Verified RealEstate™

Your trusted partner for buying, selling, and managing property, ensuring hassle-free service with 100% transparency.

3/350/2 Mettukuppam,
OMR Thoraipakkam,
Chennai, India

hello@verified.realestate
+91 9996 12 9996

Official Property Record

Digitally Verified Record - Powered by Verified RealEstate™



PROPOSED CONSTRUCTION OF G+4 RESIDENTIAL BUILDING AT CRESCENT PARK ROAD, GANDHI NAGAR, ADYAR, CHENNAI.

Report on Geotechnical Investigation

Client:

Mr. R. Kannan Adytan,

Chennai.

MS GEOTECH
Geotechnical, Geophysical & Engineering Survey in Offshore & Onshore

MARS SYNERGY GEO TECH Pvt Ltd
An ISO 9001: 2015 Certificate Company
30/25 Drowpathy Amman Koil 1st Street
Velachery, Chennai-600 042.

Ph : (044) –22452845, Tele Fax: 2245 0281
Mail : info@msgeotech.com, projects@msgeotech.com,
Web: www.msgeotech.com

Project No: MSGTPL/SI-3540/16-17

Sep-2016.

TABLE OF CONTENTS

1.0 INTRODUCTION..... 1

1.1 DESCRIPTION OF STRUCTURE..... 1

1.2 SOIL INVESTIGATION PROGRAMME 1

1.3 FIELD SAMPLING..... 2

1.4 LABORATORY TESTS..... 2

1.5 SOIL PROFILE..... 2

1.6 GROUND WATER TABLE..... 3

1.7 DISCUSSION ON FOUNDATION..... 3

1.8 RECOMMENDATIONS..... 3

2.0 SAFE BEARING CAPACITY CALCULATIONS..... 4

3.0 SITE PLAN –MSGTPL/SI-**3540**..... 6

4.0 BORE-LOGS..... 7

5.0 TEST RESULTS..... 10

6.0 NATURAL MOISTURE CONTENT..... 13

7.0 SPECIFIC GRAVITY..... 17

8.0 GRAIN SIZE ANALYSIS..... 23

9.0 ATTERBERG LIMITS..... 29

MS GEOTECH
Geotechnical, Geophysical & Engineering Survey in Offshore & Onshore

REPORT ON SOIL INVESTIGATION AND RECOMMENDATIONS FOR THE FOUNDATIONS OF THE PROPOSED CONSTRUCTION OF RESIDENTIAL BUILDING (G+4) AT ADYAR, CHENNAI.

1.0 INTRODUCTION:

Mr. R. Kannan Adytan, Chennai is planning to construct the residential apartment building (G+4) at No:1, Crescent Park Road, Gandhi Nagar, Adyar, Chennai-600 020, Tamilnadu, INDIA. **M/s. Mars Synergy Geotech Pvt Ltd**, Chennai has carried out this investigation and completed on 11th Sep 2016 according to the instructions from owner of the project.

The scope of work includes the following:

- Making three numbers of Standard Soil Investigation bore-holes
- Collecting soil samples at regular depth intervals
- Conducting SPTs at every 1.0m/1.50m depth intervals
- Conducting laboratory tests on samples collected
- Submitting report with laboratory test results and recommendation for foundations.

1.1 DESCRIPTION OF STRUCTURE:

The proposed structure is residential building (G+4). The exact details of columns are not available at the time of preparation of this report. Assuming an approximate column spacing of 4 to 5 m c/c considering this the central column load works about 100 to 125 tones for proposed building. These loads are assumed for the purpose of foundation only and for the structural design, exact loads are to be estimated based on a suitable structural analysis.

1.2 SOIL INVESTIGATION:

The field investigation works were carried out using 1 set of Rotary mechanical drilling Rig. The following activities, carried out in chronological sequence, comprised the fieldwork for the project

- Mobilization of rotary drill rig, water pump, testing tools and accessories.
- Collection of disturbed samples of non-cohesive soils.
- Sampling and logging of the boreholes. Packing, labeling and dispatching the samples to laboratory.
- Field investigation, tests and laboratory tests conducted as per IS-1892 and IS -2720

1.3 FIELD SAMPLING:

Three numbers of standard soil investigation boreholes of 100mm diameter was made at the locations shown in the figure, **MSGTPL/SI-3540** enclosed. Investigations were conducted 10.0m to 16.0m from existing ground level where SPT is more than 50blows. SPTs were conducted at every 1.0m/1.5m depth intervals and samples were collected for identification and testing.

1.4 LABORATORY TESTS

The laboratory-testing scheme is so designed to obtain the design parameters for the foundations. The following parameters are evaluated:

- Type of soil and it's gradation properties
- Atterberg Limits
- Specific Gravity
- Natural Moisture Content (NMC)
- Sieve analysis on the coarse grained soil fraction

All the test results are presented in the tabular forms. Comprehensive field information along with SPT values is presented on separate sheet.

1.5 SOIL PROFILE

Based on visual identification of soil samples and test results (of both field and laboratory tests), the soil profile arrived. Subsoil is made-up of six distinctive layers there are

(i) Filled up soil up to -1.0m
(ii) Stiff CLAY -1.0m to -3.0m with **SPT's N=10-14**
(iii) Soft CLAY and loose SAND layers -3.0m to -8.0m with **SPT's N=0-7**
(iv) Medium dense SAND -8.0m to -12.0m with **SPT's N=16-29**
(v) Very dense moorum -12.0m to -15.0m with **SPT's N= >50**
(vi) Fractured Hard Rock-15.0m -16.0m with **RQD=5%**

The soil profile details are presented in the bore-chart.

1.6 GROUND WATER TABLE

At the time of soil investigation (09/09/2016 to 11/09/2016), the ground water table was (-) 2.0m encountered within the site location

1.7 DISCUSSION ON FOUNDATION

From the sub soil profile and laboratory test data, it can be seen that the soil is filled up soil up to -1.0m followed by stiff silty CLAY up to -3.0m from -3.0m onwards soft CLAY and loose sand layers up to -8.0m, below this layer 4.0m thick medium dense SAND up to -12.0m. From -12.0m to -15.0m very dense moorum followed by fractured hard rock layer encountered up to -16.0m from existing ground level.

The Proposed structure is Ground+4 upper floors the column loads are in the range of 100 to 125Tones, and at -3.0m to -8.0m level soft CLAY and loose sand layer are encountered, due to these weak layers shallow foundation in the form of isolated/strip/full raft is not satisfactory, the settlements are more than permissible limits, hence adopt pile foundation.

Based on soil strata it is ideal to adopt bored cast in-situ pile foundation for the proposed building.

MARS SYNERGY GEOTECH PVT. LTD.

1.8 RECOMMENDATIONS

- ✓ The estimated safe load carrying capacity of bored cast in situ piles as per IS 2911 (Part 1/Sec2): 2010
- ✓ The pile bore may be terminated at a depth of minimum three times diameter of the pile in to hard strata (where three consecutive SPT 'N' values of more than 100 are obtained in each test at depth intervals of one pile diameter).
- ✓ To satisfy the above criterion the pile length may be about 15.0 m from the existing ground level.
- ✓ The capacities of piles of varying diameters are provided below for proposed building.

Length of Pile (m)	Pile Dia (mm)	Safe Vertical Capacity (Tones)	Safe uplift capacity (Tones)	Safe Lateral capacity (Tones)
15.0	450	37	15*	2.0
15.0	500	45	17*	3.0
15.0	600	65	20	4.0

*In up lift capacity pile weight not included

- ✓ **The above safe loads suggested are only tentative and these have to be confirmed by conducting through pile load tests conducted as per I.S-2911part –IV.**

MARS SYNERGY GEOTECH PVT. LTD.

BORED CAST IN SITU PILE CALCULATION AS PER IS-2911-PART-1/SEC-2,-2010

Dia of Pile=500mm, Length of pile =15.0m.

