

6.2 地質調査結果

6.2.1 概要

地質調査は現地再委託により実施し、橋梁基礎形式の検討、支持層の検討に必要な地質・地層状況を把握するためにボーリング掘削、標準貫入試験、土質資料採取及び室内試験を行った。これらの試験により基本設計に必要な地質縦断図、土質柱状図、室内試験結果が収集された。以下に地質調査結果を整理する。

表6.2 地質調査内容

種類	調査内容・数量	
ボーリング調査	<u>ボーリング本数</u>	地上部 3本 水中部 5本 合計 8本
	<u>標準貫入試験</u> <u>サンプリング</u>	全ボーリング位置で実施 乱した試料および不攪乱試料 岩のコア採取
室内試験	<u>物理試験</u>	密度試験 含水比試験 粒度試験 液性限界・塑性限界試験
	<u>圧密試験</u> <u>せん断試験</u>	土の圧密試験 一軸圧縮試験（岩および粘性土）



図 地質調査状況（水上部）



図 採取資料

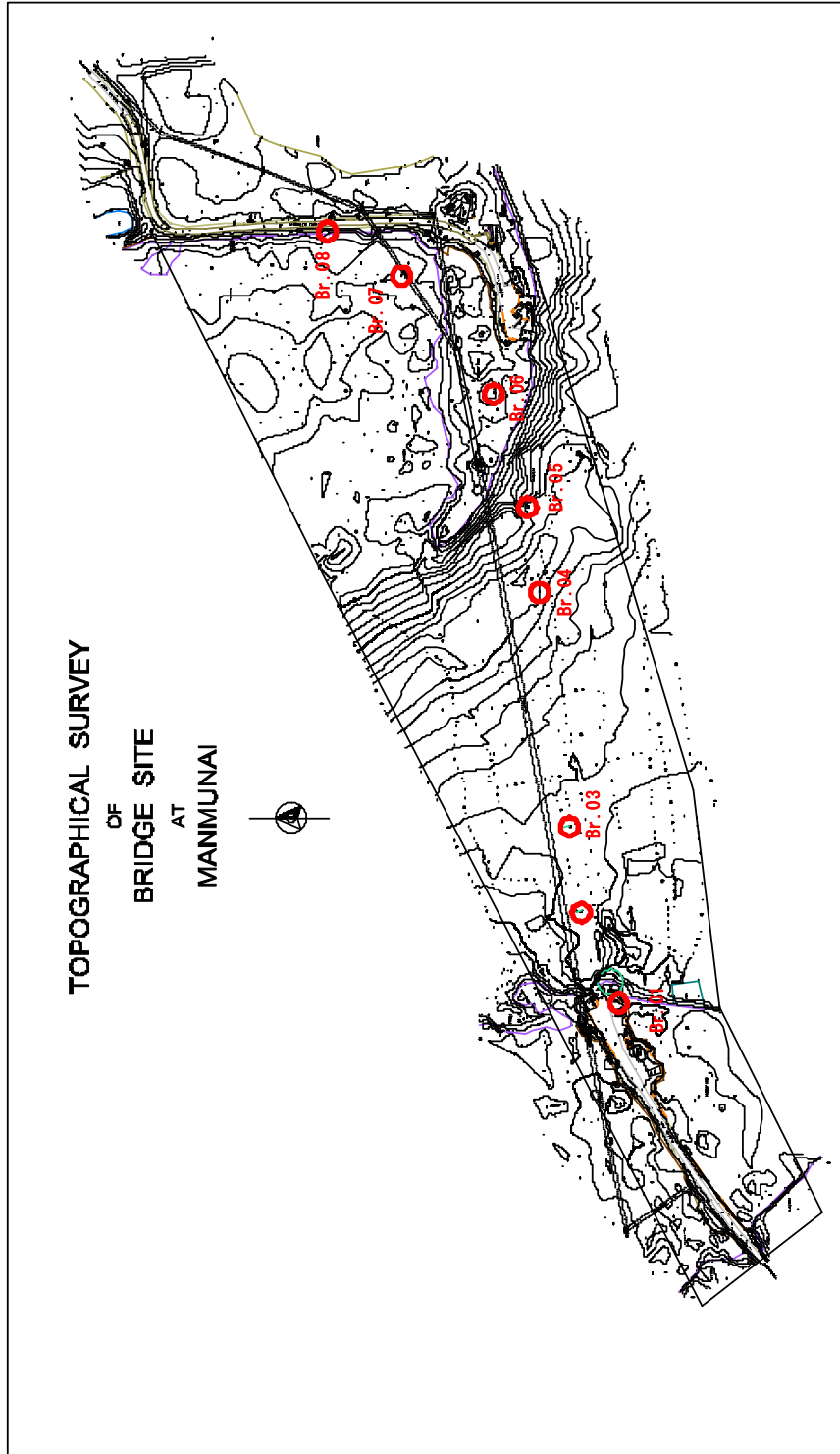


図 地質調査位置概念図

6.2.2 想定地質縦断面図

Br.01~Br.06 (西側~橋梁区間)

GEOLOGICAL PROFILE
(Br.01 - Br.06: Bridge section)

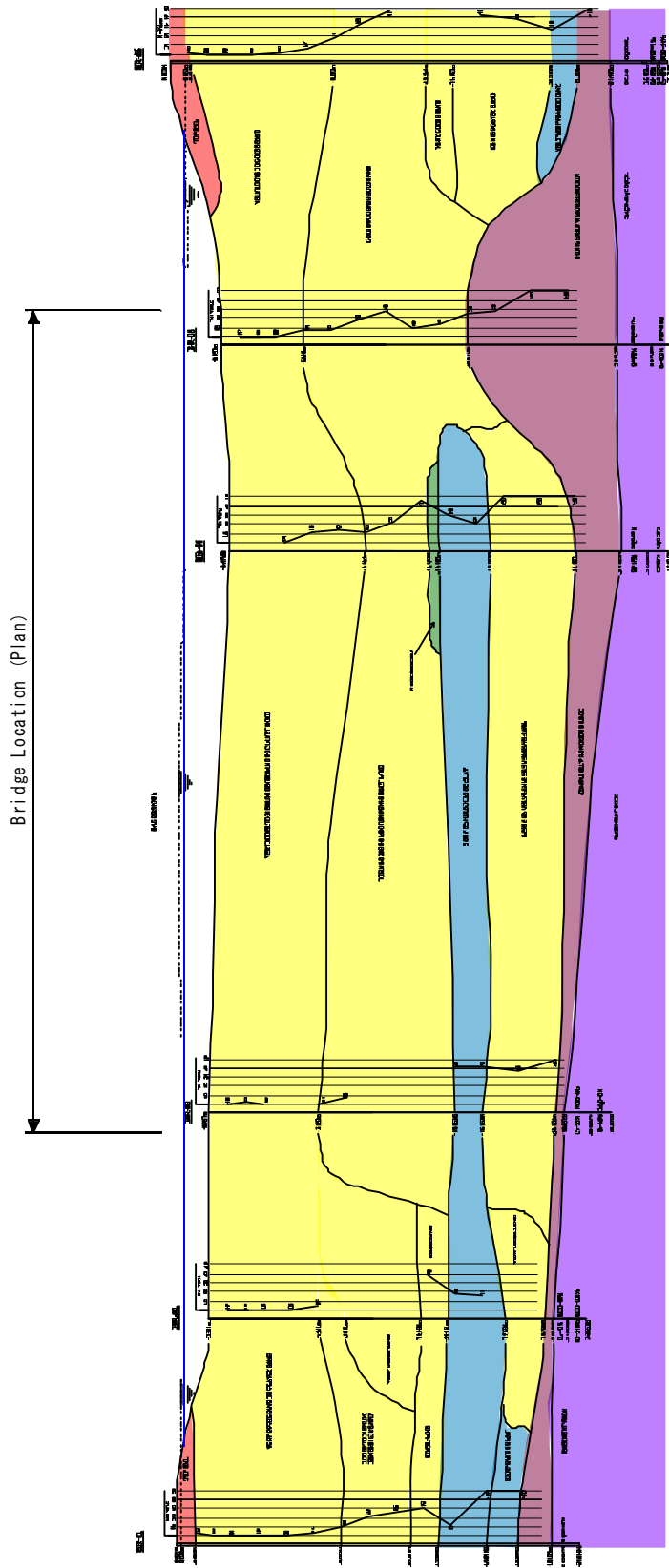
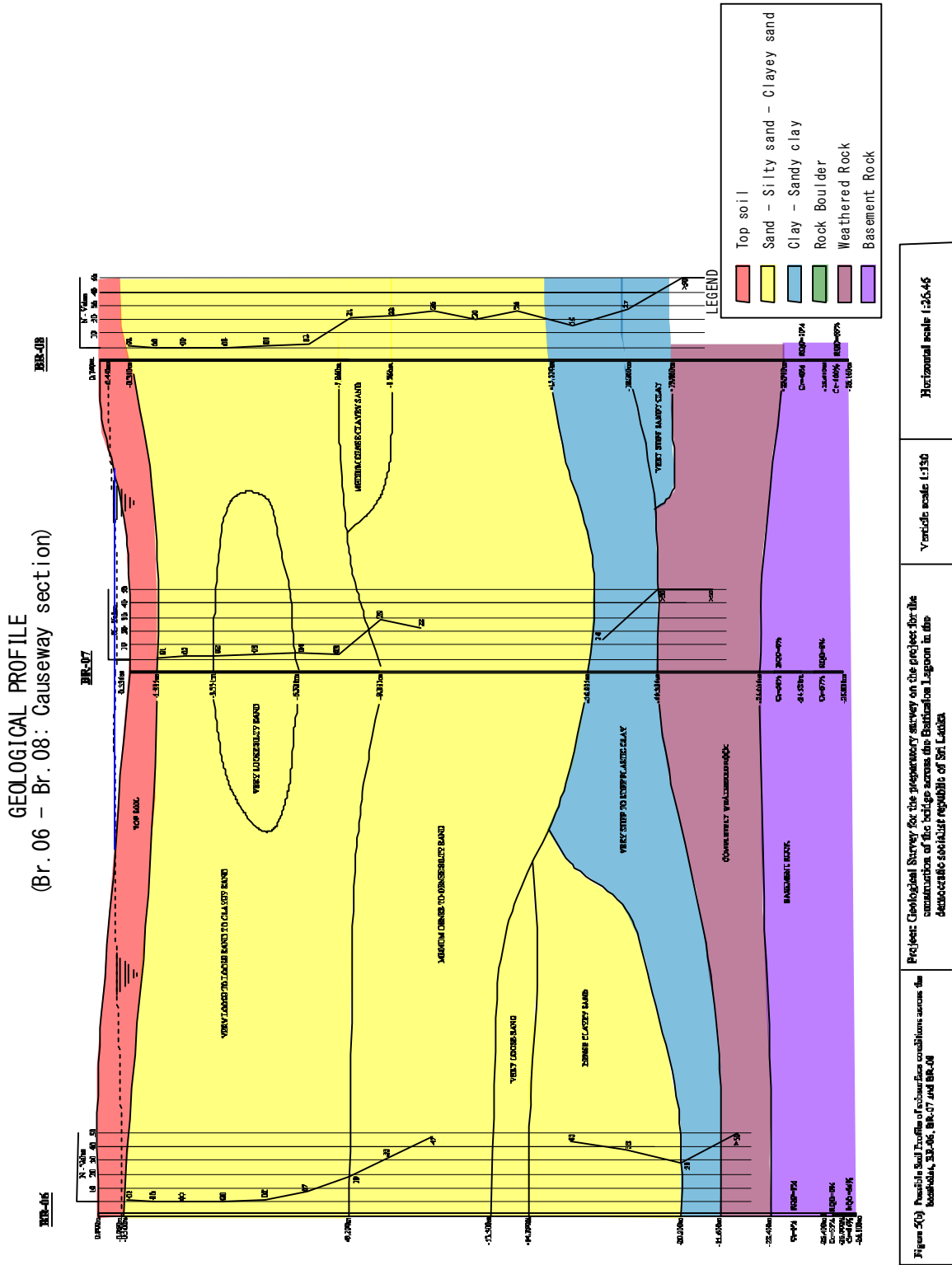


