NorthEast Transportation Training & Certification Program

HMA Marshall Volumetric Properties Test Report (T 166, T 209, T 245)

Date/Time:	Lab/Location:		
Weather:	Date Rec'd #:	Random Sample:	
Project:	Lab Login #:	Lot #:	
Contract #:	Material ID:	Sublot #:	
Contractor:	Material #:	Sample Location:	
Pay Item #:	Sample #:	Station:	
Source:	Sample Type: QC A-V IA DR Other	Offset:	
Plant Type:	Sampled By/Cert. #:		

Bulk Specific Gravity of Compacted HMA (T 166)				
Specimen #:				
Mass of Dry Specimen in Air (A):				
Mass of Specimen at SSD (B):				
Mass of Specimen in Water (C): (@ 77 +/- 1.8 ºF)				
Specimen Volume (V): (B-C)				
Bulk Specific Gravity of Specimen (Gmb): (A / (B - C))				
Unit Weight, Kg/m^3: (G_{mb} * 1000)				

Maximum Specific Gravity of HMA (T 209)						
Mass of Dry Sample in Air (A):						
Bowl Method	Mass of Empty Pycnometer on Weigh Below in Water (T):	Water temperature 77±1.8˚F				
	s of Pycnometer and Sample on Weigh Below in Water (S):					
Flask Method	Mass of Pycnometer filled with Water (D):					
	Mass of Pycnometer filled with Sample and Water (E):					Average
Theoretical Maximum Specific Gravity (G_{mm}):						
Unit Weight, lb/ft^3: (G_{mm} * 1000)						

Volumetric Analysis of Compacted HMA						
Percent Minus 75 µm of Sample (75 µm): (From T 11)						
Percent PG Binder of Sample (P_b):						
Bulk Specific Gravity of Combined Aggregate (G_{sb}):						
Specific Gravity of PG Binder (G_b):					Average	Specification
Percent Voids in Mix (P_a): (100 * ((G_{mm} - G_{mb}) / G_{mm}))						
Voids in the Mineral Agg. (VMA): (100-((G_{mb} * (100 - P_b)) / G_{sb}))						
Voids Filled with Asphalt (VFA): ((100 * (VMA - P_a)) / VMA)						
Effective Agg. Specific Gravity (Gse): (100 - P_b)/((100/G_{mm})-(P_b/G_b))						
Percent Binder Absorbed: (Pba): (100 *((G_{se} - G_{sb})/(G_{sb}*G_{se}))*G_b)						
Percent Binder Effective: (Pbe): (P_b - ((P_{ba} / 100) * (100 - P_b)))						
Fines to Effective Asphalt Ratio: (75 µm/ P_{be})						

HMA Marshall Stability and Flow (T 245)						
Number of Blows Each Side:						
Marshall Specimen Fabrication Temp.: (ºF)						
Maximum Load Dial Reading:						
Volume (V)/ Height Correction Factor (Vcf):						
Uncorrected Stability (Su):					Average	
Corrected Stability (Sc): (Vcf*Su)						
Flow in 0.01 in.:						

Comments:

Tested by:	Reviewed by:
Certification #:	Certification #:
Date:	Date:

Results Within Specification Limits: ☐ Results Outside Specification Limits: ☐