

**APPENDIX - A**

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**JAKARTA – BANDUNG HIGH SPEED RAILWAY PROJECT  
FEASIBILITY STUDY PHASE-I**

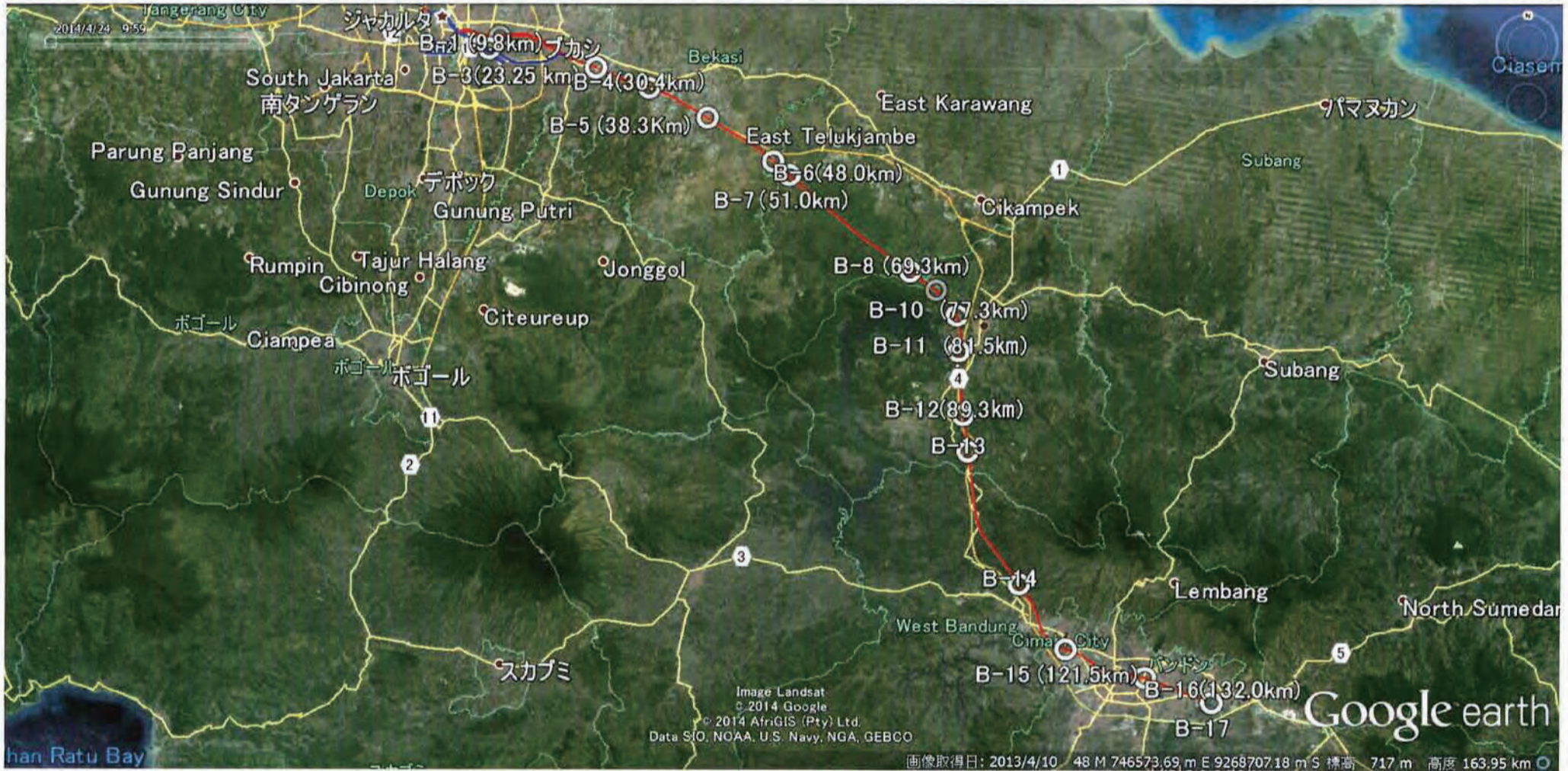
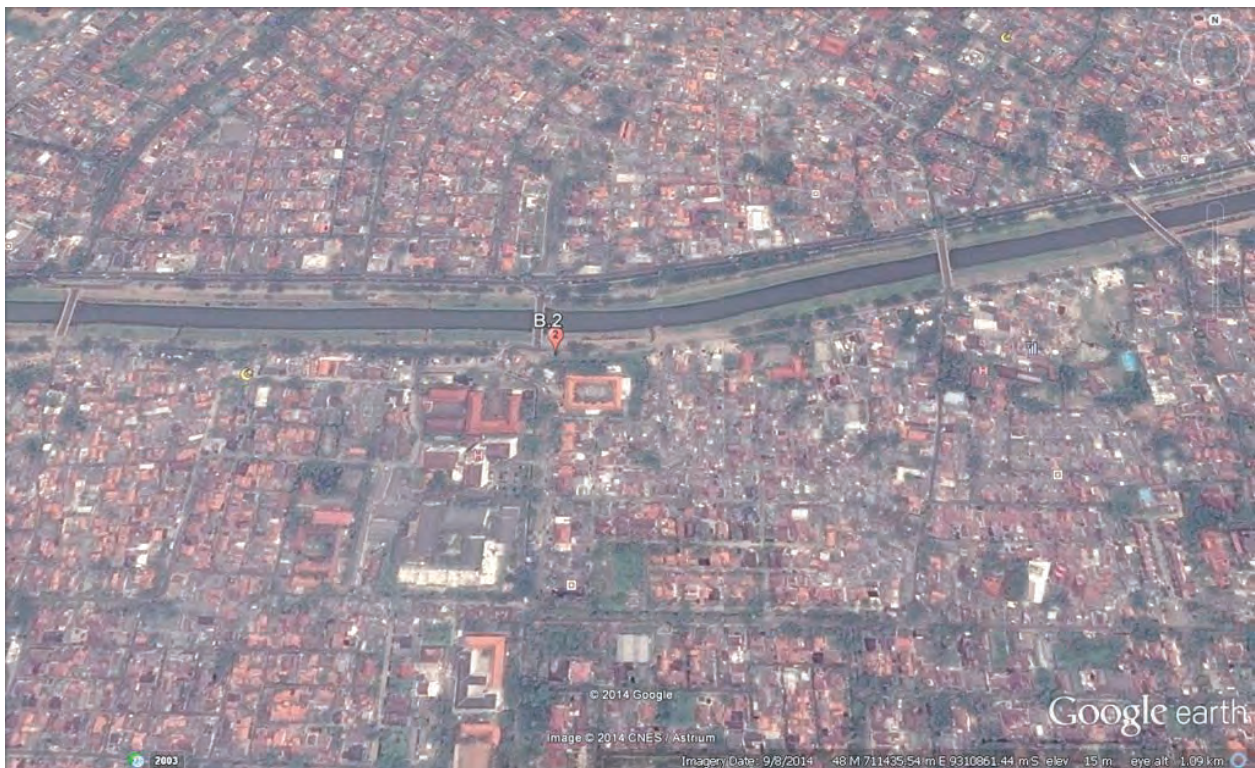


Figure-1 Location Map (All Boring Survey Points)