Qu= Qs+Qp

Layer-1 (0.0m to 1.0m) filled up soil

Skin Friction Layer-1 = $\pi*d*l_1*\alpha*Cu$

= **0Tonnes**

Layer-2 (1.0m to 3.0m) Stiff CLAY

Skin Friction Layer-2 = $\pi*d*l_2*\alpha*Cu$

= $\pi*0.5*2.0*0.7*6$=**13.19Tonnes**

Layer-3 (3.0m to 8.0m) Soft CLAY and Loose SAND layers

Skin Friction Layer-3 = $\pi*d*l_3*\alpha*Cu$

= $\pi*0.5*5.0*1.0*1.5$=**11.78Tonnes**

Layer-4 (8.0m to 12.0m) Medium Dense SAND

Skin Friction Layer-4 = $\pi*d*l_4*k*pdi*tan\emptyset$

= $\pi*0.5*4.0*1.0*5.25*Tan32$=**20.62Tonnes**

Layer-5 (12.0m to 15.0m) Very Dense SAND

Skin Friction Layer-5 = $\pi*d*l_5*k*pdi*tan\emptyset$

= $\pi*0.5*3.0*1.0*5.25*Tan35$=**17.32Tonnes**

End Bearing

$Q_P=Ap(q*N9)$

$Nq=50, q=5.25t/m^2$

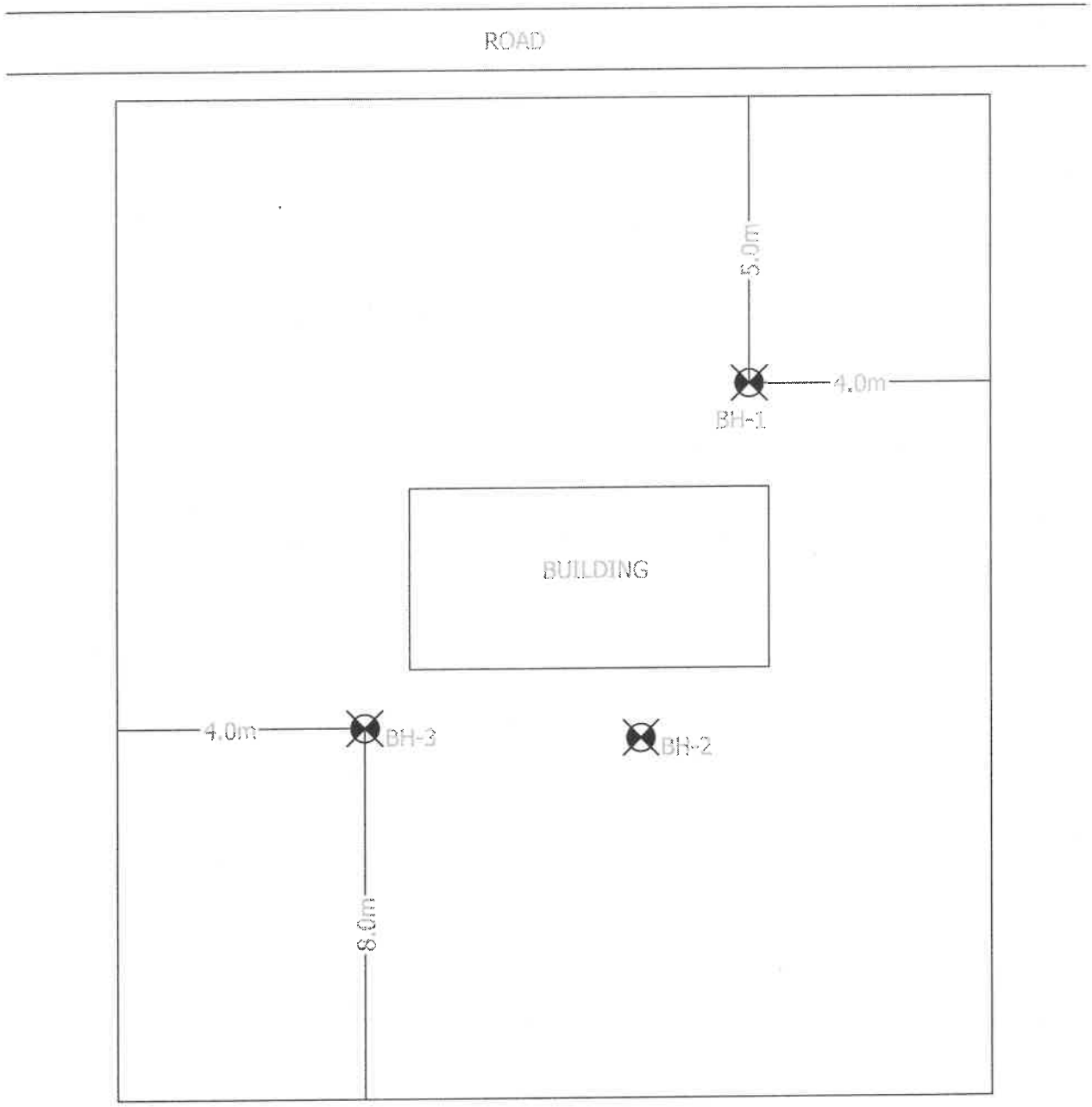
$Q_P = \frac{\pi}{4}*0.5^2(5.25*50)$ =**51.45T**

Qu= 0+13.19+11.78+20.62+17.32+51.45= **114.36Tones**

Factor of Safety=2.5

Q_{safe}=114.36/2.5=45.74Tonnes **Say=45Tonnes**

MARS SYNERGY GEOTECH PVT. LTD.



TITLE: DRAWING SHOWING THE SOIL INVESTIGATION BORE HOLE LOCATIONS

PROJECT: PROPOSED CONSTRUCTION OF RESIDENTIAL BUILDING AT ADYAR

CONSULTANTS:

MARS SYNERGY GEO TECH PVT. LTD.
(An ISO 9001: 2015 Certified Company)
Engineering Survey & Soil Investigation
A-39/25,Dr.V.Gopathy Ammon Kovil 1st Street,Vidachery
Chennai - 600 042. Phone:044- 22452845,
Tele Fax: 044-22450581,Mobile: 91440 51503 / 91441 22817

LEGEND:

DRAWING NO: MSGTPL/SI-3540/16-17 SCALE: NTS

BH:BORE HOLE -SOIL TEST LOCATION

FOREMEN: [DEVARAJ] DATE: 11.09.2016

MS GEOTECH
Geotechnical, Geophysical & Engineering Survey in Offshore & Onshore

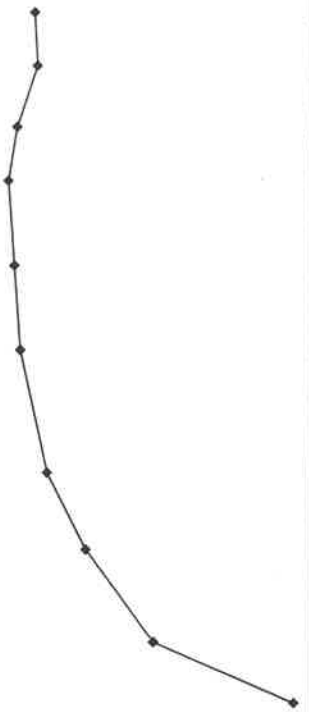
Project No: MSGTPL/SI-3540/16-17

Project : Proposed Construction of G+4 Residential Building at Adyar

Bore Hole No.	:1	G.W.L	:(-)2.0m
Type of Boring	:Rotary	Dia of Boring	:100mm
Started on	:09/09/2016	Location	: Ref. Fig
Ended on	:10/09/2016	Soil Drilled	: 16.0m

Depth (m)	Layer Thickness	Soil Profiles	Soil Description	IS Classification	SPT Details: Depth (m)	15	30	45	N	Type of Samples
0.0					0.00					
0.5			Filledup Soil							
1.0	1.00				1.00					SPT
1.5										
2.0			Stiff Greyish CLAY	CI	2.00	5	6	6	12	SPT
2.5										
3.0	2.00				3.00	5	6	7	13	SPT
3.5			Medium Stiff Greyish CLAY	CH						
4.0	1.00				4.00	2	3	3	6	SPT
4.5			Soft Greyish CLAY	CL						
5.0	1.00				5.00	1	2	1	3	SPT
5.5										
6.0										
6.5			Very Loose Greyish Clayey SAND	SC	6.50	1	2	3	5	SPT
7.0										
7.5										
8.0	3.00				8.00	2	3	4	7	SPT
8.5										
9.0										
9.5			Medium Dense Greyish Medium SAND	SW						
10.0					10.00	6	7	9	16	SPT
10.5										
11.0										
11.5	3.50				11.50	10	14	15	29	SPT
12.0										
12.5										
13.0			Very Dense Greyish Moorum	SM	13.00	18	23	29	52	SPT
13.5										
14.0										
14.5	3.00				14.50	35	50 Blows for 9Cm			Rock
15.0										
15.5			Fractured Hard Rock	Very poor						
16.0	1.50				16.00	Core Recovery=9% RQD=5%				
16.5										
17.0										
17.5										
18.0										
18.5										
19.0										
19.5										
20.0										

Graphical Representation of SPT: 0 10 20 30 40 50 60 70 80 90 100



Soil Profile BH-1 Location

Borehole Terminated at 16.m Below Ground Level.

Project No: MSGTPL/SI-3540/16-17

Project : Proposed Construction of G+4 Residential Building at Adyar

Bore Hole No.	:2
Type of Boring	:Rotary
Started on	:10/09/2016
Ended on	:10/09/2016

G.W.L	:(-)2.0m
Dia of Boring	:100mm
Location	: Ref. Fig
Soil Drilled	: 11.5m

Depth (m)	Layer Thickness	Soil Profiles	Soil Description	IS Classification	SPT Details Depth (m)	15	30	45	N	Type of Samples
0.0					0.00					
0.5			Filledup Soil							SPT
1.0	1.00				1.00					
1.5										SPT
2.0			Stiff Greyish CLAY	CH	2.00	6	6	7	13	
2.5										SPT
3.0	2.00				3.00	5	6	5	11	
3.5										SPT
4.0			Soft Greyish CLAY	CI	4.00	2	2	1	3	
4.5										SPT
5.0	2.00				5.00	1	2	2	4	
5.5										SPT
6.0										
6.5			Very loose Greyish Clayey SAND	SM	6.50	0	0	0	0	
7.0										SPT
7.5										
8.0	3.00				8.00	3	3	4	7	
8.5										SPT
9.0			Medium Dense Greyish Medium SAND	SW						
9.5										
10.0	2.00				10.00	4	6	5	11	
10.5										
11.0			Dense Greyish Medium SAND	SW						
11.5	1.50				11.50	10	16	21	37	
12.0										
12.5										
13.0										
13.5										
14.0										
14.5										
15.0										
15.5										
16.0										
16.5										
17.0										
17.5										
18.0										
18.5										
19.0										
19.5										
20.0										

Graphical Representation of SPT



Soil Profile BH-2 Location

Borehole Terminated at 11.5m Below Ground Level.

Project No: MSGTPL/SI-3540/16-17

Project : Proposed Construction of G+4 Residential Building at Adyar

Bore Hole No.	:3	G.W.L	:(-)2.0m
Type of Boring	:Rotary	Dia of Boring	:100mm
Started on	:11/09/2016	Location	: Ref. Fig
Ended on	:11/09/2016	Soil Drilled	: 10.0m

Depth (m)	Layer Thickness	Soil Profiles	Soil Description	IS Classification	SPT Details					Graphical Representation of SPT	Type of Samples
					Depth (m)	15	30	45	N	0 10 20 30 40 50 60 70 80 90 100	
0.0			Filledup Soil		0.00						SPT
0.5											
1.0	1.00				1.00						SPT
1.5			Stiff Brownish CLAY	CI-CH							
2.0					2.00	4	5	5	10		SPT
2.5											
3.0	2.00				3.00	5	6	8	14		SPT
3.5			Very Loose Greyish Silty Fine SAND	SM							
4.0	1.00				4.00	2	2	3	5		SPT
4.5			Soft Greyish CLAY	CI							
5.0	1.00				5.00	2	2	2	4		SPT
5.5			Very Loose Greyish Clayey SAND	SC							
6.0											
6.5	1.50				6.50	1	2	2	4		SPT
7.0			Very Loose Greyish Medium SAND	SW							
7.5											
8.0	1.50				8.00	2	3	3	6		SPT
8.5			Medium Dense Greyish Medium SAND	SW							
9.0											
9.5											
10.0	2.00				10.00	8	8	10	18		SPT
10.5											
11.0											
11.5											
12.0											
12.5											
13.0											
13.5											
14.0											
14.5											
15.0											
15.5											
16.0											
16.5											
17.0											
17.5											
18.0											
18.5											
19.0											
19.5											
20.0											

Soil Profile BH-3 Location

Borehole Terminated at 10.0m Below Ground Level.

