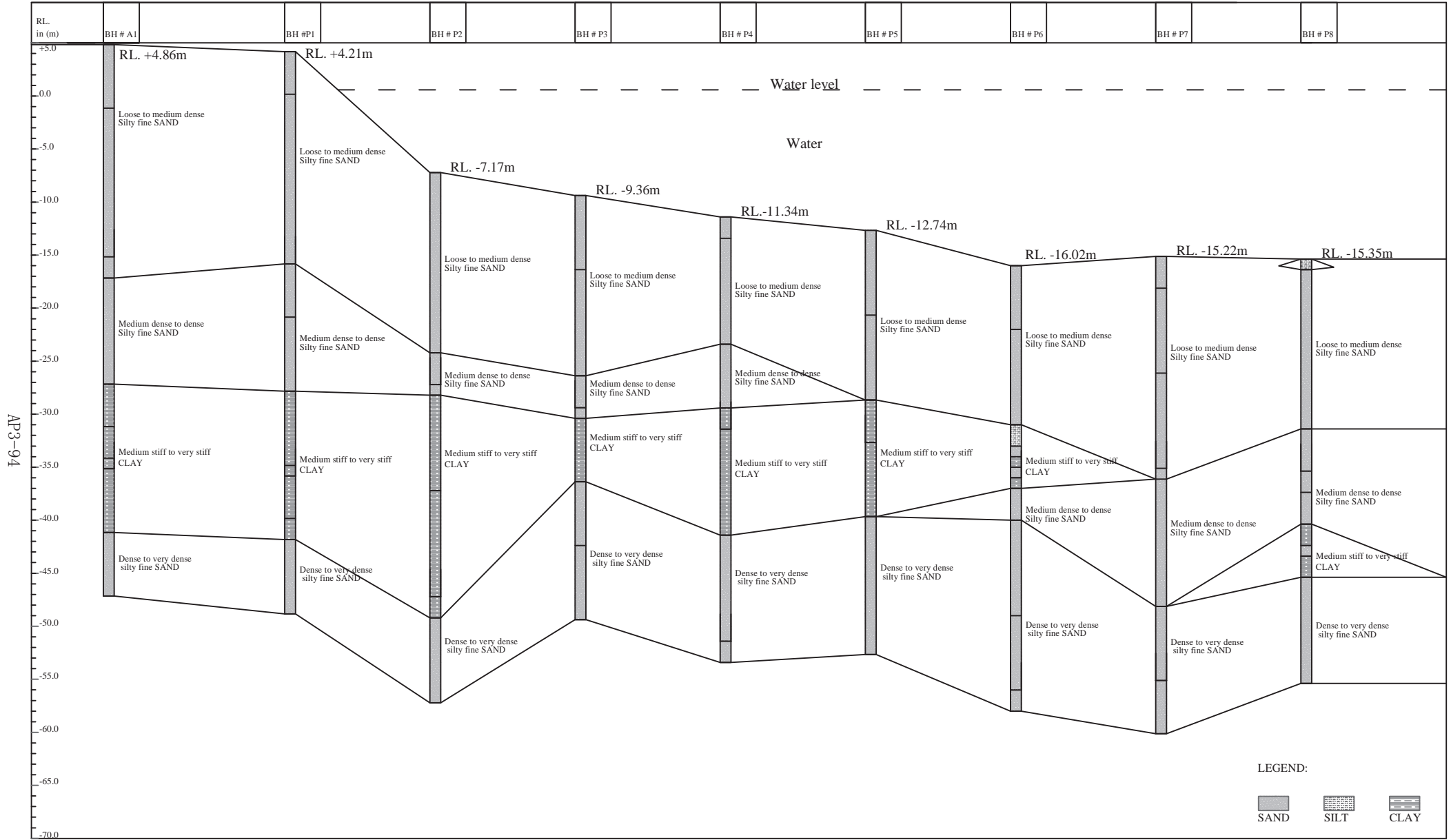


## **GEOLOGICAL PROFILE**

SURVEY 2000

GEOLOGICAL PROFILE ALONG THE BOREHOLE A1, P1 TO P7 & A2 AT MEGHNA BRIDGE, NARAYANGONJ

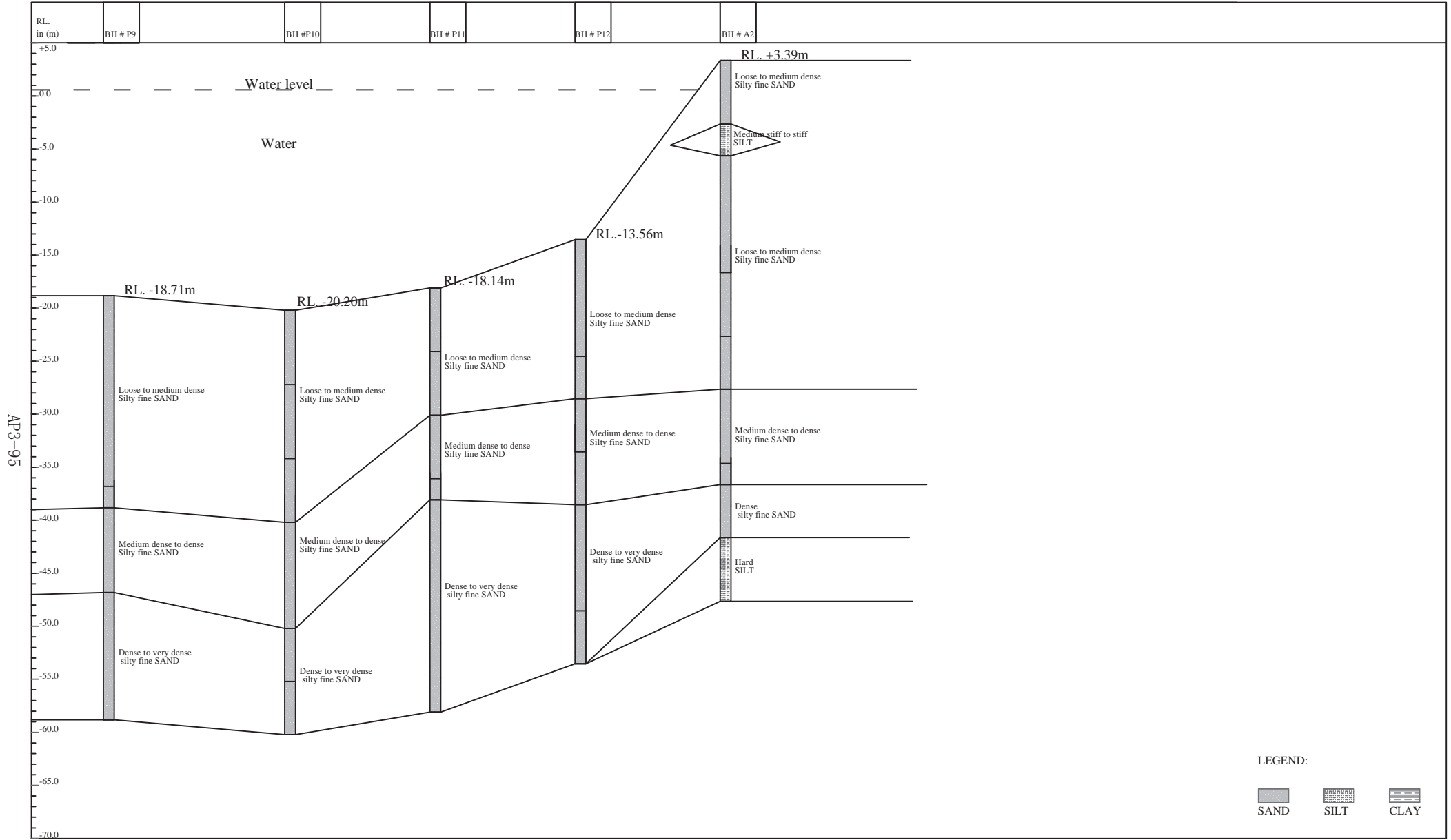


LEGEND:  

 SAND      SILT      CLAY

SURVEY 2000

GEOLOGICAL PROFILE ALONG THE BOREHOLE P9 TO P12 & A2 AT MEGHNA BRIDGE, NARAYANGONJ



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# **PRESSURE METER TEST**

**PRESSUREMETER TEST DATA RESULTS**

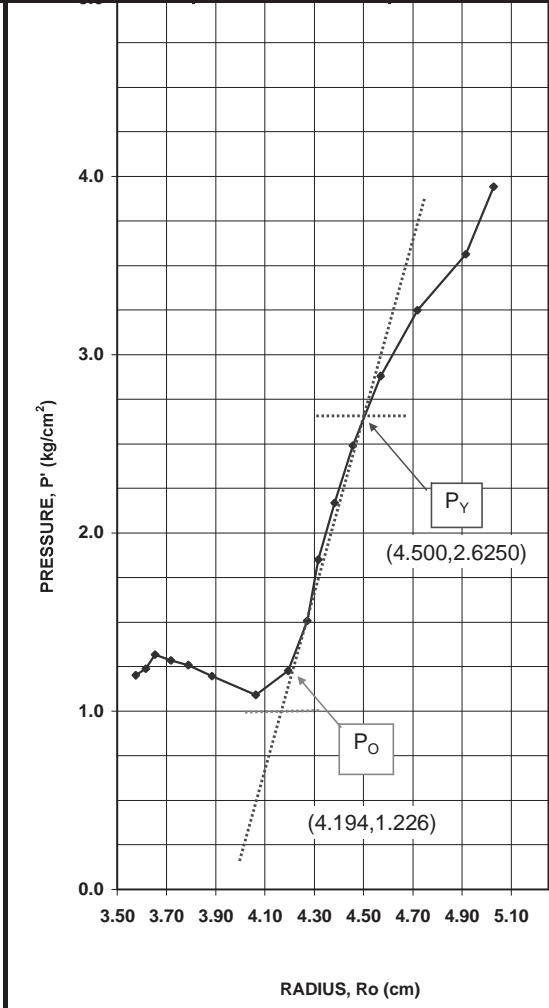
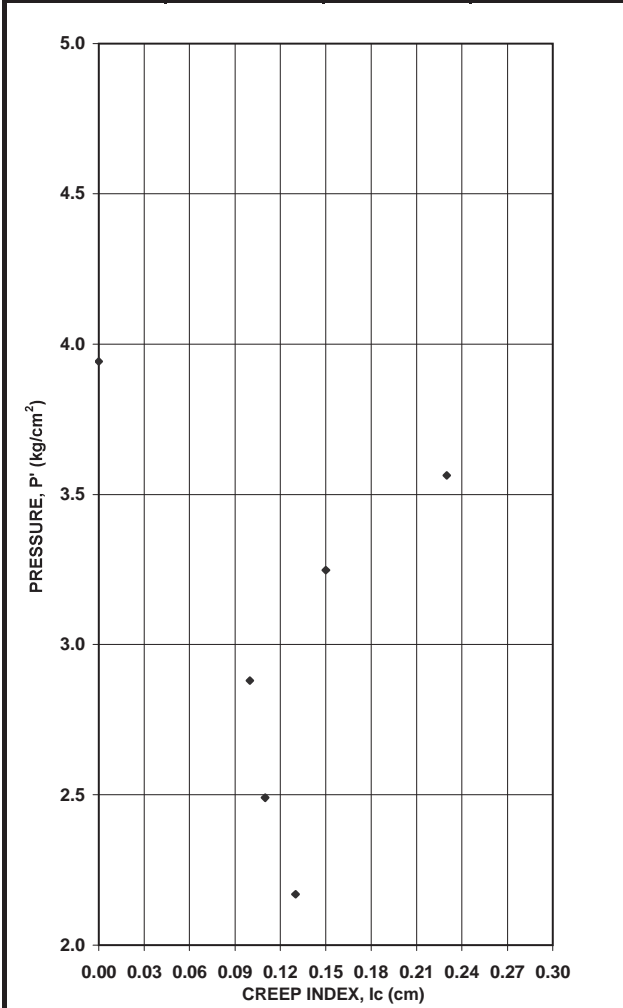
No.	(1) P kg/cm <sup>2</sup>	(2) P' = P - RG kg/cm <sup>2</sup>	(3) RG kg/cm <sup>2</sup>	(4) Rn <sub>0</sub> mm	(5) Rn <sub>30</sub> mm	(6) Rn <sub>60</sub> mm	(7) Rn <sub>120</sub> mm	(8) Creep Index, I <sub>c</sub> mm	(9) Rs cm	(10) Ro cm
1	1.12	1.20	-0.08	-1.26	-1.28	-1.28	-1.28	0.00	2.22	3.57
2	1.43	1.24	0.19	-0.73	-0.68	-0.64	-0.62	0.06	2.29	3.62
3	1.73	1.32	0.42	-0.04	-0.03	0.03	-0.02	0.01	2.35	3.65
4	2.04	1.29	0.75	0.87	0.90	0.91	0.95	0.05	2.45	3.72
5	2.34	1.26	1.09	1.86	1.97	2.00	2.03	0.06	2.55	3.79
6	2.65	1.20	1.45	3.26	3.31	3.38	3.42	0.11	2.69	3.88
7	3.06	1.09	1.97	5.32	5.62	5.79	5.93	0.31	2.94	4.06
8	3.47	1.23	2.24	6.70	7.02	7.30	7.73	0.71	3.12	4.19
9	3.87	1.51	2.37	8.31	8.50	8.64	8.75	0.25	3.23	4.27
10	4.28	1.85	2.43	9.10	9.22	9.27	9.34	0.12	3.28	4.32
11	4.69	2.17	2.52	9.93	10.08	10.12	10.21	0.13	3.37	4.38
12	5.10	2.49	2.61	10.79	11.05	11.10	11.16	0.11	3.47	4.46
13	5.61	2.88	2.73	13.31	12.52	12.55	12.62	0.10	3.61	4.57
14	6.12	3.25	2.87	14.02	14.33	14.38	14.48	0.15	3.80	4.72
15	6.63	3.56	3.06	16.05	16.67	16.77	16.90	0.23	4.04	4.92
16	7.14	3.94	3.19	18.26	18.26	18.26	18.26	0.00	4.18	5.03
17										
18										
19										
20										
21										
22										

REMARKS:				TIME TAKEN :					
(2) ... P' (kg/cm <sup>2</sup> ) effective pressure obtained by (1) - (3) : P' = P - RG (3) ... RG (kg/cm <sup>2</sup> ) obtained from Rn (120) using Rg Calibration Chart. (8) ... Creep Index, I <sub>c</sub> Obtained by (7) - (5); I <sub>c</sub> = Rn (120) - Rn (30) in mm. (9) ... R <sub>s</sub> inside radius obtained by the following equations: <u>Medium Rubber</u> <span style="margin-left: 200px;"><u>Hard Rubber</u></span> $R_s(\text{cm}) = \{Rn(120) + 23.5\} / 10$ for P <= 10 <span style="margin-left: 100px;"><math>R_s(\text{cm}) = \{Rn(120) + 23.5\} / 10</math> for P &lt;= 20</span> $R_s(\text{cm}) = \{Rn(120) + 23.5 \cdot [P-10]/666\} / 10$ for P > 10 <span style="margin-left: 100px;"><math>R_s(\text{cm}) = \{Rn(120) + 23.5 - [P-20] / 400\} / 10</math> for P &gt; 20</span> (10) ... R <sub>o</sub> outside radius, obtained by using $R_o = (R_s^2 + A/\pi)^{1/2}$ , where A = 24.63cm <sup>2</sup> .				TEST LOCATION:		TEST DEPTH:			
				A1		10m			
				MEGHNA					
				TEST NO.:		TEST DATE:			
				1		25/03/2012			
				PAGE:		N - VALUE:			
						11			
RUBBER TYPE:		GROUND WATER LEVEL:		N VALUE:		SOIL TYPE:		SPECIALIST SUB-CONTRACTOR:	
MIDIUM				11		VERY FINE SAND			
PROJECT:				SURVEY2000					
PREPERATORY SURVEY FOR DHAKA-CHITTAGONG NATIONAL HIGHWAY NO.1 BRIDGE CONSTRUCTION AND REHABILITATION PROJECT.				TEL: 8818386, 0417258869					
				Email: survey2k@yahoo.com					
CLIENT:				CONSULTANT:					
BANGLADESH ROADS & HIGHWAY Department				ORIENTAL CONSULTANTS CO. LTD					



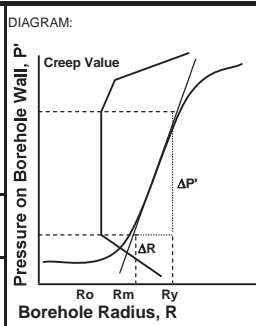
### PRESSUREMETER TEST DATA RESULTS

	EARTH PRESSURE AT REST	YIELD PRESSURE	FAILURE PRESSURE	COEFFICIENT OF SOIL REACTION	MODULUS OF ELASTICITY	MEAN RADIUS OF K VALUE CALCULATION
NO. OF CYCLE	P <sub>o</sub> (kg/cm <sup>2</sup> )	P <sub>y</sub> (kg/cm <sup>2</sup> )	P <sub>f</sub> (kg/cm <sup>2</sup> )	K <sub>m</sub> (kg/cm <sup>3</sup> )	E <sub>m</sub> (kg/cm <sup>2</sup> )	R <sub>m</sub> (cm)
1st	1.226	2.625	-	3.721	21.196	4.382



REMARKS:

P<sub>o</sub>, P<sub>o</sub>' ..... Earth Pressure at Rest  
 P<sub>y</sub>, P<sub>y</sub>' ..... Yield Pressure  
 $E = (1 + \nu) \cdot R_m \cdot K_m$  ..... Modulus of Elasticity  
 $\nu = 0.3$



TEST LOCATION: TEST DEPTH:

TEST LOCATION: **A1** TEST DEPTH: **10m**  
**MEGHNA**

TEST NO.: **1** TEST DATE: **25/03/2012**

RUBBER TYPE: **MEDIUM** N VALUE: **11** SOIL TYPE: **VERY FINE SAND**

**SURVEY2000**  
 TEL: 8818386, 0417258869  
 Email: survey2k@yahoo.com

PROJECT:  
**PREPARATORY SURVEY FOR DHAKA-CHITTAGONG NATIONAL HIGHWAY NO.1 BRIDGE CONSTRUCTION AND REHABILITATION PROJECT**

CLIENT:  
**BANGLADESH ROADS & HIGHWAY DEPARTMENT**

CONSULTANT:  
**ORIENTAL COSULTANTS CO. LTD**

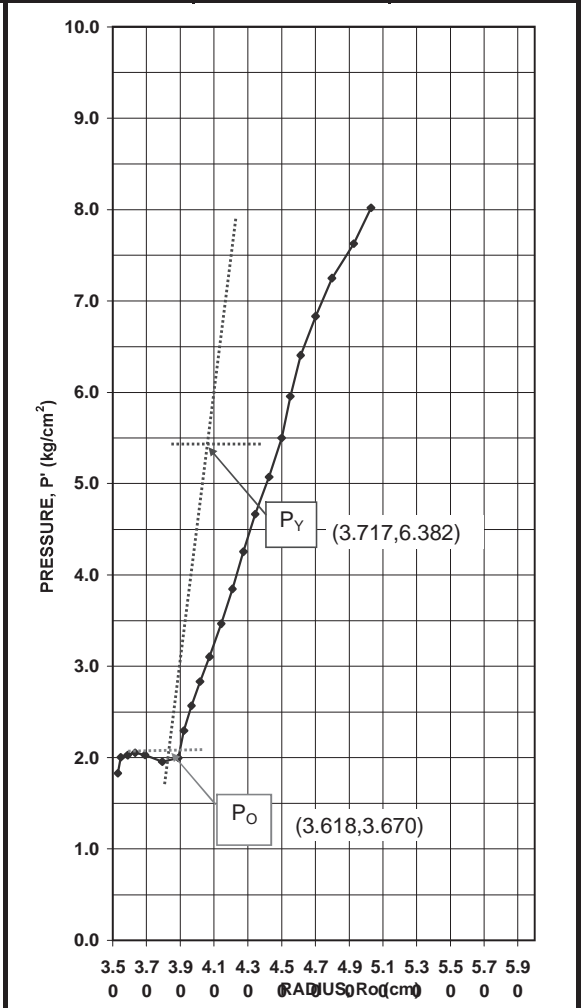
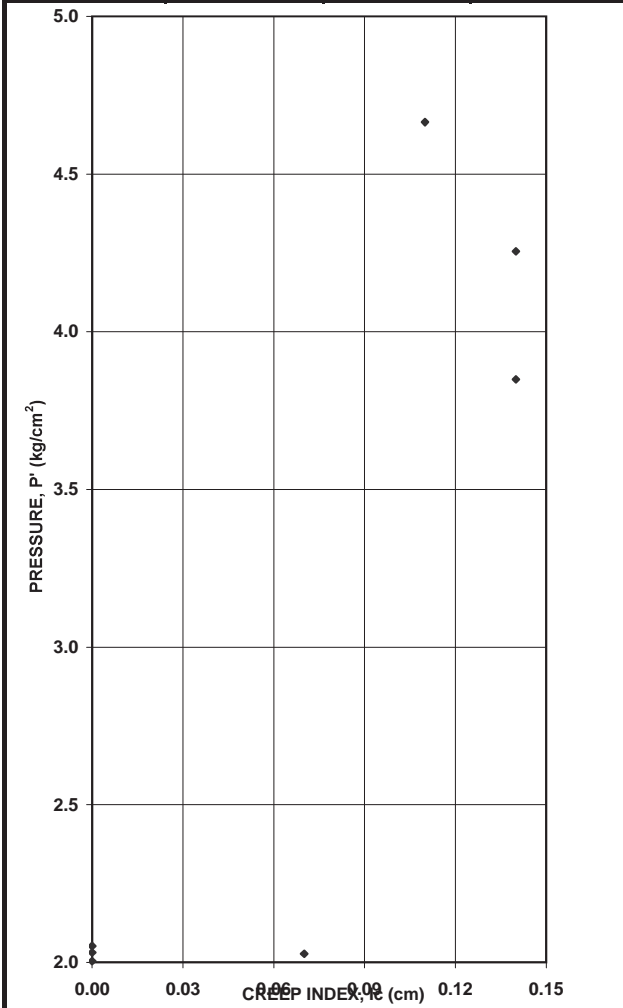