Figure 6.2.2.1
Geological Profile of the Bridge Section (Br.01 - Br.06)

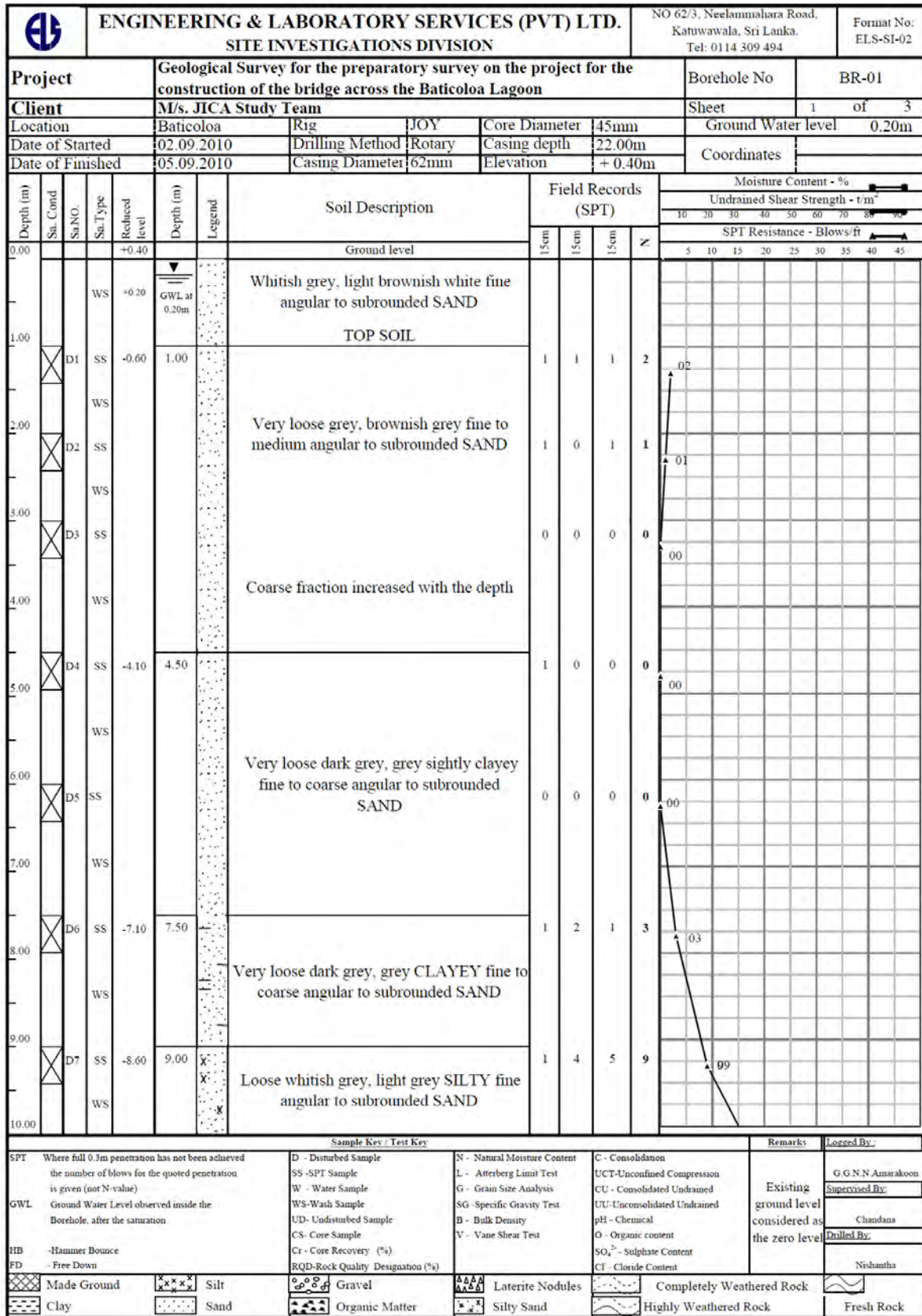
LEGEND

- Top soil
- Sand - Silty sand - Clayey sand
- Clay - Sandy clay
- Rock Boulder
- Weathered Rock
- Basement Rock

Br.06~Br.08 (東側コースウェイ区間)



6.2.3 ボーリング柱状図



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Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No		BR-01										
Client		M/s. JICA Study Team				Sheet		2 of 3										
Location		Baticoloa		Rig		JOY		Core Diameter		45mm		Ground Water level		0.20m				
Date of Started		02.09.2010		Drilling Method		Rotary		Casing depth		22.00m		Coordinates						
Date of Finished		05.09.2010		Casing Diameter		62mm		Elevation		+ 0.40m								
Depth (m)	So. Cond.	So. NO.	So. Type	Reduced level	Depth (m)	Legend	Soil Description	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft		
								15cm	15cm	15cm	N	5	10	15	20	25	30	35
10.00				-9.60			Continue from Page 1											
11.00	D8		SS	-10.10	10.50	X	Same as previous description	6	10	12	22							
12.00			WS			X	Medium dense light greenish white, whitish grey SILTY fine angular to subrounded SAND											
13.00	D9		SS	-12.40	12.80	X	Dense light brown, brown fine to coarse angular to subrounded SAND with rock fragments	8	12	14	26							
14.00			WS			X												
15.00	D10		SS	-13.90	14.30	X	Stiff yellowish brown, grey slightly silty PLASTIC CLAY	4	5	8	13							
16.00			WS			X												
17.00	D12		SS	-16.60	17.00	X	Hard yellowish brown, grey fine to medium angular to subrounded SANDY CLAY with some sand	20	30	20	50							
18.00			WS			X												
19.00	D13		SS	-18.30	18.70	X	Light brown, grey, yellowish brown fine to coarse angular to subrounded SAND with weathered rock fragments	50	HB		>50							
20.00						X	COMPLETELY WEATHERED ROCK											

Sample Key / Test Key				Remarks		Logged By:	
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample	N - Natural Moisture Content	C - Consolidation	Existing ground level considered as the zero level	G.G.N.N. Amarakoon	
GWL	Ground Water Level observed inside the Borehole, after the saturation	SS - SPT Sample	L - Atterberg Limit Test	UCT - Unconfined Compression		Supervised By:	
HB	- Hammer Bounce	W - Water Sample	G - Grain Size Analysis	CU - Consolidated Undrained		Chandana	
FD	- Free Down	WS - Wash Sample	SG - Specific Gravity Test	UU - Unconsolidated Undrained		Drilled By:	
		UD - Undisturbed Sample	B - Bulk Density	pH - Chemical	Nishantha		
		CS - Core Sample	V - Vane Shear Test	O - Organic content			
		Cr - Core Recovery (%)	RQD - Rock Quality Designation (%)	SO ₄ ²⁻ - Sulphate Content			
				Cl - Chloride Content			
		X X X X Silt	Gravel	Laterite Nodules	Completely Weathered Rock		
		X X X X Sand	Organic Matter	Silty Sand	Highly Weathered Rock		
					Fresh Rock		

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Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No	BR-01													
Client		M/s. JICA Study Team				Sheet	3 of 3													
Location		Baticoloa	Rig	JOY	Core Diameter	45mm	Ground Water level	0.20m												
Date of Started		02.09.2010	Drilling Method		Rotary	Casing depth	22.00m	Coordinates												
Date of Finished		05.09.2010	Casing Diameter		62mm	Elevation	+ 0.40m													
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description				Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft	
							15cm	15cm	15cm	N	5	10	15	20	25	30	35	40	45	
20.00				-19.60			Continue from Page 2													
							Same as previous description ROCK LEVEL													
21.00			CS	-20.10	20.50		Pinkish brown, blackish grey medium grained, highly fractured, discoloured GRANITIC GNEISS				Cr=100%		RQD=95%							
22.00				-21.60	22.00		The borehole was terminated at a depth of 22.00m													
23.00																				
24.00																				
25.00																				
26.00																				
27.00																				
28.00																				
29.00																				
30.00																				
Sample Key / Test Key																Remarks		Logged By:		
SPT		Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)				D - Disturbed Sample		SS -SPT Sample		N - Natural Moisture Content		C - Consolidation		Existing ground level considered as the zero level		G.G.N.N.Amarakoon				
GWL		Ground Water Level observed inside the Borehole, after the saturation				W - Water Sample		WS-Wash Sample		L - Atterberg Limit Test		UCT-Unconfined Compression				Supervised By:				
HB		-Hammer Bounce				UD- Undisturbed Sample		SG -Specific Gravity Test		G - Grain Size Analysis		CU - Consolidated Undrained		Chandana						
FD		-Free Down				CS - Core Sample		B - Bulk Density		V - Vane Shear Test		UU-Unconsolidated Undrained		Drilled By:						
						Cr - Core Recovery (%)		pH - Chemical		O - Organic content		SO ₄ ²⁻ - Sulphate Content		Nishantha						
						RQD-Rock Quality Designation (%)		CI - Chloride Content												

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Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon			Borehole No BR-02													
Client		M/s. JICA Study Team			Sheet 1 of 3													
Location		Baticoloa	Rig	JOY	Core Diameter	45mm												
Date of Started		17.09.2010	Drilling Method	Rotary	Casing depth	18.00m												
Date of Finished		18.09.2010	Casing Diameter	62mm	Elevation	-1.361m												
					Coordinates													
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft		
								15cm	15cm	15cm	N	10	20	30	40	50	60	70
0.00				-1.361			Ground level											
1.00			WS				Grey, brownish grey fine to coarse SAND with some shell fragments TOP SOIL											
2.00	D1		SS	-2.261	0.90		Very loose blackish grey, grey, brownish grey slightly clayey fine to coarse angular to subrounded SAND	0	0	0	0							
3.00	D2		SS					1	0	0	0							
4.00	D3		SS					1	0	1	1							
5.00	D4		SS				(3.45-4.50)m sample colour changed to greenish grey, grey colour											
6.00	D5		SS	-7.361	6.00	X	(4.50-4.95)m sample consisted with shell fragments	1	1	0	1							
7.00			WS			X	Loose grey, brownish grey slightly clayey SILTY fine to coarse angular to subrounded SAND											
8.00			WS			X	Washed Sample:											
9.00			WS	-8.861	7.50		Very loose whitish grey, light grey fine to coarse angular to subrounded SAND											
10.00			WS															

Sample Key / Test Key				Remarks	Logged By:
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample	N - Natural Moisture Content	C - Consolidation	Existing ground level considered as the zero level
GWL	Ground Water Level observed inside the Borehole, after the saturation	SS - SPT Sample	L - Atterberg Limit Test	UCT - Unconfined Compression	
HB	- Hammer Bounce	W - Water Sample	G - Grain Size Analysis	CU - Consolidated Undrained	Supervised By:
FD	- Free Down	WS - Wash Sample	SG - Specific Gravity Test	UU - Unconsolidated Undrained	Chandana
		UD - Undisturbed Sample	B - Bulk Density	pH - Chemical	Drilled By:
		CS - Core Sample	V - Vane Shear Test	O - Organic content	Nishantha
		Cr - Core Recovery (%)	RQD - Rock Quality Designation (%)	SO ₄ ²⁻ - Sulphate Content	
				Cl - Chloride Content	
		X X X X Silt	Gravel	Completely Weathered Rock	
		Sand	Laterite Nodules	Highly Weathered Rock	Fresh Rock
			Organic Matter		
			Silty Sand		

