



# ASPHALT TECHNOLOGIES, INC.



## TEST & EVALUATION REPORT

November 20, 2017

**Report For:** Hi-Lite Airfield Services, LLC  
P.O. Box 460  
Adams Center, NY 13606

**Attn:** Jake Belcher

**Email:** [Jake.Belcher@hi-lite.com](mailto:Jake.Belcher@hi-lite.com)

**Sample Data / Information:** Shreveport Regional Airport, Shreveport, LA

Source	Identification	CORE HEIGHT, in	CORE DIAMTER, in	Date Received
		(As received)		
Dunkirk Airport	Control #1	4.0	5.75	11/8/17
	Sample #1	4.0	5.75	
	Control #2	4.0	5.75	
	Sample #2	4.0	5.75	
	Control #3	4.0	5.75	
	Sample #3	4.0	5.75	
	Control #4	4.0	5.75	
	Sample #4	4.0	5.75	

**Client:** Hi-Lite Airfield Services, LLC

**Project No's.:** HILT 20-02-01/04

**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:

PROPERTY	SPECS	TEST METHOD	RESULTS:				
			C1	S1	C2	S2	
<b>RECOVERED BINDER</b>							
<b>FAA P-632, Table 2 Requirements</b>							
Complex Modulus, G*, kPa	60°C	Report	AASHTO T 315	9.65	2.38	13.0	4.10
Viscosity, $\eta = G^* / \omega$ , Pa·s				9,647	2,380	13,000	4,103
Phase Angle, $\delta$ , °				77.3	84.3	75.7	82.3
Percent Decrease, %	Complex Modulus, G*	≥ 40% Decrease	Calculate	75.3		68.5	
	Viscosity			75.3		68.5	
Percent Increase, %	Phase Angle, $\delta$	Report		8.3		8.0	

PROPERTY	SPECS	TEST METHOD	RESULTS:				
			C3	S3	C4	S4	
<b>RECOVERED BINDER</b>							
<b>FAA P-632, Table 2 Requirements</b>							
Complex Modulus, G*, kPa	60°C	Report	AASHTO T 315	12.78	3.49	5.44	2.43
Viscosity, $\eta = G^* / \omega$ , Pa·s				12,780	3,490	5,435	2,426
Phase Angle, $\delta$ , °				76.1	83.1	77.5	81.7
Percent Decrease, %	Complex Modulus, G*	≥ 40% Decrease	Calculate	72.7		55.3	
	Viscosity			72.7		55.3	
Percent Increase, %	Phase Angle, $\delta$	Report		8.4		5.1	

HILT 20-02-01/04

PRI's Accreditations: AASHTO/AAP; an ISO/IEC 17025 Lab

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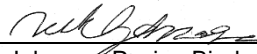
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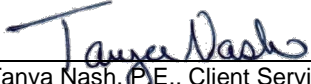
**DISCUSSION:** All cores were saw-cut removing the top 3/8" layer of the core. The material was broken up and extracted using method ASTM D2172 (Method A) with toluene and ASTM D 7906 to recover the binder. The Complex modulus was determined using a 25 mm plate, 1 mm gap and frequency of 1 rad/sec.

**CONCLUSION:** All four sets are in accordance with the FAA P-632 Table 2 stating samples must be reduced by at least 40% of the control viscosity or complex modulus.

- Location 1: G\* Reduction: 75.3%
- Location 2: G\* Reduction: 68.5%
- Location 3: G\* Reduction: 72.7%
- Location 4: G\* Reduction: 55.3%

Tested by:   
Nick Johnson, Paving Binder Technician

Date: November 20, 2017

Reviewed by:   
Tanya Nash, P.E., Client Service Manager

Date: November 20, 2017