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SOIL EXPLORATION REPORT



PROJECT NO : 5911

PROJECT NAME : Construction of Puravankara Southbay Residential Group Development for M/s. Puravankara Projects Ltd

PROJECT NAME : S.No. 299/1A1, 299/1B, 299/2A1, 299/2B1, 299/3B1, 299/3C1, 299/4B, 301/1A, 301/2A, 301/3A of Sattankuppam village (Hamlet of Pudupakkam), Vandalur Taluk, Chengalpattu District and 612B/2 of Padur Village, Thiruporur Taluk, Chengalpattu District.

1. INTRODUCTION

M/s. Puravankara Projects Ltd are proposing to construct Residential Group Development " Puravankara South Bay at Pudupakkam, Chennai at the location shown in Fig.1. Soil Exploration work was referred to this firm by M/s. Puravankara Projects Limited Bangalore, with a view to determining the soil properties of the area and to arrive at the most suitable foundation system for the proposed structure. For this purpose thirty boreholes were bored upto depths varying from 7.0 to 10.0M below ground level. The boreholes were terminated in medium rock layer. The borehole locations are given in Fig.1. The work comprised of conducting Standard Penetration Tests in the field and collecting samples for testing in the laboratory. The report presents the details of the work, analysis of test results and foundation recommendations made based on the analysis.

2. EXPLORATION TECHNIQUE

Rotary Drilling technique drilling was adopted for boring in this area. Casing pipes and bentonite slurry were used to protect the sides of the boreholes. Standard Penetration Tests were conducted at change of layers and at specified intervals. Disturbed samples were collected in plastic bags from all the layers for visual observation and classification tests. Undisturbed samples could not be collected since the soil layers met with were essentially cohesionless in nature and tests pertaining to cohesive layers were not conducted.

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Director

3. SOIL PROFILE

The profile of the area as observed in the boreholes is given in Figs.2 to 31. The top soil of 0.3 to 0.5 M is non-uniform. The underlying layer is disintegrated rock with medium rock appearing at depths varying from 2.9 to 9.0 M below ground level. No regular water table was met with in the boreholes at the time of exploration. However, perched water table is likely to occur during excavation.

4. ANALYSIS OF TEST RESULTS

1. Standard Penetration Test
2. Grain Size Analysis
3. Determination of Specific Gravity
4. Crushing Strength of Rock

An analysis of the results of these tests were presented in this section of the report.

4.1 Standard Penetration Test

These tests were conducted at change of layers and at specified intervals, commencing the test at 1.5 M below ground level. The results are presented graphically in Figs. 2 to 31. The relative density of the cohesionless layers obtained from the N values are given in the borelogs.

4.2 Grain Size Analysis

Combined sieve and hydrometer analyses were conducted on the various samples collected. The results are given in Table-1. Based on the proportion of the different soil constituents, the soil is classified using the Triangular Chart

4.3 Determination of Specific Gravity

The specific gravities of the soil grains were determined from the various samples collected. The results are given in Table-1. No abnormal value is noted in the test results.

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Director P.N. 5911

4.4 Crushing Strength of Rock

Core samples collected from medium rock layers were tested for determining crushing strength of rock. The results are given in Table -2

5. FOUNDATION ANALYSIS

For the proposed structure shallow foundations can be given at any depth from 1.5M, resting the foundation on the disintegrated rock / medium rock layer..

The safe bearing capacity of the cohesionless disintegrated rock layers could be computed using the formula,

$$Q_a = (0.5\gamma \times B \times N_\gamma + \gamma D_f N_q) \div 2.5$$

where,

B = Width of footing

γ = Submerged unit weight of soil
taken as 1 gm/cc,

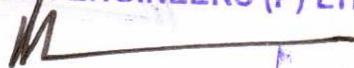
D_f = Depth of surcharge

N_γ N_q = Bearing capacity factors based
on the N values taken from Fig .32

Based on the N value, the SBC worked out are as follows for a minimum width of foundation of 1.0M-

DEPTH (m)	SBC (KG/CM ²)	
	without Basement	with basement
1.5	3.5	
3.0	Limited to 5.0	Limited to 5.0

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P.N. 5911

When the foundations are placed on the medium rock layer, the SBC that could be followed is 10.0 kg/cm^2 .

The settlement of the foundations would be within 25mm

Over excavation in the foundation trenches should be refilled lean concrete in general and 1:3:6 concrete in medium rock.

6. EXCAVATION PROCEDURE

1. Vertical cuts could be given for excavation.
2. Excavation in disintegrated rock could be done by pocoline. Jack hammers would be required for excavation in medium rock.
3. Slush formed by any water accumulation should be removed and refilled by lean concrete
4. If water accumulates in the foundation trenches, dewatering should be done by pumping out water from a level lower than the foundation level to maintain downward flow of water. The downward flow of water should be maintained continuously upto 12 hours after laying the PCC.
5. The exposed side of excavation should be covered by plastic sheet during rainy season. Surface drains should be given to prevent flow of water on cut surface.

7. CONCLUSION

1. The area explored has got top soil of 0.3 to 0.5 M is non-uniform. The underlying layer is disintegrated rock with medium rock appearing at depths varying from 2.9 to 9.0 M below ground level. No regular water table was met with in the boreholes at the time of exploration. However, perched water table is likely to occur during excavation.

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Director

2. For the proposed structure shallow foundations can be given at any depth from 1.5M, resting the foundation on the disintegrated rock / medium rock layer.

3. The SBC that could be adopted when the foundations are placed on the disintegrated rock for different depths are given in the report.

4. When the foundations are placed on the medium rock layer the SBC that could be adopted is 10.0 kg/cm^2

6 The settlement of the shallow foundation would be within 25mm .

7. Over excavations in the foundation trenches should be refilled by lean concrete in disintegrated rock and by 1:3:6 concrete in medium rock.

