Department of Civil Engineering, BUET

81-394

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: Mithamain

Location:

Boring No. : 59 Sample No. D-29,30

Sample Depth : 43.5, 45.0 M

Specific Gravity, G_s

Test No.:

Date:

Tested by:

Hydrometer No. 152H867452

Meniscus Correction:

W_s, in g 50.0

1335

RV2 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_r in cm	$\sqrt{Z_r \text{ in cm} / t \text{ in min}}$	D in mm	N
13/6		¼	49	-2.5	29						
		½	47		11						
		1	42		4						
		2	38		4						
		4	35		11						
		8	30.5		11						
		15	26		11						
		30	22.5		11						
	10:24	60	19.5		11						
	11:24	120	16		29						
	1:24	240	12.5		11						
	5:24	480	11		11						
14/6	8:59	Am	9.5		29						
15/6	9:02	Am	8		28.5						
16/6	9:02	Am	7		28						

SL-394

Soil Mechanics Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: 59

Sample No. : D-29, 30

Sample depth: _____

Container: 1335/1360

Wt. of Container + Soil _____

Wt. of Container: _____

Wt. of Soil 100.0 gm

Performed by: _____

Date: 8/6/21

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				0.5			
100				0.7			
200				3.8			
Pan				95			
				100			

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

Department of Civil Engineering, BUET

81-394

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____ Test No.: _____

_____ Date: 9/6/21

_____ Tested by: _____

Location: _____

1335

Boring No. : 59 Sample Depth. _____

Sample No. : D -29, 30

Determination No.				
Bottle No.		7		
Wt. of Bottle + Water + Soil W_1 in g		371.8		
Temperature T in °C		28		
Wt. of Bottle + Water W_2 in	g	340.5		
Evaporating Dish No.		1		
Wt. of dish	g	170.1		
Wt. of dish + dry soil	g	219.4		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	91.9		
Wt. of Soil W_s in	g	49.3		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

SURVEY2000 1335
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 59 Sample type: D-29
Depth: 43.5m Signature:

cont NO = 1335

Engineering Laboratory
Civil Engineering, BUET

berg Limit Test

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

B.H: 59
Sample: D-29, 30
Depth: 43.5, 45m

Liquid Limit					
No. of Blows	15	20	26	30	35
Container No.	11	44	878	2025	34
Wt. Container, gm	7.50	7.41	10.94	9.61	7.33
Wt. Container + Wet Soil	43.14	45.43	43.96	47.18	43.17
Wt. Container + Dry Soil	33.44	35.47	35.61	37.80	34.32
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	2089	2023	2137		
Wt. Container, gm	9.95	10.08	8.70		
Wt. Container + Wet Soil	46.98	47.72	42.19		
Wt. Container + Dry Soil	40.45	41.02	36.32		
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:

Department of Civil Engineering, BUET

Sl= 394

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____

_____

_____

1201

Location: _____

Boring No. : 60 Sample No. UD-4

Sample Depth : 35.55 - 36.05 m

Specific Gravity, G_s _____

Test No.: _____

Date: 19/5/21

Tested by: _____

Hydrometer No. 152H 867452

Meniscus Correction: _____

W_s, in g 50.0

RR = 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_r in cm	$\sqrt{Z_r \text{ in cm}}$ / t in min	D in mm	N
20/5		1/4	50	-4	31						
		1/2	47		〃						
		1	44		〃						
		2	39.5		〃						
		4	34.5		〃						
		8	30		〃						
		15	25		〃						
		30	21.5		31						
	10:12	60	18		〃						
	11:12	120	15		30.5						
	1:12	240	13		〃						
	5:12	480	10		〃						
21/5	9:21		09		30						
22/5	9:01		7.5		30						
23/5	9:10 Am		6		31						

ED

SL-394

Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: 60

Sample No.: UD-4

Sample depth: 35.55 – 36.05 m

Container 1201 / 747

Wt. of Container + Soil _____

Wt. of Container _____

Wt. of Soil 100.0 gm

Performed by: _____

Date: 19/5/21

A

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			

Grey silty clay

D_{10} = 0.3

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

Cont No = 1201

SL-394

(44)

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample
B.H: 60
Sample: UD-4
Depth: 35.55M - 36.05M

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

Liquid Limit					
No. of Blows	15	20	24	29	35
Container No.	2138	2244	2093	2240	2147
Wt. Container, gm	10.28	8.78	10.82	10.74	10.57
Wt. Container + Wet Soil	38.03	37.37	38.92	40.15	38.52
Wt. Container + Dry Soil	25.92	25.22	27.16	27.86	27.00
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Brownish silty Clay

Plastic Limit					
Container No.	2108	2170	2295		
Wt. Container, gm	9.86	10.54	9.89		
Wt. Container + Wet Soil	33.24	34.53	31.81		
Wt. Container + Dry Soil	27.46	28.55	26.45		
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	=

(2)

Result Summary:

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

Remarks:

(ED)

SURVEY2000 LAB

SAMPLE TICKET

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

Client: BBA

Location: Mithamain, Kishoreganj

Bore Hole No: 60 Depth: 46.5

Sample type: D-31 Signature:

...neering Laboratory

ER ANALYSIS

Test No.: _____

Date: 21/08/2021

Tested by: _____

Hydrometer No. 152H867452

Meniscus Correction: _____

W_s, in g 50

755

Location: _____

Boring No. : 60 Sample No. D-31, 32, 33

Sample Depth : 46.5, 48, 49.5 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	$\sqrt{\frac{Z_r \text{ in cm}}{t \text{ in min}}}$	D in mm	N
22/8		¼	45	-3	29						
		½	40		29						
		1	34		〃						
		2	30		〃						
		4	25		〃						
		8	21.5		〃						
		15	18		29						
		30	15		29						
	10:20	60	13		〃						
	11:20	120	11.5		〃						
	1:20	240	9		29						
	5:20	480	7.5		〃						
23/8	9:00	Am	7		29						
24/8	9:08	Am	6.5		29						
25/8	9:17	Am	6		29						

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SF-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 60
Sample No.: D-31, 32, 33
Sample depth: _____

Container: 755/1021
Wt. of Container + Soil _____
Wt. of Container: _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 21/08/21

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				0.4			
100				1.2			
200				9.5			
Pan				88.9			
				100			

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

11.1

Department of Civil Engineering, BUET

SF-394

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____ Test No.: _____

_____ Date: 21/08/21

_____ Tested by: _____

Location: _____

H=755

Boring No. : 60 Sample Depth. _____

Sample No. : D-31, 32, 33

Determination No.				
Bottle No.		10		
Wt. of Bottle + Water + Soil W_1 in g		373.5		
Temperature T in °C		29		
Wt. of Bottle + Water W_2 in	g	342.2		
Evaporating Dish No.		16		
Wt. of dish	g	310.4		
Wt. of dish + dry soil	g	360.0		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	93.6		
Wt. of Soil W_s in	g	49.6		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

SP-394

Cont: 755

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
B.H: 60
Sample: D-31, 32, 33
Depth: 46.5, 48, 49.5 M

Test No.:
Date: 11/08/2021
Tested by:

Liquid Limit					
No. of Blows	15	20	25	30	35
Container No.	907	9015	797	217	33
Wt. Container, gm	7.62	7.03	7.25	7.08	7.76
Wt. Container + Wet Soil	43.00	47.65	44.28	42.81	47.32
Wt. Container + Dry Soil	34.29	37.83	35.52	34.39	38.18
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	508	867	748		
Wt. Container, gm	7.76	7.24	7.27		
Wt. Container + Wet Soil	61.88	51.70	56.92		
Wt. Container + Dry Soil	52.69	44.16	48.54		
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)

SURVEY2000
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj
L+H
1022
Bore Hole No: 61
Depth: 37.5m
Sample type: D25
Signature:

Civil Engineering, BUET

ngineering Laboratory

ETER ANALYSIS

Test No.: _____

Date: 17/10/21

Tested by: _____

Hydrometer No. 152H/867/452

Meniscus Correction: _____

W_s, in g 50.0 gm

Location: _____

Boring No. : 61 Sample No. D-25

Sample Depth : 37.5. M

Specific Gravity, G_s _____

RV2

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	$\sqrt{Z_r \text{ in cm} / t \text{ in min}}$	D in mm	N
18/10		1/4	48	-3	29						
		1/2	46								
		1	42								
		2	36.5								
		4	31								
		8	26								
		15	18.5								
		30	13.5								
	9:59	60	10.0								
	10:59	120	7.5								
	12:59	240	6								
	4:59	480	4.5		29						
19/10	9:01 Am		4.0		29						
20/10	8:20	Am	3.5		29						
21/10	8:07	Am	3		29						

8E 394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____ Container: 1022/1285

Soil Sample _____ Wt. of Container + Soil _____

Location: _____ Wt. of Container: _____

H

Boring No: 61 Wt. of Soil ___100 gm_____

Sample No. : D-25 Performed by: _____

Sample depth: 37.5.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				0.2			
200				1.8			
Pan				98.0			
				100.0			

Grey clayey ~~Sand~~ Silt

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

2.0

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

GL-394

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 61 Sample Depth. _____

Sample No. : D-25

Test No.: _____

Date: 17/10/21

Tested by: _____

H

1022

Determination No.				
Bottle No.		12		
Wt. of Bottle + Water + Soil W_1 in g		375.7		
Temperature T in °C		29		
Wt. of Bottle + Water W_2 in	g	344.0		
Evaporating Dish No.		15		
Wt. of dish	g	312.3		
Wt. of dish + dry soil	g	362.1		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	96		
Wt. of Soil W_s in	g	49.8		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

Cont: 1022

SI-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____ Test No.:

BH : 61 Date: 13/10/21

Sample : D-25, 26 Tested by:

Depth : 37.5, 39 M

Liquid Limit					
No. of Blows					
Container No.	2264	2248	2001	2284	2063
Wt. Container, gm	9.58	9.93	9.44	9.72	9.34
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 %					

Gray clayey silt

Plastic Limit					
Container No.	2289	2023	2052		
Wt. Container, gm	8.27	10.10	10.47		
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. 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

81-394 **Geotechnical Engineering Laboratory**

HYDROMETER ANALYSIS

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 62 Sample No. UD-1

Sample Depth : 2.05 - 2.55 m

Specific Gravity, G_s _____

Test No.: _____

Date: 19/5/21

Tested by: _____

Hydrometer No. 152H867452

Meniscus Correction: _____

W_s, in g 50.0

U31

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	50	-4	31						
		1/2	48.5		〃						
		1	46.5		〃						
		2	44.5		〃						
		4	41		〃						
		8	37		〃						
		15	33.5		〃						
		30	29		31						
	10:04	60	24.5		〃						
	11:04	120	20		30.5						
	1:04	240	16		〃						
	5:04	480	14		〃						
21/5	9:20		11		30						
22/5	9:00		8.5		30						
23/5	9:09		7		31						

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ED

61-394

Soil Mechanics Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 62
Sample No. : UD-1
Sample depth: 2.05 – 2.55 M

Container 1131 / 784
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				0.2			
200				0.7			
Pan				99.1			
				100			

Grey silty clay.

0.9

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

Cont No = 1131

SL-394
(44)

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample
B.H: 62
Sample: UD-1
Depth: 2.05 - 2.55 M

Test No.:
Date: 9/5/21
Tested by:

Liquid Limit					
No. of Blows	15	19	24	29	35
Container No.	2176	2031	2245	2267	2053
Wt. Container, gm	9.30	10.63	9.92	10.66	10.16
Wt. Container + Wet Soil	41.43	40.60	38.03	39.68	38.68
Wt. Container + Dry Soil	27.11	27.46	25.85	27.38	26.73
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay.

Plastic Limit					
Container No.	2291	2023	2044		
Wt. Container, gm	9.43	10.07	9.44		
Wt. Container + Wet Soil	33.62	35.52	32.97		
Wt. Container + Dry Soil	27.14	28.77	26.70		
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

SURVEY2000 LH-1229
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 62 Sample type: D-28
Depth: 42.0m. Signature:

1229

Civil Engineering, BUET

ngineering Laboratory

ETER ANALYSIS

Test No.: _____

Date: _____

Tested by: _____

Hydrometer No. 152H867452

Meniscus Correction: _____

Location: _____

Boring No. : 62 Sample No. D-28, 29, 30

Sample Depth : 41.0, 43.5, 45.0 M

W_s, in g 50 gm

Specific Gravity, G_s _____

RP=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
26/8		¼	47	-3	29						
		½	43								
		1	39								
		2	35								
		4	30								
		8	26								
		15	20.5								
		30	16		29						
	10:12	60	13		〃						
	11:12	120	10.5		〃						
	1:12	240	8.0		〃						
	5:12	480	7.0		〃						
27/8	9:46 am		6		〃						
28/8	9:00	Am	5		29						
29/8	8:57	Am	4.5		29						

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Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis 1229

Job No.: _____ Container: ~~1021~~ / 1021

Soil Sample _____ Wt. of Container + Soil _____

Location: _____ Wt. of Container: _____

Boring No: 62 Wt. of Soil 100.0 gm

Sample No.: D-28, 29, 30 Performed by: _____

Sample depth: _____ Date: 24/8/21

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				1.3			
200				6.0			
Pan				92.7			
				100.0			

Gravel

Silty

Clay

D_{10} = 7.3

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

51-394

Soil Sample: _____ Test No.: _____

Date: 24/08/21

Tested by: _____

Location: _____

Boring No. : 62 Sample Depth. _____

Sample No. : D-28, 29, 30

H 1229

Determination No.				
Bottle No.		7		
Wt. of Bottle + Water + Soil W_1 in g		372.2		
Temperature T in °C		29		
Wt. of Bottle + Water W_2 in	g	340.5		
Evaporating Dish No.		19		
Wt. of dish	g	285.5		
Wt. of dish + dry soil	g	335.3		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	91.9		
Wt. of Soil W_s in	g	49.8		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

SP-394

Cont: 1229

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
B.H: 62
Sample: D-28, 29, 30
Depth: 41, 43.5, 45 M

Test No.:
Date: 11/08/2024
Tested by:

Liquid Limit					
No. of Blows	15	20	25	29	35
Container No.	150	605	16·8	845	20.59
Wt. Container, gm	7.24	7.34	7.60	7.75	10.87
Wt. Container + Wet Soil	39.56	43.00	44.19	41.65	48.56
Wt. Container + Dry Soil	30.80	33.55	34.35	32.79	38.87
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey Silty Clay

Plastic Limit					
Container No.	2262	2108	2224		
Wt. Container, gm	7.58	9.86	10.12		
Wt. Container + Wet Soil	47.95	53.72	55.27		
Wt. Container + Dry Soil	40.08	45.16	46.39		
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:

SURVEY2000 8928
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
L-H Location: Mithamain, Kishoreganj

Bore Hole No: 63 Sample type: D-31
Depth: 46.5m Signature:

ivil Engineering, BUET

gineering Laboratory

TER ANALYSIS

Test No.: _____

Date: 12/10/2021

Tested by: _____

Hydrometer No. 152H 867452

Meniscus Correction: _____

Location: _____

Boring No. : 63 Sample No. D-31, 32

Sample Depth : 46.5, 48 M

Specific Gravity, G_s _____

W_s, in g 50

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	$\sqrt{Z, in\ cm}$ / t in min	D in mm	N
13/10		¼	42	-3	29						
		½	38		〃						
		1	33		〃						
		2	28.5		〃						
		4	26.5		〃						
		8	22.5		〃						
		15	19.5		〃						
		30	17		〃						
	10:10	60	14.5		〃						
	11:10	120	12.5		〃						
	1:10	240	11.0		30						
	5:10	480	9.5		〃						
14/10	9:16 Am		8		29						
15/10	9:10 Am		7		30						
16/10	8:57 Am		6		30						

SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____ Container: 8928/1030

Soil Sample _____ Wt. of Container + Soil _____

Location: _____ Wt. of Container: _____

Boring No: 63 Wt. of Soil ___100 gm_____

Sample No. : D-31, 32 Performed by: _____

Sample depth: _____ Date: 12/10/21

#

Brownish 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				0.2			
100				2.6			
200				8.3			
Pan				88.9			
				100			