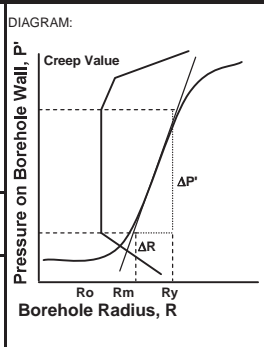
### PRESSUREMETER TEST DATA RESULTS

	EARTH PRESSURE AT REST	YIELD PRESSURE	FAILURE PRESSURE	COEFFICIENT OF SOIL REACTION	MODULUS OF ELASTICITY	MEAN RADIUS OF K VALUE CALCULATION
NO. OF CYCLE	$P_o$ (kg/cm <sup>2</sup> )	$P_y$ (kg/cm <sup>2</sup> )	$P_f$ (kg/cm <sup>2</sup> )	$K_m$ (kg/cm <sup>3</sup> )	$E_m$ (kg/cm <sup>2</sup> )	$R_m$ (cm)
1st	6.382	3.670	-	27.394	130.607	3.668



REMARKS:

$P_o, P_o'$  ..... Earth Pressure at Rest  
 $P_y, P_y'$  ..... Yield Pressure  
 $E = (1 + \nu) \cdot R_m \cdot K_m$  ..... Modulus of Elasticity  
 $\nu = 0.3$



TEST LOCATION: **A1 MEGHNA** TEST DEPTH: **16m**

TEST NO.: **2** TEST DATE: **23/03/2012**

RUBBER TYPE: **MEDIUM** N VALUE: **9** SOIL TYPE: **VERY FINE SAND**

SPECIALIST SUB-CONTRACTOR: **SURVEY2000**  
 TEL: 8818386,01711323266  
 Email: survey2k@yahoo.com

PROJECT: **PREPARATORY SURVEY FOR DHAKA-CHITTAGONG NATIONAL HIGHWAY NO.1 BRIDGE CONSTRUCTION AND REHABILITATION PROJECT**

CLIENT: **BANGLADESH ROADS & HIGHWAY DEPARTMENT**

CONSULTANT: **ORIENTAL COSULTANTS CO. LTD**

### PRESSUREMETER TEST DATA RESULTS

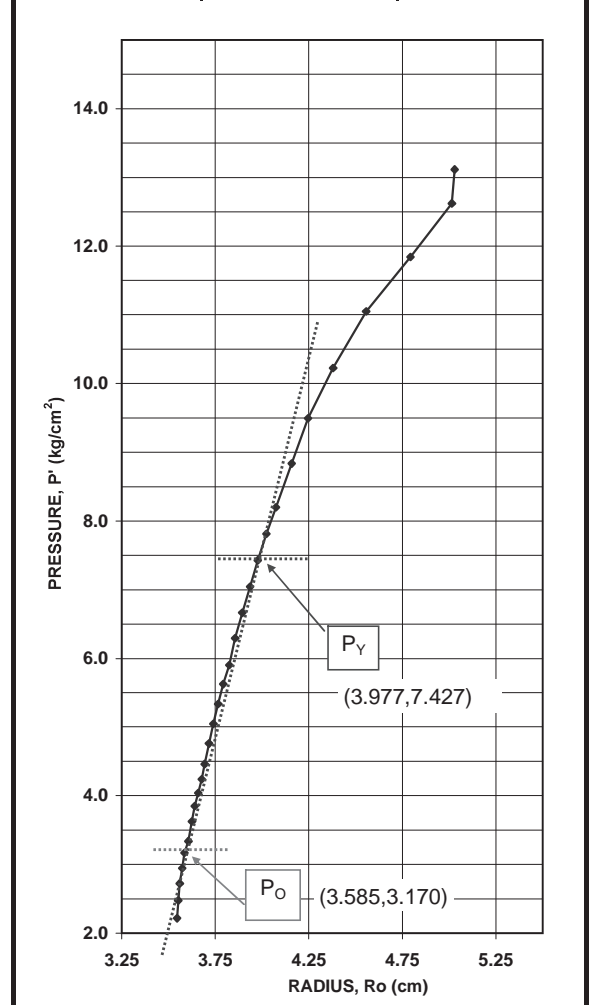
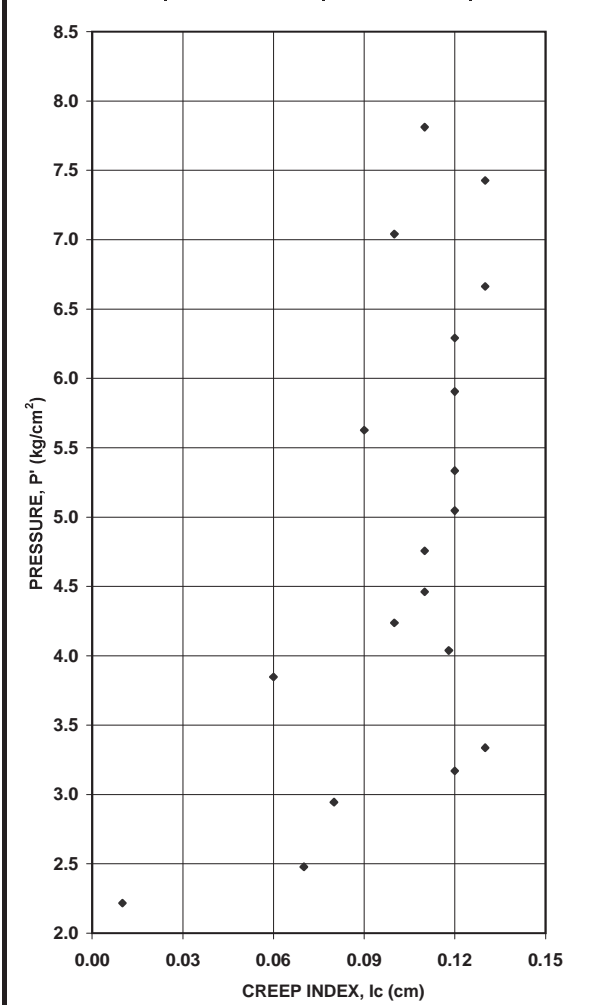
No.	(1) P kg/cm <sup>2</sup>	(2) P' = P - RG kg/cm <sup>2</sup>	(3) RG kg/cm <sup>2</sup>	(4) Rn <sub>0</sub> mm	(5) Rn <sub>30</sub> mm	(6) Rn <sub>60</sub> mm	(7) Rn <sub>120</sub> mm	(8) Creep Index, I <sub>c</sub> mm	(9) Rs cm	(10) Ro cm
1	1.94	2.22	-0.28	-1.75	-1.75	-1.75	-1.74	0.01	2.18	3.55
2	2.24	2.48	-0.24	-1.71	-1.71	-1.70	-1.64	0.07	2.19	3.55
3	2.55	2.72	-0.17	-1.60	-1.67	-1.54	-1.50	0.17	2.20	3.56
4	2.85	2.94	-0.09	-1.43	-1.38	-1.37	-1.30	0.08	2.22	3.57
5	3.16	3.17	-0.01	-1.27	-1.23	-1.19	-1.11	0.12	2.24	3.58
6	3.47	3.34	0.13	-0.93	-0.90	-0.83	-0.77	0.13	2.27	3.61
7	3.87	3.62	0.25	-0.63	0.58	-0.50	-0.46	-1.04	2.30	3.63
8	4.18	3.85	0.33	-0.37	-0.31	-0.28	-0.25	0.06	2.33	3.64
9	4.49	4.04	0.45	-0.14	-0.06	0.00	0.06	0.12	2.36	3.66
10	4.79	4.24	0.55	0.20	0.26	0.31	0.36	0.10	2.39	3.68
11	5.10	4.46	0.64	0.44	0.49	0.53	0.60	0.11	2.41	3.69
12	5.50	4.76	0.75	0.77	0.82	0.87	0.93	0.11	2.44	3.72
13	5.91	5.05	0.87	1.12	1.18	1.22	1.30	0.12	2.48	3.74
14	6.32	5.33	0.99	1.51	1.57	1.62	1.69	0.12	2.52	3.77
15	6.73	5.63	1.10	1.93	1.99	2.02	2.08	0.09	2.56	3.79
16	7.14	5.90	1.23	2.40	2.43	2.48	2.55	0.12	2.61	3.82
17	7.65	6.29	1.35	2.81	2.90	2.96	3.02	0.12	2.65	3.86
18	8.15	6.66	1.49	3.33	3.45	3.51	3.58	0.13	2.71	3.90
19	8.66	7.04	1.62	4.00	4.06	4.10	4.16	0.10	2.77	3.94
20	9.17	7.43	1.75	4.52	4.62	4.68	4.75	0.13	2.83	3.98
21	9.68	7.81	1.87	5.17	5.29	5.34	5.40	0.11	2.89	4.02
22	10.19	8.20	2.00	5.81	5.89	5.93	6.10	0.21	2.96	4.07
23	11.01	8.84	2.17	6.88	7.05	7.16	7.25	0.20	3.08	4.16
24	11.82	9.50	2.33	7.88	8.15	8.30	8.43	0.28	3.19	4.25
25	12.74	10.22	2.52	9.47	9.82	10.03	10.18	0.36	3.37	4.38
26	13.76	11.05	2.71	11.45	11.90	12.15	12.44	0.54	3.59	4.56
27	14.78	11.84	2.94	13.80	14.50	15.05	15.41	0.91	3.89	4.79
28	15.80	12.62	3.18	16.50	17.20	18.27	18.10	0.90	4.16	5.01
29	16.31	13.12	3.19	18.27	18.27	18.27	18.27	0.00	4.18	5.03
REMARKS:								TIME TAKEN :		
(2) ... P' (kg/cm <sup>2</sup> ) effective pressure obtained by (1) - (3) : P' = P - RG (3) ... RG (kg/cm <sup>2</sup> ) obtained from Rn (120) using Rg Calibration Chart. (8) ... Creep Index, I <sub>c</sub> Obtained by (7) - (5); I <sub>c</sub> = Rn (120) - Rn (30) in mm. (9) ... R <sub>s</sub> inside radius obtained by the following equations: <u>Medium Rubber</u> <span style="margin-left: 200px;"><u>Hard Rubber</u></span> $R_s(\text{cm}) = \{Rn(120) + 23.5\} / 10$ for P <= 10 <span style="margin-left: 100px;"><math>R_s(\text{cm}) = \{Rn(120) + 23.5\} / 10</math> for P &lt;= 20</span> $R_s(\text{cm}) = \{Rn(120) + 23.5 \cdot [P-10]/666\} / 10$ for P > 10 <span style="margin-left: 100px;"><math>R_s(\text{cm}) = \{Rn(120) + 23.5 - [P-20] / 400\} / 10</math> for P &gt; 20</span> (10) ... R <sub>o</sub> outside radius, obtained by using $R_o = (R_s^2 + A/\pi)^{1/2}$ , where A = 24.63cm <sup>2</sup> .								TEST LOCATION:	TEST DEPTH:	
								<b>A1</b>	<b>20m</b>	
								TEST NO.:	TEST DATE:	
<b>3</b>	<b>25.3.2012</b>									
PAGE:	N - VALUE:									
	<b>11</b>									
RUBBER TYPE:	GROUND WATER LEVEL:	N VALUE:	SOIL TYPE:	SPECIALIST SUB-CONTRACTOR:						
<b>MIDIUM</b>		<b>11</b>	<b>VERY FINE SAND</b>	<b>SURVEY2000</b>						
PROJECT:				TEL: 8818386,01711323266						
<b>PREPERATORY SURVEY FOR DHAKA-CHITTAGONG NATIONAL HIGHWAY NO.1 BRIDGE CONSTRUCTION AND REHABILITATION PROJECT.</b>				Email: survey2k@yahoo.com						
CLIENT:				CONSULTANT:						
<b>BANGLADESH ROADS &amp; HIGHWAY Department</b>				<b>ORIENTAL CONSULTANTS CO. LTD</b>						

## PRESSUREMETER TEST DATA RESULTS

No.	(1) P Mpa	(2) Rn <sub>0</sub> mm	(3) Rn <sub>30</sub> mm	(4) Rn <sub>60</sub> mm	(5) Rn <sub>120</sub> mm
1	0.19	-1.750	-1.750	-1.750	-1.740
2	0.22	-1.710	-1.710	-1.700	-1.640
3	0.25	-1.600	-1.670	-1.540	-1.500
4	0.28	-1.430	-1.380	-1.370	-1.300
5	0.31	-1.270	-1.230	-1.190	-1.110
6	0.34	-0.930	-0.900	-0.830	-0.770
7	0.38	-0.630	0.580	-0.500	-0.460
8	0.41	-0.370	-0.310	-0.280	-0.250
9	0.44	-0.140	-0.058	0.000	0.060
10	0.47	0.200	0.260	0.310	0.360
11	0.50	0.440	0.490	0.530	0.600
12	0.54	0.770	0.820	0.870	0.930
13	0.58	1.120	1.180	1.220	1.300
14	0.62	1.510	1.570	1.620	1.690
15	0.66	1.930	1.990	2.020	2.080
16	0.70	2.400	2.430	2.480	2.550
17	0.75	2.810	2.900	2.960	3.020
18	0.80	3.330	3.450	3.510	3.580
19	0.85	4.000	4.060	4.100	4.160
20	0.90	4.520	4.620	4.680	4.750
21	0.95	5.170	5.290	5.340	5.400
22	1.00	5.810	5.890	5.930	6.100
23	1.08	6.880	7.050	7.160	7.250
24	1.16	7.880	8.150	8.300	8.430
25	1.25	9.470	9.820	10.030	10.180
26	1.35	11.450	11.900	12.150	12.440
27	1.45	13.800	14.500	15.050	15.410
28	1.55	16.500	17.200	18.270	18.100
29	1.60	18.270	18.270	18.270	18.270
REMARKS:				TIME TAKEN :	
(2) ... P' (kg/cm <sup>2</sup> ) effective pressure obtained by (1) - (3) : P' = P - RG (3) ... RG (kg/cm <sup>2</sup> ) obtained from Rn (120) using Rg Calibration Chart. (8) ... Creep Index, I <sub>c</sub> Obtained by (7) - (5); I <sub>c</sub> = Rn (120) - Rn (30) in mm. (9) ... R <sub>s</sub> inside radius obtained by the following equations: <u>Medium Rubber</u> R <sub>s</sub> (cm) = {Rn(120) + 23.5} / 10 for P <= 10 R <sub>s</sub> (cm) = {Rn(120) + 23.5-[P-10]/666} /10 for P>10  (10) ... R <sub>o</sub> outside radius, obtained by using R <sub>o</sub> = (R <sub>s</sub> <sup>2</sup> + A/π) <sup>1/2</sup> , where A = 24.63cm <sup>2</sup> .				TEST LOCATION:	TEST DEPTH:
				<b>A1</b>	<b>20m</b>
				TEST NO.:	TEST DATE:
				<b>3</b>	<b>25.3.2012</b>
PAGE:	N - VALUE:				
	<b>11</b>				
RUBBER TYPE:	SOIL TYPE:	SPECIALIST SUB-CONTRACTOR:			
<b>M</b>	<b>VERY FINE SAND</b>	<b>SURVEY2000</b>			
PROJECT:		TEL: 8818386,01711323266			
<b>PREPARATORY SURVEY FOR DHAKA-CHITTAGONG NATIONAL BRIDGE CONSTRUCTION AND REHABILITATION PROJECT</b>		Email: survey2k@yahoo.com			
CLIENT:	<b>ORIENTAL CONSUTANS CO.LTD</b>				

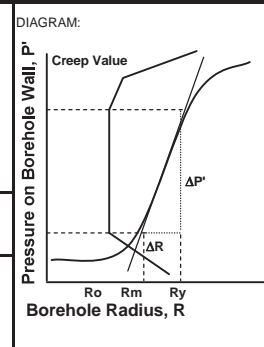
### PRESSUREMETER TEST DATA RESULTS

	EARTH PRESSURE AT REST	YIELD PRESSURE	FAILURE PRESSURE	COEFFICIENT OF SOIL REACTION	MODULUS OF ELASTICITY	MEAN RADIUS OF K VALUE CALCULATION
NO. OF CYCLE	Po (kg/cm <sup>2</sup> )	Py (kg/cm <sup>2</sup> )	Pf (kg/cm <sup>2</sup> )	Km (kg/cm <sup>3</sup> )	Em (kg/cm <sup>2</sup> )	Rm (cm)
1st	3.170	7.427	-	10.860	53.379	3.781



REMARKS:

Po, Po' ..... Earth Pressure at Rest  
 Py, Py' ..... Yield Pressure  
 $E = (1 + \nu) \cdot R_m \cdot K_m$  ..... Modulus of Elasticity  
 $\nu = 0.3$



TEST LOCATION: <b>A1 MEGHNA</b>	TEST DEPTH: <b>20m</b>
TEST NO.: <b>3</b>	TEST DATE: <b>25.3.2012</b>

RUBBER TYPE: <b>MEDIUM</b>	N VALUE: <b>11</b>	SOIL TYPE: <b>VERY FINE SAND</b>
PROJECT: <b>PREPARATORY SURVEY FOR DHAKA-CHITTAGONG NATIONAL HIGHWAY NO.1 BRIDGE CONSTRUCTION AND REHABILITATION PROJECT</b>		

SPECIALIST SUB-CONTRACTOR:  
**SURVEY2000**  
 TEL: 8818386,01711323266  
 Email: survey2k@yahoo.com

CLIENT:  
**BANGLADESH ROADS & HIGHWAY DEPARTMENT**

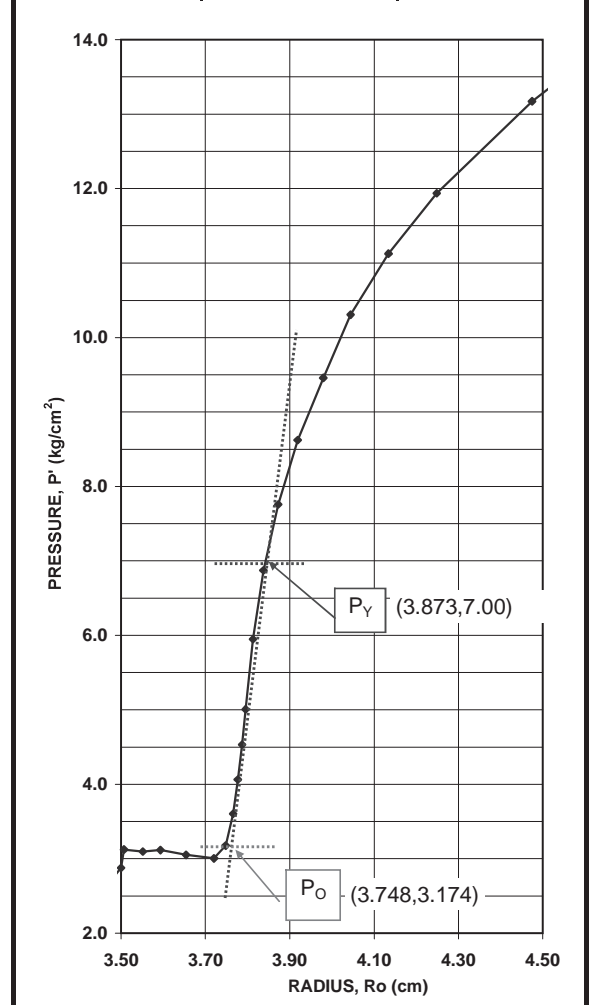
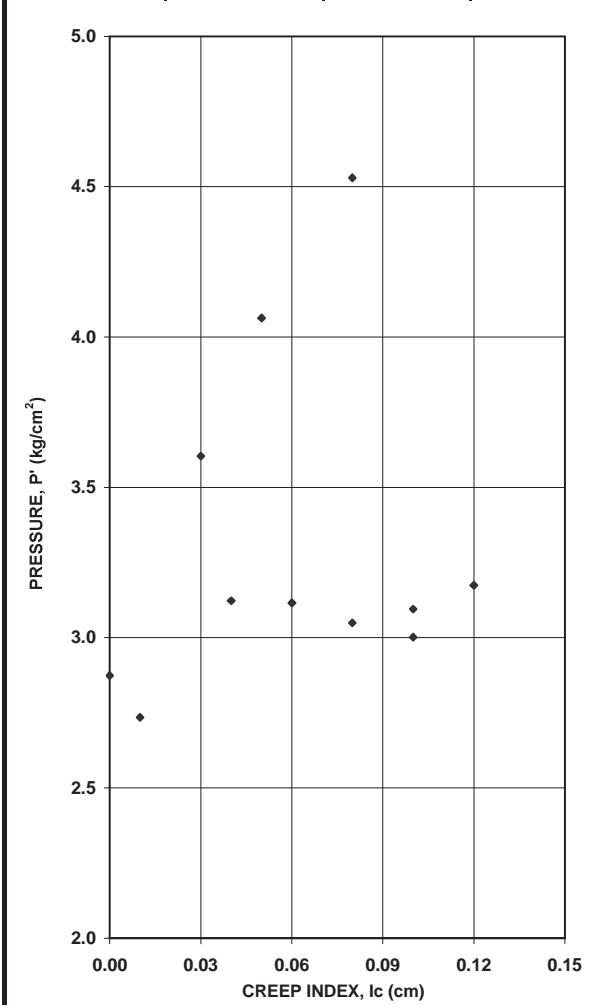
CONSULTANT:  
**ORIENTAL COSULTANTS CO. LTD**





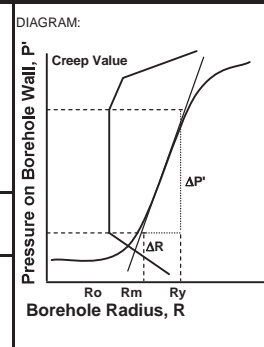
### PRESSUREMETER TEST DATA RESULTS

	EARTH PRESSURE AT REST	YIELD PRESSURE	FAILURE PRESSURE	COEFFICIENT OF SOIL REACTION	MODULUS OF ELASTICITY	MEAN RADIUS OF K VALUE CALCULATION
NO. OF CYCLE	$P_o$ (kg/cm <sup>2</sup> )	$P_y$ (kg/cm <sup>2</sup> )	$P_f$ (kg/cm <sup>2</sup> )	$K_m$ (kg/cm <sup>3</sup> )	$E_m$ (kg/cm <sup>2</sup> )	$R_m$ (cm)
1st	3.174	7.000	-	30.608	151.621	3.811



REMARKS:

$P_o, P_o'$  ..... Earth Pressure at Rest  
 $P_y, P_y'$  ..... Yield Pressure  
 $E = (1 + \nu) \cdot R_m \cdot K_m$  ..... Modulus of Elasticity  
 $\nu = 0.3$



TEST LOCATION: <b>P-4 MEGHNA</b>	TEST DEPTH: <b>10m</b>
TEST NO.: <b>1</b>	TEST DATE: <b>24/03/2012</b>

RUBBER TYPE: <b>MEDIUM</b>	N VALUE: <b>18</b>	SOIL TYPE: <b>SANDY SILT</b>
-------------------------------	-----------------------	---------------------------------

PROJECT:  
**PREPARATORY SURVEY FOR DHAKA-CHITTAGONG NATIONAL HIGHWAY NO.1 BRIDGE CONSTRUCTION AND REHABILITATION PROJECT**

