test (Blows/30cm)
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c = Cohesion (kg/cm²)
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 DS = Direct Shear

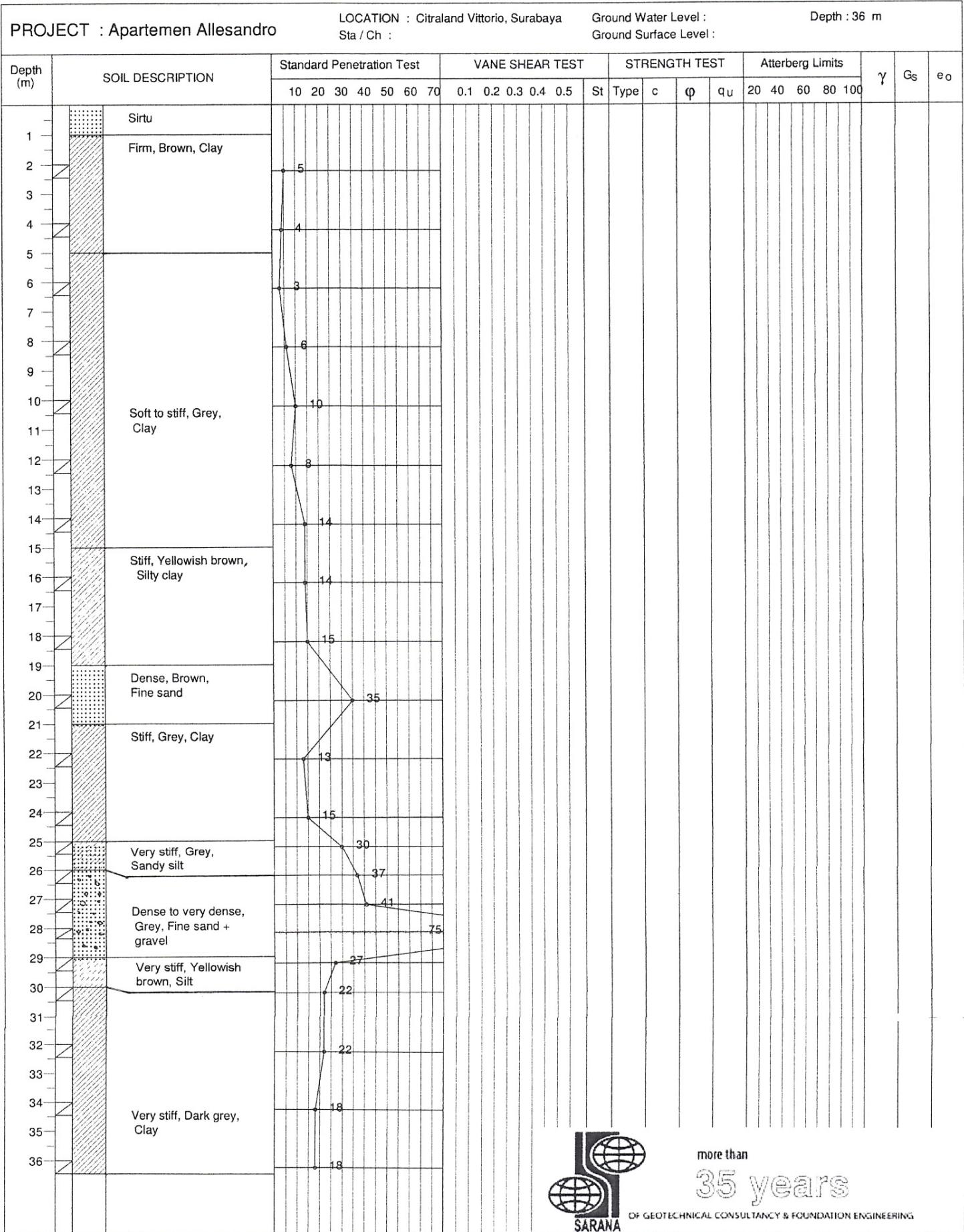
o = w_n = moisture content (%)
 ● = w_p = plastic limit (%)
 ▲ = w_l = liquid limit (%)
 γ = bulk density (g/cc)
 G_s = specific gravity
 e_o = void ratio