11.1

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

SF-394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____

L-8928

_____

_____

Location: _____

Boring No. : 63 Sample Depth. _____

H

Sample No. : D-31, 32

Test No.: _____

Date: 12/10/21

Tested by: _____

Determination No.				
Bottle No.		1		
Wt. of Bottle + Water + Soil W_1 in g		373.4		
Temperature T in °C		30		
Wt. of Bottle + Water W_2 in	g	342.2		
Evaporating Dish No.		18		
Wt. of dish	g	298.1		
Wt. of dish + dry soil	g	347.6		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	94.3		
Wt. of Soil W_s in	g	49.5		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

cont NO = 8928

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

SL-394

Atterberg Limit Test

Soil Sample _____ Test No.:

BH : 63 Date: 6/10/21

Sample : D-31,32 Tested by:

Depth : 46.5, 48.0 M

Liquid Limit					
No. of Blows	15	20	25	30	35
Container No.	2234	301	2127	9021	20/3
Wt. Container, gm	9.36	7.33	9.95	6.98	8.79
Wt. Container + Wet Soil	47.32	43.38	45.38	38.81	46.53
Wt. Container + Dry Soil	36.23	33.23	35.58	30.18	36.36
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Brownish silty clay

Plastic Limit					
Container No.	2337	2259	2086		
Wt. Container, gm	10.65	10.47	11.00		
Wt. Container + Wet Soil	45.40	43.03	48.69		
Wt. Container + Dry Soil	38.92	37.04	41.71		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Shrinkage Limit test:

(2)

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:

8L-394

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 64 Sample No. UD-1

Sample Depth : 2.05 - 2.55 M

Specific Gravity, G_s _____

Test No.: _____

Date: 19/5/21

Tested by: _____

Hydrometer No. 152H 867452

Meniscus Correction: _____

W_s, in g 50.0

1149

RI=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	50	-4	31						
		1/2	48		〃						
		1	46		〃						
		2	42		〃						
		4	38		〃						
		8	34		〃						
		15	31		〃						
		30	27		31						
	10:18	60	24		〃						
	11:18	120	21		30.5						
	1:18	240	17		〃						
	5:18	480	14		〃						
21/5	9:22		12		30						
22/5	9:02		10		〃						
23/5	9:10		8.5		30						

ED

SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 64
Sample No. : UD-1
Sample depth: 2.05 - 2.55 m

Container 1149 / 1192
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 silty clay

0.1

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

Cont No = 1149

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

SL-394

(44)

Atterberg Limit Test

Soil Sample
B.H: 64
Sample: UD-1
Depth: 2.05-2.55 M

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

Liquid Limit					
No. of Blows	15	20	25	30	35
Container No.	2196	2204	2230	2214	2296
Wt. Container, gm	9.29	10.74	9.77	10.35	10.74
Wt. Container + Wet Soil	42.04	44.56	41.42	44.88	46.30
Wt. Container + Dry Soil	28.51	30.93	28.94	31.37	32.70
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay.

Plastic Limit 2303					
Container No.	2133	2248	~~10.52~~		
Wt. Container, gm	9.21	9.92	10.52		
Wt. Container + Wet Soil	45.12	47.34	47.62		
Wt. Container + Dry Soil	36.18	38.08	38.46		
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

(ED)

Remarks:

SURVEY2000 L+H-1023
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 64 Sample type: D-24
Depth: 36.0m Signature:

vil Engineering, BUET

gineering Laboratory

TER ANALYSIS

Test No.: _____
Date: 21/08/2021
Tested by: _____
Hydrometer No. 152H/867452
Meniscus Correction: _____
W_s, in g 50

Boring No. : 64 Sample No. D-24, 25, 26
Sample Depth : 36, 37.5, 39 M
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	$\sqrt{Z, in\ cm}$ / t in min	D in mm	N
22/8		¼	48	-3	29						
		½	45		29						
		1	42		〃						
		2	36		〃						
		4	29		〃						
		8	22.5		〃						
		15	18		〃						
		30	13		29						
	9:56	60	11		〃						
	10:56	120	8.0		〃						
	12:56	240	6		29						
	4:56	480	4.5		〃						
23/8	8:58	A-	4		29						
24/8	9:06	A-	3.5		29						
25/8	9:15	A-	3.5		29						

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(6)

SP-394

Geotechnical & Pavement Engg Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 64
Sample No.: D-24, 25, 26
Sample depth: _____

Container: 1023/1058
Wt. of Container + Soil _____
Wt. of Container _____
Wt. of Soil 100.0 gm
Performed by _____
Date: 21/08/21

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				1.0			
100				0.6			
200				98.4			
Pan				100			

Grey
~~Silty~~
clayey
silt

1.6

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

T-394

H=1023

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 64 Sample Depth. _____

Sample No. : D-24, 25, 26

Test No.: _____

Date: 24/08/21

Tested by: _____

Determination No.			
Bottle No.	15		
Wt. of Bottle + Water + Soil W_1 in g	380.7		
Temperature T in °C	29		
Wt. of Bottle + Water W_2 in g	349.0		
Evaporating Dish No.	24		
Wt. of dish g	301.9		
Wt. of dish + dry soil g	351.7		
Wt. Bottle + Dry Soil in g			
Wt. of Bottle in g	100.8		
Wt. of Soil W_s in g	49.8		
Specific Gravity of Water G_T at T°C			
Specific Gravity of Soil: G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

Cont: 1023

SF-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
B.H: 64
Sample: D-24, 25, 26
Depth: 36.0, 37.5, 39 M

Test No.:
Date: 11/08/2024
Tested by:

Liquid Limit					
No. of Blows	15	20	24	30	34
Container No.	2098	2044	2170	2239	2111
Wt. Container, gm	9.81	9.46	10.54	10.24	9.57
Wt. Container + Wet Soil	44.20	44.54	44.64	41.33	40.84
Wt. Container + Dry Soil	34.28	34.71	35.09	32.66	32.21
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey clayey silt

Plastic Limit					
Container No.	2130	2063	2257		
Wt. Container, gm	9.67	9.35	9.79		
Wt. Container + Wet Soil	57.09	53.10	55.07		
Wt. Container + Dry Soil	46.75	43.63	45.24		
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

SURVE 72000
SAMPLE TICKET
Project: Elevated Expressway/Road from Mitham
Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 65
Depth: 43.50m
Sample type: D
Signature:

Civil Engineering, BUET

Engineering Laboratory

IETER ANALYSIS

Test No.: _____

Date: 17/10/21

Tested by: _____

Hydrometer No. 152H867452

Meniscus Correction: _____

W_s, in g 50.0 gm

82'

Location: _____

Boring No. : 65 Sample No. D-29, 30

Sample Depth : 43.5, 45 M

Specific Gravity, G_s _____

Rv22

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
18/10		¼	46	-3	29						
		½	43		〃						
		1	40		〃						
		2	36		〃						
		4	31		〃						
		8	26		〃						
		15	20.5		〃						
		30	16		〃						
	10:11	60	13		〃						
	11:11	120	9.5		〃						
	1:11	240	8		〃						
	5:11	480	6.5		29						
19/10	9:03	1440	5.5		29						
20/10	8:21	A	5.5		29						
21/10	8:09	A	5		29						

SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____ Container: 823 / 1019

Soil Sample _____ Wt. of Container + Soil _____

Location: _____ Wt. of Container: _____

Boring No: 65 Wt. of Soil ___100 gm_____

Sample No. : D-29, 30 Performed by: _____

H

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				3.3			
200				4.0			
Pan				92.7			
				100.0			

Grey silty clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

7.3

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Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

SL-394

Soil Sample: _____ Test No.: _____

_____ Date: 17/10/21

_____ Tested by: _____

Location: _____

Boring No. : 65 Sample Depth. D-29,30

Sample No. : _____

Determination No.				
Bottle No.		14		
Wt. of Bottle + Water + Soil W_1 in g		3737		
Temperature T in °C		29		
Wt. of Bottle + Water W_2 in	g	3420.		
Evaporating Dish No.		19		
Wt. of dish	g	285.5		
Wt. of dish + dry soil	g	335.3		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	94.0		
Wt. of Soil W_s in	g	49.8		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

