

REPORT ON
GEOTECHNICAL INVESTIGATIONS

FOR THE PROPOSED

High School
At
Bairamsarai, Block - Ghosi
Dist. Jehanabad

Your Letter No.- BSEIDC/TECH/1960/2018-1369 Dated - 02.03.2021
[Serial No. 22]

Submitted to
The Chief Engineer
BSEIDC, Patna

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PN - 210728

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INTRODUCTION

The subsoil investigations reported herein were taken up (vide W.O. No. [BSEIDC/Tech/1960/2018-1369 Dated – 02.03.2021](#)
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to find out the nature of subsoil at the site of the proposed construction and to recommend the capacity and type of its foundation. After certain tests on the soil, as detailed below, the desired recommendations have been made on **page 3-4** of this Report.

2. FIELD WORK

The fieldwork consisted of sinking bore holes, collecting soil samples and conducting the necessary field tests.

2.1. Boring

Taking guidance from IS: 1892, 150 mm diameter bore holes were sunk at locations shown in the bore hole location map.

2.2 Sampling

2.2.1 Undisturbed Soil Samples

Open drive samplers of 100-mm diameter and about 450-mm length were used for obtaining undisturbed samples of cohesive soils. The collection, sealing, labeling and transportation of the samples to the laboratory were done as per the IS guide-lines.

2.2.2 Disturbed Soil Samples

Disturbed soil samples were collected at suitable intervals of depth (not more than 2.5 m) and at all depths of change in the nature of the subsoil. These samples were sealed in polythene bags with proper identification labels.

2.3 Field Tests

2.3.1 Standard Penetration Tests (SPT)

These tests were conducted as per IS: 2131 – 1963. The depth interval between two consecutive tests was 1 to 1.5 m. The tests were located in between the levels at which undisturbed soil samples were collected.

3. LABORATORY TESTS

Some or all of the following laboratory tests, as necessary, were done on the collected soil samples. Representative soil samples were selected for this from the different soil strata encountered during boring. The tests were performed as per the relevant Indian Standard Codes of Practice.

- (a) Natural moisture content
- (b) Bulk density
- (c) Grain size analysis (using sieves and / or hydrometer)
- (d) Specific gravity of soil solids
- (e) Atterberg's limit tests (liquid, plastic and shrinkage limits)
- (f) Shear Tests :
 - [I] Triaxial compression test (unconsolidated – undrained), generally for fine-grained soils
 - [II] Unconfined compression tests, only on cohesive soils
 - [III] Direct shear tests, generally for coarse-grained soils
- (h) Other tests as and when required.

4. PRESENTATION OF TEST RESULTS

The field and laboratory test results are given in the **Appendix B**.

5. SOIL STRATIFICATION

The results of field tests in three bore holes sunk at the site [vide Location Sketch in App. A] and the results of laboratory tests conducted on the collected soil samples indicate that the soil stratification at the site is as describe below.

The subsoil in all 3 BH's is sandy silty clay [type CL / CI] up to the depth of about 1.5 m and 7.5 m to investigate depth of 10.5 m bgl. From about 1.5 m to 7.5 m depth bgl there is silty sand [type SM-SP]. Soil is also gritty below 7.5 m.

Ground water table was struck at about 2.90 m to 3.60 m depth below GL in July, 2021 It is subject to seasonal variations.

6. FOUNDATION ANALYSIS

The safe capacity of foundation of any type and size may be determined on the basis of the soil data given in this Report by using the standard methods of foundation design and following the relevant Indian Standard Codes.

7. RECOMMENDATIONS

The design of the foundation for the proposed structure depends on the nature of both [a] the subsoil and [b] the structure.

The subsoil in all 3 BH's is sandy silty clay [type CL / CI] up to the depth of about 1.5 m and 7.5 m to investigate depth of 10.5 m bgl. From about 1.5 m to 7.5 m depth bgl there is silty sand [type SM-SP]. Soil is also gritty below 7.5 m.

Ground water table was struck at about 2.90 m to 3.60 m depth below GL in July, 2021 It is subject to seasonal variations.

Hence,

1. The subsoil up to about 2 m in BH 1 and 2 is soft. Hence the proposed structure may be provided with shallow foundation at a depth of 2.0 m or more.
2. The subsoil up to 8 m depth below top soil is sand. Hence placement of U/r pile may be difficult, hence not recommended. Alternatively, plane piles of lengths 4.0 m to 10.0 m with shaft diameters 0.25 m, 0.30 m, 0.40 m and 0.50 m may be provided. A casing will have to be used during boring for the pile.

By way of example, the values of safe capacities of

[1] Shallow foundations and [2] Plane piles of the above mentioned sizes and depths have been calculated (vide Samples of Calculations in Appendix F) and the safe capacities are given below in Tables 1 and 2 respectively.

Table 1: Allowable Net Bearing Pressures [q_{na}] and Settlements Expected [s]

Depth (m) below Ground Level	Width (m)	Net allowable bearing pressure (t/m ²)			Maximum expected settlement (mm)
		Strip footing	Square footing	Raft footing	
2.0	2	6.3	6.9	...	50
	3	5.3	5.3	...	50
	10	...	...	6.7	75
2.5	2	6.9	6.9	...	50
	3	5.8	5.8	...	50
	10	...	...	7.8	75
3.0	2	8.1	8.1	...	50
	3	7.4	7.4	...	50
	10	...	...	8.1	75
3.5	2	9.3	9.3	...	50
	3	8.5	8.5	...	50
	10	...	...	9.4	75
4.0	2	10.4	10.4	...	50
	3	9.5	9.5	...	50
	10	...	...	9.7	75
4.5	2	11.6	11.6	...	50
	3	10.6	10.6	...	50
	10	...	...	10.1	75

**Table 2. Safe Capacities of Plane Piles
[Factor of safety = 2.5 in skin friction and 3 in bearing]**

Pile length [m]	Safe Capacities [tonnes] (subject to checking for slenderness ratio*) for Piles of diameters (m):			
	0.25 m	0.30 m	0.40 m	0.50 m
4.0	2.9	3.7	5.5	7.6
6.0	4.7	6.5	10.1	13.7
8.0	6.7	9.2	14.3	19.5
10.0	9.9	13.0	19.6	26.4