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Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No		BR-02									
Client		M/s. JICA Study Team				Sheet		2 of 3									
Location		Baticoloa		Rig		JOY		Core Diameter		45mm		Water Column Height		1.50m			
Date of Started		17.09.2010		Drilling Method		Rotary		Casing depth		18.00m		Coordinates					
Date of Finished		18.09.2010		Casing Diameter		62mm		Elevation		-1.361m							
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft	
								15cm	15cm	15cm	N						
10.00				-11.361			Continue from Page 1										
11.00							Same as previous description										
12.00			WS	-12.961	11.60		Dense whitish grey, light grey fine to coarse angular to subrounded SAND with coral rock parts	8	16	23	39						
13.00			WS	-14.461	13.10		Very stiff yellowish brown, grey, brownish grey slightly silty PLASTIC CLAY	1	6	12	18						
14.00			D7														
15.00			WS				Washed Sample: Very loose yellowish brown, light brown fine to coarse angular to subrounded SAND	5	8	9	17						
16.00			WS	-17.661	16.30		Washed Sample: Blackish grey, brown fine to coarse angular to subrounded SAND with mica traces and weathered rock fragments COMPLETELY WEATHERED ROCK ROCK LEVEL										
17.00			D9														
18.00			WS	-19.761	18.40		Black, blackish grey medium grained, fractured, fairly discoloured BIOTITE GNEISS										
19.00				-20.261	18.90		Black, blackish grey medium grained, fractured, fairly discoloured BIOTITE GNEISS	Cr=41%			RQD=41%						
20.00			CS	-21.061	19.70			Cr=100%			RQD=100%						

Sample Key / Test Key				Remarks	Logged By:
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample	N - Natural Moisture Content	Existing ground level considered as the zero level	G.G.N.N. Amarakoon Supervised By: Chandana Drilled By: Nishantha
GWL	Ground Water Level observed inside the Borehole, after the saturation	SS - SPT Sample	L - Atterberg Limit Test		
HB	- Hammer Bounce	W - Water Sample	G - Grain Size Analysis		
FD	- Free Down	WS - Wash Sample	SG - Specific Gravity Test		
		UD - Undisturbed Sample	B - Bulk Density		
		CS - Core Sample	V - Vane Shear Test		
		Cr - Core Recovery (%)			
		RQD - Rock Quality Designation (%)			
	Made Ground		Silt		Completely Weathered Rock
	Clay		Sand		Highly Weathered Rock
	Gravel		Organic Matter		Fresh Rock
	Laterite Nodules		Silty Sand		

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Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon			Borehole No	BR-02											
Client		M/s. JICA Study Team			Sheet	3 of 3											
Location		Baticoloa	Rig	JOY	Core Diameter	45mm											
Date of Started		17.09.2010	Drilling Method	Rotary	Casing depth	18.00m											
Date of Finished		18.09.2010	Casing Diameter	62mm	Elevation	-1.361m											
Coordinates																	
Depth (m)	So. Cond.	So. NO.	So. Type	Reduced level	Depth (m)	Legend	Soil Description	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft	
								15cm	15cm	15cm	N						
20.00				-21.361			Continue from Page 2										
			CS				Same as previous description										
21.00				-22.061	20.70		The borehole was terminated at a depth of 20.70m										
22.00																	
23.00																	
24.00																	
25.00																	
26.00																	
27.00																	
28.00																	
29.00																	
30.00																	

Sample Key / Test Key				Remarks	Logged By:
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample SS - SPT Sample W - Water Sample WS - Wash Sample UD - Undisturbed Sample CS - Core Sample Cr - Core Recovery (%) RQD - Rock Quality Designation (%)	N - Natural Moisture Content L - Atterberg Limit Test G - Grain Size Analysis SG - Specific Gravity Test B - Bulk Density V - Vane Shear Test	C - Consolidation UCT - Unconfined Compression CU - Consolidated Undrained UU - Unconsolidated Undrained pH - Chemical O - Organic content SO ₄ ²⁻ - Sulphate Content Cl - Chloride Content	G. G. N. N. Amarakoon Supervised By: Chandana Drilled By: Nishantha
GWL	Ground Water Level observed inside the Borehole, after the saturation			Existing ground level considered as the zero level	
HB	- Hammer Bounce				
FD	- Free Down				
	Made Ground		Silt		Gravel
	Clay		Sand		Organic Matter
	Laterite Nodules		Silty Sand		Completely Weathered Rock
	Highly Weathered Rock		Fresh Rock		

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Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No	BR-03													
Client		M/s. JICA Study Team				Sheet	1 of 3													
Location		Baticoloa	Rig	JOY	Core Diameter	45mm	Water Column Height	1.50m												
Date of Started		10.09.2010	Drilling Method	Rotary	Casing depth	19.00m	Coordinates													
Date of Finished		12.09.2010	Casing Diameter	62mm	Elevation	-1.361m														
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description				Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft	
							15cm	15cm	15cm	N	5	10	15	20	25	30	35	40	45	
0.00				-1.361			Ground level													
1.00			WS				Grey, brownish grey fine to coarse SAND with some gravel TOP SOIL													
2.00	D1		SS	-2.361	1.00						1	0	0	0						
3.00	D2		SS				Very loose grey, dark grey slightly clayey fine to coarse angular to subrounded SAND				1	1	1	2						
4.00	D3		SS	-4.361	3.00						1	0	1	1						
5.00			WS				Very loose grey, dark grey CLAYEY fine to medium angular to subrounded SAND													
6.00			UD	-5.861	4.50		Washed Sample:				UD SAMPLE									
7.00	D4		SS	-7.361	6.00		Grey, whitish grey CLAYEY fine to coarse angular to subrounded SAND													
8.00	D5		SS	-8.861	7.50		Very loose off white, whitish grey SILTY fine angular to subrounded SAND				0	0	1	1						
9.00			WS				Loose off white, whitish grey slightly clayey SILTY fine angular to subrounded SAND				2	3	3	6						
10.00			WS	-10.361	9.00		SAND BOLIED													
			WS				Same as next description													

Sample Key / Test Key				Remarks		Logged By:					
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample	N - Natural Moisture Content	C - Consolidation	Existing ground level considered as the zero level	G.G.N.N. Amarakoon					
GWL	Ground Water Level observed inside the Borehole, after the saturation	SS - SPT Sample	L - Atterberg Limit Test	UCT - Unconfined Compression		Supervised By:					
HB	- Hammer Bounce	W - Water Sample	G - Grain Size Analysis	CU - Consolidated Undrained		Dhanmika Prasad					
FD	- Free Down	WS - Wash Sample	SG - Specific Gravity Test	UU - Unconsolidated Undrained	Drilled By:						
		UD - Undisturbed Sample	B - Bulk Density	pH - Chemical	R.M. Rohana						
		CS - Core Sample	V - Vane Shear Test	O - Organic content							
		Cr - Core Recovery (%)	RQD - Rock Quality Designation (%)	SO ₄ ²⁻ - Sulphate Content							
				Cl - Chloride Content							
	Made Ground		Silt		Gravel		Laterite Nodules		Completely Weathered Rock		Fresh Rock
	Clay		Sand		Organic Matter		Silty Sand		Highly Weathered Rock		

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Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No	BR-03														
Client		M/s. JICA Study Team				Sheet	2 of 3														
Location		Baticoloa	Rig	JOY	Core Diameter	45mm	Water Column Height	1.50m													
Date of Started		10.09.2010	Drilling Method	Rotary	Casing depth	19.00m	Coordinates														
Date of Finished		12.09.2010	Casing Diameter	62mm	Elevation	-1.361m															
Depth (m)	So. Cond.	So. NO.	So. Type	Reduced level	Depth (m)	Legend	Soil Description				Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft		
							15cm	15cm	15cm	N	5	10	15	20	25	30	35	40	45		
10.00				-11.361			Continue from Page 1														
11.00			WS			X	Washed Sample: Very loose light grey, whitish grey SILTY fine angular to subrounded SAND with some mica traces				SAND BOILED										
12.00			WS			X															
13.00			WS			X															
14.00		D6	SS	-14.861	13.50	X	Hard yellowish brown, brownish grey, grey slightly silty PLASTIC CLAY				18	20	21	41						41	
15.00			WS			X															
16.00		D7	SS	-16.361	15.00	X	Dense yellowish brown, grey slightly clayey SILTY fine to medium angular to subrounded SAND				18	19	22	41						41	
17.00			WS			X															
18.00		D8	SS	-18.361	17.00	X	Washed Sample: Dense whitish grey, light grey fine to medium angular to subrounded SAND with some mica traces				17	18	18	36						36	
19.00			WS			X	Washed Sample: Yellowish brown, brownish grey fine to medium angular to subrounded sand with large amount of mica traces														
19.00		D9	SS	-20.361	19.00	X	COMPLETELY WEATHERED ROCK ROCK LEVEL				10	HB		>50						>50	
20.00				-20.861	19.50		Same as next description														
Sample Key / Test Key																		Remarks		Logged By:	
SPT		Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)				D - Disturbed Sample		N - Natural Moisture Content		C - Consolidation		Existing ground level considered as the zero level		G.G.N.N. Amarakoon							
GWL		Ground Water Level observed inside the Borehole, after the saturation				SS - SPT Sample		L - Atterberg Limit Test		UCT - Unconfined Compression		Supervised By:		Dhanmika Prasad							
HB		- Hammer Bounce				W - Water Sample		G - Grain Size Analysis		CU - Consolidated Undrained		Drilled By:		R.M. Rohana							
FD		- Free Down				WS - Wash Sample		SG - Specific Gravity Test		UU - Unconsolidated Undrained											
						UD - Undisturbed Sample		B - Bulk Density		pH - Chemical											
						CS - Core Sample		V - Vane Shear Test		O - Organic content											
						Cr - Core Recovery (%)				SO ₄ ²⁻ - Sulphate Content											
						RQD - Rock Quality Designation (%)				Cl - Chloride Content											
Made Ground		Silt		Gravel		Laterite Nodules		Completely Weathered Rock		Fresh Rock											
Clay		Sand		Organic Matter		Silty Sand		Highly Weathered Rock													

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Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon			Borehole No BR-03													
Client		M/s. JICA Study Team			Sheet 3 of 3													
Location		Baticoloa	Rig	JOY	Core Diameter	45mm												
Date of Started		10.09.2010	Drilling Method	Rotary	Casing depth	19.00m												
Date of Finished		12.09.2010	Casing Diameter	62mm	Elevation	-1.361m												
Coordinates																		
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft		
								15cm	15cm	15cm	N					10	20	30
20.00				-21.361			Continue from Page 2											
21.00			CS				Pinkish brown, whitish yellow, greenish grey medium grained, highly fractured, strongly discoloured GRANITIC GNEISS	Cr=50%										
22.00			CS	-22.361	21.00		Pinkish brown, whitish yellow, greenish grey medium grained, highly fractured, strongly discoloured GRANITIC GNEISS	Cr=85%										
23.00				-23.361	22.00		The borehole was terminated at a depth of 22.00m											
24.00																		
25.00																		
26.00																		
27.00																		
28.00																		
29.00																		
30.00																		

