GEO-TECHNICAL INVESTIGATION REPORT ON

CONSTRUCTION OF MULTI STORIED BUILDING AT

HOLDING NO.- 616/526, WARD NO.- 17

UNDER HOOGHLY-CHINSURAH MUNICIPALITY

NAME OF OWNERS:

1. **MRS. SANTI SINGHA ; W/O LT. BHARAT CHANDRA SINGHA**
2. **MR. BIDHAN SINGHA ; S/O LT. BHARAT CHANDRA SINGHA**

CONSTITUTED POWER OF ATTORNEY HOLDERS :-

"TIRUPATI CONSTRUCTION" PARTNERS-

1. **MR. SUJIT KUMAR DEY ; S/O MR. SUKUMAR DEY**
2. **MRS. SUSAMA DEY ; W/O MR. SUJIT KUMAR DEY**

JOB CONDUCTED BY

M/S SOILCON

BEGAMPUR STATION ROAD
DIST.- HOOGHLY, PIN.-712306
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R E P O R T
ON

SUB SOIL INVESTIGATIONS CONDUCTED FOR THE CONSTRUCTION OFPROPOSED MULTI STOREYED BULDG.

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Detailed investigation of the soil formations at the site for the construction of proposed bldg. for the Client were conducted by M/S. SOILCON. The field investigation consisted of makingfour bore holes of various depths at the site, collecting of soil samples at various elevations andconducting standard penetration tests inside the bore holes. The samples so obtained were subjected to laboratory analysis in soil Mechanics and foundation Engineering Laboratory. The investigations were conducted from 05.12.25 to 06.12.25. The investigations were done under the able advice & supervision of engineering consultant of the Client of the project.

1.0 INTRODUCTION

A Multi storeyed buldg. has been proposed to be constructed at the site , by the client. They requested M/S. SOILCON to undertake soil investigation work at the proposed site.

The objective of the above soil investigation work was to make 4 nos. bore holes at specified location, including taking out undisturbed soil samples at various depth, maintaining necessary driving records of Standard Penetration tests at various elevations identifying the depth of the water table, testing soil samples for identification of soil layer and evaluating the soil properties for preparation of detailed report with recommendation thereof. The investigations were done under the able advice and supervision of engineering consultant of the client of the project.

2.0 OBJECT

The primary object of the said investigation were –

1. To study the sub-soil characteristics in details by soil boring upto a max. depthof 20m. in 4 locations.
2. Carrying out in situ-testing within the bore holes as well as collection of undisturbed and disturbed soil samples and rock samples if it is found within 20mtr. depth.
3. Carrying out laboratory tests on undisturbed soil samples and rock samples (iffound).
4. Make recommendation for the suitable foundations/foundation system that may be needed for the proposed buldg. keeping the economic point in view regarding the same.

In arriving the above, the investigation was scheduled. As include followings:

1. Determination of maximum depth of fill, if any.
2. Determination of water table, as could be recorded during the period of fieldinvestigation.
3. Suitability of various types of foundation designs, namely shallow foundationand deep foundation, if needed.

4. Allowable bearing capacity of such shallow foundations.
5. Load carrying capacities of various types of foundation designs.
6. Settlement characteristics of all types of foundation designs.
7. General technical observations, in connection with the field investigation andlaboratory test results.

An attempt is made, in this report to draw technical observations regarding the above, in addition to a detailed field and Laboratory findings.

3.0 S I T E

The site was a vacant land during the time exploration and was more or less leveled ground approximately same with the existing Road level.

As decided by the consultant it was planned to make three bore holes at differentlocations shown in Fig.

FIELD SOIL EXPLORATION

For the purpose of exploration of sub-surface soil deposits, five bore holes were sunk at specified location as shown in bore hole location plan in Fig 1. The bore holes were sunk as per IS 1892 code of practice for sub-surface investigation for foundation. During progress of boring, undisturbed soil samples were collected at suitable intervals and whenever soil stratum change, Standard Penetration tests are also conducted within bore holes at regular intervals as per IS 2131 – Method of standard Penetration Test for soils.

For field work, boring plant and field test equipment were mobilized on 05.03.22after completion of work the same were demolished on 06.03.22.

BORING

Boring through the soil was carried out using 150 mm. Dia Augar followed by Bentonite. Boring technique adopted using mechanically operated equipment with winch and part length casing. Bentonite solution of adequate density was seldom used for stabilization of bore holes.

Wash Boring technique was adopted. S. P. T. values were taken in suitable intervals.

COLLECTION OF REPRESENTATIVE SAMPLES :

Disturbed samples are collected from Augar, cutting shoe the undisturbed samplers and split spoon of standard penetrometer. The soil samples logged, leveleddepth wise and placed in polythene bags.

Undisturbed samples recovered at specified intervals from each strata by meansof a open driver samplers. The internal dia of the tube be about 100 mm. The dimension of the cutting shoe is so adjusted to achieve an area ratio of 25% thereby minimizing disturbance of soil during sampling. The undisturbed samples recoveredin the lowest tube were waxed at either end.

All the samples were shifted to the laboratory for identification and testing. General identification and specification was performed as per IS 1428 – 1870.

STANDARD PENETRATION TEST

The standard Penetration Tests as per IS : 2131 were conducted at regular intervals in the bore holes. At the desired depths of cleaned bore holes, the tests were conducted with standard split spoon sampler of 50.8 mm. Outer diameter and 35 mminner diameter. The sampler is an open-ended cylinder, which splits longitudinally into two halves. These two halves are held together by a cutting shoe at the lower enda cupling which connects the sampler to the drill rod. The split spoon was driven through 45 cm. Into the ground at the required level in the bore hole, with the help ofstandard Penetrometer if 65 kg. falling freely from a height of 75 cm. The number of hammer blows for each penetration were recorded. The total number of blows required to drive the second and third 15 cm. of penetration was recorded as the SPTor N – value.