MS GEOTECH
Geotechnical, Geophysical & Engineering Survey in Offshore & Onshore

Project No: MSGTPL/SI-3540/16-17

Project : Proposed Construction of G+4 Residential Building at Adyar

BH No 1 | **Ground Water Level:-2.0m** | **Termination Depth: -: 16.0m**

SUMMARY OF TEST RESULTS

N' Value	Layer Thickness	Depth (m)	Soil Description	IS Classification	Index Properties (%)						Specific Gravity	Grain Size Analysis (%)				
					NMC	W_L	W_P	I_P	Ic	FreeSwell		Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt & Clay
		0.00	Filledup Soil													
	1.00	1.00														
12		2.00	Stiff Greyish CLAY	CI	26	41	18	23								
13	2.00	3.00			32	43	19	24			2.62					
6	1.00	4.00	Medium Stiff Greyish CLAY	CH	39	52	23	29								
3	1.00	5.00	Soft Greyish CLAY	CL	47	32	15	17			2.59					
5		6.50	Very Loose Greyish Clayey SAND	SC												
7	3.00	8.00			25						2.62	2	1	50	25	22
16		10.00	Medium Dense Greyish Medium SAND	SW	19							0	1	55	34	10
29	3.50	11.50			15						2.73	0	1	72	22	5
52		13.00	Very Dense Greyish Moorum	SM	23							1	1	33	23	42
>100	3.00	14.50			22						2.70	1	3	31	31	34
Rock	1.50	16.00	Fractured Hard Rock	Very Poor												

Project No: MSGTPL/SI-3540/16-17

Project : Proposed Construction of G+4 Residential Building at Adyar

BH No 2 | **Ground Water Level:-2.0m** | **Termination Depth: -: 11.5m**

SUMMARY OF TEST RESULTS

N' Value	Layer Thickness	Depth (m)	Soil Description	IS Classification	Index Properties (%)						Specific Gravity	Grain Size Analysis (%)				
					NMC	W_L	W_P	I_P	Ic	FreeSwell		Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt & Clay
		0.00	Filledup Soil													
	1.00	1.00														
			Stiff Greyish CLAY	CH												
13		2.00			22	51	23	28			2.77					
11	2.00	3.00			29	70	28	42								
			Soft Greyish CLAY	CI												
3		4.00			46	39	18	21			2.66					
4	2.00	5.00			39	43	19	24								
			Very loose Greyish Clayey SAND	SM												
0		6.50														
7	1.50	8.00			20						2.61	2	1	49	34	14
			Medium Dense Greyish Medium SAND	SW												
11		10.00			19							0	0	55	36	9
			Dense Greyish Medium SAND	SW												
37		11.50			17						2.63	0	1	74	22	3

Project No: MSGTPL/SI-3540/16-17

Project : Proposed Construction of G+4 Residential Building at Adyar

BH No 3 | **Ground Water Level:-2.0m** | **Termination Depth: -: 10.0m**

SUMMARY OF TEST RESULTS

N' Value	Layer Thickness	Depth (m)	Soil Description	IS Classification	Index Properties (%)						Specific Gravity	Grain Size Analysis (%)				
					NMC	W_L	W_P	I_P	Ic	FreeSwell		Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt & Clay
		0.00	Filledup Soil													
	1.00	1.00														
10		2.00	Stiff Brownish CLAY	CI-CH	24	56	23	33			2.66					
14	2.00	3.00			22	45	19	26								
			Very Loose Greyish Silty Fine SAND	SM												
5	1.00	4.00			34						2.59	0	0	2	75	23
			Soft Greyish CLAY	CI												
4	1.00	5.00			35	38	18	20								
			Very Loose Greyish Clayey SAND	SC												
4	1.50	6.50			37						2.60	0	1	32	27	40
			Very Loose Greyish Medium SAND	SW												
6	1.50	8.00			19							0	0	53	39	8
			Medium Dense Greyish Medium SAND	SW												
18	2.00	10.00			18						2.64	5	1	53	36	5

6.0 NATURAL MOISTURE CONTENT

MS GEOTECH
Geotechnical, Geophysical & Engineering Survey in Offshore & Onshore

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

Method: IS-2720 P-2

Natural Moisture Content Data Sheet

BH.No/ Pit no	1		1		1		1		1		1	
Depth (m)	2.0		3.0		4.0		5.0		8.0		10.0	
Tare No	23	90	220	143	89	17	253	226	74	179	215	71
Wt of Tare (gr)	30.20	25.97	28.50	30.17	25.95	29.23	26.07	29.55	28.44	28.13	27.06	29.10
Tare + Soil (gr)	62.90	50.48	59.20	66.18	56.83	57.35	59.41	63.44	61.17	57.64	71.25	66.99
Tare+Dry soil (gr)	56.19	45.35	51.75	57.37	48.12	49.50	48.81	52.65	54.65	51.69	64.31	61.02
Wt of Water (gr)	6.71	5.13	7.45	8.81	8.71	7.85	10.60	10.79	6.52	5.95	6.94	5.97
Wt Dry soil (gr)	25.99	19.38	23.25	27.20	22.17	20.27	22.74	23.10	26.21	23.56	37.25	31.92
Water Content (%)	25.82	26.47	32.04	32.39	39.29	38.73	46.61	46.71	24.88	25.25	18.63	18.70
Average Water Content (%)	26		32		39		47		25		19	

MS GEOTECH
Geotechnical, Geophysical & Engineering Survey in Offshore & Onshore

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

Method: IS-2720 P-2

Natural Moisture Content Data Sheet

BH.No/ Pit no	1		1		1		2		2		2	
Depth (m)	11.5		13.0		14.5		2.0		3.0		4.0	
Tare No	162	160	83	221	265	199	258	243	198	134	283	76
Wt of Tare (gr)	29.18	25.27	24.38	29.46	25.32	28.18	28.25	29.10	29.74	28.22	29.88	27.46
Tare + Soil (gr)	71.71	61.07	56.39	59.85	63.59	65.24	62.38	55.20	58.25	55.85	62.68	58.19
Tare+Dry soil (gr)	66.27	56.47	50.46	54.12	56.65	58.62	56.25	50.46	51.85	49.56	52.35	48.46
Wt of Water (gr)	5.44	4.60	5.93	5.73	6.94	6.62	6.13	4.74	6.40	6.29	10.33	9.73
Wt Dry soil (gr)	37.09	31.20	26.08	24.66	31.33	30.44	28.00	21.36	22.11	21.34	22.47	21.00
Water Content (%)	14.66	14.74	22.74	23.24	22.15	21.75	21.89	22.19	28.95	29.48	45.97	46.33
Average Water Content (%)	15		23		22		22		29		46	

MS GEOTECH
Geotechnical, Geophysical & Engineering Survey in Offshore & Onshore

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

Method: IS-2720 P-2

Natural Moisture Content Data Sheet

BH.No/ Pit no	2		2		2		2		3		3	
Depth (m)	5.0		8.0		10.0		11.5		2.0		3.0	
Tare No	2	108	95	120	145	249	78	124	113	246	20	197
Wt of Tare (gr)	28.36	28.95	28.76	28.39	28.88	29.11	25.05	26.10	27.77	25.18	29.72	27.98
Tare + Soil (gr)	56.76	58.55	74.86	71.43	73.28	69.11	72.70	66.11	59.61	48.67	57.53	57.26
Tare+Dry soil (gr)	48.77	50.32	67.27	64.32	66.28	62.62	65.88	60.35	53.46	44.11	52.55	51.97
Wt of Water (gr)	7.99	8.23	7.59	7.11	7.00	6.49	6.82	5.76	6.15	4.56	4.98	5.29
Wt Dry soil (gr)	20.41	21.37	38.51	35.93	37.40	33.51	40.83	34.25	25.69	18.93	22.83	23.99
Water Content (%)	39.15	38.51	19.71	19.79	18.72	19.37	16.70	16.82	23.94	24.09	21.81	22.05
Average Water Content (%)	39		20		19		17		24		22	

MS GEOTECH
Geotechnical, Geophysical & Engineering Survey in Offshore & Onshore

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

Method: IS-2720 P-2

Natural Moisture Content Data Sheet

BH.No/ Pit no	3		3		3		3		3			
Depth (m)	4.0		5.0		6.5		8.0		10.0			
Tare No	223	107	25	104	300	244	147	224	119	24		
Wt of Tare (gr)	30.68	28.93	27.78	28.01	27.08	25.40	29.47	28.21	30.53	31.35		
Tare + Soil (gr)	53.15	51.60	56.33	51.51	48.23	52.81	67.74	62.31	66.36	66.41		
Tare+Dry soil (gr)	47.42	45.83	48.89	45.41	42.49	45.42	61.65	56.95	60.88	61.07		
Wt of Water (gr)	5.73	5.77	7.44	6.10	5.74	7.39	6.09	5.36	5.48	5.34		
Wt Dry soil (gr)	16.74	16.90	21.11	17.40	15.41	20.02	32.18	28.74	30.35	29.72		
Water Content (%)	34.23	34.14	35.24	35.06	37.25	36.91	18.92	18.65	18.06	17.97		
Average Water Content (%)	34		35		37		19		18			

MS GEOTECH
Geotechnical, Geophysical & Engineering Survey in Offshore & Onshore

SPECIFIC GRAVITY TEST

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

BH.No	1
Depth(m)	3.0

Pycnometer number			27	33
Weight of bottle	w_1	g	39.4300	34.7400
Weight of bottle + soil	w_2	g	50.2900	46.2000
Weight of bottle + soil + water	w_3	g	102.0200	90.5400
Weight of bottle full of water	w_4	g	95.3100	83.4600
Weight of soil	w_2-w_1	g	10.8600	11.4600
Specific gravity	$\frac{w2-w1}{(w4-w1)-(w3-w2)}$		2.61687	2.61644
Average value G_s			2.62	

BH.No	1
Depth(m)	5.0

Pycnometer number			58	76
Weight of bottle	w_1	g	27.8200	36.1100
Weight of bottle + soil	w_2	g	35.4600	44.9200
Weight of bottle + soil + water	w_3	g	85.3700	93.6100
Weight of bottle full of water	w_4	g	80.6800	88.2000
Weight of soil	w_2-w_1	g	7.6400	8.8100
Specific gravity	$\frac{w2-w1}{(w4-w1)-(w3-w2)}$		2.58983	2.59118
Average value G_s			2.59	

SPECIFIC GRAVITY TEST

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

BH.No	1
Depth(m)	8.0

Pycnometer number			2	46
Weight of bottle	w_1	g	35.9300	32.7700
Weight of bottle + soil	w_2	g	44.5600	41.6700
Weight of bottle + soil + water	w_3	g	92.8200	93.3300
Weight of bottle full of water	w_4	g	87.4800	87.8300
Weight of soil	w_2-w_1	g	8.6300	8.9000
Specific gravity	$\frac{w2-w1}{(w4-w1)-(w3-w2)}$		2.62310	2.61765
Average value G_s			2.62	

BH.No	1
Depth(m)	11.5

Pycnometer number			31	83
Weight of bottle	w_1	g	35.6200	37.3600
Weight of bottle + soil	w_2	g	45.4200	48.7900
Weight of bottle + soil + water	w_3	g	95.2400	95.7200
Weight of bottle full of water	w_4	g	89.0300	88.4800
Weight of soil	w_2-w_1	g	9.8000	11.4300
Specific gravity	$\frac{w2-w1}{(w4-w1)-(w3-w2)}$		2.72981	2.72792
Average value G_s			2.73	

SPECIFIC GRAVITY TEST

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

BH.No	1
Depth(m)	14.5

Pycnometer number			41	19
Weight of bottle	w_1	g	39.4100	34.6800
Weight of bottle + soil	w_2	g	48.7900	42.9900
Weight of bottle + soil + water	w_3	g	98.9500	87.3000
Weight of bottle full of water	w_4	g	93.0500	82.0700
Weight of soil	w_2-w_1	g	9.3800	8.3100
Specific gravity	$\frac{w2-w1}{(w4-w1)-(w3-w2)}$		2.69540	2.69805
Average value G_s			2.70	