8. Suggested excavation procedure should be adopted while undertaking the construction.

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VELACHERY ROAD
GUINDY, CHENNAI-600032

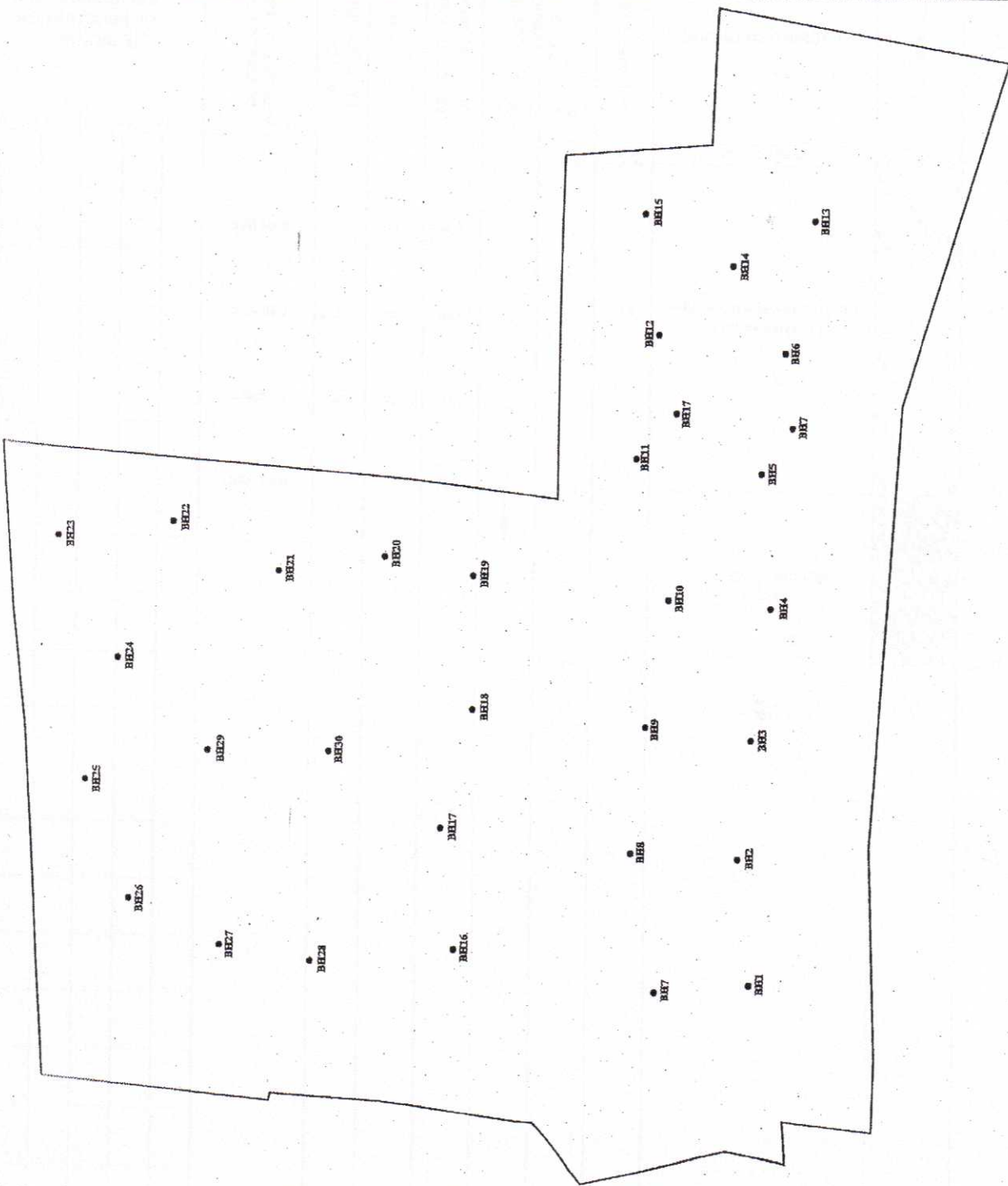
For F.S. ENGINEERS (P) LTD.


Director
(Dr.A. Verghese Chummar)

DIRECTOR

Dated: May 20TH 2014

Project : Proposed Residential Project for "Mt. Parva Sewer Box" at Puthussickkayam, Chennai.



P. N. : 5911

SITE PLAN

Fig : 1

For F.S. ENGINEERS (P) LTD.

 _____

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 1
 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 12.04.14

DATE OF COMPLETION : 14.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

TYPE OF BORING : ROTARY DRILLING																	
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE							
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY								
		TOP SOIL TS	0.30	0.30													
1		DISINTEGRATED ROCK DR1 (Greyish White)	5.70	6.00	↓	1.50	>50	20	V.DENSE								
2																	
3																	
4																	
5																	
6																	
7		MEDIUM ROCK MR1 (Grey)				6.00			REBOUND								
8																	
9.00																	
				9.00													

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

Fig : 2

PN : 5911

END OF BORING

CORE RECOVERY

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 2 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 12.04.14

DATE OF COMPLETION : 14.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE							
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN "CMS "	RELATIVE DENSITY CONSISTENCY								
		TOP SOIL TS	0.30	0.30						10	20	30	40	>50			
1		DISINTEGRATED ROCK DR1 (Greyish White)	5.70	6.00	6.00	1.50	>50	15	V.DENSE								
2																	
3																	
4																	
5																	
6		MEDIUM ROCK MR1 (Grey)															
7																	
8																	
9.00																	

For F.S. ENGINEERS (P) LTD.

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

→ END OF BORING | CORE RECOVERY

Fig : 3

P N : 5811

Director

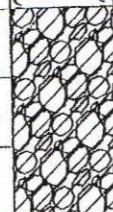
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SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 3
 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 10.04.14
 DATE OF COMPLETION : 11.04.14
 G.W.L : NIL

TYPE OF BORING : ROTARY DRILLING

TYPE OF BORING : ROTARY DRILLING											
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE	
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY		
		TOP SOIL TS	0.30	0.30						10 20 30 40 >50	
1		DISINTEGRATED ROCK DR1 (Greyish White)	5.70	6.00	6.00	1.50	>50	15	V.DENSE		
2											
3						3.00	>50	20	V.DENSE		
4											
5						4.50	>50	0	V.DENSE		
6		MEDIUM ROCK MR1 (Grey)			↓				REBOUND		
7											
8											
9.00						9.00					
For F.S. ENGINEERS (P) LTD.											
P N : 5911											

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REMARKS : ALL DIMENSIONS ARE IN METRES
 END OF BORING CORE RECOVERY

Fig : 4

P.N : 5911

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 4 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 07.04.14

DATE OF COMPLETION : 08.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE														
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY															
										10	20	30	40	>50										
		TOP SOIL TS	0.30	0.30																				
1		DISINTEGRATED ROCK DR1 (Greyish White)	5.70	6.00	↓	1.50	>50	10	V.DENSE															
2																								
3																								
4																								
5																								
6		MEDIUM ROCK MR1 (Grey)		10.00																				
7																								
8																								
9																								
10.00																								

For F.S. ENGINEERS (P) LTD.