Sample Key / Test Key				Remarks	Logged By:
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample SS - SPT Sample W - Water Sample WS - Wash Sample UD - Undisturbed Sample CS - Core Sample Cr - Core Recovery (%) RQD - Rock Quality Designation (%)	N - Natural Moisture Content L - Atterberg Limit Test G - Grain Size Analysis SG - Specific Gravity Test B - Bulk Density V - Vane Shear Test	C - Consolidation UCT - Unconfined Compression CU - Consolidated Undrained UU - Unconsolidated Undrained pH - Chemical O - Organic content SO ₄ ²⁻ - Sulphate Content Cl - Chloride Content	G. G. N. N. Amarakoon Supervised By: Dhanmika Prasad Drilled By: R. M. Rohana
GWL	Ground Water Level observed inside the Borehole, after the saturation			Existing ground level considered as the zero level	
HB	- Hammer Bounce				
FD	- Free Down				
	Made Ground		Silt		Gravel
	Clay		Sand		Organic Matter
	Laterite Nodules		Silty Sand		Completely Weathered Rock
	Highly Weathered Rock		Fresh Rock		

ENGINEERING & LABORATORY SERVICES (PVT) LTD. SITE INVESTIGATIONS DIVISION		NO 62/3, Neelamahara Road, Katuwawala, Sri Lanka. Tel: 0114 309 494			Format No: ELS-SI-02												
Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No	BR-04										
Client		M/s. JICA Study Team				Sheet	1 of 3										
Location		Baticoloa	Rig	JOY	Core Diameter	45mm	Water Column Height	2.40m									
Date of Started		05.09.2010	Drilling Method	Rotary	Casing depth	21.00m	Coordinates										
Date of Finished		08.09.2010	Casing Diameter	62mm	Elevation	-2.481m											
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft	
								15cm	15cm	15cm	N						
0.00				-2.481			Ground level										
1.00			WS				Whashed Sample:										
2.00							Very loose whitish grey, whitish brown fine to coarse angular to subrounded SAND										
3.00			D1 SS					0	0	0	0						
4.00			WS														
5.00			D2 SS	-6.981	4.50		Medium dense whitish grey, light brown fine to coarse SAND	4	4	8	12						
6.00			WS														
7.00			D3 SS				(6.45-7.50)m sample colour changed to whitish brown, light whitish grey colour	7	6	7	13						
8.00			WS														
9.00			D4 SS	-9.981	7.50		Medium dense whitish grey, light grey SILTY fine angular to subrounded SAND with shell fragments	5	7	5	12						
10.00			WS														
			D5 SS				(9.00-9.45)m sample consisted with some mica traces	5	10	13	23						
			WS														

Sample Key / Test Key				Remarks		Logged By:	
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample	N - Natural Moisture Content	C - Consolidation	Existing ground level considered as the zero level	G.G.N.N. Amarakoon	
GWL	Ground Water Level observed inside the Borehole, after the saturation	SS - SPT Sample	L - Atterberg Limit Test	UCT - Unconfined Compression		Supervised By:	
HB	- Hammer Bounce	W - Water Sample	G - Grain Size Analysis	CU - Consolidated Undrained		Dhanmika Prasad	
FD	- Free Down	WS - Wash Sample	SG - Specific Gravity Test	UU - Unconsolidated Undrained		Drilled By:	
		UD - Undisturbed Sample	B - Bulk Density	pH - Chemical		R.M. Rohana	
		CS - Core Sample	V - Vane Shear Test	O - Organic content			
		Cr - Core Recovery (%)	RQD - Rock Quality Designation (%)	SO ₄ ²⁻ - Sulphate Content			
				Cl - Chloride Content			
	Made Ground		Silt		Gravel		Completely Weathered Rock
	Clay		Sand		Organic Matter		Highly Weathered Rock
	Laterite Nodules		Silty Sand		Fresh Rock		

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Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No		BR-04										
Client		M/s. JICA Study Team				Sheet		2 of 3										
Location		Baticoloa		Rig		JOY		Core Diameter		45mm		Water Column Height		2.40m				
Date of Started		05.09.2010		Drilling Method		Rotary		Casing depth		21.00m		Coordinates						
Date of Finished		08.09.2010		Casing Diameter		62mm		Elevation		-2.481m								
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft		
								15cm	15cm	15cm	N	5	10	15	20	25	30	35
10.00				-12.481			Continue from Page 1											
11.00	D6		SS				Same as previous description	7	13	34	47							
				-13.481	11.00		Rock Boulder: Grey, yellowish brown ROCK BOULDER	NO SAMPLE										
12.00	D7		SS				Very stiff grey, brown slightly silty PLASTIC CLAY	8	13	17	30							
				-13.981	11.50													
13.00			WS															
14.00	D8		SS					6	10	10	20							
				-16.781	14.30													
15.00	D9		SS				Very dense dark grey, blackish grey slightly clayey SILTY fine to coarse angular to subrounded SAND	9	21	34	>50							
16.00			WS															
17.00	D10		SS					HB			>50							
18.00			WS															
19.00	D11		SS				Same as next description	50	HB		>50							
				-21.481	19.00													
20.00																		

Sample Key / Test Key				Remarks	Logged By:
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample SS - SPT Sample W - Water Sample WS - Wash Sample UD - Undisturbed Sample CS - Core Sample Cr - Core Recovery (%) RQD - Rock Quality Designation (%)	N - Natural Moisture Content L - Atterberg Limit Test G - Grain Size Analysis SG - Specific Gravity Test B - Bulk Density V - Vane Shear Test	C - Consolidation UCT - Unconfined Compression CU - Consolidated Undrained UU - Unconsolidated Undrained pH - Chemical O - Organic content SO ₄ ²⁻ - Sulphate Content Cl - Chloride Content	G.G.N.N. Amarakoon Supervised By: Dhanmika Prasad Drilled By: R.M. Rohana
GWL	Ground Water Level observed inside the Borehole, after the saturation				Existing ground level considered as the zero level
HB	- Hammer Bounce				
FD	- Free Down				
⊗	Made Ground	⊗⊗⊗	Gravel	⊗⊗⊗	Completely Weathered Rock
⊙	Clay	⊙⊙⊙	Organic Matter	⊙⊙⊙	Highly Weathered Rock
⊘	Silt	⊘⊘⊘	Laterite Nodules	⊘⊘⊘	Fresh Rock
⊚	Sand	⊚⊚⊚	Silty Sand	⊚⊚⊚	

ENGINEERING & LABORATORY SERVICES (PVT) LTD. SITE INVESTIGATIONS DIVISION		NO 62/3, Neelamahara Road, Katuwawala, Sri Lanka. Tel: 0114 309 494		Format No: ELS-SI-02														
Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon			Borehole No	BR-04												
Client		M/s. JICA Study Team			Sheet	3 of 3												
Location		Baticoloa	Rig	JOY	Core Diameter	45mm												
Date of Started		05.09.2010	Drilling Method	Rotary	Casing depth	21.00m												
Date of Finished		08.09.2010	Casing Diameter	62mm	Elevation	-2.481m												
Coordinates																		
Depth (m)	So. Cond	So. NO.	So. Type	Reduced level	Depth (m)	Legend	Soil Description	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft		
								15cm	15cm	15cm	N	5	10	15	20	25	30	35
20.00				-22.481			Continue from Page 2											
21.00			WS				Yellowish brown, grey medium to coarse angular to subrounded sand with mica and weathered rock fragments Mica content increased with the depth COMPLETELY WEATHERED ROCK ROCK LEVEL											
22.00			CS	-23.981	21.50		Yellowish brown, whitish grey, blackish grey medium grained, highly fractured, strongly discoloured BIOTITE GNEISS	Cr=35%		RQD=0%								
23.00			CS	-25.481	23.00		Yellowish brown, whitish grey, blackish grey medium grained, highly fractured, strongly discoloured BIOTITE GNEISS	Cr=60%		RQD=0%								
24.00				-26.481	24.00		The borehole was terminated at a depth of 24.00m											
25.00																		
26.00																		
27.00																		
28.00																		
29.00																		
30.00																		
Sample Key / Test Key															Remarks		Logged By:	
SPT Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)		D - Disturbed Sample		N - Natural Moisture Content		C - Consolidation				Existing ground level considered as the zero level		G.G.N.N Amarakoon						
GWL Ground Water Level observed inside the Borehole, after the saturation		SS -SPT Sample		L - Atterberg Limit Test		UCT-Unconfined Compression						Supervised By:						
HB -Hammer Bounce		W - Water Sample		G - Grain Size Analysis		CU - Consolidated Undrained				Dhanmika Prasad								
FD -Free Down		WS-Wash Sample		SG -Specific Gravity Test		UU-Unconsolidated Undrained				Drilled By:								
		UD- Undisturbed Sample		B - Bulk Density		pH - Chemical				R.M Rohana								
		CS- Core Sample		V - Vane Shear Test		O - Organic content												
		Cr - Core Recovery (%)		RQD-Rock Quality Designation (%)		SO ₄ ²⁻ - Sulphate Content												
						Cl - Chloride Content												
Made Ground		Silt		Gravel		Laterite Nodules		Completely Weathered Rock		Fresh Rock								
Clay		Sand		Organic Matter		Silty Sand		Highly Weathered Rock										

ENGINEERING & LABORATORY SERVICES (PVT) LTD. SITE INVESTIGATIONS DIVISION		NO 62/3, Neelamhara Road, Katuwawala, Sri Lanka. Tel: 0114 309 494			Format No: ELS-SI-02													
Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No	BR-05											
Client		M/s. JICA Study Team				Sheet	1 of 3											
Location		Baticoloa	Rig	JOY	Core Diameter	54mm	Water Column Height	1.90m										
Date of Started		02.09.2010	Drilling Method	Rotary	Casing depth	21.00m	Coordinates											
Date of Finished		04.09.2010	Casing Diameter	76mm	Elevation	-2.031m												
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft		
								15cm	15cm	15cm	N							
0.00				-2.031			Ground level											
1.00			WS				Washed Sample: Grey, brownish grey fine to coarse angular to subrounded SAND TOP SOIL											
1.00	D1		SS	-3.031	1.00			1	0	0	0							
2.00			WS															
2.00	D2		SS					0	0	0	0							
3.00			WS				Very loose grey, brownish grey CLAYEY fine to coarse angular to subrounded SAND											
3.00	D3		SS					1	0	0	0							
4.00			WS															
5.00	D4		SS	-6.531	4.50			2	3	3	6							
6.00			WS				Loose whitish grey, light grey slightly clayey SILTY fine angular to subrounded SAND with small amount of shell fragments											
6.00	D5		SS					7	3	3	6							
7.00			WS															
8.00	D6		SS	-9.531	7.50			4	7	11	18							
9.00			WS				Medium dense grey, greenish grey SILTY fine angular to subrounded SAND with some mica traces and shell fragments											
9.00	D7		SS					12	13	15	28							
10.00			WS															

Sample Key / Test Key				Remarks		Logged By:	
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample	N - Natural Moisture Content	C - Consolidation	Existing ground level considered as the zero level	G.G.N.N. Amarakoon	
GWL	Ground Water Level observed inside the Borehole, after the saturation	SS - SPT Sample	L - Atterberg Limit Test	UCT - Unconfined Compression		Supervised By:	
HB	- Hammer Bounce	W - Water Sample	G - Grain Size Analysis	CU - Consolidated Undrained		Dhanmika Prasad	
FD	- Free Down	WS - Wash Sample	SG - Specific Gravity Test	UU - Unconsolidated Undrained		Drilled By:	
		UD - Undisturbed Sample	B - Bulk Density	pH - Chemical		R.M. Rohana	
		CS - Core Sample	V - Vane Shear Test	O - Organic content			
		Cr - Core Recovery (%)	RQD - Rock Quality Designation (%)	SO ₄ ²⁻ - Sulphate Content			
				Cl - Chloride Content			
	Made Ground		Silt		Gravel		Laterite Nodules
	Clay		Sand		Organic Matter		Silty Sand
					Completely Weathered Rock		Highly Weathered Rock
					Fresh Rock		