BH.No	2
Depth(m)	2.0

Pycnometer number			57	70
Weight of bottle	w_1	g	28.7200	36.6700
Weight of bottle + soil	w_2	g	38.9800	44.4400
Weight of bottle + soil + water	w_3	g	87.0800	92.8200
Weight of bottle full of water	w_4	g	80.5200	87.8600
Weight of soil	w_2-w_1	g	10.2600	7.7700
Specific gravity	$\frac{w2-w1}{(w4-w1)-(w3-w2)}$		2.77297	2.76512
Average value G_s			2.77	

SPECIFIC GRAVITY TEST

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

BH.No	2
Depth(m)	4.0

Pycnometer number			60	43
Weight of bottle	w_1	g	33.9700	32.2300
Weight of bottle + soil	w_2	g	42.5500	41.4000
Weight of bottle + soil + water	w_3	g	91.6000	93.2100
Weight of bottle full of water	w_4	g	86.2500	87.4900
Weight of soil	w_2-w_1	g	8.5800	9.1700
Specific gravity	$\frac{w2-w1}{(w4-w1)-(w3-w2)}$		2.65635	2.65797
Average value G_s			2.66	

BH.No	2
Depth(m)	8.0

Pycnometer number			67	47
Weight of bottle	w_1	g	38.0600	38.1100
Weight of bottle + soil	w_2	g	52.0400	52.7100
Weight of bottle + soil + water	w_3	g	96.1500	101.5100
Weight of bottle full of water	w_4	g	87.5100	92.5000
Weight of soil	w_2-w_1	g	13.9800	14.6000
Specific gravity	$\frac{w2-w1}{(w4-w1)-(w3-w2)}$		2.61798	2.61181
Average value G_s			2.61	

SPECIFIC GRAVITY TEST

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

BH.No	2
Depth(m)	11.5

Pycnometer number			65	25
Weight of bottle	w_1	g	36.6100	38.0800
Weight of bottle + soil	w_2	g	50.6400	55.5700
Weight of bottle + soil + water	w_3	g	96.3300	92.7100
Weight of bottle full of water	w_4	g	87.6300	81.8600
Weight of soil	w_2-w_1	g	14.0300	17.4900
Specific gravity	$\frac{w2-w1}{(w4-w1)-(w3-w2)}$		2.63227	2.63404
Average value G_s			2.63	

BH.No	3
Depth(m)	2.0

Pycnometer number			71	73
Weight of bottle	w_1	g	36.2900	37.2700
Weight of bottle + soil	w_2	g	44.7800	45.7800
Weight of bottle + soil + water	w_3	g	92.8500	94.2400
Weight of bottle full of water	w_4	g	87.5500	88.9300
Weight of soil	w_2-w_1	g	8.4900	8.5100
Specific gravity	$\frac{w2-w1}{(w4-w1)-(w3-w2)}$		2.66144	2.65937
Average value G_s			2.66	

SPECIFIC GRAVITY TEST

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

BH.No	3
Depth(m)	4.0

Pycnometer number			13	81
Weight of bottle	w_1	g	27.7900	36.4900
Weight of bottle + soil	w_2	g	37.8200	45.9100
Weight of bottle + soil + water	w_3	g	84.1100	93.3200
Weight of bottle full of water	w_4	g	77.9600	87.5400
Weight of soil	w_2-w_1	g	10.0300	9.4200
Specific gravity	$\frac{w2-w1}{(w4-w1)-(w3-w2)}$		2.58505	2.58791
Average value G_s			2.59	

BH.No	3
Depth(m)	6.5

Pycnometer number			44	61
Weight of bottle	w_1	g	33.3900	34.5400
Weight of bottle + soil	w_2	g	43.9900	44.8400
Weight of bottle + soil + water	w_3	g	94.3300	92.5300
Weight of bottle full of water	w_4	g	87.8000	86.1900
Weight of soil	w_2-w_1	g	10.6000	10.3000
Specific gravity	$\frac{w2-w1}{(w4-w1)-(w3-w2)}$		2.60442	2.60101
Average value G_s			2.60	

SPECIFIC GRAVITY TEST

Project No: MSGTPL/SI-3540/16-17

Project : Proposed Construction of G+4 Residential Building at Adyar

BH.No	3
Depth(m)	10.0

Pycnometer number			20	72
Weight of bottle	w_1	g	31.3300	34.0700
Weight of bottle + soil	w_2	g	47.5700	48.0800
Weight of bottle + soil + water	w_3	g	91.1300	94.5700
Weight of bottle full of water	w_4	g	81.0400	85.8700
Weight of soil	w_2-w_1	g	16.2400	14.0100
Specific gravity	$\frac{w2-w1}{(w4-w1)-(w3-w2)}$		2.64065	2.63842
Average value G_s			2.64	

Project No: MSGTPL/SI-3540/16-17

Project : Proposed Construction of G+4 Residential Building at Adyar

BH 1 ***Sieve Analysis Test***

Depth 8.0m

S.No.	Sieve Aperture size used (mm)	% Soil retained PSR % (1)	Cumulative % Finer F % (2)	Average Sieve size (mm) (3)	Product of Columns (1) x (3)
1	4.750	2.18	97.82	4.750	10.34
2	2.000	0.88	96.95	3.375	2.96
3	1.000	14.15	82.79	1.500	21.23
4	0.600	20.00	62.79	0.800	16.00
5	0.425	16.11	46.68	0.513	8.26
6	0.212	19.28	27.40	0.319	6.14
7	0.150	3.74	23.66	0.181	0.68
8	0.075	1.72	21.94	0.113	0.19
9	passing 0.075				65.798

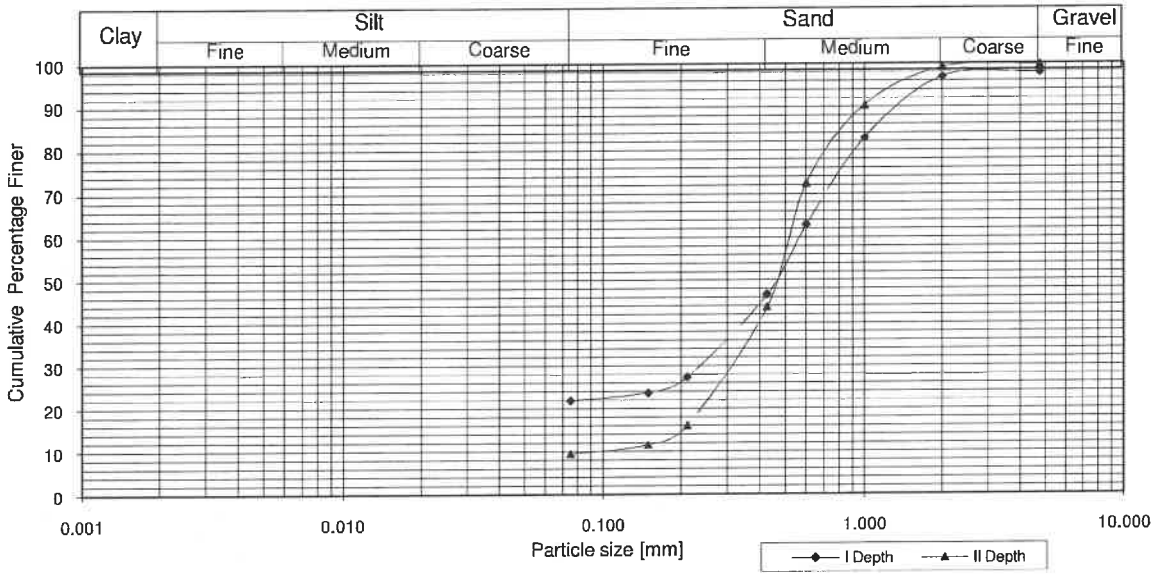
Average Particle Diameter = 0.6854

BH 1

Depth 10.0m

S.No.	Sieve Aperture size used (mm)	% Soil retained PSR % (1)	Cumulative % Finer F % (2)	Average Sieve size (mm) (3)	Product of (1) x (3)
1	4.750	0.28	99.72	4.750	1.31
2	2.000	0.62	99.11	3.375	2.08
3	1.000	8.80	90.31	1.500	13.20
4	0.600	17.84	72.47	0.800	14.27
5	0.425	28.66	43.81	0.513	14.69
6	0.212	27.68	16.13	0.319	8.82
7	0.150	4.56	11.57	0.181	0.83
8	0.075	2.08	9.49	0.113	0.23
9	passing 0.075				55.424

Average Particle Diameter = 0.5773



Depth = 8.0	%	Particle Size	Depth = 10.0	%	Particle Size
Gravel	2	D_{10} =	Gravel	0	D_{10} = 0.093
Coarse Sand	1	D_{30} = 0.241	Coarse Sand	1	D_{30} = 0.319
Medium Sand	50	D_{60} = 0.838	Medium Sand	55	D_{60} = 0.524
Fine Sand	25	C_u =	Fine Sand	34	C_u = 5.605
Silt & Clay	22	C_c =	Silt & Clay	10	C_c = 2.075

Project No: MSGTPL/SI-3540/16-17

Project : Proposed Construction of G+4 Residential Building at Adyar

BH 1 ***Sieve Analysis Test***

Depth 11.5m

S.No.	Sieve Aperture size used (mm)	% Soil retained PSR % (1)	Cumulative % Finer F % (2)	Average Sieve size (mm) (3)	Product of Columns (1) x (3)
1	4.750	0.25	99.75	4.750	1.17
2	2.000	1.23	98.52	3.375	4.16
3	1.000	15.53	82.99	1.500	23.30
4	0.600	24.21	58.77	0.800	19.37
5	0.425	32.07	26.71	0.513	16.43
6	0.212	17.61	9.10	0.319	5.61
7	0.150	2.73	6.37	0.181	0.49
8	0.075	2.05	4.32	0.113	0.23
9	passing 0.075				70.771

