ASPHALT TECHNOLOGIES, INC.

CERTIFICATE OF ANALYSIS

January 10, 2013

Report For: MINISTERIO DE TRANSPORTES Y OBRAS PUBLICAS DEL ECUADOR

Attn: Arq. MARIA DE LOS ANGELES DUARTE
Ministra

Sample ID: One Location (1 Control Sample & 1 Rejuvenator Sample)	**Project #:** HILT 07-02-01/02
Sample Date: Cores Received 1/7/13	**Type:** Top 3/8" of Cores

OBJECTIVE: Evaluate pavement performance in accordance with the FAA P-632 Table 2 (pavement more than 3 years in age) Bituminous Pavement Rejuvenation specifications.

DATA/RESULTS:

Test	FAA P-632 Table 2 Specification	Test Method	Location 1 0.065 gallons / sq. yd.		
			Untreated	Treated	% Change
Recovered Binder					
Absolute Viscosity 60°C	≥ 40% Decrease	ASTM D 2171	160,119	28,175	-82.4
Complex Modulus 60°C, G*, Pa		AASHTO T 315	13,150	3,531	-73.1
Viscosity 60°C, ɳ = G* / ώ, Poise			131,500	35,310	-73.1
Phase Angle 60°C, δ, °	Report		65.77	74.95	+14.0

CONCLUSION: All locations passed the FAA P-632 Table 2 stating samples must be reduced by at least 40% of the control Viscosity.

PROCEDURE: All cores were saw-cut removing the top 3/8" layer of the core. The material was broken up and extracted using method ASTM D 2172 (Method A) with toluene and ASTM D 5404 to recover the binder. Complex Modulus, Viscosity, and Phase Angle were tested by AASHTO T 315. Absolute Viscosity was tested in accordance with ASTM D 2171.

Tested by: _____ Date: January 10, 2013
Jimmy Ynigues, Pavement Technician

Reviewed by: _____ Date: January 10, 2013
Matt Groh E.I.T., Pavement Services Manager

The test results, opinions, or interpretations are based on the material supplied by the client. This report is for the exclusive use of stated client. No reproduction or facsimile in any form can be made without the client's permission. PRI Asphalt Technologies, Inc. assumes no responsibility nor makes a performance or warranty statement for this material or products and processes containing this material in connection with this report. Not all testing listed above may be AMRL and/or AASHTO accredited.

PRI Asphalt Technologies, Inc. 6408 Badger Drive Tampa, FL 33610 ● Tel: 813-621-5777 ● Fax: 813-621-5840 ● e-mail:mgroh@priasphalt.com ● Website: http://www.priasphalt.com