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Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No	BR-05						
Client		M/s. JICA Study Team				Sheet	2 of 3						
Location		Baticoloa	Rig	JOY	Core Diameter	54mm	Water Column Height	1.90m					
Date of Started		02.09.2010	Drilling Method	Rotary	Casing depth	21.00m	Coordinates						
Date of Finished		04.09.2010	Casing Diameter	76mm	Elevation	-2.031m							
Depth (m)	Sa. Cond.	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Field Records (SPT)				Moisture Content - %		
							15cm	15cm	15cm	N	Undrained Shear Strength - t/m ²		
10.00				-12.031			Continue from Page 1				10 20 30 40 50 60 70 80 90		
11.00	D8		SS	-12.531	10.50	X	2	4	5	9	09		
12.00			WS			X	Loose grey, greenish grey SILTY fine angular to subrounded SAND with some mica traces and shell fragments						
13.00	D9		SS	-14.031	12.00	X	6	6	7	13	13		
14.00			WS			X	Medium dense grey, greenish grey SILTY fine angular to subrounded SAND with some mica traces						
15.00	D10		SS	-15.531	13.50	X	10	13	13	26	26		
16.00			WS			X	Yellowish brown, brown slightly clayey fine to medium angular to subrounded sand with mica traces and weathered rock fragments						
17.00	D11		SS			X	11	13	15	28	28		
18.00			WS			X	From a depth of 19.45m, sample consisted with weathered rock fragments						
19.00	D12		SS			X	16	HB		>50	>50		
20.00			WS			X	COMPLETELY WEATHERED ROCK						
											>50		
							NO SAMPLE						
							NO SAMPLE						

Sample Key / Test Key				Remarks		Logged By:	
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample	N - Natural Moisture Content	C - Consolidation	Existing ground level considered as the zero level	G.G.N.N. Amarakoon	
GWL	Ground Water Level observed inside the Borehole, after the saturation	SS - SPT Sample	L - Atterberg Limit Test	UCT - Unconfined Compression		Supervised By:	
HB	- Hammer Bounce	W - Water Sample	G - Grain Size Analysis	CU - Consolidated Undrained		Dhanmika Prasad	
FD	- Free Down	WS - Wash Sample	SG - Specific Gravity Test	UU - Unconsolidated Undrained		Drilled By:	
		UD - Undisturbed Sample	B - Bulk Density	pH - Chemical	R.M. Rohana		
		CS - Core Sample	V - Vane Shear Test	O - Organic content			
		Cr - Core Recovery (%)	RQD - Rock Quality Designation (%)	SO ₄ ²⁻ - Sulphate Content			
		X X X X Silt	Gravel	CI - Chloride Content			
		X X X X Clay	Organic Matter				
		X X X X Sand	Laterite Nodules				
		X X X X Silty Sand					
		X X X X Completely Weathered Rock					
		X X X X Highly Weathered Rock					
		X X X X Fresh Rock					

ENGINEERING & LABORATORY SERVICES (PVT) LTD. SITE INVESTIGATIONS DIVISION		NO 62/3, Neelamahara Road, Katuwawala, Sri Lanka. Tel: 0114 309 494			Format No: ELS-SI-02												
Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No	BR-05										
Client		M/s. JICA Study Team				Sheet	3 of 3										
Location		Baticoloa	Rig	JOY	Core Diameter	54mm	Water Column Height	1.90m									
Date of Started		02.09.2010	Drilling Method	Rotary	Casing depth	21.00m	Coordinates										
Date of Finished		04.09.2010	Casing Diameter	76mm	Elevation	-2.031m											
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft	
								15cm	15cm	15cm	N	10 20 30 40 50 60 70 80 90		5 10 15 20 25 30 35 40 45			
20.00				-22.031			Continue from Page 2										
21.00			WS				Same as previous description										
22.00				-23.711	21.68		ROCK LEVEL										
23.00			CS				Black, whitish grey medium grained, highly fractured, discoloured BIOTITE GNEISS	Cr=50%		RQD=15%							
24.00				-25.711	23.68		Black, whitish grey medium grained, highly fractured, discoloured BIOTITE GNEISS	Cr=100%		RQD=22%							
25.00				-26.711	24.68		The borehole was terminated at a depth of 24.00m										
26.00																	
27.00																	
28.00																	
29.00																	
30.00																	

Sample Key / Test Key				Remarks	Logged By:
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample SS -SPT Sample W - Water Sample WS-Wash Sample UD- Undisturbed Sample CS- Core Sample Cr - Core Recovery (%) RQD-Rock Quality Designation (%)	N - Natural Moisture Content L - Atterberg Limit Test G - Grain Size Analysis SG -Specific Gravity Test B - Bulk Density V - Vane Shear Test	C - Consolidation UCT-Unconfined Compression CU - Consolidated Undrained UU-Unconsolidated Undrained pH - Chemical O - Organic content SO ₄ ²⁻ - Sulphate Content Cl - Chloride Content	G.G.N.N.Amarakoon Supervised By: Dhanmika Prasad Drilled By: R.M.Rohana
GWL	Ground Water Level observed inside the Borehole, after the saturation			Existing ground level considered as the zero level	
HD	-Hammer Bounce				
FD	-Free Down				
	Made Ground		Silt		Gravel
	Clay		Sand		Organic Matter
			Laterite Nodules		Silty Sand
			Completely Weathered Rock		Highly Weathered Rock
			Fresh Rock		

		ENGINEERING & LABORATORY SERVICES (PVT) LTD. SITE INVESTIGATIONS DIVISION				NO 62/3, Neelamahara Road, Katuwawala, Sri Lanka. Tel: 0114 309 494		Format No: ELS-SI-02												
Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No		BR-06												
Client		M/s. JICA Study Team				Sheet		1 of 3												
Location		Baticoloa	Rig	JOY	Core Diameter	45mm	Ground Water level		0.85m											
Date of Started		08.09.2010	Drilling Method	Rotary	Casing depth	18.00m	Coordinates													
Date of Finished		15.09.2010	Casing Diameter	62mm	Elevation	+ 0.80m														
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description				Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft	
											15cm	15cm	15cm	N						
0.00				+0.80			Ground level													
			WS				Whitish grey, light brownish white fine to coarse SAND with some coral rock fragments TOP SOIL													
1.00			D1 SS	-0.10	0.90			3	2	0	2									
			WS				Very loose grey fine to medium angular to subrounded SAND with some coral rock fragments													
2.00			D2 SS					0	0	0	0									
			WS				Very loose grey fine to medium angular to subrounded SAND with some coral rock fragments													
3.00			D3 SS					1	0	0	0									
			WS				Very loose whitish grey, off white fine to coarse angular to subrounded SAND with some coral rock parts													
4.00			D4 SS	-3.80	4.60			1	0	0	0									
			WS				Very loose whitish grey, off white fine to coarse angular to subrounded SAND with some coral rock parts													
5.00			D5 SS					1	1	1	2									
			WS				Loose whitish grey, off white fine to coarse angular to subrounded SAND													
6.00			D6 SS	-6.70	7.50			2	3	4	7									
			WS				Loose whitish grey, off white fine to coarse angular to subrounded SAND													
7.00			D7 SS	-8.20	9.00			7	9	9	18									
			WS				Medium dense whitish grey, off white SILTY fine angular to subrounded SAND with some mica traces													
10.00																				
Sample Key / Test Key										Remarks		Logged By:								
SPT Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)				D - Disturbed Sample SS - SPT Sample W - Water Sample WS - Wash Sample UD - Undisturbed Sample CS - Core Sample Cr - Core Recovery (%) RQD - Rock Quality Designation (%)				N - Natural Moisture Content L - Atterberg Limit Test G - Grain Size Analysis SG - Specific Gravity Test B - Bulk Density V - Vane Shear Test				C - Consolidation UCT - Unconfined Compression CU - Consolidated Undrained UU - Unconsolidated Undrained pH - Chemical O - Organic content SO ₄ ²⁻ - Sulphate Content Cl - Chloride Content				Existing ground level considered as the zero level		G.G.N.N. Amarakoon Supervised By: Chandana Drilled By: Nishantha		
GWL Ground Water Level observed inside the Borehole, after the saturation				HB - Hammer Bounce FD - Free Down				Made Ground Clay				Silt Sand Gravel Organic Matter Laterite Nodules Silty Sand Completely Weathered Rock Highly Weathered Rock Fresh Rock								

ENGINEERING & LABORATORY SERVICES (PVT) LTD. SITE INVESTIGATIONS DIVISION		NO 62/3, Neelamahara Road, Katuwawala, Sri Lanka. Tel: 0114 309 494			Format No: ELS-SI-02													
Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No	BR-06											
Client		M/s. JICA Study Team				Sheet	2 of 3											
Location		Baticoloa	Rig	JOY	Core Diameter	45mm	Ground Water level	0.85m										
Date of Started		08.09.2010	Drilling Method	Rotary	Casing depth	18.00m	Coordinates											
Date of Finished		15.09.2010	Casing Diameter	62mm	Elevation	+ 0.80m												
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft		
								15cm	15cm	15cm	N	5	10	15	20	25	30	35
10.00				-9.20			Continue from Page 1											
11.00	D8		SS	-9.70	10.50	X	Same as previous description	22	16	17	33							
12.00			WS			X	Dense whitish grey, light grey, off white SILTY fine angular to subrounded SAND with some mica traces											
13.00	D9		SS			X	From a depth of 12.00m, sample colour changed to greenish grey, whitish grey colour	10	23	24	47							
14.00			WS			X												
15.00			WS	-13.30	14.10	X	Washed Sample: Yellowish brown, grey fine to medium SAND with strong coral rock fragments											
16.00			WS	-14.20	15.00	X	Washed Sample: Very loose greenish grey, grey fine to coarse SAND with some shell fragments											
17.00	D10		SS	-14.75	15.55	X		7	21	22	43							
18.00			WS			X	Dense grey, brownish grey, yellowish brown CLAYEY fine to medium angular to subrounded SAND with shell fragments											
19.00	D11		SS			X		10	18	20	38							
20.00						X												

Sample Key / Test Key				Remarks		Logged By:	
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample	N - Natural Moisture Content	C - Consolidation	Existing ground level considered as the zero level	G.G.N.N. Amarakoon	
GWL	Ground Water Level observed inside the Borehole, after the saturation	SS - SPT Sample	L - Atterberg Limit Test	UCT - Unconfined Compression		Supervised By:	
HB	- Hammer Bounce	W - Water Sample	G - Grain Size Analysis	CU - Consolidated Undrained		Chandana	
FD	- Free Down	WS - Wash Sample	SG - Specific Gravity Test	UU - Unconsolidated Undrained		Drilled By:	
		UD - Undisturbed Sample	B - Bulk Density	pH - Chemical	Nishantha		
		CS - Core Sample	V - Vane Shear Test	O - Organic content			
		Cr - Core Recovery (%)	RQD - Rock Quality Designation (%)	SO ₄ ²⁻ - Sulphate Content			
		X X X X Silt	Gravel	CI - Chloride Content			
		X X X X Sand	Laterite Nodules	Completely Weathered Rock			
		X X X X Organic Matter	Silty Sand	Highly Weathered Rock			
				Fresh Rock			