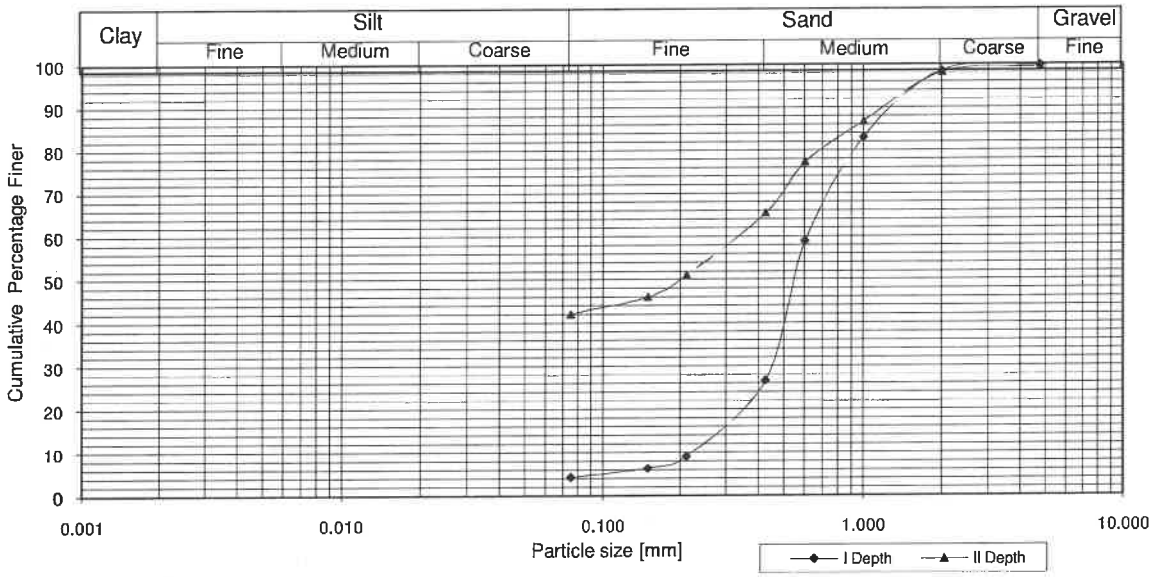
Average Particle Diameter = 0.7372

BH 1

Depth 13.0m

S.No.	Sieve Aperture size used (mm)	% Soil retained PSR % (1)	Cumulative % Finer F % (2)	Average Sieve size (mm) (3)	Product of (1) x (3)
1	4.750	0.62	99.39	4.750	2.92
2	2.000	1.28	98.11	3.375	4.30
3	1.000	11.40	86.72	1.500	17.09
4	0.600	9.44	77.28	0.800	7.55
5	0.425	11.92	65.37	0.513	6.11
6	0.212	14.25	51.12	0.319	4.54
7	0.150	5.05	46.07	0.181	0.91
8	0.075	3.94	42.13	0.113	0.44
9	passing 0.075				43.867

Average Particle Diameter = 0.4570



Depth = 11.5	%	Particle Size	Depth = 13.0	%	Particle Size
Gravel	0	D_{10} = 0.223	Gravel	1	D_{10} =
Coarse Sand	1	D_{30} = 0.443	Coarse Sand	1	D_{30} =
Medium Sand	72	D_{60} = 1.520	Medium Sand	33	D_{60} = 0.345
Fine Sand	22	C_u = 6.819	Fine Sand	23	C_u =
Silt & Clay	5	C_c = 0.579	Silt & Clay	42	C_c =

Project No: MSGTPL/SI-3540/16-17

Project : Proposed Construction of G+4 Residential Building at Adyar

BH 1 ***Sieve Analysis Test***

Depth 14.5m

S.No.	Sieve Aperture size used (mm)	% Soil retained PSR % (1)	Cumulative % Finer F % (2)	Average Sieve size (mm) (3)	Product of Columns (1) x (3)
1	4.750	0.77	99.24	4.750	3.63
2	2.000	3.38	95.86	3.375	11.41
3	1.000	11.78	84.08	1.500	17.67
4	0.600	7.54	76.54	0.800	6.03
5	0.425	11.78	64.76	0.513	6.04
6	0.212	19.32	45.45	0.319	6.15
7	0.150	7.96	37.49	0.181	1.44
8	0.075	3.96	33.53	0.113	0.44
9	passing 0.075				52.814

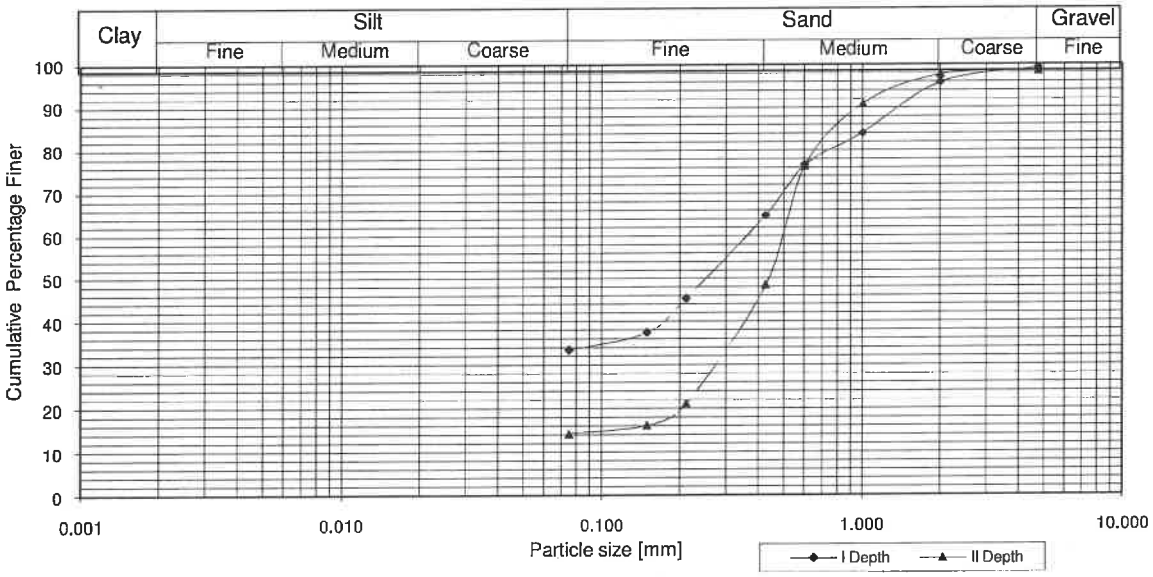
Average Particle Diameter = 0.5501

BH 2

Depth 8.0m

S.No.	Sieve Aperture size used (mm)	% Soil retained PSR % (1)	Cumulative % Finer F % (2)	Average Sieve size (mm) (3)	Product of (1) x (3)
1	4.750	1.56	98.44	4.750	7.41
2	2.000	0.71	97.73	3.375	2.40
3	1.000	6.93	90.81	1.500	10.39
4	0.600	14.51	76.30	0.800	11.60
5	0.425	27.78	48.53	0.513	14.23
6	0.212	27.37	21.16	0.319	8.72
7	0.150	4.95	16.22	0.181	0.90
8	0.075	1.96	14.26	0.113	0.22
9	passing 0.075				55.863

Average Particle Diameter = 0.5819



Depth = 14.5	%	Particle Size	Depth = 8.0	%	Particle Size
Gravel	1	D_{10} =	Gravel	2	D_{10} =
Coarse Sand	3	D_{30} =	Coarse Sand	1	D_{30} = 0.281
Medium Sand	31	D_{60} = 0.504	Medium Sand	49	D_{60} = 0.497
Fine Sand	31	C_u =	Fine Sand	34	C_u =
Silt & Clay	34	C_c =	Silt & Clay	14	C_c =

Project No: MSGTPL/SI-3540/16-17

Project : Proposed Construction of G+4 Residential Building at Adyar

BH 2 ***Sieve Analysis Test***

Depth 10.0m

S.No.	Sieve Aperture size used (mm)	% Soil retained PSR % (1)	Cumulative % Finer F % (2)	Average Sieve size (mm) (3)	Product of Columns (1) x (3)
1	4.750	0.44	99.56	4.750	2.09
2	2.000	0.26	99.31	3.375	0.86
3	1.000	7.47	91.84	1.500	11.21
4	0.600	16.60	75.24	0.800	13.28
5	0.425	31.13	44.12	0.513	15.95
6	0.212	28.45	15.67	0.319	9.06
7	0.150	5.08	10.60	0.181	0.92
8	0.075	2.00	8.60	0.113	0.23
9	passing 0.075				53.586

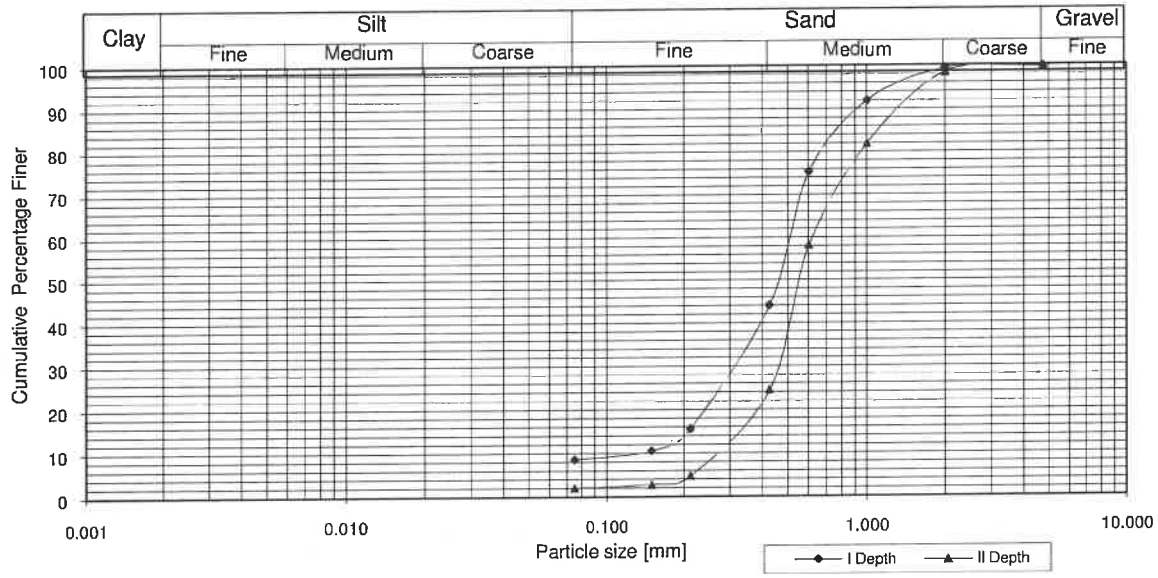
Average Particle Diameter = 0.5582

BH 2

Depth 11.5m

S.No.	Sieve Aperture size used (mm)	% Soil retained PSR % (1)	Cumulative % Finer F % (2)	Average Sieve size (mm) (3)	Product of (1) x (3)
1	4.750	0.28	99.72	4.750	1.33
2	2.000	1.37	98.35	3.375	4.62
3	1.000	16.56	81.80	1.500	24.83
4	0.600	23.74	58.06	0.800	18.99
5	0.425	33.59	24.48	0.513	17.21
6	0.212	19.72	4.76	0.319	6.28
7	0.150	1.95	2.81	0.181	0.35
8	0.075	0.81	2.00	0.113	0.09
9	passing 0.075				73.710