H

823

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

SP.394

cont: 823

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
BH : 65
Sample : D-29, 30
Depth : 43.5, 45 M

Test No.:
Date: 12/10/2024
Tested by:

Liquid Limit					
No. of Blows	15	21	25	30	35
Container No.	2283	308	131	2179	2119
Wt. Container, gm	9.93	11.26	7.36	10.56	9.06
Wt. Container + Wet Soil	46.02	45.96	41.25	47.73	41.94
Wt. Container + Dry Soil	35.85	36.32	32.00	37.72	33.27
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Gray silty clay

Plastic Limit					
Container No.	2274	2109	2022		
Wt. Container, gm	8.61	10.12	10.15		
Wt. Container + Wet Soil	40.28	39.11	42.44		
Wt. Container + Dry Soil	33.93	33.30	35.93		
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:

(D)

SURVEY2000 L+H-1265
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 66 Sample type: D-32
Depth: 48.00 m Signature: Ar2

...ivil Engineering, BUET

...neering Laboratory

...ER ANALYSIS

Test No.: _____

Date: _____

Tested by: _____

Hydrometer No. 152H867452

Meniscus Correction: _____

Boring No. : 66 Sample No. D-32, 33, 34

Sample Depth : 48.0, 49.5, 51 M

W_s, in g 50 gm

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 in cm	$\sqrt{Z, in\ cm}{t\ in\ min}$	D in mm	N
17/8		~~¼~~	47	-5	30						
		~~½~~	46		29						
		1	45								
		2	45								
		4	43								
		8	40								
		15	37.5								
		30	34.5		29						
	10:43	60	31								
	11:43	120	27.5		29						
	1:43	240	25.5								
	5:43	480	22.5		4						
18/8	9:04	Am	19.5		29						
19/8	9:10	Am	18		29						
20/8	9:31	Am	16.5		29						

01-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample: _____
Location: _____
Boring No: 66
Sample No.: D-32, 33, 34
Sample depth: _____

Container: 1265 / 1158
Wt. of Container + Soil: _____
Wt. of Container: _____
Wt. of Soil: 100.0 gm
Performed by: _____
Date: 14/08/21

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				0.9			
200				0.7			
Pan				98.4			
				100			

D_{10} =

D_{30} =

1.6 D_{60} =

C_u =

C_z =

F.M. =

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SL-394

SPECIFIC GRAVITY TEST

Soil Sample: _____ Test No.: _____

_____ Date: 16/08/21

_____ Tested by: _____

Location: _____

Boring No. : 66 Sample Depth. ____

Sample No. : D-32, 33, 34

H
1265

Determination No.				
Bottle No.		14		
Wt. of Bottle + Water + Soil W_1 in g		373		
Temperature T in °C		29		
Wt. of Bottle + Water W_2 in	g	342		
Evaporating Dish No.		15		
Wt. of dish	g	312.3		
Wt. of dish + dry soil	g	361.3		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	94		
Wt. of Soil W_s in	g	49		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	Gs			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

Gs _____

cont NO = 1265

SL = 394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
B.H: 66
Sample: D - 32, 33, 34
Depth: 48.0, 49.5, 51 M

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

Liquid Limit					
No. of Blows	15	20	25	29	35
Container No.	2087	2284	2303	2115	2138
Wt. Container, gm	11.28	9.71	10.55	9.70	10.33
Wt. Container + Wet Soil	48.42	42.63	47.41	48.20	44.68
Wt. Container + Dry Soil	36.52	32.29	36.05	36.47	34.37
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	2098	2200	2031		
Wt. Container, gm	9.91	8.52	10.69		
Wt. Container + Wet Soil	52.67	51.51	51.67		
Wt. Container + Dry Soil	44.17	42.96	43.53		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+PI

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	=

(D)

Result Summary:

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

Remarks:

(D)

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SL-394

HYDROMETER ANALYSIS

1118

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 67 Sample No. UD-1

Sample Depth : 2.10 – 2.55 M

Specific Gravity, G_s _____

Test No.: _____

Date: 22/5/21

Tested by: _____

Hydrometer No. 152H 867452

Meniscus Correction: _____

W_s, in g 50.0 gm

R22 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
R3/5		1/4	49.5	-4	30						
		1/2	48		31						
		1	46		〃						
		2	43.5		〃						
		4	40		〃						
		8	36.5		〃						
		15	31.5		〃						
		30	28		〃						
	10:32	60	23.5		〃						
	11:32	120	21		〃						
	1:32	240	17.5		〃						
	5:32	480	15		31.5						
24/5	9:04 Am		11.5		31						
25/5	9:09 Am		9.5		30.5						
26/5	9:11 Am		9.0		30						

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SL-394

Soil Mechanics Laboratory
Department of Civil Engineering, BUET

Sieve analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 67
Sample No.: UD-1
Sample depth: _____

Container 1118/1087
Wt. of Container + Soil _____
Wt. of Container _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 22/05/21

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							
200				0.1			
Pan				99.9			
				100			

H- Grey silty clay

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

0.1

Cont No = 1118

SL-394

(44)

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample
B.H : 67
Sample : UD-1
Depth : 2.10 - 2.55 M

Test No.:
Date: 19/5/21
Tested by:

Gray silty clay

Liquid Limit					
No. of Blows	15	20	24	30	35
Container No.	2061	2330	2033	2239	736
Wt. Container, gm	9.55	10.32	10.93	10.26	7.33
Wt. Container + Wet Soil	42.85	42.49	45.13	43.07	40.83
Wt. Container + Dry Soil	29.95	30.14	32.23	30.96	28.66
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Plastic Limit					
Container No.	880	36	28		
Wt. Container, gm	10.75	7.70	7.60		
Wt. Container + Wet Soil	38.42	37.67	35.09		
Wt. Container + Dry Soil	31.76	30.44	28.58		
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

Remarks:

SURVEY2000

SAMPLE TICKET

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

Client: BBA

Location: Mithamain, Kishoreganj

Bore Hole No: 67 **Depth:** 37.5m

Sample type: ~~D-25~~ **Signature:**

...il Engineering, BUET

...ineering Laboratory

...ER ANALYSIS

Test No.: _____

Date: _____

Tested by: _____

Hydrometer No. _____

Meniscus Correction: _____

W_s, in g 50

Location: _____

Boring No. : 67 Sample No. D-25,26,27

Sample Depth : 37.5, 39, 40.5 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	$\sqrt{Z_r \text{ in cm}}$ / t in min	D in mm	N
22/8		~~¼~~	45	-2	29						
		½	40		29						
		1	33		〃						
		2	23.5		〃						
		4	16		〃						
		8	12		〃						
		15	8.5		〃						
		30	6.5		29						
	10:12	60	5.5		〃						
	11:12	120	5		〃						
	1:12	240	3.5		29						
	5:12	480	2		〃						
23/8	8:59	A	2		29						
24/8	9:08	A	2		29						
25/8	9:16	A	2		29						

BP-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 67
Sample No.: D-25, 26, 27
Sample depth: _____

Container: 1090/1277
Wt. of Container + Soil _____
Wt. of Container: _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 21/08/21

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				4.7			
200				5.2			
Pan				90.1			
				100			

Grey clayey silt

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

9.9

SP-394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____

_____

_____

Test No.: _____

Date: 21/08/21

Tested by: _____

H=1090

Location: _____

Boring No. : 67 Sample Depth. _____

Sample No. : D-25, 26, 27

Determination No.				
Bottle No.		1		
Wt. of Bottle + Water + Soil W_1 in g		374.3		
Temperature T in °C		29		
Wt. of Bottle + Water W_2 in	g	342.3		
Evaporating Dish No.		6		
Wt. of dish	g	159.7		
Wt. of dish + dry soil	g	209.6		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	94.3		
Wt. of Soil W_s in	g	49.9		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	Gs			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

Gs _____

Cont. 1090

S# 394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample: B.H: 67
Sample: D-25, 26, 27
Depth: 37.5, 39.0, 40.5 M

Test No.:
Date: 11/08/2024
Tested by:

Grey Clayey silt

Liquid Limit					
No. of Blows					
Container No.	2192	2347	2315	2183	007
Wt. Container, gm	9.68	9.72	8.86	10.16	7.18
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 %					