Boring point: B.1



Boring point: B.2

**APPENDIX A.1.2. (1)**



Boring point: B.3



Boring point: B.4

**APPENDIX A.1.2. (2)**



Boring point: B.5

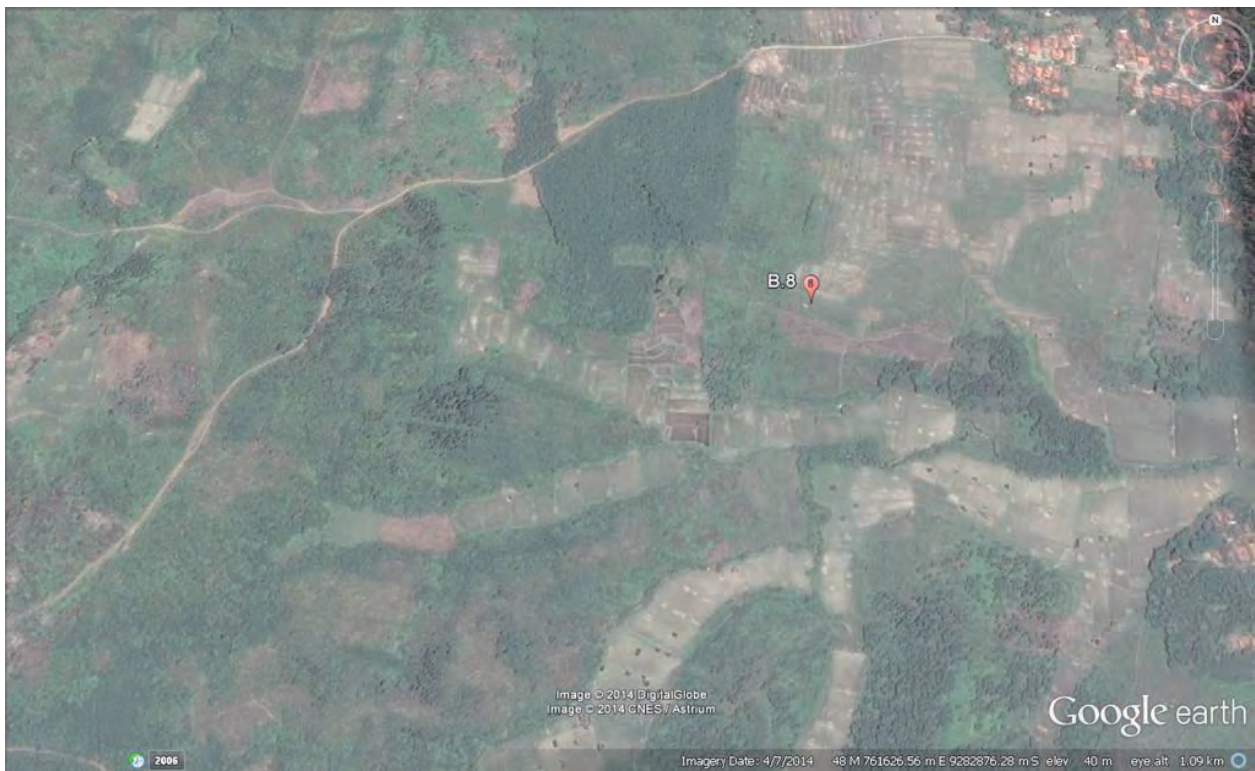


Boring point: B.6

**APPENDIX A.1.2. (3)**



Boring point: B.7

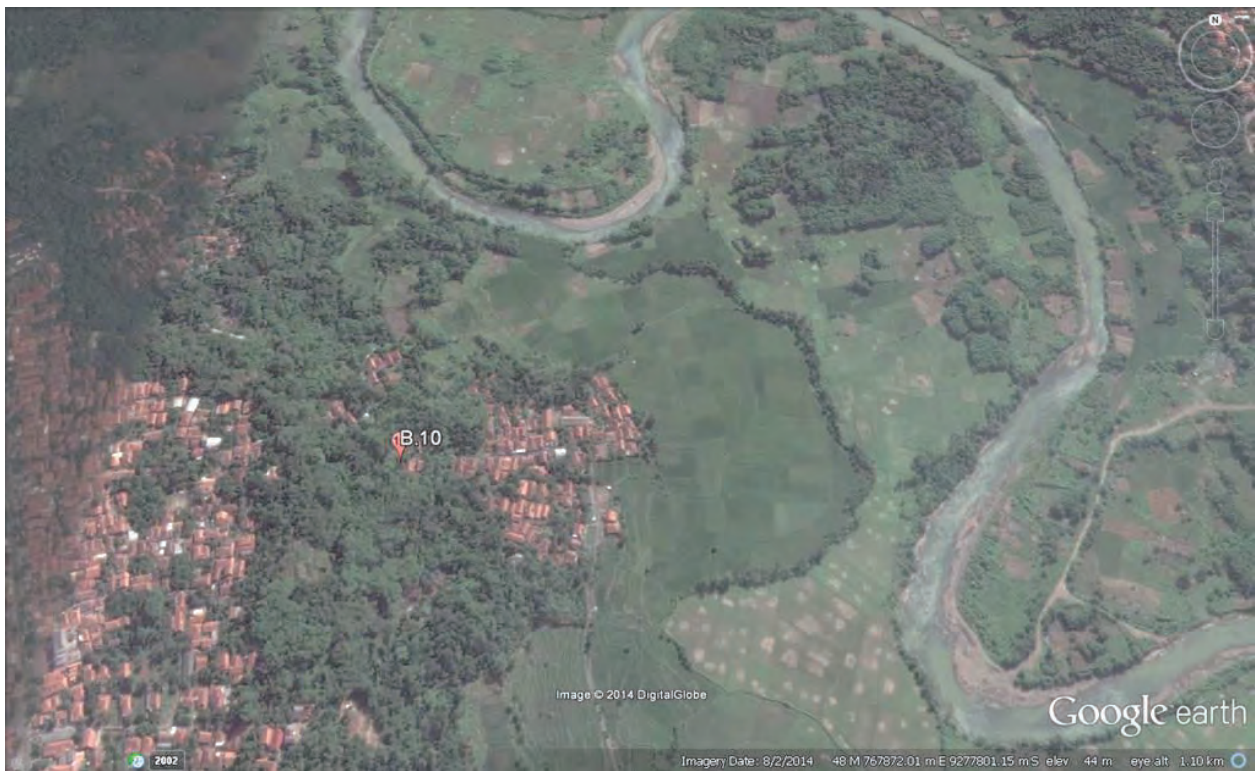


Boring point: B.8

**APPENDIX A.1.2. (4)**



Boring point: B.9



Boring point: B.10

**APPENDIX A.1.2. (5)**



Boring point: B.11



Boring point: B.12

**APPENDIX A.1.2. (6)**



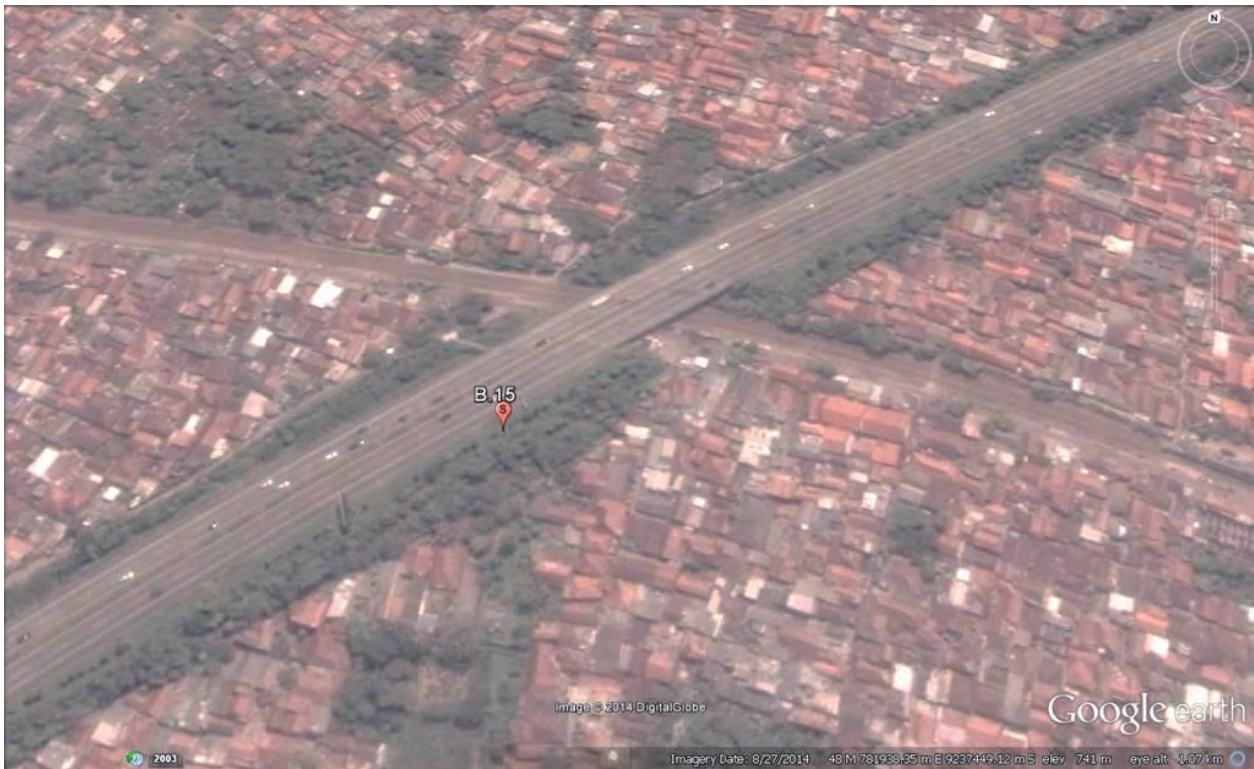


Boring point: B.13

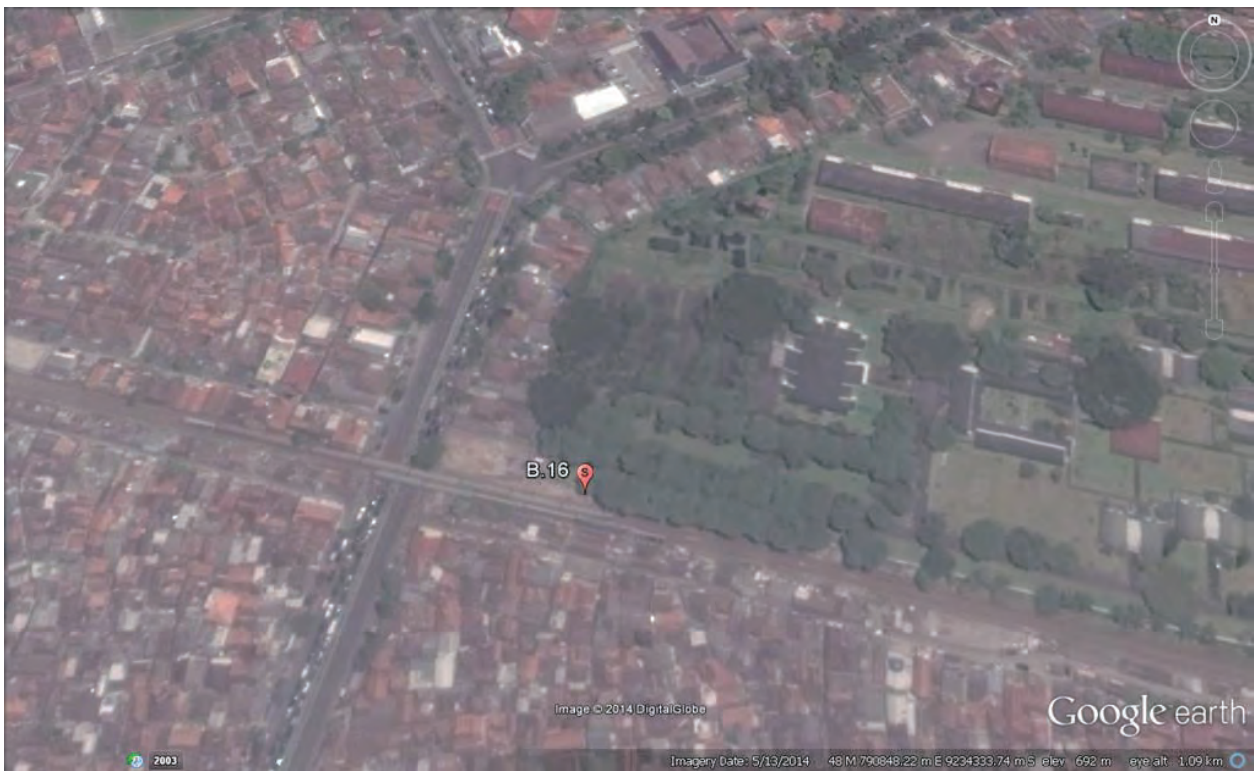


Boring point: B.14

**APPENDIX A.1.2. (7)**



Boring point: B.15



Boring point: B.16

**APPENDIX A.1.2. (8)**



Boring point: B.17

**APPENDIX A.1.2. (9)**

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : JL.INSPEKSI TARUM BARAT KALI MALANG  
 BORE HOLE NO. : B-1  
 ELEVATION (M) : 25.00  
 COORDINATES : E = 710072.00 ; N = 9309435.00  
 DEPTH (M) : 21.45

WATER LEVEL (M) : - 1.90  
 DATE : Octr 31 to Nov 5, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : A. Fido  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page : 1 of 1

SAMPLE DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm2)	SPT - N value				RECOVERY (%)				
						Depth (m)	BLOWS PER CM	N PER FOOT						
								40	80					
00.00	CH		CLAY, red coloured ( 10R;5/8 ), medium to high plasticity, medium to high dry strength, medium to high toughness, clay with gravel at 0.00-0.30 m depth,	1.00	0.25	1.15	4/30							
1.70			1.45	0.25	2.15	24/30								
2.00	CH		CLAY, light grey coloured ( GLAY1;7/N ), medium to high plasticity, medium to high dry strength, medium to high toughness, sandstone at 2.70-3.20 m and 3.80-4.00 m depth,	2.00	0.25	3.00	50/2		N > 100					
2.45			4.00	0.25	4.15	2/30								
5.70			4.45	0.25	5.15	9/30								
5.60			5.00	0.50	6.15	10/30								
6.00			5.45	1.50	7.15	51/30								
7.00	SC		CLAY, light grey coloured ( GLAY1;7/N ), low to medium plasticity, low to medium dry strength, low to medium toughness,	5.70	1.50	6.45	1.50	7.00	>4.50		7.15	51/30		
			CLAYEY SAND, brown coloured ( 7.5YR;4/4 ), About 60% fine to medium sand, about 40% silty and clayey fines low plasticity, clay at 11.00-11.80 m depth,	6.00	1.50	6.45	1.50	7.00	>4.50		7.15	51/30		
			7.45	>4.50	8.15	53/30								
			8.00	>4.50	9.15	47/30								
			11.70	11.80	12.00	3.75	12.15	36/30						
12.00	CH		CLAY, very dark greyish green coloured ( GLAY1;3/5G_2 ), low to medium plasticity, low to medium dry strength, low to medium toughness, slightly silty,	12.00	3.75	12.15	36/30							
13.70			12.45	3.75	13.15	48/30								
13.45	CH		CLAY, dark greyish brown coloured ( 10YR;4/2 ), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, slightly sandy, clayey sand with gravel at 14.45-15.00,	13.00	>4.50	13.15	48/30							
14.00			13.45	>4.50	14.15	42/30								
15.00	CH		CLAY, greenish black coloured, slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, slightly sandy.	14.00	>4.50	14.15	42/30							
15.70			14.45	>4.50	15.15	49/30								
16.00			15.15	49/30										
17.70			16.15	49/30										
18.00			17.15	64/30										
19.70	CH			17.15	64/30									
18.00			18.15	51/30										
19.70			19.15	56/30										
20.00	SP		SAND WITH GRAVEL, greenish black coloured, About 80% fine to medium sand, about 15% sub-rounded gravel max 30 mm in dia, 5% silty and clayey fines non plasticity,	20.00		20.15	56/30							
20.00			20.15	56/30										
21.45			END OF THIS BORING. CASING DOWN TO - 21.00 METERS IN DEPTH.	21.45	>4.50	21.15	75/30							

BH01.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : Jl.Inspeksi Tarum Barat KI Malang  
 BORE HOLE NO. : B-2  
 ELEVATION (M) : 26.00  
 COORDINATES : E= 711347.00 ; N= 9310908.00  
 DEPTH (M) : 20.25

WATER TABLE (M) : -7.00  
 DATE : November 12 to 14, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin walled (Shelby) Tube  
 SPT : Automatic Hammer  
 DRILLER : A. Fido  
 LOGGER : Yan Yusuf  
 DRAWN BY : Yan Yusuf Page 1 of 1

SAMPLE DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm2)	SPT - N value		RECOVERY (%)		
						Depth (m)	BLOWS PER CM		N PER FOOT	
									40	80
0.00	CL		LEAN CLAY, light brown ( 7.5YR 6/4 ), medium to low plasticity, medium dry strength, found subrounded gravel at 1.50-1.75m, medium stiff to stiff.							
1.70			1.45	0.25	1.15	4/30				
2.00	CH		SANDY FAT CLAY, dark gray ( 7.5YR 4/1 ), slightly silty, high to medium plasticity, high dry strength, moist, medium stiff.	2.00	0.25	2.15	5/30			
2.70			3.00	0.50	3.15	7/30				
3.70	SC		CLAYEY SAND, tuffaceous, light brown ( 7.5YR 6/4 ), sand is fine grained, medium dense.	4.00		4.15	47/30			
5.70				5.15	49/30					
6.00				6.15	46/30					
7.00				7.15	45/30					
7.70	CH		SANDY FAT CLAY, tuffaceous, light brown ( 7.5YR 6/4 ), low plasticity, sand is fine grained, hard.	8.00		8.15	44/30			
9.70				9.15	44/30					
10.00	ML		SILT, tuffaceous, dark bluish gray ( GLEY2 4/1 ), weakly cemented, hard.	10.00		10.15	51/30			
				11.15	54/30					
				12.15	53/30					
				13.15	54/30					
14.00	SP		POORLY GRADED SAND, tuffaceous, dark bluish gray ( GLEY2 4/1 ), weakly cemented, sand is fine to medium grained, slightly silty, very dense.	14.00		14.15	57/30			
				15.15	61/30					
				16.15	53/30					
				17.15	51/30					
				18.15	52/30					
				19.15	31/30					
20.25			END OF THIS BORING. CASING DOWN TO 19.80 METER IN DEPTH.	20.15		20.15	50/10			

BH02.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : JL.RAYA JATI MULYA,JATI MULYA, BEKASI  
 BORE HOLE NO. : B-3  
 ELEVATION (M) : +36.00  
 COORDINATES : E=723199.00 ; N=9307254.00  
 DEPTH (M) : 50.45

WATER LEVEL (M) : -7.00  
 DATE : Nov.02 to 07, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Aceng D.  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 1 of 2

SAMPLE	DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm2)	SPT - N value			RECOVERY (%)			
							Depth (m)	BLOWS PER CM	N PER FOOT				
									40		80		
	00.00			CLAY, red coloured ( 5YR;4/8 ), medium to high plasticity, medium to high dry strength, medium to high toughness, of weak strength coralline (chalk) at 0.60-0.70 m and 1.00-1.45 m depth, very stiff.	1.00	*	1.15	21/30					
	1.70	CH			1.45	*							
	2.00				1.70	1.00	2.15	15/30					
	3.70				2.00	1.50							
	4.00				2.45	3.00							
	5.70				3.00	3.50							
	6.00				3.45	3.50							
	7.70				3.70	3.50	CLAY, light grey coloured ( GLAY1:7/N ) mottled strong brown coloured, slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, medium stiff to stiff.	4.00	1.50	4.15	10/30		
	8.00				4.45	1.50							
	9.70				5.00	1.00		5.15	5/30				
	10.00			5.45	1.00								
	10.70	6.00	1.00	6.15	3/30								
	11.00	6.45	1.00										
	11.70	6.70	1.00	7.15	5/30								
	12.00	7.00	1.00										
	13.00	7.45	1.00	8.15	19/30								
	13.70	8.00	*										
	14.00	8.45	*										
	15.70	8.70	*	9.15	9/30								
	16.00	9.00	*										
	17.00	9.45	*	10.15	6/30								
	17.70	10.00	1.50										
	18.00	10.45	3.50	11.15	17/30								
	19.70	11.00	3.50										
	20.00	11.45	3.50	12.15	11/30								
	21.70	12.00	2.00										
	22.00	12.45	2.00	13.15	25/30								
	23.70	13.00	*										
	24.00	13.45	*	14.15	33/30								
	25.00	14.00	*										
	26.45	14.45	4.00	15.15	20/30								
	27.00	14.70	4.00										
	28.00	15.00	*	16.15	27/30								
	29.00	15.45	*										
	30.00	16.00	*	17.15	48/30								
	31.00	16.45	*										
	32.00	17.00	*	18.15	23/30								
	33.00	17.45	*										
	34.00	18.00	*	19.15	23/30								
	35.00	18.45	*										
	36.00	19.00	*	20.15	29/30								
	37.00	19.45	*										
	38.00	20.00	4.00	21.15	25/30								
	39.00	20.45	4.00										
	40.00	21.00	*	22.15	26/14								
	41.00	21.45	*										
	42.00	22.00	*	23.15	28/30								
	43.00	22.29	*										
	44.00	23.00	*	24.15	30/30								
	45.00	23.45	4.00										
	46.00	24.00	4.00	25.15	28/30								
	47.00	24.45	4.00										
	48.00	25.00	4.00	26.15	86/30								
	49.00	25.45	4.00										
	50.00	26.00	>4.50	27.15	48/30								
	51.00	26.45	>4.50										
	52.00	27.00	>4.50	28.15	68/30								
	53.00	27.45	>4.50										
	54.00	28.00	>4.50	29.15	76/30								
	55.00	28.45	>4.50										
	56.00	29.00	>4.50										
	57.00	29.40	>4.50										
	58.00	30.00	*										