ENGINEERING & LABORATORY SERVICES (PVT) LTD. SITE INVESTIGATIONS DIVISION		NO 62/3, Neelamahara Road, Katuwawala, Sri Lanka. Tel: 0114 309 494		Format No: ELS-SI-02												
Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon			Borehole No	BR-06										
Client		M/s. JICA Study Team			Sheet	3 of 3										
Location		Baticoloa	Rig	JOY	Core Diameter	45mm										
Date of Started		08.09.2010	Drilling Method	Rotary	Casing depth	18.00m										
Date of Finished		15.09.2010	Casing Diameter	62mm	Elevation	+ 0.80m										
Coordinates																
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft	
							15cm	15cm	15cm	N	10	20	30	40	50	60
20.00				-19.20			Continue from Page 2									
21.00			WS				Same as previous description									
22.00			D12 SS	-20.20	21.00		8	11	17	28	28					
23.00			WS	-21.60	22.40		Yellowish brown, brown fine to medium angular to subrounded sand with mica traces									
24.00			D13 SS				50	HB		>50	>50					
25.00			WS	-23.40	24.20		COMPLETELY WEATHERED ROCK ROCK LEVEL									
26.00			CS		24.20		Greenish black, yellowish brown silty fine sand with large amount of mica traces and rock fragments				Cr=3%		RQD=0%			
27.00			CS	-25.40	26.20		HIGHLY WEATHERED ROCK				Cr=55%		RQD=0%			
28.00			CS	-26.00	26.80		Black, blackish grey medium grained, highly fractured, discoloured BIOTITE GNEISS				Cr=86%		RQD=56%			
29.00			CS	-26.50	27.30		Black, blackish grey medium grained, highly fractured, discoloured BIOTITE GNEISS									
30.00							The borehole was terminated at a depth of 27.30m									

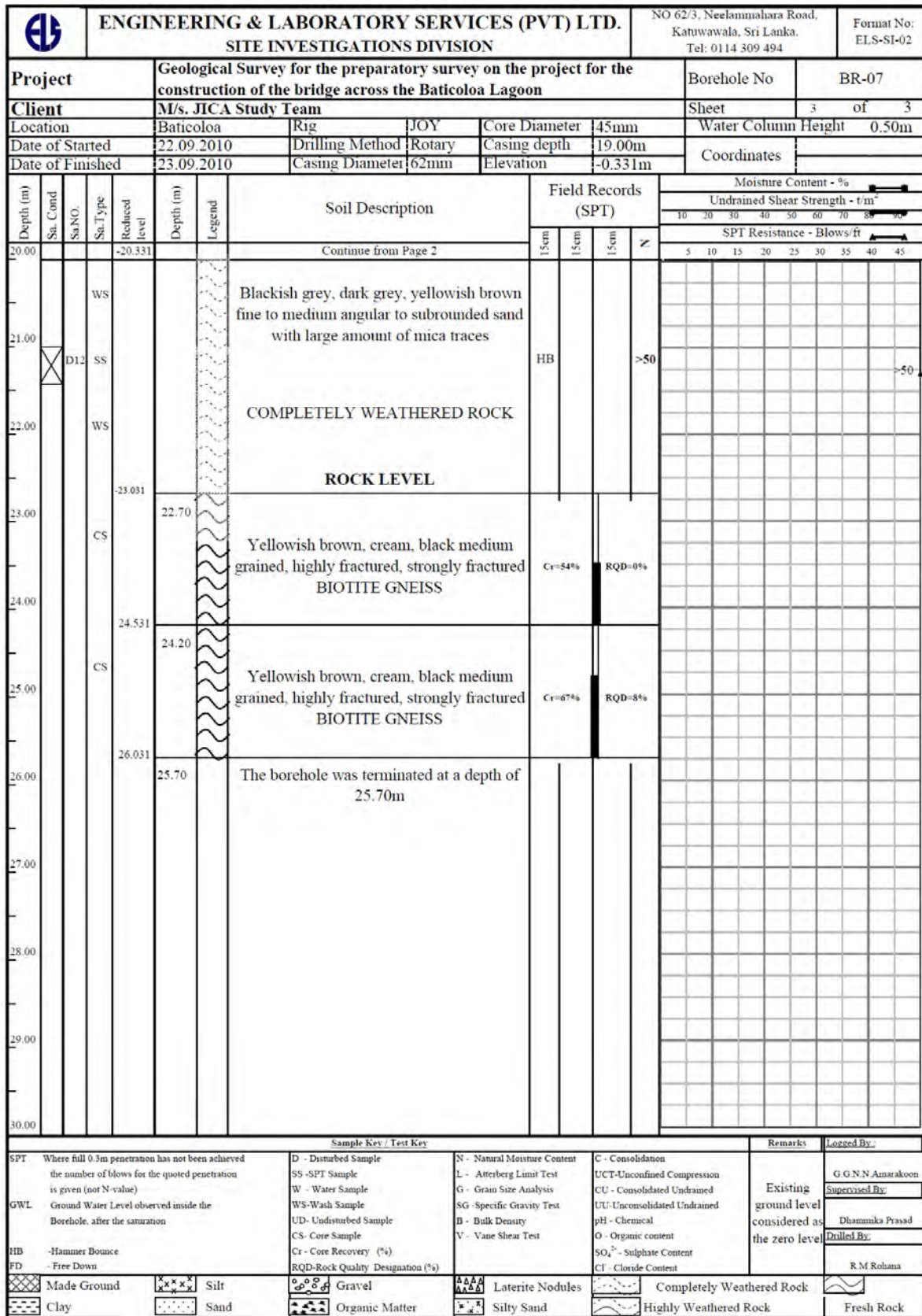
Sample Key / Test Key				Remarks		Logged By:	
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample	N - Natural Moisture Content	C - Consolidation	Existing ground level considered as the zero level	G.G.N.N Amarakoon	
GWL	Ground Water Level observed inside the Borehole, after the saturation	SS - SPT Sample	L - Atterberg Limit Test	UCT - Unconfined Compression		Supervised By:	
HB	- Hammer Bounce	W - Water Sample	G - Grain Size Analysis	CU - Consolidated Undrained		Chandana	
FD	- Free Down	WS - Wash Sample	SG - Specific Gravity Test	UU - Unconsolidated Undrained	Drilled By:		
		UD - Undisturbed Sample	B - Bulk Density	pH - Chemical	Nishantha		
		CS - Core Sample	V - Vane Shear Test	O - Organic content			
		Cr - Core Recovery (%)	RQD - Rock Quality Designation (%)	SO ₄ ²⁻ - Sulphate Content			
				Cl - Chloride Content			
	Made Ground		Silt		Completely Weathered Rock		Fresh Rock
	Clay		Sand		Highly Weathered Rock		
	Gravel		Organic Matter		Laterite Nodules		
	Silty Sand						

ENGINEERING & LABORATORY SERVICES (PVT) LTD. SITE INVESTIGATIONS DIVISION		NO 62/3, Neelamhara Road, Katuwawala, Sri Lanka. Tel: 0114 309 494			Format No: ELS-SI-02															
Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No	BR-07													
Client		M/s. JICA Study Team				Sheet	1 of 3													
Location		Baticoloa	Rig	JOY	Core Diameter	45mm	Water Column Height	0.50m												
Date of Started		22.09.2010	Drilling Method	Rotary	Casing depth	19.00m	Coordinates													
Date of Finished		23.09.2010	Casing Diameter	62mm	Elevation	-0.331m														
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description				Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft	
							15cm	15cm	15cm	N	5	10	15	20	25	30	35	40	45	
0.00				-0.331			Ground level													
1.00			WS				Grey, dark grey slightly clayey fine to coarse angular to subrounded SAND													
							TOP SOIL													
1.00	D1		SS	-1.331	1.00						0	0	1	1						
2.00							Very loose dark grey, grey CLAYEY fine to coarse angular to subrounded SAND													
2.00	D2		SS								1	1	1	2						
3.00							Very loose dark grey, grey slightly clayey SILTY fine to coarse angular to subrounded SAND													
3.00	D3		SS	-3.331	3.00						1	1	1	2						
4.00			WS				Clay content decreased with the depth													
5.00	D4		SS								0	1	2	3						
6.00			WS																	
6.00	D5		SS	-6.331	6.00		Loose dark grey, grey CLAYEY fine to medium angular to subrounded SAND				2	2	2	4						
7.00			UD				UD SAMPLE													
7.00			WS																	
8.00	D6		SS	-7.831	7.50		Very loose dark grey, grey CLAYEY fine to medium angular to subrounded SAND				2	2	1	3						
9.00			WS																	
9.00	D7		SS	-9.331	9.00		Medium dense greenish grey, light grey SILTY fine to medium angular to subrounded SAND				8	11	18	29						
10.00			WS																	

Sample Key / Test Key				Remarks		Logged By:	
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample	N - Natural Moisture Content	C - Consolidation	Existing ground level considered as the zero level	G.G.N.N. Amarakoon	
GWL	Ground Water Level observed inside the Borehole, after the saturation	SS - SPT Sample	L - Atterberg Limit Test	UCT - Unconfined Compression		Supervised By:	
HB	- Hammer Bounce	W - Water Sample	G - Grain Size Analysis	CU - Consolidated Undrained		Dhanmika Prasad	
FD	- Free Down	WS - Wash Sample	SG - Specific Gravity Test	UU - Unconsolidated Undrained		Drilled By:	
		UD - Undisturbed Sample	B - Bulk Density	pH - Chemical		R.M. Rohana	
		CS - Core Sample	V - Vane Shear Test	O - Organic content			
		Cr - Core Recovery (%)	RQD - Rock Quality Designation (%)	SO ₄ ²⁻ - Sulphate Content			
				Cl - Chloride Content			
		XXXXX Silt	Gravel	Laterite Nodules	Completely Weathered Rock		
		XXXXX Sand	Organic Matter	Silty Sand	Highly Weathered Rock	Fresh Rock	

ENGINEERING & LABORATORY SERVICES (PVT) LTD. SITE INVESTIGATIONS DIVISION		NO 62/3, Neelamahara Road, Katuwawala, Sri Lanka. Tel: 0114 309 494			Format No: ELS-SI-02											
Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No	BR-07									
Client		M/s. JICA Study Team				Sheet	2 of 3									
Location		Baticoloa	Rig	JOY	Core Diameter	45mm	Water Column Height	0.50m								
Date of Started		22.09.2010	Drilling Method	Rotary	Casing depth	19.00m	Coordinates									
Date of Finished		23.09.2010	Casing Diameter	62mm	Elevation	-0.331m										
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft	
							15cm	15cm	15cm	N	10	20	30	40	50	60
10.00				-10.331			Continue from Page 1									
11.00	D8		SS	-10.831	10.50		Same as previous description									
12.00			WS				Medium dense whitish grey, light grey SILTY fine angular to subrounded SAND with some mica traces				SAND BOILED					
13.00			WS													
14.00	D9		SS	-13.831	13.50		Washed Sample: Medium dense whitish grey, light grey SILTY fine angular to subrounded SAND with some mica traces				NO SAMPLE					
15.00			WS													
16.00			WS		15.00		Washed Sample: Whitish grey, light grey SILTY fine angular to subrounded SAND with some mica traces				SAND BOILED					
17.00			WS													
18.00	D10		SS	-16.831	16.50		Stiff brown, grey, dark grey slightly silty PLASTIC CLAY									
19.00			WS													
20.00	D11		SS	-19.331	19.00		Same as next description				NO SAMPLE					

Sample Key / Test Key				Remarks		Logged By:	
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample	N - Natural Moisture Content	C - Consolidation	Existing ground level considered as the zero level	G.G.N.N. Amarakoon	
GWL	Ground Water Level observed inside the Borehole, after the saturation	SS - SPT Sample	L - Atterberg Limit Test	UCT - Unconfined Compression		Supervised By:	
		W - Water Sample	G - Grain Size Analysis	CU - Consolidated Undrained		Dhanmika Prasad	
		WS - Wash Sample	SG - Specific Gravity Test	UU - Unconsolidated Undrained		Drilled By:	
HB	- Hammer Bounce	UD - Undisturbed Sample	B - Bulk Density	pH - Chemical	R.M. Rohana		
FD	- Free Down	CS - Core Sample	V - Vane Shear Test	O - Organic content			
		Cr - Core Recovery (%)	RQD - Rock Quality Designation (%)	SO ₄ ²⁻ - Sulphate Content			
				Cl - Chloride Content			
	Made Ground		Silt		Gravel		Laterite Nodules
	Clay		Sand		Organic Matter		Silty Sand
					Completely Weathered Rock		Highly Weathered Rock
					Fresh Rock		