SPECIALIST SUB-CONTRACTOR:  
**SURVEY2000**  
 TEL: 8818386, 01711323266  
 Email: survey2k@yahoo.com

CLIENT:  
**BANGLADESH ROADS & HIGHWAY DEPARTMENT**

CONSULTANT:  
**ORIENTAL COSULTANTS CO. LTD**

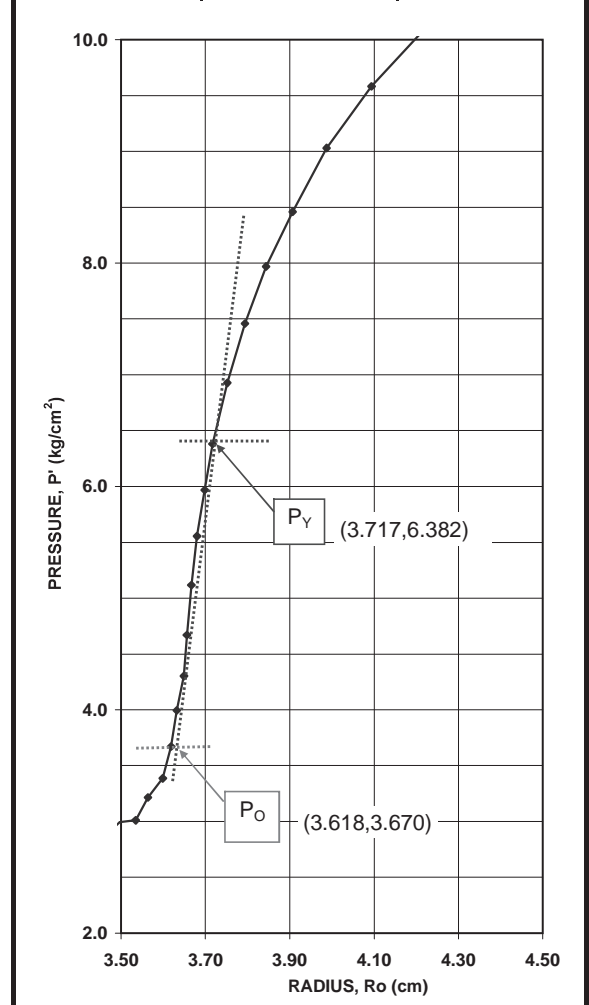
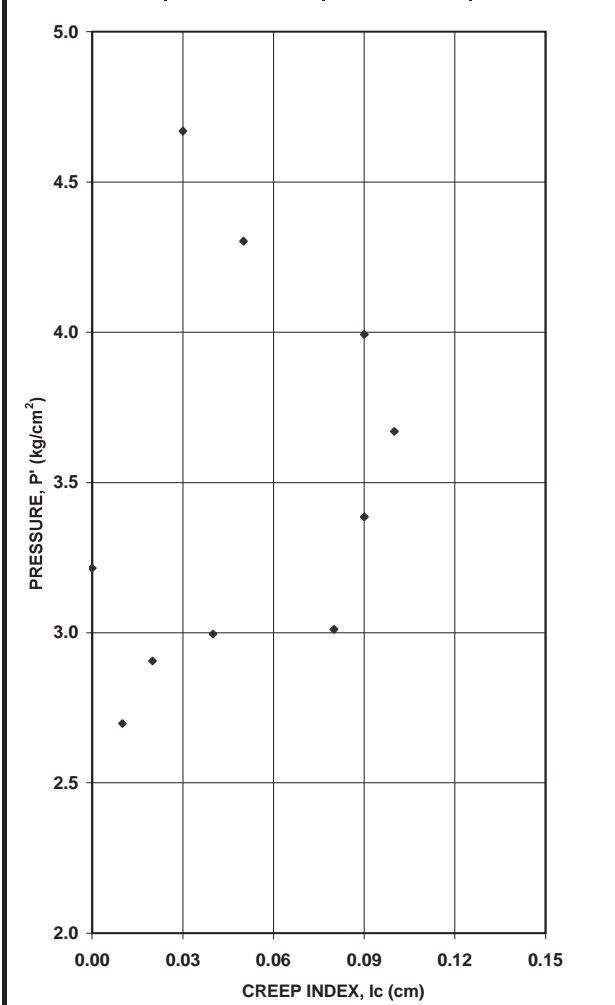






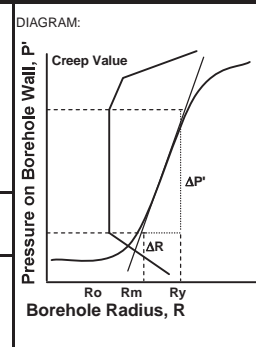
### PRESSUREMETER TEST DATA RESULTS

	EARTH PRESSURE AT REST	YIELD PRESSURE	FAILURE PRESSURE	COEFFICIENT OF SOIL REACTION	MODULUS OF ELASTICITY	MEAN RADIUS OF K VALUE CALCULATION
NO. OF CYCLE	<b>P<sub>o</sub></b> (kg/cm <sup>2</sup> )	<b>P<sub>y</sub></b> (kg/cm <sup>2</sup> )	<b>P<sub>f</sub></b> (kg/cm <sup>2</sup> )	<b>K<sub>m</sub></b> (kg/cm <sup>3</sup> )	<b>E<sub>m</sub></b> (kg/cm <sup>2</sup> )	<b>R<sub>m</sub></b> (cm)
1st	6.382	3.670	-	27.394	130.607	3.668



REMARKS:

P<sub>o</sub>, P<sub>o</sub>' ..... Earth Pressure at Rest  
 P<sub>y</sub>, P<sub>y</sub>' ..... Yield Pressure  
 E = (1 + ν) · R<sub>m</sub> · K<sub>m</sub> ..... Modulus of Elasticity  
 ν = 0.3



TEST LOCATION: <b>P4 MEGHNA</b>	TEST DEPTH: <b>13M</b>
TEST NO.: <b>2</b>	TEST DATE: <b>24.3.2012</b>

RUBBER TYPE: <b>MEDIUM</b>	N VALUE: <b>24</b>	SOIL TYPE: <b>FINE SAND</b>
PROJECT: <b>PREPARATORY SURVEY FOR DHAKA-CHITTAGONG NATIONAL HIGHWAY NO.1 BRIDGE CONSTRUCTION AND REHABILITATION PROJECT</b>		

SPECIALIST SUB-CONTRACTOR:  
**SURVEY2000**  
 TEL: 8818386,01711323266  
 Email: survey2k@yahoo.com

CLIENT:  
**BANGLADESH ROADS & HIGHWAY DEPARTMENT**

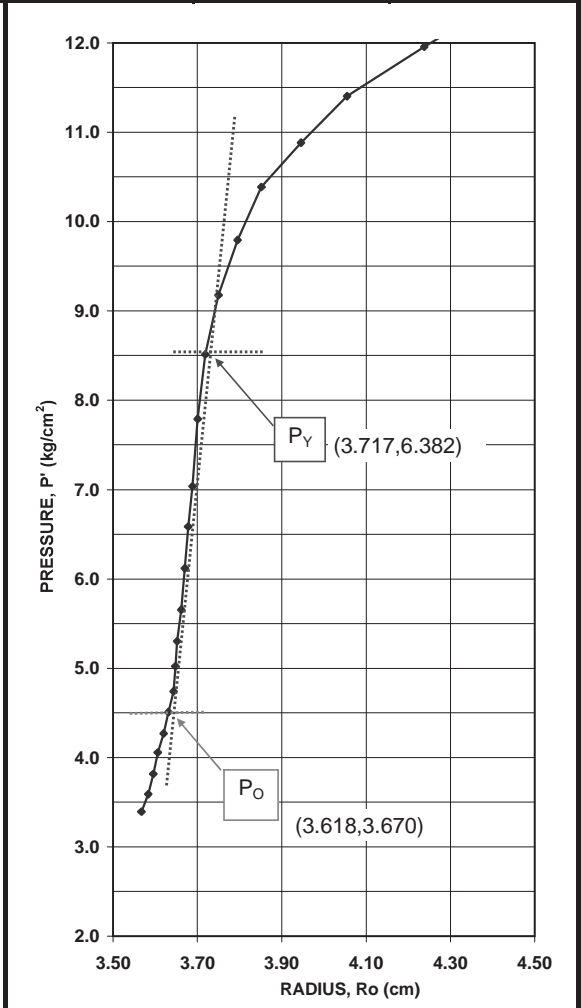
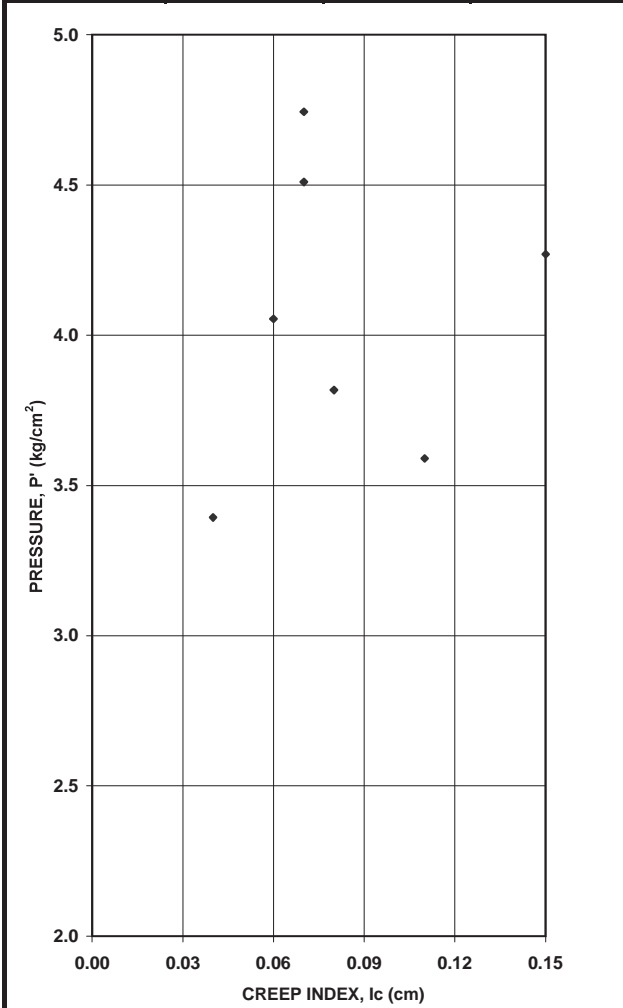
CONSULTANT:  
**ORIENTAL COSULTANTS CO. LTD**





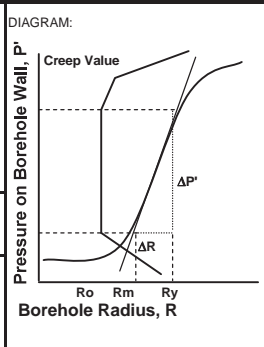
### PRESSUREMETER TEST DATA RESULTS

	EARTH PRESSURE AT REST	YIELD PRESSURE	FAILURE PRESSURE	COEFFICIENT OF SOIL REACTION	MODULUS OF ELASTICITY	MEAN RADIUS OF K VALUE CALCULATION
NO. OF CYCLE	$P_o$ (kg/cm <sup>2</sup> )	$P_y$ (kg/cm <sup>2</sup> )	$P_f$ (kg/cm <sup>2</sup> )	$K_m$ (kg/cm <sup>3</sup> )	$E_m$ (kg/cm <sup>2</sup> )	$R_m$ (cm)
1st	4.510	8.513	-	45.489	217.322	3.675



REMARKS:

$P_o, P_o'$  ..... Earth Pressure at Rest  
 $P_y, P_y'$  ..... Yield Pressure  
 $E = (1 + \nu) \cdot R_m \cdot K_m$  ..... Modulus of Elasticity  
 $\nu = 0.3$



TEST LOCATION: **P4 MEGHNA**      TEST DEPTH: **18m**

TEST NO.: **3**      TEST DATE: **24.3.2012**

RUBBER TYPE: **MEDIUM**      N VALUE: **32**      SOIL TYPE: **FINE SAND**

SPECIALIST SUB-CONTRACTOR:  
**SURVEY2000**  
 TEL: 8818386,01711323266  
 Email: survey2k@yahoo.com

PROJECT:  
**PREPARATORY SURVEY FOR DHAKA-CHITTAGONG NATIONAL HIGHWAY NO.1 BRIDGE CONSTRUCTION AND REHABILITATION PROJECT**

CLIENT:  
**BANGLADESH ROADS & HIGHWAY DEPARTMENT**

CONSULTANT:  
**ORIENTAL COSULTANTS CO. LTD**

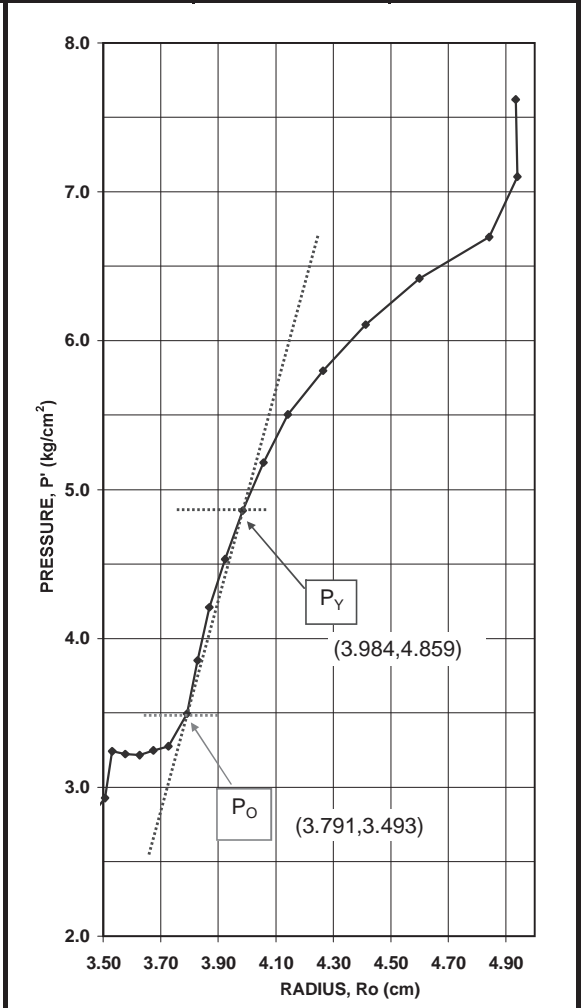
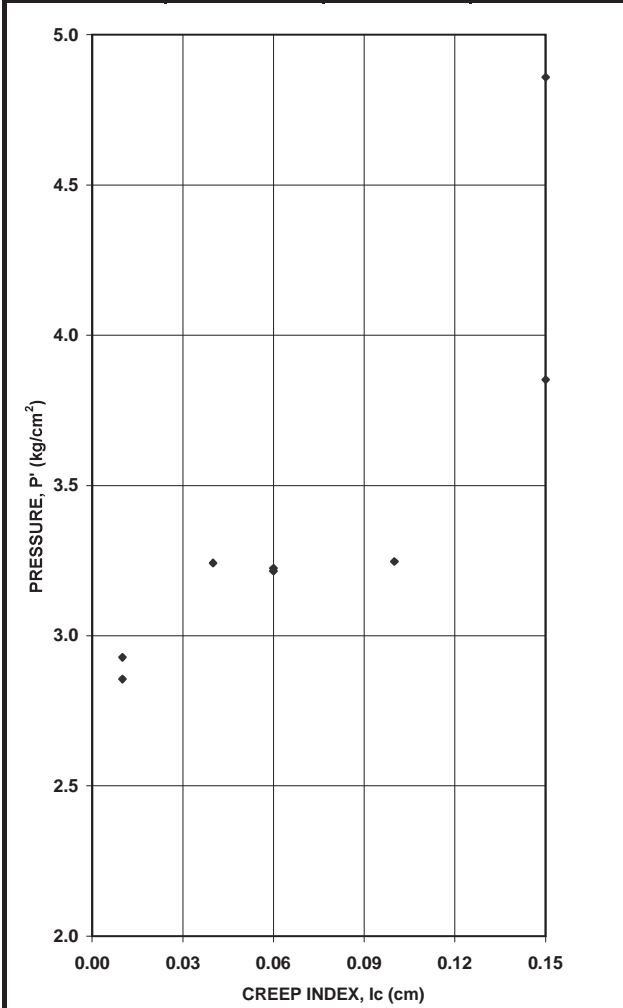






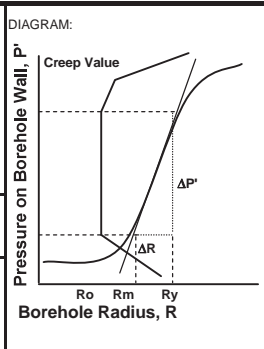
### PRESSUREMETER TEST DATA RESULTS

	EARTH PRESSURE AT REST	YIELD PRESSURE	FAILURE PRESSURE	COEFFICIENT OF SOIL REACTION	MODULUS OF ELASTICITY	MEAN RADIUS OF K VALUE CALCULATION
NO. OF CYCLE	$P_o$ (kg/cm <sup>2</sup> )	$P_y$ (kg/cm <sup>2</sup> )	$P_f$ (kg/cm <sup>2</sup> )	$K_m$ (kg/cm <sup>3</sup> )	$E_m$ (kg/cm <sup>2</sup> )	$R_m$ (cm)
1st	3.493	4.859	-	7.078	35.769	3.888



REMARKS:

$P_o, P_o'$  ..... Earth Pressure at Rest  
 $P_y, P_y'$  ..... Yield Pressure  
 $E = (1 + \nu) \cdot R_m \cdot K_m$  ..... Modulus of Elasticity  
 $\nu = 0.3$



TEST LOCATION: <b>P11 MEGHNA</b>	TEST DEPTH: <b>10m</b>
TEST NO.: <b>1</b>	TEST DATE: <b>25.3.2012</b>

RUBBER TYPE: <b>MEDIUM</b>	N VALUE: <b>13</b>	SOIL TYPE: <b>SANDY SILT</b>
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PROJECT:  
**PREPARATORY SURVEY FOR DHAKA-CHITTAGONG NATIONAL HIGHWAY NO.1 BRIDGE CONSTRUCTION AND REHABILITATION PROJECT**

SPECIALIST SUB-CONTRACTOR:  
**SURVEY2000**  
 TEL: 8818386,01711323266  
 Email: survey2k@yahoo.com

CLIENT:  
**BANGLADESH ROADS & HIGHWAY DEPARTMENT**

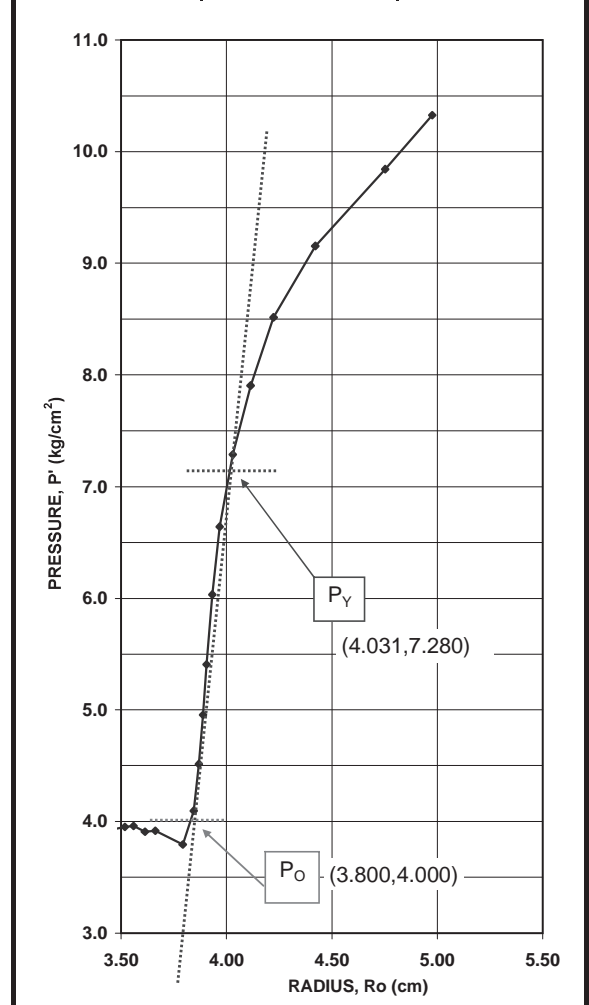
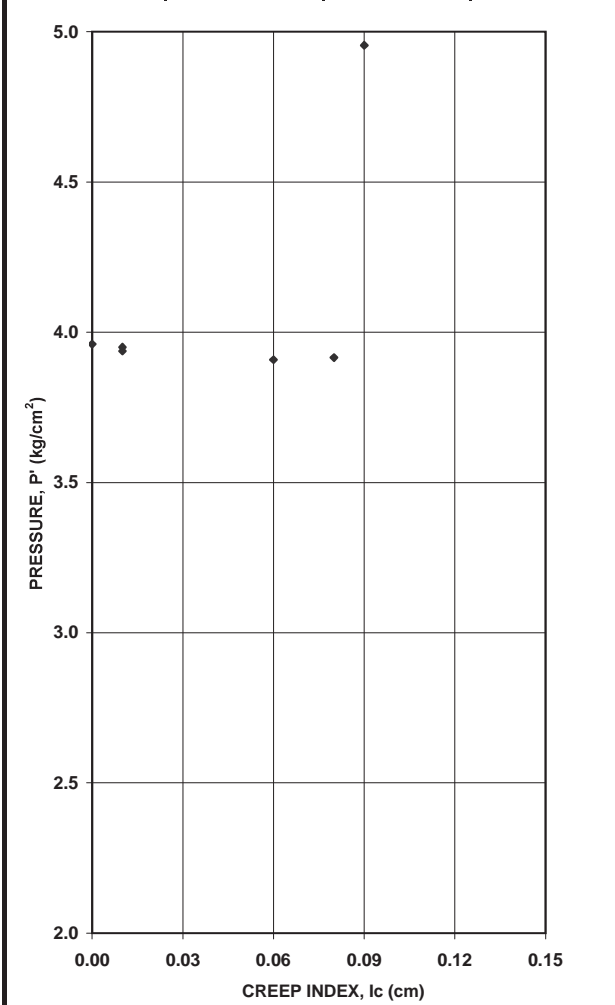
CONSULTANT:  
**ORIENTAL COSULTANTS CO. LTD**





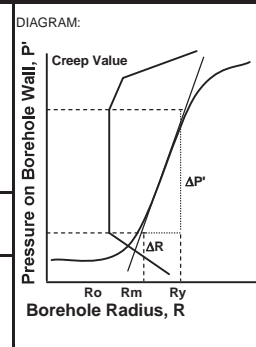
### PRESSUREMETER TEST DATA RESULTS

	EARTH PRESSURE AT REST	YIELD PRESSURE	FAILURE PRESSURE	COEFFICIENT OF SOIL REACTION	MODULUS OF ELASTICITY	MEAN RADIUS OF K VALUE CALCULATION
NO. OF CYCLE	Po (kg/cm <sup>2</sup> )	Py (kg/cm <sup>2</sup> )	Pf (kg/cm <sup>2</sup> )	Km (kg/cm <sup>3</sup> )	Em (kg/cm <sup>2</sup> )	Rm (cm)
1st	4.000	7.280	-	14.199	72.276	3.916



REMARKS:

Po, Po' ..... Earth Pressure at Rest  
 Py, Py' ..... Yield Pressure  
 $E = (1 + \nu) \cdot Rm \cdot Km$  ..... Modulus of Elasticity  
 $\nu = 0.3$



TEST LOCATION: <b>P11 MEGHNA</b>	TEST DEPTH: <b>15m</b>
TEST NO.: <b>2</b>	TEST DATE: <b>23.3.2012</b>

RUBBER TYPE: <b>MEDIUM</b>	N VALUE: <b>26</b>	SOIL TYPE: <b>SILTY FINE SAND</b>
PROJECT: <b>PREPARATORY SURVEY FOR DHAKA-CHITTAGONG NATIONAL HIGHWAY NO.1 BRIDGE CONSTRUCTION AND REHABILITATION PROJECT</b>		

SPECIALIST SUB-CONTRACTOR:  
**SURVEY2000**  
 TEL: 8818386,01711323266  
 Email: survey2k@yahoo.com

CLIENT:  
**BANGLADESH ROADS & HIGHWAY DEPARTMENT**

CONSULTANT:  
**ORIENTAL COSULTANTS CO. LTD**

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# **CBR TEST**

**GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH**  
**LOCAL GOVERNMENT ENGINEERING DEPARTMENT**

CENTRAL QUALITY CONTROL UNIT

Agargaon, Sher-e-Bangla Nagar, Dhaka-1207

**PROCTOR DENSITY TEST FOR MDD & OMC DETERMINATION**

Client : Md. Mahabubul Islam, Geologist, SURVEY 2000

Ref. No.&Date:Survey/Soil-142-2012, 03.04.2012

Scheme Const.of New Meghna Bridge

Location : **Meghnaghat(TP-A1)**

Quantity Collected from Field : 40 Kg

Quantity represented : Not Informed

Sample No : **D1**

Sampled By : Mahbubul Islam, Geologist.