LL 14

Plastic Limit					
Container No.	850	2195	2154		
Wt. Container, gm	6.95	10.30	9.20		
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

SURVEY2000 LH-762

SAMPLE TICKET

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

Client: RBA

Location: Mithamain, Kishoreganj

Bore Hole No: 69 Sample type: D-31

Depth: 46.5m Signature:

[Civil Engineering, BUET

Engineering Laboratory

METER ANALYSIS

Test No.: _____

Date: 22/8/21

Tested by: _____

Hydrometer No. 152H 867452

762

Location: _____

Boring No. : 69 Sample No. D-31, 32

Sample Depth : 46.5, 48 M

Specific Gravity, G_s _____

Meniscus Correction: _____

W_s, in g 50.0 gm

RTZ2

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
23/8		1/4	45	-3	29						
		1/2	40		29						
		1	35		〃						
		2	31		〃						
		4	27		〃						
		8	23		〃						
		15	22		〃						
		30	18		29						
	10:31	60	16		〃						
	11:31	120	14.5		〃						
	1:31	240	12.5		〃						
	5:31	480	11.5		〃						
24/8	9:04	Ans	10		29						
25/8	9:12	Ans	9.5		29						
26/8	9:03	Ans	9		29						

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SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 69
Sample No.: D-31, 32
Sample depth: _____

Container: 762/875
Wt. of Container + Soil _____
Wt. of Container _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 22/08/21

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				0.4			
200				2.7			
Pan				96.9			
				100			

Grey silty clay

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

3.1

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

BL-394

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 69 Sample Depth. _____

Sample No. : D-31, 32

Test No.: _____

Date: 22/08/21

Tested by: _____

Determination No.				
Bottle No.		12		
Wt. of Bottle + Water + Soil W_1 in g		375.1		
Temperature T in °C		29		
Wt. of Bottle + Water W_2 in	g	344.0		
Evaporating Dish No.		12		
Wt. of dish	g	153.6		
Wt. of dish + dry soil	g	203.4		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	96.0		
Wt. of Soil W_s in	g	49.8		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

Cont No = 762

SL = 394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample: B.H: 69
Sample: D-31, 32, 33
Depth: 46.5, 48, 49.5

Test No.:
Date: 11/8/21
Tested by:

Grey silty clay

Liquid Limit					
No. of Blows	15	19	24	29	35
Container No.	2004	2013	2324	2089	2241
Wt. Container, gm	9.29	8.79	10.46	9.95	9.04
Wt. Container + Wet Soil	47.09	46.98	45.68	44.42	44.70
Wt. Container + Dry Soil	36.57	36.55	36.21	35.32	35.43
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Plastic Limit					
Container No.	2201	2172	2164		
Wt. Container, gm	9.79	10.01	11.13		
Wt. Container + Wet Soil	50.18	52.51	54.83		
Wt. Container + Dry Soil	42.70	44.63	46.77		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Shrinkage Limit test:

D

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:

FD

Department of Civil Engineering, BUET

SL-394

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 70 Sample No. UD-3

Sample Depth : 35.05 - 35.55 M

Specific Gravity, G_s _____

Test No.: _____

Date: 22/5/21

Tested by: _____

Hydrometer No. 152H867452

Meniscus Correction: _____

W_s, in g 50.0

1200

RS-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	$\sqrt{Z_r \text{ in cm} / t \text{ in min}}$	D in mm	N
23/5		1/4	47	-4	31						
		1/2	44		11						
		1	35.5		11						
		2	33		11						
		4	28		11						
		8	24.5		11						
		15	20.5		11						
		30	16		11						
	10:16	60	12.5		11						
	11:16	120	10.5		11						
	1:16	240	8.5		11						
	5:16	480	7.5		31.5						
24/5	9:01 Am		5.5		30						
25/5	9:00 Am		4.5		30.5						
26/5	9:09 Am		4.5		30						

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SL-394

Soil Mechanics and Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 70
Sample No.: UD-3
Sample depth: _____

Container 1200/932
Wt. of Container + Soil _____
Wt. of Container: _____
Wt. of Soil 100.0 gm
Performed by: _____
Date: 22/05/21

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				1.1			
100				7.1			
200				5.9			
Pan				85.9			
				100			

H
Grey clayey silt

14.1

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

cont UO = 1200

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

SL-394.
(44)

Atterberg Limit Test

Soil Sample _____
B.H: 70
Sample: UD-3
Depth: 35.05 - 35.55 M

Test No.:
Date: 20/5/21
Tested by:

Grey clayey silt

Liquid Limit					
No. of Blows			25		
Container No.	2053	2044	2023	2176	2031
Wt. Container, gm	10.16	9.46	10.10	9.32	10.64
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 %		N.P			

Plastic Limit					
Container No.	2267	2227	2303		
Wt. Container, gm	10.66	10.22	10.51		
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. 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

Remarks:

SURVEY2000 1116
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

L-14

Bore Hole No: 70 Sample type: D-32
Depth: 48.0m Signature:

Civil Engineering, BUET

ngineering Laboratory

CTER ANALYSIS

Test No.: _____

Date: 12/10/2021

Tested by: _____

Hydrometer No. 152H8674 52

Meniscus Correction: _____

W_s, in g 50

Location: _____

Boring No. : 70 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		½	43	-3	29						
		½	40		〃						
		1	36		〃						
		2	30.5		〃						
		4	26.5		〃						
		8	23.5		〃						
		15	20		〃						
		30	17.5		〃						
	10:14	60	15		〃						
	11:14	120	12.5		〃						
	1:14	240	11.0		30						
	5:14	480	10		〃						
14/10	9:17 Am		8.5		29						
15/10	9:11 Am		7.0		30						
16/10	8:58 Am		6.0		30						

SL-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____ Container: 1116 / 1251

Soil Sample _____ Wt. of Container + Soil _____

Location: _____ Wt. of Container: _____

Boring No: 70 Wt. of Soil ___100 gm_____

Sample No. : D-32 Performed by: _____

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

4

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				0.3			
200				1.8			
Pan				97.9			
				100			

Gravel

Silty Clay

2.1

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

SF-394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 70 Sample Depth. ____

Sample No. : D-32

Test No.: _____

Date: 12/10/2021

Tested by: _____

L+H/116

Determination No.				
Bottle No.		20		
Wt. of Bottle + Water + Soil W_1 in g		373.4		
Temperature T in °C		30		
Wt. of Bottle + Water W_2 in	g	342.0		
Evaporating Dish No.		26		
Wt. of dish	g	272.1		
Wt. of dish + dry soil	g	321.8		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	94.0		
Wt. of Soil W_s in	g	49.7		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

cont No = 1116

SI-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____ Test No.:

BH : 70 Date: 12/10/21

Sample : D-32 Tested by:

Depth : 48.0 M

Liquid Limit					
No. of Blows	16	20	25	30	34
Container No.	800	850	862	882	80
Wt. Container, gm	7.72	6.97	7.49	11.26	7.36
Wt. Container + Wet Soil	34.53	32.37	33.62	33.84	32.87
Wt. Container + Dry Soil	26.71	25.22	26.38	27.68	25.91
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	880	2157	176		
Wt. Container, gm	10.75	9.70	7.07		
Wt. Container + Wet Soil	37.59	38.81	35.48		
Wt. Container + Dry Soil	32.87	33.67	30.60		
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

SURVEY2000 LTH

SAMPLE TICKET

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

Client: BBA

Location: Mithamain, Kishoreganj

Bore Hole No: 72 Sample type: D19

Depth: 28-30m Signature:

of Civil Engineering, BUET

l Engineering Laboratory

METER ANALYSIS

Test No.: _____

Date: _____

Tested by: _____

Location: _____

Hydrometer No. 152H867452

Boring No. : 72 Sample No. D-19, 20, 21

Meniscus Correction: _____

Sample Depth : 28.5, 30.0, 31.5 M

W_s, in g 50 gm

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_r in cm	$\sqrt{Z_r \text{ in cm} / t \text{ in min}}$	D in mm	N
26/8		¼	47	−3	29						
		½	43		"						
		1	40		"						
		2	35		"						
		4	30		"						
		8	25		"						
		15	21		"						
		30	16.5		29						
	10:24	60	13		"						
	11:24	120	10.5		"						
	1:24	240	8.5		29						
	5:24	480	6.0		"						
27/8	9:48	Am	5.5		"						
28/8	9:02	Am	5.5		29						
29/8	8:59	Am	5		29						