BOREHOLE No
DB1

-THIN WALLED

-S.P.T

-CORING



more than

35 years

OF GEOTECHNICAL CONSULTANCY & FOUNDATION ENGINEERING

NOTATIONS	SPT = Standard Penetration Test (Blows/30cm)	c = Cohesion (kg/cm ²)	o = wn = moisture content (%)	BOREHOLE No
	+ = Undisturbed Vane Shear Strength (kg/cm ²)	ϕ = Angle of internal friction	• = wp = plastic limit (%)	
	x = Remolded Vane Shear Strength (kg/cm ²)	UU = Unconsolidated Undrained	▲ = wl = liquid limit (%)	
	q _u = Unconfined Compressive Strength (kg/cm ²)	CU = Consolidated Undrained	γ = bulk density (g/cc)	
	S _t = Sensitivity	CD = Consolidated Drained	G _s = specific gravity	
		DS = Direct Shear	e _o = void ratio	
	-THIN WALLED	-S.P.T	-CORING	

PROJECT : Apartemen Allesandro

LOCATION : Citraland Vittorio, Surabaya
Sta / Ch :

Ground Water Level :
Ground Surface Level :

Depth : 36 m



more than
35 years

OF GEOTECHNICAL CONSULTANCY & FOUNDATION ENGINEERING

NOTATIONS

SPT = Standard Penetration Test (Blows/30cm)
 + = Undisturbed Vane Shear Strength (kg/cm²)
 x = Remolded Vane Shear Strength (kg/cm²)
 q_u = Unconfined Compressive Strength (kg/cm²)
 St = Sensitivity

c = Cohesion (kg/cm²)
 φ = Angle of internal friction
 UU = Unconsolidated Undrained
 CU = Consolidated Undrained
 CD = Consolidated Drained
 DS = Direct Shear