Description of Sample : Soil

Sampled Date : 20.03.2012

Lab. Registration No. : LGED/C-Lab/07/04-05/17

Date of Test 21.05.2012

Type of Test : MDD

Method of Test : Standard

Mold Dia : 101.4 mm

Wt. of rammer : 5.5 lbs

No. of Layer : 3

Blow/Layer :25

Determination no.	01	02	03	04	05
Assumed Moisture Content (%)	6	8	10	12	14

**Moisture Content Determination**

Moisture Can No.	10	11	23	25	2
Wt. of Can + Wet of specimen (A), gm	185.3	166.7	167.8	177.0	182.4
Wt. of Can + dry of specimen (B), gm	152.0	135.5	133.9	143.5	141.3
Wt. of Water (A-B), gm	33.3	31.2	33.9	33.5	41.1
Wt. of Can (C) gm	26.4	27.1	26.3	42.2	27.3
Wt. of dry Specimen (B-C), gm	125.6	108.4	107.6	101.3	114.0
Moisture Content $m = (A-B)/(B-C)$ , %	26.5	28.8	31.5	33.1	36.1
Average Moisture Content %	27	29	32	33	36

**Density Determination**

Wt. of Wet Material + Mold (X), Kg	3.575	3.645	3.652	3.660	3.635
Wt. of Mold (Y), Kg	2.036	2.036	2.036	2.036	2.036
Wt. of Material in Mould (W=X-Y), Kg	1.54	1.61	1.62	1.62	1.6
Volume of Mould (V), m <sup>3</sup>	0.000934	0.000934	0.000934	0.000934	0.000934
Wet Density ( $\gamma_{WET} = W/V$ ) Kg/m <sup>3</sup>	1648.82	1723.77	1734.48	1734.48	1713.06
Dry Density ( $\gamma_{DRY} = (\gamma_{WET})/(1+m/100)$ , Kg/m <sup>3</sup>	1303.3	1338.5	1318.9	1303.4	1259.1

NOTE : 1 kg/m<sup>3</sup> = 0.06243 lb/cft, 1 Kg = 2.2046 lb, 1m<sup>3</sup> = 35.3147 cft.



ZERO-AIR-VOID LINE' calculation (optional) to check the accuracy of Testing :-

Specific Gravity ( $G_s$ ) =

(Note: For normal soil, Sp.Gr. May be assumed 2.68, for short-cut check. For soil containing aggregates, use combined Sp. Gr.)

Assumed Moisture Content (Starting from OMC) in %, w								
Corresponding Dry Density at 'Zero-Air-Void' in $\text{kg/m}^3 = G_s \times 100 / (1 + w \times G_s / 100)$								

Maximum-Dry-Density (MDD) : 1337.7  $\approx$  1338  $\text{kg/m}^3$  Optimum-Moisture-Content (OMC) : 29 %

( NOTE ; it is recommended to express MDD ( $\text{kg/m}^3$ ) and OMC (%) by rounding to the nearest whole number)

Tested by : Mr. Rabiul Haque, SAE(QC)

Supervised by : Mr. Md.Tarikuzzaman, Sr. AE(QC)

*Rabiul Haque*  
05.06.12  
(Rabiul Haque)  
Sub-Assistant Engineer (QC)  
Central Quality Control Unit, LGED.

*Md. Tarikuzzaman*  
(Md. Tarikuzzaman)  
Sr. Assistant Engineer (QC)  
Central Quality Control Unit, LGED.

*Md. Abul Bashar*  
(Md. Abul Bashar)  
Executive Engineer (QC)  
Central Quality Control Unit, LGED.

**GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH**  
**LOCAL GOVERNMENT ENGINEERING DEPARTMENT**  
**CENTRAL QUALITY CONTROL UNIT**  
 Agargaon, Sher-e-Bangla Nagar, Dhaka-1207  
**CALIFORNIA BEARING RATIO (CBR) TEST**

Client : Md. Mahabubul Islam, Geologist, SURVEY 2000 Ref. No. & Date : Survey/Soil-142-2012, 03.04.2012  
 Scheme : Const. of New Meghna Bridge Location : **Meghnaghat(TP-A1)**  
 Sample No : D 1 Sampled by & Date : Mahabubul Islam, Geologist, 20.3.12  
 Quantity Collected from Field : 40 kg Quantity Represented : Not Mentioned  
 Quantity Represented : Not Mentioned Test Date : 27.05.2012  
 Lab. Reg. No. : LGED/C-Lab/07/04-05/17 Description of Test Specimen : Soil  
 Type of Test : **Three point CBR Test** (Specimen Compacted at different density)  
 Designation of CBR Test : Soaking Condition : **Soaked (4 days) / Unsoaked / At Field Moisture**

**Moisture Content Determination**

Moisture Can No.			4		5		17	
Wt. of Can + Wet Specimen	( A )	gm	264.8	264.8'	211.1	211.1	251.2	251.2
Wt. of Can + Dry Specimen	( B )	gm	211.3	211.2	169.3	169.3	200.0	200.0
Wt. of Water	( A-B )	gm	53.5	53.6	41.8	41.8	51.2	51.2
Wt. of Can	( C )	gm	27.7	27.7	26.8	26.8	24.2	24.2
Wt. of dry Specimen	( B-C )	gm	183.6	183.5	142.5	142.5	175.8	175.8
Moisture Content	( % )		29.1	29.2	29.3	29.3	29.1	29.1
Average Moisture Content	m	( % )	29.2		29.3		29.1	
Optimum Moisture Content ( OMC ) =			29 %					

**DENSITY DETERMINATION**

Mould No.			Mold No. - 02	Mold No. - 07	Mold No. -06
Compacting	Undisturbed Specimen		----	----	----
Effort	In-Situ Test ( Truck-Mounted Machine)		----	----	----
	Blows Applied (in each of_3_ Layer)		18	36	56
Specimen	Av. Diameter of CBR Mold (D), mm		152.4	152.4	152.4
Volume	Av. Height Excluding Spacer (H), mm		116.5	117.5	116.5
	( Spacer Disc #2 Av. Height 61.48mm)		( = 178-61.5 )	( = 179.-61.5 )	( = 178-61.5 )
	Volume V= .785 X D <sup>2</sup> X H / (1000) <sup>3</sup> m <sup>3</sup>		0.002124	0.002142	0.002124
Wt. of Wet Material + Mold	( X )	Kg	7.500	7.750	7.900
Wt. of Mold	( Y )	Kg	4.199	4.198	4.202
Wt. of Material in Mold	( W = X-Y )	Kg	3.301	3.552	3.698
Wet-Density	= W / V	(kg/m <sup>3</sup> )	1554	1658	1741
Dry density		(kg/m <sup>3</sup> )	1203	1282	1348
Compaction %			90	96	101
( MDD and Type of Proctor Density test )			( MDD = 1338	Method -A of AASHTO T-99 ( Standard Proctor)	

NOTE : 1 Kg/m<sup>3</sup> = 0.06243 lb / cft, 1 m<sup>3</sup> = 35.3147 cft, 1 lb / cft = 1 Kg/m<sup>3</sup>, 1 KN / m<sup>2</sup> = 0.145038psi.

**SWELL DATA**

Time	Date	( Elapsed Time )	Mold-	H=	Mold-	H=	Mold-	H=
			Reading	mm	Reading	mm	Reading	mm
Submerged At--								
Final Reading--								



Load Cell No : **CM-9-1624**

Maximum Capacity : **10 KN**

Load Determination :

Area of penetration Plunger : A 0.001935 m<sup>2</sup>

Date of Penetration : 27.05.2012

**CBR 'LOAD-PENETRATION' DATA**

Penetration Reading	Proving Ring Reading and Stress								
	Mold No. - 02			Mold No. - 07			Mold No. -06		
	Load, P	Stress, P/A		Load, P	Stress, P/A		Load, P	Stress, P/A	
in (mm)	(KN)	(Kpa)	(KN)	(Kpa)	(KN)	(Kpa)	(KN)	(Kpa)	(Kpa)
0.000	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.025	0.64	0.15	77.52	0.16	82.69	0.31	160.21	0.31	160.21
0.050	1.27	0.28	144.70	0.31	160.21	0.64	330.75	0.64	330.75
0.075	1.91	0.41	211.89	0.53	273.90	0.95	490.96	0.95	490.96
0.100	2.54	0.52	268.73	0.78	403.10	1.26	651.16	1.26	651.16
0.125	3.18	0.61	315.25	1.01	521.96	1.53	790.70	1.53	790.70
0.150	3.81	0.70	361.76	1.22	630.49	1.78	919.90	1.78	919.90
0.175	4.45	0.78	403.10	1.41	728.68	2.01	1038.76	2.01	1038.76
0.200	5.08	0.86	444.44	1.58	816.54	2.22	1147.29	2.22	1147.29
0.225	5.72	0.94	485.79	1.75	904.39	2.44	1260.98	2.44	1260.98
0.250	6.35	1.00	516.80	1.91	987.08	2.64	1364.34	2.64	1364.34
0.275	6.99	1.07	552.97	2.06	1064.60	2.82	1457.36	2.82	1457.36
0.300	7.62	1.14	589.15	2.21	1142.12	3.01	1555.56	3.01	1555.56
0.325	8.25								
0.350	8.89								
0.400	10.16								

**CBR CALCULATION ( From the graph of above data, as shown in next page )**

CBR Calculation	a) Stress at 2.54 mm = 268.73 Kpa	a) Stress at 2.54mm = 403.10 Kpa	a) Stress at 2.54mm = 651.16 Kpa
Ratio (in %) =	4	8	9
b) Stress at 5.08 mm = 444.44 Kpa		b) Stress at 5.08 mm = 816.54 Kpa	b) Stress at 5.08 mm = 11147.29 Kpa
Ratio (in %) =	4	7.9	11
CBR =	4 %	8 %	11 %
At Dry-Density	1203	1282	1348
(% Compaction)	90	98	101
Remark (if any)			

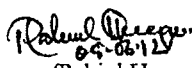
NOTE : --- When stress is in KPa, use standard load (stress) 8900 KPa & 10300 Kpa for 0.100 in. and 0.200 in. penetration respectively.  
 --- When stress is in Psi, use standard load (stress) 1000 Psi & 1500 Psi for 0.100 in. and 0.200 in. penetration respectively.

**CBR AT PARTICULAR COMPCION FROM ' Dry-Density versus CBR' GRAPH ( APLICABLE FOR 3-POINT CBR TEST ONLY)**

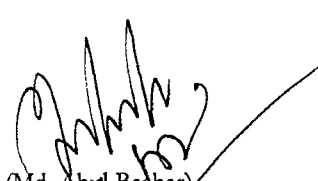
CBR at particular Degree of Compaction	At 100 % Copaction ( or 1338 kg/m <sup>3</sup> Dry-Density ) ; the soaked CBR = 10.5 % ( MDD =1338 Kg/m <sup>3</sup> , Standard Proctor Test)
--	--

Tested by : Mr. Rabiul Haque, SAE(QC)

Supervised by : Mr. Md.Tarikuzzaman, Sr. AE(QC)

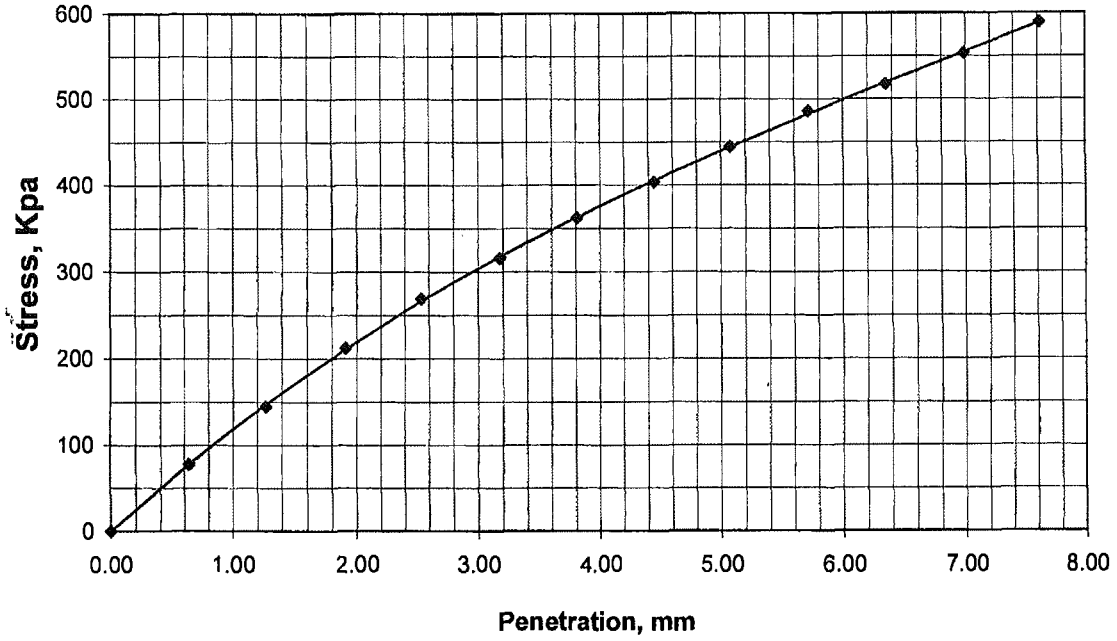
  
 (Rabiul Haque)  
 Sub-Assistant Engineer (QC)  
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 Sr.Assistant Engineer (QC)  
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 Executive Engineer (QC)  
 Central Quality Control Unit, LGED.

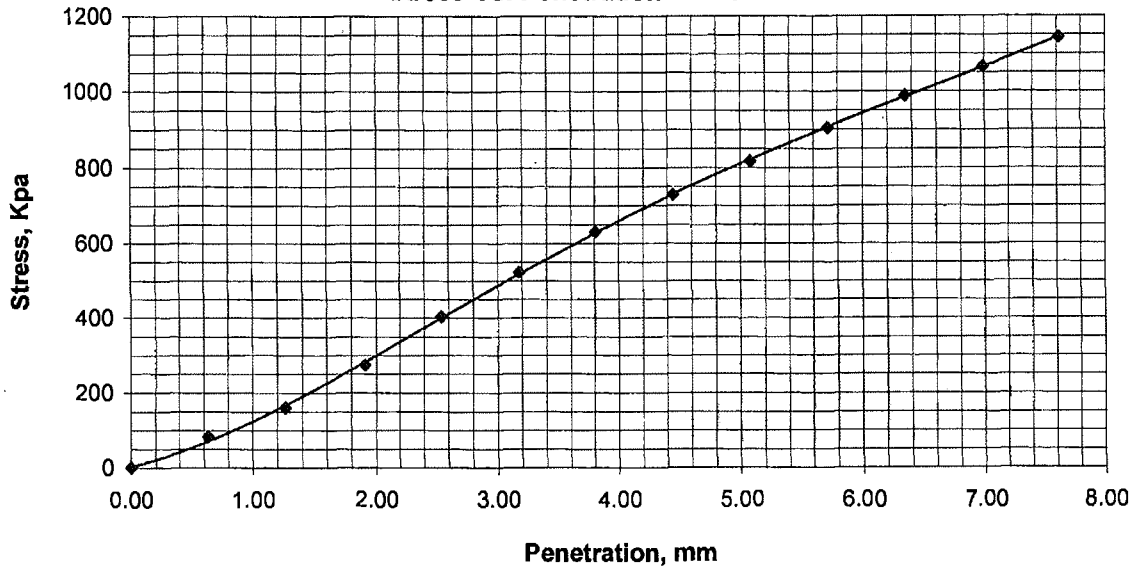
CBR LOAD-PENETRATION CURVE (Mold No. -02)  
Dry-Density 1203 kg/m<sup>3</sup> or 90 % Compaction

### Stress Vs Penetration Curve



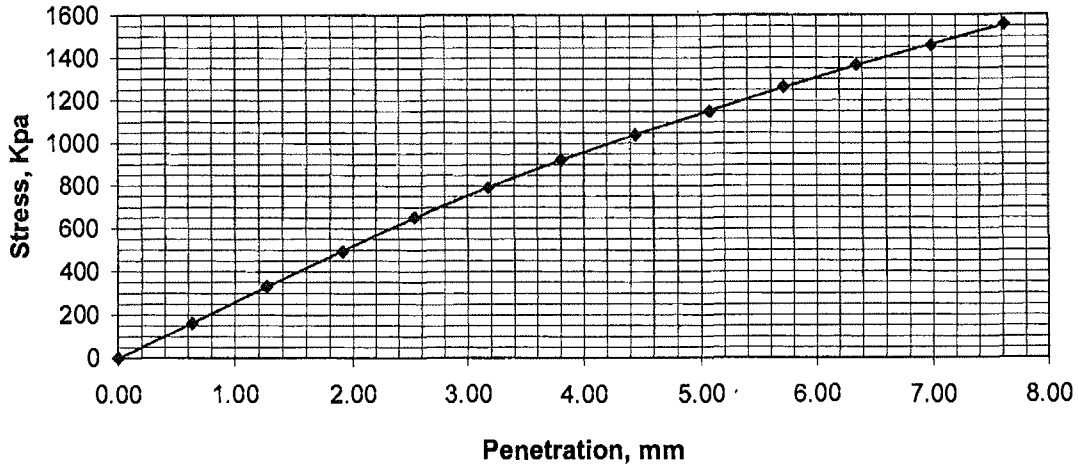
CBR LOAD-PENETRATION CURVE (Mold No. -07)  
Dry-Density 1282 kg/m<sup>3</sup> or 96 % Compaction

### Stress Vs. Penetration Curve

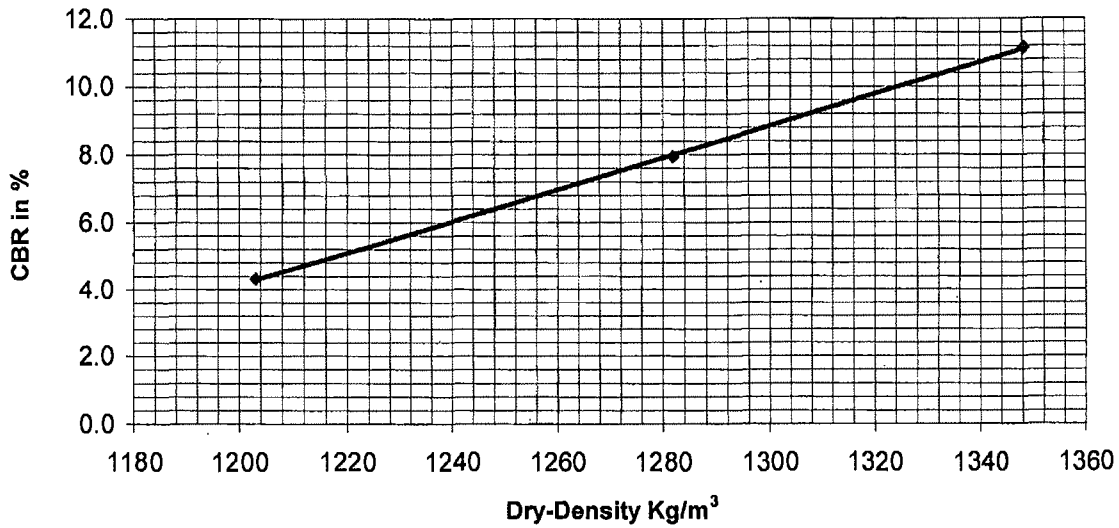


**CBR LOAD-PENETRATION CURVE (Mold No. 06)**  
 Dry-Density 1348 kg/m<sup>3</sup> or 101 % Compaction

**Stress Vs. Penetration Curve**



**Dry Density Versus CBR Curve**



CBR (Soaked) = 10.5 % at 100 % Compaction (Standard Proctor) or at 1338 Kg/m<sup>3</sup> Dry-Density

Signed By :

Tested by : Mr. Rabiul Haque, SAE(QC)

Supervised by : Mr. Md. Tarikuzzaman, Sr. AE(QC)

*Rabiul Haque*  
 (Rabiul Haque)  
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**GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH  
LOCAL GOVERNMENT ENGINEERING DEPARTMENT**

**CENTRAL QUALITY CONTROL UNIT**

Agargaon, Sher-e-Bangla Nagar, Dhaka-1207

**PROCTOR DENSITY TEST FOR MDD & OMC DETERMINATION**

Client : Md. Mahabubul Islam, Geologist, SURVEY 2000

Ref.No. & Date : Survey/Soil-142-2012, 03.04.2012

Scheme Const. of New Meghna Bridge

Location : **Meghnaghat(TP-A2)**

Quantity Collected from Field : 40 Kg

Quantity represented : Not Informed

Sample No : D1

Sampled By : Mahbubul Islam, Geologist.