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# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : JL.RAYA JATI MULYA,JATI MULYA, BEKASI  
 BORE HOLE NO. : B-3  
 ELEVATION (M) : +36.00  
 COORDINATES : E=723199.00 ; N=9307254.00  
 DEPTH (M) : 50.45

WATER LEVEL (M) : -7.00  
 DATE : Nov.02 to 07, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Aceng D.  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 2 of 2

SAMPLE DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm2)	SPT - N value		RECOVERY (%)		
						Depth (m)	BLOWS PER CM		N PER FOOT	
									40	80
30.00	SP		POORLY GRADED SAND, black coloured (GLAY;2.5/N), about 90% very fine sand, about 10% clayey and silty fines non plasticity, few compacted clay, very dense,	30.45	*	30.15	49/30			
31.70	CH		CLAY, very dark greenish grey coloured ( GLAY;3/N ), slightly silty, slightly sandy, medium to high plasticity, low to medium dry strength, low to medium toughness, very stiff to hard.	31.00	*	31.15	10/30			
32.00				31.45	1.00	31.45	10/30			
33.70	CH		CLAY, yellowish brown coloured ( 10YR;5/4 ) mottled grey coloured (GLAY1;5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, laminated with very fine sand lenses, very stiff.	32.00	*	32.15	27/30			
34.00				32.45	*	32.45	27/30			
35.70	CH		CLAY, grey coloured ( 10YR;5/1 ), medium to high plasticity, medium to high dry strength, medium to high toughness, clay grey coloured ( 10YR;5/1 ) mottled red coloured ( 2.5YR;4/6 ) at 35.00-36.00 m depth, stiff to very stiff.	33.00	*	33.15	18/30			
36.00				33.45	*	33.45	18/30			
37.70				34.00	*	34.00	28/30			
38.00				34.45	2.00	34.45	28/30			
39.00				35.00	2.00	35.00	29/30			
39.70				35.45	2.00	35.45	29/30			
41.70	CH		CLAY, olive yellow coloured ( 2.5Y;6/6 ), medium to high plasticity, medium to high dry strength, medium to high toughness, laminated with very fine sand lenses, very stiff.	36.00	2.00	36.15	17/30			
42.00				36.45	2.00	36.45	17/30			
43.70				37.00	1.50	37.00	12/30			
44.00				37.45	1.50	37.45	12/30			
45.45				38.00	1.50	38.00	15/30			
47.70				38.45	1.00	38.45	15/30			
48.00				39.00	1.00	39.00	14/30			
49.70				39.45	1.50	39.45	14/30			
50.00				40.00	1.50	40.00	21/30			
50.45				40.45	1.50	40.45	21/30			
	SP		POORLY GRADED SAND, light olive brown coloured B.5Y;5/4), about 95% very fine to medium sand, about 5% clayey and silty fines non plasticity, hard.	41.00	1.50	41.15	23/30			
				41.45	2.00	41.45	23/30			
	SP		POORLY GRADED SAND, very dark greyish green coloured (GLAY;3/2), about 90% very fine to medium sand, about 10% clayey and silty fines low plasticity, dense.	42.00	2.00	42.15	24/30			
				42.45	2.00	42.45	24/30			
	CH		CLAY, black coloured ( GLAY1;2.5/N ), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff to hard.	43.00	2.00	43.15	23/30			
				43.45	2.00	43.45	23/30			
	SP		POORLY GRADED SAND, light olive brown coloured B.5Y;5/4), about 95% very fine to medium sand, about 5% clayey and silty fines non plasticity, hard.	44.00	2.25	44.15	24/30			
				44.45	2.00	44.45	24/30			
	SP		POORLY GRADED SAND, very dark greyish green coloured (GLAY;3/2), about 90% very fine to medium sand, about 10% clayey and silty fines low plasticity, dense.	45.00	3.50	45.15	65/30			
				45.45	>4.50	45.45	65/30			
	SP		POORLY GRADED SAND, very dark greyish green coloured (GLAY;3/2), about 90% very fine to medium sand, about 10% clayey and silty fines low plasticity, dense.	46.00	*	46.15	58/30			
				46.45	*	46.45	58/30			
	CH		CLAY, black coloured ( GLAY1;2.5/N ), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff to hard.	47.00	*	47.15	57/30			
				47.45	*	47.45	57/30			
	SP		POORLY GRADED SAND, very dark greyish green coloured (GLAY;3/2), about 90% very fine to medium sand, about 10% clayey and silty fines low plasticity, dense.	48.00	*	48.15	42/30			
				48.45	*	48.45	42/30			
	CH		CLAY, black coloured ( GLAY1;2.5/N ), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff to hard.	49.00	*	49.15	40/30			
				49.45	*	49.45	40/30			
			END OF THIS BORING. CASING DOWN TO 46.00 METERS IN DEPTH.	50.00	*	50.15	24/30			
				50.45	*	50.45	24/30			

BH03A.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : JL.KH.AHMAD,MARIUK,GANDASARI,CIKARANG BARAT  
 BORE HOLE NO. : B-4  
 ELEVATION (M) : +36.00  
 COORDINATES : E=729719.00; N=9304856.00  
 DEPTH (M) : 60.45

WATER LEVEL (M) : -1.53  
 DATE : Oct.30 to Nov.06, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Dede Djudju  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 1 of 3

SAMPLE DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	q <sub>u</sub> (kg/cm <sup>2</sup> )	SPT - N value			RECOVERY (%)	
						Depth (m)	BLOWS PER CM	N PER FOOT		
								40		80
00.00	CH	[Symbol]	CLAY, reddish brown coloured ( 5YR;4/4 ), slightly sandy, medium to high plasticity, medium to high dry strength, medium to high toughness, slightly silty, medium stiff.	1.00	0.75	1.15	5/30			
1.70	SC	[Symbol]	CLAYEY SAND with GRAVELS, brown coloured ( 7.5YR;4/2 ), about 60% fine to medium sand, about 15% sub-rounded gravel max 20 mm in dia, 25% silty and clayey fines low plasticity, loose,	1.45	0.75	2.15	7/30			
2.00	CH	[Symbol]	CLAY (TUFFACEOUS), brown coloured ( 7.5YR;5/4 ), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, slightly sandy, medium stiff to stiff.	2.00	*	3.15	6/30			
3.70	SC	[Symbol]	CLAYEY SAND WITH GRAVEL, brown coloured ( 7.5YR;4/2 ), About 70% fine to medium sand, about 15% sub-rounded gravel max 20 mm in dia, 15% silty and clayey fines low plasticity, dense to very dense.	3.00	*	4.15	38/30			
4.00	CH	[Symbol]	CLAYEY SAND WITH GRAVEL, brown coloured ( 7.5YR;4/2 ), About 70% fine to medium sand, about 15% sub-rounded gravel max 20 mm in dia, 15% silty and clayey fines low plasticity, dense to very dense.	3.45	*	5.15	50/9			
5.70	SC	[Symbol]	SANDY CLAY, brown coloured ( 7.5YR;5/4 ), slightly silty, medium to high plasticity, low to medium dry strength, low to medium toughness, trace gravel max 40 mm in dia, hard.	4.00	*	6.15	38/30			
6.00	CH	[Symbol]	CLAYEY SAND, dark grey coloured ( 10YR;4/1 ), about 60% fine to coarse sand, about 30% silty and clayey fines low plasticity, about 10% gravel max 30 mm in dia, very stiff to hard.	4.45	*	7.15	24/30			
7.70	SP	[Symbol]	POORLY GRADED SAND, dark grey coloured ( 10YR;4/1 ), about 70% fine to coarse sand, about 5% clayey and silty fines non plasticity, about 25% sub-rounded gravel max 40 mm in dia, dense.	5.00	*	8.15	57/30			
9.70	SC	[Symbol]	CLAYEY SAND, dark grey coloured ( 10YR;4/1 ), about 70% fine to medium sand, about 25% clayey and silty fines low plasticity, about 5% sub-rounded gravel max 20 mm in dia, dense.	5.24	*	9.15	64/30			
11.70	CH	[Symbol]	CLAY, very dark greyish green coloured (GLAY1;3/2), medium to high plasticity, medium to high dry strength, medium to high toughness, slightly sand, slightly silty, coarse sand at 16.45-16.55 m depth, very stiff to hard.	6.00	>4.50	10.15	37/30			
12.00	SC	[Symbol]	SANDY CLAY, light olive brown coloured ( 2.5YR;5/3 ), slightly silty, low to medium plasticity, low to medium dry strength, low to medium toughness, trace gravel max 30 mm in dia, very stiff to hard.	6.45	>4.50	11.15	30/30			
13.70	CH	[Symbol]	CLAY, grey coloured (GLAY1;5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	6.70	*	12.15	28/30			
14.00	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	7.00	*	13.15	37/30			
15.70	CL	[Symbol]	CLAY, greyish green coloured (GLAY1;4/GY-/2), low to medium plasticity, low to medium dry strength, low to medium toughness, very stiff to hard.	7.45	*	14.15	26/30			
17.70	CH	[Symbol]	CLAY, dark greenish grey coloured (GLAY1;4/10Y), medium to high plasticity, medium to high dry strength, medium to high toughness, stiff to very stiff.	8.00	*	15.15	26/30			
18.00	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	8.45	*	16.15	32/30			
19.70	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	8.70	*	17.15	22/30			
20.00	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	8.85	*	18.15	43/30			
21.70	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	9.00	*	19.15	16/30			
22.00	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	9.45	*	20.15	23/30			
23.70	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	10.00	*	21.15	11/30			
24.00	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	10.45	*	22.15	20/14			
25.70	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	11.00	3.50	23.15	18/30			
26.00	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	11.45	*	24.15	27/30			
27.70	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	12.00	*	25.15	30/30			
28.00	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	12.45	*	26.15	33/30			
29.70	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	13.00	*	27.15	20/30			
30.00	CH	[Symbol]	CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	13.45	*	28.15	18/30			
			END OF THIS PAGE. CONTINUOUS TO NEXT PAGE.	14.00	3.25	29.15	14/30			
				14.45	3.25					
				15.00	3.25					
				15.45	3.25					
				16.00	3.50					
				16.45	4.00					
				17.00	3.00					
				17.45	2.75					
				18.00	>4.50					
				18.45	>4.50					
				19.00	>4.50					
				19.45	2.00					
				20.00	2.25					
				20.45	2.75					
				21.00	2.00					
				21.45	1.50					
				22.00	2.25					
				22.45	2.50					
				23.00	2.50					
				23.45	2.75					
				24.00	3.00					
				24.45	3.25					
				25.00	3.50					
				25.45	3.75					
				26.00	*					
				26.45	*					
				27.00	*					
				27.45	*					
				28.00	*					
				28.45	*					
				29.00	1.75					
				29.45	1.75					
				30.00	2.25					

BH04.TXT - AvantiGarde-Demi



# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : JL.KH.AHMAD,MARIUK,GANDASARI,CIKARANG BARAT  
 BORE HOLE NO. : B-4  
 ELEVATION (M) : +36.00  
 COORDINATES : E=729719.00; N=9304856.00  
 DEPTH (M) : 60.45

WATER LEVEL (M) : -1.53  
 DATE : Oct.30 to Nov.06, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Dede Djudju  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 2 of 3

SAMPLE DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	q <sub>u</sub> (kg/cm <sup>2</sup> )	SPT - N value			RECOVERY (%)	
						Depth (m)	BLOWS PER CM	N PER FOOT		
								40		80
30.00	CH		CLAY, greyish green coloured (GLAY1;5/GY-/2), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	30.45	2.50	30.15	18/30			
31.70				31.00	2.25	31.15	17/30			
32.00				31.45	2.25					
33.70				32.00	3.50	32.15	26/30			
34.00				32.45	3.25					
35.70				33.00	2.50	33.15	21/30			
36.00				33.45	2.75					
37.70				34.00	3.25	34.15	27/30			
38.00				34.45	>4.50					
39.70				35.00	3.50	35.15	20/30			
40.00	35.45	2.50								
41.70	CH		CLAY, greenish grey coloured (GLAY1;6/10Y), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff.	36.00	2.75	36.15	21/30			
42.00				36.45	2.75					
43.70				37.00	2.75	37.15	22/30			
44.00				37.45	2.75					
45.70				38.00	2.50	38.15	20/30			
46.00				38.45	2.50					
47.70				39.00	2.75	39.15	26/30			
48.00				39.45	3.25					
49.70				40.00	3.25	40.15	21/30			
50.00				40.45	3.50					
	CH		CLAY, light grey coloured (GLAY1;7/N) mottled brownish yellow A0YR;6/6), medium to high plasticity, medium to high dry strength, medium to high toughness, laminated with very fine sand lenses, hard.	41.00	3.75	41.15	32/30			
				41.45	4.00					
				42.00	4.00	42.15	43/30			
				42.45	>4.50					
				43.00	>4.50	43.15	52/30			
				43.45	>4.50					
				44.00	>4.50	44.15	22/30			
				44.45	.					
				45.00	3.50	45.15	32/30			
				45.45	.					
	SC		CLAYEY SAND, brownish yellow A0YR;6/6), about 90% fine to coarse sand, about 10% clayey and silty fines non plasticity, dense to very dense.	46.00	>4.50	46.15	34/30			
				46.45	>4.50					
				47.00	>4.50	47.15	37/30			
				47.45	>4.50					
				48.00	4.00	48.15	33/30			
				48.45	4.25					
				49.00	4.00	49.15	30/30			
				49.45	3.75					
				50.00	3.75					
						END OF THIS PAGE. CONTINUOUS TO NEXT PAGE.				

