



**BOWSER  
MORNER®**

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Environmental Innovations for Energy  
and Industry of Ohio, LLC  
Attn: Mr. Mike Freisthler  
2323 Campbell Road  
Sidney, OH 45365

**SUBJECT: Soy Seal Treated Pavement Comparison – A Laboratory Study**

Bowser-Morner obtained samples of ODOT Type 1 medium surface (404) asphalt mix from a local producer in order to perform laboratory comparison tests of treated and untreated compacted test specimens. The test specimens were cured under laboratory controlled conditions to accelerate aging to an assumed age of five years. The results of this study are presented in BMI Report No. 317458D, dated March 25, 2004.

Conclusions of this study comparing treated versus untreated specimens are as follows:

- 29% improved penetration value of the treated binder
- 45% improved viscosity value of the treated binder
- 17% improved Marshal stability value of compacted mix

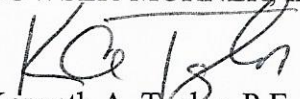
This series of tests demonstrated that Soy Seal reduced the effects of oxidation and age hardening of asphalt binders by reducing the rate of hardening of the binder resulting in an extended life of a pavement.

We are of the opinion that these results reinforce our belief that some seal coat materials that soften the binder portion of an asphalt pavement will extend the life of that pavement indefinitely if used every four or five years and as long as the pavement does not fail structurally.

Please contact us if you have any questions.

Sincerely yours,

BOWSER-MORNER, INC.



Kenneth A. Taylor, P.E.

Senior Consultant  
Construction Services Division

KAT/jwf  
1-File  
1-Client