Department of Civil Engineering, BUET

SL-394

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: Mithamoin

Test No.: 1333

Date: 9/6/21

Tested by:

Hydrometer No. 152H 867452

Location:

Boring No. : 01 Sample No. D - 32, 33, 34

Meniscus Correction:

Sample Depth : 48, 49.5, 51

W_s, in g 50.0

Specific Gravity, G_s

RV 2.5

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{\frac{Z, in\ cm}{t\ in\ min}}$	D in mm	N
10/6		1/4	45	-2.5	29						
		1/2	41		〃						
		1	34		〃						
		2	29		〃						
		4	26		〃						
		8	23.5		〃						
		15	20		〃						
		30	18		〃						
	10:12	60	16.5		〃						
	11:12	120	16		〃						
	1:12	240	13.5		29						
	5:12	480	12		〃						
11/6	9:30 Am		11		28						
12/6	9:46 Am		9.0		29						
13/6	8:55 Am		8		29						

SI-394

Department of Civil Engineering, BUET

Sieve Analysis

Container: 1333 / 1393

Job No.: _____

Soil Sample _____

Location: _____

Boring No: 01

Sample No.: D-32, 33, 34

Sample depth: _____

Wt. of Container, + Soil _____

Wt. of Container _____

Wt. of Soil _ 100.0 gm

Performed by: _____

Date: 08/06/2021

H

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50				0.3			
100				3.0			
200				8.2			
Pan				88.5			
				100			

Brownish silty clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

11.5

SURVEY2000 1333
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 01 Sample type: D32
Depth: 48.0m Signature:

Cont No=1333

Mithamain

Chnical Engineering Laboratory
ment of Civil Engineering, BUET

Atterberg Limit Test

Test No.:
Date: 6/6/21
Tested by:

B.H: 01
Sample: D-32, 33, 34
Depth: 48, 49.5, 51 M

Brownish silty clay

Liquid Limit					
No. of Blows	15	20	25	30	35
Container No.	2059	845	2271	405	875
Wt. Container, gm	10.88	7.75	9.05	6.87	7.24
Wt. Container + Wet Soil	48.66	47.51	45.41	50.23	44.27
Wt. Container + Dry Soil	37.25	35.75	34.88	37.94	34.02
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Plastic Limit					
Container No.	2063	2062	2227		
Wt. Container, gm	9.32	9.14	10.21		
Wt. Container + Wet Soil	45.08	47.36	46.61		
Wt. Container + Dry Soil	38.88	40.77	40.32		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H
D

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

(2)

135

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

SP-394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 04 Sample No. UD-1

Sample Depth : 2.10 - 2.55 M

Specific Gravity, G_s _____

Test No.: _____

Date: 24/4/21

Tested by: _____

Hydrometer No. 152 H 867452

Meniscus Correction: _____

W_s, in g _____

1271

Rr = 2

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z, in cm	$\sqrt{\frac{Z, in\ cm}{t\ in\ min}}$	D in mm	N
25/4		1/4	49	-3	31						
		1/2	47.5		〃						
		1	46		〃						
		2	44		〃						
		4	40		〃						
		8	36		〃						
		15	32		〃						
		30	27		31						
	10:41	60	22.5		〃						
	11:41	120	18		〃						
	1:41	240	16		〃						
	5:41	480	13.5		〃						
26/4	9:32	Am	11		31						
27/4	9:23	Am	8.5		32						
28/4	9:24	Am	7		32						

SP-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: _____

Sample No.: _____

Sample depth: _____

Container 127/797

Wt. of Container + Soil _____

Wt. of Container: _____

Wt. of Soil 100.0 gm

Performed by: _____

Date: 24/4/2021

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				0.7			
200				0.6			
Pan				98.7			
				100			

Gray silty clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

SP-394

cont:1271

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample
B.H: 04
Sample: UD-1
Depth: 2.10 - 2.55

Test No.:
Date: 19/09/2021
Tested by:

Liquid Limit					
No. of Blows	15	19	25	30	35
Container No.	122	2245	2187	003	2278
Wt. Container, gm	7.56	9.90	9.51	7.49	9.11
Wt. Container + Wet Soil	33.68	37.30	36.75	36.43	37.94
Wt. Container + Dry Soil	25.65	29.02	28.71	28.08	29.71
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	2215	145	2045		
Wt. Container, gm	9.17	7.11	10.36		
Wt. Container + Wet Soil	37.90	36.30	41.28		
Wt. Container + Dry Soil	32.47	30.79	35.46		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

Mithamain

S1-394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 04 Sample No. D-30, 31, 32

Sample Depth : 45, 46.5, 48 m

Specific Gravity, G_s _____

Test No.: _____

Date: _____

Tested by: _____

Hydrometer No. 152H867452

Meniscus Correction: _____

W_s, in g 50

745

R8=2

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm / t\ in\ min}$	D in mm	N
19/4		1/4	50	-3	30						
		1/2	48		30						
		1	44		〃						
		2	38		〃						
		4	33		〃						
		8	26		〃						
		15	21.5		〃						
		30	17		〃						
	11:06	60	13.5		30.5						
	1:06	120	11		〃						
	2:06	240	8.5		31						
	6:02	480	8.0		〃						
20/4	9:26 Am		7.0		〃						
21/4	9:23 Am		5.5								
22/4	9:21 Am		5.5		30						

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ED

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

SL-394

Job No.: _____

Soil Sample _____

Location: _____

Boring No: 04

Sample No.: D-30, 31, 32

Sample depth: 45, 46.5, 48 m

Container: 745 / 1328

Wt. of Container + Soil _____

Wt. of Container: _____

Wt. of Soil 100.0 gm

Performed by: _____

Date: 18/04/21

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100							
200				2.7			
Pan				97.3			
				100			

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

H

Silty clay

2.7

SP-394

cont: 745

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
B.H: 04
Sample: 30, 31, 32
Depth: 45, 46.5, 48 M

Test No.:
Date: 15/4/2024
Tested by:

Liquid Limit					
No. of Blows	15	20	25	29	35
Container No.	883	48	10	910	100
Wt. Container, gm	11.27	6.88	7.41	7.12	7.55
Wt. Container + Wet Soil	41.08	35.14	40.86	43.42	39.48
Wt. Container + Dry Soil	32.66	27.29	31.80	33.68	31.08
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	866	8	2321		
Wt. Container, gm	7.45	7.33	10.89		
Wt. Container + Wet Soil	40.03	38.20	43.67		
Wt. Container + Dry Soil	33.88	32.34	37.36		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

ED

Mithamai'on

Department of Civil Engineering, BUET

S/-394

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 05 Sample No. ~~D~~ D-32, 33

Sample Depth : 48, 49.5 M

Specific Gravity, G_s _____

Test No.: _____

Date: _____

Tested by: _____

Hydrometer No. 152H867452

Meniscus Correction: _____

W_s, in g : 50

1039

RR=2

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{\frac{Z, in\ cm}{t\ in\ min}}$	D in mm	N
19/4		1/4	49	-3	30						
		1/2	47		30						
		1	43		4						
		2	38.5		1						
		4	35.5		4						
		8	30.5		11						
		15	26.5		4						
		30	22.5		4						
	10:50	60	19.5		30.5						
	11:50	120	16		11						
	1:50	240	14		31						
	5:50	480	12		1						
20/4	9:25 Am		10		31						
21/4	9:20 Am		9		31						
22/4	9:18 Am		8.5		30						

ED

Department of Civil Engineering, BUET

SL-394

Sieve Analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: 05

Sample No.: D-32, 33

Sample depth: 48, 49.5 M

Container 1039/1107

Wt. of Container, + Soil _____

Wt. of Container: _____

Wt. of Soil 100.0 gm

Performed by: _____

Date: 18/04/21

H

grey silty clay

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				0.9			
200				2.8			
Pan				96.3			
				100			

D_{10} =

3.7 D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

SI-394

Cont: 1039

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample
B.H: 05
Sample: D-32, 33
Depth: 48., 49.5 m

Test No.:
Date: 15/04/2021
Tested by:

Liquid Limit					
No. of Blows	15	19	25	30	35
Container No.	781	409	2251	2295	2140
Wt. Container, gm	7.20	7.26	8.86	9.90	10.60
Wt. Container + Wet Soil	42.96	44.72	43.04	45.64	47.72
Wt. Container + Dry Soil	32.15	33.65	33.23	35.53	37.39
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	2075	2210	301		
Wt. Container, gm	9.44	9.25	7.33		
Wt. Container + Wet Soil	45.78	42.60	44.61		
Wt. Container + Dry Soil	39.29	36.63	38.01		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Shrinkage Limit test:

Dish No.	=	Wt. displaced mercury	=
Wt. of Dish	=	Volume of displaced mercury	=
Wt. Dish + Wet Soil	=	Vol. of dish	=
Wt. Dish + Dry Soil	=	Volume of dry soil pat	=
Wt. Dry Soil Pat	=	Shrinkage Limit	=

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

(ED)

S1-394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____ Test No.: _____

Date: _____

Tested by: _____

Location: _____ Hydrometer No. 152H867452

Boring No. : 06 Sample No. D-32,33 Meniscus Correction: _____

Sample Depth : 48, 49.5 M W_s, in g 50

Specific Gravity, G_s _____

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{\frac{Z_r \text{ in cm}}{t \text{ in min}}}$	D in mm	N
19/4		1/4	48	-3	30						
		1/2	46.5		30						
		1	41.5		4						
		2	36.5		4						
		4	32.5		4						
		8	29.5		4						
		15	26		4						
		30	22.5		4						
	10:54	60	20		30.5						
	11:54	120	17		11						
	1:54	240	15.5		31						
	5:54	480			1						
20/4	9:25	Am	12.5		31						
21/4	9:21	Am	10.5		31.						
22/4	9:19	Am	10.5		30						

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

SL-394

Sieve Analysis

Container: 904/854

Job No.: _____

Soil Sample _____

Location: _____

Boring No: 06

Sample No.: D-32, 33

Sample depth: 48, 49.5 m

Wt. of Container + Soil _____

Wt. of Container: _____

Wt. of Soil: 100.0 gm

Performed by: _____

Date: _____

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				0.5			
200				7.8			
Pan				91.7			
				100			

H

grey

silty

clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

8-394

Cont: 904

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample
B.H: 06
Sample: D-32,33
Depth: 48, 49.5 m

Test No.:
Date: 15/04/2024
Tested by:

Liquid Limit					
No. of Blows	15	19	24	30	35
Container No.	872	841	408	724	9023
Wt. Container, gm	7.04	7.28	7.30	7.44	10.89
Wt. Container + Wet Soil	46.80	44.70	47.07	42.60	48.67
Wt. Container + Dry Soil	36.28	35.00	36.91	33.78	39.34
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	2142	757	768		
Wt. Container, gm	9.44	7.02	10.68		
Wt. Container + Wet Soil	43.07	40.01	44.35		
Wt. Container + Dry Soil	37.63	34.68	38.91		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughnes s Index

Remarks:

ED

SL-394

(62)

Mitharmain.

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

627

Soil Sample: _____

Test No.: _____

Date: _____

Tested by: _____

Hydrometer No. 152 H867452

Location: _____

Meniscus Correction: _____

Boring No. : 07 Sample No. UD-1

W_s, in g 50

Sample Depth : 2.43-2.93 M

Specific Gravity, G_s _____

Rs=2

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z_r in cm	$\sqrt{Z_r \text{ in cm}}$ / t in min	D in mm	N
6/5		1/4	49.5	-3	29						
		1/2	47.5		〃						
		1	47		〃						
		2	46.5		〃						
		4	45.5		〃						
		8	43.5		〃						
		15	43		29						
		30	41.5		〃						
	10:46	60	38.5		〃						
	11:46	120	36		29.5						
	1:46	240	33		〃						
	5:9	480	30		〃						
7/5	9:23		22.5		30						
8/5	9:20	Am	18		30.						
9/5	9:10	Am	16		30						

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(21)

81-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: 07

Sample No.: UD-1

Sample depth: _____

Container: 627/907

Wt. of Container, + Soil _____

Wt. of Container: _____

Wt. of Soil 100.0 gm

Performed by: _____

Date: 5/5/21

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100							
200				0.3			
Pan				99.7			
				100.0			

Brownish silty clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

Mithamain project Cont No = 627

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

SL-394
(62)

Atterberg Limit Test

Soil Sample
B.H: 7
Sample: UD-1
Depth: 2.43-2.93 M

Test No.:
Date: 2/5/21
Tested by:

Brownish grey silty clay

Liquid Limit					
No. of Blows	15	19	25	30	35
Container No.	2315	2195	2188	2127	2245
Wt. Container, gm	8.88	10.29	9.61	9.95	9.92
Wt. Container + Wet Soil	48.57	48.50	46.84	48.63	41.96
Wt. Container + Dry Soil	36.62	37.24	36.15	37.71	33.00
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Plastic Limit					
Container No.	2115	2111	2244		
Wt. Container, gm	9.66	9.56	8.77		
Wt. Container + Wet Soil	44.41	44.95	44.74		
Wt. Container + Dry Soil	37.42	37.89	37.52		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

(2)

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

(ED)

Department of Civil Engineering, BUET

8L-394

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____

Test No.: _____

Date: 9/6/21

Tested by: _____

Hydrometer No. 152H 867452

Location: _____

Meniscus Correction: _____

Boring No. : 07 Sample No. D-27,28,29

W_s, in g 50.0

Sample Depth : 40.5, 42, 43.5 M

Specific Gravity, G_s _____

1334

RV=2.5

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{\frac{Z, in\ cm}{t\ in\ min}}$	D in mm	N
10/6		1/4	49	-2.5	29						
		1/2	47		〃						
		1	42		〃						
		2	34		〃						
		4	31		〃						
		8	25.5		〃						
		15	20.5		〃						
		30	16.5		〃						
	10:16	60	13		〃						
	11:16	120	11.5		〃						
	1:16	240	8.5		29						
	5:16	480	8		〃						
11/6	9:31	Am	7		28						
12/6	9:46	Am	5.5		29						
13/6	8:56	Am	5		29						

SF-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 07
Sample No.: D-27, 28, 29
Sample depth: _____

Container: 1334 / 1364
Wt. of Container + Soil: _____
Wt. of Container: _____
Wt. of Soil: 100.0 gm
Performed by: _____
Date: 08/06/2021

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50				0.2			
100				1.0			
200				3.4			
Pan				95.4			
				100			

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

SURVEY2000 1334
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 07 Sample type: D27
Depth: 40.50m Signature:

cont NO = 1334

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Test No.:
Date: 5/6/21
Tested by:

B.H: 07
Sample: D-27, 28, 29
Depth: 40.5, 42, 43.5 M

Grey silty clay

Liquid Limit					
No. of Blows	15	20	25	30	35
Container No.	758	214	2034	829	2204
Wt. Container, gm	7.82	7.33	9.45	7.72	10.74
Wt. Container + Wet Soil	46.65	41.86	43.92	46.08	50.99
Wt. Container + Dry Soil	35.55	32.18	34.40	35.68	40.30
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Plastic Limit					
Container No.	2138	2164	2303		
Wt. Container, gm	10.28	11.08	10.52		
Wt. Container + Wet Soil	57.90	56.78	52.70		
Wt. Container + Dry Soil	48.17	47.43	44.13		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+W / D

Shrinkage Limit test:

Dish No.	=	Wt. displaced mercury	=
Wt. of Dish	=	Volume of displaced mercury	=
Wt. Dish + Wet Soil	=	Vol. of dish	=
Wt. Dish + Dry Soil	=	Volume of dry soil pat	=
Wt. Dry Soil Pat	=	Shrinkage Limit	=

(P)

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

SL-394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____ Test No.: _____

Date: _____

Tested by: _____

1291 Location: _____ Hydrometer No. 152H867452

Boring No. : 08 Sample No. UD-1 Meniscus Correction: _____

Sample Depth : 1.11 – 1.70 m W_s, in g 50

Specific Gravity, G_s _____

$R_w = 2$

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm}$ / t in min	D in mm	N
6/5		¼	49	-3	29						
		½	47		"						
		1	45.5		"						
		2	44		"						
		4	42.5		"						
		8	40		"						
		15	36.5		29						
		30	33.5		"						
	10:34	60	29.5		"						
	11:34	120	26		29.5						
	1:34	240	22.5		"						
	5:7	980	20.5		"						
7/5	9:22		15.5		30						
8/5	9:18	Am	12.5		30						
9/5	9:09	Am	10.5		30						

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BD

BL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 08
Sample No.: UD-1
Sample depth: _____

Container: 1291/1140
Wt. of Container + Soil _____
Wt. of Container: _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 05/05/21

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				0.6			
200				0.6			
Pan				98.8			
				100			

H

Grey silty clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

1.2

SPG from UC

Mithamain project cont NO = 1291

SL-394
(62)

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample
B.H: 8
Sample: UD-1
Depth: 1.11 – 1.70 M

Test No.:
Date: 3/5/21
Tested by:

Grey silty clay

Liquid Limit					
No. of Blows	15	19	25	29	35
Container No.	2170	2045	2044	2215	2034
Wt. Container, gm	10.54	10.37	9.44	9.16	9.43
Wt. Container + Wet Soil	43.50	45.34	44.36	45.20	43.08
Wt. Container + Dry Soil	31.22	32.61	31.95	32.56	31.42
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Plastic Limit					
Container No.	2098	2341	2271		
Wt. Container, gm	9.86	10.79	9.04		
Wt. Container + Wet Soil	46.41	45.63	45.86		
Wt. Container + Dry Soil	38.71	38.29	38.14		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

(2)

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

(ED)

Department of Civil Engineering, BUET

SL-394

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: Muthamain

Test No.:

Date: 9/6/21

Tested by:

Hydrometer No. 152H8674752

1332

Location:

Boring No. : 09 Sample No. D-26,27,28

Meniscus Correction:

W_s, in g 50.0

Sample Depth : 39.0, 41.5, 43 m

Specific Gravity, G_s

RY225

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z, in cm	$\sqrt{\frac{Z, in\ cm}{t\ in\ min}}$	D in mm	N
10/6		1/4	49	-2.5	29						
		1/2	47		〃						
		1	42.5		〃						
		2	37		〃						
		4	31		〃						
		8	25.5		〃						
		15	19.5		〃						
		30	15		〃						
	10:24	60	11.5		〃						
	11:24	120	10.0		〃						
	1:24	240	7.5		29						
	5:24	480	6.5		〃						
11/6	9:32 Am		5.5		28						
12/6	9:47 Am		4.5		29.						
13/6	8:58 Am		4		29						

SA-394

Department of Civil Engineering, BUET

Sieve analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: 09

Sample No.: ~~SA~~ D - 26, 27, 29

Sample depth: _____

Container: 1332 / 844

Wt. of Container + Soil _____

Wt. of Container: _____

Wt. of Soil 100.0 gm

Performed by: _____

Date: 08/06/2021

H

Gray clayey silt

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				0.8			
200				1.5			
Pan				97.7			
				100			

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

2.3

SURVEY2000 1332

SAMPLE TICKET

Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla

Client: BBA

Location: Mithamain, Kishoreganj

Bore Hole No: 09 Sample type: D

Depth: 39.0 Signature:

cont No=1332

mamain

Engineering Laboratory
of Civil Engineering, BUET

terberg Limit Test

Test No.:

Date: 6/6/21

Tested by:

Soil Sample

B.H: 09

Sample: D-26, 27, 28

Depth: 39, 40.5, 42 M

Grey Clayey Silt

Liquid Limit					
No. of Blows	15	20			
Container No.	767	2173	801	097	174
Wt. Container, gm	10.85	11.85	7.08	7.23	7.26
Wt. Container + Wet Soil	53.92	52.87			
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

NP

Plastic Limit					
Container No.	782	23.16	5		
Wt. Container, gm	7.01	9.55	7.76		
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

$\frac{L+H}{D}$

Shrinkage Limit test:

Dish No. =

Wt. of Dish =

Wt. Dish + Wet Soil =

Wt. Dish + Dry Soil =

Wt. Dry Soil Pat =

Wt. displaced mercury =

Volume of displaced mercury =

Vol. of dish =

Volume of dry soil pat =

Shrinkage Limit =

(2)

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

Sf-401

394

Mithamain Project

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: (62) _____

_____

_____

Location: _____

Boring No. : 10 Sample No. UD-3

Sample Depth : 35.05 - 35.55 M

Specific Gravity, G_s _____

Test No.: _____

Date: 30/4/21

Tested by: _____

Hydrometer No. 152 H 867452

Meniscus Correction: _____

W_s, in g _____

H-888

Rr=2

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm / t\ in\ min}$	D in mm	N
2/5		¼	50	-3	32						
		½	49		32						
		1	45.5		11						
		2	38		11						
		4	31.5		11						
		8	24		11						
		15	18.5		11						
		30	13.5		11						
	10:28	60	11.0		"						
	11:28	120	8.0		"						
	1:28	240	6.5		32						
	5:28	480	6.0		32						
3/5	9:31	Am	5.0		31						
4/5	9:19	Am	4.5		30						
5/5	9:10	Am	3.5		30						

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ED

Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____

Soil Sample: _____

Location: _____

Boring No: 10

Sample No.: UD-3

Sample depth: 35.05 - 35.55

Container: 888 / 1024

Wt. of Container + Soil: _____

Wt. of Container: _____

Wt. of Soil: 100.0 gm

Performed by: _____

Date: 30/04/2024

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				0.2			
200				1.0			
Pan				98.8			
				100			

Grey clayey silt

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

SP-394

Cont: 802

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample: B.H: 11
Sample: D-24,25,26
Depth: 36,37.5,39 M

Test No.:
Date: 21/04/2025
Tested by:

Liquid Limit					
No. of Blows	15	20	24	28	
Container No.	757	768	2142	301	2075
Wt. Container, gm	7.00	10.67	9.43	7.33	9.45
Wt. Container + Wet Soil	35.04	38.69	44.22	39.18	
Wt. Container + Dry Soil	27.23	31.11	34.84	30.75	
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Silt এর পরিমান বেশি বিধায় রোল করা যাচ্ছে না।

Plastic Limit					
Container No.	2227	2213	2124		
Wt. Container, gm	10.23	11.08	11.07		
Wt. Container + Wet Soil	44.35	45.78	47.12		
Wt. Container + Dry Soil	37.28	38.54	39.60		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Grey silty clay.

Shrinkage Limit test:

Dish No. =

Wt. of Dish =

Wt. Dish + Wet Soil =

Wt. Dish + Dry Soil =

Wt. Dry Soil Pat =

Wt. displaced mercury =

Volume of displaced mercury =

Vol. of dish =

Volume of dry soil pat =

Shrinkage Limit =

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

FD

SURVEY2000 904
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

L-H

Bore Hole No: 13 Sample type: P32
Depth: 48-00m Signature:

vil Engineering, BUET

gineering Laboratory

TER ANALYSIS

Test No.:
Date: 12/10/2021
Tested by:
Hydrometer No. 152H867952
Meniscus Correction:
W_s, in g 50

904

Location:
Boring No. : 13 Sample No. D-32
Sample Depth : 48.0 M
Specific Gravity, G_s

Rr=2

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm / t\ in\ min}$	D in mm	N
13/10		1/4	46	-3	29						
		1/2	44.5		〃						
		1	42		〃						
		2	40		〃						
		4	37		〃						
		8	34.5		〃						
		15	30.5		〃						
		30	26.5		〃						
	10:18	60	21.5		〃						
	11:18	120	17.5		〃						
	1:18	240	14.0		30						
	5:18	480	11.5		〃						
14/10	9:18 Am		8.5		29						
15/10	9:11 Am		6.0		30						
16/10	8:59 Am		4.0		30						

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ED

SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____ Container: 904 / 785

Soil Sample _____ Wt. of Container + Soil _____

Location: _____ Wt. of Container: _____

Boring No: 13 Wt. of Soil ___100 gm_____

Sample No. : D-32 Performed by: _____

Sample depth: 48.0 M Date: 12/10/21

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				2.0			
200				0.5			
Pan				97.5			
				100			

Grey clayey Silt

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

Cont NO = 904

S1-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____ Test No.:

BH : 13 Date: 11/10/21

Sample : D-32 Tested by:

Depth : 48.0 M

Liquid Limit					
No. of Blows	16	20	25	30	34
Container No.	9020	601	885	501	816
Wt. Container, gm	7.87	7.75	7.20	7.29	7.06
Wt. Container + Wet Soil	29.91	29.88	29.75	27.52	30.14
Wt. Container + Dry Soil	20.80	20.85	20.70	19.47	21.02
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Gray

Boldo

layey

silt

Plastic Limit					
Container No.	770	834	719		
Wt. Container, gm	7.19	7.27	6.95		
Wt. Container + Wet Soil	34.90	30.90	30.54		
Wt. Container + Dry Soil	27.42	24.77	24.18		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L-H

Shrinkage Limit test:

Dish No. =

Wt. of Dish =

Wt. Dish + Wet Soil =

Wt. Dish + Dry Soil =

Wt. Dry Soil Pat =

Wt. displaced mercury =

Volume of displaced mercury =

Vol. of dish =

Volume of dry soil pat =

Shrinkage Limit =

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughnes s Index

Remarks:

ED

SURVEY2000
SAMPLE TICKET 694
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj
Bore Hole No: 15
Depth: 47-50m
Sample type: D33
Signature:

694

ment of Civil Engineering, BUET

chnical Engineering Laboratory

YDROMETER ANALYSIS

Test No.:
Date: 17/10/21
Tested by:
Hydrometer No. 152H 867452
Meniscus Correction:
W_s, in g 500

Location:
Boring No. : 15 Sample No. D-33
Sample Depth : 49.5 M
Specific Gravity, G_s

RY2

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm / t\ in\ min}$	D in mm	N
18/10		¼	46	-3	29						
		½	43		"						
		1	38.5		"						
		2	35		"						
		4	32		"						
		8	29		"						
		15	26		"						
		30	24.5		"						
	10:15	60	21.5		"						
	11:15	120	19.5		"						
	1:15	240	17.5		"						
	5:15	480	15.5		29						
19/10	4:04 Am		13.5		29						
20/10	8:22 A		12.5		29						
21/10	8:09 A		12		29						

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SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____ Container: 694 / 8915

Soil Sample _____ Wt. of Container + Soil _____

Location: _____ Wt. of Container: _____

Boring No: 15 Wt. of Soil ___100 gm_____

H Sample No. : D – 33 Performed by: _____

Sample depth: 49.5 M Date: 17/10/21

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				2·8			
200				5·3			
Pan				91·9			
				100·0			

Light Grey silty clay

8·1

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

Cont No = 694

ST-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
BH : 15
Sample : D-33
Depth : 49.5 M

Test No.:
Date: 11|10|21
Tested by:

Light Gray silty clay

Liquid Limit					
No. of Blows	17	21	25	30	34
Container No.	2180	2260	810	2239	180
Wt. Container, gm	9.48	9.27	7.34	10.23	7.78
Wt. Container + Wet Soil	32.74	33.23	28.25	32.09	27.05
Wt. Container + Dry Soil	25.39	25.86	21.87	25.50	21.32
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Plastic Limit					
Container No.	2014	2072	2083		
Wt. Container, gm	9.66	10.49	9.48		
Wt. Container + Wet Soil	35.45	37.36	36.53		
Wt. Container + Dry Soil	30.95	32.70	32.86		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L-H

Shrinkage Limit test:

Dish No.	=	Wt. displaced mercury	=
Wt. of Dish	=	Volume of displaced mercury	=
Wt. Dish + Wet Soil	=	Vol. of dish	=
Wt. Dish + Dry Soil	=	Volume of dry soil pat	=
Wt. Dry Soil Pat	=	Shrinkage Limit	=

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

ED

SL-394

(62)

Department of Civil Engineering, BUET Mirpur

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 15 Sample No. UD-2

Sample Depth : 5.05 - 5.55 M

Specific Gravity, G_s _____

Test No.: _____

Date: _____

Tested by: _____

Hydrometer No. 152 H 867452

Meniscus Correction: _____

W_s, in g 50

891

$R_\delta = 2$

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm / t\ in\ min}$	D in mm	N
6/5		1/4	49	-2	29						
		1/2	47		"						
		1	46		"						
		2	44		"						
		4	39		"						
		8	33		"						
		15	26.5		29						
		30	22		"						
	10:42	60	17		"						
	11:42	120	13		29.5						
	1:42	240	10		"						
	5:8	980	8		"						
7/5	9:22		6.5		30						
8/5	9:19	Am	5.5		30.						
9/5	9:20		4		30						

81-394

Sieve Analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: 15

Sample No.: UD-2

Sample depth: _____

Container 891/607

Wt. of Container + Soil _____

Wt. of Container: _____

Wt. of Soil 100.0 gm

Performed by: _____

Date: 5/5/21

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100							
200				0.7			
Pan				99.3			
				100.0			

H

Gravelly silty clay

0.7

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

Mithamain project

Cont NO = 891

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

SL-394
(62)

Atterberg Limit Test

Soil Sample
B.H: 15
Sample: UD-2
Depth: 5.05 - 5.55 M

Test No.:
Date: 2/5/21
Tested by:

Liquid Limit					
No. of Blows	15	20	25	30	35
Container No.	2295	2267	2247	2071	2164
Wt. Container, gm	9.90	10.67	9.53	9.50	11.11
Wt. Container + Wet Soil	40.89	45.52	43.54	43.51	45.15
Wt. Container + Dry Soil	28.23	31.62	30.16	30.25	32.19
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	2144	2146	2039		
Wt. Container, gm	10.02	9.62	9.20		
Wt. Container + Wet Soil	42.91	42.08	42.22		
Wt. Container + Dry Soil	35.12	34.33	34.38		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

(2)

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

(E)

SL-394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: ~~[illegible]~~ Mithamain

Location:

Boring No. : 16 Sample No. D-2

Sample Depth : 3.0 M

Specific Gravity, G_s

Test No.:

Date:

Tested by:

Hydrometer No. 152H8674 52

Meniscus Correction:

W_s, in g 50.0 gm

1331

RV = 2.5

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm}$ / t in min	D in mm	N
13/6		1/4	40	-2.5	29						
		1/2	33		11						
		1	23		11						
		2	16		11						
		4	12		11						
		8	9.5		11						
		15	7.0		11						
		30	5.5		11						
	10:20	60	4.0		11						
	11:20	120	3.0		29						
	1:20	240	3.0		11						
	5:20	480	2.5		11						
14/6	8:58 Am		2.5		29						
15/6	9:02	Am	1.5		28.5						
16/6	9:03	Am	1.0		28						

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SE-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 16
Sample No. : D-2
Sample depth: _____

Container 1331/1359
Wt. of Container + Soil _____
Wt. of Container _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 8/6/21

H

Brownish sandy silt

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50				0.6			
100				2.8			
200				14.8			
Pan				81.8			
				100			

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

18.2

SURVEY2000 1331
SAMPLE TICK
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 16 Sample type: D2
Depth: 3-0M Signature:

cont No: 1331

Mithamain
Engineering Laboratory
of Civil Engineering, BUET

Atterberg Limit Test

Test No.:
Date: 5/6/21
Tested by:

B.H: 16
Sample: D-2
Depth: 3.0M

Brownish Sandy Silt

Liquid Limit					
No. of Blows					
Container No.	2149	2272	2033	2085	2149
Wt. Container, gm	9.08	10.02	10.21	9.99	8.98
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Plastic Limit					
Container No.	2127	2176	2201		
Wt. Container, gm	9.95	9.31	9.86		
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H / D

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

SURVEY2000 828
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj
L+H

Bore Hole No: 19 Sample type: D-31
Depth: 46.50m Signature:

vil Engineering, BUET

gineering Laboratory

TER ANALYSIS

Test No.: _____
Date: _____
Tested by: _____
Hydrometer No. 152H867452
Meniscus Correction: _____
W_s, in g 50 gm

Boring No. : 19 Sample No. D-31, 32, 33
Sample Depth : 46.5, 48, 49.5 M
Specific Gravity, G_s _____

$R_\gamma = 0$

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm}$ / t in min	D in mm	N
17/8		~~1/4~~	46	-5	30						
		~~1/2~~	43		29						
		1	40.5								
		2	37.5								
		4	34.5								
		8	31								
		15	27								
		30	23		29						
	10:35	60	19.5								
	11:35	120	17		29						
	1:35	240	14								
	5:35	480	12.5		11						
18/8	9:03	A	10.5		29						
19/8	9:09	A	10		29						
20/8	9:31	A	9		29						

42-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 19
Sample No. D-31, 32, 33
Sample depth: _____

Container: 828/1059
Wt. of Container + Soil _____
Wt. of Container: _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 14/08/21

L+H

Gray silty clay

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				1.3			
200				0.8			
Pan				97.9			
				100			

D_{10} =
D_{30} =
D_{60} =
C_u =
C_z =
F.M. =

2.1

Cont No = 828

SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
B.H: 19
Sample: D-31, 32, 33
Depth: 46.5, 48.0, 49.5 M

Test No.:
Date: 10/8/21
Tested by:

Grey silty clay

Liquid Limit					
No. of Blows	15	20	24	30	35
Container No.	2267	2165	2062	2215	2119
Wt. Container, gm	10.68	9.98	9.17	9.18	8.99
Wt. Container + Wet Soil	47.32	47.87	46.09	44.19	42.68
Wt. Container + Dry Soil	36.76	37.15	35.72	34.52	33.49
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Plastic Limit					
Container No.	2272	2009	2145		
Wt. Container, gm	10.07	8.74	9.41		
Wt. Container + Wet Soil	49.01	50.12	47.94		
Wt. Container + Dry Soil	42.12	42.77	41.09		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Shrinkage Limit test:

Dish No.	=	Wt. displaced mercury	=
Wt. of Dish	=	Volume of displaced mercury	=
Wt. Dish + Wet Soil	=	Vol. of dish	=
Wt. Dish + Dry Soil	=	Volume of dry soil pat	=
Wt. Dry Soil Pat	=	Shrinkage Limit	=

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

L+H

920

Bore Hole No: 20
Depth: 45.00m

Sample type: D-30
Signature:

Civil Engineering, BUET

Engineering Laboratory

ETER ANALYSIS

920

Location:

Boring No. : 20 Sample No. D-30

Sample Depth : 45.0 M

Specific Gravity, G_s

Test No.:

Date: 17/10/21

Tested by:

Hydrometer No. 152H 867 452

Meniscus Correction:

W_s, in g 50.0 gm

RV=2

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z, in cm	$\sqrt{\frac{Z, in\ cm}{t\ in\ min}}$	D in mm	N
18/10		¼	46	−3	29						
		½	40								
		1	33								
		2	28								
		4	23.5								
		8	20.5								
		15	18								
		30	15								
	10:03	60	13								
	11:03	120	11								
	1:03	240	9								
	5:03	480	7.5		29						
19/10	9:02 Am		7.0		29						
20/10	8:20 Am		6.5		29						
21/10	8:08 Am		6		29						

SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____ Container: 920 / 1259

Soil Sample _____ Wt. of Container + Soil _____

Location: _____ Wt. of Container: _____

Boring No: 20 Wt. of Soil ___100 gm_____

Sample No. : D-30 Performed by: _____

Sample depth: _____ Date: 17/10/21

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				1.2			
200				6.6			
Pan				92.2			
				100.0			

Grey silty clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

SA-394

Cont: 920

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
BH : 20
Sample : D-30
Depth : 45 M

Test No.:
Date: 13/10/21
Tested by:

Liquid Limit					
No. of Blows	16	20	25	30	35
Container No.	2264	2248	2284	2063	2001
Wt. Container, gm	9.58	9.93	9.72	9.34	9.44
Wt. Container + Wet Soil	48.12	41.93	41.59	46.08	43.10
Wt. Container + Dry Soil	37.63	33.35	36.78	34.56	33.17
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey Silty & Clay

Plastic Limit					
Container No.	2289	2023	2052		
Wt. Container, gm	8.27	10.10	10.47		
Wt. Container + Wet Soil	44.78	49.10	48.02		
Wt. Container + Dry Soil	38.41	42.27	41.45		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Shrinkage Limit test:

Dish No.	=	Wt. displaced mercury	=
Wt. of Dish	=	Volume of displaced mercury	=
Wt. Dish + Wet Soil	=	Vol. of dish	=
Wt. Dish + Dry Soil	=	Volume of dry soil pat	=
Wt. Dry Soil Pat	=	Shrinkage Limit	=

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

ED

Department of Civil Engineering, BUET Mithamain Project

8L-394

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____

Test No.: _____

Date: 19/5/21

Tested by: _____

Hydrometer No. 152H 867 452

1163

Location: _____

Boring No. : 20 Sample No. UD-1

Sample Depth : 2.10 - 2.56 m

Specific Gravity, G_s _____

Meniscus Correction: _____

W_s, in g 50.0

RV=1

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm / t\ in\ min}$	D in mm	N
20/5		1/4	49	-4	31						
		1/2	44		〃						
		1	40		〃						
		2	34		〃						
		4	27		〃						
		8	22		〃						
		15	19		〃						
		30	15		31						
	10:00	60	11.5		〃						
	11:00	120	9		30.5						
	1:00	240	8		〃						
	5:00	480	6.5		〃						
21/5	9:20		5.5		30						
22/5	9:00		5		30.						
23/5	9:06	Am	4		31						

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ED

SL-394

Soil Mechanics Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 20
Sample No.: UD-1
Sample depth: 2.10 - 2.56 m

Container 1163 / 704
Wt. of Container + Soil _____
Wt. of Container: _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 19/5/21

H

Light brown silty clay.

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				0.4			
200				1.6			
Pan				98			
				100			

D_{10} =
D_{30} =
D_{60} =
C_u =
C_z =
F.M. =

2.0

cont No = 1163

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

SL-394
(44)

Atterberg Limit Test

Soil Sample _____
B.H: 20
Sample: UD-1
Depth: 2.10-2.56 M

Test No.:
Date: 17/5/21
Tested by:

Liquid Limit					
No. of Blows	15	19	24	30	35
Container No.	2076	2164	2268	2111	2195
Wt. Container, gm	10.38	11.13	9.68	9.56	10.29
Wt. Container + Wet Soil	41.90	44.48	41.57	41.37	43.22
Wt. Container + Dry Soil	32.86	35.19	32.79	32.78	34.33
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Brown silty clay

Plastic Limit					
Container No.	2247	2151	2063		
Wt. Container, gm	9.52	9.47	9.33		
Wt. Container + Wet Soil	40.00	40.04	40.87		
Wt. Container + Dry Soil	33.59	33.59	34.19		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Shrinkage Limit test:

Dish No.	=	Wt. displaced mercury	=
Wt. of Dish	=	Volume of displaced mercury	=
Wt. Dish + Wet Soil	=	Vol. of dish	=
Wt. Dish + Dry Soil	=	Volume of dry soil pat	=
Wt. Dry Soil Pat	=	Shrinkage Limit	=

(2)

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

(2)

Remarks:

SURVEY2000 907
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj
L+H

Bore Hole No: 21
Depth: 43.50m
Sample type: C
Signature:

il Engineering, BUET

ineering Laboratory

ER ANALYSIS

Test No.: _____

Date: _____

Tested by: _____

Hydrometer No. 152H8674-52

Meniscus Correction: _____

W_s, in g 50 gm

Boring No. : 21 Sample No. D-29,30

Sample Depth : 43.5, 45 M

Specific Gravity, G_s _____

$R_w = 0$

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm}{t\ in\ min}$	D in mm	N
17/8		1/4	45	-5	30						
		1/2	41		29						
		1	37								
		2	31								
		4	26								
		8	22								
		15	18								
		30	15		29						
	10:11	60	12.5								
	11:11	120	10.5		29						
	1:11	240	9								
	5:11	480	8		"						
18/8	9:00	Am	7		29						
19/8	9:06	Am	6.5		29						
20/8	9:29	Am	6		29						

SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 21
Sample No.: D-29, 30
Sample depth: _____

Container: 907/1364
Wt. of Container + Soil _____
Wt. of Container: _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 14/08/21

L+H

Gray silty clay

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50				1.2			
100				11.9			
200				4.7			
Pan				82.2			
				102			

17.8

D_{10} =
D_{30} =
D_{60} =
C_u =
C_z =
F.M. =

Cont No = 907

SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
B.H: 21
Sample: D-29,30
Depth: 43.5, 45 M

Test No.:
Date: 10/8/21
Tested by:

Liquid Limit					
No. of Blows	15	20	25	30	35
Container No.	803	875	758	854	888
Wt. Container, gm	11.22	7.22	7.78	7.10	7.01
Wt. Container + Wet Soil	47.84	44.03	44.95	48.70	40.58
Wt. Container + Dry Soil	37.41	33.76	34.90	37.64	31.83
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	9018	902	837		
Wt. Container, gm	6.95	7.52	7.05		
Wt. Container + Wet Soil	44.24	46.60	45.39		
Wt. Container + Dry Soil	37.19	38.66	38.10		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L + H

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

(2)

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

(6)

SURVEY2000
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj
Bore Hole No: 22
Depth: 36.00 M
Sample type: D-24
Signature:

H 1401

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al Engineering Laboratory

OMETER ANALYSIS

Test No.: _____

Date: 23/10/21

Tested by: _____

Hydrometer No. 152 H 867452

Meniscus Correction: _____

W_s, in g 50

Location: _____

Boring No. : 22 Sample No. D-24

Sample Depth : 36.0 M

Specific Gravity, G_s _____

$R_r = 2$

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{\frac{Z_r \text{ in cm}}{t \text{ in min}}}$	D in mm	N
23/10		¼	49	-3	28						
		½	46		〃						
		1	42		〃						
		2	36.5		〃						
		4	30		〃						
		8	24.5		〃						
		15	19		〃						
		30	15.5		11						
	10:14	60	12		〃						
	11:18	120	10		〃						
	1:14	240	7.5		〃						
	5:14	480	6.5		〃						
24/10	8:50	AM	5.5		29						
25/10	8:59	AM	5.5		29						
26/10	9:01	AM	5.0		〃						

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SI-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 22
Sample No. : D-24
Sample depth: _____

Container: 10 1401 1855
Wt. of Container + Soil _____
Wt. of Container: _____
Wt. of Soil ___100 gm_____
Performed by: _____
Date: 23/10/21

#

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				3.1			
200				2.4			
Pan				94.5			
				100			

Grey clayey silt.