BH04A.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : JL.KH.AHMAD,MARIUK,GANDASARI,CIKARANG BARAT  
 BORE HOLE NO. : B-4  
 ELEVATION (M) : +36.00  
 COORDINATES : E=729719.00; N=9304856.00  
 DEPTH (M) : 60.45

WATER LEVEL (M) : -1.53  
 DATE : Oct.30 to Nov.06, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Dede Djudju  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 3 of 3

SAMPLE	DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	q <sub>u</sub> (kg/cm <sup>2</sup> )	SPT - N value			RECOVERY (%)		
							Depth (m)	BLOWS PER CM	N PER FOOT			
									40		80	
51.70 52.00 53.70 54.00 55.70 56.00 57.70 58.00 59.70 60.00	50.00	CH	[diagonal lines]	CLAY, very dark grey coloured ( 10YR;3/1) medium to high plasticity, medium to high dry strength, medium to high toughness, Clay brownish yellow at 51.45-51.90 m depth, very stiff to hard.	50.45	4.00	50.15	32/30				
	51.90			CH	[diagonal lines]	CLAY, light grey coloured (GLAY1;7/N) mottled brownish yellow A0YR;6/6), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, few coralline, few sand, very stiff to hard.	51.00	3.75	51.15	29/30		
	54.00	CH	[diagonal lines]			CLAY, light grey coloured (GLAY1;7/N) mottled brownish yellow A0YR;6/6), medium to high plasticity, medium to high dry strength, medium to high toughness, laminated with very fine sand lenses, very stiff to hard.	52.00	3.50	52.15	27/30		
	55.70			53.00	3.50	53.15	29/30					
	56.00			54.00	3.50	54.15	30/30					
	57.70			54.45	3.75	55.15	28/30					
	58.00	58.45	CL	[diagonal lines]	SANDY CLAY, yellowish brown coloured ( 10YR;5/6 ), silty fines low plasticity, hard.	55.00	3.75	55.15	28/30			
	59.70	56.00			3.50	56.15	29/30					
	60.00	56.45			4.00	57.15	38/30					
		57.00			4.00	57.15	38/30					
	57.45	>4.50	58.15	34/30								
	58.00	3.75	58.15	34/30								
	58.45	3.50	59.15	23/30								
	59.00	*	59.15	23/30								
	59.45	*	59.15	23/30								
	60.00	*	60.15	22/30								
	60.45	*	60.15	22/30								
				END OF THIS BORING. CASING DOWN TO 50.10 METERS IN DEPTH.								

BH04B.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : Jl.Inspeksi Tarum Barat  
 BORE HOLE NO. : B-5  
 ELEVATION (M) : 25.00  
 COORDINATES : E= 710072.00; N= 9309435.00  
 DEPTH (M) : 50.45

WATER TABLE (M) : -1.20  
 DATE : November 13 to 18, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin walled (Shelby) Tube  
 SPT : Automatic Hammer  
 DRILLER : Aceng D  
 LOGGER : Yan Yusuf  
 DRAWN BY : Yan Yusuf Page 1 of 2

SAMPLE DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm2)	SPT - N value			RECOVERY (%)	
						Depth (m)	BLOWS PER CM	N PER FOOT		
								40		80
0.00	CH		FAT CLAY, reddish brown ( 5YR 5/4 ), high plasticity, high dry strength, stiff.							
1.00				1.00	1.25	1.15	7/30			
1.70	CH		FAT CLAY, light yellowish brown ( 10YR 6/4 ), high plasticity, high dry strength, slightly silty, moist, medium stiff.	1.70	1.50	2.15	5/30			
2.00				2.00	1.50					
3.00				3.00	1.50	3.15	8/30			
3.70			FAT CLAY, light yellowish brown ( 10YR 6/4 ), high plasticity, high dry strength, slightly silty, moist, stiff. become very stiff below 13.00 m to the bottom.	3.70	1.50					
4.00				4.00	2.00	4.15	9/30			
5.70				5.00	2.00	5.15	9/30			
6.00				6.00	2.00	6.15	13/30			
7.70	CH			7.00	2.00	7.15	11/30			
8.00				8.00	2.00	8.15	11/30			
9.70				9.00	2.00	9.15	12/30			
10.00				10.00	2.00	10.15	13/30			
11.70				11.00	2.25	11.15	15/30			
12.00				12.00	2.25	12.15	14/30			
13.70				13.00	2.50	13.15	18/30			
14.00			FAT CLAY, bluish gray ( GLEY2 5/1 ), high plasticity, high to medium dry strength, non dilatancy, very stiff.	14.00	3.00	14.15	19/30			
15.70				15.00	3.00	15.15	18/30			
16.00				16.00	3.00	16.15	21/30			
17.70	CH			17.00	3.00	17.15	18/30			
18.00				18.00	2.50	18.15	15/30			
19.70				19.00	2.50	19.15	17/30			
20.00				20.00	3.50	20.15	28/30			
21.00				21.00	4.00	21.15	28/30			
21.70			SILT, tuffaceous, gray ( GLEY1 6/N ), low plasticity, slightly clay, moist, very stiff to hard.	22.00	>4.50	22.15	37/30			
22.00				23.00	>4.50	23.15	29/30			
23.70	ML			24.00	>4.50	24.15	23/30			
24.00				25.00	>4.50	25.15	49/30			
25.70				26.00	4.50	26.15	33/30			
26.00			FAT CLAY, light brownish gray ( 10YR 6/2 ), high to medium plasticity, medium dry strength, tuffaceous, very stiff.	27.00	4.50	27.15	25/30			
27.70				28.00	>4.50	28.15	24/30			
28.00	CH			29.00	4.50	29.15	23/30			
29.70				30.00	>4.50	30.15	27/30			
30.00			END OF THIS PAGE. CONTINUOUS TO NEXT PAGE.							

BH05.TXT - AvantiGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : Jl.Inspeksi Tarum Barat  
 BORE HOLE NO. : B-5  
 ELEVATION (M) : 25.00  
 COORDINATES : E= 710072.00 N= 9309435.00  
 DEPTH (M) : 50.45

WATER TABLE (M) : -1.20  
 DATE : November 13 to 18, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin walled (Shelby) Tube  
 SPT : Automatic Hammer  
 DRILLER : Aceng D  
 LOGGER : Yan Yusuf  
 DRAWN BY : Yan Yusuf Page 2 of 2

SAMPLE	DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm2)	SPT - N value			RECOVERY (%)	
							Depth (m)	BLOWS PER CM	N PER FOOT		
									40		80
31.70 32.00	30.45	CH		FAT CLAY, light brownish gray ( 10YR 6/2 ), high to medium plasticity, medium dry strength, tuffaceous, very stiff.	31.00	4.50	31.15	21/30			
32.00					4.00	32.15	21/30				
33.70 34.00					>4.50	33.15	32/30				
34.00					>4.50	34.15	42/30				
35.70 36.00					>4.50	35.15	29/30				
36.00	36.00	CL		LEAN CLAY, tuffaceous, gray ( 7.5YR 5/1 ), low plasticity, medium dry strength, slightly silty, trace fine grained sand, very stiff.	36.00	3.50	36.15	28/30			
37.00					4.50	37.15	29/30				
38.00	38.00	SC		CLAYEY SAND, tuffaceous, yellowish brown ( 10YR 5/6 ), about 60% fine to medium grained sand, very dense.	38.15		38.15	59/30			
39.15						39.15	59/30				
40.15						40.15	57/30				
41.15						41.15	61/30				
41.70 42.00					42.10		42.15	29/30			
43.70 44.00	42.10	CH		FAT CLAY, pale brown ( 10YR 6/3 ), high plasticity, high to medium dry strength, non dilatancy, moist, very stiff to hard.	42.45	4.50	42.15	29/30			
43.00					>4.50	43.15	38/30				
44.00					>4.50	44.15	43/30				
45.00					>4.50	45.15	40/30				
45.70 46.00					4.00	46.15	35/30				
47.00					3.50	47.15	28/30				
47.70 48.00					4.00	48.15	40/30				
49.00					4.50	49.15	42/30				
49.70 50.00					4.50	50.15	39/30				
50.45											
				END OF THIS BORING. CASING DOWN TO 42.00 METER IN DEPTH.							

BH05A.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : Cibeet Canal-Sukasari-T.Jambe  
 BORE HOLE NO. : B-6  
 ELEVATION (M) : 38.00  
 COORDINATES : E= 745015.00 N= 9296103.00  
 DEPTH (M) : 30.45

WATER TABLE (M) : -1.20  
 DATE : November 11 to 13, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin walled (Shelby) Tube  
 SPT : Automatic Hammer  
 DRILLER : Dede DjuDju  
 LOGGER : Yan Yusuf  
 DRAWN BY : Yan Yusuf Page 1 of 1

SAMPLE	DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	q <sub>u</sub> (kg/cm <sup>2</sup> )	SPT - N value				RECOVERY (%)
							Depth (m)	BLOWS PER CM	N PER FOOT		
									40	80	
	0.00	CH		FAT CLAY, pinkish gray ( 7.5YR 6/2 ), high plasticity, high dry strength, trace fine sand, medium stiff.							
	1.00	CH		FAT CLAY, light yellowish brown ( 10YR 6/4 ), high plasticity, high dry strength, slightly silty, moist, medium stiff to stiff.	1.00	0.50	1.15	3/30			
		CH			2.00	0.50	2.15	5/30			
		CH			3.00	0.75	3.15	7/30			
		CH			4.00	0.75	4.15	8/30			
		CH			5.00	1.00	5.15	10/30			
		CH			6.00	1.25	6.15	10/30			
		CH			7.00	1.25	7.15	10/30			
		CH			8.00	1.25	8.15	8/30			
		CH			9.00	1.00	9.15	8/30			
	10.00	MH		ELASTIC SILT, light yellowish brown ( 10YR 6/4 ), medium plasticity, few fine grained sand, moist, medium stiff. become gray ( 5YR 5/1 ), below 11.50m to ward the depth.	10.00	0.75	10.15	7/30			
		MH			11.00	1.00	11.15	5/30			
	12.00	SP		POORLY GRADED SAND with SILT, gray ( 5YR 5/1 ), fine to medium grained, intercalated by thin silt and organic lenses, uncemented, loose. shown organic at the depth of: 12.85-13.00m and 13.50-13.70m.	12.00	0.75	12.15	9/30			
		SP			13.15		10/30				
		SP			14.15		6/30				
	14.60	CH		FAT CLAY, bluish gray ( GLEY2 6/1 ), high plasticity, high to medium dry strength, non dilatancy, moist, medium stiff to stiff.	15.00	1.25	15.15	10/30			
		CH			16.00	1.00	16.15	8/30			
	16.90	GP		POORLY GRADED GRAVEL with CLAY, grayish brown ( 2.5Y 5/2 ), about 60% gravel, max dia of 4.00cm in size, subangular, medium to low plastic fines, medium dense.	17.15		13/30				
		GP			18.15		14/30				
		GP			19.15		20/30				
	19.50	CH		FAT CLAY, bluish gray ( GLEY2 6/1 ), high plasticity, high dry strength, non dilatancy, moist, very stiff. Become hard, found gravel at the depth of: 24.00-24.45m	20.00	1.75	20.15	14/30			
		CH			21.00	2.00	21.15	20/30			
		CH			22.00	2.50	22.15	22/30			
		CH			23.00	2.75	23.15	19/30			
		CH			24.00	2.50	24.15	47/30			
		CH			25.45	3.50	25.15	28/30			
	26.00	CH		FAT CLAY, bluish gray ( GLEY2 6/1 ), high plasticity, high dry strength, non dilatancy, moist, hard. found gravel at the depth of: 27.90-28.00m	26.00	>4.50	26.15	35/30			
		CH			27.00	>4.50	27.15	35/30			
		CH			28.00	>4.50	28.15	40/30			
		CH			29.00	>4.50	29.15	46/30			
	30.45			END OF THIS BORING. CASING DOWN TO 26.00 METER IN DEPTH.	30.00	>4.50	30.15	50/30			

BH06.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : Dusun Cicadas, Ds.wankerta, T.Jambe Barat  
 BORE HOLE NO. : B-7  
 ELEVATION (M) : 49.00  
 COORDINATES : E= 747029.00 N= 9294481.00  
 DEPTH (M) : 30.45

WATER TABLE (M) : -5.20  
 DATE : December 09 to 11, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin walled (Shelby) Tube  
 SPT : Automatic Hammer  
 DRILLER : A.Fido  
 LOGGER : Supriadi  
 DRAWN BY : Nick Page 1 of 1