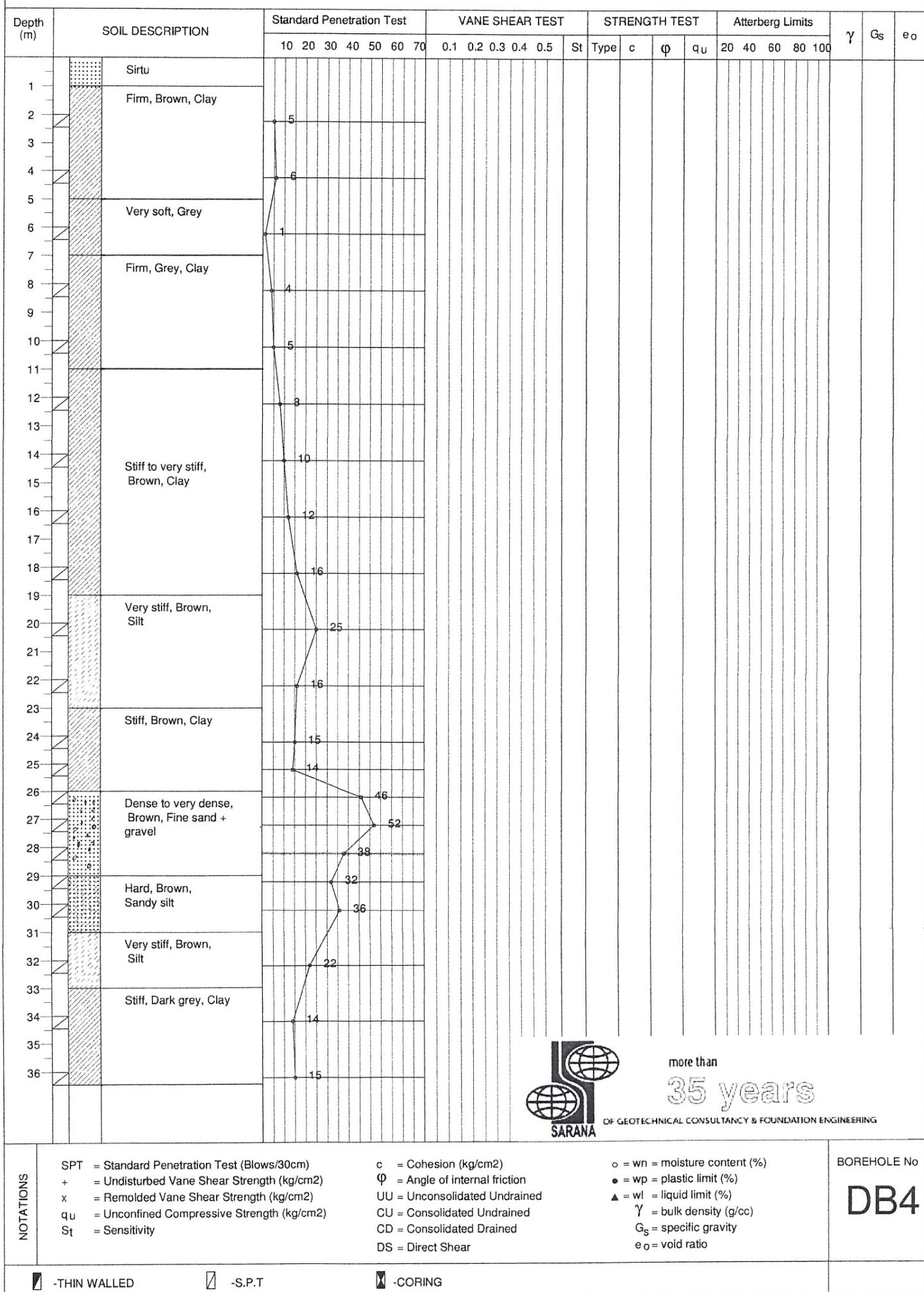
- $\text{o} = \text{wn}$ = moisture content (%)
- $\bullet = \text{wp}$ = plastic limit (%)
- $\blacktriangle = \text{wl}$ = liquid limit (%)
- γ = bulk density (g/cc)
- G_S = specific gravity
- e_o = void ratio

BOREHOLE No
DB3

PROJECT : Apartemen Allesandro

LOCATION : Citraland Vittorio, Surabaya
Sta / Ch :Ground Water Level :
Ground Surface Level :

Depth : 36 m



more than
35 years

OF GEOTECHNICAL CONSULTANCY & FOUNDATION ENGINEERING

NOTATIONS

SPT = Standard Penetration Test (Blows/30cm)
+ = Undisturbed Vane Shear Strength (kg/cm²)
x = Remolded Vane Shear Strength (kg/cm²)
 q_u = Unconfined Compressive Strength (kg/cm²)
St = Sensitivity

c = Cohesion (kg/cm²)
 ϕ = Angle of internal friction
UU = Unconsolidated Undrained
CU = Consolidated Undrained
CD = Consolidated Drained
DS = Direct Shear

w_n = moisture content (%)
 w_p = plastic limit (%)
 w_l = liquid limit (%)
 γ = bulk density (g/cc)
 G_s = specific gravity
 e_o = void ratio