Average Particle Diameter = 0.7678



Depth = 10.0	%	Particle Size	Depth = 11.5	%	Particle Size
Gravel	0	D_{10} = 0.128	Gravel	0	D_{10} = 0.269
Coarse Sand	0	D_{30} = 0.319	Coarse Sand	1	D_{30} = 0.454
Medium Sand	55	D_{60} = 0.714	Medium Sand	74	D_{60} = 0.633
Fine Sand	36	C_u = 5.592	Fine Sand	22	C_u = 2.355
Silt & Clay	9	C_c = 1.118	Silt & Clay	3	C_c = 1.212

Project No: MSGTPL/SI-3540/16-17

Project : Proposed Construction of G+4 Residential Building at Adyar

BH 3 ***Sieve Analysis Test***

Depth 4.0m

S.No.	Sieve Aperture size used (mm)	% Soil retained PSR % (1)	Cumulative % Finer F % (2)	Average Sieve size (mm) (3)	Product of Columns (1) x (3)
1	4.750	0.00	100.00	4.750	0.00
2	2.000	0.00	100.00	3.375	0.00
3	1.000	0.26	99.74	1.500	0.39
4	0.600	0.34	99.40	0.800	0.27
5	0.425	0.94	98.46	0.513	0.48
6	0.212	17.10	81.36	0.319	5.45
7	0.150	36.14	45.22	0.181	6.54
8	0.075	21.34	23.88	0.113	2.40
9	passing 0.075				15.532

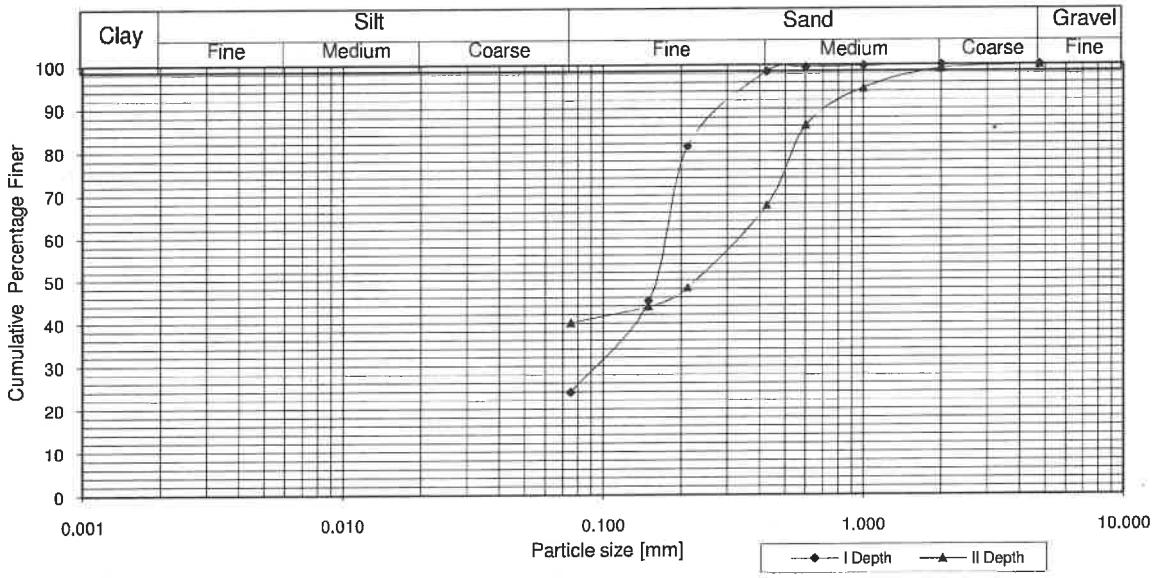
Average Particle Diameter = 0.1618

BH 3

Depth 6.5m

S.No.	Sieve Aperture size used (mm)	% Soil retained PSR % (1)	Cumulative % Finer F % (2)	Average Sieve size (mm) (3)	Product of (1) x (3)
1	4.750	0.00	100.00	4.750	0.00
2	2.000	0.91	99.09	3.375	3.06
3	1.000	4.47	94.63	1.500	6.70
4	0.600	8.54	86.09	0.800	6.83
5	0.425	18.51	67.57	0.513	9.49
6	0.212	19.25	48.33	0.319	6.13
7	0.150	4.43	43.90	0.181	0.80
8	0.075	3.79	40.11	0.113	0.43
9	passing 0.075				33.437

Average Particle Diameter = 0.3483



Depth = 4.0	%	Particle Size	Depth = 6.5	%	Particle Size
Gravel	0	D_{10} =	Gravel	0	D_{10} =
Coarse Sand	0	D_{30} = 0.097	Coarse Sand	1	D_{30} =
Medium Sand	2	D_{60} = 0.212	Medium Sand	32	D_{60} = 0.341
Fine Sand	75	C_u =	Fine Sand	27	C_u =
Silt & Clay	23	C_c =	Silt & Clay	40	C_c =

Project No: MSGTPL/SI-3540/16-17

Project : Proposed Construction of G+4 Residential Building at Adyar

BH 3 ***Sieve Analysis Test***

Depth 8.0m

S.No.	Sieve Aperture size used (mm)	% Soil retained PSR % (1)	Cumulative % Finer F % (2)	Average Sieve size (mm) (3)	Product of Columns (1) x (3)
1	4.750	0.32	99.68	4.750	1.52
2	2.000	0.31	99.37	3.375	1.05
3	1.000	5.54	93.84	1.500	8.30
4	0.600	14.79	79.05	0.800	11.83
5	0.425	33.05	46.01	0.513	16.94
6	0.212	31.89	14.12	0.319	10.16
7	0.150	4.56	9.56	0.181	0.82
8	0.075	2.77	6.80	0.113	0.31
9	passing 0.075				50.925

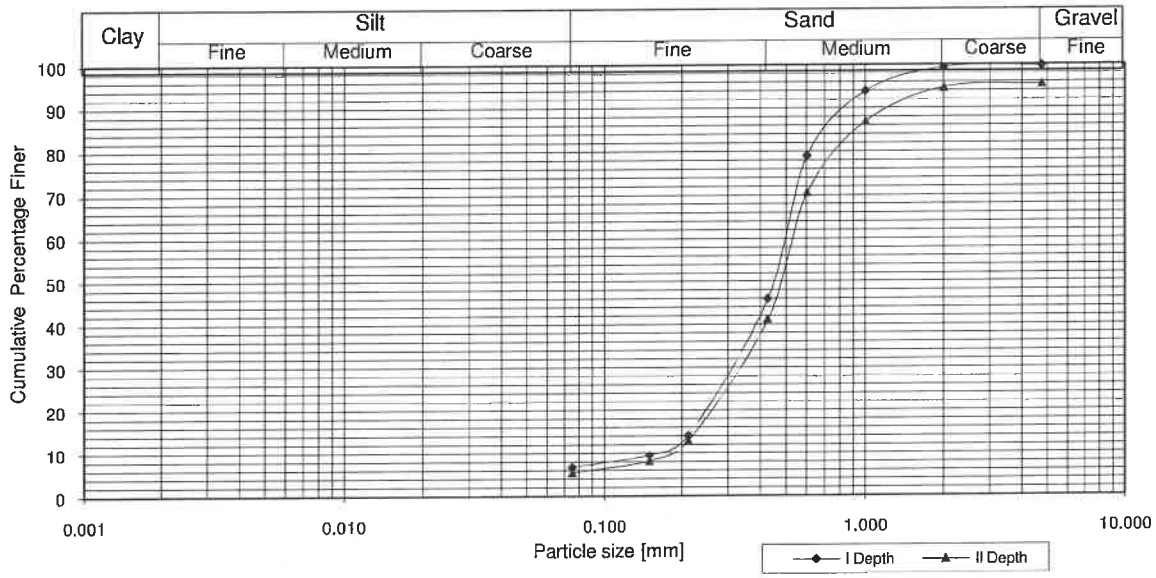
Average Particle Diameter = 0.5305

BH 3

Depth 10.0m

S.No.	Sieve Aperture size used (mm)	% Soil retained PSR % (1)	Cumulative % Finer F % (2)	Average Sieve size (mm) (3)	Product of (1) x (3)
1	4.750	4.61	95.39	4.750	21.91
2	2.000	0.78	94.61	3.375	2.63
3	1.000	7.81	86.80	1.500	11.71
4	0.600	16.30	70.50	0.800	13.04
5	0.425	29.30	41.20	0.513	15.02
6	0.212	28.27	12.93	0.319	9.01
7	0.150	4.70	8.23	0.181	0.85
8	0.075	2.78	5.45	0.113	0.31
9	passing 0.075				74.481

Average Particle Diameter = 0.7758



Depth = 8.0	%	Particle Size	Depth = 10.0	%	Particle Size
Gravel	0	D_{10} = 0.156	Gravel	5	D_{10} = 0.173
Coarse Sand	0	D_{30} = 0.318	Coarse Sand	1	D_{30} = 0.341
Medium Sand	53	D_{60} = 0.707	Medium Sand	53	D_{60} = 0.537
Fine Sand	39	C_u = 4.531	Fine Sand	36	C_u = 3.099
Silt & Clay	8	C_c = 0.918	Silt & Clay	5	C_c = 1.245

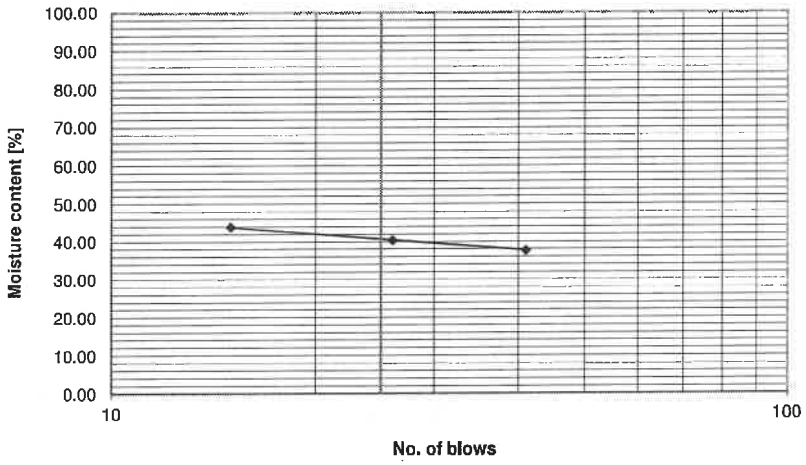
MS GEOTECH
Geotechnical, Geophysical & Engineering Survey in Offshore & Onshore

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

ATTERBERG LIMITS TEST

Bore Hole No: 1
Depth: 2.0m

			Liquid limit				Plastic limit	
No. of blows	N		15	26	41			
Weight of wet specimen + container	WSC	g	53.90	48.93	48.69		48.28	
Weight of dry specimen +container	WDC	g	46.20	42.65	42.39		45.20	
Weight of container	WC	g	28.64	27.10	25.68		28.22	
Weight of water	WW	g	7.70	6.28	6.30		3.08	
Weight of dry specimen	WD	g	17.56	15.55	16.71		16.98	
Moisture content	w	%	43.85	40.39	37.70		18.14	