At the end of test, disturbed soil samples from the split spoon were collected in bags with proper labels and stored for general identification and classification tests and inpreparation of bore log.

GROUND WATER LEVEL:

The ground water levels in the bore holes were recorded, and their positions have been given in bore logs. These levels of ground water likely to change with the seasonal variation

LABORATORY INVESTIGATION

For the purpose of proper identification and classification of soils collected during field investigations, and also for determining various properties of these soils, the following laboratory tests, on representative and undisturbed soil and water samples were conducted in the soil Mechanics and Foundation Engineering Laboratory.

a) Natural moisture content,

b) Bulk and dry density,

c) Particle size analysis :

i) Sieve analysis,

ii) Hydrometer analysis

d) Index properties,

e) Specific gravity of soils,

f) Triaxial shear tests,

g) Consolidation tests.

All the laboratory tests were conducted as per the relevant Indian Standard codes of practice, and results presented in bore log tables 1,2,3.

PARTICLE SIZE ANALYSIS :

The particle size analysis of soil samples were conducted as per IS: 2720 (part4). For the purpose of this test dry soil samples were prepared as per IS : 2720 (part-1). The soil fractions passing 4.75 mm IS Sieve and retained on 75 micron sieve were analysed by sieving. 200 gms. Of these soil fractions were passed through a set of sieves. The test was performed with the use of a mechanical shaker. The soil fraction retained on each sieve was carefully collected in containers, and the mass of each fraction was determined and recorded. The percentage of soil fraction retained on eachsieve was calculated.

For the purpose of determination of particle size distribution of soil fraction passing 75 micron IS sieve, Hydrometer tests were conducted. 50 gms.of this even-dried properly prepared soil fraction was taken in an evaporation dish, freshly prepared sodium haxametaphosphate solution was added, and then transferred to the cup of the mechanical mirror using a jet of distilled water to wash all traces of soil out of the evaporating dish. This soil suspension of about 150 ml. was stirred well for 15 minutes. The suspension was then transferred to the 1000 ml. Measuring cylinder. Particle care was taken to wash off all traces of suspension adhering to the dispersion cup. The suspension was made exactly 1000 ml. With distilled water before sedimentation analysis.

The test was conducted as per IS: 2720 (part 4) with the use of a hydrometer. Hydrometer readings were taken at specified intervals of time. After making necessary corrections for the hydrometer reading, the diameter (D) of the particle in suspension at any time (t) was calculated for the corresponding hydrometer reading corrected for meniscus. The percentage of fractions finer that the corresponding equivalent particle diameter was also calculated.

The combined percentage of the total soil sample taken for particle size analysis have been plotted against corresponding equivalent particle size in Figs.

INDEX PROPERTIES:

The index properties of fine-grained soils were determined as per IS: 2720 (part 5 & 6). The liquid limits (L.L.) of soil samples were determined as per standard procedure in a liquid limit device, using a uniform paste prepared with about120 gm. Soil sample passing 425 micron IS Sieve and distilled water. The plastic limits (P.L.) of soil samples were also determined using the standard procedure. At astage of mixing even dried soil passing 425 micron IS sieve and Water at which the mass becomes plastic enough to be easily shaped into a ball, a portion of the soil sample in this plastic state was taken for the plastic limit test. The soil was rolled between fingers and a glass plate till the threads were of 3 mm. diameter.

The soil was then kneaded together to a uniform mass. This process of alternate rolling and kneading was continued until the soil thread crumbled at exactly 3 mm.

Diameter. The moisture content of the pieces of crumbled soil thread was determined. The average of several results was recorded as the plastic limit of the soil.

The specific gravity (Gs) of soil sample was determined in the laboratory as per IS: 2720 (part-3).

All the index properties and specific gravity of soil samples have beenpresented in bore log tables 1,2,3.

5.0 TRIAXIAL SHEAR TESTS:

For the purpose of determining the shear strength parameters of soils, unconsolidated undrained triaxial compression tests were conducted with undisturbed soil samples, in the laboratory, in an electrically operated universal triaxial compression testing machine.

The undisturbed soil samples collected from the bore holes were found to be silty clay type containing clay fractions under the field conditions forthe proposed structure, the classification induced excess pore pressure will not be instantaneous. For stability analysis of foundation, under such situation, undrained shear strength parameters of soils should be used. As such unconsolidated undrained triaxial shear tests of soil samples were conducted in the laboratory to simulate the field conditions in a reasonable manner.

The test were conducted as per IS: 2720 (Part – XI). Standard dimensioned test samples were prepared by cutting the undisturbed samples collected in sampling tubes with the help of a very thin knife and a specially designed thin walled sampler. Care was taken to maintain the sample disturbance to the minimum. The test specimen was placed centrally on the pedestal of the triaxial cell and covered with thin rubber membrane. The cell pressure during testing was maintained with the help of a self compensating mercury cell pressure unit. Tests were performed on three test specimens prepared out of each undisturbed sample collected from bore holes, Mohr-Coulomb envelopes for the samples tested have been presented in Figs. The density (Y), moisture content (m) and triaxial test results of cohesion Cu and angle of interval friction Qu have been presented in borelog tables 1,2,3.

5.4 CONSOLIDATION TESTS:

The consolidation properties of fine grained soils rejected for settlement analysis of foundations, were determined from consolidation tests conducted in the laboratory as per IS: 2720 (Part – XV). The test specimen from undisturbed soil sample

was obtained in test ring of innerdiameter 60 mm. And height 20 mm. And tested in a consolidometer with two any drainage. The normal loads of usual sequence were used and dial readings for sample compressions under each loading were noted at standard specified intervals of time up-to 24 hours or until more than 90% consolidation reached. The dial readings vs. log time and void ratio vs. log pressure curves have been shown in Figs. The values of coefficient of volume compressibilitymv for different stages of loading, and the ratio of compression index Cc and (1 + eo)eo being the initial void ratio, have been given in bore log tables 1,2,3.