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REMARKS : ALL DIMENSIONS ARE IN METRES

Fig : 5

Director

P N : 5911

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SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 09.04.14

BORE HOLE NO : 5

DATE OF COMPLETION : 10.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

TYPE OF BORING : ROTARY DRILLING															
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE					
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY						
										10	20	30	40	>50	
		TOP SOIL TS	0.30	0.30											
1		DISINTEGRATED ROCK DR1 (Greyish White)	5.70			1.50	>50	15	V.DENSE						
2															
3						3.00	>50	7	V.DENSE						
4															
5						4.50	>50	0	V.DENSE						
6															
6				6.00		6.00			REBOUND						
7		MEDIUM ROCK MR1 (Grey)													
8															
9.00						9.00									
				</											

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Fig : 6

P N : 5911

REMARKS : ALL DIMENSIONS ARE IN METRES

→ END OF BORING | CORE RECOVERY

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 6
 TYPE OF BORING : ROTARY DRILLING

DATE OF COMMENCEMENT : 11.04.14
 DATE OF COMPLETION : 12.04.14
 G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE					
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY						
		TOP SOIL TS	0.30	0.30											
1		DISINTEGRATED ROCK DR1 (Greyish White)	5.30			1.50	>50	7	V.DENSE						
2						3.00	>50	0	V.DENSE						
3						4.50	>50	0	V.DENSE						
4															
5															
6		MEDIUM ROCK MR1 (Grey)		5.60		5.60			REBOUND						
7															
8															
9.00						9.00									

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

END OF BORING CORE RECOVERY

For F.S. ENGINEERS (P) LTD.

Fig : 7.

P N : 5911

Director

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SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
BORE HOLE NO : 7
PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 18.04.14
DATE OF COMPLETION : 19.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

TYPE OF BORING : ROTARY DRILLING																					
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE											
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY												
		TOP SOIL TS	0.30	0.30								10	20	30	40	>50					
1		DISINTEGRATED ROCK DR1 (Greyish White)	5.70			1.50	>50	15	V.DENSE												
2																					
3																					
4																					
5																					
6																					
6				6.00		6.00			REBOUND												
7		MEDIUM ROCK MR1 (Grey)																			
8																					
9																					
10.00																					
				10.00																	

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REMARKS : ALL DIMENSIONS ARE IN METRES

Fig : 8

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END OF BORING CORE RECOVERY

Director

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SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 8 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 16.04.14

DATE OF COMPLETION : 17.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE							
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTENCY								
										10	20	30	40	>50			
		TOP SOIL TS	0.30	0.30													
1		DISINTEGRATED ROCK DR1 (Greyish White)	4.70			1.50	>50	25	V.DENSE								
2																	
3								3.00	>50	15	V.DENSE						
4																	
5						4.50	>50	20	V.DENSE								
6		MEDIUM ROCK MR1 (Grey)		5.00	↓	5.00			REBOUND								
7																	
8.00																	
						8.00											

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REMARKS : ALL DIMENSIONS ARE IN METRES

Fig : 9

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→ END OF BORING → CORE RECOVERY

Director

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SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
BORE HOLE NO : 9
PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 14.04.14

DATE OF COMPLETION : 15.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

TYPE OF BORING : ROTARY DRILLING										
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTENCY	
										10 20 30 40 >50
		TOP SOIL TS	0.30	0.30						
1		DISINTEGRATED ROCK DR1 (Greyish White)	4.70	5.00	5.00	1.50	>50	13	V.DENSE	
2										
3						3.00	>50	15	V.DENSE	
4										
5						4.50	>50	0	V.DENSE	
6		MEDIUM ROCK MR1 (Grey)				5.00			REBOUND	
7										
8										
9										
10.00										
									</	

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

Fig : 10

P N : 5911

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



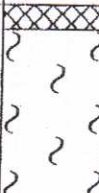
PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 10 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 03.04.14

DATE OF COMPLETION : 05.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE											
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTENCY												
		TOP SOIL TS	0.30	0.30																	
1		DISINTEGRATED ROCK DR1 (Greyish White)	2.60			1.60	>50	10	V.DENSE												
2																					
3																					
4		MEDIUM ROCK MR1 (Grey)		2.90	↓	2.90			REBOUND												
5																					
6																					
7.25																					
				7.25																	
			</																		

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

END OF BORING CORE RECOVERY

Fig : 11

P N : 5911

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG

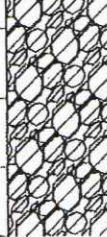


PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 11
 TYPE OF BORING : ROTARY DRILLING

DATE OF COMMENCEMENT : 03.04.14

DATE OF COMPLETION : 05.04.14

G.W.L : NIL

TYPE OF BORING : ROTARY DRILLING															
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE					
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY						
										10	20	30	40	>50	
		TOP SOIL TS	0.50	0.50											
1		DISINTEGRATED ROCK DR1 (Greyish White)	8.00			1.50	>50	14	V.DENSE						
2															
3															
4															
5															
6															
7		MEDIUM ROCK MR1 (Grey)		6.50		6.50			REBOUND						
8															
9															
10.00															

For F.S. ENGINEERS (P) LTD.