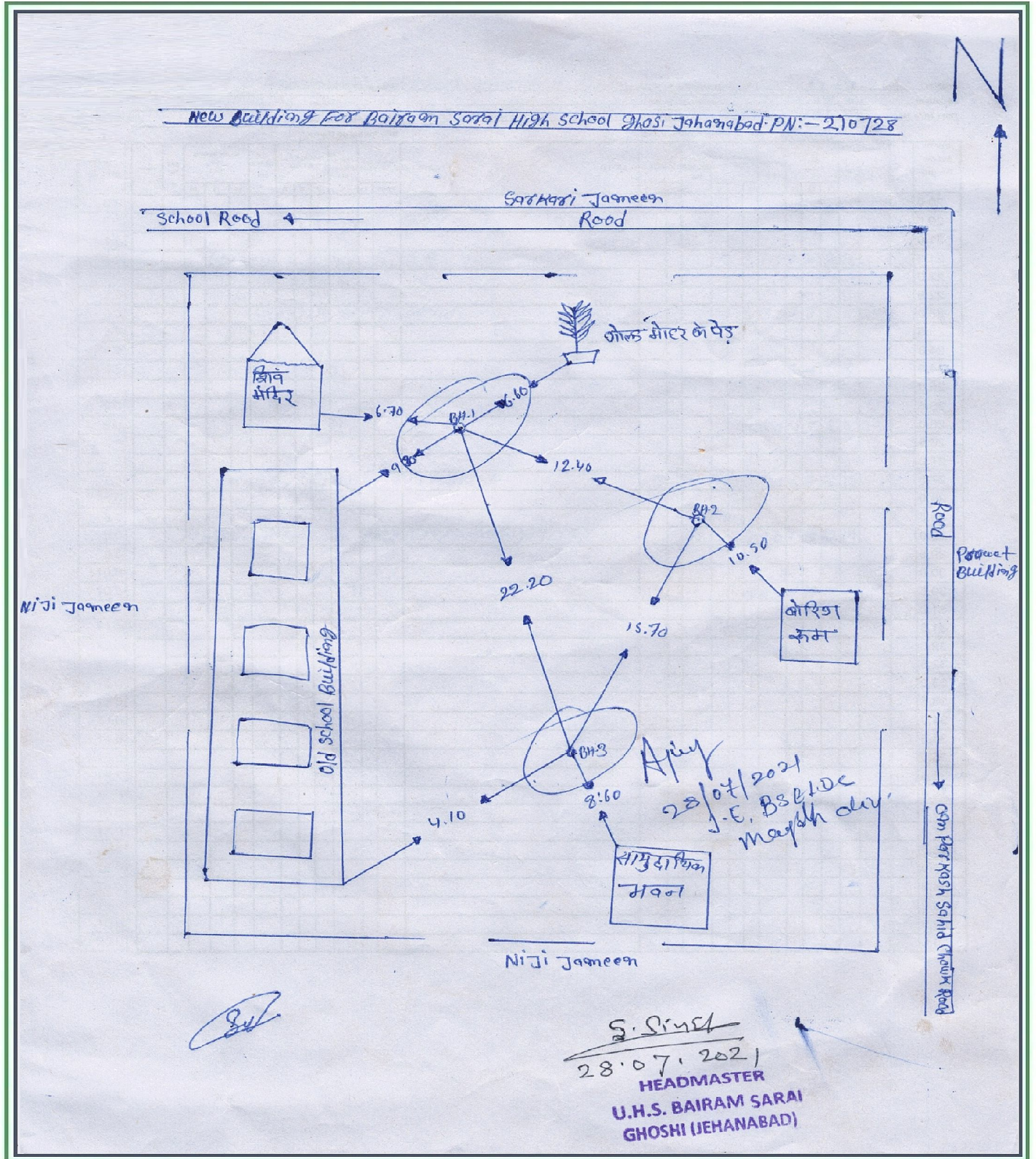
*For a preliminary checking of the slenderness ratio, the modulus of subgrade reaction (k) may be estimated from the following empirical relation given in IS: 2950-1981 (Second Revision) Table 1. $k \text{ (kN/m}^3\text{)} = 240 c$, where $c \text{ (kN/m}^2\text{)}$ is the value of cohesion of the soil at the concerned depth. **Notes:**

1. If a subsoil condition much different from those reported herein is met with during foundation trenching or piling, suitable steps should be taken.
2. If the depth of a shallow foundation is below the water table, dewatering of the foundation trench has to be done, and its side walls may have to be suitably supported at the time of the construction of the foundation.
3. In case a basement is being provided, its base and side walls have to be safeguarded against the likely ingress of ground-water.
4. If concreting for a pile has to be done under water, DMC and tremie method of concreting should be adopted.
5. As per the provisions of the IS Code, **an appropriate number of piles must be subjected to routine load tests to check the veracity of the above recommended values of the safe capacities of piles.**

For Bihar Foundation Consultants

(Prof. C.N. Sinha, Dr.-Ing., FIE)
Chief Consultant.

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NAME OF WORK : Sub soil Investigation for C/O								BORING FINISH DATE : 27.07.2021		WATER TABLE : 2.90 m bgl								
High School at Bairamsarai, Block - Ghosi, Dist. Jehanabad								BORING METHOD : Rotary										
BORE HOLE NO. : 1		Site Incharge - Mukesh Singh						TERMINATION DEPTH : 10.5 m		RECORD ON : 27.07.2021								
Depth Below GL (m)	Sample No.	SPT 'N' Value observation	Visual Description of Soil with IS Classification	Depth(m)		Thickness (m)	Liquid Limit	Plastic Limit	Plasticity Indx,%	Bulk Density (gm/cm3)	Natural Moisture Content (%)	Specific Gravity	Shear Test		Compression Index (C _c)			
		Obsr.		from	to								Type of Test	Cohesion, c (kg/cm ²)		Friction Angle, F°		
1.0			Greyish sandy silty clay, CL	0.0		1.5												
1.5	S1	4					1.5	34.2	21.6	12.6	1.94	29.7	2.70		0.20	2.5		
2.5			Greyish silty sand, SM-SP	1.5		6.0												
3.0	S2	6									1.91	30.2	2.64		0.00	28.0		
4.0																		
4.5	S3	9									1.90	30.5	2.63		0.00	28.0		
5.5																		
6.0	S4	11									1.90	30.7	2.63		0.00	28.1		
7.0																		
7.5	S5	14			7.5				1.89	31.2	2.62		0.00	28.4				
8.5			Greyish yellowish sandy silty clay, CI with grits	7.5		3.0												
9.0	S6	19						39.7	22.7	17.0	2.02	24.6	2.69		0.71	5.2		
10.0																		
10.5	S7	22			10.5				2.03	24.2	2.70		0.77	5.2				