ENGINEERING & LABORATORY SERVICES (PVT) LTD. SITE INVESTIGATIONS DIVISION		NO 62/3, Neelamahara Road, Katuwawala, Sri Lanka. Tel: 0114 309 494			Format No: ELS-SI-02															
Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No	BR-08													
Client		M/s. JICA Study Team				Sheet	1 of 3													
Location		Baticoloa	Rig	JOY	Core Diameter	45mm	Ground Water level	0.30m												
Date of Started		26.08.2010	Drilling Method		Rotary		Casing depth	22.00m												
Date of Finished		27.08.2010	Casing Diameter		62mm		Elevation	+ 0.74m												
Coordinates																				
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description				Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft	
							15cm	15cm	15cm	N	5	10	15	20	25	30	35	40	45	
0.00				+0.74			Ground level													
			D1	DS	+0.54		Dark brown, blackish brown fine to coarse angular to subrounded SAND with some plant roots TOP SOIL													
1.00			D2	SS	-0.31	1.05					1	1	0	1						
				WS																
2.00			D3	SS			Very loose grey, brownish grey slightly organic clayey fine to coarse SAND				1	0	0	0						
				WS																
3.00			D4	SS							1	0	0	0						
				WS																
4.00				WS																
5.00			D5	SS			Clay content increased with the depth				1	0	0	0						
				WS																
6.00			D6	SS			(7.50-7.95)m sample colour changed to whitish grey, light grey colour				0	0	1	1						
				WS																
7.00				WS																
8.00			D7	SS							1	1	1	2						
				WS																
9.00				WS																
			D8	SS	-7.86	8.60	Medium dense whitish grey, light grey CLAYEY fine angular to subrounded SAND				5	8	13	21						
10.00				WS																

Sample Key / Test Key				Remarks		Logged By:	
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample	N - Natural Moisture Content	C - Consolidation	Existing ground level considered as the zero level	G.G.N.N Amarakoon	
GWL	Ground Water Level observed inside the Borehole, after the saturation	SS - SPT Sample	L - Atterberg Limit Test	UCT-Unconfined Compression		Supervised By:	
HB	-Hammer Bounce	W - Water Sample	G - Grain Size Analysis	CU - Consolidated Undrained		Chandana	
FD	-Free Down	WS-Wash Sample	SG - Specific Gravity Test	UU-Unconsolidated Undrained		Drilled By:	
		UD- Undisturbed Sample	B - Bulk Density	pH - Chemical	Nishantha		
		CS - Core Sample	V - Vane Shear Test	O - Organic content			
		Cr - Core Recovery (%)	RQD-Rock Quality Designation (%)	SO ₄ ²⁻ - Sulphate Content			
				Cl - Chloride Content			
	Made Ground		Silt		Gravel		Laterite Nodules
	Clay		Sand		Organic Matter		Silty Sand
					Completely Weathered Rock		Highly Weathered Rock
					Fresh Rock		

ENGINEERING & LABORATORY SERVICES (PVT) LTD. SITE INVESTIGATIONS DIVISION		NO 62/3, Neelamahara Road, Katuwawala, Sri Lanka. Tel: 0114 309 494			Format No: ELS-SI-02												
Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon				Borehole No		BR-08									
Client		M/s. JICA Study Team				Sheet		2 of 3									
Location		Baticoloa		Rig		JOY		Core Diameter		45mm		Ground Water level		0.30m			
Date of Started		26.08.2010		Drilling Method		Rotary		Casing depth		22.00m		Coordinates					
Date of Finished		27.08.2010		Casing Diameter		62mm		Elevation		+ 0.74m							
Depth (m)	Sa. Cond	Sa. NO.	Sa. Type	Reduced level	Depth (m)	Legend	Soil Description	Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft	
								15cm	15cm	15cm	N	5	10	15	20	25	30
10.00				-9.26			Continue from Page 1										
11.00	D9		SS	-9.76	10.50	X	Same as previous description	6	11	11	22						
12.00			WS			X											
13.00	D10		SS			X	Medium dense greenish grey, whitish brown, light grey SILTY fine angular to subrounded SAND	10	12	14	26						
14.00			WS			X											
15.00	D11		SS			X		7	9	11	20						
16.00			WS			X											
17.00	D12		SS	-14.26	15.00	X	Medium dense greenish grey, grey SILTY fine angular to subrounded SAND with some mica and weathered rock fragments	8	11	15	26						
18.00			WS			X											
19.00	D13		SS	-15.51	16.25	X	Stiff grey, brown slightly fine sandy PLASTIC CLAY	3	7	8	15						
20.00			WS			X											
	D14		SS	-18.26	19.00	X	Very stiff yellowish brown, brown fine to coarse angular to subrounded SANDY CLAY	12	13	14	27						
			WS			X											

Sample Key / Test Key				Remarks	Logged By:
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)	D - Disturbed Sample SS - SPT Sample W - Water Sample WS - Wash Sample UD - Undisturbed Sample CS - Core Sample Cr - Core Recovery (%) RQD - Rock Quality Designation (%)	N - Natural Moisture Content L - Atterberg Limit Test G - Grain Size Analysis SG - Specific Gravity Test B - Bulk Density V - Vane Shear Test	C - Consolidation UCT - Unconfined Compression CU - Consolidated Undrained UU - Unconsolidated Undrained pH - Chemical O - Organic content SO ₄ ²⁻ - Sulphate Content Cl - Chloride Content	G.G.N.N. Amarakoon Supervised By: Chandana Drilled By: Nishantha
GWL	Ground Water Level observed inside the Borehole, after the saturation			Existing ground level considered as the zero level	
HB	- Hammer Bounce				
FD	- Free Down				
X	Made Ground	X X X X	Gravel	Laterite Nodules	Completely Weathered Rock
○	Clay	○ ○ ○ ○	Organic Matter	Silty Sand	Highly Weathered Rock
					Fresh Rock

ENGINEERING & LABORATORY SERVICES (PVT) LTD. SITE INVESTIGATIONS DIVISION		NO 62/3, Neelamahara Road, Katuwawala, Sri Lanka. Tel: 0114 309 494			Format No: ELS-SI-02																								
Project		Geological Survey for the preparatory survey on the project for the construction of the bridge across the Baticoloa Lagoon			Borehole No	BR-08																							
Client		M/s. JICA Study Team			Sheet	3 of 3																							
Location		Baticoloa	Rig	JOY	Core Diameter	45mm																							
Date of Started		26.08.2010	Drilling Method	Rotary	Casing depth	22.00m																							
Date of Finished		27.08.2010	Casing Diameter	62mm	Elevation	+ 0.74m																							
					Coordinates																								
Depth (m)	So. Cond	So. NO.	So. Type	Reduced level	Depth (m)	Legend	Soil Description				Field Records (SPT)				Moisture Content - %		Undrained Shear Strength - t/m ²		SPT Resistance - Blows/ft										
							15cm	15cm	15cm	N	5	10	15	20	25	30	35	40	45										
20.00				-19.26			Continue from Page 2																						
21.00			WS	-19.86	20.60		Same as previous description				50	HB		>50															
22.00			WS				Black, blackish grey medium to coarse angular to subrounded sand with weathered rock fragments																						
23.00			SS				COMpletely WEATHERED ROCK				50	HB		>50															
24.00			WS				ROCK LEVEL																						
25.00			CS	-23.91	24.65		Yellowish brown, whitish grey, blackish grey medium grained, highly fractured, discoloured GRANITIC GNEISS						Cr=40%	RQD=20%															
26.00			CS	-25.41	26.15		Yellowish brown, whitish grey, blackish grey medium grained, highly fractured, discoloured GRANITIC GNEISS						Cr=100%	RQD=65%															
27.00				-26.16	26.90		The borehole was terminated at a depth of 26.90m																						
28.00																													
29.00																													
30.00																													
Sample Key / Test Key													Remarks		Logged By:														
SPT	Where full 0.3m penetration has not been achieved the number of blows for the quoted penetration is given (not N-value)			D - Disturbed Sample	SS - SPT Sample	W - Water Sample	WS - Wash Sample	UD - Undisturbed Sample	CS - Core Sample	Cr - Core Recovery (%)	RQD - Rock Quality Designation (%)	N - Natural Moisture Content	L - Atterberg Limit Test	G - Grain Size Analysis	SG - Specific Gravity Test	B - Bulk Density	V - Vane Shear Test	C - Consolidation	UCT - Unconfined Compression	CU - Consolidated Undrained	UU - Unconsolidated Undrained	pH - Chemical	O - Organic content	SO ₄ ²⁻ - Sulphate Content	Cl - Chloride Content	Existing ground level considered as the zero level		G.G.N.N. Amarakoon	
GWL	Ground Water Level observed inside the Borehole, after the saturation																									Supervised By:		Chandana	
HB	- Hammer Bounce																									Drilled By:		Nishantha	
FD	- Free Down																												
	Made Ground				Silt		Gravel		Laterite Nodules		Completely Weathered Rock		Highly Weathered Rock		Fresh Rock														
	Clay				Sand		Organic Matter		Silty Sand																				

6.3 地形測量結果

本調査では、計画道路の基本道路線形、橋梁位置を検討するために現地の地物状況および河床高の調査を実施した。調査開始時点で道路線形が確定していなかったため、調査範囲および標高測量地点数が不足しないように配慮した。これらの測量にはトータルステーション・GPS 測量機器を使用して実施した。

架橋位置に基準となる仮ベンチマークを調査団の指示のもと設置した。ベンチマークは見通しが良く、乱される可能性の低い場所に設置・埋設した。

表6.3 ベンチマーク一覧

	Control Point No.	Description	Final Values		
			Northing (m)	Easting (m)	Elevation (m)
1.	GPS - M1	Conc. Nail driven in Pier surface and painted	570,588.428	605,806.904	1.123
2.	GPS - M2	Conc. Nail driven in cemented area around Pulleyar Kovil and painted	570,524.669	605,325.452	1.199
3.	MM - 1	Iron Bolt in Concrete Block	570,782.785	605,852.242	0.747
4.	MM - 2	-do-	570,606.550	605,863.097	0.471
5.	MM - 3	Iron Bolt in Concrete Base of High Tension Electric Tower	570,550.437	605,331.517	1.157

ベンチマーク詳細

Topographic Survey for The Preparatory Survey (Outline Design Study) on
The Project for the Construction of the Bridge across the Batticoloa Lagoon at Manmunai

SURVEY MARKER DESCRIPTION - PHOTOGRAPHS

Station No: GPS M-1	N: 570588.428	Height: 1.123	Surveyed by: Cha-
Type: Conc. Nail	E: 605806.904	Date: Aug. 2010	Checked by: Mutu



Gamini B Dodanwela Associates (Pvt) Ltd.
Land Surveyors

Topographic Survey for The Preparatory Survey (Outline Design Study) on
The Project for the Construction of the Bridge across the Batticoloa Lagoon at Manmunai

SURVEY MARKER DESCRIPTION - PHOTOGRAPHS

Station No: MM-1	N: 570782.785	Height: 0.747	Surveyed by: Cho.
Type: Iron Bolt	E: 605852.242	Date: Aug. 2010	Checked by: Muku



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Topographic Survey for The Preparatory Survey (Outline Design Study) on
The Project for the Construction of the Bridge across the Batticoloa Lagoon at Manmunai