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES
 END OF BORING CORE RECOVERY

Fig : 12

P N : 5911

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 12
 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 07.04.14

DATE OF COMPLETION : 08.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

G.W.L : NIL															
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE					
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY						
		TOP SOIL TS	0.50	0.50							10	20	30	40	>50
1		DISINTEGRATED ROCK DR1 (Greyish White)	8.50			1.50	>50	15	V.DENSE						
2						3.00	>50	15	V.DENSE						
3						4.50	>50	0	V.DENSE						
4						6.00	>50	0	V.DENSE						
5						7.50	>50	0	V.DENSE						
6															
7															
8															
9		MEDIUM ROCK MR1 (Grey)	9.00	9.00	9.00				REBOUND						
10.00										10.00					
For F.S. ENGINEERS (P) LTD.															
REMARKS : ALL DIMENSIONS ARE IN METRES															

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

Fig : 13

Director

P.N : 5911

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 13
 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 10.04.14

DATE OF COMPLETION : 12.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

TYPE OF BORING : ROTARY DRILLING														
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE				
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY					
										10	20	30	40	>50
		TOP SOIL TS	0.30	0.30										
1		DISINTEGRATED ROCK DR1 (Greyish White)	4.70			1.50	>50	15	V.DENSE					
2														
3						3.00	>50	0	V.DENSE					
4														
5						4.50	>50	0	V.DENSE					
6		MEDIUM ROCK MR1 (Grey)		5.00		5.00			REBOUND					
7														
8.00				8.00										

For F.S. ENGINEERS (P) LTD.

Fig : 14

P N : 5911

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

Fig : 14

Director

P N : 5911

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



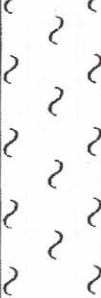
PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
BORE HOLE NO : 14 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 08.05.14

DATE OF COMPLETION : 09.05.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE					
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY						
										10	20	30	40	>50	
		TOP SOIL TS	0.30	0.30											
1		DISINTEGRATED ROCK DR1 (Greyish White)	4.70			1.50	>50	0	V.DENSE						
2						3.00	>50	0	V.DENSE						
3						4.50	>50	0	V.DENSE						
4						5.00			REBOUND						
5															
6		MEDIUM ROCK MR1 (Grey)													
6															
6															
6															
9.00															

For F.S. ENGINEERS (P) LTD.

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

Fig : 10

P.N : 5911

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 PUDHUPAKKAM , CHENNAI.

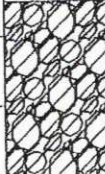
DATE OF COMMENCEMENT : 06.05.14

BORE HOLE NO : 15

DATE OF COMPLETION : 07.05.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

NAME OF BORING : ROTARY DRILLING															
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE					
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY						
										10	20	30	40	>50	
		TOP SOIL TS	0.30	0.30											
1		DISINTEGRATED ROCK DR1 (Greyish White)	7.20			1.50	>50	0	V.DENSE						
2															
3															
4															
5															
6															
7															
8		MEDIUM ROCK MR1 (Grey)		7.50	↓	7.50			REBOUND						
9															
10.00				10.00											
	</														

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES
 END OF BORING CORE RECOVERY

Fig : 18

Director

PN : 5911

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



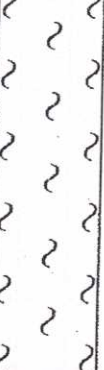
PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 16 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 22.04.14

DATE OF COMPLETION : 23.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE				
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY					
										10	20	30	40	>50
		TOP SOIL TS	0.30											
1		DISINTEGRATED ROCK DR1 (Greyish White)	5.70	0.30	↓									
2				1.50		>50	0	V.DENSE						
3				3.00		>50	0	V.DENSE						
4														
5				4.50		>50	0	V.DENSE						
6														
7		MEDIUM ROCK MR1 (Grey)	10.00	6.00		6.00		REBOUND						
8														
9														
10.00														

For F.S. ENGINEERS (P) LTD.

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

Fig : 17

Director

P N : 5911

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



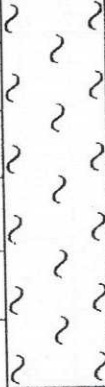
PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 17
 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 23.04.14

DATE OF COMPLETION : 24.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

TYPE OF BORING : ROTARY DRILLING																
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE						
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY							
										10	20	30	40	>50		
		TOP SOIL TS	0.30	0.30												
1		DISINTEGRATED ROCK DR1 (Greyish White)	5.70			1.50	>50	15	V.DENSE							
2																
3						3.00	>50	20	V.DENSE							
4																
5						4.50	>50	0	V.DENSE							
6																
6				6.00		6.00			REBOUND							
7		MEDIUM ROCK MR1 (Grey)														
8																
9																
10.00						10.00										
For F.S. ENGINEERS (P) LTD.																
PN: 6911																

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES
 END OF BORING CORE RECOVERY

Fig : 18

PN : 6911

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 18 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 12.04.14

DATE OF COMPLETION : 13.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE				
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY					
		TOP SOIL TS	0.50	0.50						10	20	30	40	>50
1		DISINTEGRATED ROCK DR1 (Greyish White)	7.00											
2				1.50	40	30	DENSE							
3				3.00	>50	15	V.DENSE							
4				4.50	>50	20	V.DENSE							
5				6.00	>50	0	V.DENSE							
6														
7														
8		MEDIUM ROCK MR1 (Grey)		7.50		7.50			REBOUND					
9														
10.00				10.00										

For F.S. ENGINEERS (P) LTD.

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

→ END OF BORING CORE RECOVERY

Fig : 18

P N : 5911

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



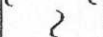
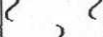
PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
BORE HOLE NO : 19 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 12.04.14

DATE OF COMPLETION : 13.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE							
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY								
										10	20	30	40	>50			
		TOP SOIL TS	0.50	0.50													
1		DISINTEGRATED ROCK DR1 (Greyish White)	7.00			1.50	>50	26	V.DENSE								
2								3.00	>50	15	V.DENSE						
3								4.50	>50	0	V.DENSE						
4								6.00	>50	0	V.DENSE						
5																	
6																	
7																	
8		MEDIUM ROCK MR1 (Grey)		7.50	↓	7.50			REBOUND								
9																	
10.00				10.00													

For F.S. ENGINEERS (P) LTD.