Description of Sample : Fine Sand

Sampled Date : 20.03.2012

Lab. Registration No. : LGED/C-Lab/07/04-05/17

Date of Test : 21.05.2012

Type of Test : MDD

Method of Test : Standard

Mold Dia : 101.4 mm

Wt. of rammer : 5.5 lbs

No. of Layer : 3

Blow/Layer : 25

Determination no.	01	02	03	04	05
Assumed Moisture Content (%)	12	14	16	18	20

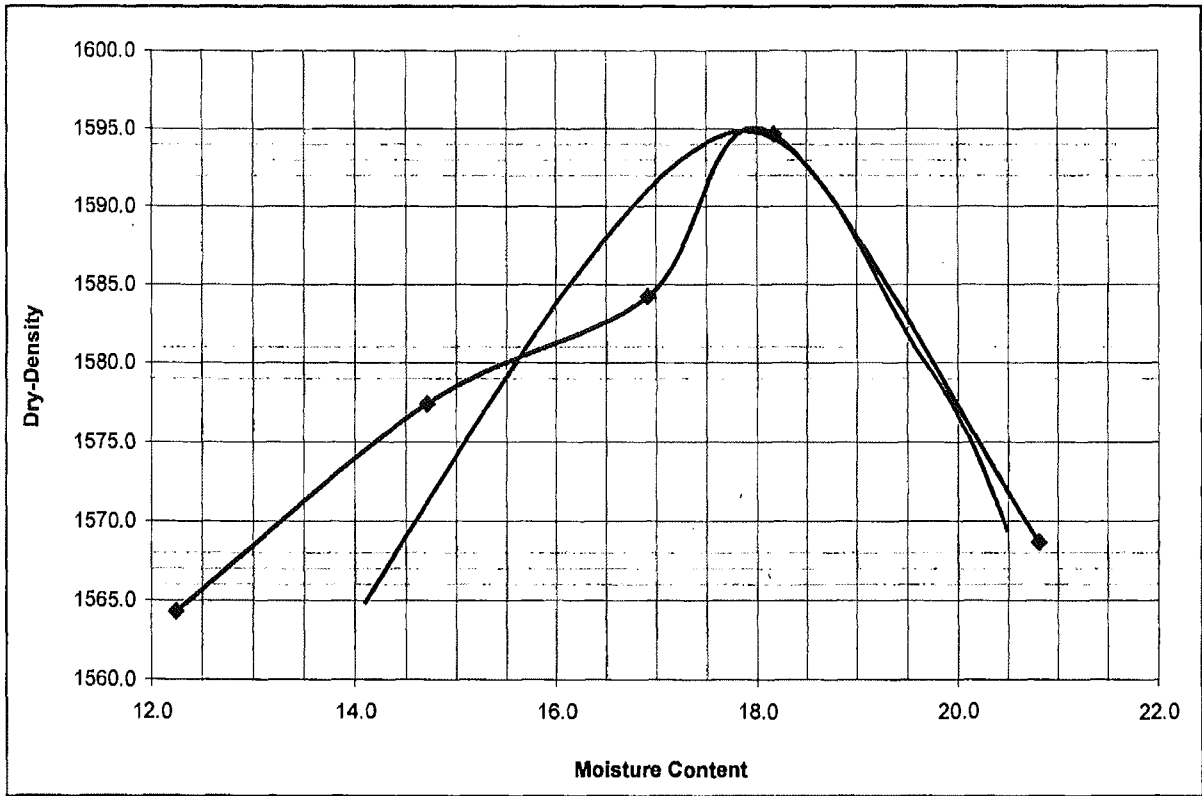
**Moisture Content Determination**

Moisture Can No.	13	16	39	24	9
Wt. of Can + Wet of specimen (A), gm	190.0	192.8	215.3	254.8	210.1
Wt. of Can + dry of specimen (B), gm	172.3	170.8	187.5	220.0	179.1
Wt. of Water (A-B), gm	17.7	22.0	27.8	34.8	31.0
Wt. of Can (C) gm	27.8	21.2	23.2	28.5	30.1
Wt. of dry Specimen (B-C), gm	144.5	149.6	164.3	191.5	149.0
Moisture Content $m = (A-B)/(B-C)$ , %	12.3	14.7	16.9	18.2	20.8
Average Moisture Content %	12	15	17	18	21

**Density Determination**

Wt. of Wet Material + Mold (X), Kg	3.665	3.714	3.755	3.783	3.796
Wt. of Mold (Y), Kg	2.025	2.025	2.025	2.025	2.025
Wt. of Material in Mould (W=X-Y), Kg	1.64	1.69	1.73	1.76	1.77
Volume of Mould (V), m <sup>3</sup>	0.000934	0.000934	0.000934	0.000934	0.000934
Wet Density ( $\gamma_{WET} = W/V$ ) Kg/m <sup>3</sup>	1755.89	1809.42	1852.25	1884.37	1895.07
Dry Density $\gamma_{DRY} = (\gamma_{WET})/(1+m/100)$	1564.3	1577.4	1584.2	1594.6	1568.6

NOTE : 1 kg/m<sup>3</sup> = 0.06243 lb/cft, 1 Kg = 2.2046 lb, 1m<sup>3</sup> = 35.3147 cft.



ZERO-AIR-VOID LINE' calculation (optional) to check the accuracy of Testing :-  
 Specific Gravity ( $G_s$ ) =

(Note: For normal soil, Sp.Gr. May be assumed 2.68, for short-cut check. For soil containing aggregates, use combined Sp. Gr.)

Assumed Moisture Content (Starting from OMC) in %, w									
Corresponding Dry Density at 'Zero-Air-Void' in $kg/m^3 = G_s \times 100 / (1 + w \times G_s / 100)$									

Maximum-Dry-Density (MDD) : 1594.6  $\approx$  1595  $kg/m^3$  Optimum-Moisture-Content (OMC) : 18 %

Tested by : Mr. Rabiul Haque, SAE(QC)

Supervised by : Mr. Md.Tarikuzzaman, Sr. AE(QC)

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**GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH  
LOCAL GOVERNMENT ENGINEERING DEPARTMENT**

**CENTRAL QUALITY CONTROL UNIT**

Agargaon, Sher-e-Bangla Nagar, Dhaka-1207

**CALIFORNIA BEARING RATIO (CBR) TEST**

Client : Md. Mahabubul Islam, Geologist, SURVEY 2000 Ref. No. & Date : Survey/Soil-142-2012, 03.04.2012  
 Scheme : Const. New Meghna Bridge Location : **Meghnaghat(TP-A2)**  
 Sample No D 1 Sampled by & Date :Mahbubul Islam,Geologist, 20.3.12  
 Quantity Collected from Field : 40 kg Quantity Represented : Not Mentioned  
 Quantity Represented : Not Mentioned Test Date : 27.05.2012  
 Lab. Reg. No. : LGED/C-Lab/07/04-05/17 Description of Test Specimen : Fine Sand  
 Type of Test : **Three point CBR Test** (Specimen Compacted at different density)  
 Designation of CBR Test : Soaking Condition : **Soaked (4 days ) / Unsoaked / At Field Moisture**

**Moisture Content Determination**

Moisture Can No.			11		13		25	
Wt. of Can + Wet Specimen	( A )	gm	229.8	229.8	219.7	219.7	213.9	213.9
Wt. of Can + Dry Specimen	( B )	gm	199.0	199.0	191.3	191.3	184.7	184.7
Wt. of Water	( A-B )	gm	30.8	30.8	28.4	28.4	29.2	29.2
Wt. of Can	( C )	gm	27.1	27.1	27.9	27.9	24.2	24.2
Wt. of dry Specimen	( B-C )	gm	171.9	171.9	163.4	163.4	160.5	160.5
Moisture Content	( % )		17.9	17.9	17.4	17.4	18.2	18.2
Average Moisture Content	m	( % )	17.9		17.4		18.2	
Optimum Moisture Content ( OMC ) = 18 %								

**DENSITY DETERMINATION**

Mould No.		Mold No. - 09	Mold No. -11	Mold No. -08
Compacting	Undisturbed Specimen	----	----	----
Effort	In-Situ Test ( Truck-Mounted Machine)	----	----	----
	Blows Applied (in each of 3 Layer)	18	36	56
Specimen	Av. Diameter of CBR Mold (D), mm	152.4	152.4	152.4
Volume	Av. Height Excluding Spacer (H), mm	116.5	117.5	116.5
	( Spacer Disc #2 Av. Height 61.48mm)	( = 178-61.5 )	( = 179-61.5 )	( = 178-61.5 )
	Volume $V = .785 \times D^2 \times H / (1000)^3$ m <sup>3</sup>	0.002124	0.002142	0.002124
Wt. of Wet Material + Mold	( X ) Kg	10.895	11.030	11.250
Wt. of Mold	( Y ) Kg	7.244	7.235	7.240
Wt. of Material in Mold	( W = X-Y ) Kg	3.651	3.795	4.010
Wet-Density	= W / V (kg/m <sup>3</sup> )	1719	1771	1888
Dry density	(kg/m <sup>3</sup> )	1458	1509	1597
Compaction %		91	95	100
( MDD and Type of Proctor Density test )	( MDD =	1595	Method -A of AASHTO T-99 ( Standard Proctor)	

NOTE: 1 Kg/m<sup>3</sup> = 0.08243 lb / cft, 1 m<sup>3</sup> = 35.3147 cft, 1 lb / cft = 1 Kg/m<sup>3</sup>, 1 KN / m<sup>2</sup> = 0.145038psi.

**SWELL DATA**

Time	Date ( Elapsed Time )	Mold-	H= mm	Mold-	H= mm	Mold-	H= mm
		Reading	Swell	Reading	Swell	Reading	Swell
Submerged At--							
Final Reading--							

Load Cell No : **CM-9-1624**

Maximum Capacity : **10 KN**

Load Determination :

Area of penetration Plunger : A 0.001935 m<sup>2</sup>

Date of Penetration : 27.05.2012

**CBR 'LOAD-PENETRATION' DATA**

Penetration Reading	Proving Ring Reading and Stress								
	Mold No. - 09			Mold No. -11			Mold No. -08		
	Load, P	Stress, P/A		Load, P	Stress, P/A		Load, P	Stress, P/A	
in (mm)	( KN )	( Kpa )	( KN )	( Kpa )	( KN )	( Kpa )	( KN )	( Kpa )	( Kpa )
0.000	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.025	0.64	0.27	139.53	0.31	160.21	0.45	232.56	0.45	232.56
0.050	1.27	0.60	310.08	0.77	397.93	1.15	594.32	1.15	594.32
0.075	1.91	0.98	506.46	1.21	625.32	1.87	966.41	1.87	966.41
0.100	2.54	1.42	733.85	1.97	1018.09	2.64	1364.34	2.64	1364.34
0.125	3.18	1.78	919.90	2.17	1121.45	3.26	1684.75	3.26	1684.75
0.150	3.81	2.12	1095.61	2.96	1529.72	3.79	1958.66	3.79	1958.66
0.175	4.45	2.43	1255.81	3.07	1586.56	4.30	2222.22	4.30	2222.22
0.200	5.08	2.71	1400.52	3.54	1829.46	4.77	2465.12	4.77	2465.12
0.225	5.72	2.97	1534.88	3.63	1875.97	5.12	2645.99	5.12	2645.99
0.250	6.35	3.21	1658.91	3.99	2062.02	5.33	2754.52	5.33	2754.52
0.275	6.99	3.43	1772.61	4.21	2175.71	5.56	2873.39	5.56	2873.39
0.300	7.62	3.65	1886.30	4.76	2459.95	5.76	2976.74	5.76	2976.74
0.325	8.25								
0.350	8.89								
0.400	10.16								

**CBR CALCULATION ( From the graph of above data, as shown in next page )**

CBR Calculation	a) Stress at 2.54 mm = 733.85 Kpa	a) Stress at 2.54mm = 1018.09 Kpa	a) Stress at 2.54mm = 1364.34 Kpa
Ratio (in % ) =	11	15	20
b) Stress at 5.08 mm = 1400.52 Kpa		b) Stress at 5.08 mm = 1829.46 Kpa	b) Stress at 5.08 mm = 2465.1 Kpa
Ratio (in % ) =	14	17.8	24
CBR =	14 %	CBR = 18 %	CBR = 24 %
At Dry-Density	1458	At Dry-Density	1597
(% Compaction)	91	(% Compaction)	95
Remark ( if any )			

NOTE : -- When stress is in KPa, use standard load (stress) 6900 KPa & 10300 Kpa for 0.100 in. and 0.200 in. penetration respectively.  
 -- When stress is in Psi, use standard load (stress) 1000 Psi & 1500 Psi for 0.100 in. and 0.200 in. penetration respectively.

**CBR AT PARTICULAR COMPCITION FROM ' Dry-Density versus CBR' GRAPH ( APLICABLE FOR 3-POINT CBR TEST ONLY)**

CBR at particular Degree of Compaction	At 100 % Copaction ( or 1595 kg/m <sup>3</sup> Dry-Density ) ; the soaked CBR = 23.5 %
	( MDD =1595 Kg/m3 , Standard Proctor Test)

Tested by : Mr. Rabiul Haque, SAE(QC)

Supervised by : Mr. Md.Tarikuzzaman, Sr. AE(QC)

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05.05.12  
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(Md. Tarikuzzaman)

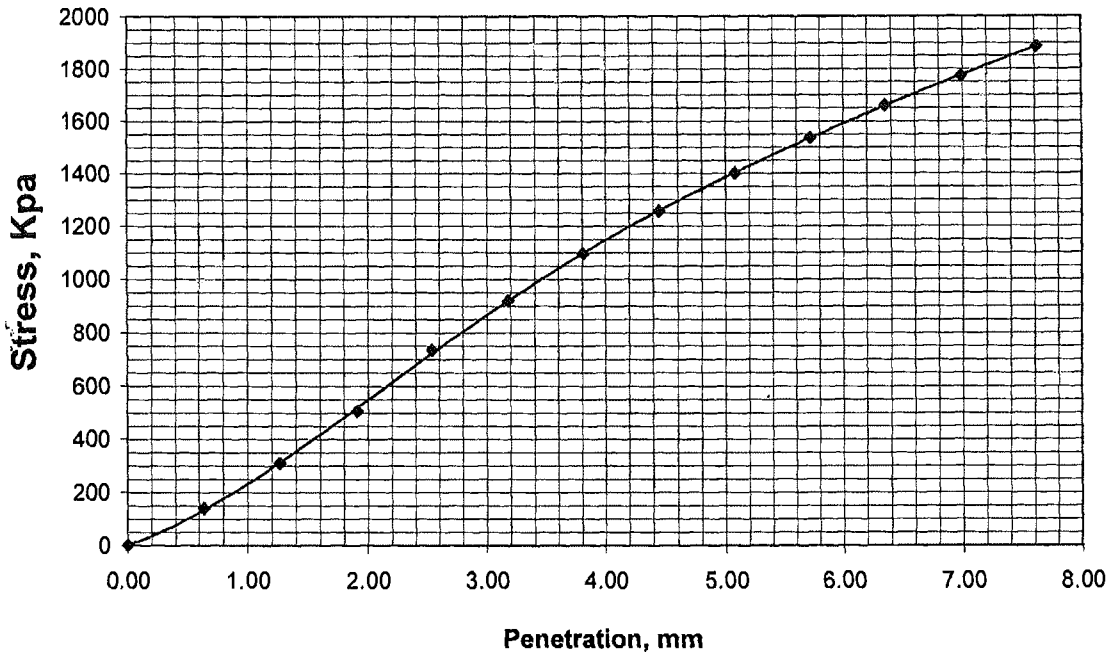
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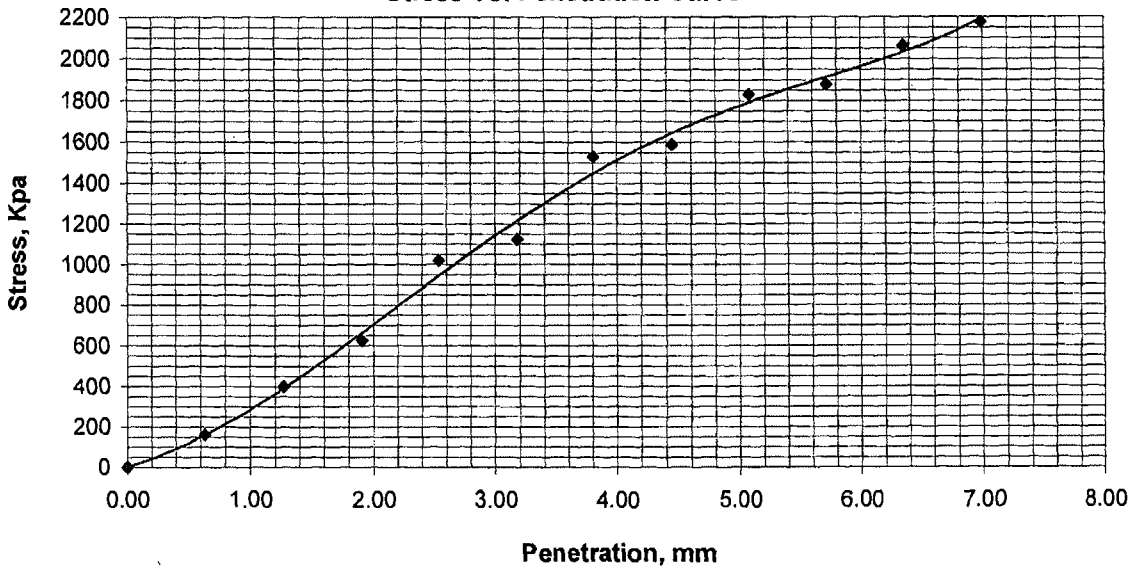
CBR LOAD-PENETRATION CURVE (Mold No. - 09)  
Dry-Density 1458 kg/m<sup>3</sup> or 91 % Compaction

### Stress Vs Penetration Curve



CBR LOAD-PENETRATION CURVE (Mold No. -11)  
Dry-Density 1509 kg/m<sup>3</sup> or 95 % Compaction

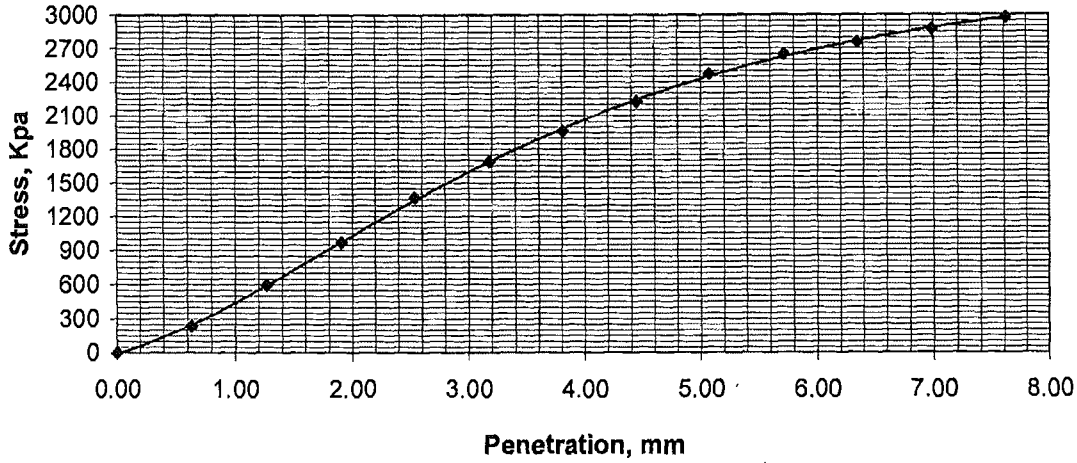
### Stress Vs. Penetration Curve



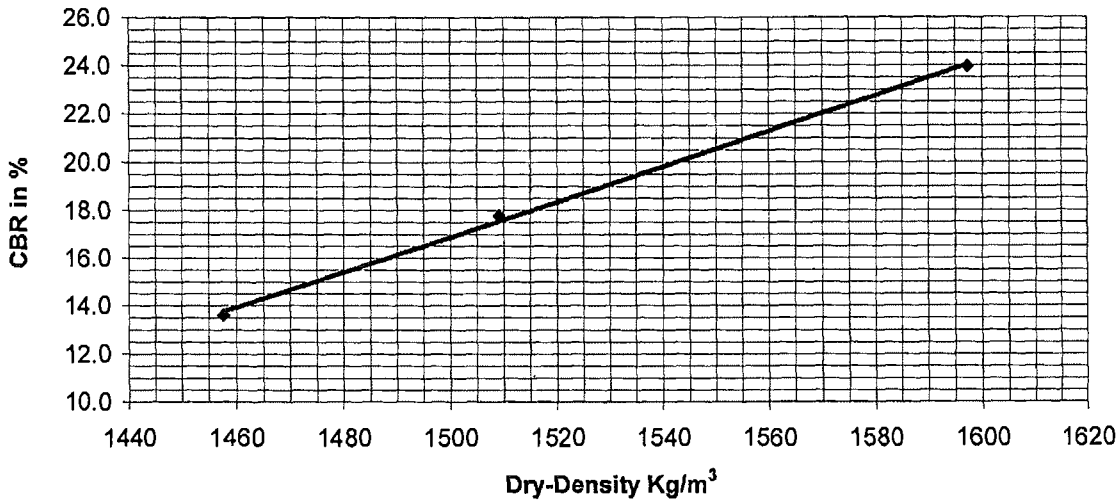


**CBR LOAD-PENETRATION CURVE (Mold No. -08)**  
 Dry-Density 1597 kg/m<sup>3</sup> or 100 % Compaction

**Stress Vs. Penetration Curve**



**Dry Density Versus CBR Curve**



CBR (Soaked) = 23.5 % at 100 % Compaction (Standard Proctor) or at 1595 Kg/m<sup>3</sup> Dry-Density

Tested by : Mr. Rabiul Haque, SAE(QC)

Supervised by : Mr. Md. Tarikuzzaman, Sr. AE(QC)