For sandy soils, consolidation tests are not conducted, as settlements in such deposits are generally rapid. For such cases, settlement analysis of foundations are normally made using standard penetration test values obtained fromfield tests.

AVG. SOIL PROFILE:

On the basis of two bore holes, two at two corners of the plot, averagesoil profile has been estimated.

On the basis of field exploration and laboratory testing six distinct layers are seen to exist. The top layer is of filled up soil with different haterigeneous materials of thickness 1.20m.

The next layer is of medium brownish grey silty clay of thickness 2.80m. The avg. N value is 3.

In B. H. 2

At 3.0m. depth

L. L. = 63% P. L. = 24%

γt = 1.72Gm/cc W. C. = 52.8%

Cu = 0.40Kg/cm2 Ou = 0

DegreeThe consolidation test

Mv =0.0270Cm2/Kg

Silt = 64% Clay = 36%

The next layer is of medium to soft blackish grey silty clay with decomposed wood of thickness 7.0m. The avg. N value is 1.

In B. H. 1

At 7.5m. depth

L. L. = 70% P. L. = 28%

γt = 1.73Gm/cc W. C. = 39.1%

Cu = 0.21Kg/cm2

The next layer is of soft grayish silty clay of thickness 3.0m. The avg. N value is 10.

The last layer is of firm yellowish grey clayey silt with few % of sandof thickness 7.0m. The avg. N value is 2.

Water table was found to be at a depth of 0.0m. after stabilization of the Bore holes. However it is reported from the locality that during rainy season the water table may rise at a height of road level.

RECOMMENDATION

On the basis of field exploration and laboratory testing on samples collected it is observed that the soil profile is more or less same at the location of four Bore Holes in the plot. Since most of the structure will be built around the B.H. 1 and 2. The Bearing capacity recommended for proposed foundations will be based on soil properties revealed by B.H. 1 ,2.

However to be on safer side bearing capacity and settlement are calculated on the basis of lowest values of shear strengths in undrained condition at proposed depth of foundation. So with such assumptions Bearing capacity and settlement of different type of shallow footings have been estimated.

All the analysis are based on the existing location of water table

In designing shallow foundation following precautions must be taken

1. For strip footing, the minimum edge to edge clearance to be at least 67% of the average width of the two adjacent strip footing.
2. Suitable tie-beams should be provided in the proper direction.
3. For square and rectangular foundations minimum edge to edge clearance between foundations be 50% of the average dimension of two adjacent square or rectangular foundation.

For M/S SOILCON

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Empaneled Geo Technical Engineer
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K.M.C. Reg No.-GT/H/19

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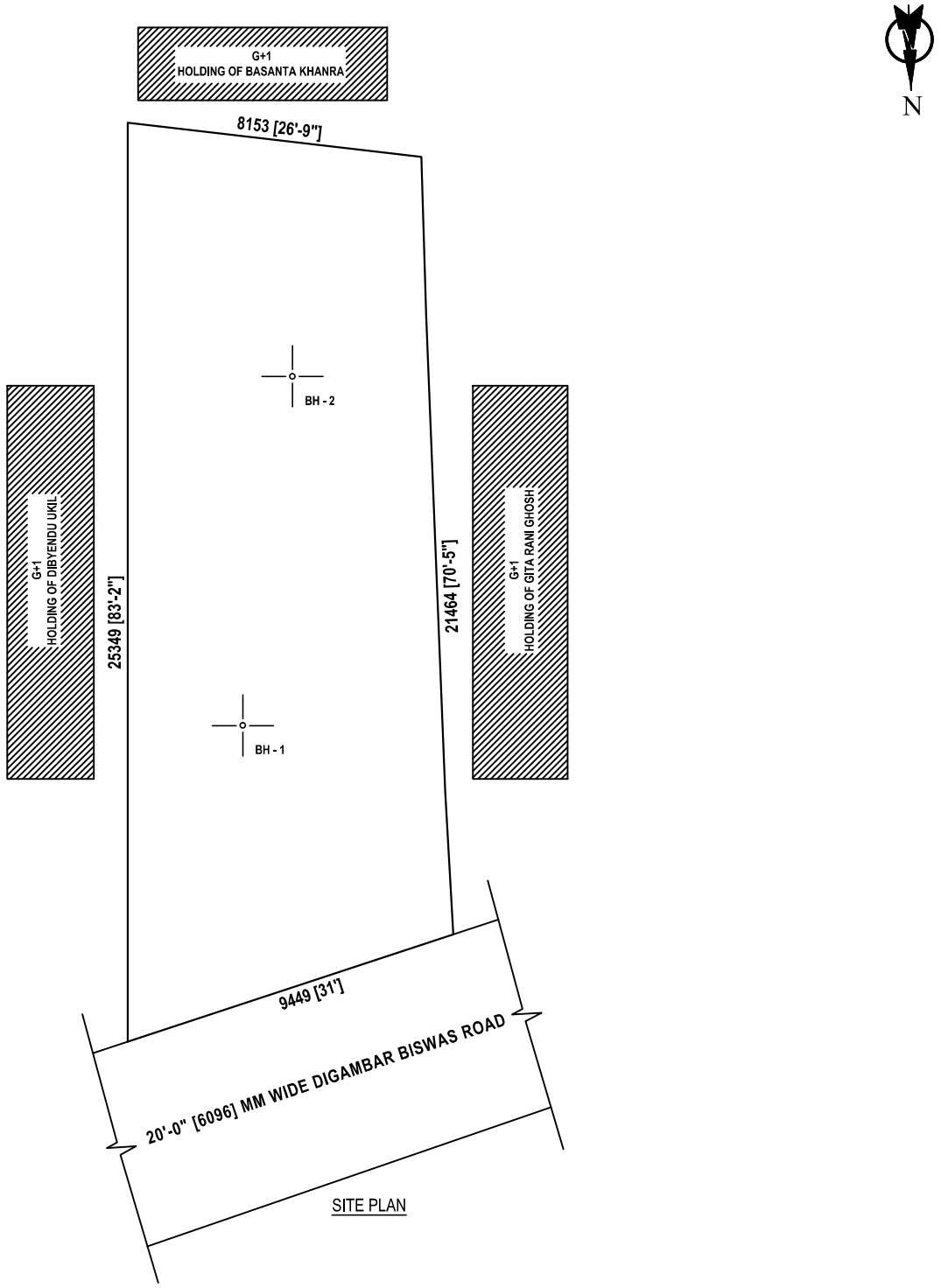
Submitted
by: M/S
SOILCON

ANNEXURE

Project :-	616/526,Chatagoli,Chinsurah, Hooghly.