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

END OF BORING CORE RECOVERY

Fig : 20

Director

P N : 5911

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 20
 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 28.04.14

DATE OF COMPLETION : 29.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE								
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY									
		TOP SOIL TS	0.50	0.50						10	20	30	40	>50				
1		DISINTEGRATED ROCK DR1 (Greyish White)	5.50			1.50	>50	26	V.DENSE									
2																		
3																		
4										3.00	>50	15	V.DENSE					
5										4.50	>50	22	V.DENSE					
6				6.00		6.00			REBOUND									
7		MEDIUM ROCK MR1 (Grey)																
8.00				8.00														

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

Fig : 21

Director

P N : 5911

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 21
 TYPE OF BORING : ROTARY DRILLING

DATE OF COMMENCEMENT : 10.04.14
 DATE OF COMPLETION : 11.04.14
 G.W.L : NIL

TYPE OF BORING : ROTARY DRILLING															
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE					
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTENCY						
										10	20	30	40	>50	
		TOP SOIL TS	0.50	0.50											
1		DISINTEGRATED ROCK DR1 (Greyish White)	7.00			1.50	>50	26	V.DENSE						
2															
3															
4															
5															
6															
7															
8		MEDIUM ROCK MR1 (Grey)		7.50	↓	7.50			REBOUND						
9															
10.00				10.00											
For F.S. ENGINEERS (P) LTD.															
															
P.N : 6911															

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

Fig : 22

Director

P N : 5911

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 22 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 07.05.14

DATE OF COMPLETION : 08.05.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE					
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTENCY						
		TOP SOIL TS	0.30	0.30											
1															
2						1.50	>50	28	V.DENSE						
3		DISINTEGRATED ROCK DR1 (Greyish White)	4.20												
4						3.00	>50	15	V.DENSE						
5				4.50		4.50			REBOUND						
6		MEDIUM ROCK MR1 (Grey)													
7.00				7.00											

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

Fig : 23

P N : 5911

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



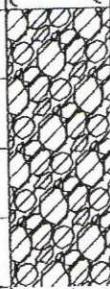
PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 23
 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 04.05.14

DATE OF COMPLETION : 05.05.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

TYPE OF BORING : ROTARY DRILLING																
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE						
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY							
										10	20	30	40	>50		
		TOP SOIL TS	0.50	0.50												
1		DISINTEGRATED ROCK DR1 (Greyish White)	5.50			1.50	>50	28	V.DENSE							
2																
3						3.00	>50	15	V.DENSE							
4						4.50	>50	20	V.DENSE							
5																
6				6.00	↓	6.00			REBOUND							
7		MEDIUM ROCK MR1 (Grey)														
8																
9																
10.00																

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES
 END OF BORING CORE RECOVERY

Fig : 24

P.N : 5911

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 24 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 02.05.14

DATE OF COMPLETION : 03.05.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE						
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY							
		TOP SOIL TS	0.50													
1		DISINTEGRATED ROCK DR1 (Greyish White)	5.50	0.50												
2				1.50	>50	25	V.DENSE									
3				3.00	>50	15	V.DENSE									
4				4.50	>50	22	V.DENSE									
5				6.00		6.00	REBOUND									
6		MEDIUM ROCK MR1 (Grey)														
7																
8																
9																
10.00						10.00										

For F.S. ENGINEERS (P) LTD.

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

→ END OF BORING | CORE RECOVERY

Fig : 25

Director

P N : 6911

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG

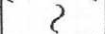
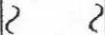


PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 25
 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 03.05.14
 DATE OF COMPLETION : 05.05.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE						
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY							
										10	20	30	40	>50		
		TOP SOIL TS	0.50	0.50												
1		DISINTEGRATED ROCK DR1 (Greyish White)	7.50													
2						1.50	>50	0	V.DENSE							
3						3.00	>50	0	V.DENSE							
4						4.50	>50	0	V.DENSE							
5						6.00	>50	0	V.DENSE							
6																
7																
8																
8				8.00		8.00		REBOUND								
9		MEDIUM ROCK MR1 (Grey)														
10.00						10.00										

For F.S. ENGINEERS (P) LTD.

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

Fig : 26

P N : 5911

END OF BORING | CORE RECOVERY

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 26 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 01.05.14

DATE OF COMPLETION : 02.05.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

G.W.L : NIL										
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY	
		TOP SOIL TS	0.50	0.50						10 20 30 40 >50
1		DISINTEGRATED ROCK DR1 (Greyish White)	6.50			1.50	>50	0	V.DENSE	
2						3.00	>50	0	V.DENSE	
3						4.50	>50	0	V.DENSE	
4						6.00	>50	0	V.DENSE	
5						7.00			REBOUND	
6										
7		MEDIUM ROCK MR1 (Grey)				7.00				
8										
9										
10.00										
REMARKS : ALL DIMENSIONS ARE IN METRES										
For F.S. ENGINEERS (P) LTD.										

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

→ END OF BORING CORE RECOVERY

Fig : 27

Director

P N : 5911

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 27
 TYPE OF BORING : ROTARY-DRILLING

DATE OF COMMENCEMENT : 29.04.14
 DATE OF COMPLETION : 30.04.14
 G.W.L : NIL

PE OF BORING : ROTARY-DRILLING															
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE					
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY						
		TOP SOIL TS	0.50	0.50											
1		DISINTEGRATED ROCK DR1 (Greyish White)	6.50			1.50	>50	0	V.DENSE						
2															
3															
4															
5															
6															
7				7.00		7.00			REBOUND						
8		MEDIUM ROCK MR1 (Grey)													
9															
10.00						10.00									

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES
 END OF BORING CORE RECOVERY

Fig : 28

P N : 5911

Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 28 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 26.04.14

DATE OF COMPLETION : 28.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE						
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY							
										10	20	30	40	>50		
		TOP SOIL TS	0.50	0.50												
1		DISINTEGRATED ROCK DR1 (Greyish White)	6.50			1.50	>50	0	V.DENSE							
2								3.00	>50	0	V.DENSE					
3								4.50	>50	0	V.DENSE					
4								6.00	>50	0	V.DENSE					
5																
6																
7																
8		MEDIUM ROCK MR1 (Grey)	10.00	7.00	↓	7.00			REBOUND							
9																
10.00																

For F.S. ENGINEERS (P) LTD.