C:\user_civil\Habib Shahch\Hydrometer Analysis.doc

ED

81-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____

Soil Sample: _____

Location: _____

Boring No: _____

Sample No.: _____

Sample depth: _____

Container: 1134/1277

Wt. of Container + Soil: _____

Wt. of Container: _____

Wt. of Soil: 100.0 gm

Performed by: _____

Date: 24/8/21

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				1.9			
Pan				97.5			
				100.0			

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

H

Gray silty clay

2.5

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

52-394

Soil Sample: _____ Test No.: _____

Date: 24/08/21

Tested by: _____

Location: _____

Boring No. : 72 Sample Depth. _____

Sample No. : D-19, 20, 21

H
1134

Determination No.				
Bottle No.		16		
Wt. of Bottle + Water + Soil W_1 in g		381.7		
Temperature T in, °C		29		
Wt. of Bottle + Water W_2 in	g	350		
Evaporating Dish No.		4		
Wt. of dish	g	159.6		
Wt. of dish + dry soil	g	209.4		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	102.1		
Wt. of Soil W_s in	g	49.8		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

SI-394

Cont: 1134

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
B.H: 72
Sample: D-19, 20, 21
Depth: 28.5, 30, 31.5 M

Test No.:
Date: 11/08/2024
Tested by:

Liquid Limit					
No. of Blows	16	21	25	30	35
Container No.	2256	2025	2144	180	5
Wt. Container, gm	8.56	9.62	10.01	7.77	7.76
Wt. Container + Wet Soil	45.79	42.19	47.80	45.00	42.75
Wt. Container + Dry Soil	35.14	32.97	37.31	34.76	33.23
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	2053	2069	133		
Wt. Container, gm	10.17	12.01	7.04		
Wt. Container + Wet Soil	52.34	55.55	50.03		
Wt. Container + Dry Soil	43.67	46.57	41.20		
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:

SURVEY2000 LTH - 1114
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 74 Sample type: D-2
Depth: ~~30~~ 3.0 m Signature: Shuvo

...ivil Engineering, ...

...gineering Laboratory

...TER ANALYSIS

Test No.: _____
Date: 21/08/2021
Tested by: _____
Hydrometer No. 152H867452
Meniscus Correction: _____
W_s, in g 50

1114

Location: _____
Boring No. : 74 Sample No. D-2, 3, 4
Sample Depth : 6, 7.5, 9 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_r in cm	$\sqrt{Z_r \text{ in cm}}$ / t in min	D in mm	N
22/8		¼	47	-2	29						
		½	44		29						
		1	40		〃						
		2	31		〃						
		4	21.5		〃						
		8	15.5		〃						
		15	11		〃						
		30	8		29						
	10:04	60	6		〃						
	11:04	120	5		〃						
	1:04	240	4		29						
	5:04	480	3		〃						
23/8	8:39	Am	2.5		29						
24/8	9:07	Am	2.5		29						
25/8	9:15	Am	2.5		29						

ED

SF-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____ Container: 1114/847

Soil Sample _____ Wt. of Container + Soil _____

Location: _____ Wt. of Container: _____

Boring No: 74 Wt. of Soil 100.0 gm

Sample No.: P-2, 3, 4 Performed by: _____

Sample depth: _____ Date: 21/08/21

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				0.2			
200				1.0			
Pan				98.8			
				100			

1.2

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

SP-394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____ Test No.: _____

Date: 21/08/24

Tested by: _____

Location: _____

H-1114

Boring No. : 14 Sample Depth. _____

Sample No. : D-2, 3, 4

Determination No.				
Bottle No.		2		
Wt. of Bottle + Water + Soil W_1 in g		371.8		
Temperature T in °C		29		
Wt. of Bottle + Water W_2 in	g	340		
Evaporating Dish No.		14		
Wt. of dish	g	158.4		
Wt. of dish + dry soil	g	208.2		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	91.7		
Wt. of Soil W_s in	g	49.8		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

SP-394

Cont: 1114

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____ Test No.:

B.H: 74 Date: 11/08/2021

Sample: D-2, 3, 4 Tested by:

Depth: 6.0, 7.5, 9.0 M

Liquid Limit					
No. of Blows					
Container No.	2192	2347	2315	2183	007
Wt. Container, gm	9.68	9.72	8.86	10.16	7.18
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.	850	2195	2154		
Wt. Container, gm	6.95	10.30	9.20		
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 =

Result Summary:

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

Remarks:

(ET)

SURVEY2000 L+H-9034
SAMPLE TICKET
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 74 Sample type: D - 31
Depth: 46.5 m Signature:

...Engineering, BUET

...neering Laboratory

...ER ANALYSIS

Test No.: _____
Date: 24/08/2021
Tested by: _____
Hydrometer No. 152 # 867452
Meniscus Correction: _____
W_s, in g 50

Boring No. : 74 Sample No. D-31, 32, 33
Sample Depth : 46.5, 48, 49.5 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	$\sqrt{\frac{Z, in\ cm}{t\ in\ min}}$	D in mm	N
22/8		1/4	48	-2	29						
		1/2	46		29						
		1	43		11						
		2	41		11						
		4	36.5		11						
		8	30.5		11						
		15	25		11						
		30	20		29						
	10:24	60	16		11						
	11:24	120	13.5		11						
	1:24	240	10		29						
	5:24	480	9		11						
23/8	9:00	Am	7.5		29						
24/8	9:09	Am	7		29						
25/8	9:18	Am	6		29						

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ED

SF394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample: _____
Location: _____
Boring No: 74
Sample No.: D-31, 32, 33
Sample depth: _____

Container: 9039 / 1207
Wt. of Container + Soil: _____
Wt. of Container: _____
Wt. of Soil: 100.0 gm
Performed by: _____
Date: 21/08/21

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				0.9			
Pan				99.1			
				100.0			

Gravelly silty clay

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

0.9

SP-394

H=9039

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 74 Sample Depth. ____

Sample No. : D- 31, 32, 33

Test No.: _____

Date: 21/08/21

Tested by: _____

Determination No.				
Bottle No.		9		
Wt. of Bottle + Water + Soil W_1 in g		372.2		
Temperature T in °C		29		
Wt. of Bottle + Water W_2 in	g	340.6		
Evaporating Dish No.		20		
Wt. of dish	g	279.7		
Wt. of dish + dry soil	g	329.3		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	92		
Wt. of Soil W_s in	g	49.6		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

Cont No 2039

SI – 394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
B.H: 74
Sample: D-31, 32, 33
Depth: 46.5, 48, 49.5 M

Test No.:
Date: 11/8/21
Tested by:

Liquid Limit					
No. of Blows	15	19	23	27	32
Container No.	756	730	775	805	767
Wt. Container, gm	7.08	10.93	7.14	6.95	10.82
Wt. Container + Wet Soil	38.21	35.23	32.79	34.95	42.72
Wt. Container + Dry Soil	29.41	28.38	25.68	27.42	34.30
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	2038	817	2330		
Wt. Container, gm	9.17	6.64	10.31		
Wt. Container + Wet Soil	34.50	35.91	37.67		
Wt. Container + Dry Soil	29.49	30.14	31.80		
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Liquid Limit

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:

394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____ Test No.: _____

8930 _____ Date: 24/4/21

_____ Tested by: _____

Location: _____ Hydrometer No. 152H/867452

Boring No. : 75 Sample No. D-25, 26, 27 Meniscus Correction: _____

Sample Depth : 37.5, 39, 40.5 M W_s, in g _____

Rr = 2 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_r in cm	$\sqrt{Z_r \text{ in cm}}$ / t in min	D in mm	N
		¼	49	-3	31						
		½	47		4						
		1	44		4						
		2	38		4						
		4	30		4						
		8	23		4						
		15	18.5		4						
		30	14		31						
	10:29	60	11.5		11						
	11:29	120	9		11						
	1:29	240	6.5		11						
	5:29	480	5.5		11						
26/4	9:29	Am	4.5		31						
27/4	9:21	Am	3.5		32						
28/4	9:23	Am	3.0		32						

Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: _____

Sample No. : _____

Sample depth: _____

Container 8930 / 8914

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				0.5			
200				1.1			
Pan				98.4			
				100			

H

Grey silty clay

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

SI-394

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 75 Sample Depth. _____

Sample No. : D-25, 26, 27

Test No.: _____

Date: 24/04/21

Tested by: _____

H-8930

Determination No.				
Bottle No.		2		
Wt. of Bottle + Water + Soil W_1 in g		371.8		
Temperature T in °C		31		
Wt. of Bottle + Water W_2 in	g	340		
Evaporating Dish No.		14		
Wt. of dish	g	158.5		
Wt. of dish + dry soil	g	208.4		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	91.7		
Wt. of Soil W_s in	g	49.9		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

Cont No = 8930

SI-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample
B.H: 75
Sample: D-25,26,27.
Depth: 37.5, 39, 40.5 M

Test No.:
Date: 20/04/21
Tested by:

H

Liquid Limit					
No. of Blows	15	20	26	30	
Container No.	14	27	775	9014	2210
Wt. Container, gm	7.22	7.32	7.14	7.27	9.26
Wt. Container + Wet Soil	31.65	33.20	31.70	34.05	
Wt. Container + Dry Soil	24.60	25.86	24.79	26.52	
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay.

Plastic Limit					
Container No.	8	2321	866		
Wt. Container, gm	7.29	10.09	7.45		
Wt. Container + Wet Soil	34.61	37.54	35.11		
Wt. Container + Dry Soil	28.41	31.16	28.78		
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

SURVEY2000
SAMPLE TICKET

Project: Morichkhali – Mithamain Flyover
Client: BBA/ BUET
Location: Kishoregonj

Bore Hole No: 76 **Sample type: D-1**
Depth: 1.5M **Signature:**

1126
L+H

vil Engineering, BUET

gineering Laboratory

TER ANALYSIS

Test No.: _____

Date: 23/10/21

Tested by: _____

Hydrometer No. 152H867452

Meniscus Correction: _____

W_s, in g 50

H
1126

Location: _____

Boring No. : 76 Sample No. D-1, 2

Sample Depth : 1.5, 3 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	$\sqrt{\frac{Z, in\ cm}{t\ in\ min}}$	D in mm	N
23/10		1/4	47.5	-3	28						
		1/2	45		"						
		1	40		"						
		2	31.5		"						
		4	25		"						
		8	20		"						
		15	15		"						
		30	11.5		"						
	10:26	60	9		"						
	11:26	120	7		"						
	1:26	240	6		"						
	5:26	480	5		"						
24/10	8:52	Am	4.5		29						
25/10	9:01	Am	4.0		29.						
26/10	9:03		4.0		"						

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

SI-394

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 76
Sample No. : D-1, 2
Sample depth: _____

Container: 1126 / 807
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				1.0			
200				0.7			
Pan				98.3			
				100			

Grey silty clay

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

1.7

Department of Civil Engineering, BUET

SI-394

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____

_____

_____

Location: _____

Boring No. : 76 Sample Depth. _____

Sample No. : D-1, 2

Test No.: _____

Date: 23/10/21

Tested by: _____

H-1126

Determination No.				
Bottle No.		2		
Wt. of Bottle + Water + Soil W_1 in g		370.9		
Temperature T in °C		28		
Wt. of Bottle + Water W_2 in	g	340.0		
Evaporating Dish No.		8		
Wt. of dish	g	165.7		
Wt. of dish + dry soil	g	214.7		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	91.7		
Wt. of Soil W_s in	g	49		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

2

SP-394

Cont:- 1126

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
BH : 76
Sample : D-1,2
Depth : 1.5, 3 M

Test No.:
Date: 14/10/21
Tested by:

Liquid Limit					
No. of Blows	16	21	25	30	34
Container No.	2009	2055	2167	33	2249
Wt. Container, gm	8.74	10.55	9.99	7.75	9.81
Wt. Container + Wet Soil	36.45	41.06	38.10	37.82	39.23
Wt. Container + Dry Soil	27.38	31.23	29.06	27.97	29.92
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	A200	9014	301		
Wt. Container, gm	7.35	7.27	7.32		
Wt. Container + Wet Soil	35.04	36.27	35.17		
Wt. Container + Dry Soil	29.33	30.25	29.41		
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	Toughnes s Index

Remarks:

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

L+H
1100

Bore Hole No: 76 **Sample type:** D-30
Depth: 45-00m **Signature:**

vil Engineering, BUET

gineering Laboratory

TER ANALYSIS

Test No.:
Date: 23/10/2021
Tested by:
Hydrometer No. 152H/8674952
Meniscus Correction:
W_s, in g 50

1600

Location:
Boring No. : 76 Sample No. D-30
Sample Depth : 45.0 M
Specific Gravity, G_s

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	$\sqrt{Z_r \text{ in cm}}$ / t in min	D in mm	N
23/10		~~¼~~	47	-3	28						
		~~½~~	43.5								
		1	38								
		2	32.5								
		4	28.5								
		8	24.5								
		15	21.5								
		30	20		11						
	10:02	60	17		11						
	11:02	120	15		11						
	1:02	240	13.5		11						
	5:02	480	12		11						
24/10	8:49	Am	11		29						
25/10	8:58	Am	10.5		29						
26/10											

SI-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____ Container: 1100/1285

Soil Sample _____ Wt. of Container + Soil _____

Location: _____ Wt. of Container: _____

Boring No: 76 Wt. of Soil ___100 gm_____

Sample No. : D-30 Performed by: _____

H Sample depth: _____ 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				0.6			
200				3.7			
Pan				95.7			
				102			

Grey silty clay

D_{10} =

D_{30} =

D_{60} =

4.3

C_u =

C_z =

F.M. =

Department of Civil Engineering, BUET

ST-394

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____ Test No.: _____

Date: 23/10/21

Tested by: _____

Location: _____

Boring No. : 76 Sample Depth. _____

Sample No. : D-30

A-1100

Determination No.				
Bottle No.		15		
Wt. of Bottle + Water + Soil W_1 in g		380.0		
Temperature T in °C		28		
Wt. of Bottle + Water W_2 in	g	349.0		
Evaporating Dish No.		20		
Wt. of dish	g	279.7		
Wt. of dish + dry soil	g	328.9		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	100.8		
Wt. of Soil W_s in	g	49.2		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

cont NO = 1100

SI-394

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample _____
BH : 76
Sample : D-30
Depth : 45 M

Test No.:
Date: 14/10/2021
Tested by:

Liquid Limit					
No. of Blows	16	22	26	30	35
Container No.	886	762	701	758	48
Wt. Container, gm	7.70	7.82	10.63	7.80	6.88
Wt. Container + Wet Soil	31.73	31.97	33.38	32.41	28.13
Wt. Container + Dry Soil	24.97	25.38	27.07	25.76	22.51
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	839	741	800		
Wt. Container, gm	11.03	7.00	6.46		
Wt. Container + Wet Soil	34.14	32.92	33.94		
Wt. Container + Dry Soil	30.05	28.33	28.98		
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	Toughnes s Index

Remarks:

SL-394

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Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____

_____

_____

612

Location: _____

Boring No. : 76 Sample No. UD-1

Sample Depth : 0.60 - 1.05 M

Specific Gravity, G_s _____

Test No.: _____

Date: _____

Tested by: _____

Hydrometer No. 152H867452

Meniscus Correction: _____

W_s, in g 50

$R_x = 2$

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	48	-3	29						
		1/2	45		〃						
		1	42		〃						
		2	39.5		〃						
		4	35		〃						
		8	30.5		〃						
		15	26.5		29						
		30	23		〃						
	10:38	60	19		〃						
	11:38	120	16		29.5						
	1:38	240	14		〃						
	5:7	480	12		〃						
7/5	9:22		9		30						
8/5	9:19	Am	7		30.						
9/5	9:09	Am	5		30						