SAMPLE	DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm2)	SPT - N value				RECOVERY (%)
							Depth (m)	BLOWS PER CM	N PER FOOT		
									40	80	
	0.00	CH		CLAY with SAND, dark reedish brown B.5YR.3/4), moist, medium stiff.							
	1.20	CH		FAT CLAY, light reddish brown ( 2.5YR 3/6 ), medium to high plasticity, high dry strength, stiff.	1.00	1.25	1.15	11/30			
	2.70	CH		FAT CLAY, brown ( 10YR 5/3 ), medium to high plasticity, high dry strength, slightly silty, moist, stiff.	2.00	1.50	2.15	14/30			
	3.70	CH		FAT CLAY, dark brown ( 10YR 3/3 ), medium to high plasticity, high dry strength, stiff.	3.00	1.50	3.15	15/30			
	6.00	CH		FAT CLAY, dark gray ( GLEY1 3/1 ), high plasticity, dry strength, moist, hard.	4.00	4.00	4.15	30/30			
	6.00	CL		CLAY, dark gray ( GLEY 1/3 ), low plasticity, hard.	5.00	>4.50	5.15	39/30			
	6.00				>4.50	6.15	50/30				
	7.00				>4.50	7.15	51/30				
	8.00				>4.50	8.15	50/30				
	9.00				>4.50	9.15	51/30				
	10.00				>4.50	10.15	51/30				
	10.80	ML		SILT, dark gray ( GLEY 1/3 ), few very fine sand, low plasticity, hard.	11.00	>4.50	11.15	52/30			
	12.00				>4.50	12.15	53/30				
	13.00				>4.50	13.15	51/30				
	14.00				>4.50	14.15	53/30				
	15.00				>4.50	15.15	66/30				
	16.00				>4.50	16.15	62/30				
	17.00				>4.50	17.15	63/30				
	18.00				>4.50	18.15	63/30				
	19.00				>4.50	19.15	63/30				
	20.00				>4.50	20.15	58/30				
	21.00				>4.50	21.15	59/30				
	22.00				>4.50	22.15	60/30				
	23.00				>4.50	23.15	61/30				
	24.00				>4.50	24.15	59/30				
	25.00	>4.50	25.15	62/30							
	26.00	>4.50	26.15	59/30							
	27.00	>4.50	27.15	61/30							
	28.00	>4.50	28.15	63/30							
	29.00	>4.50	29.15	62/30							
	30.00	>4.50	30.15	64/30							
	30.45			END OF THIS BORING. CASING DOWN TO 27.50 METER IN DEPTH.							

BH07.TXT - AvantiGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : Dusun Narotog, Ds. Tegalega, Ciampel, Karawang  
 BORE HOLE NO. : B-8  
 ELEVATION (M) : 40.00  
 COORDINATES : E= 761821.00 N= 9282974.00  
 DEPTH (M) : 30.45

WATER TABLE (M) : -4.20  
 DATE : December 05 to 06, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin walled (Shelby) Tube  
 SPT : Automatic Hammer  
 DRILLER : A.Fido  
 LOGGER : Supriadi  
 DRAWN BY : Nick Page 1 of 1

SAMPLE	DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm <sup>2</sup> )	SPT - N value			RECOVERY (%)	
							Depth (m)	BLOWS PER CM	N PER FOOT		
									40		80
	0.00	CH		FAT CLAY, dark brown ( 10YR 3/3 ), medium to high plasticity, moist, high dry strength, medium stiff.							
	1.00	CH		FAT CLAY, yellowish brown ( 10YR 5/3 ), medium to high plasticity, high dry strength, moist, stiff.	1.00	1.25	1.15	10/30			
	2.45	CH		CLAY, dark brown ( 10YR 3/3 ), medium to high plasticity, high dry strength, slightly silt, trace fine grained sands, stiff to very stiff.	2.00	1.50	2.15	11/30			
	4.60	CH		FAT CLAY, grayish brown ( 10YR 4/2 ), medium to high plasticity, high dry strength, hard.	3.00	1.50	3.15	11/30			
	6.00	CH		CLAY, dark gray A0YR 3/2), low plasticity, hard.	4.00	2.50	4.15	16/30			
	17.00	CL		CLAY, grayish brown ( 10YR 3/2 ), trace shell fragments, hard.	5.00	3.50	5.15	31/30			
	30.45	CL		END OF THIS BORING. CASING DOWN TO 27.00 METER IN DEPTH.	6.00	>4.50	6.15	49/30			
					7.00	>4.50	7.15	49/30			
					8.00	>4.50	8.15	50/30			
					9.00	>4.50	9.15	49/30			
					10.00	>4.50	10.15	49/30			
					11.00	>4.50	11.15	50/30			
					12.00	>4.50	12.15	51/30			
					13.00	>4.50	13.15	51/30			
					14.00	>4.50	14.15	49/30			
					15.00	>4.50	15.15	50/30			
					16.00	>4.50	16.15	49/30			
					17.00	>4.50	17.15	51/30			
					18.00	>4.50	18.15	53/30			
					19.00	>4.50	19.15	53/30			
					20.00	>4.50	20.15	49/30			
					21.00	>4.50	21.15	52/30			
					22.00	>4.50	22.15	49/30			
					23.00	>4.50	23.15	51/30			
					24.00	>4.50	24.15	52/30			
					25.00	>4.50	25.15	51/30			
					26.00	>4.50	26.15	49/30			
					27.00	>4.50	27.15	54/30			
					28.00	>4.50	28.15	52/30			
					29.00	>4.50	29.15	54/30			
					30.00	>4.50	30.15	56/30			

BH08.TXT - AvontGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : KP.SAWAH,CICADAS,BABAKAN CIKAO  
 BORE HOLE NO. : B-9  
 ELEVATION (M) : +46.00  
 COORDINATES : E=765073.00; N=9280796.00  
 DEPTH (M) : 21.45

WATER LEVEL (M) : -2.35  
 DATE : Nov.15 to Nov.17, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Jojo S.  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 1 of 1

SAMPLE	DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	q <sub>u</sub> (kg/cm <sup>2</sup> )	SPT - N value			RECOVERY (%)		
							Depth (m)	BLOWS PER CM	N PER FOOT			
									40		80	
	00.00			FAT CLAY, yellowish brown ( 10YR 5/4 ), high plasticity, high dry strength, non dilatancy, moist, medium stiff to stiff.	1.00	1.50	1.15	5/30				
	1.70	CH			1.45	1.50						
	2.00				2.15	10/30						
	2.45				3.00	18/30						
	3.00				3.45	>4.50						
	3.70				4.00	>4.50						
	4.00	CH		FAT CLAY, dark gray ( 7.5YR 4/1 ), slightly silty, high plasticity, high to medium dry strength, non dilatancy, very stiff.	4.45	>4.50	4.15	29/30				
	5.00				>4.50	5.15	29/30					
	5.45				>4.50	6.00	>4.50	6.15	33/30			
	6.00				>4.50	7.00	>4.50	7.15	32/30			
	6.45				>4.50	7.45	>4.50	8.00	>4.50	8.15	30/30	
	7.00				>4.50	8.45	>4.50	8.15	30/30			
	7.45				>4.50	9.00	>4.50	9.15	31/30			
	8.00				>4.50	9.45	>4.50	10.00	>4.50	10.15	33/30	
	8.45				>4.50	10.45	>4.50	11.00	>4.50	11.15	37/30	
	9.00				>4.50	11.45	>4.50	12.00	>4.50	12.15	39/30	
	9.45	>4.50	12.45	>4.50	13.00	>4.50	13.15	38/30				
	10.00	>4.50	13.45	>4.50	14.00	>4.50	14.15	49/30				
	10.45	>4.50	14.45	>4.50	15.00	>4.50	15.15	57/30				
	15.00	CL		CONSOLIDATED CLAY, dark gray ( GLEY1 4/N ), clay to silty character, interlaminated by fine sand and shell fragments, slacking when exposed, hard.	15.45	>4.50	16.15	56/30				
	16.00				>4.50	16.15	56/30					
	16.45				>4.50	17.00	>4.50	17.15	53/30			
	17.00				>4.50	17.45	>4.50	18.00	>4.50	18.15	53/30	
	17.45				>4.50	18.45	>4.50	19.00	>4.50	19.15	50/30	
	18.00				>4.50	19.45	>4.50	20.00	>4.50	20.15	48/30	
	18.45				>4.50	20.45	>4.50	21.00	>4.50	21.15	47/30	
	19.00				>4.50	21.00	>4.50	21.15	47/30			
	19.45				>4.50	21.15	>4.50					
	20.00				>4.50							
	20.45	>4.50										
	21.00	>4.50										
	21.45	>4.50										
				END OF THIS BORING. CASING DOWN TO 16.00 METERS IN DEPTH.								

BH09.TXT - AvantiGarde-Demi



# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : Neglasari-Jatiluhur-Purwakarta  
 BORE HOLE NO. : B-10  
 ELEVATION (M) : 100.00  
 COORDINATES : E= 767631.00; N= 9277691.00  
 DEPTH (M) : 30.25

WATER TABLE (M) : -6.50  
 DATE : November 16 to 19, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin walled (Shelby) Tube  
 SPT : Automatic Hammer  
 DRILLER : Tatang  
 LOGGER : Yan Yusuf  
 DRAWN BY : Yan Yusuf Page 1 of 1

SAMPLE DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm2)	SPT - N value		RECOVERY (%)			
						Depth (m)	BLOWS PER CM		N PER FOOT		
									40	80	
0.00	CL		LEAN CLAY, reddish brown ( 5YR 5/4 ), slightly sandy, low plasticity, low dry strength, stiff.								
1.00	SM		SILTY SAND with GRAVEL, yellowish brown ( 10YR 5/4 ), fine to medium grained sand, about 15% subangular gravel with max dia of 4.00cm in size, loose.			1.15	9/30				
2.45	CH		FAT CLAY, bluish gray ( GLEY2 5/1 ), high plasticity, high to medium dry strength, non dilatancy, stiff to very stiff.	3.00	2.00	3.15	8/30				
				4.00	2.00	4.15	12/30				
				5.00	2.00	5.15	7/30				
				6.00	3.00	6.15	19/30				
				7.00	3.00	7.15	13/30				
				8.00	2.00	8.15	18/30				
9.00				CH		FAT CLAY, bluish gray ( GLEY2 5/1 ), high plasticity, high to medium dry strength, non dilatancy, hard.	9.00	4.50	9.15	33/30	
							10.00	>4.50	10.15	50/30	
							11.00	>4.50	11.15	77/30	
							12.00	>4.50	12.15	72/30	
	13.00	>4.50	13.15				67/30				
	14.00	>4.50	14.15				80/30				
	15.00	>4.50	15.15				80/30				
	16.00	>4.50	16.15				73/30				
	17.00	>4.50	17.15				73/30				
18.00	CL		CONSOLIDATED CLAY, dark gray ( GLEY1 4/N ), clay to silty character, occasional shell fragments included, slacking when exposed, hard.				18.00	>4.50	18.15	52/30	
				19.00	>4.50	19.15	65/30				
				20.00	>4.50	20.15	54/30				
				21.00	>4.50	21.15	77/30				
				22.00	>4.50	22.15	80/30				
				23.00	>4.50	23.15	50/15	N > 100			
				24.00	>4.50	24.15	90/24	N > 100			
				25.00	>4.50	25.15	50/14	N > 100			
				26.00	>4.50	26.15	50/10	N > 100			
				27.00	>4.50	27.15	50/8	N > 100			
	28.00	>4.50	28.00	50/14	N > 100						
	29.00	>4.50	29.00	50/10	N > 100						
30.25			END OF THIS BORING. CASING DOWN TO 25.02 METER IN DEPTH.	30.00	>4.50	30.15	50/10	N > 100			

BH10.TXT - AvantiGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : KP.CISUREN,DESA MEKARGALIH,PURWAKARTA  
 BORE HOLE NO. : B-11  
 ELEVATION (M) : +141.00  
 COORDINATES : E=767899.00 ; N=9273355.00  
 DEPTH (M) : 50.45

WATER LEVEL (M) : -6.05  
 DATE : Oct.26 to Nov.02, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Jojo  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 1 of 2

SAMPLE	DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm2)	SPT - N value			RECOVERY (%)	
							Depth (m)	BLOWS PER CM	N PER FOOT		
									40		80
	00.00	CH		CLAY, dark reddish brown coloured ( 2.5R;3/4 ), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, trace angular gravel max 20 mm in dia, slightly sand, stiff.	1.00	3.50	1.15	10/30			
	1.45				3.50						
	2.00				2.50	2.15	14/30				
	2.45				2.50						
	3.00				2.50	3.15	18/30				
	4.00	CL		SANDY CLAY, light greenish grey coloured ( GLAY1;8/5GY ) slightly silty, low to medium plasticity, low to medium dry strength, low to medium toughness, stiff.	3.45	2.50					
	4.00				2.50	4.15	14/30				
	4.45				2.50						
	5.00				1.75	5.15	15/30				
	5.45				1.75						
	6.00				*	6.15	11/30				
	6.45	*									
	7.90	SP		TUFFACEOUS SAND, yellow coloured ( 2.5Y;7/6 ), About 60% sand, about 15% sub-angular gravel, about 25% silty and clayey fines, andesite at 12.00-12.90 m depth, medium dense.	7.00	1.00	7.15	13/30			
	7.45				1.00						
	8.00				1.00	8.15	16/30				
	8.45				1.00						
	9.00				*	9.15	22/30				
	9.45				*						
	10.00				*	10.15	15/30				
	10.45				*						
	12.90	ML		TUFFACEOUS SILT, light yellowish brown coloured ( 2.5YR;6/4 ), slightly sandy, slightly clay, trace gravel low to medium plasticity, hard.	11.00	*	11.15	16/30		N > 100	
	11.45				*						
	12.00				*	12.00	50/5		N > 100		
	12.05				*						
	13.00				*	13.00	50/13				
	15.00	SP		POORLY GRADED SAND WITH GRAVEL, dark greyish brown coloured ( 2.5Y;4/2 ), about 75% fine to coarse grained sand, about 15% sub-angular gravel max 15 mm in dia, about 10% silty and clay fines, medium dense.	13.28	*	14.15	40/30			
	14.45				*						
	16.00	CH		CLAY, dark greyish brown coloured ( 2.5Y;4/2 ), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, stiff.	15.00	*	15.15	19/30			
	15.45				*						
	17.50	SP		POORLY GRADED SAND WITH GRAVEL, dark greyish brown coloured ( 2.5Y;4/2 ), about 75% fine to coarse grained sand, about 15% sub-angular gravel max 10 mm in dia, about 10% silty and clay fines, medium dense.	16.00	*	16.15	10/30			
	16.45				*						
	17.00				*	17.15	9/30				
	17.45				*						
	18.00				*	18.15	20/30				
	18.45				*						
	19.00				*	19.15	26/30				
	21.75	GP		POORLY GRADED GRAVEL WITH SAND, light olive brown coloured ( 2.5Y;5/4 ), about 45% fine to coarse sub-rounded gravel max 60 mm in dia, about 30% grained sand, about 25% silty and clay fines, dense to very dense.	19.45	*	20.15	33/30			
	20.00				*						
	20.45				*	21.15	38/30		N > 100		
	23.00	OH		ORGANIC CLAY, black coloured ( GLAY1;2.5/N ), medium to high plasticity, medium to high dry strength, medium to high toughness, very stiff to hard.	21.45	*	22.00	50/14			
	22.00				*						
	22.29				*	23.15	24/30				
	23.00				*						
	23.45				>4.50	24.15	58/30				
	24.00				>4.50						
	24.45				>4.50	25.15	46/30				
	25.00				>4.50						
	25.45				>4.50	26.15	43/30				
	26.00				>4.50						
	26.45				>4.50	27.15	31/30				
	27.00	>4.50									
	27.45	>4.50	28.15	34/30							
	28.00	>4.50									
	28.45	>4.50	29.15	35/30							
	29.00	>4.50									
	29.45	>4.50									
	30.00										