For F.S. ENGINEERS (P) LTD.

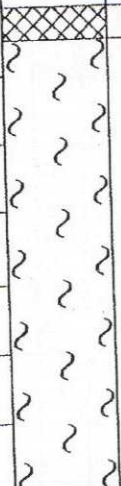
Director

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 29
 TYPE OF BORING : ROTARY DRILLING

DATE OF COMMENCEMENT : 26.04.14
 DATE OF COMPLETION : 28.04.14
 G.W.L : NIL

TYPE OF BORING : ROTARY DRILLING																							
DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE													
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY														
										10	20	30	40	>50									
		TOP SOIL TS	0.50	0.50																			
1		DISINTEGRATED ROCK DR1 (Greyish White)	6.50			1.50	>50	27	V.DENSE														
2																							
3									3.00	>50	15	V.DENSE											
4									4.50	>50	20	V.DENSE											
5																							
6									6.00	>50	0	V.DENSE											
7				7.00		7.00			REBOUND														
8		MEDIUM ROCK MR1 (Grey)																					
9																							
10.00						10.00																	
												For F.S. ENGINEERS (P) LTD.											
												PN : 5911											

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES
 END OF BORING CORE RECOVERY

Fig : 30

Director

P N : 5911

F.S.ENGINEERS PRIVATE LIMITED
SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
FIELD BORE LOG



PROJECT : PROPOSED RESIDENTIAL PROJECT FOR " PURVA SOUTH BAY " AT
 BORE HOLE NO : 30 PUDHUPAKKAM , CHENNAI.

DATE OF COMMENCEMENT : 25.04.14

DATE OF COMPLETION : 26.04.14

TYPE OF BORING : ROTARY DRILLING

G.W.L : NIL

DEPTH BELOW GL	SOIL PROFILE	DESCRIPTION OF SOIL	THICKNESS OF LAYER	DEPTH AT WHICH SAMPLES ARE COLLECTED		STANDARD PENETRATION TEST DATA				GRAPHICAL REPRESENTATION OF PENETRATION RESISTANCE					
				D.S	U.D.S	DEPTH AT WHICH TEST CONDUCTED	N - VALUE	PENETRATION IN " CMS "	RELATIVE DENSITY CONSISTANCY						
										10	20	30	40	>50	
		TOP SOIL TS	0.50	0.50											
1		DISINTEGRATED ROCK DR1 (Greyish White)	7.00												
2						1.50	>50	25	V.DENSE						
3															
4						3.00	>50	20	V.DENSE						
5						4.50	>50	0	V.DENSE						
6															
7						6.00	>50	0	V.DENSE						
8		MEDIUM ROCK MR1 (Grey)	7.50			7.50			REBOUND						
9															
10.00															

For F.S. ENGINEERS (P) LTD.

REMARKS : ALL DIMENSIONS ARE IN METRES

END OF BORING | CORE RECOVERY

Fig : 31

Director

P N : 6911

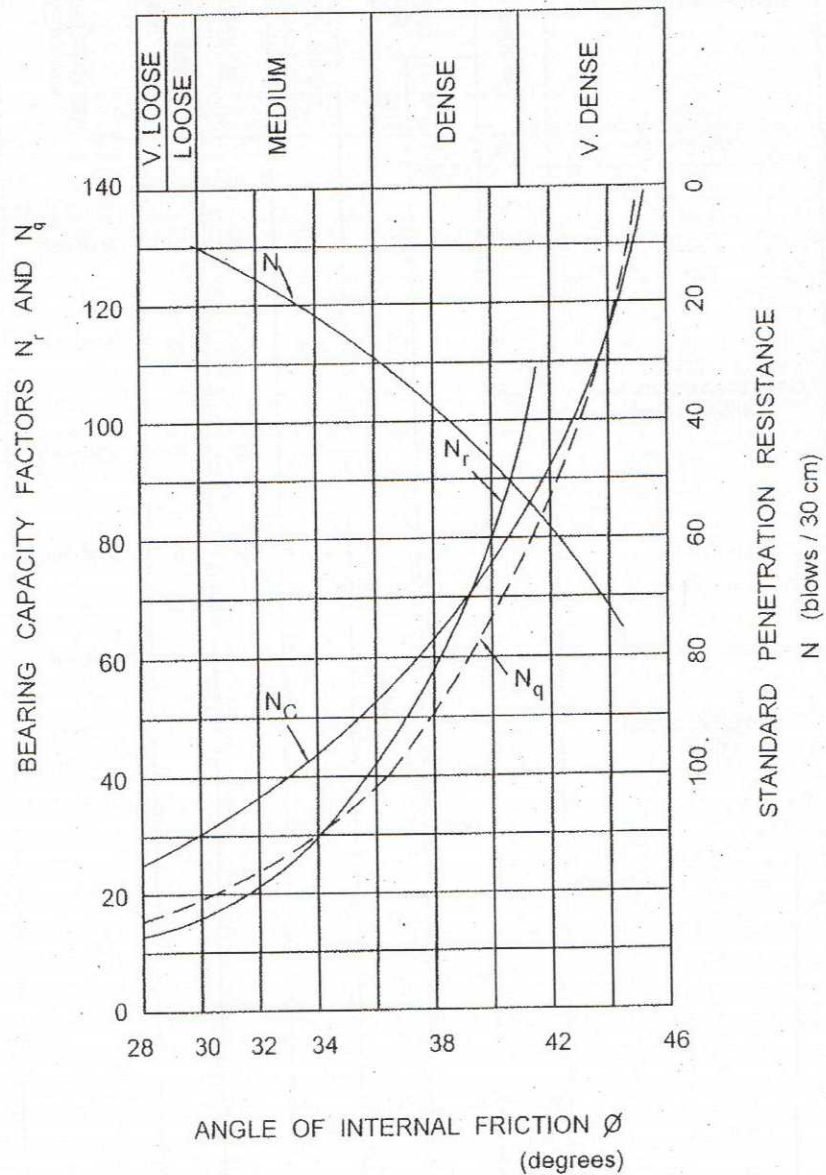


FIG. 32 CURVES SHOWING THE
RELATIONSHIP BETWEEN ϕ , N_r ,
 N_q , N_c AND N

Ref : Foundation Analysis & Design.