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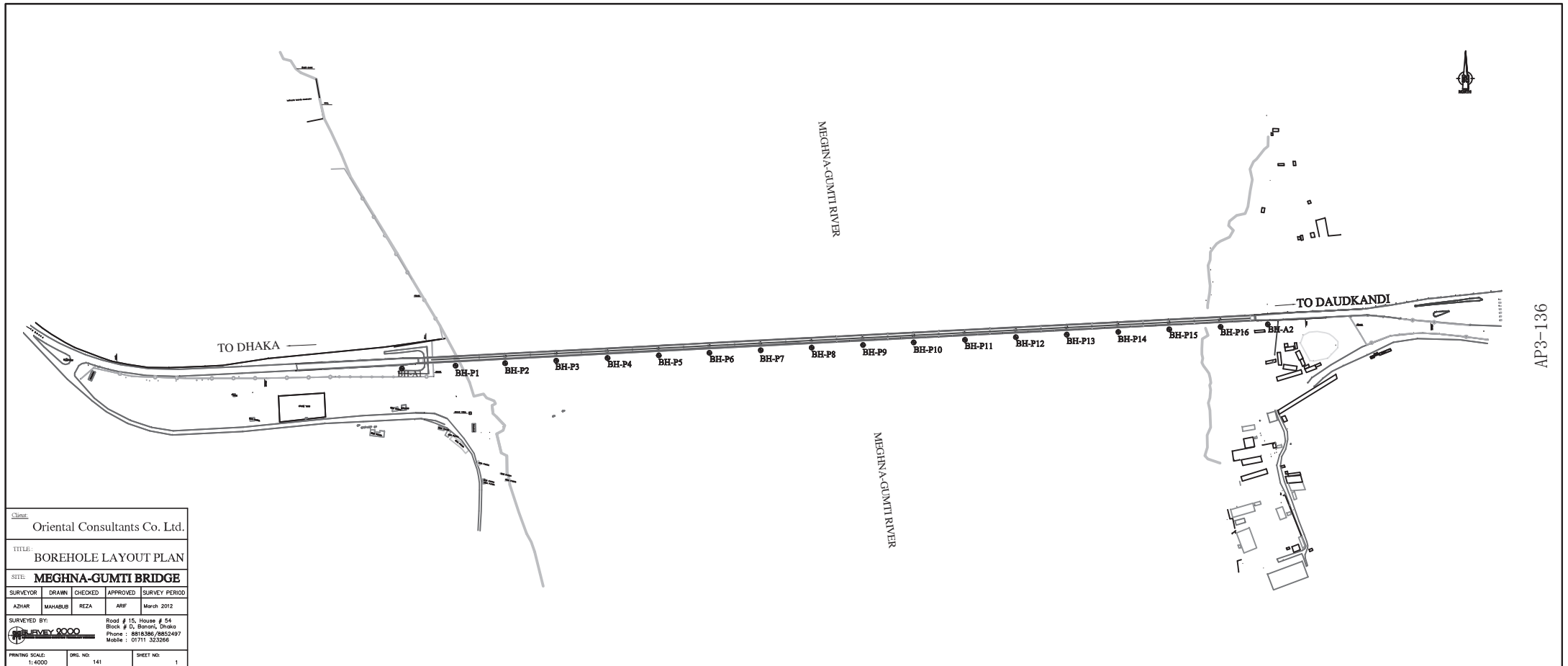
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# **MEGHNA-GUMTI BRIDGE**

## **BORE HOLE LOCATION MAP**



AP3-136

Client:				
Oriental Consultants Co. Ltd.				
TITLE:				
BOREHOLE LAYOUT PLAN				
SITE: <b>MEGHNA-GUMTI BRIDGE</b>				
SURVEYOR	DRAWN	CHECKED	APPROVED	SURVEY PERIOD
AZHAR	MAHABUB	REZA	ARIF	March 2012
SURVEYED BY:				
 Road # 15, House # 54 Block # D, Banani, Dhaka Phone : 8816386/8852497 Mobile : 0171 323066				
PRINTING SCALE:	DRG. NO.	SHEET NO.		
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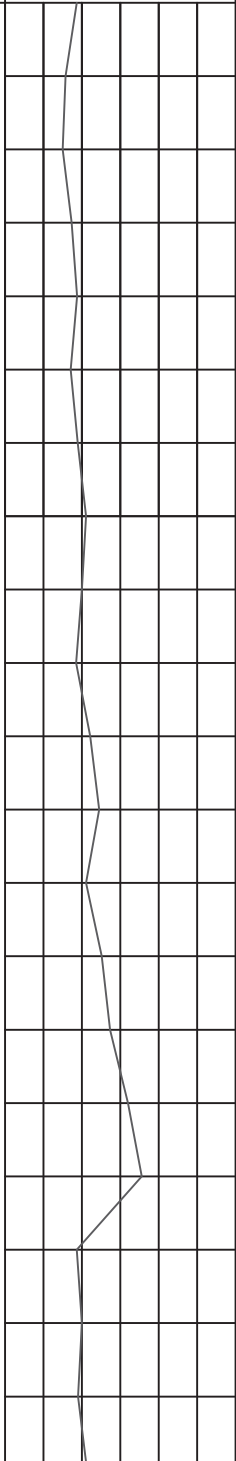
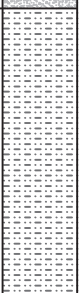
## **BORE LOGS**

Project : Construction of Meghna-Gumti Bridge						Client : Oriental Consultants Co. Ltd.						
Bore Hole No. : A1						Existing Ground Level : +5.8m						
Method of Boring : Percussion						Ground/ Water Level : +0.17m						
Boring Dia. : 100mm						Date Started : 05-02-2012						
Depth of Boring : 81.0m						Date Completed : 06-02-2012						
Legend :						SAND		SILT		CLAY		
Co-ordinates :												
Location of Boring : Daudkandi						Blows on spoon				Graphical Representation		
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10 20 30 40 50 60	
1.0	D1		1.0	Very dense Light brown very fine SAND		1.0	12	26	24	50	[Graphical Representation]	
2.0	D2		5.0	Medium dense Light brown to grey fine SAND with trace of mica		2.0	8	9	11	20	[Graphical Representation]	
3.0	D3					3.0	7	9	10	19	[Graphical Representation]	
4.0	D4					4.0	7	8	11	19	[Graphical Representation]	
5.0	D5					5.0	8	10	12	22	[Graphical Representation]	
6.0	D6					6.0	7	9	12	21	[Graphical Representation]	
7.0	D7		3.0	Soft Grey non plastic SILT with trace of mica		7.0	1	1	1	2	[Graphical Representation]	
8.0	D8					8.0	1	1	2	3	[Graphical Representation]	
9.0	D9					9.0	1	2	1	3	[Graphical Representation]	
10.0	D10		27.0	Medium dense to dense Grey fine SAND with trace of mica		10.0	1	4	3	7	[Graphical Representation]	
11.0	D11					11.0	4	6	6	12	[Graphical Representation]	
12.0	D12					12.0	5	6	8	14	[Graphical Representation]	
13.0	D13					13.0	6	7	7	14	[Graphical Representation]	
14.0	D14					14.0	4	6	7	13	[Graphical Representation]	
15.0	D15					15.0	6	8	10	18	[Graphical Representation]	
16.0	D16					16.0	5	8	11	29	[Graphical Representation]	
17.0	D17					17.0	8	10	11	21	[Graphical Representation]	
18.0	D18					18.0	6	7	10	17	[Graphical Representation]	
19.0	D19					19.0	6	8	10	18	[Graphical Representation]	
20.0	D20		20.0	7	9	10	19	[Graphical Representation]				

Note : Boring Terminated at 81.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....




Logged by : Azhar  
Check by : Mahabub

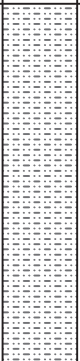

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.							
Bore Hole No. : A1					Existing Ground Level : +5.8m							
Method of Boring : Percussion					Ground/ Water Level : +0.17m							
Boring Dia. : 100mm					Date Started : 05-02-2012							
Depth of Boring : 81.0m					Date Completed : 06-02-2012							
Legend :					 SAND		 SILT		 CLAY			
Co-ordinates :												
Location of Boring : Daudkandi						Blows on spoon			Graphical Representation			
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10 20 30 40 50 60	
21.0		D21	27.0	Medium dense to dense Grey fine SAND with trace of mica		21.0	6	8	9	17		
22.0		D22				22.0	5	7	8	15		
23.0		D23				23.0	6	8	10	18		
24.0		D24				24.0	7	9	10	19		
25.0		D25				25.0	6	8	9	17		
26.0		D26				26.0	7	9	10	19		
27.0		D27				27.0	9	10	11	21		
28.0		D28				28.0	8	9	11	20		
29.0		D29				29.0	7	9	10	19		
30.0		D30				30.0	8	10	12	22		
31.0		D31				31.0	9	11	13	24		
32.0		D32				32.0	8	10	11	21		
33.0		D33				33.0	9	11	14	25		
34.0		D34				34.0	10	13	15	28		
35.0		D35	35.0	12	15	17	32					
36.0		D36	36.0	11	17	19	36					
37.0		D37	4.0	Stiff Grey non plastic SILT with trace of mica		37.0	2	4	5	9		
38.0		D38				38.0	3	5	5	10		
39.0		D39				39.0	3	4	5	9		
40.0		D40				40.0	3	5	6	11		

Note : Boring Terminated at 81.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....

Logged by : Azhar  
Check by : Mahabub

<b>Project : Construction of Meghna-Gumti Bridge</b>		<b>Client : Oriental Consultants Co. Ltd.</b>	
Bore Hole No.	: A1	Existing Ground Level	: +5.8m
Method of Boring	: Percussion	Ground/ Water Level	: +0.17m
Boring Dia.	: 100mm	Date Started	: 05-02-2012
Depth of Boring	: 81.0m	Date Completed	: 06-02-2012
Legend :			
		SAND	SILT
			
		CLAY	
Co-ordinates :			




Location of Boring : Daudkandi						Blows on spoon				Graphical Representation								
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60		
41.0		D41	5.0	Stiff Grey very fine sandy SILT with trace of mica		41.0	4	5	7	12								
42.0		D42				42.0	3	6	8	14								
43.0		D43				43.0	3	5	6	11								
44.0		D44				44.0	2	4	5	9								
45.0		D45				45.0	4	5	7	12								
46.0		D46	35.0	Stiff to very stiff Grey low to medium plastic CLAY		46.0	5	6	7	13								
47.0		D47				47.0	6	6	8	14								
48.0		D48				48.0	5	5	7	12								
49.0		D49				49.0	5	6	7	13								
50.0		D50				50.0	5	7	8	15								
51.0		D51				51.0	6	7	8	15								
52.0		D52				52.0	3	5	7	12								
53.0		D53				53.0	5	6	7	13								
54.0		D54				54.0	5	6	6	12								
55.0		D55				55.0	5	6	8	14								
56.0		D56				56.0	6	6	7	13								
57.0		D57				57.0	5	6	6	12								
58.0		D58				58.0	5	6	7	13								
59.0		D59				59.0	5	7	8	15								
60.0		D60				60.0	6	7	9	16								

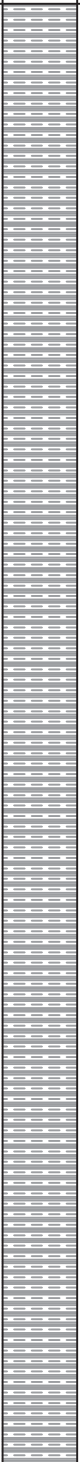
Note : Boring Terminated at 81.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....

Logged by : Azhar  
Check by : Mahabub







<b>Project : Construction of Meghna-Gumti Bridge</b>		<b>Client : Oriental Consultants Co. Ltd.</b>	
Bore Hole No. : A1	Method of Boring : Percussion	Existing Ground Level : +5.8m	Ground/ Water Level : +0.17m
Boring Dia. : 100mm	Depth of Boring : 81.0m	Date Started : 05-02-2012	Date Completed : 06-02-2012
Legend :		 SAND	 SILT
		 CLAY	
Co-ordinates :			

Location of Boring : Daudkandi						Blows on spoon				Graphical Representation								
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60		
61.0		D61		Stiff to very stiff Grey low to medium plastic CLAY		61.0	5	6	8	14								
62.0		D62				62.0	5	7	9	16								
63.0		D63				63.0	5	8	9	17								
64.0		D64				64.0	6	7	9	16								
65.0		D65	35.0			65.0	6	8	10	18								
66.0		D66				66.0	5	8	9	17								
67.0		D67				67.0	6	7	8	15								
68.0		D68				68.0	5	7	8	15								
69.0		D69				69.0	5	8	7	15								
70.0		D70				70.0	6	7	8	15								
71.0		D71				71.0	7	6	8	14								
72.0		D72				72.0	6	8	9	17								
73.0		D73				73.0	5	8	10	18								
74.0		D74				74.0	6	7	9	16								
75.0		D75				75.0	5	6	7	13								
76.0		D76				76.0	7	8	9	17								
77.0		D77		77.0	6	7	9	16										
78.0		D78		78.0	7	9	11	20										
79.0		D79		79.0	8	10	9	19										
80.0		D80		80.0	14	8	5	13										

Note : Boring Terminated at 81.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample





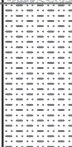



Cont'd.....

Logged by : Azhar  
Check by : Mahabub

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.							
Bore Hole No. : A1					Existing Ground Level : +5.8m							
Method of Boring : Percussion					Ground/ Water Level : +0.17m							
Boring Dia. : 100mm					Date Started : 05-02-2012							
Depth of Boring : 81.0m					Date Completed : 06-02-2012							
Legend :					 SAND	 SILT	 CLAY					
Co-ordinates :												
Location of Boring : Daudkandi					Blows on spoon				Graphical Representation			
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10 20 30 40 50 60	
81.0		D81	1.0	Hard Grey medium plastic CLAY		81.0	19	26	24	50	For 225mm penetration	
				End of Boring								
82.0		D82										
83.0		D83										
84.0		D84										
85.0		D85										
86.0		D86										
87.0		D87										
88.0		D88										
89.0		D89										
90.0		D90										
91.0		D91										
92.0		D92										
93.0		D93										
94.0		D94										
95.0		D95										
96.0		D96										
97.0		D97										
98.0		D98										
99.0		D99										
100.0		D100										

Note : Boring Terminated at 81.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample





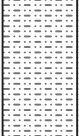
Logged by : Azhar  
Check by : Mahabub

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.													
Bore Hole No. : P1					Existing Ground Level : +4.69m													
Method of Boring : Percussion					Ground/ Water Level : +0.58m													
Boring Dia. : 100mm					Date Started : 02-02-2012													
Depth of Boring : 80.0m					Date Completed : 05-02-2012													
Legend :					 SAND  SILT  CLAY													
Co-ordinates :																		
Location of Boring : Daudkandi						Blows on spoon				Graphical Representation								
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60		
1.0	D1		3.0	Loose Brown to grey silty very fine SAND with trace of mica		1.0	1	2	3	5								
2.0	D2		1.0	Soft Grey non plastic SILT with trace of mica		2.0	2	4	6	10								
3.0	D3					3.0	2	3	4	7								
4.0	D4		5.0	Loose to medium dense Light grey fine SAND with trace of mica		4.0	1	1	1	2								
5.0	D5					5.0	3	4	5	9								
6.0	D6					6.0	2	3	5	8								
7.0	D7					7.0	2	2	3	5								
8.0	D8					8.0	3	4	6	10								
9.0	D9					9.0	3	5	7	12								
10.0	D10		1.0	Medium stiff Grey non plastic SILT with few sand trace mica		10.0	1	2	3	5								
11.0	D11		28.0	Loose to medium dense Grey to light grey silty fine SAND with trace of mica		11.0	2	2	3	5								
12.0	D12					12.0	3	2	2	4								
13.0	D13					13.0	2	3	4	7								
14.0	D14					14.0	4	6	9	15								
15.0	D15					15.0	7	11	14	25								
16.0	D16					16.0	8	10	14	24								
17.0	D17					17.0	6	10	12	22								
18.0	D18					18.0	5	8	11	19								
19.0	D19					19.0	5	7	10	17								
20.0	D20					20.0	6	8	12	20								

Note : Boring Terminated at 80.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....




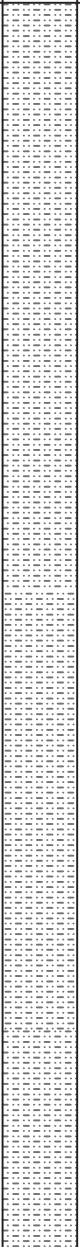
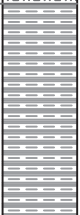
Logged by : Azhar  
Check by : Mahabub

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.													
Bore Hole No. : P1					Existing Ground Level : +4.69m													
Method of Boring : Percussion					Ground/ Water Level : +0.58m													
Boring Dia. : 100mm					Date Started : 02-02-2012													
Depth of Boring : 80m					Date Completed : 05-02-2012													
Legend :					 SAND  SILT  CLAY													
Co-ordinates :																		
Location of Boring : Daudkandi						Blows on spoon				Graphical Representation								
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values								
											10	20	30	40	50	60		
21.0		D21	28.0	Medium dense Grey to light grey silty fine SAND with trace of mica		21.0	8	9	12	21								
22.0		D22				22.0	5	7	11	18								
23.0		D23				23.0	6	7	12	19								
24.0		D24				24.0	5	8	10	18								
25.0		D25				25.0	5	7	9	16								
26.0		D26				26.0	6	6	7	13								
27.0		D27				27.0	4	6	6	12								
28.0		D28				28.0	5	5	6	11								
29.0		D29				29.0	6	7	8	15								
30.0		D30				30.0	10	9	12	21								
31.0		D31				31.0	6	7	10	17								
32.0		D32				32.0	5	7	8	15								
33.0		D33				33.0	6	8	9	17								
34.0		D34				34.0	5	7	9	16								
35.0		D35				35.0	4	7	8	15								
36.0		D36				36.0	4	7	7	14								
37.0		D37	37.0	3	5	7	12											
38.0		D38	38.0	3	5	6	11											
39.0		D39		Stiff to very stiff Grey non plastic SILT with trace of mica		39.0	5	6	7	13								
40.0		D40				40.0	4	6	8	14								

Note : Boring Terminated at 80.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....




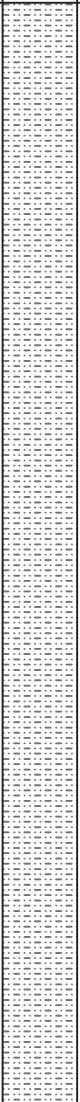

Logged by : Azhar  
Check by : Mahabub

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.														
Bore Hole No. : P1					Existing Ground Level : +4.69m														
Method of Boring : Percussion					Ground/ Water Level : +0.58m														
Boring Dia. : 100mm					Date Started : 02-02-2012														
Depth of Boring : 80.0m					Date Completed : 05-02-2012														
Legend :					 SAND  SILT  CLAY														
Co-ordinates :																			
Location of Boring : Daudkandi						Blows on spoon			Graphical Representation										
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60			
41.0		D41	19.0	Stiff to very stiff Grey non plastic SILT with trace of mica		41.0	6	7	8	15									
42.0		D42				42.0	7	7	9	16									
43.0		D43				43.0	5	6	7	13									
44.0		D44				44.0	6	7	7	14									
45.0		D45				45.0	4	5	7	12									
46.0		D46				46.0	5	6	7	13									
47.0		D47				47.0	6	7	8	15									
48.0		D48				48.0	10	8	7	15									
49.0		D49				49.0	8	9	10	19									
50.0		D50				50.0	7	8	10	18									
51.0		D51				51.0	6	7	7	14									
52.0		D52				52.0	7	8	9	17									
53.0		D53				53.0	6	7	8	15									
54.0		D54				54.0	5	6	7	13									
55.0		D55				55.0	5	6	6	12									
56.0		D56				56.0	4	6	7	13									
57.0		D57				57.0	5	7	8	15									
58.0		D58				18.0	Stiff to very stiff Grey medium plastic CLAY		58.0	8	7	8	15						
59.0		D59							59.0	6	7	7	14						
60.0		D60	60.0	5	6				6	12									

Note : Boring Terminated at 80.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....






Logged by : Azhar  
Check by : Mahabub

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.													
Bore Hole No. : P1					Existing Ground Level : +4.69m													
Method of Boring : Percussion					Ground/ Water Level : +0.58m													
Boring Dia. : 100mm					Date Started : 02-02-2012													
Depth of Boring : 80.0m					Date Completed : 05-02-2012													
Legend :					 SAND  SILT  CLAY													
Co-ordinates :																		
Location of Boring : Daudkandi						Blows on spoon				Graphical Representation								
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60		
61.0		D61	18.0	Stiff to very stiff Grey non plastic SILT with trace of mica		61.0	6	7	9	16								
62.0		D62				62.0	8	12	10	22								
63.0		D63				63.0	10	16	9	25								
64.0		D64				64.0	9	12	14	26								
65.0		D65				65.0	7	11	10	21								
66.0		D66				66.0	8	12	15	27								
67.0		D67				67.0	10	14	17	31								
68.0		D68				68.0	9	13	16	29								
69.0		D69				69.0	8	12	16	28								
70.0		D70				70.0	5	8	9	17								
71.0		D71				71.0	6	7	8	15								
72.0		D72				72.0	6	7	9	16								
73.0		D73				73.0	5	6	8	14								
74.0		D74				74.0	6	7	8	15								
75.0		D75	5.0	Dense to very dense Grey silty fine SAND with trace of mica		75.0	7	8	10	18								
76.0		D76				76.0	10	14	19	33								
77.0		D77				77.0	18	22	28	50								
78.0		D78				78.0	16	23	27	50								
79.0		D79				79.0	20	24	26	50								
80.0		D80				80.0	22	28	22	50								

Note : Boring Terminated at 80.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

End of Boring

Logged by : Azhar  
Check by : Mahabub

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.						
Bore Hole No. : P2					Existing Ground Level : -7.10m						
Method of Boring : Percussion					Ground/ Water Level : -4.48m						
Boring Dia. : 100mm					Date Started : 29-02-2012						
Depth of Boring : 69.0m					Date Completed : 02-03-2012						
Legend :					 SAND  SILT  CLAY						
Co-ordinates :											
Location of Boring : Daudkandi						Blows on spoon				Graphical Representation	
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	
1.0	D1		4.0	Dense Grey to brown fine SAND with trace of mica		1.0	11	14	18	32	
2.0	D2					2.0	18	28	22	50	
3.0	D3					3.0	14	18	20	38	
4.0	D4					4.0	12	14	18	32	
5.0	D5		19.0	Medium dense to dense Grey silty fine SAND with trace of mica		5.0	7	10	12	22	
6.0	D6					6.0	6	8	10	18	
7.0	D7					7.0	4	6	8	14	
8.0	D8					8.0	5	7	8	15	
9.0	D9					9.0	6	8	9	17	
10.0	D10					10.0	6	8	10	18	
11.0	D11					11.0	6	9	12	21	
12.0	D12					12.0	5	8	10	18	
13.0	D13					13.0	5	9	18	27	
14.0	D14					14.0	6	10	18	28	
15.0	D15					15.0	6	10	17	27	
16.0	D16					16.0	8	11	15	26	
17.0	D17					17.0	8	12	16	28	
18.0	D18					18.0	9	12	17	29	
19.0	D19					19.0	10	14	18	32	
20.0	D20					20.0	7	18	26	44	

Note : Boring Terminated at 69.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....