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

SL-394

Sieve Analysis

Job No.: _____
Soil Sample: _____
Location: _____
Boring No: 76
Sample No.: UD-1
Sample depth: _____

Container: 612/1221
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				0.7			
200				1.2			
Pan				98.1			
				100			

H

Grey silty clay

1.9

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

Department of Civil Engineering, BUET

(1)

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Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____ Test No.: _____

Date: 03/05/2021

Tested by: _____

Location: _____

Boring No. : 76 Sample Depth. 0.60 - 1.05 M

Sample No. : UD-1

UC + H 8098

Determination No.				
Bottle No.		6		
Wt. of Bottle + Water + Soil W_1 in g		373.4	-	
Temperature T in °C		30		
Wt. of Bottle + Water W_2 in	g	341.8		
Evaporating Dish No.		5		
Wt. of dish	g	171.6		
Wt. of dish + dry soil	g	221.0		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	93.6		
Wt. of Soil W_s in	g	49.4		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

Gs _____

cont No = 612

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

SL-394.
(62)

Atterberg Limit Test

Soil Sample
B.H: 76
Sample: UD-1
Depth: 0.60 - 1.05 M

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

Liquid Limit					
No. of Blows	15	19	25	30	35
Container No.	2059	2031	2258	2138	2023
Wt. Container, gm	10.87	10.65	10.88	10.28	10.09
Wt. Container + Wet Soil	45.26	45.12	44.25	43.94	43.93
Wt. Container + Dry Soil	32.67	32.64	32.37	32.13	32.32
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

Grey silty clay

Plastic Limit					
Container No.	2076	2221	731		
Wt. Container, gm	10.37	9.37	7.05		
Wt. Container + Wet Soil	46.66	44.81	47.84		
Wt. Container + Dry Soil	39.12	37.47	39.48		
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

(1)

Remarks:

Department of Civil Engineering, BUET

8L-394 **Geotechnical Engineering Laboratory**

HYDROMETER ANALYSIS

Soil Sample: Muthamain

Location:

Boring No. : 76 Sample No. D - 20, 21, 22

Sample Depth : 30.0, 31.5, 33 M

Specific Gravity, G_s

Test No.:

Date: 9/6/21

Tested by:

Hydrometer No. 152H 867452

Meniscus Correction:

W_s, in g 50.0

1347

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
10/6		¼	47	-2.5	29						
		½	43		〃						
		1	35		〃						
		2	28.5		〃						
		4	23		〃						
		8	17.5		〃						
		15	14.5		〃						
		30	10.5		〃						
	10:20	60	8.5		〃						
	11:20	120	8.0		〃						
	1:20	240	5.5		29						
	5:20	480	5.0		〃						
11/6	9:31	Am	4.5		28						
12/6	9:47	Am	3.5		29						
13/6	8:57	Am	3		29						

C:\user_civil17\Habib Shahch\Hydrometer Analysis.doc

Sl-394

Soil Mechanics Laboratory
Department of Civil Engineering, BUET

Sieve Analysis

Job No.: _____
Soil Sample _____
Location: _____
Boring No: 76
Sample No.: D-20, 21, 22
Sample depth: 30.0, 31.5, 33

Container 1347 / 1392
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							
100				1.4			
200				4.6			
Pan				94			
				100			

Gravy

clayey silt

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____ Test No.: _____

_____ Date: _____

_____ Tested by: _____

Location: _____

Boring No. : 76 Sample Depth. _____

Sample No. : D-20, 21, 22

Determination No.				
Bottle No.		10		
Wt. of Bottle + Water + Soil W_1 in g		373.8		
Temperature T in °C		28		
Wt. of Bottle + Water W_2 in	g	342.2		
Evaporating Dish No.		24		
Wt. of dish	g	301.9		
Wt. of dish + dry soil	g	351.6		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	93.6		
Wt. of Soil W_s in	g	49.7		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_s			

Remarks $\frac{G_T W_s}{W_s - W_1 + W_2}$

G_s _____

SURVEY2000
• SAMPLE TICKET 1347
Project: Elevated Expressway/Road from Mithamain Sadar to Karimganj Upazilla
Client: BBA
Location: Mithamain, Kishoreganj

Bore Hole No: 76 Sample type: D-20
Depth: 30.00m Signature:

Cont: 1347

main.
gineering Laboratory
ivil Engineering, BUET

erg Limit Test

Test No.:
Date: 06/06/2021
Tested by:

B.H: 70
Sample: D-20, 21, 22
Depth: 30, 31.5, 33 M

Liquid Limit					
No. of Blows					
Container No.	786	867	2239	2258	2221
Wt. Container, gm	10.91	7.28	10.23	10.90	9.37
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.	817	508	2192		
Wt. Container, gm	6.62	7.73	9.68		
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:

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Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

HYDROMETER ANALYSIS

Soil Sample: _____ Test No.: _____

_____ Date: _____

_____ Tested by: _____

926 Location: _____ Hydrometer No. 152H867452

Boring No. : 77 Sample No. D-24,25,26 Meniscus Correction: _____

Sample Depth : 36, 37.5, 39 M W_s, in g 50

RR=2 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	$\sqrt{\frac{Z, in\ cm}{t\ in\ min}}$	D in mm	N
27/4		¼	49	-3	31						
		½	44		〃						
		1	38		〃						
		2	31		〃						
		4	25.5		〃						
		8	19.5		〃						
		15	15.5		32						
		30	11.5		〃						
	10:26	60	9		〃						
	11:26	120	6.5		〃						
	1:26	240	5								
	5.26	480	4.0								
28/4	9:25	Am	3.5		32						
29/4	9:18	Am	3.0		32						
30/4	9:17	Am	2.5		32						

SL-394.

Department of Civil Engineering, IIJET

Sieve Analysis

Job No.: _____

Soil Sample _____

Location: _____

Boring No: _____

Sample No. : _____

Sample depth: _____

Container 926/931

Wt. of Container + Soil _____

Wt. of Container: _____

Wt. of Soil 100.0 gm

Performed by: _____

Date: 26/04/21

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				0.5			
200				2.4			
Pan				97.1			
				100			

D_{10} =

D_{30} =

D_{60} =

C_u =

C_z =

F.M. =

2.9

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Department of Civil Engineering, BUET

Geotechnical Engineering Laboratory

SPECIFIC GRAVITY TEST

Soil Sample: _____ Test No.: _____

Date: 26/4/21

Tested by: _____

Location: _____

A-926

Boring No. : 77 Sample Depth. 36, 37.5, 39 M

Sample No. : SD-24,25,26

Determination No.				
Bottle No.		9		
Wt. of Bottle + Water + Soil W_1 in g		372.2		
Temperature T in, °C		32		
Wt. of Bottle + Water W_2 in	g	340.4		
Evaporating Dish No.		18		
Wt. of dish	g	298.1		
Wt. of dish + dry soil	g	347.7		
Wt. Bottle + Dry Soil in	g			
Wt. of Bottle in	g	92.0		
Wt. of Soil W_s in	g	49.6		
Specific Gravity of Water G_T at T°C				
Specific Gravity of Soil:	G_S			

Remarks $\frac{G_T W_S}{W_s - W_1 + W_2}$

G_S _____

SP-394

Cont: 926

Geotechnical Engineering Laboratory
Department of Civil Engineering, BUET

Atterberg Limit Test

Soil Sample
B.H: 77
Sample: 24, 25, 26
Depth: 36, 37.5, 39 M

Test No.:
Date: 24/04/2021
Tested by:

Grey silty clay

Liquid Limit					
No. of Blows	15	20	24	28	32
Container No.	2271	2170	731	781	409
Wt. Container, gm	9.06	10.53	7.06	7.21	7.27
Wt. Container + Wet Soil	41.05	37.76	37.23	35.65	40.45
Wt. Container + Dry Soil	32.05	30.32	28.99	27.99	31.62
Wt. Water, W_w in gm					
Wt. Dry sol, W_s in gm					
Water content, W, in %					

L+H

Plastic Limit					
Container No.	2295	2176	910		
Wt. Container, gm	9.89	9.32	7.11		
Wt. Container + Wet Soil	42.85	44.78	46.60		
Wt. Container + Dry Soil	36.01	37.42	38.36		
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: