

LOGO	PROJECT DETAILS: HIGHWAY QUALITY TEST PROFESSIONAL ENGINEERING RESOURCE LICENSED COPY						
Client	: National Highway Authority of India						
Concessionaire	:						
Independent Engineer	:						
FIELD DENSITY TEST BY SAND REPLACEMENT METHOD(As Per IS 2720, Part - 28)							
Source of material				Date of Testing			
Bulk Density of Sand (Y_s), gm/cc	1.31			Maximum Dry Density (Y_{MDD}) (g/cc)		2.22	
Reference no. for Y_s				Optimum Moisture Content		6.50%	
RFI No.				Ref. lab job no for MDD & OMC			
Type of Layer & No.				Tested by			
Test Pit Location	km						
Offset from Centre Line	m						
Depth of Hole	mm						
FIELD DENSITY							
Size of Sand Pouring Cylinder, (diameter)	mm						
Sand Pouring Cylinder No.	-						
Wt. of wet material from hole, W_w	gm	4756	4777	4719	4733	4668	4646
Wt. of sand + cylinder before pouring, W_1	gm	15000	15000	15000	15000	15000	15000
Wt of sand + cylinder after pouring, W_2	gm	11360	11370	11390	11380	11430	11440
Wt. of Sand in cone, W_3	gm	950	950	950	950	950	950
Wt. of sand in hole, $W_4 = (W_1 - W_2 - W_3)$	gm	2690	2680	2660	2670	2620	2610
Bulk Density of material in the hole $Y_b = \{(W_w / W_4) \times$	gm/cc	2.316	2.335	2.324	2.322	2.334	2.332
MOISTURE CONTENT BY OVEN DRY METHOD (OR) BY RAPID MOISTURE METER							
Wt. of Wet Sample, W_5	gm	500	500	500	500	500	500
Wt. of Dry Sample, W_6	gm	471	472	470	470	469	468
Wt. of Water, $W_7 = (W_5 - W_6)$	gm	29	28	30	30	31	32
Moisture Content, $W = 100 \times (W_7 / W_6)$	%	6.16	5.93	6.38	6.38	6.61	6.84
Moisture Content by Rapid Moisture Meter, W	%						
RESULTS							
Field dry density $Y_d = \{Y_b / (1 + W/100)\}$	gm/cc	2.182	2.204	2.185	2.183	2.189	2.183
Compaction obtained, $(100 \times Y_d / Y_{MDD})$	%	98.28	99.29	98.40	98.33	98.62	98.32
Average Compaction obtained	%	98.54					
% Compaction required as per specification	%						
Remarks :				Pass / Fail			
For EPC CONTRACTOR Name : _____ Sign.: _____ Date: _____				For AUTHORITY ENGINEER/ I.E. Name : _____ Sign.: _____ Date: _____			
Rev.: 00		Date of Rev.: 15.02.2026			Format Ref. : T/F2		