North Carolina Department of Transportation
Division of Highways
Density Gauge Test Section

M&T – 516 QC
Rev. 11/11

Contract/Project No. [1] Date [2] Division [3] Crew No. [4] Control Strip No. [5]

Map/Route No. [6] Contractor [7] J.M.F. [8] Type Material [9]

Layer [10] Gauge Serial No. [11] Standard Counts (nuclear gauge only) Sys1 [12] Sys2 [13]

Core Sample Avg. [14] % Avg. of gauge readings [15] PCF Correlated Target Density [16] PCF

Interim Density Calculated Target: 62.4 PCF x [17] (Gmm) = [18] Calculated Target PCF

Test Sect. No. [19]	Begin Sta. [20]	End Sta. [21]	Length: [22]	/5 = [23]	Increments

Random No.		Increments		Random (calc.)		Test Site Location			Density Readings	
Length	Width	Length	Width	Length	Width	Station	Offset	Lane	PCF	%
A	B	C	D	A x C =	B x D =	-----	-----	-----	-----	-----
[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]

Comments: [35]

Test Section Average | [36] | Pass | Fail

Test Sect. No.	Begin Sta.	End Sta.	Length:	/5 =	Increments

Random No.		Increments		Random (calc.)		Test Site Location			Density Readings	
Length	Width	Length	Width	Length	Width	Station	Offset	Lane	PCF	%
A	B	C	D	A x C =	B x D =	-----	-----	-----	-----	-----

Comments:

Test Section Average | | Pass | Fail

Test Sect. No.	Begin Sta.	End Sta.	Length:	/5 =	Increments

Random No.		Increments		Random (calc.)		Test Site Location			Density Readings	
Length	Width	Length	Width	Length	Width	Station	Offset	Lane	PCF	%
A	B	C	D	A x C =	B x D =	-----	-----	-----	-----	-----

Comments:

Test Section Average | | Pass | Fail

At end of production for the day, calculate lot average by averaging test section results: Daily Lot Average [37] % Pass / Fail

*Print Name Legibly w/HiCAMs No. [38]

*QC Technician Signature: [39]

Note: (1) All failing lots must be documented by Resident Engineer on the QA-2B form. Contractor must be notified by letter of any pay adjustment or pavement removal.

*By providing this data under my signature and/or HiCAMs certification number, I attest to the accuracy and validity of the data contained on this form and certify that no deliberate misrepresentation of test results, in any manner, has occurred.

cc: Resident Engineer [White]
QC Technician [Gold]

Instructions for M&T 516 QC

GENERAL NOTE: This form is to be completed daily by the Contractor's Density Control Technician when nuclear or non-nuclear density control is being utilized to perform quality control testing of the compaction process. This form is to be distributed as follows: The gold copy is maintained by the QC Density Technician. The white copy is given to the Department's Roadway Technician and attached to his/her daily roadway report (M&T 605) and forwarded to the Resident Engineer. The Resident Engineer will keep the white copy in the project files.

1. NCDOT contract number (list primary number if contract has multiple contract numbers)
2. Date asphalt layer is actually placed, compacted and tested
3. Division in which contact is located
4. Crew Number (once established remains the same for the entire project)
5. Sequential number of control strip per mix type
6. Work order map number within a contract
7. Name of Contractor placing and compacting the mix
8. Job Mix Formula of the material being tested
9. Type of mix being tested (i.e. RS-12.5 C or I-19.0 B, etc.)
10. Layer of mix being placed (i.e. 1st layer S-9.5 B, 2nd layer S-9.5 B, etc.)
11. Gauge serial number
12. Standard Count result of System 1 (must be within Allowable Range)
13. Standard Count result of System 2 (must be within Allowable Range)
14. Average percent compaction of control strip core samples from M&T 514 QA/QC form
15. Average of density readings (in pcf) taken at each core site within the control strip
16. Correlated Target Density determined from the control strip (formula provided on form M&T 514 QA/QC)
17. G_{mm} (rice specific gravity) determined at mix verification or G_{mm} moving average if mix has been previously produced or a 17 day lapse in production of this mix has occurred
18. Calculated target density in pcf.
19. Consecutive number of test sections for each type mix per paving operation
20. Reference station number for beginning of each test section
21. Reference station number for ending of each test section
22. Length of test section
23. Increment length of each test site (i.e. 400' or 300' etc.)
24. Random number from the random number table used to determine station of test site
25. Random number from the random number table used to determine offset width location of test site
26. Increment length of each test site (from #23)
27. Width of pavement layer being placed and compacted
28. Calculate length to test location within incremented section (A x C =)
29. Calculate offset width to test location within incremented section (B x D =)
30. Station of test site (measurement taken with gauge)
31. Offset width pulled from reference line to test site
32. Lane being tested (i.e. NBL Rt, WBL Lt, or SBL Lt, etc.)
33. Density reading in pounds per cubic foot (pcf)
34. Percent compaction of target density for test site
35. Record any pertinent information (i.e. re-rolled section at second reading)
36. Average percent compaction of test section

37. Average percent compaction of each lot tested (only one lot per M&T 516 QC form – see HMA/QMS manual for lot determination)
38. QC Technician printed name and HiCAMs number
39. Signature of QC Technician certifying data listed on the form is true and correct.