D_{10} =
D_{30} =
D_{60} =
C_u =
C_z =
F.M. =

5.5

SA-394

Cont No: 1401

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____ Test No.:

BH : 22 Date: 17/10/2021

Sample : D-24, 25 Tested by:

Depth : 36, 37.5 M

Grey Clayey silt

Liquid Limit					
No. of Blows					
Container No.	2104	2152	2185	2181	2125
Wt. Container, gm	9.83	10.16	8.96	10.23	9.70
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L + H

Plastic Limit					
Container No.	2332	888	825		
Wt. Container, gm	9.09	11.18	7.02		
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Shrinkage Limit test:

Dish No. =

Wt. of Dish =

Wt. Dish + Wet Soil =

Wt. Dish + Dry Soil =

Wt. Dry Soil Pat =

Wt. displaced mercury =

Volume of displaced mercury =

Vol. of dish =

Volume of dry soil pat =

Shrinkage Limit =

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

SURVEY2000
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla L+H
Client: BBA
Location: Mithamain, Kishoreganj 890

Bore Hole No: 22 **Sample type:** D-33
Depth: 49.50m **Signature:**

vil Engineering, BUET

gineering Laboratory

TER ANALYSIS

Test No.: _____
Date: 17/10/21
Tested by: _____
Hydrometer No. 152H867452
Meniscus Correction: _____
W_s, in g 50.0 gm

890

Location: _____
Boring No. : 22 Sample No. D-33
Sample Depth : 49.5.0
Specific Gravity, G_s _____

R=2

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm / t\ in\ min}$	D in mm	N
18/10		¼	48	-3	29						
		½	45		〃						
		1	42		〃						
		2	37.5		〃						
		4	33		〃						
		8	28		〃						
		15	24		〃						
		30	20.5		〃						
	10:19	60	16.5		〃						
	11:19	120	13.5		〃						
	1:19	240	12		〃						
	5:19	480	10		29						
19/10	9:04 Am		8.5		29						
20/10	8:22 A—		8		29						
21/10	8:10 A—		7.5		29						

(5)

SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____ Container: 890/1166

Soil Sample _____ Wt. of Container + Soil _____

Location: _____ Wt. of Container: _____

Boring No: 22 Wt. of Soil 100 gm _____

Sample No. : D-33 Performed by: _____

Sample depth: _____ Date: 17/10/21

H

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				0.8			
200				1.6			
Pan				97.6			
				100.0			

Grey silty clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

2.4

Cont NO = 890

SI-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
BH : 22
Sample : D-33, 34
Depth : 49.5, 51 M

Test No.:
Date: 12/10/2021
Tested by:

Light Gray silty clay

Liquid Limit					
No. of Blows	15	21	25	35	35
Container No.	138	210	793	2016	830
Wt. Container, gm	7.31	7.35	10.76	10.20	7.37
Wt. Container + Wet Soil	28.70	31.45	32.89	29.90	31.34
Wt. Container + Dry Soil	22.53	24.70	26.79	24.42	24.88
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L-H

Plastic Limit					
Container No.	183	2026	125		
Wt. Container, gm	7.27	8.71	7.60		
Wt. Container + Wet Soil	39.46	40.60	36.80		
Wt. Container + Dry Soil	32.45	34.52	31.26		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Shrinkage Limit test:

Dish No.	=	Wt. displaced mercury	=
Wt. of Dish	=	Volume of displaced mercury	=
Wt. Dish + Wet Soil	=	Vol. of dish	=
Wt. Dish + Dry Soil	=	Volume of dry soil pat	=
Wt. Dry Soil Pat	=	Shrinkage Limit	=

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

ED

Department of Civil Engineering, BUET

SL-394

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____

Test No.: _____

Date: 19/5/21

Tested by: _____

Hydrometer No. 152H 867452

1138

Location: _____

Boring No. : 22 Sample No. UD-1

Sample Depth : 2.05-2.55 M

Meniscus Correction: _____

W_s, in g 50.0

Specific Gravity, G_s _____

RY=1

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{\frac{Z, in\ cm}{t\ in\ min}}$	D in mm	N
20/5		1/4	47	-4	31						
		1/2	42		11						
		1	38		11						
		2	30		11						
		4	23		11						
		8	17		11						
		15	13		11						
		30	11		31						
	10:08	60	8.5		11						
	11:08	120	6.5		30.5						
	1:08	240	5		11						
	5:08	480	4		11						
21/5	9:21		4		30						
22/5	9:01		3.5		30						
23/5	9:10	Am	3		30						

SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: 22

Sample No. : UD-1

Sample depth: 2.05 - 2.55 m

Container 1138/1170

Wt. of Container + Soil _____

Wt. of Container: _____

Wt. of Soil 100.0 gm

Performed by: _____

Date: 19/5/21

H

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100							
200				0.1			
Pan				99.9			
				100			

Grey clayey silt

D_{10} =

~~0.01~~ D_{30} =

0.1 D_{60} =

C_u =

C_z =

F.M. =

Cont No = 1138

SL-394
(44)

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample
B.H: 22
Sample: UD-1
Depth: 2.05-2.55 m

Test No.:
Date: 17/5/21
Tested by:

Liquid Limit					
No. of Blows	16				
Container No.	2138	2244	2093	2240	2147
Wt. Container, gm	10.28	8.78	10.82	10.74	10.57
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey clayey silt

Plastic Limit					
Container No.	2108	2170	2295		
Wt. Container, gm	9.86	10.54	9.89		
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

(2)

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

SURVEY2000 1219
SAMPLE TICKET

Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA L+H
Location: Mithamain, Kishoreganj

Bore Hole No: 23 Sample type: D-24
Depth: 36.0m Signature: Shimul

of Civil Engineering, BUET

Engineering Laboratory

METER ANALYSIS

Test No.: _____
Date: _____
Tested by: _____
Hydrometer No. 152 # 867452
Meniscus Correction: _____
W_s, in g 50 gm

Location: _____
Boring No. : 23 Sample No. D-24, 25, 26
Sample Depth : 36, 37.5, 39.0 M
Specific Gravity, G_s _____

RV=0

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm / t\ in\ min}$	D in mm	N
14/8		~~1/4~~	48	-5	30						
		~~1/2~~	45								
		1	38								
		2	32								
		4	26								
		8	20								
		15	16								
		30	12								
	16:24	60	9.5								
	11:24	120	6								
	1:24	240	5.5								
	5:24	480	4		30						
15/8	9:51		3.5		"						
16/8	9:02	Am	3		30						
17/8	9:05	Am	3		29						

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Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

BL-394

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 23
Sample No.: D-24, 25, 26
Sample depth: _____

Container: 1219/1381
Wt. of Container + Soil _____
Wt. of Container: _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 11/08/21

L+H

Grey Clayey silt

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50				0.2			
100				1.2			
200				2.1			
Pan				96.5			
				100			

D_{10} =
D_{30} =
D_{60} = 3.5
C_u =
C_z =
F.M. =

cont No = 1219

SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
B.H: 23
Sample: D-24,25,26
Depth: 36.0, 37.5, 39.5 M

Test No.:
Date: 9/8/21
Tested by:

Liquid Limit					
No. of Blows					
Container No.	214	9016	40	200	2274
Wt. Container, gm	7.33	10.83	10.83	7.35	9.05
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey Clayey Silt

Plastic Limit					
Container No.	763	2239	2098		
Wt. Container, gm	7.10	10.23	9.80		
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

D

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

SURVEY2000 1185
SAMPLE TICKET

Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla L+H
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 24 Sample type: D-23
Depth: 34.5m Signature: Shimul

Civil Engineering, BUET

Engineering Laboratory

METER ANALYSIS

Test No.: _____
Date: _____
Tested by: _____
Hydrometer No. 152H867452
Meniscus Correction: _____
W_s, in g _____

Location: _____
Boring No. : 24 Sample No. D-23,24,25
Sample Depth : 34.5, 36, 37.5
Specific Gravity, G_s _____

Rv=0

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm / t\ in\ min}$	D in mm	N
17/8		¼	47	-5	30						
		½	43		29						
		1	36								
		2	32								
		4	25								
		8	19								
		15	13.5								
		30	10		29						
	10:19	60	7.5								
	11:19	120	5		29						
	1:19	240	4								
	5:19	480	3		11						
18/8	9:01	Am	2.5		29						
19/8	9:08	Am	2.5		29						
20/8	9:29	Am	2.5		29						

-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 24
Sample No.: D-23, 24, 25
Sample depth: _____

Container: 1185 / 1382
Wt. of Container + Soil _____
Wt. of Container: _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 14/08/21

L+H
Grey
Clayey
silt

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50				0.3			
100				0.9			
200				1.2			
Pan				97.6			
				100			

D_{10} =
D_{30} =
D_{60} =
C_u =
C_z =
F.M. =

2.4

SL-394

Cont: 1185

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample
B.H: 24
Sample: D-23, 24, 25
Depth: 34.5m, 36.0, 37.5 m

Test No.:
Date: 10/08/2021
Tested by:

Grey Clayey Silt

Liquid Limit					
No. of Blows					
Container No.	403	880	869	751	4
Wt. Container, gm	6.77	10.75	11.21	6.85	6.99
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L + H

Plastic Limit					
Container No.	101	44	782		
Wt. Container, gm	7.43	7.42	7.01		
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

ED.