BOREHOLE No

DB4

-THIN WALLED

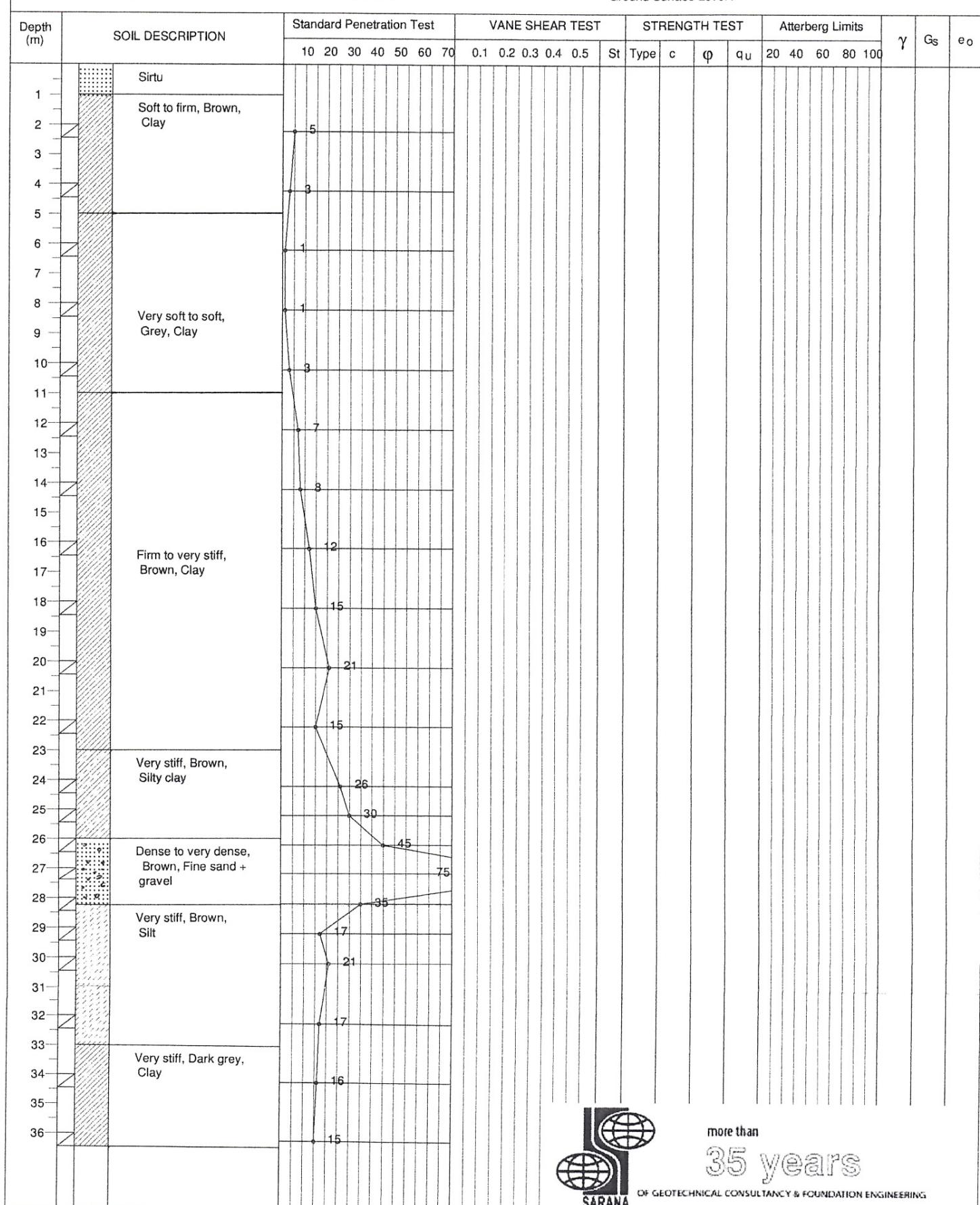
-S.P.T

-CORING

PROJECT : Apartemen Allesandro

LOCATION : Citraland Vittorio, Surabaya
Sta / Ch :Ground Water Level : -
Ground Surface Level :

Depth : 36 m



more than
35 years

OF GEOTECHNICAL CONSULTANCY & FOUNDATION ENGINEERING

NOTATIONS

SPT = Standard Penetration Test (Blows/30cm)
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x = Remolded Vane Shear Strength (kg/cm²)
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c = Cohesion (kg/cm²)
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UU = Unconsolidated Undrained
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o = w_n = moisture content (%)
● = w_p = plastic limit (%)
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 γ = bulk density (g/cc)
 G_s = specific gravity
 e_o = void ratio

BOREHOLE No
DB5