NAME OF WORK : Sub soil Investigation for C/O								BORING FINISH DATE : 28.07.2021		WATER TABLE : 3.60 m bgl								
High School at Bairamsarai, Block - Ghosi, Dist. Jehanabad								BORING METHOD : Rotary										
BORE HOLE NO. : 2		Site Incharge - Mukesh Singh						TERMINATION DEPTH : 10.5 m		RECORD ON : 28.07.2021								
Depth Below GL (m)	Sample No.	SPT 'N' Value observation	Visual Description of Soil with IS Classification	Depth(m)		Thickness (m)	Liquid Limit	Plastic Limit	Plasticity Indx,%	Bulk Density (gm/cm3)	Natural Moisture Content (%)	Specific Gravity	Shear Test			Compression Index (C _c)		
		Obsr.		from	to								Type of Test	Cohesion, c (kg/cm ²)	Friction Angle, F°			
1.0			Greyish sandy silty clay, CI	0.0		1.5												
1.5	S1	4					1.5	35.6	13.3	22.3	1.94	29.7	2.70		0.20	2.5		
2.5			Greyish silty sand, SM-SP	1.5		3.0												
3.0	S2	7									1.91	30.3	2.64		0.00	28.0		
4.0																		
4.5	S3	10			4.5					1.90	30.6	2.63		0.00	28.0			
5.5			Greyish sand, SP	4.5		1.5												
6.0	S4	13					6.0				1.89	31.1	2.62		0.00	28.3		
7.0			Greyish silty sand, SM-SP	6.0		1.5												
7.5	S5	15					7.5				1.89	31.3	2.62		0.00	28.5		
8.5			Greyish yellowish sandy silty clay, CI with grits	7.5		3.0												
9.0	S6	19									2.02	24.6	2.69		0.71	5.2		
10.0																		
10.5	S7	23			10.5		36.2	24.1	12.1	2.03	24.2	2.70		0.79	5.3			

NAME OF WORK : Sub soil Investigation for C/O								BORING FINISH DATE : 28.07.2021		WATER TABLE : 3.00 m bgl									
High School at Bairamsarai, Block - Ghosi, Dist. Jehanabad								BORING METHOD : Rotary											
BORE HOLE NO. : 3		Site Incharge - Mukesh Singh						TERMINATION DEPTH : 10.5 m		RECORD ON : 28.07.2021									
Depth Below GL (m)	Sample No.	SPT 'N' Value observation	Visual Description of Soil with IS Classification	Depth(m)		Thickness (m)	Liquid Limit	Plastic Limit	Plasticity Indx,%	Bulk Density (gm/cm3)	Natural Moisture Content (%)	Specific Gravity	Shear Test			Compression Index (C _c)			
		Obsr.		from	to								Type of Test	Cohesion, c (kg/cm ²)	Friction Angle, F ^o				
1.0			Greyish sandy silty clay, CL	0.0		1.5													
1.5	S1	6					1.5	34.6	22.5	12.1	1.96	28.6	2.70		0.30	3.6			
2.5			Greyish sand, SP	1.5		1.5													
3.0	S2	7					3.0				1.91	30.3	2.64		0.00	28.0			
4.0			Greyish silty sand, SM-SP	3.0		1.5													
4.5	S3	10					4.5				1.90	30.6	2.63		0.00	28.0			
5.5			Greyish sand, SP	4.5		3.0													
6.0	S4	12									1.90	30.8	2.63		0.00	28.2			
7.0																			
7.5	S5	15					7.5				1.89	31.3	2.62		0.00	28.5			
8.5			Greyish yellowish sandy silty clay, CL with grits	7.5		3.0													
9.0	S6	20						34.3	23.3	11.0	2.02	24.6	2.7		0.73	5.2			
10.0																			
10.5	S7	30					10.5				2.05	22.9	2.70		0.93	5.3			

Table 2 [part B]: Grain Size Analysis Results

[for Bore hole No./ Depth in m shown thus: 1/1.5]

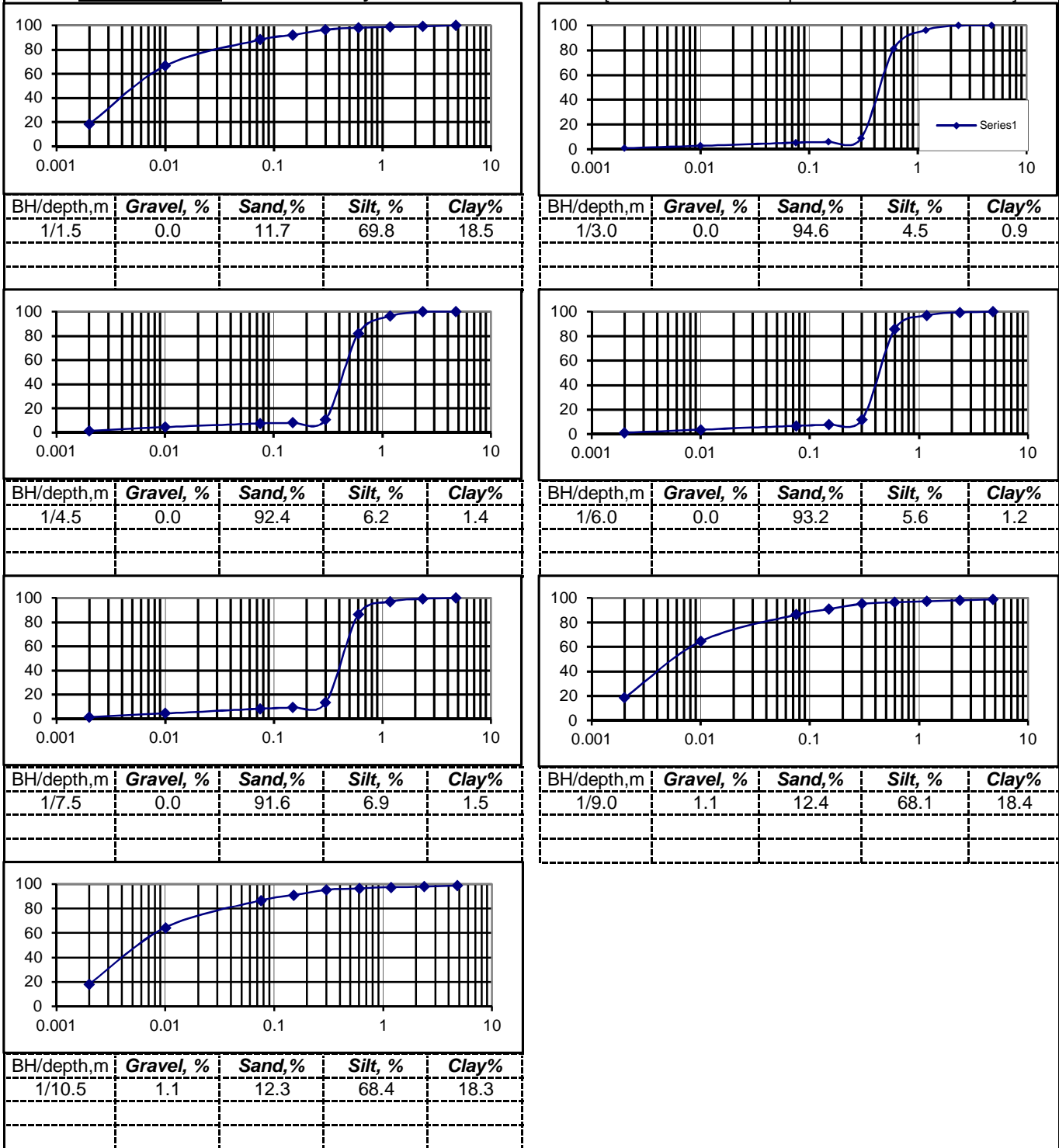


Table 2 [part B]: Grain Size Analysis Results

[for Bore hole No./ Depth in m shown thus: 1/1.5]

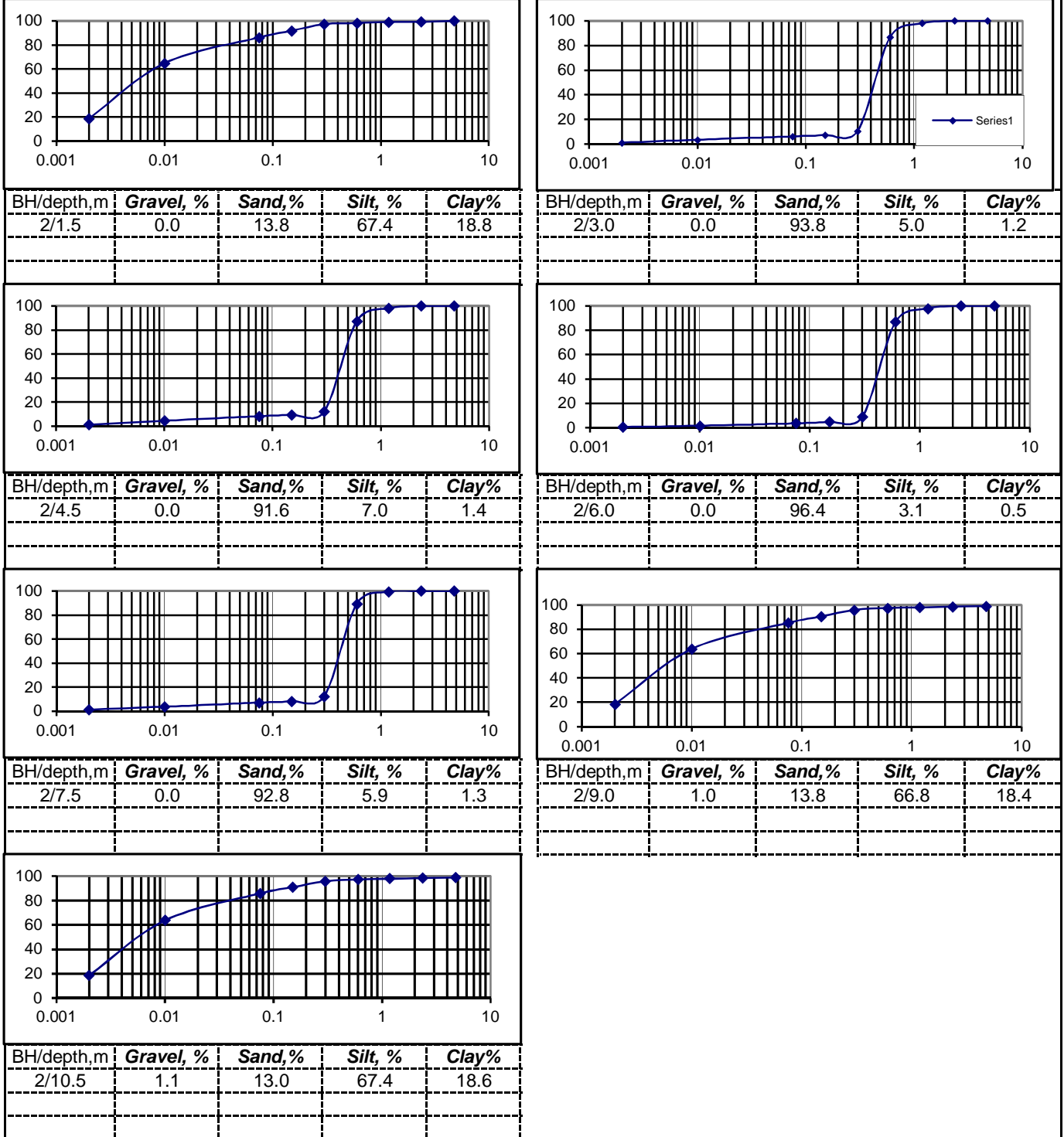
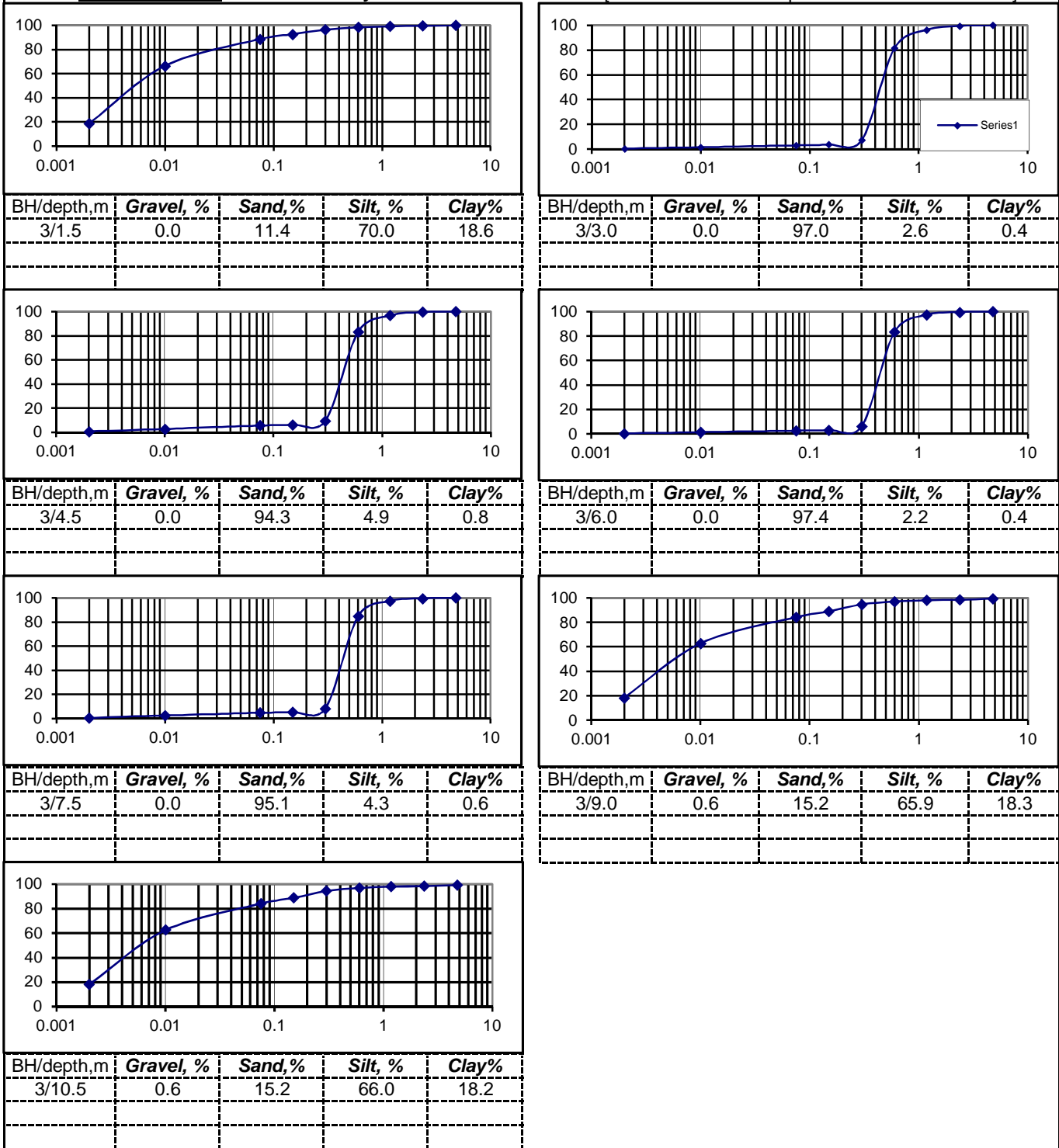
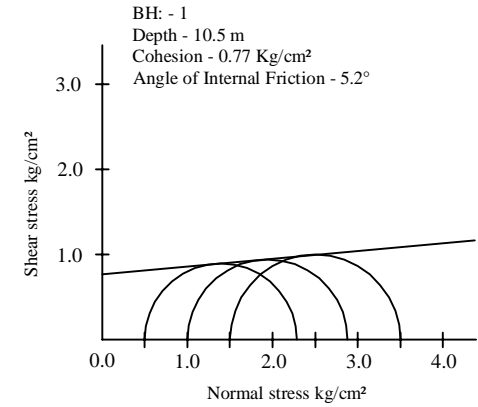
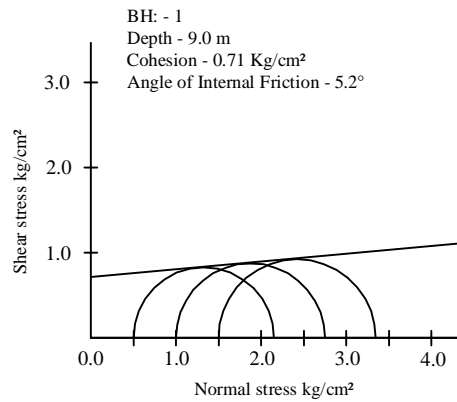
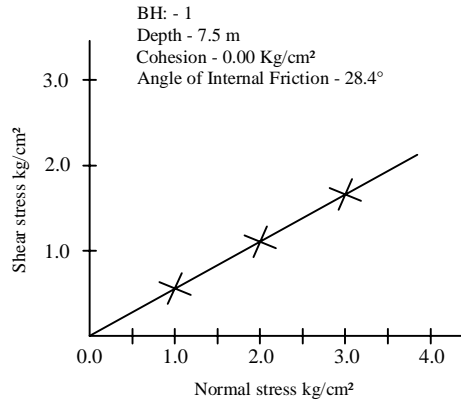
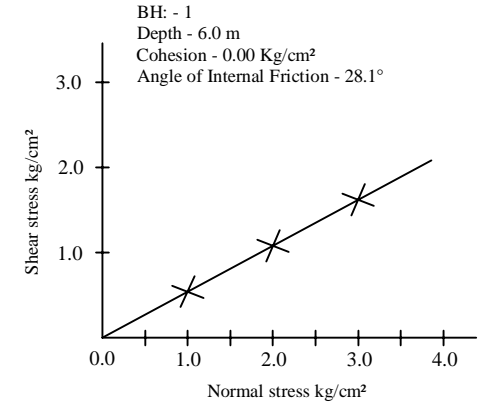
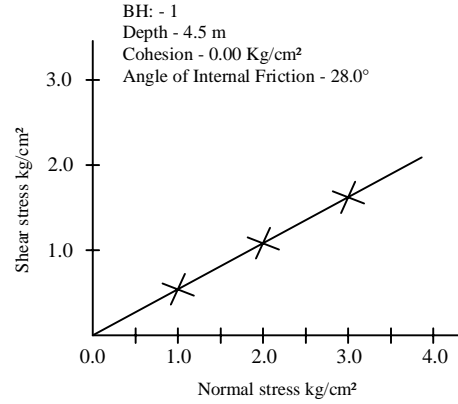
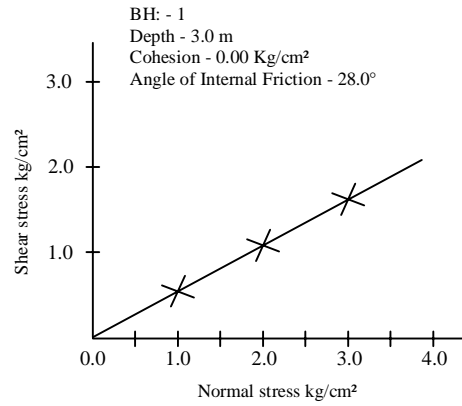
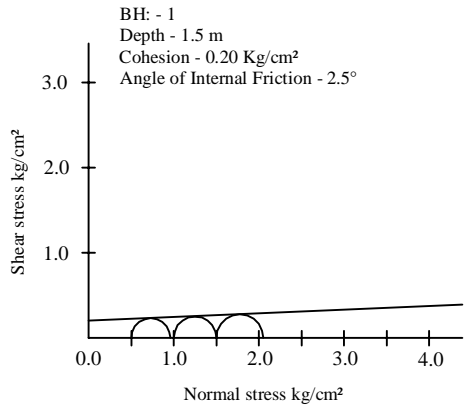


Table 2 [part B]: Grain Size Analysis Results

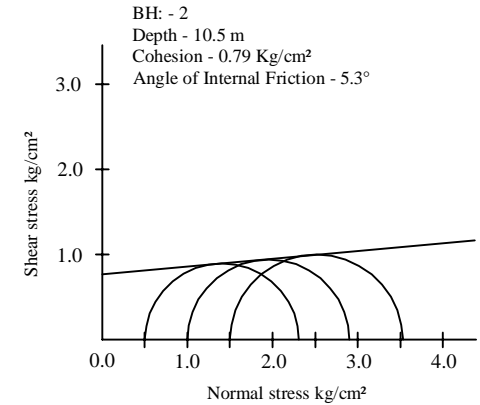
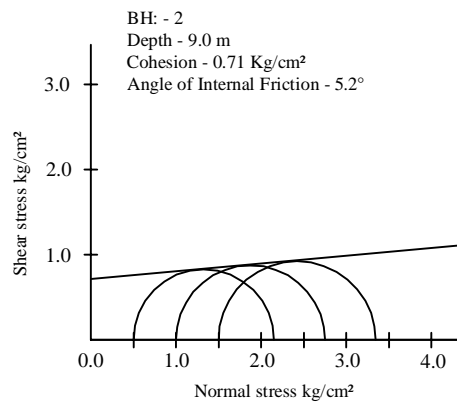
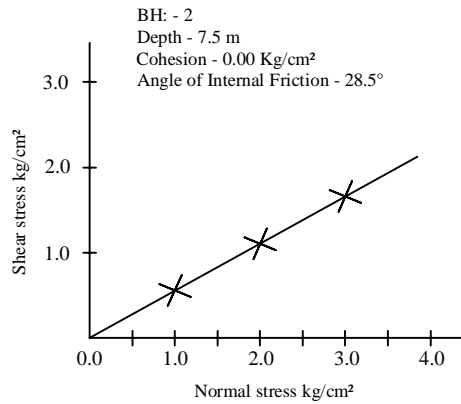
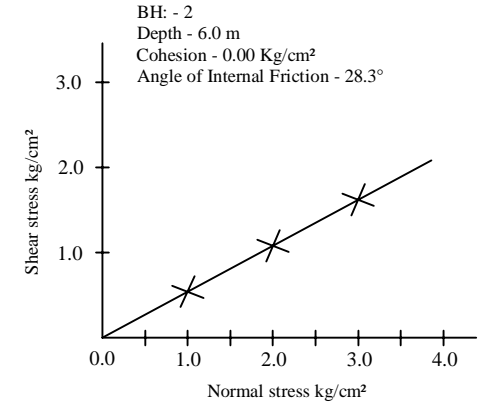
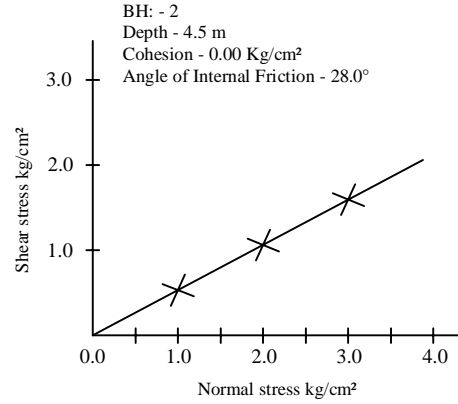
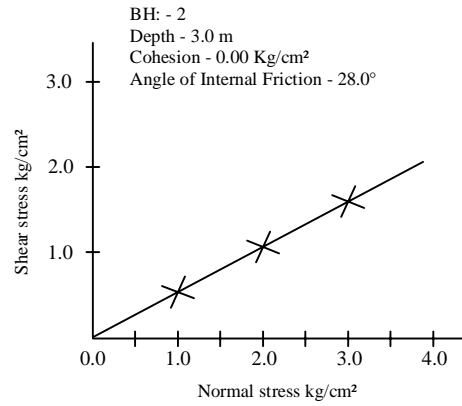
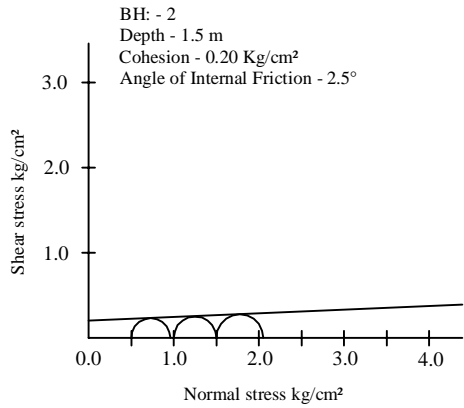
[for Bore hole No./ Depth in m shown thus: 1/1.5]



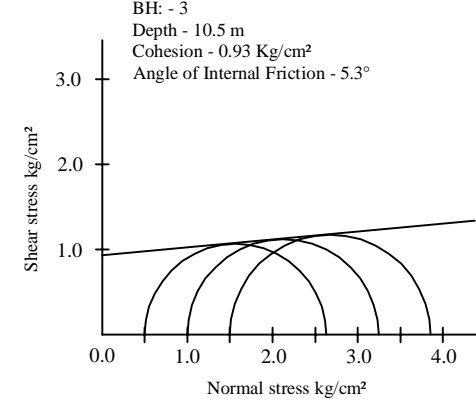
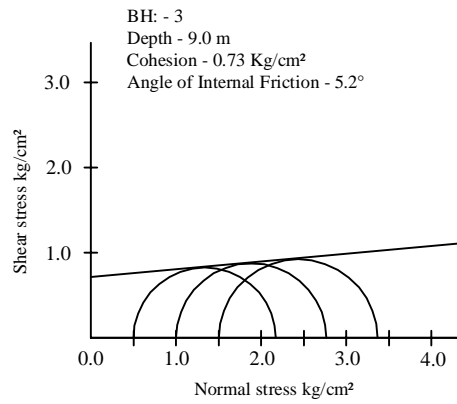
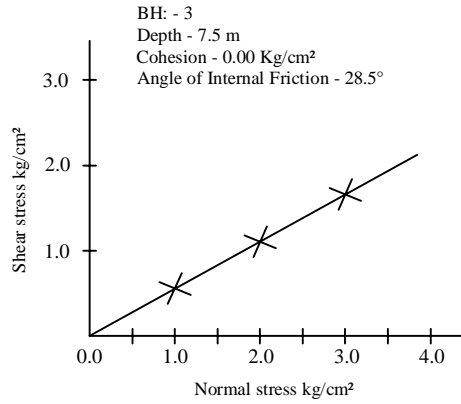
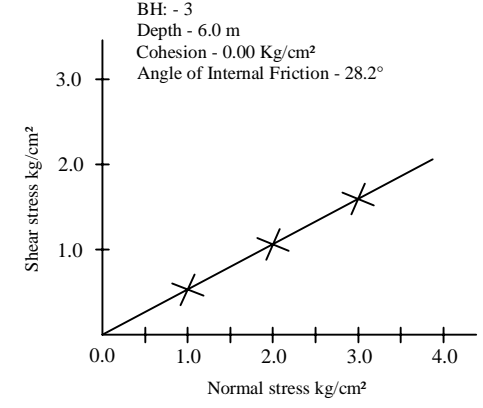
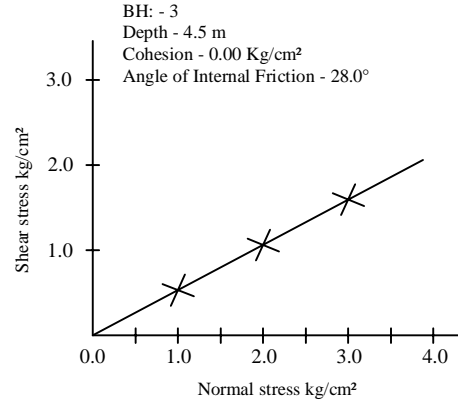
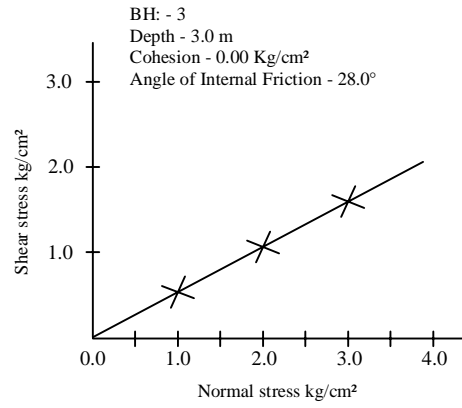
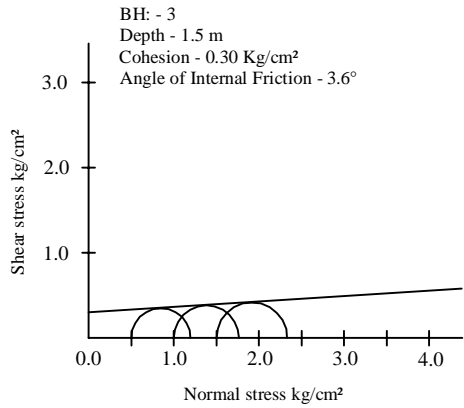
TRIAXIAL / DIRECT SHEAR TEST PLOTS