Department of Civil Engineering, BUET

SL-394 **Geotechnical Engineering Laboratory**

HYDROMETER ANALYSIS

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 25 Sample No. UD-1

Sample Depth : 0.55 – 1.05 M

Specific Gravity, G_s _____

Test No.: _____

Date: 22/5/21

Tested by: _____

Hydrometer No. 152H8674452

Meniscus Correction: _____

W_s, in g 50.0 gm

1159

RR-21

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm}$ / t in min	D in mm	N
23/5		1/4	50	-4	31						
		1/2	48.5		11						
		1	45.5		4						
		2	43.5		4						
		4	42.5		4						
		8	39.5		11						
		15	35		11						
		30	31		11						
	10:20	60	27		11						
	11:20	120	23		11						
	1:20	240	18.5		~~31.5~~						
	5:20	480	16		31.5						
24/5	9:01 Am		11.5		30						
25/5	9:07 Am		9.0		30.5						
26/5	9:09 Am		9.0		30						

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(21)

SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 25
Sample No.: UD-1
Sample depth: 0.55 – 1.05 M

Container: 1159/652
Wt. of Container, + Soil _____
Wt. of Container: _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 22/05/2021

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50				0			
100				0.4			
200				0.9			
Pan				98.7			
				100			

H

Grey Silty Clay

1.3

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

Cont No = 1159

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

sl-394
(44)

Atterberg Limit Test

Soil Sample
B.H : 25
Sample : UD-1
Depth : 0.5 - 1.05 M

Test No.:
Date: 18/5/21
Tested by:

Liquid Limit					
No. of Blows	15	20	25	29	35
Container No.	2059	2127	2134	2224	2221
Wt. Container, gm	10.86	9.95	10.35	10.12	9.37
Wt. Container + Wet Soil	43.60	43.35	43.19	43.90	40.25
Wt. Container + Dry Soil	31.80	31.76	31.90	32.48	29.97
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey Silty Clay

Plastic Limit					
Container No.	2192	2038	2201		
Wt. Container, gm	9.67	9.15	9.82		
Wt. Container + Wet Soil	38.20	39.50	38.31		
Wt. Container + Dry Soil	32.06	32.99	32.15		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Shrinkage Limit test:

Dish No.	=	Wt. displaced mercury	=
Wt. of Dish	=	Volume of displaced mercury	=
Wt. Dish + Wet Soil	=	Vol. of dish	=
Wt. Dish + Dry Soil	=	Volume of dry soil pat	=
Wt. Dry Soil Pat	=	Shrinkage Limit	=

(2)

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughnes s Index

Remarks:

(F.D)

of Civil Engineering, BUET

ineering Laboratory

ER ANALYSIS

SURVEY2000 1066
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla L+H
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 27 Sample type: D1
Depth: 1-3.00M Signature:

Test No.: _____
Date: _____
Tested by: _____
Hydrometer No. 152 H8674 52
Meniscus Correction: _____
W_s, in g 50 gm

Boring No. : 27 Sample No. D-1,2,3
Sample Depth : 1.5, 3.0, 4.5 M
Specific Gravity, G_s _____

$R_r = 0$

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z_r in cm	$\sqrt{Z_r \text{ in cm}}$ / t in min	D in mm	N
17/8		¼	45	-5	30						
		½	39		29						
		1	33								
		2	27								
		4	21								
		8	15.5								
		15	12								
		30	9		29						
	10:47	60	6.5								
	11:47	120	5		29						
	1:47	240	3.5								
	5:47	480	2.5		29						
18/8	9:04	1440	2		29						
19/8	9:40	2880	2		29						
20/8	9:31	4320	2		29						

SL-394

Soil Mechanics Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 27
Sample No.: D-1, 2, 3
Sample depth: _____

Container: 1066/1195
Wt. of Container + Soil _____
Wt. of Container: _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 14/08/21

H

Grey clayey silt

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				5.5			
200				2.3			
Pan				92.2			
				102			

D_{10} =

7.8

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

SI-394

Cont: 1066

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
B.H: 27
Sample: D-1,2,3
Depth: 1.5, 3.0, 4.5 M

Test No.:
Date: 10/08/2021
Tested by:

Grey clayey silt

Liquid Limit					
No. of Blows					
Container No.	403	880	869	751	4
Wt. Container, gm	6.77	10.75	11.21	6.85	6.99
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Plastic Limit					
Container No.	782	101	44		
Wt. Container, gm	7.01	7.43	7.42		
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Shrinkage Limit test:

L + H

Dish No.	=	Wt. displaced mercury	=
Wt. of Dish	=	Volume of displaced mercury	=
Wt. Dish + Wet Soil	=	Vol. of dish	=
Wt. Dish + Dry Soil	=	Volume of dry soil pat	=
Wt. Dry Soil Pat	=	Shrinkage Limit	=

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughnes s Index

Remarks:

Department of Civil Engineering, BUET

8-394 **Geotechnical Engineering Laboratory**

HYDROMETER ANALYSIS

Soil Sample: Muthamain.

Test No.:

Date: 9/6/21

Tested by:

Hydrometer No. 152H 8674 52

1336

Location:

Boring No.: 29 Sample No. D-31,32,33 Meniscus Correction:

Sample Depth : @ 46.5, 48, 49.5 M W_s, in g 50.0 gm

Specific Gravity, G_s

RY=2.5

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm / t\ in\ min}$	D in mm	N
10/6		1/4	48	-2.5	29						
		1/2	46.5		11						
		1	45		11						
		2	40		11						
		4	36		11						
		8	32		11						
		15	28.5		11						
		30	24.5		11						
	10:08	60	21		11						
	11:08	120	17		11						
	1:08	240	13.5		29						
	5:08	480	11		11						
11/6	9:30 Am		8.5		28						
12/6	9:45 Am		6.5		29						
13/6	8:55 Am		5		29						

81-394

Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: 29

Sample No. : D-31, 32, 33

Sample depth: _____

Container: 1336/1361

Wt. of Container + Soil _____

Wt. of Container: _____

Wt. of Soil: 100.0 gm

Performed by: _____

Date: 8/6/21

H

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50				0.6			
100				1.7			
200				2.2			
Pan				95.5			
				100			

Grey silty clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

4.5

SURVEY2000
SAMPLE TICKET
1336

Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 29 Sample type: D31
Depth: 46.5 m Signature:

Cont No = 1336

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Test No.:
Date: 5/6/21
Tested by:

B.H. 2
Sample : D-31, 32, 33
Depth : 46.5, 48, 49.5

Grey silty clay

Liquid Limit					
No. of Blows	15	19	24	30	35
Container No.	707	856	22	2171	2135
Wt. Container, gm	7.40	11.51	7.69	9.97	9.20
Wt. Container + Wet Soil	47.62	48.49	47.06	47.26	43.95
Wt. Container + Dry Soil	31.24	33.63	31.45	32.64	30.53
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Plastic Limit					
Container No.	2321	2165	880		
Wt. Container, gm	10.09	9.98	10.75		
Wt. Container + Wet Soil	42.36	41.48	43.68		
Wt. Container + Dry Soil	34.61	33.88	35.80		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H
D

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

D

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

Department of Civil Engineering, BUET

SL-394

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: Mithamain

Test No.: _____

Date: _____

Tested by: _____

1343

Location: _____

Hydrometer No. 152H867452

Boring No. : 33 Sample No. D-31, 32, 33

Meniscus Correction: _____

Sample Depth : 46.5, 48, 49.5M

W_s, in g 50

Specific Gravity, G_s _____

$R_f = 2.5$

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm / t\ in\ min}$	D in mm	N
13/6		¼	48	-2.5	29						
		½	45		〃						
		1	41		〃						
		2	35		〃						
		4	30		〃						
		8	25		〃						
		15	21		〃						
		30	17.5		〃						
	10:08	60	15.5		〃						
	11:08	120	12.5		29						
	1:08	240	11.0		11						
	5:08	480	10.5		11						
14/6	8:57 Am		8.5		29						
15/6	9:03	Am	7.0		28.5						
16/6	9:04	Am	6.0		28						