R.S. DAG NO.- 556 , 557; R.S. KHATIAN NOS.- 333 , 3735; L.R. DAG NO.- 1023; L.R. KHATIAN NOS.- 18793 , 18794; J.L. NO.- 20; AT CHATAGOLI ;WARD NO.- 17, HOLDING NO.- 616/526, P.S. & MOUZA -CHINSURAH , UNDER HOOGHLY- CHINSURAH MUNICIPALITY; DISTRICT - HOOGHLY.



SITE PLAN

SUBMITTED BY : M/S SOILCON

BEARING CAPACITY OF SOIL

q_f = Safe bearing capacity = $0.67C.N_c.S_c.d_c.i + \gamma_D(N_q-1).S_q.d_q.i_q + 0.5B.\gamma.N_\gamma.S_\gamma.d_\gamma.i_\gamma.W$

C = Cohesion.

N_c = N_q N_γ Hansen's B.C. factor.

S_c S_q S_γ Shape factor.

d_c d_q d_γ = Depth factor.

i_c i_q i_γ Inclination factor.

Size	L(m.)	B(m.)	D(m.)	~~C(t/m²)~~	N_c	S_c	d_c	i_c
Type - Square.								
1.5x1.5	1.5	1.5	3	3.3	5.14	1.3	1.70	1.0
2.0x2.0	2	2	3	3.3	5.14	1.3	1.53	1.0
2.5x2.5	2.5	2.5	3	3.3	5.14	1.3	1.42	1.0
Type - Rectangular.								
1.5x2.0	2	1.5	3	3.3	5.14	1.15	1.70	1.0
2.0x2.5	2.5	2	3	3.3	5.14	1.16	1.53	1.0
2.5x3.0	3	2.5	3	3.3	5.14	1.17	1.42	1.0
Type - strip.								
1.5	α	1.5	3	3.3	5.14	1.0	1.70	1.0
2	α	2	3	3.3	5.14	1.0	1.53	1.0
2.5	α	2.5	3	3.3	5.14	1.0	1.42	1.0

Size	L(m.)	B(m.)	D(m.)	N_q	S_q	d_q	i_q
Type - Square.							
1.5x1.5	1.5	1.5	3	1	1.2	1.70	1.0
2.0x2.0	2	2	3	1	1.2	1.53	1.0
2.5x2.5	2.5	2.5	3	1	1.2	1.42	1.0
Type - Rectangular.							
1.5x2.0	2	1.5	3	1	1.15	1.70	1.0
2.0x2.5	2.5	2	3	1	1.16	1.53	1.0
2.5x3.0	3	2.5	3	1	1.17	1.42	1.0
Type - strip.							
1.5	α	1.5	3	1	1.0	1.70	1.0
2	α	2	3	1	1.0	1.53	1.0
2.5	α	2.5	3	1	1.0	1.42	1.0

Size	L(m.)	B(m.)	D(m.)	N_γ	S_γ	d_γ	i_γ
Type - Square.							
1.5x1.5	1.5	1.5	3	1	0.8	1.70	1.0
2.0x2.0	2	2	3	1	0.8	1.53	1.0
2.5x2.5	2.5	2.5	3	1	0.8	1.42	1.0

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Type - Rectangular.

1.5x2.0	2	1.5	3	1	0.7	1.70	1.0
2.0x2.5	2.5	2	3	1	0.68	1.53	1.0
2.5x3.0	3	2.5	3	1	0.67	1.42	1.0

Type - strip.

1.5	α	1.5	3	1	1.0	1.70	1.0
2	α	2	3	1	1.0	1.53	1.0
2.5	α	2.5	3	1	1.0	1.42	1.0

Size	**L(m.)**	**B(m.)**	**D(m.)**	**q_u (t/m^2)**	**F**	**q_f (t/m^2)**
Type - Square.						
1.5x1.5	**1.5**	**1.5**	**3**	**26.14**	**3.0**	**8.71**
2.0x2.0	**2**	**2**	**3**	**23.75**	**3.0**	**7.92**
2.5x2.5	**2.5**	**2.5**	**3**	**22.40**	**3.0**	**7.47**
Type - Rectangular.						
1.5x2.0	**2**	**1.5**	**3**	**23.11**	**3.0**	**7.7**
2.0x2.5	**2.5**	**2**	**3**	**21.14**	**3.0**	**7.05**
2.5x3.0	**3**	**2.5**	**3**	**20.02**	**3.0**	**6.67**
Type - strip.						
1.5	**α**	**1.5**	**3**	**20.59**	**3.0**	**6.86**
2	**α**	**2**	**3**	**18.86**	**3.0**	**6.29**
2.5	**α**	**2.5**	**3**	**17.91**	**3.0**	**5.97**

Submitted by:
M/S SOILCON

CALCULATION OF SETTLEMENT

(A) Immediate settlement(ρ_i) :

$\rho_i = q_f.B/E.(1-\mu^2).I_\rho$

q_f = Net allowable B.C. = 7.01

T/M^2 B = Width of fdn.

= 2 M.

L = Length of fdn. = 2 M.

C = Cohesion of soil = 2.9 T/M^2

E = Mod. Of elasticity of soil = 500.C = 1450 T/M^2

μ = Poisson's ratio = 0.5

I_ρ = Influence factor = 1.12

Therefore, ρ_i = 0.00812 M. = 8.12193 MM.