BH11.TXT - AvantiGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : KP.CISUREN,DESA MEKARGALIH,PURWAKARTA  
 BORE HOLE NO. : B-11  
 ELEVATION (M) : +141.00  
 COORDINATES : E=767899.00 ; N=9273355.00  
 DEPTH (M) : 50.45

WATER LEVEL (M) : -6.05  
 DATE : Oct.26 to Nov.02, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Jojo  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 2 of 2

SAMPLE	DEPTH (meter)	USCS	CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	q <sub>u</sub> (kg/cm <sup>2</sup> )	SPT - N value			RECOVERY (%)	
								Depth (m)	BLOWS PER CM	N PER FOOT		
										40		80
	30.00			OH	ORGANIC CLAY, black coloured ( GLAY1;2.5/N ), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	30.45	>4.50	30.15	35/30			
						31.00	>4.50	31.15	38/30			
						31.45	>4.50					
						32.00	>4.50	32.15	44/30			
						32.45	>4.50					
						33.00	>4.50	33.15	45/30			
						33.45	>4.50					
						34.00	>4.50	34.15	48/30			
						34.45	>4.50					
						35.00	>4.50	35.15	53/30			
						35.45	>4.50					
						36.00	>4.50	36.15	54/30			
						36.45	>4.50					
						37.00	>4.50	37.15	59/30			
						37.45	>4.50					
						38.00	>4.50	38.15	53/30			
						38.45	>4.50					
						39.00	>4.50	39.15	58/30			
						39.45	>4.50					
						40.00	>4.50	40.15	62/30			
						40.45	>4.50					
						41.00	>4.50	41.15	57/30			
						41.45	>4.50					
						42.00	>4.50	42.15	53/30			
						42.45	>4.50					
						43.00	>4.50	43.15	63/30			
						43.45	>4.50					
						44.00	>4.50	44.15	64/30			
						44.45	>4.50					
						45.00	>4.50	45.15	65/30			
						45.45	>4.50					
						46.00	>4.50	46.15	66/30			
						46.45	>4.50					
						47.00	>4.50	47.15	57/30			
						47.45	>4.50					
						48.00	>4.50	48.15	60/30			
						48.45	>4.50					
						49.00	>4.50	49.15	65/30			
						49.45	>4.50					
	50.45				END OF THIS BORING. CASING DOWN TO 48.00 METERS IN DEPTH.	50.00	>4.50	50.15	65/30			
						50.45	>4.50					

BH11A.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : PASAR MUNJUL,SUKATANI,CIANTING,PURWAKARTA  
 BORE HOLE NO. : B-12  
 ELEVATION (M) : 362.00 m  
 COORDINATES : E=768512.00; N=9265613.00  
 DEPTH : 30.28 m

WATER LEVEL : -6.50 m  
 DATE : October 27 to 30, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Asep Wahyu  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 1 of 1

SAMPLE	DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm2)	SPT - N value			RECOVERY (%)			
							Depth (m)	BLOWS PER CM	N PER FOOT		40	80	
									40	80			
	00.00	CH		CLAY, red coloured ( 2.5YR;5/8 ), slightly sandy, medium to high plasticity, medium to high dry strength, medium to high toughness, soft.	1.00	1.75	1.15	4/30					
	2.00			CLAY, brown coloured ( 7.5YR;4/2 ), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, trace gravel, medium stiff.	1.45	0.50	2.15	4/30					
	4.00	CH		CLAY, brown coloured ( 7.5YR;5/4 ), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, medium stiff.	2.00	0.50	3.15	7/30					
	5.00			CLAY, brown coloured ( 7.5YR;5/4 ), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, medium stiff.	2.45	0.50	4.15	7/30					
	6.45	CL		SANDY CLAY, brown coloured ( 7.5YR;5/4 ), slightly silty, low to medium plasticity, low to medium dry strength, low to medium toughness, trace gravel, medium stiff.	3.00	0.50	5.15	4/30					
	6.45			TUFFACEOUS SAND, brown coloured ( 7.5YR;5/4 ), about 60% fine to coarse sand, about 20% clayey and silty fines low plasticity, about 20% medium to coarse gravel, loose.	3.45	1.00	6.15	6/30					
	9.45	OH		ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	6.00	0.50	7.15	4/30					
	9.45			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	6.45	0.75	8.15	8/30					
	10.00			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	7.00	0.50	9.15	7/30					
	10.45			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	7.45	0.50	10.15	47/30					
	11.00			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	7.75	0.50	11.15	81/25					
	11.38			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	8.00	0.50	12.15	75/28					
	12.00			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	8.45	3.00	13.15	58/30					
	12.43			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	8.85	0.50	14.15	85/23					
	13.00			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	9.00	2.75	15.15	50/9					
	13.45			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	9.45	2.25	16.15	69/30					
	14.00			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	9.75	0.50	17.15	79/30					
	14.38			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	10.00	>4.50	18.15	92/25					
	15.00			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	10.45	>4.50	19.15	94/25					
	15.24			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	10.75	>4.50	20.15	50/15					
	16.00			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	11.00	>4.50	21.15	50/14					
	16.45			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	11.38	>4.50	22.15	50/13					
	17.00			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	11.75	>4.50	23.15	50/9					
	17.45			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	12.00	>4.50	24.15	50/14					
	18.00			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	12.43	>4.50	25.15	50/13					
	18.40			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	12.75	>4.50	26.15	50/14					
	19.00			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	13.00	>4.50	27.15	50/12					
	19.41			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	13.45	>4.50	28.00	81/28					
	20.00			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	13.75	>4.50	29.15	89/27					
	20.30			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	14.00	>4.50	30.15	50/13					
	21.00			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	14.38	>4.50							
	21.29			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	14.75	>4.50							
	22.00			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	15.00	>4.50							
	22.28			ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	15.24	>4.50							
	23.00	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	15.75	>4.50									
	23.24	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	16.00	>4.50									
	24.00	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	16.45	>4.50									
	24.29	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	16.75	>4.50									
	25.00	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	17.00	>4.50									
	25.28	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	17.45	>4.50									
	26.00	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	17.75	>4.50									
	26.29	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	18.00	>4.50									
	27.00	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	18.40	>4.50									
	27.27	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	18.75	>4.50									
	28.00	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	19.00	>4.50									
	28.53	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	19.41	>4.50									
	29.00	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	20.00	>4.50									
	29.42	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	20.30	>4.50									
	30.00	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	21.00	>4.50									
	30.28	ORGANIC CLAY, black coloured (GLAY1;2.5/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	21.29	>4.50									
				END OF THIS BORING. CASING DOWN TO 22.00 METERS IN DEPTH.	30.00	>4.50	30.15	50/13					
					30.28	>4.50							

B-12.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : TANAH PASIR, DARANGDAN, PURWAKARTA  
 BORE HOLE NO. : B-13  
 ELEVATION (M) : 492.00 m  
 COORDINATES : E=769063.00; N=9261204.00  
 DEPTH : 60.29 m

WATER LEVEL : -10.40 m  
 DATE : Oct. 27 to Nov.4, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Tatang  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 1 of 3

SAMPLE	DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm2)	SPT - N value				RECOVERY (%)	
							Depth (m)	BLOWS PER CM	N PER FOOT			
									40	80		
	00.00	CH		CLAY, brown coloured ( 7.5YR;4/4 ), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, medium stiff.								
	1.00	CH		CLAY, reddish brown coloured ( 2.5YR;4/4 ), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, stiff.	1.00	0.75	1.15	3/30				
	3.00	CH		CLAY, brown coloured ( 7.5YR;4/4 ), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, stiff to very stiff.	1.45	0.75	2.15	5/30				
					2.00	0.75						
					2.45	0.75						
					3.00	0.75	3.15	6/30				
					3.45	0.75						
					4.00	3.50	4.15	12/30				
					4.45	3.50						
					5.00	3.50	5.15	16/30				
					5.45	2.50						
					6.00	*	6.15	18/30				
					6.45	*						
	7.00	ML		TUFFACEOUS SILT, red coloured ( 2.5YR;5/8 ), slightly clay, slightly sandy, low plasticity, low dry strength, low toughness, trace gravel, stiff to very stiff.	7.00	*	7.15	15/30				
					7.45	*						
					8.00	*	8.15	10/30				
					8.45	*						
					9.00	*	9.15	5/30				
					9.45	*						
	10.00	ML		TUFFACEOUS SILT, reddish yellow coloured ( 5YR;6/6 ), slightly clay, slightly sandy, low plasticity, low dry strength, low toughness, trace gravel, stiff.	10.00	*	10.15	10/30				
					10.45	1.75						
					11.00	1.75	11.15	11/30				
					11.45	3.00						
	12.00	SM		SILTY SAND WITH GRAVEL, brown coloured ( 7.5YR;4/4 ) mottled with greyish green coloured ( GLAY1;5 /5G_2 ), about 70% medium to coarse sand, about 20% silty and clay fines, about 10% sub-angular gravel max 15 mm in dia, medium dense to dense.	12.00	*	12.15	15/30				
					12.45	*						
					13.00	*	13.15	18/30				
					13.45	*						
					14.00	*	14.15	25/30				
					14.45	*						
					15.00	*	15.15	54/30				
					15.45	*						
	16.00	SM		SILTY SAND WITH GRAVEL, dark grey coloured ( 5YR;4/1 ) about 60% fine to coarse sand, about 20% silty and clay fines, about 20% sub-angular gravel max 10 mm in dia, sandstone at 18.60-18.80 m depth, medium dense.	16.00	*	16.15	39/30				
					16.45	*						
					17.00	*	17.15	47/30				
					17.45	*						
					18.00	*	18.15	58/30				
					18.45	*						
	19.00	CH		SANDY CLAY WITH GRAVEL, brown coloured ( 10YR;4/3 ), medium to high plasticity, medium to high dry strength, medium to high toughness, sub-rounded gravel max 30 mm in dia, sandstone at 20.10-20.25 m and 21.10-21.45 m depth, very stiff to hard.	19.00	*	19.00	50/14				
					19.14	*						
					20.00	*	20.00	50/12				
					20.12	*						
					21.00	*	21.00	50/10				
					21.10	*						
					22.00	*	22.00	50/10				
					22.10	*						
	22.70	SC		CLAYEY SAND WITH GRAVEL, very dark grey coloured ( GLAY1;3/N ), about 50% fine to coarse sand, about 35% silty and clayey fines low to medium plasticity, about 15% sub-angular gravel max 10 mm in dia, sandstone at 23.08-23.30 m depth, dense to very dense.	23.00	*	23.00	50/8				
					23.08	*						
					24.00	*	24.00	50/13				
					24.13	*						
					25.00	*	25.00	50/10				
					25.10	*						
					26.00	*	26.00	50/8				
					26.08	*						
					27.00	*	27.00	50/13				
					27.13	*						
					28.00	*	28.00	50/13				
					28.13	*						
					29.00	*	29.00	50/10				
					29.25	*						
	30.00			END OF THIS PAGE. CONTINUOUS TO NEXT PAGE.	30.00	*						

B-13.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : TANAH PASIR, DARANGDAN, PURWAKARTA  
 BORE HOLE NO. : B-13  
 ELEVATION (M) : 492.00 m  
 COORDINATES : E=769063.00; N=9261204.00  
 DEPTH : 60.29 m

WATER LEVEL : -10.40 m  
 DATE : Oct. 27 to Nov.4, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Tatang  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 2 of 3

SAMPLE	DEPTH (meter)	USCS	CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm <sup>2</sup> )	SPT - N value			RECOVERY (%)	
								Depth (m)	BLOWS PER CM	N PER FOOT		
												40
	30.00	SC			CLAYEY SAND WITH GRAVEL, very dark grey coloured ( GLAY1;3/N), about 50% fine to coarse sand, about 35% silty and clayey fines low to medium plasticity, about 15% sub-angular gravel max 10 mm in dia, dense to very dense.	30.14	*	30.00	50/14			
	31.00					*	31.15	50/8		N > 100		
	31.23					*				N > 100		
	32.00					*	32.00	50/11				
	32.11					*				N > 100		
	33.00					*	33.15	50/10				
	33.25					*				N > 100		
	34.00					*	34.00	50/14				
	34.14					*				N > 100		
	35.00					CL			SANDY CLAY, very dark grey coloured ( GLAY1;3/N), low to medium plasticity, low to medium dry strength, low to medium toughness, slightly silty, trace sub-angular gravel max 40 mm in dia, sandstone at 36.45-36.80 m depth, coarse sand at 36.80-37.00 m depth, hard.	35.00	*	
	35.09	*								N > 100		
	36.00	*	36.00	50/5								
	36.05	*								N > 100		
	37.00	*	37.00	50/8								
	37.08	*								N > 100		
	38.00	*	38.00	50/11								
	38.11	*				N > 100						
	39.00	CH			CLAY, very dark grey coloured (GLAY1;3/N), medium to high plasticity, medium to high dry strength, medium to high toughness, hard.	39.00	*	39.00	50/13			
	39.13					*						
	40.00					*	40.15	55/30				
	40.45	*										
	41.00	CL			SANDY CLAY, very dark grey coloured ( GLAY1;3/N), low to medium plasticity, low to medium dry strength, low to medium toughness, slightly silty, trace sub-angular gravel max 20 mm in dia, hard.	41.00	*	41.15	53/30		N > 100	
	41.45					*				N > 100		
	42.00					*	42.00	50/12				
	42.12					*				N > 100		
	43.00					*	43.00	50/10				
	43.10	*				N > 100						
	44.00	ML			TUFACEOUS SILT, yellowish brown coloured ( 10YR;5/4), slightly clay, slightly sandy, low plasticity, low dry strength, low toughness, trace gravel, hard.	44.00	*	44.00	50/7			
	44.07					*				N > 100		
	45.00				END OF THIS PAGE. CONTINUOUS TO NEXT PAGE.	45.00	*	45.00	50/9			

B-13a.TXT - AvantiGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : TANAH PASIR, DARANGDAN, PURWAKARTA  
 BORE HOLE NO. : B-13  
 ELEVATION (M) : 492.00 m  
 COORDINATES : E=769063.00; N=9261204.00  
 DEPTH : 60.29 m

WATER LEVEL : -10.40 m  
 DATE : Oct. 27 to Nov.4, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Tatang  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 3 of 3

SAMPLE	DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm <sup>2</sup> )	SPT - N value				RECOVERY (%)			
							Depth (m)	BLOWS PER CM	N PER FOOT					
									40	80				
	45.00	CL		GRAVELLY CLAY WITH SAND, brown coloured ( 10YR;4/3), slightly silty, low to medium plasticity, low to medium dry strength, low to medium toughness, sub-angular gravel max 30 mm in dia, fine to coarse grained sand, sandstone at 46.20-46.40 m depth,	45.09	*								
	46.60						46.00	*	46.00	50/5				
		SC		CLAYEY SAND WITH GRAVEL, very dark grey coloured ( GLAY1;3/N), about 60% fine to coarse sand, about 25% silty and clayey fines low to medium plasticity, about 15% sub-angular gravel max 10 mm in dia, sandstone at 47.30-47.40 m and 48.06-48.28 m depth, very dense.	47.00	*	47.00	50/8						
								47.08	*					
								48.00	*	48.00	50/6			
								48.06	*					
								49.00	*	49.00	50/5			
								49.05	*					
								50.00	*	50.00	50/11			
								50.11	*					
	50.90	SC		CLAYEY SAND, very dark grey coloured ( GLAY1;3/N), about 50% medium to coarse sand, about 40% silty and clayey fines low to medium plasticity, about 10% sub-angular gravel max 10 mm in dia, very dense.	51.00	*	51.15	50/10						
								51.25	*					
								52.00	*	52.00	50/14			
								52.11	*					
								53.00	*	53.00	50/7			
								53.07	*					
		CL		SANDY CLAY, very dark grey coloured ( GLAY1;3/N), low to medium plasticity, low to medium dry strength, low to medium toughness, trace sub-angular gravel max 60 mm in dia, Sandstone at 55.70-56.50 m depth, hard.	54.00	*	54.00	50/10						
								54.10	*					
	55.00							55.00	*	55.00	50/12			
								55.12	*					
		SC		CLAYEY SAND, very dark grey coloured ( GLAY1;3/N), about 50% medium to coarse sand, about 40% silty and clayey fines low to medium plasticity, about 10% sub-angular gravel max 10 mm in dia, very dense.	56.00	*	56.00	50/5						
								56.05	*					
								57.00	*	57.00	50/14			
		CH		CLAY, very dark grey coloured (GLAY1;3/N), medium to high plasticity, medium to high dry strength, medium to high toughness, slightly silty, hard.	57.14	*								
								57.14	*					
					58.00	*	58.00	50/10						
					58.10	*								
					59.00	*	59.15	50/10						
					59.25	*								
	60.29				60.00	*	60.15	50/14						
				END OF THIS BORING. CASING DOWN TO 48.00 METERS IN DEPTH.	60.29	*								

B-13b.TXT - AvantiGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : DESA BOJONGKONENG, KEC. NGAMPRAH  
 BORE HOLE NO. : B-14  
 ELEVATION (M) : 723.00 m  
 COORDINATES : E=775364.00 ; N=9245371.00  
 DEPTH : 40.05 m

WATER LEVEL : - 4.71 m  
 DATE : November 10 to 13, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Tatang S  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page : 1 of 2

SAMPLE	DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm <sup>2</sup> )	SPT - N value				RECOVERY (%)	
							Depth (m)	BLOWS PER CM	N PER FOOT		40	80
									40	80		
00.00	2.00	CH	[Diagonal Hatching]	CLAY, dark reddish brown coloured ( 5YR;3/2 ), medium to high plasticity, medium to high dry strength, medium to high toughness, trace gravel max 10 mm in dia, slightly sand,	1.00	0.75	1.15	6/30				
					1.45	0.75						
8.00	16.00	CH	[Diagonal Hatching]	CLAY, strong brown coloured ( 7.5YR;4/6 ), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness,	2.00	0.75	2.15	2/30				
					2.45	0.75						
					3.00	0.25	3.15	3/30				
					3.45	0.25						
					4.00	0.25	4.15	3/30				
					4.45	0.25						
					5.00	0.75	5.15	3/30				
					5.45	0.75						
					6.00	0.75	6.15	5/30				
					6.45	0.75						
					7.00	1.00	7.15	4/30				
					7.45	1.00						
					8.00	1.00	8.15	5/30				
					8.45	1.00						
16.00	24.60	CH	[Diagonal Hatching]	CLAY, reddish brown coloured ( 5YR;4/4 ), medium to high plasticity, medium to high dry strength, medium to high toughness,	9.00	1.00	9.15	2/30				
					9.45	0.75						
					10.00	0.75	10.00	1/45				
					10.45	0.50						
					11.00	0.50	11.15	4/30				
					11.45	0.75						
					12.00	0.75	12.15	6/30				
					12.45	1.00						
					13.00	1.05	13.15	11/30				
					13.45	1.05						
					14.00	1.05	14.15	9/30				
					14.45	1.05						
					15.00	1.05	15.15	10/30				
					15.45	1.05						
24.60	25.45	SP	[Dotted]	POORLY GRADED SAND (tuffaceous), brown coloured G.5YR;5/4), about 90% very fine to coarse sand, about 10% clayey and silty fines non plasticity,	16.00	1.05	16.15	5/30				
					17.15		17.15	5/30				
					18.15		18.15	10/30				
					19.15		19.15	12/30				
					20.15		20.15	17/30				
					21.15	4.50	21.15	29/30				
					22.00	>4.50	22.15	34/30				
					22.45	>4.50						
					23.00	>4.50	23.15	47/30				
					23.45	>4.50						
25.45	28.50	CH	[Diagonal Hatching]	CLAY, reddish brown coloured ( 5YR;4/4 ), medium to high plasticity, medium to high dry strength, medium to high toughness, slightly silty	24.00	>4.50	24.15	73/30				
					24.45	>4.50						
					25.00	>4.50	25.15	41/30				
					25.45	>4.50						
					26.00	>4.50	26.15	24/30				
					26.45	>4.50						
					27.00	>4.50	27.15	33/30				
					27.45	>4.50						
28.50	31.00	CH	[Diagonal Hatching]	CLAY (TUFFACEOS), brown coloured ( 7.5YR;4/4 ), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, slightly sandy,	28.00	>4.50	28.15	30/30				
					28.45	>4.50						
					28.50	>4.50	29.00	43/30				
					29.00	>4.50						
31.00		CL	[Diagonal Hatching]	SANDY CLAY (TUFFACEOS), light yellowish brown coloured ( 2.5Y;6/3 ), slightly silty, low to medium plasticity, low to medium dry strength, low to medium toughness, brown coloured at 28.50-29.00 m depth,	30.00	>4.50	30.15	52/30				
					30.45	>4.50						
					31.00	>4.50						
				END OF THIS PAGE. CONTINUOUS TO NEXT PAGE.								

B-14.TXT - AvantGarde-Demi



# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : DESA BOJONGKONENG, KEC. NGAMPRAH  
 BORE HOLE NO. : B-14  
 ELEVATION (M) : 723.00 m  
 COORDINATES : E=775364.00 ; N=9245371.00  
 DEPTH : 40.05 m

WATER LEVEL : - 4.71 m  
 DATE : November 10 to 13, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Tatang S  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page : 2 of 2

SAMPLE	DEPTH (meter)	USCS	CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm <sup>2</sup> )	SPT - N value			RECOVERY (%)	
								Depth (m)	BLOWS PER CM	N PER FOOT		
										40		N
SC	31.00	SC			CLAYEY SAND WITH GRAVEL, greenish grey coloured, about 60% fine to medium sand, about 20% clayey and silty fines low plasticity, about 20% sub-rounded gravel max 70 mm in dia, sanstone at 31.45-31.60 and 34.50-34.65 m depth,	31.00	>4.50	31.00	50/9		N > 100	40 80
	32.11					>4.50	32.00	50/11		N > 100		
	33.00					>4.50	33.00	50/7		N > 100		
	33.07					>4.50				N > 100		
	34.00					>4.50	34.00	50/5				
	34.05					>4.50						
	35.00					>4.50	35.15	38/30		N > 100		
	35.45					>4.50				N > 100		
	36.00					>4.50	36.00	50/13		N > 100		
	36.13					>4.50				N > 100		
SC	35.00	SC			CLAYEY SAND WITH GRAVEL, brown coloured, about 60% fine to medium sand, about 20% clayey and silty fines low plasticity, about 20% sub-rounded gravel max 70 mm in dia, sanstone at 31.45-31.60 and 34.50-34.65 m depth,	37.00	>4.50	37.00	50/8		N > 100	
						37.08	>4.50				N > 100	
						38.00	>4.50	38.00	50/5		N > 100	
						38.05	>4.50				N > 100	
						39.00	>4.50	39.15	50/6		N > 100	
						39.21	>4.50				N > 100	
END OF THIS BORING. CASING DOWN TO - 33.07 METERS IN DEPTH.	40.00	>4.50	40.00	50/5								
	40.05	>4.50										

B-14a.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : CITAMAN, CIGUGUR TENGAH, CIMINDI, CIMAHI  
 BORE HOLE NO. : B-15  
 ELEVATION (M) : 739.00 m  
 COORDINATES : E=781894.00; N=9237433.00  
 DEPTH : 33.45 m

WATER LEVEL : -2.23 m  
 DATE : November 7 to 10, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Jojo  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 1 of 2

SAMPLE DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm <sup>2</sup> )	SPT - N value				RECOVERY (%)
						Depth (m)	BLOWS PER CM	N PER FOOT		
								40	80	
00.00	CH		CLAY, reddish black coloured ( 10R;2.5/1 ), medium to high plasticity, medium to high dry strength, medium to high toughness, trace organic matter, soft.	1.00	*	1.15	2/30			
1.70			1.45	SC	CLAYEY SAND WIT GRAVEL (TUFACEOUS), brownish yellow coloured ( 10YR;6/6 ), About 80% medium to coarse grained sand, about 10% sub-rounded gravel max 10 mm in dia, about 10% silty and clayey fines, sandstone at 3.60-4.00 m and 4.10-4.60 m depth, loose to medium dense.	1.45	*	2.00	10/30	
2.00	2.45	2.15	10/30							
3.00	3.15	10/30								
3.45	3.15							N > 100		
4.00	4.00	50/10								
4.10	5.00	9/30								
5.70	5.45	6.00								
6.00	6.15	15/30								
6.70	7.15	21/30								
7.70	7.45	8.00								
8.00	8.15	43/30								
9.70	9.00	29/30								
10.00	10.15	39/30								
11.70	11.15	27/30								
12.00	12.15	53/30				N > 100				
13.70	13.00	50/10								
14.00	14.15	33/30								
15.70	15.15	36/30								
16.00	16.15	39/30								
17.70	17.15	36/30								
18.00	18.15	42/30								
19.70	19.15	26/30								
20.00	20.15	28/30								
21.70	21.15	16/30								
22.00	22.15	8/30								
23.70	23.15	24/30								
24.00	24.15	32/30								
25.70	25.15	31/30								
26.00	26.15	42/30								
	27.15	45/30								
	28.15	51/30								
	29.15	55/30								
30.00			END OF THIS PAGE. CONTINUOUS TO NEXT PAGE.	30.00	*					

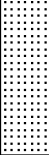
B-15.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : CITAMAN, CIGUGUR TENGAH, CIMINDI, CIMAHU  
 BORE HOLE NO. : B-15  
 ELEVATION (M) : 739.00 m  
 COORDINATES : E=781894.00; N=9237433.00  
 DEPTH : 33.45 m

WATER LEVEL : -2.23 m  
 DATE : November 7 to 10, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Jojo  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 2 of 2

SAMPLE	DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm <sup>2</sup> )	SPT - N value			RECOVERY (%)	
							Depth (m)	BLOWS PER CM	N PER FOOT		
									40		80
	30.00	SP		POORLY GRADED SAND WITH GRAVEL, very dark greenish grey coloured ( GLAY1;3/5GY), About 60% medium to coarse grained sand, About 30 % grained sub-angular gravel max 40 mm in dia, about 10% silty and clay fines, medium dense to very dense.	30.45	*	30.15	56/30		40 80	
					31.00	*	31.15	59/30			
					31.45	*					
					32.00	*	32.15	56/30			
					32.45	*					
	33.45						33.00	*	33.15		58/30
				33.45	*						
				END OF THIS BORING. CASING DOWN TO 26.00 METERS IN DEPTH.							