SL-394

Soil Mechanics Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____

Soil Sample: _____

Location: _____

Boring No: 33

Sample No.: D-31, 32, 33

Sample depth: _____

Container: 1343 / 1353

Wt. of Container + Soil: _____

Wt. of Container: _____

Wt. of Soil: 100.0 gm

Performed by: _____

Date: 12/6/21

H

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50				2.7			
100				17.2			
200				3.6			
Pan				76.5			
				100			

Grey silty clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

23.5

SURVEY2000 1342
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: B3 Sample type: D31
Depth: 46.5 m Signature:

cont NO = 1343

Mithamain

Civil Engineering Laboratory
ment of Civil Engineering, BUET

Atterberg Limit Test

Test No.:
Date: 6/6/21
Tested by:

Soil Sample
B.H: 33
Sample: D-31, 32, 33
Depth: 46.5, 48, 49.5 M

Grey silty clay

Liquid Limit					
No. of Blows	15	21	25	30	35
Container No.	767	2173	801	007	174
Wt. Container, gm	10.85	11.85	7.08	7.23	7.26
Wt. Container + Wet Soil	57.94	53.78	49.07	46.88	49.53
Wt. Container + Dry Soil	44.12	41.91	37.42	36.06	38.07
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Plastic Limit					
Container No.	782	2316	5		
Wt. Container, gm	7.01	9.55	7.76		
Wt. Container + Wet Soil	49.43	53.81	54.06		
Wt. Container + Dry Soil	41.66	45.72	45.58		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H
D

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

(2)

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

SL-394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____

Test No.: _____

Date: 21/4/21

Tested by: _____

H-1234

Location: _____

Hydrometer No. 152H 867452

Boring No. : 34 Sample No. UD-1

Meniscus Correction: _____

Sample Depth : 2.10 - 2.55 m

W_s, in g 50.0

Specific Gravity, G_s _____

R=2

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{\frac{Z, in\ cm}{t\ in\ min}}$	D in mm	N
22/4		1/4	48	-3	30						
		1/2	45		30						
		1	41		4						
		2	38		4						
		4	34		4						
		8	29		4						
		15	25		4						
		30	21.5		4						
	10:38	60	18		11						
	11:38	120	15.5		11						
	1:38	240	12.5		30						
	5:38	480	10.5								
23/4	9:14 Am		9.5		30						
24/4	9:13 Am		7.5		30.						
25/4	9:12 Am		7.0		31						

S1-394

Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: 34

Sample No.: UD-1

Sample depth: 2.10 - 2.55 M

Container: 1234/1084

Wt. of Container + Soil _____

Wt. of Cantainer: _____

Wt. of Soil 100.0 gm

Performed by: _____

Date: 21/04/21

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50				0.3			
100				1.2			
200				1.7			
Pan				96.8			
				100			

Grey silty clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

3.2

Sl-394

Cont:1234

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample
B.H: 34
Sample: UD-1
Depth: 2.10-2.55

Test No.:
Date: 19/04/2021
Tested by:

Liquid Limit					
No. of Blows	15	20	25	30	35
Container No.	808	149	9013	59	774
Wt. Container, gm	7.33	7.23	7.03	7.25	7.26
Wt. Container + Wet Soil	39.54	36.92	34.72	38.95	37.49
Wt. Container + Dry Soil	30.69	28.93	27.37	30.60	29.58
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	114	404	708		
Wt. Container, gm	7.00	7.06	7.19		
Wt. Container + Wet Soil	33.77	32.83	45.81		
Wt. Container + Dry Soil	28.53	27.80	38.36		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

ED

8-394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 34 Sample No. D-25,26

Sample Depth : 37.5 , 39 M

Specific Gravity, G_s _____

Test No.: _____

Date: 24/4/21

Tested by: _____

Hydrometer No. 152 H 867452

Meniscus Correction: _____

W_s, in g _____

735

Rr = 2

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z, in\ cm / t\ in\ min}$	D in mm	N
25/4		¼	48	-3	31						
		½	45		〃						
		1	40		〃						
		2	33		〃						
		4	25		〃						
		8	20		〃						
		15	14.5		〃						
		30	11.5		31						
	10:25	60	9.5		〃						
	11:25	120	6.5		〃						
	1:25	240	5.5		〃						
	5:25	486	4		〃						
26/4	9:28	Am	3.5		31						
27/4	9:20	Am	3.0		32						
28/4	9:22	Am	2.5		32						

3/-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: _____

Sample No. : _____

Sample depth: _____

Container 735/929

Wt. of Container, + Soil _____

Wt. of Container _____

Wt. of Soil 100.0 gm

Performed by: _____

Date: 24/4/21

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				1.3			
200				1.6			
Pan				97.1			
				100			

4

Grey sandy silty clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

2.9

SP-394

Cont: 735

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
B.H: 34
Sample: D-25,26
Depth: 37.5, 39 M

Test No.:
Date: 21/04/2021
Tested by:

Liquid Limit					
No. of Blows					
Container No.	757	768	2142	301	2075
Wt. Container, gm	7.00	10.67	9.43	7.33	9.45
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Grey sandy silt

Plastic Limit					
Container No.	2227	2213	2124		
Wt. Container, gm	10.23	11.08	11.07		
Wt. Container + Wet Soil					
Wt. Container + Dry Soil					
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

ED

SI-394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____ Test No.: _____

_____ Date: 24/4/21

_____ Tested by: _____

1284 Location: _____ Hydrometer No. 152H/867452

Boring No. : 35 Sample No. D-31, 32 Meniscus Correction: _____

Sample Depth : 46.5, 48 M W_s, in g _____

Specific Gravity, G_s _____

$R_z = 2$

Date	Time	Elapsed Time in min.	R = 1000(r-1)	R_w = 1000(r_w-1)	Temp. in °C	R-R_w	N in %	Z in cm	$\sqrt{Z_r \text{ in cm}}$ / t in min	D in mm	N
25/4		¼	47	-3	31						
		½	42		"						
		1	36		"						
		2	31		"						
		4	27.5		"						
		8	23.5		"						
		15	20		"						
		30	17.5		31						
	10:21	60	15.5		"						
	11:21	120	13.5		"						
	1:21	240	11.5		"						
	5:21	480	10.5								
26/4	9:28	Am	8.5		31						
27/4	9:20	Am	8.0		32						
28/4	9:21	Am	7.0		32						

SP-394

Soil Mechanics Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: _____

Sample No.: _____

Sample depth: _____

Container: 1284 / ~~7115~~ 1196

Wt. of Container, + Soil: _____

Wt. of Container: _____

Wt. of Soil: 100.0 gm

Performed by: _____

Date: 24/4/2024

H

Sieve No.	Sieve opening (mm)	Wt. of sieve (gm)	Wt. of sieve+soil (gm)	Wt. of soil retained (gm)	% of soil retained	Cumulative % retained	% Finer
4							
8							
16							
30							
50							
100				0.9			
200				3.0			
Pan				96.1			
				100			

Grey ~~clay~~ silty clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

3.9

SP 394

Cont: 1284

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample
B.H: 35
Sample: D-31, 32
Depth: 46.5, 48 M

Test No.:
Date: 21/04/2021
Tested by:

Liquid Limit					
No. of Blows	16	21	26	30	35
Container No.	2136	2059	2161	2023	2258
Wt. Container, gm	10.28	10.86	9.42	10.09	10.90
Wt. Container + Wet Soil	43.28	44.92	42.35	40.16	42.22
Wt. Container + Dry Soil	34.08	35.65	33.51	32.18	34.06
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

L+H

Plastic Limit					
Container No.	2098	2241	2086		
Wt. Container, gm	9.79	9.03	11.00		
Wt. Container + Wet Soil	44.53	47.40	45.10		
Wt. Container + Dry Soil	38.66	40.91	39.32		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Shrinkage Limit test:

Dish No. =
Wt. of Dish =
Wt. Dish + Wet Soil =
Wt. Dish + Dry Soil =
Wt. Dry Soil Pat =

Wt. displaced mercury =
Volume of displaced mercury =
Vol. of dish =
Volume of dry soil pat =
Shrinkage Limit =

Result Summary:

Plastic Limit	Natural Water Content	Liquid Limit	Shrinkage Limit	B. Value	Plasticity Index	Flow Index	Toughness Index

Remarks:

ED