Depth of fdn. = D_f = 1.5 M. Length= 2.0 M.

Therefore, D_f/B = 0.75

L/B = 1

From graph, Correction factor = 0.8

Hence, corrected immediate settlement = $(\rho_i)_c$ = 6.49754 MM.(B) Consolidation settlement(ρ_c) :

H = Depth of compressed layer.

t = Distance between the base of footing and centre of compressed layer.m_v = Co-efficient of volume compressibility.

Δp = Incrimental pressure.

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Layer	H (M)	t (M)	m_v (M^2/T)	Δp (T/M^2)
I	1.0	0.5	0.0044	4.486
II	2.0	2	0.0039	1.753
III	2.0	4	0.0032	0.779

Total consolidation settlement (ρ_c) = $\sum H.m_v.\Delta p$ = 0.03839 M.

Applying the necessary correction factor the corrected consolidation

settlement=$(\rho_c)_c$= 0.03072 M. = 31 MM.

Hence, total settlement of fdn. = 37 MM. Which is less

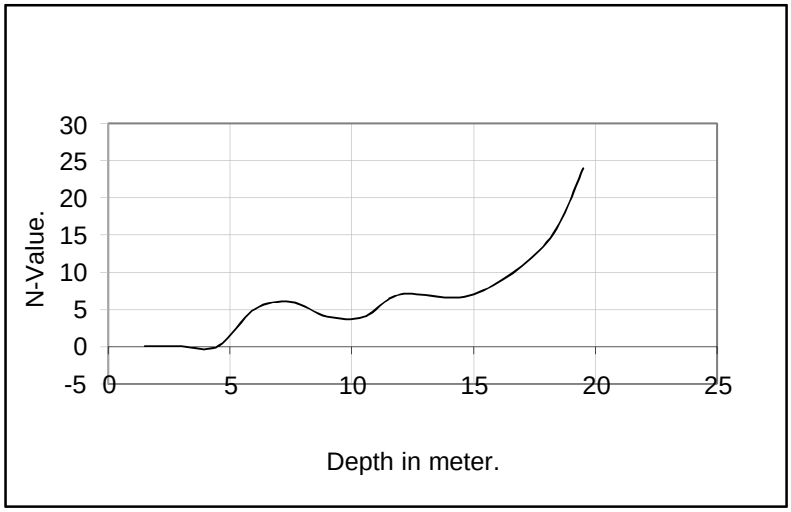
than permissible value of 75 MM.

Submitted by:
M/S.SOILCON

DEPTH VS N-VALUE CURVE

Bore Hole No. 1

Depth in meter	N-Value
1.5	0
3	0
4.5	0
6	5
7.5	6
9	4
10.5	4
12	7
15	7
18	14
19.5	24



Submitted
by: M/S
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BORE HOLE NO. : 1 BORE HOLE DIAMETER : 150 MM.

TERMINATION DEPTH : 20 M. WATER LEVEL : 1.0 M.(BELOW G.L.)(UNLESS OTHERWISE STATED ALL DEPTH ARE MEASURED BELOW G.L.)

S - SPT C - CORE DATE OF COMMENCEMENT : 05.03.22

U - UNDISTURBED SAMPLE DATE OF COMPLETION : 05.03.22

D - DISTURBED SAMPLE.

DEPTH (M.) FROM	TO	STRATA	SAMPLE TYPE	DEPTH(M.)				
0.00		FILLED UP SOIL WITH BRICK-BATS AND	D	0.50				
	0.50	DIFFERENT HETEROGENEOUS MATERIALS	D	1.00				
0.50			SPT	1.50			N	5
		SOFT TO MEDIUM GREYISH SILTY CLAY.						
	3.00		SPT	3.00			N	3
3.00			U	4.50	–	5.10		
		MEDIUM GREYISH CLAYEY SILT.						
			SPT	6.00	–	6.45	N	3
			SPT	7.50	–	7.95	N	4
	8.00		U	8.00	–	8.60		
8.00			SPT	9.00	–	9.45	N	5
		MEDIUM GREYISH SILTY CLAY WITH DECOMPOSED WOOD.	SPT	10.50	–	10.95	N	4
			U	11.00	–	11.60		
	13.00		SPT	12.00	–	12.45	N	7
13.00		FIRM BLUISH GREYISH CLAYEY SILT.	SPT	15.00	–	15.45	N	916.50
16.50			SPT	18.00	–	18.45	N	10
		FIRM BROWN GREYISH CLAYEY SILT.						
	20.00		SPT	19.50	–	19.95	N	12

Submitted by:
SOILCON

BORE HOLE NO. : 2 BORE HOLE DIAMETER : 150 MM.

TERMINATION DEPTH : 10 M. WATER LEVEL : 1.0 M.(BELOW G.L.)(UNLESS OTHERWISE STATED ALL DEPTH ARE MEASURED BELOW G.L.)

S - SPT C - CORE DATE OF COMMENCEMENT : 05.03.22

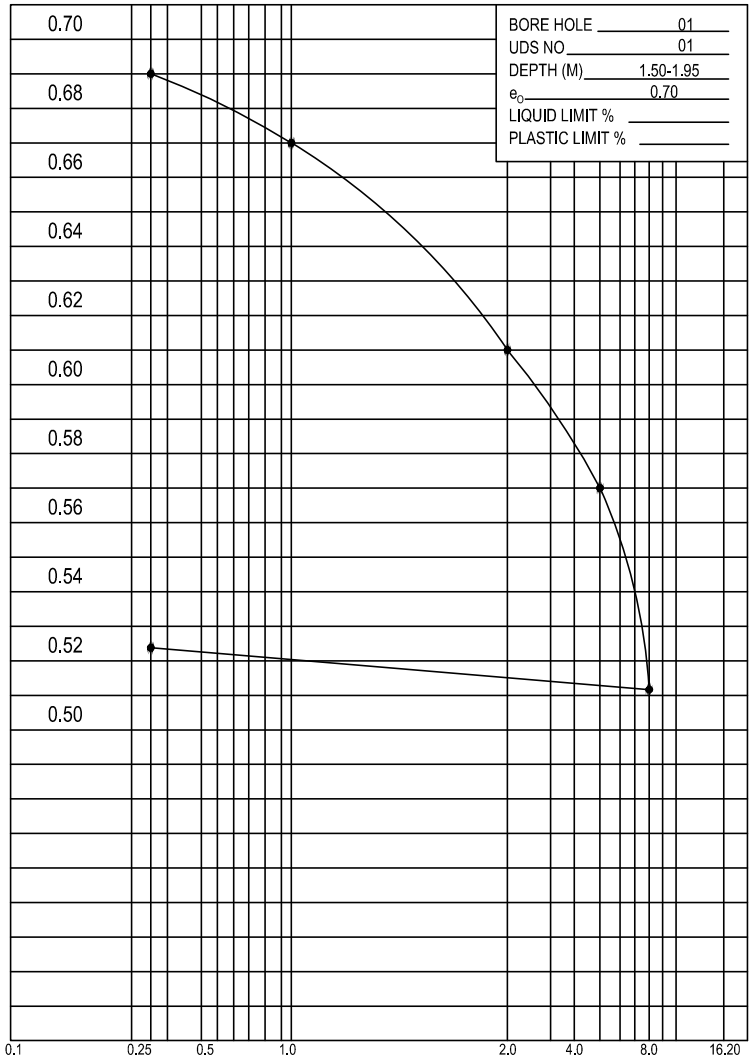
U - UNDISTURBED SAMPLE DATE OF COMPLETION : 05.03.22

D - DISTURBED SAMPLE.

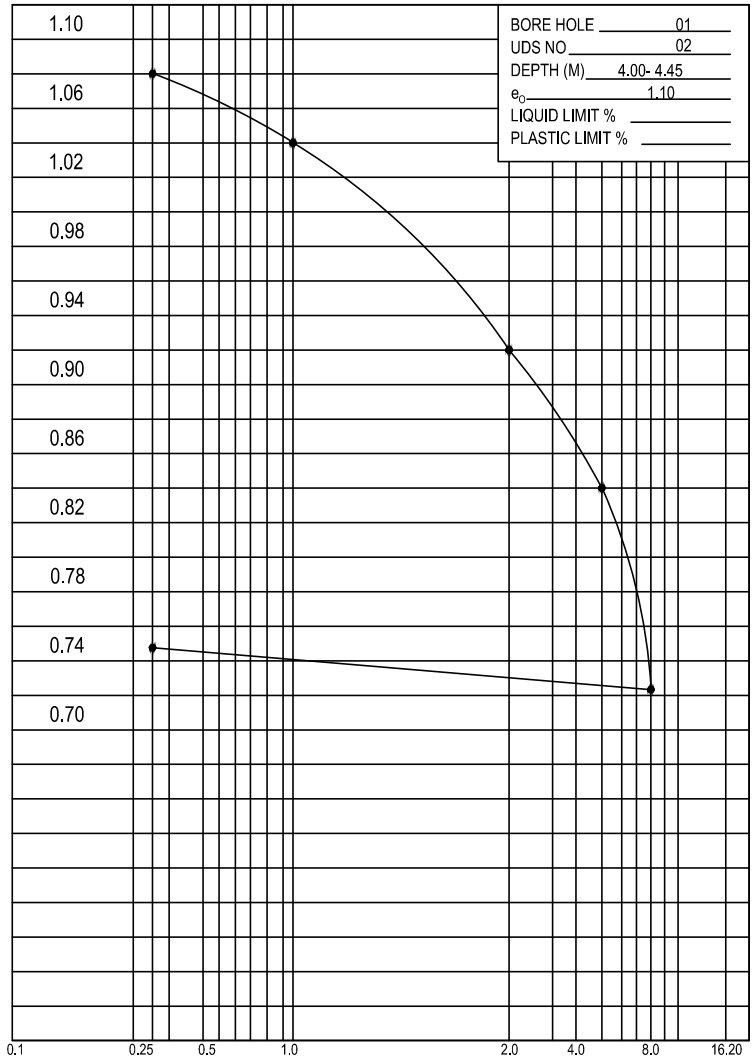
DEPTH (M.) FROM	TO	STRATA	SAMPLE TYPE	DEPTH(M.)				
0.00		FILLED UP SOIL WITH BRICK-BATS AND	D	0.50				
	1.00	DIFFERENT HETEROGENEOUS MATERIALS.	D	1.00				
1.00		SOFT TO MEDIUM GREYISH SILTY CLAY.	SPT	1.50			N	5
	3.50		SPT	3.00			N	3
3.50			U	4.50	–	5.10		
		MEDIUM GREYISH CLAYEY SILT.	SPT	6.00	–	6.45	N	3
			SPT	7.50	–	7.95	N	4
	8.00		U	8.00	–	8.60		
8.00		MEDIUM GREYISH SILTY CLAY	SPT	9.00	–	9.45	N	5
	10.00		SPT	10.50	–	10.95	N	4

Submitted by:
SOILCON

e Vs LOG p CURVE



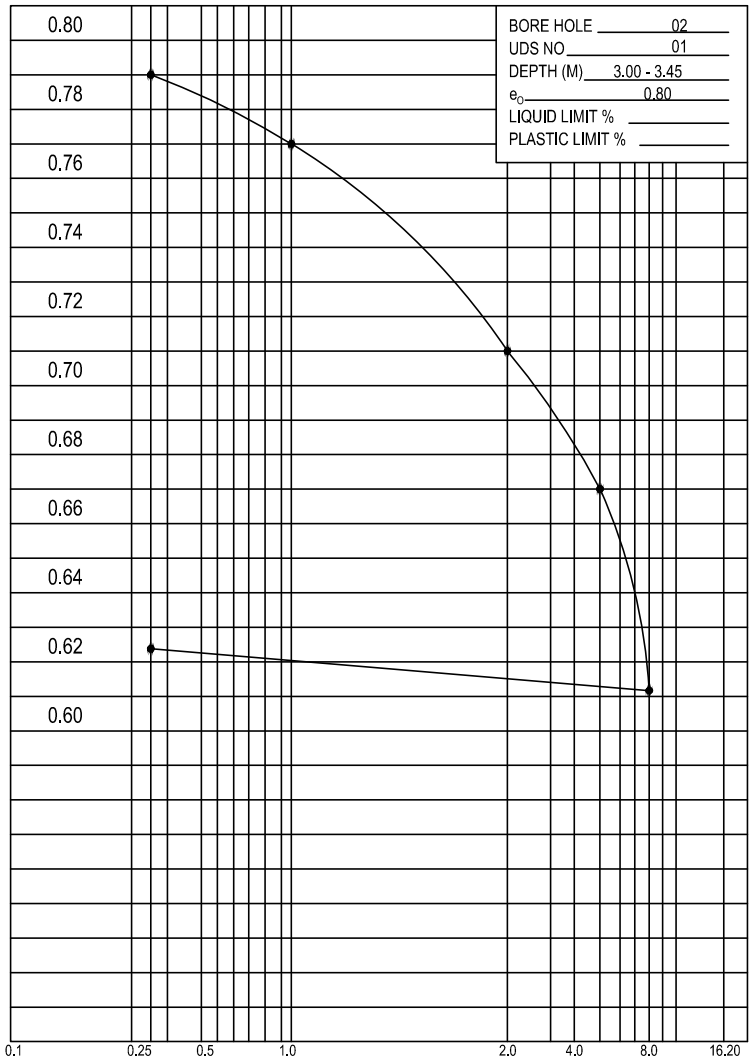
VOID RATIO



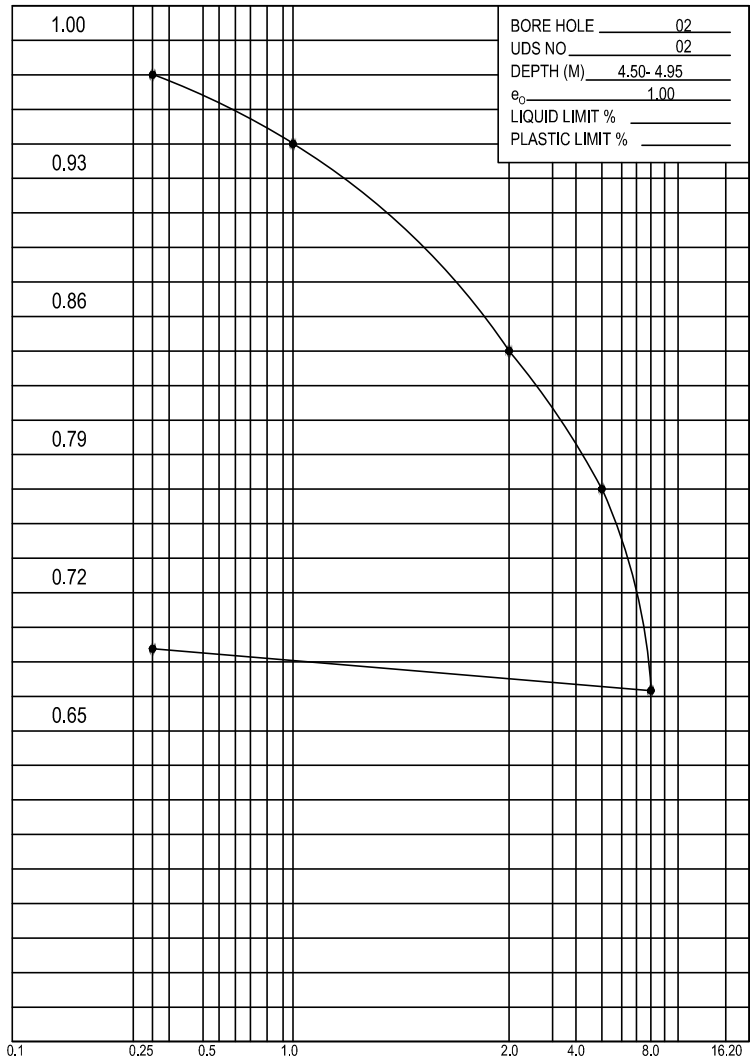
SUBMITTED BY : M/S SOILCON

Project :- 616/526,Chatagoli,Chinsurah, Hooghly.

e Vs LOG p CURVE



VOID RATIO



SUBMITTED BY : M/S SOILCON

Project :- **616/526,Chatagoli,Chinsurah, Hooghly.**

Project :-	616/526,Chatagoli,Chinsurah, Hooghly.

BORE LOG DATA SHEET

BORE HOLE NO.- 01

Field Test	Nos.	Samples	Nos.		
				Commenced on	:
				Completed on	:
Penetrometer (SPT)		Undisturbed (UDS)		Bore Hole Dia	:
Cone (PC)		Penetrometer (SPT)		R L of Ground	:
Vaane (V)		Disturbed (DS)		Water Struck At	:
				Standing water Level	:

Description	Symbol	N - Value				Samples	
		0	0	0	0	Ref No.-	Depth (M)
Brownish grey clayey silt with brick bats.						DS 1	0.9
0.09 M							
						UDS - 1	1.50 - 1.95
						SPT - 1	2.00 - 2.60
Medium stiff brownish grey clayey silt with fine sand.		6				DS - 2	3
4.00 M						UDS - 2	4.00 - 4.45
						SPT - 2	4.50 - 5.10
						DS - 3	5.2
		4				UDS - 3	6.00 - 6.45
						SPT - 3	8.00 - 8.60
Soft to medium deep grey clayey silt / silty clay.		5				DS - 4	8.8
10.60 M		6				SPT - 4	10.00 - 10.60

SUBMITTED BY : M/S SOILCON

Project :-	616/526,Chatagoli,Chinsurah, Hooghly.

BORE LOG DATA SHEET

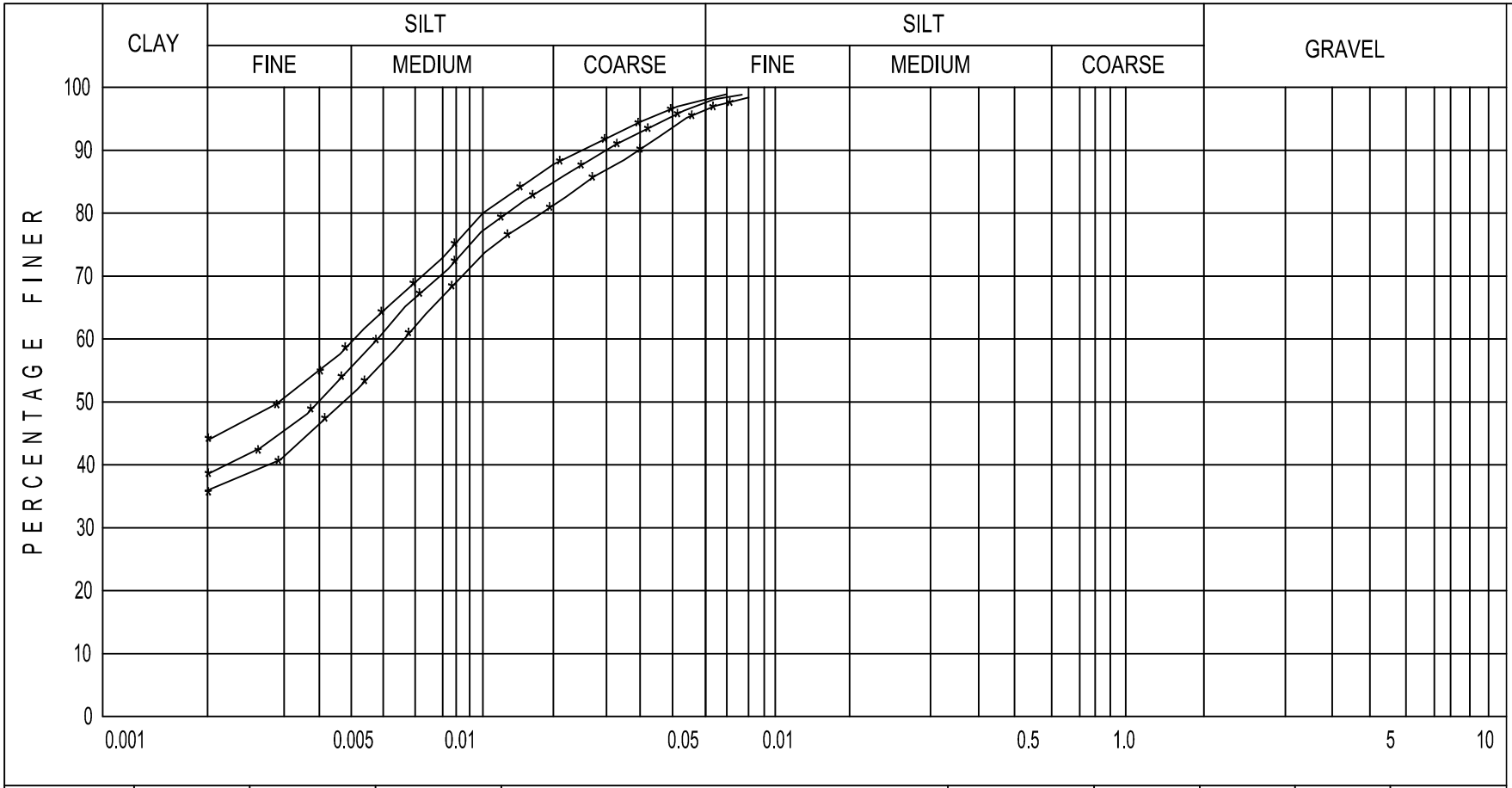
BORE HOLE NO.- 02

Field Test	Nos.	Samples	Nos.		
				Commenced on	:
				Completed on	:
Penetrometer (SPT)		Undisturbed (UDS)		Bore Hole Dia	:
Cone (PC)		Penetrometer (SPT)		R L of Ground	:
Vaane (V)		Disturbed (DS)		Water Struck At	:
				Standing water Level	:

Description	Symbol	N - Value				Samples	
		0	0	0	0	Ref No.-	Depth (M)
Brownish grey clayey silt with brick bats.						DS 1	0.9
0.09 M							
						UDS - 1	1.50 - 1.95
						SPT - 1	2.00 - 2.60
Medium stiff brownish grey clayey silt with fine sand.		6				DS - 2	3
4.00 M						UDS - 2	4.00 - 4.45
						SPT - 2	4.50 - 5.10
						DS - 3	5.2
		4				UDS - 3	6.00 - 6.45
						SPT - 3	8.00 - 8.60
Soft to medium deep grey clayey silt / silty clay.		5				DS - 4	8.8
10.60 M		6				SPT - 4	10.00 - 10.60

SUBMITTED BY : M/S SOILCON

Project :- 616/526,Chatagoli,Chinsurah, Hooghly.



SAMPLE NUMB.	BORE HOLE	DEPTH	CLASSIF ICATION	DESCRIPTION	GRAVEL %	SAND %	SILT %	CLAY %	GRAIN SIZE DISTRIBUTION
01	01	1.5- 1.95	* *	CLAYEY SILT.		03	61	36	
02	02	4.0- 4.45	* *	CLAYEY SILT/SALTY CLAY.			54	46	
03	03	3.0- 3.45	* *	CLAYEY SILT			62	38	

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