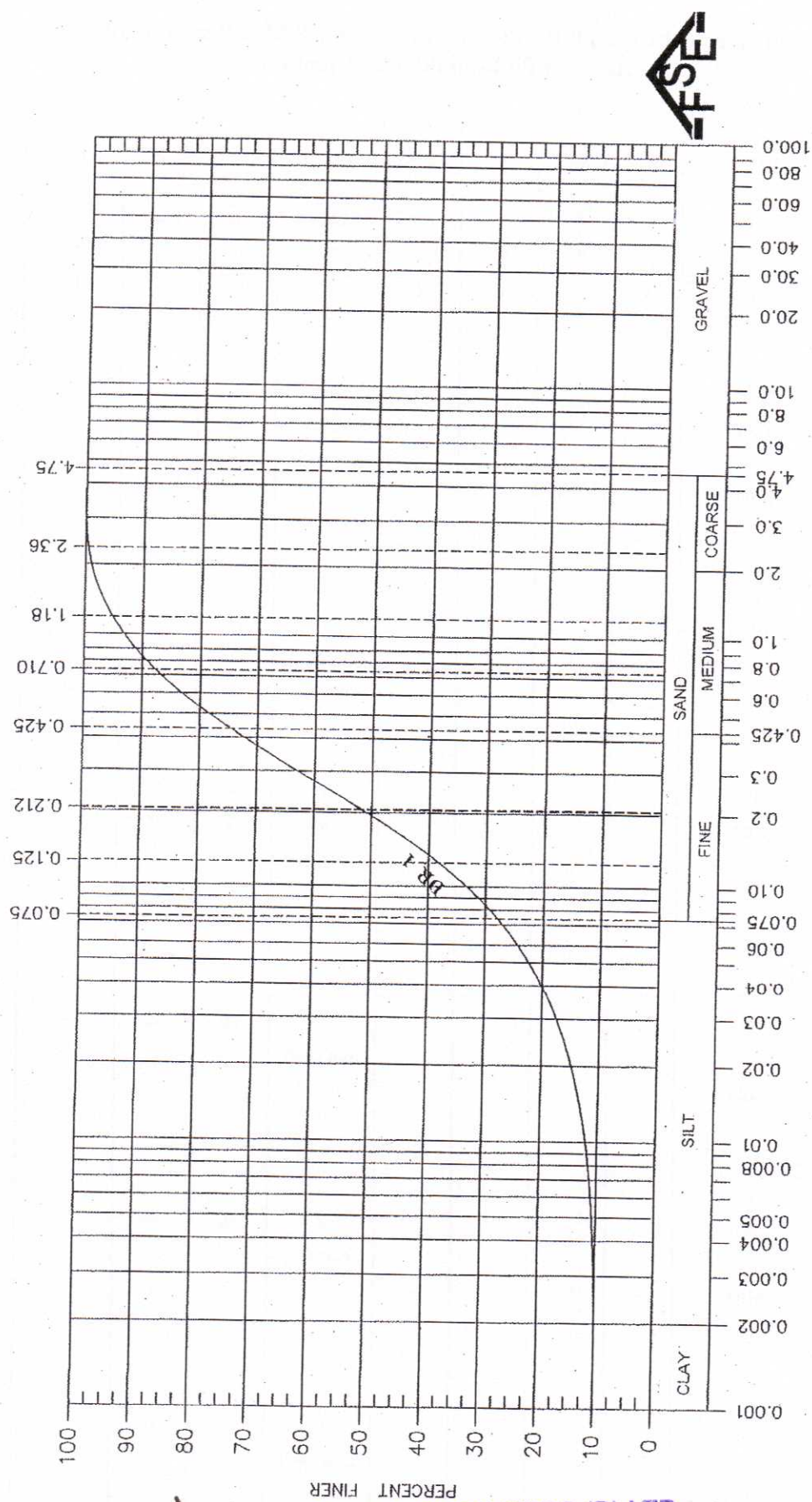
Joseph. E. Bowles.

For F.S. ENGINEERS (P) LTD.

[Signature]

Director

PN : 5911



Project : Proposed Residential Project for " M/s. Purva South Bay " at Pudhupakkam , Chennai .

Sl.No	Depth	Layer	W _l	W _p	W _n	Swell	Grain Size Distribution				Sp. Gr. G
							Clay	Silt	Sand	Gravel	
	M		%	%	%	%	%	%	%	%	
1	2	3	4	5	6	7	9	10	11	12	13
BH.1	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-6.00	DR1	-	-	-	-	10 (not clay)	18	72	-	2.65
	6.00-9.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.2	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-6.00	DR1	-	-	-	-	6 (not clay)	15	79	-	2.65
	6.00-9.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.3	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-6.00	DR1	-	-	-	-	8 (not clay)	17	75	-	2.65
	6.00-9.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.4	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-6.00	DR1	-	-	-	-	5 (not clay)	20	75	-	2.65
	6.00-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.5	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-6.00	DR1	-	-	-	-	4 (not clay)	16	80	-	2.65
	6.00-9.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.6	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-5.60	DR1	-	-	-	-	10 (not clay)	20	70	-	2.65
	5.60-9.00	MR1	-	-	-	-	-	-	-	-	2.66

For F.S. ENGINEERS (P) LTD.

M

Director

Sl.No	Depth	Layer	W _l	W _p	W _n	Swell	Grain Size Distribution				Sp. Gr. G
							Clay	Silt	Sand	Gravel	
	M		%	%	%	%	%	%	%	%	
1	2	3	4	5	6	7	9	10	11	12	13
BH.7											
	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-6.00	DR1	-	-	-	-	8 (not clay)	18	74	-	2.65
	6.00-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.8											
	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-5.00	DR1	-	-	-	-	10 (not clay)	15	75	-	2.65
	5.00-8.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.9											
	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-5.00	DR1	-	-	-	-	6 (not clay)	20	74	-	2.65
	5.00-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.10											
	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-2.90	DR1	-	-	-	-	5 (not clay)	18	77	-	2.65
	2.90-7.25	MR1	-	-	-	-	-	-	-	-	2.66
BH.11											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-6.50	DR1	-	-	-	-	10 (not clay)	16	74	-	2.65
	6.50-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.12											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-9.00	DR1	-	-	-	-	4 (not clay)	19	77	-	2.65
	9.00-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.13											
	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-5.00	DR1	-	-	-	-	7 (not clay)	15	78	-	2.65
	5.00-8.00	MR1	-	-	-	-	-	-	-	-	2.66

For F.S. ENGINEERS (P) LTD.

