Washington State Department of Transportation

Volumetrics Worksheet

Contract Number	Mix Type	Binder Type	Sample Number	JMF Number

Contract Title

Required Data	
% Binder (Pb)	
% Pass #200 Sieve	
Gmm (Rice Specific Gravity)	
Compaction Temperature	
Initial Weight of Uncompacted Mixture	
Number of Gyrations @ Initial	
Number of Gyrations @ Design	
Gb If Gb is different from JMF enter new Gb here	
Gsb Blend	

Rice Specific Gravity Gmm		
A = Sample Mass (Wt.)		
D = Mass (Wt.) of Pyncometer plus water and cover		
E = Mass (Wt.) of Pyncometer Jar plus sample, water and cover		
F = Rice specific gravity = A / (A + D - E)		

Bulk Density (AASHTO T-166 Method A)		
Dry Mass (A)		
SSD Mass (B)		
Mass in Water (C)		
Gmb = A / (B-C)	(nearest 0.001)	

Gyratory Data (AASHTO T-312)		
H @ **N**ini		
H @ **N**des		
% Gmm @ **N**ini = (**Hdes*Gmb** / **Hini*Gmm**)*100	(nearest 0.1)	

Volumetrics		
Va = 100 *(1-(Gmb/Gmm))	(nearest 0.1)	
VMA = 100 - ((Gmb*Ps)/Gsb)	(nearest 0.1)	
VFA = 100 * [(VMA - Va) / VMA]	(nearest 1)	

Dust to Asphalt Binder Ratio (D/A)		
Gse = (100 - **Pb**) / [(100 / **Gmm**) - (**Pb** / **Gb**)]	(nearest 0.001)	
Pbe = [Ps*Gb)*(Gse-Gsb)/(Gse*Gsb]+Pb	(nearest 0.1)	
Ps = 100 - Pb	(nearest 0.1)	
D/A = **% Passing # 200 Sieve / Pbe**	(nearest 0.1)	

Contractor's Signature	Date
Inspector's Signature	Date