TRIAXIAL / DIRECT SHEAR TEST PLOTS



TRIAXIAL / DIRECT SHEAR TEST PLOTS



Report on Sub Soil Investigation for the proposed Construction of High School at Bairamsarai, Block - Ghosi, Dist. Jehanabad

SAMPLE CALCULATION OF BEARING CAPACITY OF SHALLOW FOUNDATION

The determination of the **net safe bearing capacity, q_{ns}** , is done first on the basis of the shear failure criterion after dividing the value of the **net ultimate bearing capacity q_{nf}** , calculated as described below, by a suitable factor of safety. The **net soil pressure, q_s** , for a given permissible settlement is then calculated as explained in the next section. The lower of the two values, **q_{ns}** and **q_s** , thus determined is taken as the **allowable bearing capacity** of the soil.

1. Shear Failure Criterion. The **net ultimate bearing capacity q_{nf}** (t/m^2) of a shallow foundation of breadth B (m) and depth D (m) is given as per IS:6403-1981 (Sec.5.1.2) by the following equation :

$$q_{nf} = c N_c s_c d_c I_c + q (N_q - 1) s_q d_q I_q + 0.5 \gamma B N_\gamma s_\gamma d_\gamma I_\gamma w$$

where c = cohesion (t/m^2)
 q = effective surcharge (t/m^2)
 γ = unit weight of subsoil (t/m^3)

N_c, N_γ, N_q = bearing capacity factors, which are functions of ϕ , the angle of internal friction of the soil

s_c, s_q, s_γ = shape factors

d_c, d_q, d_γ = depth factors

I_c, I_q, I_γ = inclination factors

w = water table factor (= 0.5 to 1.0) depending on the depth, D_w of water table- vide Table below.

The bearing capacity factors (N 's) are functions of ϕ , the angle of internal friction of the soil. Their values are found for general shear failure by referring to standard tables. If subsoil conditions are such as to lead to local shear failure, the values of these factors are found for a reduced value of angle of internal friction (ϕ') given by the equation : $\tan \phi' = 0.67 \tan \phi$. The value of cohesion is also reduced to $c' = 0.67 c$.

The values of the other factors for usual conditions are as tabulated below :

$s_c = 1.3$	$d_c = 1 + 0.2 (N_f)^{0.5} D/B$	D_w at G.L.
$s_q = 1.2$	$d_q = d_\gamma = 1$	Fou'dn. Level
$s_\gamma = 0.8/0.6$	$d_q = d_\gamma = 1 + 0.1 (N_f)^{0.5} D/B$	$w = 0.5$
FOR sq./O Rect. STRIP	$I_c, I_q, I_\gamma = 1$ for vertical load	Interpolation between these values is linear.

In the present case, the representative values of cohesion c and angle of internal friction (ϕ) of the soil may be obtained from the soil data given earlier.

One example of calculation for a certain depth and width of a strip or square footing is given in the **Table A** on the next page. Full submergence of the soil has been assumed. The **safe bearing capacity, q_{ns}** has been obtained by dividing **q_{nf}** by a **safety factor, 3**. The net safe bearing capacity for a footing of the selected size and depth of footing is to be seen in its last column. Calculations of safe bearing capacities for other depths and widths of footings are done similarly.

2 Calculation of allowable bearing capacity based on settlement criterion

The **net soil pressure, q_s** (t/m^2) for a permissible settlement of 25 mm is give by Teng's formula:

$$q_s = 3.5 [N'' - 3] \left[\frac{(B + 0.3)}{2B} \right]^2 w' F_d \quad t/m^2$$

where N'' = corrected value of N from SPT

$$F_d = [1 + D/B] < \text{or} = 2$$

D, B and w' are as defined before.

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For a permissible settlement of **S** mm, the allowable bearing capacity

$$q'_s = S q_s / 25$$

The corrected SPT N'' values used in the calculations based on the above formula for different depths below G.L. may be found from the recorded data.

The N'' value used in any case is to be for the influence zone below the footing, which depends on its width. A sample of calculation of the allowable soil pressure for the chosen size and depth of footing and for the permissible settlement is given in **Table B** in the next section.

The net allowable bearing pressure will be the lower of the values of bearing pressures found in the two Tables A and B.

Table A

Calculation of Net Safe Bearing Pressure [based on **shear failure** criterion]

Shape of Foundation:			F.S.=	$\gamma, t/m^3=$		C =	$\phi =$	$N_c =$	$N_q =$	$N_\gamma =$
STRIP			3	1.95		2.5	3.1	5.93	1.32	0.25
D [m]	B [m]	dc	$\frac{dq}{dg}$	c	q	I Term	II Term	III Term	qnf	qnf /F
2	2	1.21	1.105	2.5	1.95	17.95	0.69	0.27	18.92	6.31

Table B

Calculation of Net Allowable Bearing Pressure [based on **settlement** criterion]

D	B	Fd =	N''	w'	$q_{s=25}$	S	$q_{s=s}$
m	m				t/m^2	mm	t/m^2
2	2.0	2	6	0.5	3.4716	50	6.9431

The adjoining Table and the comments below it are for a footing of depth, **D = 2 m, and width, B [m] = 2.0**

The value of allowable bearing pressure from the above Table for $s = 50$ mm is = **6.9** t/m^2

The value of safe bearing capacity from shear criterion as found from Table A = **6.3** t/m^2

Hence the allowable bearing pressure for settlement, $s =$ or < 50 mm will be = **6.3** t/m^2

The calculations for other depths and widths of footing are similar.

High School at Bairamsarai, Block - Ghosi Dist. Jehanabad



बिहार राज्य शैक्षणिक आधारभूत संरचना विकास निगम लिमिटेड
BIHAR STATE EDUCATIONAL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.