SURVEY MARKER DESCRIPTION - PHOTOGRAPHS

Station No: <i>MM-2</i>	N: <i>570606.550</i>	Height: <i>0.471</i>	Surveyed by: <i>Cha.</i>
Type: <i>Iron Bolt</i>	E: <i>605863.097</i>	Date: <i>Aug. 2010</i>	Checked by: <i>Mutu</i>



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SURVEY MARKER DESCRIPTION - PHOTOGRAPHS

Station No: GPS M-2	N: 570524.664	Height: 1.199	Surveyed by: Cha.
Type: Conc. Nail	E: 605325.452	Date: Aug. 20/0	Checked by: Muku



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Topographic Survey for The Preparatory Survey (Outline Design Study) on
The Project for the Construction of the Bridge across the Batticaloa Lagoon at Manmunai

SURVEY MARKER DESCRIPTION - PHOTOGRAPHS

Station No: <i>MM-3</i>	N: <i>570550.437</i>	Height: <i>1.157</i>	Surveyed by: <i>Cha.</i>
Type: <i>Iron Bolt</i>	E: <i>605331.517</i>	Date: <i>Aug. 2010</i>	Checked by: <i>Mutis</i>



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6.4 交通量調査結果

2009年予備調査時からの交通実態の変化の有無を把握するため、今回調査において再度交通調査を実施した。調査は準備調査との整合性を図るため調査地点は6か所同じ(フェリー:3地点、橋梁:3地点)とした。

以下に調査位置図を示す。

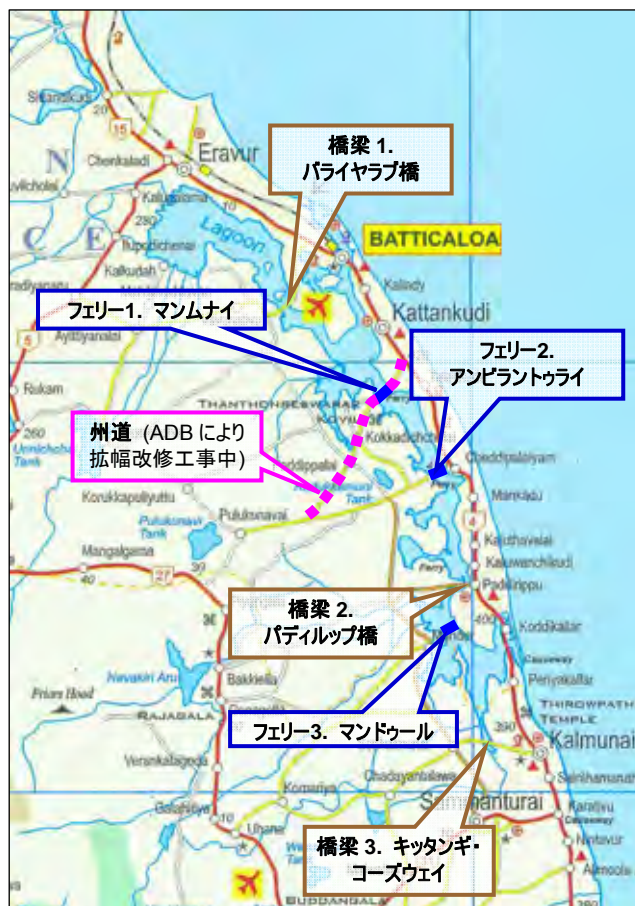


図 交通量調査位置図



図 交通調査の様子(その1)



図 交通調査の様子(その2)

次頁以降に交通量調査結果を示す。

交通量調査結果集計(橋梁)
平日 (Fri 3/Sep 2010) 6:00~18:00 (12時間)

	人力				自動車								小計	
	歩行者	自転車	自動二輪	自動三輪	乗用車	バン	中型バス	大型バス	小型貨物車	中型貨物車	大型貨物車	農耕作業車	自動二輪・	大型車のみ + 自転車
-> to Batticaloa	6	323	526	20	25	22	8	10	22	25	0	29	687	1010
<- to Vavunativu	5	323	563	21	57	17	10	9	27	45	1	7	757	1080
計	11	646	1089	41	82	39	18	19	49	70	1	36	1444	2090
PCU係数	-	0.33	0.50	0.75	1.00	1.00	2.00	2.40	1.50	2.00	2.00	2.00		
PCU			544.5	30.75	82	39	36	45.6	73.5	140	2			1065.35

	人力				自動車								小計	
	歩行者	自転車	自動二輪	自動三輪	乗用車	バン	中型バス	大型バス	小型貨物車	中型貨物車	大型貨物車	農耕作業車	自動二輪・	大型車のみ + 自転車
-> to Kalawanchikudi	0	451	729	421	16	36	24	11	45	8	0	30	1320	1771
<- to Vellavali	4	436	714	412	7	29	15	11	47	5	1	41	1282	1718
計	4	887	1443	833	23	65	39	22	92	13	1	71	2602	3489
PCU係数	-	0.33	0.50	0.75	1.00	1.00	2.00	2.40	1.50	2.00	2.00	2.00		
PCU			721.5	624.75	23	65	78	52.8	138	26	2	142		1873.05

	人力				自動車								小計	
	歩行者	自転車	自動二輪	自動三輪	乗用車	バン	中型バス	大型バス	小型貨物車	中型貨物車	大型貨物車	農耕作業車	自動二輪・	大型車のみ + 自転車
-> to Mandur	309	396	708	132	23	35	2	11	14	12	2	17	956	1352
<- to Kalmunai	250	336	1003	261	47	39	3	13	19	15	1	25	1426	1762
計	559	732	1711	393	70	74	5	24	33	27	3	42	2382	3114
PCU係数	-	0.33	0.50	0.75	1.00	1.00	2.00	2.40	1.50	2.00	2.00	2.00		
PCU			855.5	294.75	70	74	10	57.6	49.5	54	6	84		1555.35

交通量調査結果集計(橋梁)
休日 (Sun 5/Sep 2010) 6:00~18:00 (12時間)

	人力				自動車							小計			
	歩行者	自転車	自動二輪	自動三輪	乗用車	バン	中型バス	大型バス	小型貨物車	中型貨物車	大型貨物車	農耕作業車	自動二輪・	大型車のみ	自転車+自動車
-> to Batticaloa	7	382	701	81	19	49	4	13	34	16	7	25	949	36	1331
<- to Vavunativu	9	364	775	90	29	35	11	15	31	21	4	15	1026	40	1390
計	16	746	1476	171	48	84	15	28	65	37	11	40	1975	76	2721
PCU係数	-	0.33	0.50	0.75	1.00	1.00	2.00	2.40	1.50	2.00	2.00	2.00			
PCU			738	128.25	48	84	30	67.2	97.5	74	22	80			1368.95

	人力				自動車							小計			
	歩行者	自転車	自動二輪	自動三輪	乗用車	バン	中型バス	大型バス	小型貨物車	中型貨物車	大型貨物車	農耕作業車	自動二輪・	大型車のみ	自転車+自動車
-> to Kalawanchikudi	0	468	916	548	13	37	22	10	62	5	0	28	1641	15	2109
<- to Vellavali	4	388	690	329	7	29	16	6	48	4	0	39	1168	10	1556
計	4	856	1606	877	20	66	38	16	110	9	0	67	2809	25	3665
PCU係数	-	0.33	0.50	0.75	1.00	1.00	2.00	2.40	1.50	2.00	2.00	2.00			
PCU			803	657.75	20	66	76	38.4	165	18	0	134			1978.15

	人力				自動車							小計			
	歩行者	自転車	自動二輪	自動三輪	乗用車	バン	中型バス	大型バス	小型貨物車	中型貨物車	大型貨物車	農耕作業車	自動二輪・	大型車のみ	自転車+自動車
-> to Mandur	15	348	791	192	4	17	14	9	46	14	0	8	1095	23	1443
<- to Kaimunai	5	621	1309	146	14	22	14	8	25	67	0	17	1622	75	2243
計	20	969	2100	338	18	39	28	17	71	81	0	25	2717	98	3686
PCU係数	-	0.33	0.50	0.75	1.00	1.00	2.00	2.40	1.50	2.00	2.00	2.00			
PCU			1050	253.5	18	39	56	40.8	106.5	162	0	50			1775.8

交通量調査結果集計(フェリー)
 平日 (Fri 3/Sep 2010) 6:00~18:00 (12時間)

	人力		自動						小計		
	歩行者	自転車	自動二輪	自動三輪	乗用車	バン	小型貨物車	農耕作業車	その他車両	自動二輪・自転車	自転車+自動車
Ferry 1: Mannunai											
Mannunai Ferry 1	359	254	357	15	4	8	3	4	2	393	647
Mannunai Ferry 2	382	247	412	15	4	4	2	5	1	443	690
計	741	501	769	30	8	12	5	9	3	836	1337
PCU係数	-	0.33	0.50	0.75	1.00	1.00	1.50	2.00	1.00		
PCU			384.5	22.5	8	12	7.5	18	3		
利用者数									455.5		
									2323		

	人力		自動						小計		
	歩行者	自転車	自動二輪	自動三輪	乗用車	バン	小型貨物車	農耕作業車	その他車両	自動二輪・自転車	自転車+自動車
Ferry 2: Ambilanthurai											
Ambilanthurai Ferry	385	159	73	4	0	0	0	3	0	80	239
PCU係数	-	0.33	0.50	0.75	1.00	1.00	1.50	2.00	1.00		
PCU			36.5	3	0	0	0	6	0		
利用者数									45.5		
									656		

	人力		自動						小計		
	歩行者	自転車	自動二輪	自動三輪	乗用車	バン	小型貨物車	農耕作業車	その他車両	自動二輪・自転車	自転車+自動車
Ferry 3: Mandur											
Mandur Ferry	797	214	238	0	0	0	0	0	0	238	452
PCU係数	-	0.33	0.50	0.75	1.00	1.00	1.50	2.00	1.00		
PCU			119	0	0	0	0	0	0		
利用者数									119		
									1311		

交通量調査結果集計(フェリー)
休日 (Sun 5/Sep 2010) 6:00~18:00 (12時間)

Ferry 1: Mannunai	人力			自動						小計		
	歩行者	自転車	自転車	自動二輪	自動三輪	乗用車	バン	小型貨物車	農耕作業車	その他車両	自動二輪・	自転車+自動車
Mannunai Ferry 1	473	222	222	272	24	2	6	3	6	0	313	535
Mannunai Ferry 2	371	199	199	270	19	0	4	5	8	0	306	505
計	844	421	421	542	43	2	10	8	14	0	619	1040
PCU係数	-	0.33	0.33	0.50	0.75	1.00	1.00	1.50	2.00	1.00		
PCU				271	32.25	2	10	12	28	0		
利用者数										355.25		
										2074		

Ferry 2: Ambilanthurai	人力			自動						小計		
	歩行者	自転車	自転車	自動二輪	自動三輪	乗用車	バン	小型貨物車	農耕作業車	その他車両	自動二輪・	自転車+自動車
Ambilanthurai Ferry	394	136	136	82	11	0	0	0	2	0	95	231
PCU係数	-	0.33	0.33	0.50	0.75	1.00	1.00	1.50	2.00	1.00		
PCU				41	8.25	0	0	0	4	0		
利用者数										53.25		
										662		

Ferry 3: Mandur	人力			自動						小計		
	歩行者	自転車	自転車	自動二輪	自動三輪	乗用車	バン	小型貨物車	農耕作業車	その他車両	自動二輪・	自転車+自動車
Mandur Ferry	982	331	331	208	0	0	0	0	0	0	208	539
PCU係数	-	0.33	0.33	0.50	0.75	1.00	1.00	1.50	2.00	1.00		
PCU				104	0	0	0	0	0	0		
利用者数										104		
										1591		