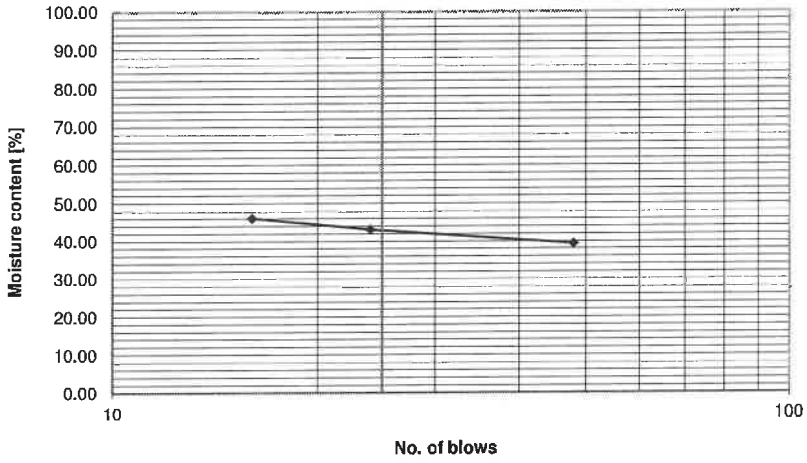
Liquid limit W_L : 41 %
Plastic limit W_P : 18 %
Plasticity index I_P : 23 %

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

ATTERBERG LIMITS TEST

Bore Hole No: 1
Depth: 3.0m

			Liquid limit				Plastic limit	
No. of blows	N		16	24	48			
Weight of wet specimen + container	WSC	g	53.23	51.66	52.95		59.70	
Weight of dry specimen +container	WDC	g	45.75	45.24	46.25		54.90	
Weight of container	WC	g	29.52	30.36	29.23		29.07	
Weight of water	WW	g	7.48	6.42	6.70		4.80	
Weight of dry specimen	WD	g	16.23	14.88	17.02		25.83	
Moisture content	w	%	46.09	43.15	39.37		18.58	



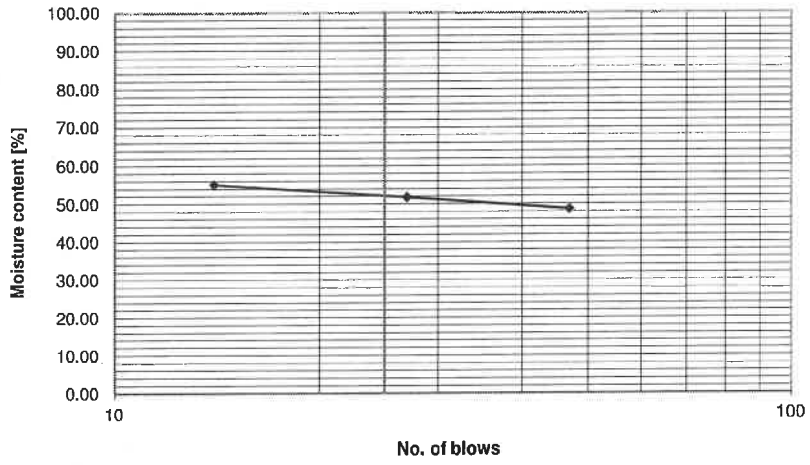
Liquid limit W_L :	43	%
Plastic limit W_P :	19	%
Plasticity index I_P :	24	%

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

ATTERBERG LIMITS TEST

Bore Hole No: 1
Depth: 4.0m

			Liquid limit				Plastic limit	
No. of blows	N		14	27	47			
Weight of wet specimen + container	WSC	g	56.75	51.71	53.30		56.73	
Weight of dry specimen +container	WDC	g	46.56	42.77	44.26		51.63	
Weight of container	WC	g	28.07	25.48	25.66		29.25	
Weight of water	WW	g	10.19	8.94	9.04		5.10	
Weight of dry specimen	WD	g	18.49	17.29	18.60		22.38	
Moisture content	w	%	55.11	51.71	48.60		22.79	



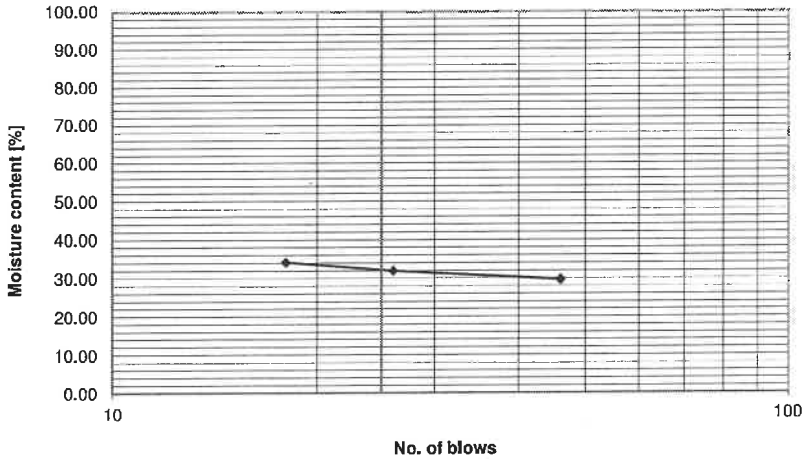
Liquid limit W_L : 52 %
Plastic limit W_P : 23 %
Plasticity index I_P : 29 %

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

ATTERBERG LIMITS TEST

Bore Hole No: 1
Depth: 5.0m

			Liquid limit				Plastic limit	
No. of blows	N		18	26	46			
Weight of wet specimen + container	WSC	g	58.85	59.37	50.86		53.94	
Weight of dry specimen +container	WDC	g	50.86	51.69	44.99		50.88	
Weight of container	WC	g	27.46	27.63	25.20		30.76	
Weight of water	WW	g	7.99	7.68	5.87		3.06	
Weight of dry specimen	WD	g	23.40	24.06	19.79		20.12	
Moisture content	w	%	34.15	31.92	29.66		15.21	



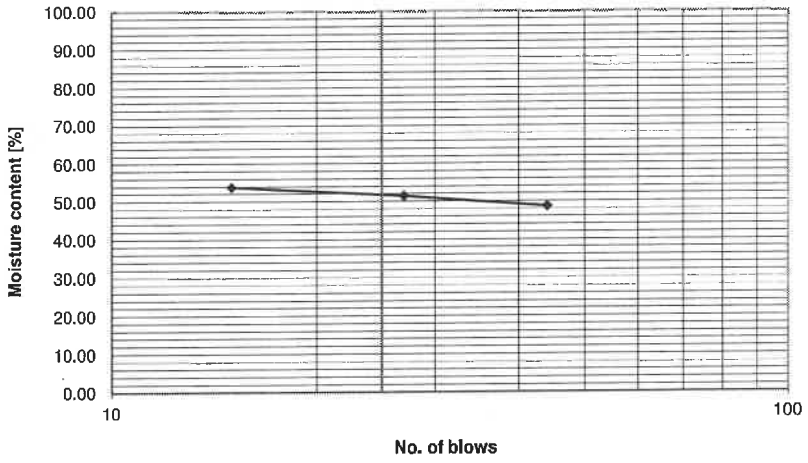
Liquid limit W_L :	32	%
Plastic limit W_P :	15	%
Plasticity index I_P :	17	%

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

ATTERBERG LIMITS TEST

Bore Hole No: 2
Depth: 2.0m

			Liquid limit				Plastic limit	
No. of blows	N		15	27	44			
Weight of wet specimen + container	WSC	g	59.01	60.40	59.58		51.84	
Weight of dry specimen +container	WDC	g	48.32	49.62	49.53		47.35	
Weight of container	WC	g	28.44	28.67	28.86		28.06	
Weight of water	WW	g	10.69	10.78	10.05		4.49	
Weight of dry specimen	WD	g	19.88	20.95	20.67		19.29	
Moisture content	w	%	53.77	51.46	48.62		23.28	



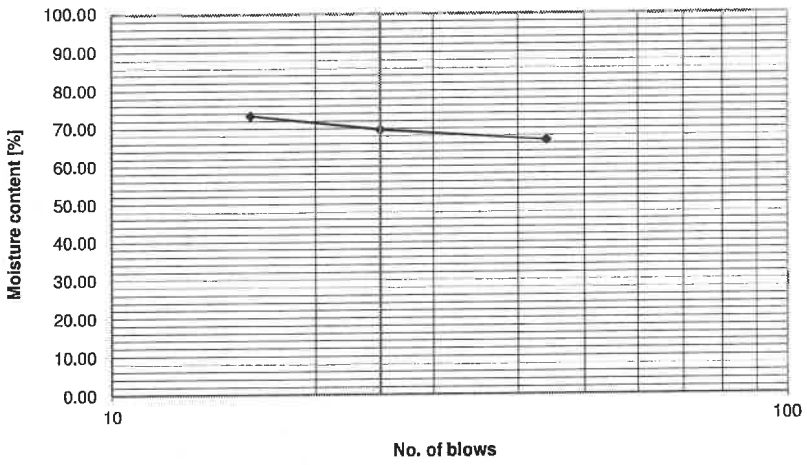
Liquid limit W_L : 51 %
Plastic limit W_P : 23 %
Plasticity index I_P : 28 %

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

ATTERBERG LIMITS TEST

Bore Hole No: 2
Depth: 3.0m

			Liquid limit				Plastic limit	
No. of blows	N		16	25	44			
Weight of wet specimen + container	WSC	g	52.40	52.45	53.19		52.25	
Weight of dry specimen +container	WDC	g	42.32	42.36	43.52		46.52	
Weight of container	WC	g	28.59	27.87	29.04		25.85	
Weight of water	WW	g	10.08	10.09	9.67		5.73	
Weight of dry specimen	WD	g	13.73	14.49	14.48		20.67	
Moisture content	w	%	73.42	69.63	66.78		27.72	



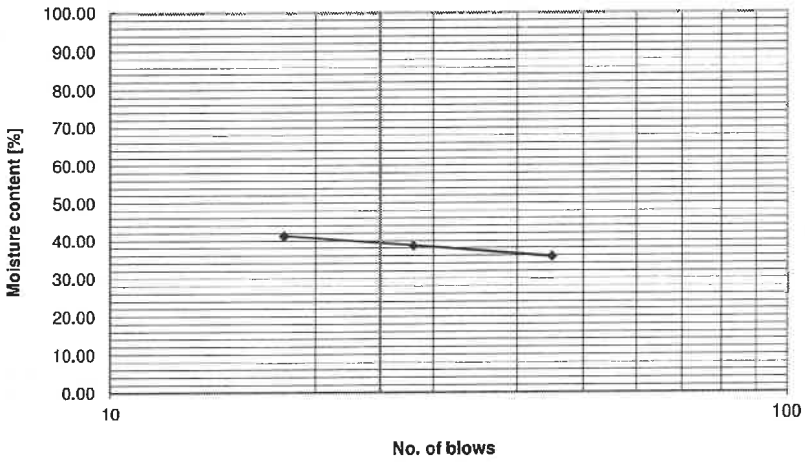
Liquid limit W_L :	70	%
Plastic limit W_P :	28	%
Plasticity index I_P :	42	%