(A Govt. of Bihar Undertaking)
ISO 9001:14001; OHSAS 18001

Shiksha Bhawan, Bihar Rashtrabhasha Parishad Campus, Acharya Shivpujan Sahay Path, Saidpur, Patna - 800 004
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पत्रांक:- BSEIDC/TECH/1960/2018 - 1369

दिनांक.....02.03.2021

प्रेषक,

मुख्य अभियंता
BSEIDC Ltd, Patna

सेवा में,

बिहार फाउंडेशन कंसल्टेन्ट
गंगा दर्शन अपार्टमेंट फ्लैट नं०-403
सदाकत आश्रम के पश्चिम,
पटना- 800010

विषय:- निर्माण स्थल के मिट्टी जाँच हेतु।

प्रसंग:- भवन निर्माण विभाग का पत्र संख्या-2030, दिनांक-21.04.2006

महाशय,

बिहार राज्य शैक्षणिक आधारभूत संरचना विकास निगम लि० के अधीन "जहानाबाद, अरवल, नवादा, रोहतास, कैमुर, मुंगेर, सुपौल, वैशाली, सारण, भागलपुर और दरभंगा " में विभिन्न +2 स्तरीय विद्यालय भवनों का निर्माण कार्य प्रस्तावित है। इन भवनों के निर्माण स्थलों पर मिट्टी की जाँच कराना है, जिसकी सूची (क्रम सं०-1 से 23 एवं 25 से 26 कुल 25)संलग्न है।

अतः अनुरोध है कि उपरोक्त स्थलों का तीन-तीन बिन्दुओं पर 10.5 मीटर गहराई तक प्रत्येक 1.5 मीटर गहराई में मिट्टी का नमूना संग्रह कर प्रतिवेदन समर्पित करें। साथ ही विहित प्रपत्र में मिट्टी के भार वहन क्षमता की गणना (Isolated एवं Pile Foundation के लिए अलग-अलग) भी Hard Copy एवं Soft Copy में समर्पित करें।

इस जाँच कार्य को इस तरह संपादित करें कि ट्रान्सपोर्टेशन एवं मोबलाईजेशन खर्च कम से कम हो। कार्य स्थलों पर सम्पर्क व्यक्ति, कार्य से संबंधित प्राचार्य / संबंधित कार्यपालक अभियंता रहेंगे।

विश्वासभाजन


मुख्य अभियंता

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High School at Bairamsarai, Block - Ghosi Dist. Jehanabad

Bihar State Educational Infrastructure Development Corporation Ltd.

List of Schools for Soil Test

Sl.No.	District	Block	Name of Vidyalay	Letter no. & Date of A/A	Name & Mobile no of Executive Engineer	
1	Jehanabad	Ratni Faridpur	High School, Rakasiya Dyaichak	11/भवन 08-02/2018-176 dt. 26.02.2020	Sri Binod Ranjan, 9661863636	
2	Arwal	Kurtha	Govt. High School, Kurtha		Sri Binod Ranjan, 9661863636	
3	Nawada	Hisua	High School, Pacharha		Sri Binod Ranjan, 9661863636	
4	Rohtas	Chenari	Gangotri Project High School, Chenari	11/वि.-11-48/2018 - 207 dt. 18.03.2020	Sri Ranvijay Kumar Sinha, 9934961293	
5	Kaimur	Durgawati	High School, Dhanechha	11/भवन 08-01/2017-217 dt. 20.03.2020	Sri Ranvijay Kumar Sinha, 9934961293	
6	Kaimur	Durgawati	Shatruharan High School, Kalyanpur		Sri Ranvijay Kumar Sinha, 9934961293	
7	Kaimur	Ramgarh	High School, Ramgarh		Sri Ranvijay Kumar Sinha, 9934961293	
8	Kaimur	Ramgarh	High School Rajendranagar, Deohallya		Sri Ranvijay Kumar Sinha, 9934961293	
9	Kaimur	Nuaon	Ramayan singh High School, Banka Bahuaara		Sri Ranvijay Kumar Sinha, 9934961293	
10	Kaimur	Nuaon	Sarvodya High School, Guriyan		Sri Ranvijay Kumar Sinha, 9934961293	
11	Supaul	Chhatapur	Govt. Lalit Narayan Vidya Mandir, Balua Bazar		Sri Satish Prasad, 9523226037	
12	Munger	Dharhara	Bapu Peaveshika High School, Sundarpur		11/वि.-11-05/2019 - 219 dt. 20.03.2020 and 11/वि.-11-05/2019 -118 dt. 18.02.2021	Sri Surendra Kumar, 7903912972
13	Munger	Khargpur	Gandhi Memorial High School, Muzaffarganj			Sri Surendra Kumar, 7903912972
14	Munger	Khargpur	Inter High School, Lohachi			Sri Surendra Kumar, 7903912972
15	Munger	Jamalpur	Sardar Patel High School, Hanspuri	Sri Surendra Kumar, 7903912972		

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**High School at Bairamsarai, Block - Ghosi
Dist. Jehanabad**

Sl.No.	District	Block	Name of Vidyalay	Letter no. & Date of A/A	Name & Mobile no of Executive Engineer
16	Vaishali	Jandaha	Raghnandan Singh Ishwari High School, Narharpur Mukunpur	11/भवन 08- 01/2019-49 dt. 15.09.2020	Sri Rajeev Ranjan, 9234271071
17	Vaishali	Jandaha	High School, Panapur Bateshwarnath		Sri Rajeev Ranjan, 9234271071
18	Vaishali	Mahnar	High School, Basudevpur Chandel		Sri Rajeev Ranjan, 9234271071
19	Vaishali	Mahnar	High School, Balak		Sri Rajeev Ranjan, 9234271071 ✓
20	Vaishali	Mahnar	High School, Gorigama		Sri Rajeev Ranjan, 9234271071
21	Saran	Marhaura	Islamia High School - cum - Inter College, Olhanpur	11/विविध 11- 05/2019-50 dt. 15.09.2020	Sri Anil Kumar, 9543014772
22	Jehanabad	Ghoshi	High School, Bairamsarai	11/भवन 08-01/2018 अंश-क - 53 dt. 21.09.2020	Sri Binod Ranjan, 9661863636
23	Bhagalpur	Narayanpur	L.N.M. +2 Balika High School, Bhramarpur	11/भवन 08-01/2020 - 56 dt. 23.09.2020	Sri Sanjeev Kumar, 9122680145
24	Patna	Phulwari Sharif	Upgraded Uchch Maadhyamik vidyalay, Gannipur, Sakraicha	11/यो 11-01/2019- 55 dt. 22.09.2020	Sri Sunil Kr. Sinha, 8544126916
25	Darbhanga	Hanuman Nagar	(+2) Devnarayan High School, Panchobh	11/भवन 08-01/2018-57 dt. 23.09.2020	Sri Anil Kr. Singh, 9801494702
26	Darbhanga	Darbhanga	(+2) Onkar High School, Supaul Bazar	11/वि.-11-01/2020 - 86 dt. 09.12.2020	Sri Anil Kr. Singh, 9801494702

Shailendra
01/03/2024
Junior Engineer

[Signature]
01/03/2024
Assistant Engineer

[Signature]
01-03-2024
Executive Engineer

Bihar Foundation Consultants
403, Ganga Darshan Apartment, Patna-10
[A Unit : Baidyanath Foundation Consultants Pvt. Ltd.]

PN - 210728

Appendix - G3