Director

Sl.No	Depth	Layer	W _l	W _p	W _u	Swell	Grain Size Distribution				Sp. Gr. G
							Clay	Silt	Sand	Gravel	
	M		%	%	%	%	%	%	%	%	
1	2	3	4	5	6	7	9	10	11	12	13
BH.14											
	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-5.00	DR1	-	-	-	-	10 (not clay)	18	72	-	2.65
	5.00-9.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.15											
	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-7.50	DR1	-	-	-	-	7 (not clay)	15	78	-	2.65
	7.50-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.16											
	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-6.00	DR1	-	-	-	-	6 (not clay)	19	75	-	2.65
	6.00-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.17											
	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-6.00	DR1	-	-	-	-	10 (not clay)	20	70	-	2.65
	6.00-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.18											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-7.50	DR1	-	-	-	-	4 (not clay)	18	78	-	2.65
	7.50-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.19											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-7.50	DR1	-	-	-	-	8 (not clay)	16	76	-	2.65
	7.50-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.20											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-6.00	DR1	-	-	-	-	10 (not clay)	15	75	-	2.65
	6.00-8.00	MR1	-	-	-	-	-	-	-	-	2.66

For F.S. ENGINEERS (P) LTD.

Director

Sl.No	Depth	Layer	W _l	W _p	W _n	Swell	Grain Size Distribution				Sp. Gr. G
							Clay	Silt	Sand	Gravel	
	M		%	%	%	%	%	%	%	%	
1	2	3	4	5	6	7	9	10	11	12	13
BH.21											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-7.50	DR1	-	-	-	-	5 (not clay)	18	77	-	2.65
	7.50-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.22											
	0.00-0.30	TS	-	-	-	-	-	-	-	-	-
	0.30-4.50	DR1	-	-	-	-	9 (not clay)	15	76	-	2.65
	4.50-7.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.23											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-6.00	DR1	-	-	-	-	10 (not clay)	17	73	-	2.65
	6.00-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.24											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-6.00	DR1	-	-	-	-	4 (not clay)	15	81	-	2.65
	6.00-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.25											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-8.00	DR1	-	-	-	-	7 (not clay)	19	74	-	2.65
	8.00-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.26											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-7.00	DR1	-	-	-	-	10 (not clay)	20	70	-	2.65
	7.00-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.27											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-7.00	DR1	-	-	-	-	-	-	79	-	2.65
	7.00-10.00	MR1	-	-	-	-	-	-	-	-	2.66

For F.S. ENGINEERS (P) LTD.

Director

Sl.No	Depth	Layer	W _l	W _p	W _n	Swell	Grain Size Distribution				Sp. Gr. G
							Clay	Silt	Sand	Gravel	
	M		%	%	%	%	%	%	%	%	
1	2	3	4	5	6	7	9	10	11	12	13
BH.28											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-7.00	DR1	-	-	-	-	7 (not clay)	15	78	-	2.65
	7.00-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.29											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-7.00	DR1	-	-	-	-	9 (not clay)	18	73	-	2.65
	7.00-10.00	MR1	-	-	-	-	-	-	-	-	2.66
BH.30											
	0.00-0.50	TS	-	-	-	-	-	-	-	-	-
	0.50-7.50	DR1	-	-	-	-	5 (not clay)	15	80	-	2.65
	7.50-10.00	MR1	-	-	-	-	-	-	-	-	2.66

Table - 1

Lab Test Results

P N : 5911

For F.S. ENGINEERS (P) LTD.



Director

Project : Proposed Residential Project for " M/s. Purva South Bay " at Pudhupakkam , Chennai .

Crushing Strength Of Rock

BH No	Layer	Depth In Mts	Crushing Strength Of Rock In kg / cm ²
1	MR I	6.00-9.00	31
2	MR I	6.00-9.00	35
3	MR I	6.00-9.00	41
4	MR I	6.00-10.00	38
5	MR I	6.00-9.00	40
6	MR I	5.60-9.00	39
7	MR I	6.00-10.00	43
8	MR I	5.00-8.00	37
9	MR I	5.00-10.00	38
10	MR I	2.90-7.25	40
11	MR I	6.50-10.00	36
12	MR I	9.00-10.00	42
13	MR I	5.00-8.00	39
14	MR I	5.00-9.00	41
15	MR I	7.50-10.00	35
16	MR I	6.00-10.00	44
17	MR I	6.00-10.00	35
18	MR I	7.50-10.00	40
19	MR I	7.50-10.00	41
20	MR I	6.00-8.00	39
21	MR I	7.50-10.00	36
22	MR I	4.50-7.00	43
23	MR I	6.00-10.00	41
24	MR I	6.00-10.00	38
25	MR I	8.00-10.00	35

For F.S. ENGINEERS (P) LTD.



Director

BH No	Layer	Depth In Mts	Crushing Strength Of Rock In kg / cm ²
26	MRI	7.00-10.00	38
27	MRI	7.00-10.00	41
28	MRI	7.00-10.00	36
29	MRI	7.00-10.00	35
30	MRI	7.50-10.00	42

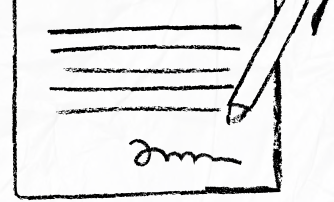
Table: 2

P.N : 5911

For F.S. ENGINEERS (P) LTD.



Director



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.



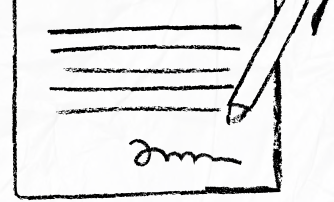
NRI & Investment Services

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

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