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

ATTERBERG LIMITS TEST

Bore Hole No: 2
Depth: 4.0m

			Liquid limit				Plastic limit	
No. of blows	N		18	28	45			
Weight of wet specimen +container	WSC	g	52.52	56.17	51.46		53.49	
Weight of dry specimen +container	WDC	g	45.25	48.51	45.46		49.65	
Weight of container	WC	g	27.66	28.69	28.67		27.74	
Weight of water	WW	g	7.27	7.66	6.00		3.84	
Weight of dry specimen	WD	g	17.59	19.82	16.79		21.91	
Moisture content	w	%	41.33	38.65	35.74		17.53	



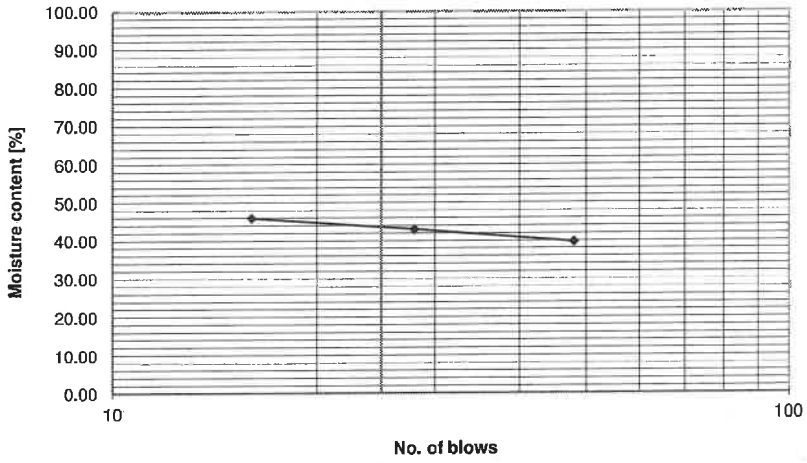
Liquid limit W_L :	39	%
Plastic limit W_P :	18	%
Plasticity index I_P :	21	%

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

ATTERBERG LIMITS TEST

Bore Hole No: 2
Depth: 5.0m

			Liquid limit				Plastic limit	
No. of blows	N		16	28	48			
Weight of wet specimen + container	WSC	g	51.42	55.14	54.27		53.32	
Weight of dry specimen +container	WDC	g	44.58	47.02	47.52		49.35	
Weight of container	WC	g	29.69	28.12	30.49		28.48	
Weight of water	WW	g	6.84	8.12	6.75		3.97	
Weight of dry specimen	WD	g	14.89	18.90	17.03		20.87	
Moisture content	w	%	45.94	42.96	39.64		19.03	



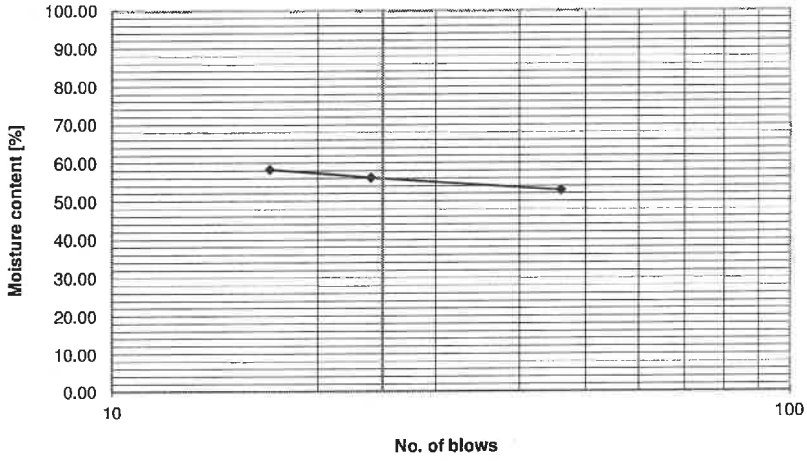
Liquid limit W_L : 43 %
Plastic limit W_P : 19 %
Plasticity index I_P : 24 %

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

ATTERBERG LIMITS TEST

Bore Hole No: 3
Depth: 2.0m

			Liquid limit				Plastic limit	
No. of blows	N		17	24	46			
Weight of wet specimen + container	WSC	g	60.55	57.98	59.54		48.68	
Weight of dry specimen +container	WDC	g	49.85	47.76	49.75		43.87	
Weight of container	WC	g	31.53	29.55	31.21		22.68	
Weight of water	WW	g	10.70	10.22	9.79		4.81	
Weight of dry specimen	WD	g	18.32	18.21	18.54		21.19	
Moisture content	w	%	58.41	56.12	52.80		22.70	



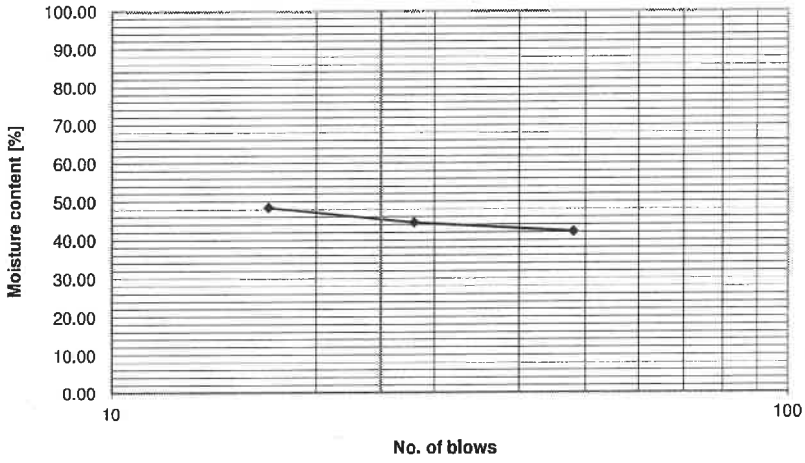
Liquid limit W_L :	56	%
Plastic limit W_P :	23	%
Plasticity index I_P :	33	%

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

ATTERBERG LIMITS TEST

Bore Hole No: 3
Depth: 3.0m

			Liquid limit				Plastic limit	
No. of blows	N		17	28	48			
Weight of wet specimen + container	WSC	g	53.33	53.46	54.17		52.21	
Weight of dry specimen +container	WDC	g	45.65	45.69	46.65		48.22	
Weight of container	WC	g	29.79	28.25	28.83		27.56	
Weight of water	WW	g	7.68	7.77	7.52		3.99	
Weight of dry specimen	WD	g	15.86	17.44	17.82		20.66	
Moisture content	w	%	48.42	44.55	42.20		19.31	



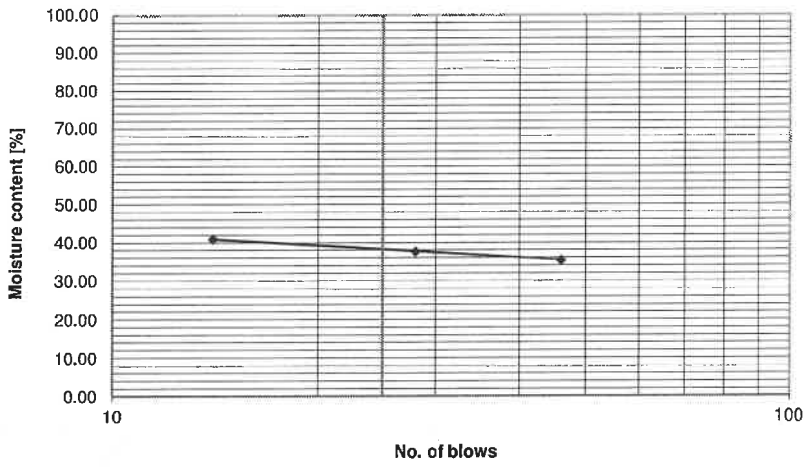
Liquid limit W_L :	45	%
Plastic limit W_P :	19	%
Plasticity index I_P :	26	%

Project No: MSGTPL/SI-3540/16-17
Project : Proposed Construction of G+4 Residential Building at Adyar

ATTERBERG LIMITS TEST

Bore Hole No: 3
Depth: 5.0m

			Liquid limit				Plastic limit	
No. of blows	N		14	28	46			
Weight of wet specimen + container	WSC	g	58.35	63.11	50.38		50.83	
Weight of dry specimen +container	WDC	g	49.86	54.19	43.69		47.69	
Weight of container	WC	g	29.11	30.53	24.76		29.92	
Weight of water	WW	g	8.49	8.92	6.69		3.14	
Weight of dry specimen	WD	g	20.75	23.66	18.93		17.77	
Moisture content	w	%	40.92	37.70	35.34		17.67	



Liquid limit W_L : 38 %
Plastic limit W_P : 18 %
Plasticity index I_P : 20 %



our services doesn't just end there

Buying & Selling Services

Property Buying Assistance, Property Selling Support, Market Price Analysis, Owner Outreach and Negotiation.

Legal & Documentation Services

Certified EC, Patta, legal opinions, property verification, due diligence, litigation solutions, and legal heir certificates.

Property Development & Approvals

Building plan approvals, construction, layout and sub-division approvals, zone conversion, and occupancy certification.

NRI & Investment Services

Escrow Services, Rentals, Litigation Solutions, Property Valuation and Property Management

Compliance & Special Services

Demolition, Vaasthu checks, regularization of unauthorized buildings, and office space solutions.



empowering your real estate decisions with smart tools

Property Valuation & Cost Estimation

Guideline Value, Apartment Composite Value, Stamp Duty & Registration Fees Calculator, Building Value Calculator, Capital Gains Calculator, Area Unit Converter, Length Unit Converter

Ownership, Compliance & Legal Verification

Encumbrance Certificate (EC) Search, Find Your SRO, Temple Property Check, WAQF Property Check, View Patta/Chitta, View FMB, Patta Analyzer, EC Analyzer

Zoning & Land Use Analysis

Land Use Zone Finder, CRZ Zone Check, Aquifer Zone Check, CBA Check, EWS Check, Road Width Check, Proposed Road Widening Check, FSI Calculator

Property Documentation & Workflow Tools

Forms & Templates, Document Generator, Document Translation, Dictionary

Vastu & Property Management Tools

Home Vastu Shastra, Plot Vastu Shastra, Property Management

Verified RealEstate™

We're honored to be part of your real estate journey

3/350/2 Mettukuppam,
OMR Thoraipakkam,
Chennai, India

hello@verified.realestate
+91 9996 12 9996
www.verified.realestate