Logged by : Azhar  
Check by : Mahabub




Project : Construction of Meghna-Gumti Bridge						Client : Oriental Consultants Co. Ltd.								
Bore Hole No. : P2						Existing Ground Level : -7.10m								
Method of Boring : Percussion						Ground/ Water Level : -4.48m								
Boring Dia. : 100mm						Date Started : 29-02-2012								
Depth of Boring : 69.0m						Date Completed : 02-03-2012								
Legend :						SAND		SILT		CLAY				
Co-ordinates :														
Location of Boring : Daudkandi						Blows on spoon				Graphical Representation				
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10 20 30 40 50 60			
21.0		D21	9.0	Medium dense to dense Grey silty fine SAND with trace of mica		21.0	6	12	15	27				
22.0		D22				22.0	5	11	14	25				
23.0		D23				23.0	5	5	8	13				
24.0		D24	24.0	5	7	7	14							
25.0		D25	9.0	Stiff to very stiff Grey non plastic SILT with trace of mica		25.0	4	4	5	9				
26.0		D26				26.0	4	5	6	11				
27.0		D27				27.0	5	5	8	13				
28.0		D28				28.0	4	5	7	12				
29.0		D29				29.0	4	4	5	9				
30.0		D30				30.0	4	6	7	13				
31.0		D31				31.0	8	8	9	17				
32.0		D32				32.0	5	7	8	15				
33.0		D33				7.0	Medium dense Grey silty very fine SAND with trace of mica		33.0	5		6	10	16
34.0		D34							34.0	6		7	8	15
35.0		D35	35.0	6	8				9	17				
36.0		D36	36.0	7	7				9	16				
37.0		D37	37.0	6	9				10	19				
38.0		D38	38.0	7	8				9	17				
39.0		D39	39.0	7	6				8	14				
40.0		D40	40.0	6	8				9	17				

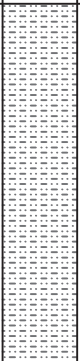

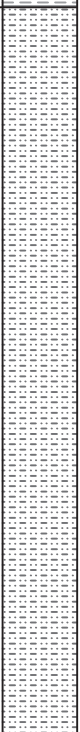
Note : Boring Terminated at 69.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....

Logged by : Azhar  
Check by : Mahabub








<b>Project : Construction of Meghna-Gumti Bridge</b>		<b>Client : Oriental Consultants Co. Ltd.</b>	
Bore Hole No.	: P2	Existing Ground Level	: -7.10m
Method of Boring	: Percussion	Ground/ Water Level	: -4.48m
Boring Dia.	: 100mm	Date Started	: 29-02-2012
Depth of Boring	: 69.0m	Date Completed	: 02-03-2012
Legend :			
		SAND	SILT
			
		CLAY	
Co-ordinates :			

Location of Boring : Daudkandi						Blows on spoon				Graphical Representation								
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60		
41.0		D41	6.0	Very stiff Grey non plastic SILT with trace mica		41.0	6	7	9	16								
42.0		D42				42.0	5	7	8	15								
43.0		D43				43.0	6	8	9	17								
44.0		D44				44.0	5	7	8	15								
45.0		D45				45.0	5	6	7	13								
46.0		D46	5.0	Very stiff Grey medium plastic CLAY		46.0	5	6	6	12								
47.0		D47				47.0	6	7	8	15								
48.0		D48				48.0	6	8	9	17								
49.0		D49				49.0	7	8	10	18								
50.0		D50				50.0	7	7	11	18								
51.0		D51	10.0	Very stiff Grey non plastic SILT with trace of mica		51.0	6	7	10	17								
52.0		D52				52.0	6	8	11	19								
53.0		D53				53.0	7	8	9	17								
54.0		D54				54.0	7	7	12	19								
55.0		D55				55.0	8	9	12	21								
56.0		D56				56.0	8	8	12	20								
57.0		D57				57.0	6	8	9	17								
58.0		D58				58.0	6	8	10	18								
59.0		D59				59.0	7	9	10	19								
60.0		D60				60.0	10	11	13	24								

Note : Boring Terminated at 69.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample






Cont'd.....

Logged by : Azhar  
Check by : Mahabub

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.											
Bore Hole No. : P2					Existing Ground Level : -7.10m											
Method of Boring : Percussion					Ground/ Water Level : -4.48m											
Boring Dia. : 100mm					Date Started : 29-02-2012											
Depth of Boring : 69.0m					Date Completed : 02-03-2012											
Legend :					 SAND  SILT  CLAY											
Co-ordinates :																
Location of Boring : Daudkandi						Blows on spoon				Graphical Representation						
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values						
											10	20	30	40	50	60
61.0		D61	5.0	Medium dense to very dense Grey silty very fine SAND with trace of mica		61.0	10	13	37	50	For 250mm penetration					
62.0		D62				62.0	7	8	10	18						
63.0		D63				63.0	8	10	12	22						
64.0		D64				64.0	7	9	11	20						
65.0		D65				65.0	8	10	13	23						
66.0		D66	4.0	Very dense Grey fine SAND with trace of mica		66.0	50	-	-	50	For 150mm penetration					
67.0		D67				67.0	50	-	-	50	For 150mm penetration					
68.0		D68				68.0	50	-	-	50	For 150mm penetration					
69.0		D69				69.0	50	-	-	50	For 150mm penetration					
70.0		D70				End of Boring										
71.0		D71														
72.0		D72														
73.0		D73														
74.0		D74														
75.0		D75														
76.0		D76														
77.0		D77														
78.0		D78														
79.0		D79														
80.0		D80														

Note : Boring Terminated at 69.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample



Logged by : Azhar  
Check by : Mahabub

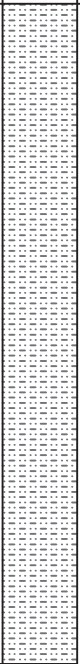
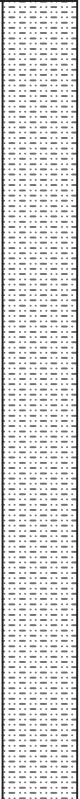
Project : Construction of Meghna-Gumti Bridge						Client : Oriental Consultants Co. Ltd.						
Bore Hole No. : P3						Existing Ground Level : -9.9m						
Method of Boring : Percussion						Ground/ Water Level : -3.51m						
Boring Dia. : 100mm						Date Started : 27-02-2012						
Depth of Boring : 65.0m						Date Completed : 29-02-2012						
Legend :						 SAND		 SILT		 CLAY		
Co-ordinates :												
Location of Boring : Daudkandi						Blows on spoon				Graphical Representation		
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10 20 30 40 50 60	
1.0		D1	3.0	Dense to very dense Grey fine SAND with trace of mica		1.0	12	18	20	38		
2.0		D2				2.0	16	20	22	42		
3.0		D3				3.0	18	38	12	50		
4.0		D4	17.0	Medium dense Grey silty fine SAND with trace of mica		4.0	7	11	14	25		
5.0		D5				5.0	3	5	6	11		
6.0		D6				6.0	4	4	8	12		
7.0		D7				7.0	4	7	12	19		
8.0		D8				8.0	5	8	13	21		
9.0		D9				9.0	5	10	20	30		
10.0		D10				10.0	5	6	8	14		
11.0		D11				11.0	6	7	9	16		
12.0		D12				12.0	5	6	7	13		
13.0		D13				13.0	5	7	8	15		
14.0		D14				14.0	4	6	8	14		
15.0		D15				15.0	5	8	9	17		
16.0		D16				16.0	7	10	12	22		
17.0		D17				17.0	12	14	15	29		
18.0		D18				18.0	9	10	11	21		
19.0		D19				19.0	6	9	10	19		
20.0		D20				20.0	4	7	8	15		

Note : Boring Terminated at 65.0m from EGL  
 D for Disturbed sample  
 UD for Undisturbed sample

Cont'd.....

Logged by : Azhar  
 Check by : Mahabub




Project : Construction of Meghna-Gumti Bridge		Client : Oriental Consultants Co. Ltd.	
Bore Hole No.	: P3	Existing Ground Level	: -9.9m
Method of Boring	: Percussion	Ground/ Water Level	: -3.51m
Boring Dia.	: 100mm	Date Started	: 27-02-2012
Depth of Boring	: 65.0m	Date Completed	: 29-02-2012
Legend :			
		SAND	CLAY
Co-ordinates :			





Location of Boring : Daudkandi						Blows on spoon				Graphical Representation								
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60		
21.0		D21	9.0	Medium stiff to stiff Grey to light grey low plastic SILT		21.0	4	6	7	13								
22.0		D22				22.0	3	4	6	10								
23.0		D23				23.0	3	2	3	5								
24.0		D24				24.0	2	3	4	7								
25.0		D25				25.0	3	4	3	7								
26.0		D26				26.0	3	3	3	6								
27.0		D27				27.0	3	3	4	7								
28.0		D28				28.0	3	4	4	8								
29.0		D29				29.0	4	4	5	9								
30.0		D30	11.0	Medium stiff to stiff Grey to light grey non plastic SILT with few sand		30.0	3	3	4	7								
31.0		D31				31.0	3	3	4	7								
32.0		D32				32.0	3	3	5	8								
33.0		D33				33.0	3	4	4	8								
34.0		D34				34.0	4	4	5	9								
35.0		D35				35.0	5	5	6	11								
36.0		D36				36.0	4	5	4	9								
37.0		D37				37.0	5	4	6	10								
38.0		D38				38.0	4	4	5	9								
39.0		D39				39.0	5	5	6	11								
40.0		D40				40.0	5	6	6	12								

Note : Boring Terminated at 65.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....

Logged by : Azhar  
Check by : Mahabub





<b>Project : Construction of Meghna-Gumti Bridge</b>		<b>Client : Oriental Consultants Co. Ltd.</b>	
Bore Hole No.	: P3	Existing Ground Level	: -9.9m
Method of Boring	: Percussion	Ground/ Water Level	: -3.51m
Boring Dia.	: 100mm	Date Started	: 27-02-2012
Depth of Boring	: 65.0m	Date Completed	: 29-02-2012
Legend :			
		SAND	SILT
			
		CLAY	
Co-ordinates :			

Location of Boring : Daudkandi						Blows on spoon				Graphical Representation								
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60		
41.0		D41	8.0	Stiff to very stiff Grey low to medium plastic CLAY with organic		41.0	4	4	6	10								
42.0		D42				42.0	4	8	9	17								
43.0		D43				43.0	5	7	8	15								
44.0		D44				44.0	5	8	12	20								
45.0		D45				45.0	6	7	10	17								
46.0		D46				46.0	5	8	14	22								
47.0		D47				47.0	7	6	8	14								
48.0		D48				48.0	6	5	8	13								
49.0		D49	5.0	Stiff to very stiff Grey low to medium plastic CLAY		49.0	5	7	9	16								
50.0		D50				50.0	6	7	10	17								
51.0		D51				51.0	7	8	10	18								
52.0		D52				52.0	6	7	9	16								
53.0		D53				53.0	7	9	10	19								
54.0		D54	2.0	Medium dense Grey silty very fine SAND		54.0	5	10	13	23								
55.0		D55				55.0	8	10	10	20								
56.0		D56	4.0	Very stiff to hard Grey medium plastic CLAY, few sand with mica		56.0	17	14	12	26								
57.0		D57				57.0	7	10	12	22								
58.0		D58				58.0	5	8	10	18								
59.0		D59				59.0	6	8	25	33								
60.0		D60				60.0	10	13	24	37								

Note : Boring Terminated at 65.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample





Cont'd.....

Logged by : Azhar  
Check by : Mahabub

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.											
Bore Hole No. : P3					Existing Ground Level : -9.9m											
Method of Boring : Percussion					Ground/ Water Level : -3.51m											
Boring Dia. : 100mm					Date Started : 27-02-2012											
Depth of Boring : 65.0m					Date Completed : 29-02-2012											
Legend :					 SAND	 SILT	 CLAY									
Co-ordinates :																
Location of Boring : Daudkandi						Blows on spoon			Graphical Representation							
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60
61.0		D61	6.0	Dense to very dense Light grey fine SAND with trace of mica		61.0	50	-	-	50	For 150mm penetration					
62.0		D62				62.0	50	-	-	50	For 150mm penetration					
63.0		D63				63.0	50	-	-	50	For 150mm penetration					
64.0		D64				64.0	50	-	-	50	For 150mm penetration					
65.0		D65				65.0	50	-	-	50	For 150mm penetration					
				End of Boring												
66.0		D66														
67.0		D67														
68.0		D68														
69.0		D69														
70.0		D70														
71.0		D71														
72.0		D72														
73.0		D73														
74.0		D74														
75.0		D75														
76.0		D76														
77.0		D77														
78.0		D78														
79.0		D79														
80.0		D80														

Note : Boring Terminated at 65.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample





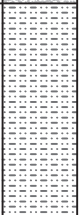
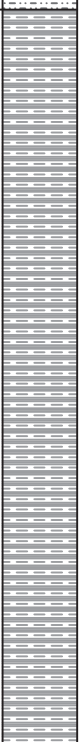
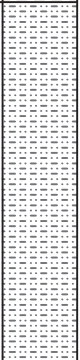
Logged by : Azhar  
Check by : Mahabub

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.						
Bore Hole No. : P4					Existing Ground Level : -8.4m						
Method of Boring : Percussion					Ground/ Water Level : -1.96m						
Boring Dia. : 100mm					Date Started : 24-02-2012						
Depth of Boring : 66.0m					Date Completed : 26-02-2012						
Legend :					 SAND		 SILT		 CLAY		
Co-ordinates :											
Location of Boring : Daudkandi						Blows on spoon				Graphical Representation	
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	
1.0		D1	19.0	Medium dense Light grey to grey silty very fine SAND with trace of mica		1.0	8	10	13	23	
2.0		D2				2.0	10	12	14	26	
3.0		D3				3.0	3	11	13	24	
4.0		D4				4.0	12	15	18	33	
5.0		D5				5.0	14	18	22	40	
6.0		D6				6.0	8	10	14	24	
7.0		D7				7.0	6	8	9	17	
8.0		D8				8.0	3	5	7	12	
9.0		D9				9.0	6	11	13	24	
10.0		D10				10.0	7	9	10	19	
11.0		D11				11.0	5	6	8	14	
12.0		D12				12.0	4	5	9	14	
13.0		D13				13.0	6	6	7	13	
14.0		D14				14.0	6	7	9	16	
15.0		D15				15.0	5	6	10	16	
16.0		D16				16.0	6	8	10	18	
17.0		D17				17.0	9	6	6	12	
18.0		D18				18.0	6	7	9	16	
19.0		D19				19.0	5	7	8	15	
20.0		D20				20.0	11	38	12	50	

Note : Boring Terminated at 66.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....

Logged by : Azhar  
Check by : Mahabub




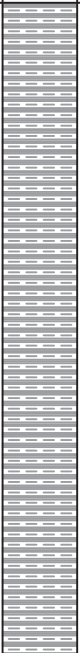
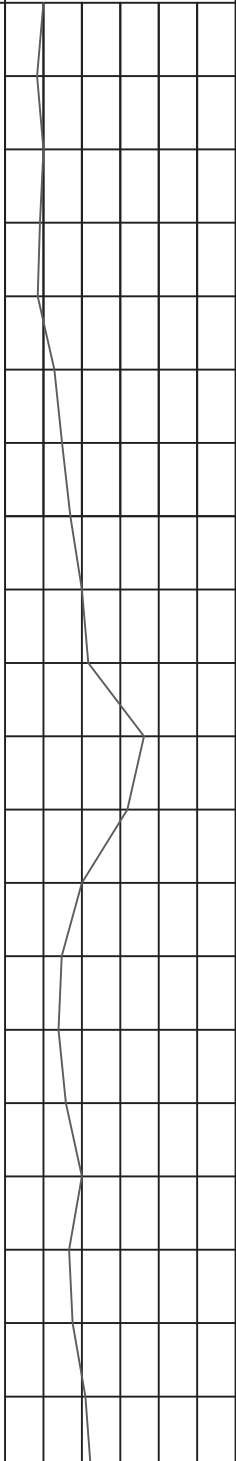
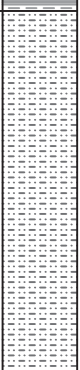
Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.													
Bore Hole No. : P4					Existing Ground Level : -8.4m													
Method of Boring : Percussion					Ground/ Water Level : -1.96m													
Boring Dia. : 100mm					Date Started : 24-02-2012													
Depth of Boring : 66.0m					Date Completed : 26-02-2012													
Legend :					 SAND  SILT  CLAY													
Co-ordinates :																		
Location of Boring : Daudkandi						Blows on spoon				Graphical Representation								
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60		
21.0		D21	3.0	Very dense Grey silty fine SAND with trace of mica		21.0	20	22	28	50	For 250mm penetration							
22.0		D22				22.0	20	23	27	50	For 250mm penetration							
23.0		D23	3.0	Stiff to very stiff Grey non plastic SILT with trace of mica		23.0	7	8	10	18								
24.0		D24				24.0	5	6	7	13								
25.0		D25				25.0	5	5	7	12								
26.0		D26				26.0	5	6	8	14								
27.0		D27				27.0	6	7	8	15								
28.0		D28				28.0	6	8	9	17								
29.0		D29				29.0	7	10	8	18								
30.0		D30	10.0	Stiff to very stiff Grey low plastic CLAY		30.0	6	7	9	16								
31.0		D31				31.0	5	6	8	14								
32.0		D32				32.0	4	5	6	11								
33.0		D33				33.0	5	6	6	12								
34.0		D34				34.0	5	6	8	14								
35.0		D35				35.0	4	6	7	13								
36.0		D36				14.0	Stiff to very stiff Light grey non plastic SILT with trace of mica		36.0	4	5	6	11					
37.0		D37							37.0	5	5	7	12					
38.0		D38							38.0	5	6	6	12					
39.0		D39							39.0	4	5	6	11					
40.0		D40	40.0	4	5				5	10								

Note : Boring Terminated at 66.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....

Logged by : Azhar  
Check by : Mahabub





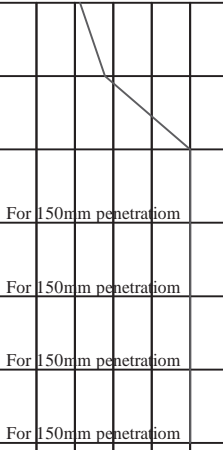


Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.										
Bore Hole No. : P4					Existing Ground Level : -8.4m										
Method of Boring : Percussion					Ground/ Water Level : -1.96m										
Boring Dia. : 100mm					Date Started : 24-02-2012										
Depth of Boring : 66.0m					Date Completed : 26-02-2012										
Legend :					 SAND  SILT  CLAY										
Co-ordinates :															
Location of Boring : Daudkandi						Blows on spoon				Graphical Representation					
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10 20 30 40 50 60				
41.0		D41	2.0	Stiff to very stiff Grey low plastic CLAY		41.0	5	4	4	8					
42.0		D42				42.0	4	5	5	10					
43.0		D43				43.0	5	4	5	9					
44.0		D44				44.0	3	4	4	8					
45.0		D45				45.0	5	6	7	13					
46.0		D46				46.0	5	7	8	15					
47.0		D47				47.0	6	8	9	17					
48.0		D48				48.0	6	9	11	20					
49.0		D49				49.0	8	10	12	22					
50.0		D50				10.0	Very stiff to hard Grey non plastic SILT with trace of mica		50.0	9		12	25	37	
51.0		D51	51.0	12	14				18	32					
52.0		D52	52.0	8	9				11	20					
53.0		D53	53.0	6	7				8	15					
54.0		D54	54.0	5	6				8	14					
55.0		D55	55.0	6	7				9	16					
56.0		D56	56.0	6	8				12	20					
57.0		D57	57.0	5	8				9	17					
58.0		D58	58.0	6	8				10	18					
59.0		D59	59.0	7	9				12	21					
60.0		D60	60.0	8	10	12	22								

Note : Boring Terminated at 66.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample





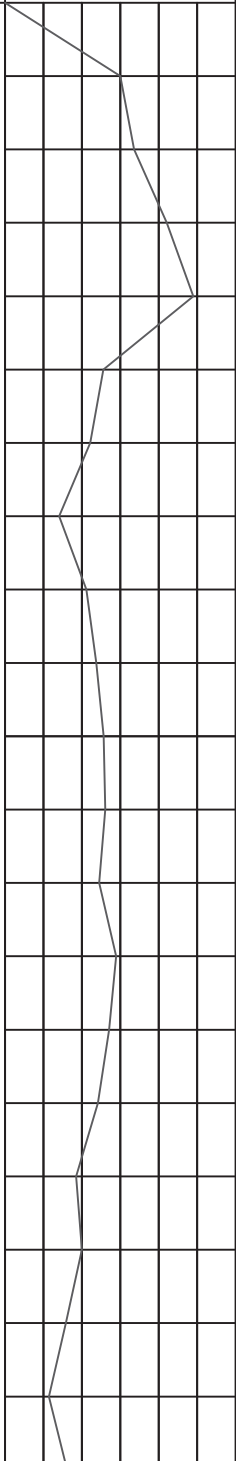

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Logged by : Azhar  
Check by : Mahabub

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.							
Bore Hole No. : P4					Existing Ground Level : -8.4m							
Method of Boring : Percussion					Ground/ Water Level : -1.96m							
Boring Dia. : 100mm					Date Started : 24-02-2012							
Depth of Boring : 66.0m					Date Completed : 26-02-2012							
Legend :					 SAND  SILT  CLAY							
Co-ordinates :												
Location of Boring : Daudkandi					Blows on spoon				Graphical Representation			
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10 20 30 40 50 60	
61.0		D61	5.0	Very dense Grey silty fine SAND with trace of mica		61.0	10	11	17	28		
62.0		D62			62.0	19	15	35	50			
63.0		D63			63.0	-	-	50	For 150mm penetration			
64.0		D64			64.0	-	-	50	For 150mm penetration			
65.0		D65			65.0	-	-	50	For 150mm penetration			
66.0		D66			66.0	-	-	50	For 150mm penetration			
67.0		D67		End of Boring								
68.0		D68										
69.0		D69										
70.0		D70										
71.0		D71										
72.0		D72										
73.0		D73										
74.0		D74										
75.0		D75										
76.0		D76										
77.0		D77										
78.0		D78										
79.0		D79										
80.0		D80										

Note : Boring Terminated at 66.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample





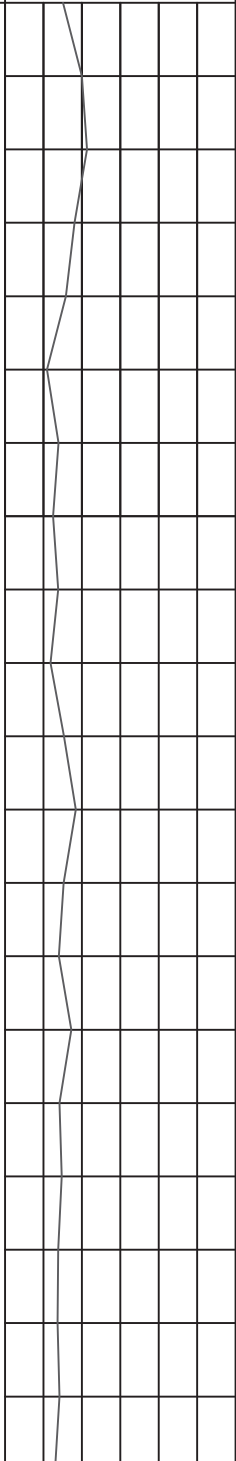

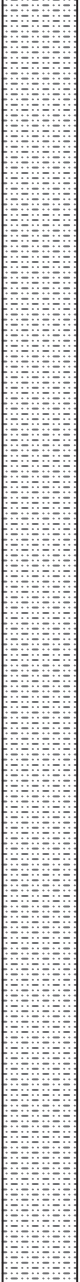
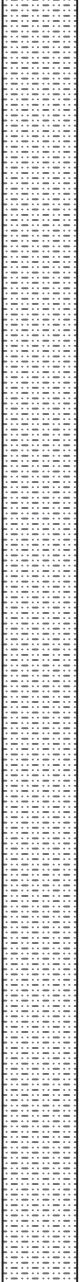
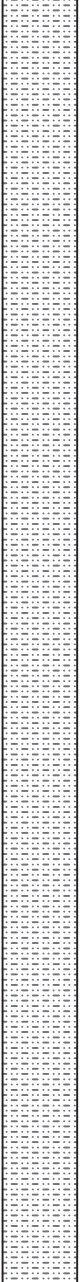
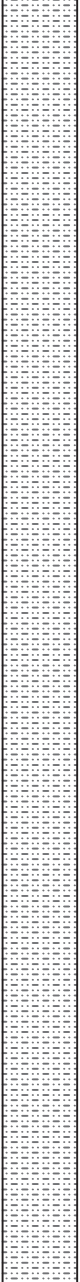
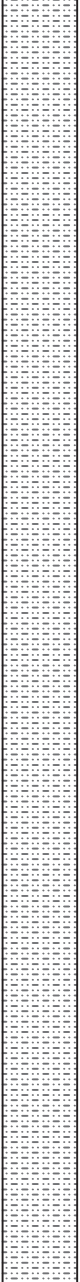
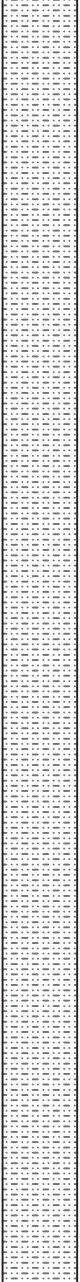
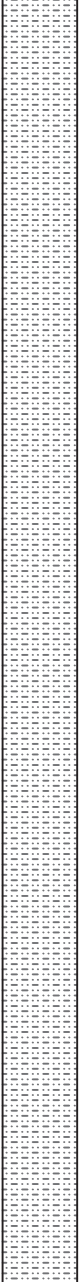
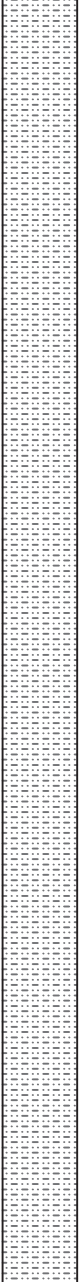
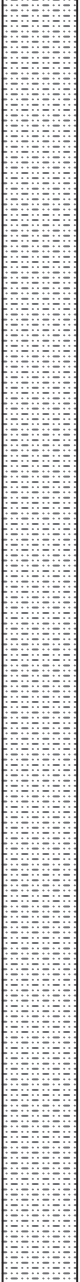
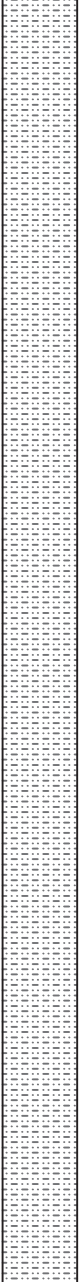
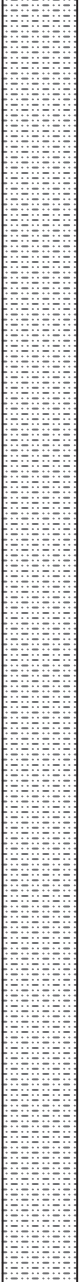
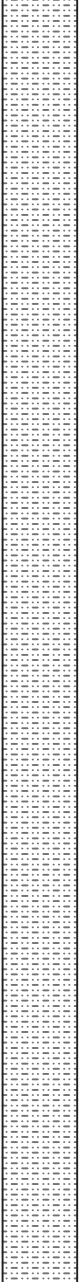
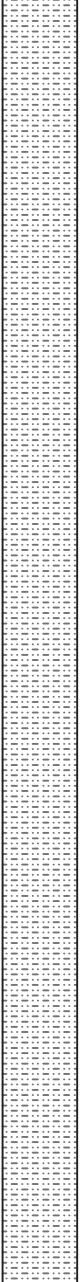
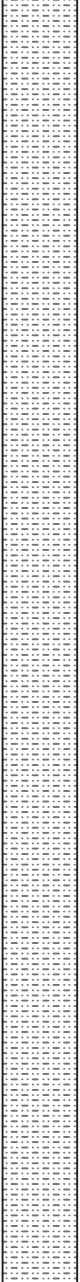
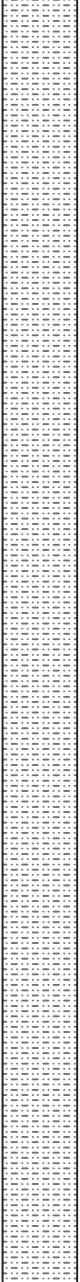
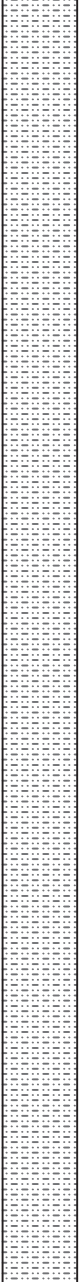
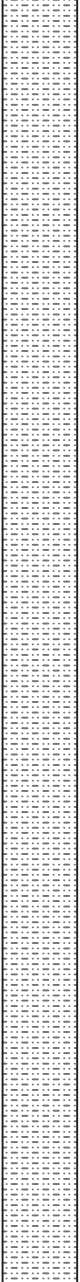
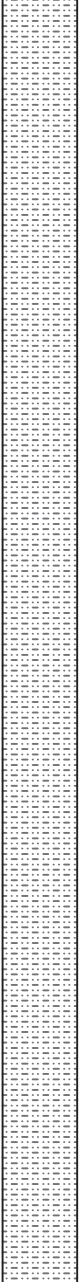
Logged by : Azhar  
Check by : Mahabub

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.						
Bore Hole No. : P5					Existing Ground Level : -6.7m						
Method of Boring : Percussion					Ground/ Water Level : -1.83m						
Boring Dia. : 100mm					Date Started : 22-02-2012						
Depth of Boring : 67.0m					Date Completed : 24-02-2012						
Legend :					 SAND  SILT  CLAY						
Co-ordinates :											
Location of Boring : Daudkandi						Blows on spoon				Graphical Representation	
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	
1.0		D1	5.0	Dense Light grey to grey silty fine SAND with trace of mica		1.0	5	12	18	30	
2.0		D2				2.0	8	15	18	33	
3.0		D3				3.0	12	18	24	42	
4.0		D4				4.0	14	21	28	49	
5.0		D5				5.0	8	12	14	26	
6.0		D6	17.0	Medium dense Light grey to grey silty fine SAND with trace of mica		6.0	7	10	12	22	
7.0		D7				7.0	5	7	7	14	
8.0		D8				8.0	7	9	12	21	
9.0		D9				9.0	8	10	13	23	
10.0		D10				10.0	6	12	15	27	
11.0		D11				11.0	5	13	14	27	
12.0		D12				12.0	6	12	13	25	
13.0		D13				13.0	6	14	15	29	
14.0		D14				14.0	7	13	14	27	
15.0		D15				15.0	8	11	13	24	
16.0		D16				16.0	10	12	7	19	
17.0		D17				17.0	7	10	10	20	
18.0		D18				18.0	6	8	9	17	
19.0		D19				19.0	5	6	5	11	
20.0		D20				20.0	6	7	9	16	

Note : Boring Terminated at 67.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....




Logged by : Azhar  
Check by : Mahabub


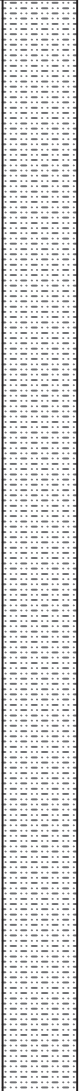
Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.										
Bore Hole No. : P5					Existing Ground Level : -6.7m										
Method of Boring : Percussion					Ground/ Water Level : -1.83m										
Boring Dia. : 100mm					Date Started : 22-02-2012										
Depth of Boring : 67.0m					Date Completed : 24-02-2012										
Legend :					 SAND  SILT  CLAY										
Co-ordinates :															
Location of Boring : Daudkandi					Blows on spoon				Graphical Representation						
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10 20 30 40 50 60				
21.0		D21				21.0	7	9	11	20					
22.0		D22				22.0	8	10	11	21					
23.0		D23				23.0	7	8	10	18					
24.0		D24				24.0	6	7	9	16					
25.0		D25				25.0	3	5	6	11					
26.0		D26	19.0	Stiff to very stiff Light grey to grey non plastic SILT with trace of mica		26.0	4	6	7	13					
27.0		D27				27.0	4	5	7	12					
28.0		D28				28.0	5	6	8	14					
29.0		D29				29.0	4	5	7	12					
30.0		D30				30.0	6	7	9	16					
31.0		D31				31.0	6	8	10	18					
32.0		D32				32.0	5	7	8	15					
33.0		D33				33.0	5	6	8	14					
34.0		D34				34.0	6	8	9	17					
35.0		D35				35.0	5	6	8	14					
36.0		D36				36.0	6	7	8	15					
37.0		D37				37.0	4	6	7	13					
38.0		D38				38.0	5	7	6	13					
39.0		D39				39.0	5	6	8	14					
40.0		D40				40.0	6	6	7	13					

Note : Boring Terminated at 67.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....

Logged by : Azhar  
Check by : Mahabub




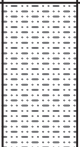
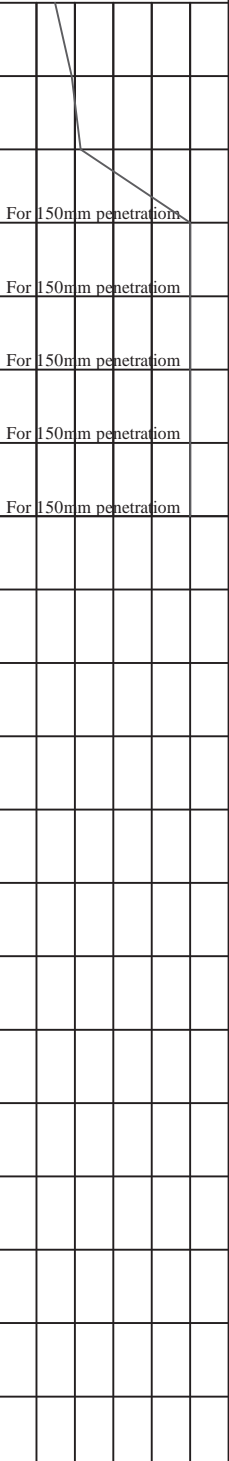
<b>Project : Construction of Meghna-Gumti Bridge</b>		<b>Client : Oriental Consultants Co. Ltd.</b>	
Bore Hole No.	: P5	Existing Ground Level	: -6.7m
Method of Boring	: Percussion	Ground/ Water Level	: -1.83m
Boring Dia.	: 100mm	Date Started	: 22-02-2012
Depth of Boring	: 67.0m	Date Completed	: 24-02-2012
Legend :			
		SAND	SILT
			CLAY
Co-ordinates :			

Location of Boring : Daudkandi						Blows on spoon				Graphical Representation								
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60		
41.0		D41	4.0	Stiff Dark grey low to medium plastic CLAY with organic		41.0	5	7	7	14								
42.0		D42				42.0	4	4	6	10								
43.0		D43				43.0	5	6	6	12								
44.0		D44				44.0	5	6	7	13								
45.0		D45				45.0	6	8	7	15								
46.0		D46	4.0	Stiff to Very stiff Grey non plastic SILT with trace of mica		46.0	4	5	6	11								
47.0		D47				47.0	6	6	7	13								
48.0		D48				48.0	5	6	5	11								
49.0		D49				49.0	5	7	6	13								
50.0		D50				50.0	7	8	9	17								
51.0		D51				51.0	6	8	8	16								
52.0		D52				52.0	5	7	8	15								
53.0		D53				53.0	5	6	8	14								
54.0		D54				54.0	5	7	8	15								
55.0		D55				55.0	5	6	7	13								
56.0		D56	10.0			56.0	6	6	8	14								
57.0		D57				57.0	5	6	6	12								
58.0		D58				58.0	7	8	7	15								
59.0		D59				59.0	6	9	7	16								
60.0		D60				60.0	5	7	7	14								

Note : Boring Terminated at 67.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample






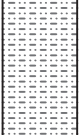

Cont'd.....

Logged by : Azhar  
Check by : Mahabub

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.									
Bore Hole No. : P5					Existing Ground Level : -6.7m									
Method of Boring : Percussion					Ground/ Water Level : -1.83m									
Boring Dia. : 100mm					Date Started : 22-02-2012									
Depth of Boring : 67.0m					Date Completed : 24-02-2012									
Legend :					 SAND  SILT  CLAY									
Co-ordinates :														
Location of Boring : Daudkandi					Blows on spoon				Graphical Representation					
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10 20 30 40 50 60			
61.0		D61	5.0	Very dense Grey silty fine SAND with trace of mica		61.0	8	9	10	19				
62.0		D62			62.0	7	10	11	21					
63.0		D63			63.0	22	50	-	50	For 150mm penetration				
64.0		D64			64.0	50	-	-	50	For 150mm penetration				
65.0		D65			65.0	50	-	-	50	For 150mm penetration				
66.0		D66			66.0	50	-	-	50	For 150mm penetration				
67.0		D67			67.0	50	-	-	50	For 150mm penetration				
68.0		D68				End of Boring								
69.0		D69												
70.0		D70												
71.0		D71												
72.0		D72												
73.0		D73												
74.0		D74												
75.0		D75												
76.0		D76												
77.0		D77												
78.0		D78												
79.0		D79												
80.0		D80												

Note : Boring Terminated at 67.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample




Logged by : Azhar  
Check by : Mahabub


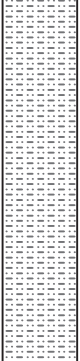

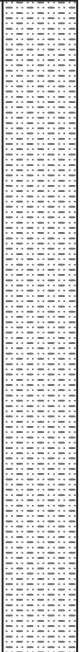
Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.						
Bore Hole No. : P6					Existing Ground Level : -6.1m						
Method of Boring : Percussion					Ground/ Water Level : -3.8m						
Boring Dia. : 100mm					Date Started : 20-02-2012						
Depth of Boring : 66.0m					Date Completed : 22-02-2012						
Legend :					 SAND  SILT  CLAY						
Co-ordinates :											
Location of Boring : Daudkandi						Blows on spoon				Graphical Representation	
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10 20 30 40 50 60
1.0	D1		3.0	Vrey dense to dense Light grey fine SAND with trace of mica		1.0	9	24	31	55	
2.0	D2					2.0	8	10	27	37	
3.0	D3					3.0	9	11	22	33	
4.0	D4		11.0	Medium dense Light grey to grey fine SAND with trace of mica		4.0	8	10	12	22	
5.0	D5					5.0	6	8	10	18	
6.0	D6					6.0	5	7	8	15	
7.0	D7					7.0	6	7	9	16	
8.0	D8					8.0	5	6	8	14	
9.0	D9					9.0	7	8	10	18	
10.0	D10					10.0	6	7	8	15	
11.0	D11					11.0	6	7	9	16	
12.0	D12					12.0	8	9	10	19	
13.0	D13					13.0	7	8	10	18	
14.0	D14					14.0	6	7	8	15	
15.0	D15		2.0	Stiff Grey non plastic SILT		15.0	3	4	5	9	
16.0	D16					16.0	4	6	7	13	
17.0	D17					17.0	4	7	8	15	
18.0	D18		9.0	Medium dense Grey silty fine SAND with trace of mica		18.0	5	8	10	18	
19.0	D19					19.0	6	10	12	22	
20.0	D20					20.0	5	11	12	23	

Note : Boring Terminated at 66.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....

Logged by : Azhar  
Check by : Mahabub

<b>Project : Construction of Meghna-Gumti Bridge</b>		<b>Client : Oriental Consultants Co. Ltd.</b>	
Bore Hole No.	: P6	Existing Ground Level	: -6.1m
Method of Boring	: Percussion	Ground/ Water Level	: -3.8m
Boring Dia.	: 100mm	Date Started	: 20-02-2012
Depth of Boring	: 66.0m	Date Completed	: 22-02-2012
Legend :			
		SAND	SILT
			CLAY
Co-ordinates :			




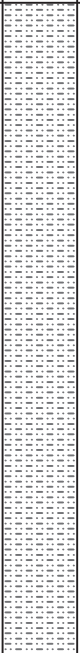

Location of Boring : Daudkandi						Blows on spoon				Graphical Representation								
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60		
21.0		D21	5.0	Medium dense Grey silty fine SAND with trace of mica		21.0	7	12	14	26								
22.0		D22				22.0	7	11	12	23								
23.0		D23				23.0	6	8	10	18								
24.0		D24	5.0	Stiff Grey non plastic SILT with trace of mica		24.0	6	6	8	14								
25.0		D25				25.0	4	6	6	12								
26.0		D26				26.0	5	7	6	13								
27.0		D27				27.0	5	6	7	13								
28.0		D28				28.0	5	7	7	14								
29.0		D29	3.0	Stiff Grey medium plastic CLAY		29.0	4	8	8	16								
30.0		D30				30.0	6	7	8	15								
31.0		D31				31.0	5	6	7	13								
32.0		D32	18.0	Stiff to very stiff Grey non plastic SILT with trace of mica		32.0	6	7	7	14								
33.0		D33				33.0	5	6	6	12								
34.0		D34				34.0	4	5	5	10								
35.0		D35				35.0	4	5	7	12								
36.0		D36				36.0	3	5	6	11								
37.0		D37				37.0	4	6	4	10								
38.0		D38				38.0	5	5	6	11								
39.0		D39				39.0	5	4	5	9								
40.0		D40	40.0	4	5	5	10											

Note : Boring Terminated at 66.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....

Logged by : Azhar  
Check by : Mahabub







Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.													
Bore Hole No. : P6					Existing Ground Level : -6.1m													
Method of Boring : Percussion					Ground/ Water Level : -3.8m													
Boring Dia. : 100mm					Date Started : 20-02-2012													
Depth of Boring : 66.0m					Date Completed : 22-02-2012													
Legend :					 SAND  SILT  CLAY													
Co-ordinates :																		
Location of Boring : Daudkandi						Blows on spoon			Graphical Representation									
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60		
41.0		D41	4.0	Stiff to very stiff Grey non plastic SILT with trace of mica		41.0	5	5	6	11								
42.0		D42				42.0	4	4	6	10								
43.0		D43				43.0	5	4	5	9								
44.0		D44				44.0	4	5	5	10								
45.0		D45				45.0	5	5	6	11								
46.0		D46				46.0	6	7	10	17								
47.0		D47				47.0	6	8	13	21								
48.0		D48				48.0	7	10	17	27								
49.0		D49				49.0	6	9	12	21								
50.0		D50	7.0	Stiff to very stiff Dark grey medium plastic CLAY with organic matter		50.0	5	8	10	18								
51.0		D51				51.0	6	7	9	16								
52.0		D52				52.0	5	6	8	14								
53.0		D53				53.0	6	6	7	13								
54.0		D54				54.0	6	7	8	15								
55.0		D55				55.0	5	7	7	14								
56.0		D56	56.0	4	5	6	11											
57.0		D57	57.0	5	5	7	12											
58.0		D58	58.0	6	7	7	14											
59.0		D59	59.0	8	8	10	18											
60.0		D60	60.0	7	8	9	17											

Note : Boring Terminated at 66.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Cont'd.....

Logged by : Azhar  
Check by : Mahabub

Project : Construction of Meghna-Gumti Bridge					Client : Oriental Consultants Co. Ltd.											
Bore Hole No. : P6					Existing Ground Level : -6.1m											
Method of Boring : Percussion					Ground/ Water Level : -3.8m											
Boring Dia. : 100mm					Date Started : 20-02-2012											
Depth of Boring : 66.0m					Date Completed : 22-02-2012											
Legend :					 SAND	 SILT	 CLAY									
Co-ordinates :																
Location of Boring : Daudkandi						Blows on spoon			Graphical Representation							
Depth below G.L. (m)	Type of Sample	Sample No.	Thickness in (m)	DESCRIPTION OF SOIL STRATA	Symbol	SPT intervals (m)	15 cm penetration	15 cm penetration	15 cm penetration	N-Values	10	20	30	40	50	60
61.0		D61	6.0	Very dense Grey silty fine SAND with trace of mica		61.0	23	50	-	50	For 150mm penetration					
62.0		D62				62.0	50	-	-	50	For 150mm penetration					
63.0		D63				63.0	50	-	-	50	For 150mm penetration					
64.0		D64				64.0	50	-	-	50	For 150mm penetration					
65.0		D65				65.0	50	-	-	50	For 150mm penetration					
66.0		D66				66.0	57	-	-	57	For 150mm penetration					
67.0		D67		End of Boring												
68.0		D68														
69.0		D69														
70.0		D70														
71.0		D71														
72.0		D72														
73.0		D73														
74.0		D74														
75.0		D75														
76.0		D76														
77.0		D77														
78.0		D78														
79.0		D79														
80.0		D80														

Note : Boring Terminated at 66.0m from EGL  
D for Disturbed sample  
UD for Undisturbed sample

Logged by : Azhar  
Check by : Mahabub