B-15a.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : JALAN LASWI,MALEER,KACAPIRING,BANDUNG  
 BORE HOLE NO. : B-16  
 ELEVATION (M) : 692.00 m  
 COORDINATES : E=790830.00 ; N=9234286.00  
 DEPTH : 30.45 m

WATER LEVEL : - 4.15 m  
 DATE : November 1 to 4, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin Walled Shelby Tube  
 SPT : Automatic Hammer (AH)  
 DRILLER : Asep Wahyu  
 LOGGER : B.W.Larasati  
 DRAWN BY : B.W.Larasati Page 1 of 1

SAMPLE DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm <sup>2</sup> )	SPT - N value			RECOVERY (%)	
						Depth (m)	BLOWS PER CM	N PER FOOT		
								40		80
00.00	CH		SANDY CLAY WITH GRAVEL, reddish brown coloured ( 5YR;3/3 ), slightly silty, medium to high plasticity, medium to high dry strength, medium to high toughness, sub-angular gravel max 30 mm in dia, medium stiff.	1.00	>4.50	1.15	4/30			
1.70			1.45	0.50						
2.00	CH		CLAY, dark grey coloured ( GLAY1;4/N ), slighty sandy, medium to high plasticity, medium to high dry strength, medium to high toughness, medium stiff.	2.00	0.50	2.15	4/30			
3.70				2.45	0.75					
4.00				3.00	0.75	3.15	6/30			
				3.45	1.00					
				3.70	1.25	4.15	24/30			
	SC		CLAYEY SAND WITH GRAVEL, dark yellowish brown coloured ( 10YR;4/4), about 70% medium to coarse sand, about 15% sub-rounded gravel max 15 mm in dia, about 15% clayey and silty fines, sanstone at 6.90-7.00 m and 7.40-7.55 m depth, dense to very dense.	4.00	1.75	5.15	76/25			
				4.45	>4.50					
				5.00	>4.50	5.15	76/25			
				5.45	>4.50					
				6.00	>4.50	6.15	78/27			
				6.45	>4.50					
				7.00	>4.50	7.15	85/23		N > 100	
				7.45	>4.50					
				8.00	>4.50	8.15	48/30			
				8.45	>4.50					
	SC		CAYEY SAND WITH GRAVEL, very dark greenish grey coloured ( GLAY1;3/5GY), About 70% medium to coase grained sand, About 25 % sub-angular gravel max 30 mm in dia, about 5% silty and clay fines, medium dense to very dense.	9.00	>4.50	9.15	16/30			
9.70				9.45	*					
10.00				10.00	*	10.15	19/30			
				10.45	*					
				11.00	*	11.15	25/30			
11.70				11.45	*					
12.00				12.00	*	12.15	23/30			
				12.45	*					
				13.00	*	13.15	38/30			
13.70				13.45	*					
14.00				14.00	*	14.15	31/30			
				14.45	*					
				15.00	*	15.15	27/30			
				15.45	*					
				16.00	*	16.15	63/30			
	16.45	*								
	17.00	*	17.15	38/30						
17.70	17.45	*								
18.00	18.00	*	18.15	44/30						
	18.45	*								
	19.00	*	19.15	37/30						
19.70	19.45	*								
20.00	20.00	*	20.15	34/30						
	20.45	*								
	21.00	*	21.15	36/30						
21.70	21.45	*								
22.00	22.00	*	22.15	48/30						
	22.45	*								
	23.00	*	23.15	34/30						
	23.45	*								
	24.00	*	24.15	51/30						
24.45	24.45	*								
	25.00	*	25.15	28/30						
	25.45	*								
	26.00	*	26.15	50/23						
	26.38	*								
	27.00	*	27.15	66/30						
	27.45	*								
	28.00	*	28.15	50/30						
	28.45	*								
	29.00	*	29.15	44/30						
	29.45	*								
	30.00	*	30.15	53/30						
30.45	30.45	*								
			END OF THIS BORING. CASING DOWN TO 26.00 METERS IN DEPTH.							

B-16.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : Kp.Cilameta, Ds.Cimencrang, Kec.Gede Bage  
 BORE HOLE NO. : B-17  
 ELEVATION : 675.00 m  
 COORDINATES : E=798842.00; N=9231364.00  
 DEPTH : 60.11 M.

WATER LEVEL : -0.70 m  
 DATE : November 7 to 15, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin walled (Shelby) Tube  
 SPT : Automatic Hammer  
 DRILLER : Asep Wahyu  
 LOGGER : Yan Yusuf  
 DRAWN BY : Yan Yusuf Page 1 of 2

SAMPLE DEPTH (meter)	USCS CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm <sup>2</sup> )	SPT - N value			RECOVERY (%)		
						Depth (m)	BLOWS PER CM	N PER FOOT			
								40		80	
0.00	CH		FAT CLAY with GRAVEL, dark gray ( GLEY1 4/N ), high to medium plasticity, andesitic gravel max dia of 4.50cm, subangular, stiff.	1.00	1.25	1.15	4/30				
1.70			2.00	0.50	2.15	3/30					
3.70	CH		FAT CLAY with ORGANIC, dark gray ( GLEY1 4/N ), high plasticity, high to medium dry strength, some decayed woods, moist to saturated, very soft.	3.00	0.50	3.15	3/30				
4.00				3.70	0.25	4.15	3/30				
5.70				4.00	0.25	5.00	1/45				
6.00				4.45	0.50	6.00	1/45				
7.70	CL		LEAN CLAY, dark bluish gray ( GLEY2 4/1 ), slightly silty, low plasticity, moist, very soft	7.00		7.00	1/45				
8.00				8.00		8.00	1/45				
9.70				8.45	<0.25	9.00	1/45				
10.00				9.00	<0.25	10.00	1/45				
11.70				10.00	<0.25	11.00	0.50	11.15	4/30		
12.00				11.00	0.50	12.00	0.50	12.15	3/30		
13.70				12.00	<0.25	13.00	1/45				
14.00				13.00	<0.25	14.00	1/45				
15.70	CH		FAT CLAY, tuffaceous, bluish gray ( GLEY2 5/1 ), high to medium plasticity, high to medium dry strength, non dilatancy, moist, stiff to very stiff.	15.00	<0.25	15.00	1/45				
16.00				16.00	<0.25	16.00	1/45				
17.70				17.00	<0.25	17.00	1/45				
18.00				18.00	1.00	18.15	9/30				
19.70				19.00	2.00	19.15	13/30				
20.00				20.00	2.00	20.15	15/30				
21.70				21.00	2.00	21.15	22/30				
22.00				22.00	3.00	22.15	21/30				
23.70	ML		SANDY SILT, tuffaceous, gray ( 5YR 5/1 ), low plasticity, sand is fine grained, moist, medium stiff to stiff.	23.00	3.00	23.15	4/30				
24.00				24.00	1.00	24.15	7/30				
25.70				25.00	1.00	25.00	1/45				
26.00				26.00	0.50	26.15	6/30				
27.70	SW		WELL GRADED SAND with SILT, dark gray ( GLEY1 4/N ), fine to coarse grained, tuffaceous, uncemented, dense.	27.00	0.75	27.15	11/30				
28.00				28.00	1.00	28.15	13/30				
29.00				29.00	-	29.15	32/30				
29.70			END OF THIS PAGE. CONTINUOUS TO NEXT PAGE.	30.00	-	30.15	32/30				
30.00											

B-17.TXT - AvantGarde-Demi

# BORING LOG

P.T. SOILENS

PROJECT : GEOLOGICAL (BORING) SURVEY JAKARTA-BANDUNG  
 : HIGH SPEED RAILWAY PROJECT (FS-I)  
 CLIENT : JICA Study Team  
 LOCATION : Kp.Cilameta, Ds.Cimencrang, Kec.Gede Bage  
 BORE HOLE NO. : B-17  
 ELEVATION : 675.00 m  
 COORDINATES : E=798842.00; N=9231364.00  
 DEPTH : 60.11 M.

WATER LEVEL : -0.70 m  
 DATE : November 7 to 15, 2014  
 BORING METHOD : Coring, Sampling  
 SAMPLING METHOD : Thin walled (Shelby) Tube  
 SPT : Automatic Hammer  
 DRILLER : Asep Wahyu  
 LOGGER : Yan Yusuf  
 DRAWN BY : Yan Yusuf Page 2 of 2

SAMPLE	DEPTH (meter)	USCS	CHART	GRAPH SYMBOL	ROCK/SOIL DESCRIPTION	DEPTH (meter)	qu (kg/cm2)	SPT - N value			RECOVERY (%)	
								Depth (m)	BLOWS PER CM	N PER FOOT		
										40		80
	30.45				WELL GRADED SAND with SILT, dark gray ( GLEY1 4/N ), fine to coarse grained, tuffaceous, weak cemented by tuff matrix, dense.							
31.70 32.00								31.15	26/30			
								32.15	40/30			
33.70 34.00								33.15	34/30			
								34.15	36/30			
35.70 36.00		SW						35.15	42/30			
								36.15	34/30			
37.70 38.00								37.15	40/30			
								38.15	45/30			
39.70 40.00								39.15	39/30			
								40.15	38/30			
40.45					WELL GRADED SAND with SILT, dark gray ( GLEY1 4/N ), fine to coarse grained, tuffaceous, uncemented, medium dense.			41.15	22/30			
41.70 42.00		SW						42.15	24/30			
								43.15	31/30			
43.70 44.00					FAT CLAY, bluish gray ( GLEY2 5/1 ), high plasticity, high to medium dry strength, non dilatancy, hard.	44.00	4.50	44.15	40/30			
								45.00	>4.50	45.15	30/30	
45.70 46.00		CH				46.00	>4.50	46.15	43/30			
								47.00	4.50	47.15	26/30	
47.70 48.00					FAT CLAY, light gray ( GLEY2 4/1 ), high plasticity, high dry strength, non dilatancy, occasional shell fragments included, hard. Become very stiff at the depth of: 56.00-57.45 m	48.00	4.00	48.15	20/30			
								49.00	4.00	49.15	30/30	
49.70 50.00								50.00	>4.50	50.15	43/30	
								51.00	>4.50	51.15	55/30	
								52.00	>4.50	52.15	69/30	
								53.00	>4.50	53.15	50/30	
								54.00	>4.50	54.15	50/30	
								55.00	>4.50	55.15	54/30	
								56.00	4.00	56.15	30/30	
								57.00	4.50	57.15	28/30	
57.70 58.00								58.00	>4.50	58.15	33/30	
								59.00	>4.50	59.15	58/30	
59.00		ML			SILT with SAND, gray ( 5YR 5/1 ), tuffaceous, low plasticity, sand is fine grained, hard.			59.15			N > 100	
60.11					END OF THIS BORING. CASING DOWN TO 45.00 METER IN DEPTH.			60.00	50/11			

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**Table-1 Proposed Boring Specification (Location and Length)**

No.of Drilling	Location (Km)	Depth (m)	Purpose	Note
B-1	9.8 Route B	<del>40</del> 21	Soil condition and depth of load bearing layer around Jakarta area. Near Halim Airport.	Foundation of structure (Flat plain)
B-2	10.6	<del>50</del> 20	Soil condition and depth of load bearing layer around Jakarta area	Foundation of structure (Flat plain)
B-3	<del>21.8</del> 23.3	50	Soil condition and depth of load bearing layer around Jakarta area	Foundation of structure (Flat plain)
B-4	30.2	40 60	Soil condition and depth of load bearing layer	Foundation of structure (Flat plain)
B-5	<del>36.0</del> 38.2	40 50	Soil condition and depth of load bearing layer	Foundation of structure (Flat plain)
B-6	48.0	30	Soil condition and depth of load bearing layer (Foundation of Embankment)	Foundation of structure (Hilly area)
B-7	<del>54.5</del> 51.0	40 30	Karawang industrial area Geological and geotechnical condition of Mudstone of Subang formation (Msc) at Tunnel area	General geotechnical property (Hilly area)
B-8	<del>68.0</del> 69.3	30	Geological and geotechnical condition Thickness of volcanic sediments, geological and geotechnical condition of Subang formation.	Foundation of structure (Hilly area)
B-9	73.2	<del>30</del> 21	Soil condition and depth of load bearing layer (along river)	Foundation of structure (Hilly area)
B-10	77.2	30	Soil condition and depth of load bearing layer (along small tunnel)	Foundation of structure (Hilly area) Low priority
B-11	81.6	50	Geological and geotechnical condition of Subang formation. Geotechnical condition of Subang formation. Thickness of talus deposit.	Slope condition of entrance of tunnel (Hilly area)
B-12	89.3	30	Geological and geotechnical condition Near the landslide area along the highway	Geotechnical condition of tunnel section (Hilly area)
B-13	93.9	60	Geological and geotechnical condition and surface layer Soil condition and depth of load bearing layer	Foundation of structure (Mountain area)
B-14	<del>111.2</del> 111.4	40	Geological and geotechnical condition around tunnel area Thickness of volcanic sediment Groundwater level	Foundation of Structure (Mountain area)
B-15	<del>121.2</del> 121.5	<del>30</del> 33	Geological and geotechnical condition of volcanic sediments (pimiceous tuff) and lake deposit. Depth of load bearing layer	Foundation of structure (Flat area)
B-16	132.0	30	Geological and geotechnical condition of volcanic sediments (pimiceous tuff) and lake deposit near planned Bandung station. Depth of load bearing layer	Foundation of structure (Flat area)
B-17	140.6	<del>30</del> 60	Geological and geotechnical condition of volcanic sediments (pimiceous tuff) and lake deposit around Gudebage station. Depth of load bearing layer	Foundation of structure (Flat area)
	<b>Total</b>	<del>650</del> 645		

Location of some of borings were changed because of the land owner's permission and for suitable setting of boring machine.