

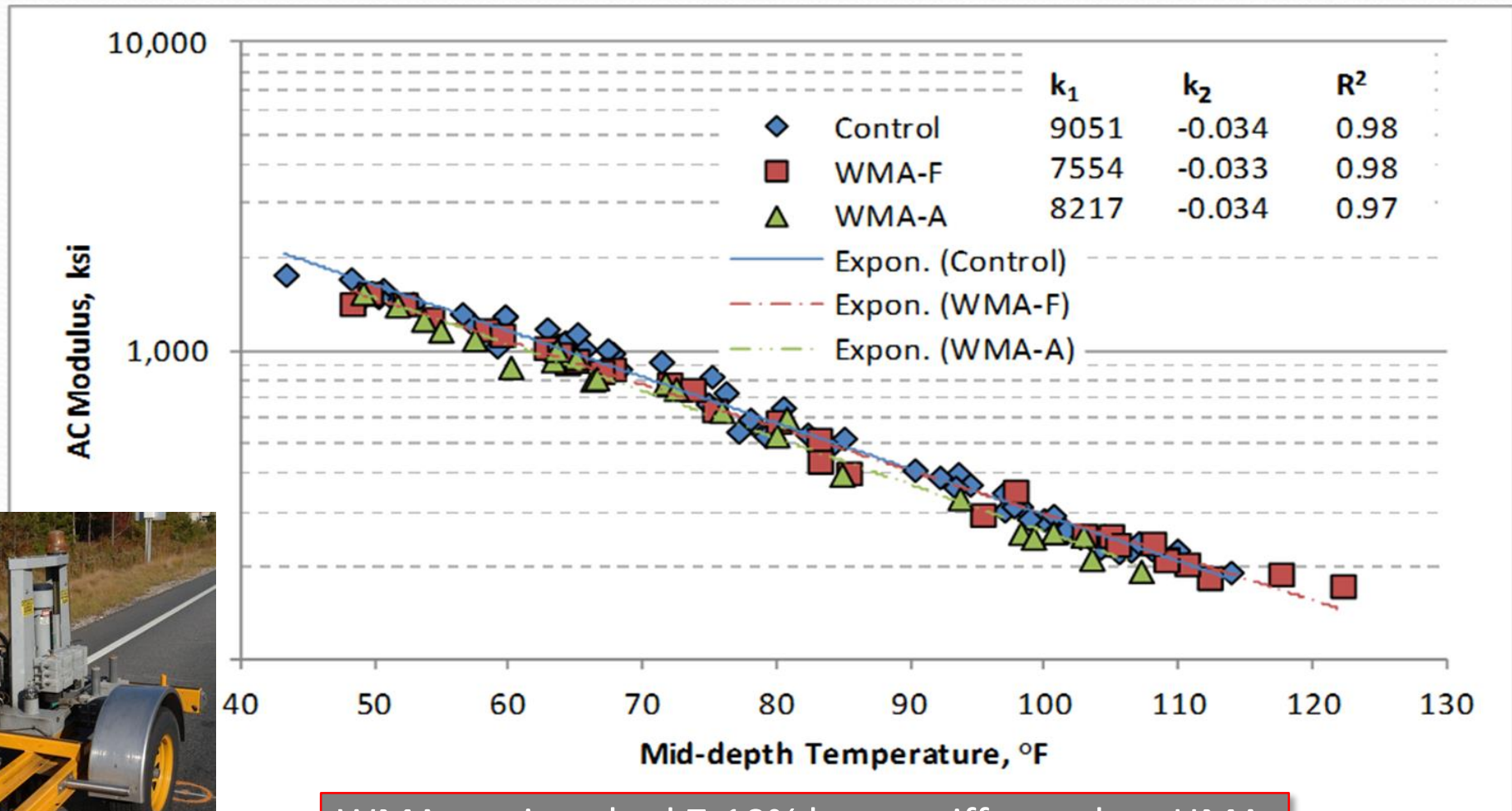
# 4<sup>th</sup> Cycle Group Experiment

## 7" Structural Sections

- All Virgin
- PFC surface over virgin
- Foamed WMA – virgin
- Chem. WMA – virgin
- 50% RAP HMA
- 50% RAP WMA
- Kraton, Highly-modified



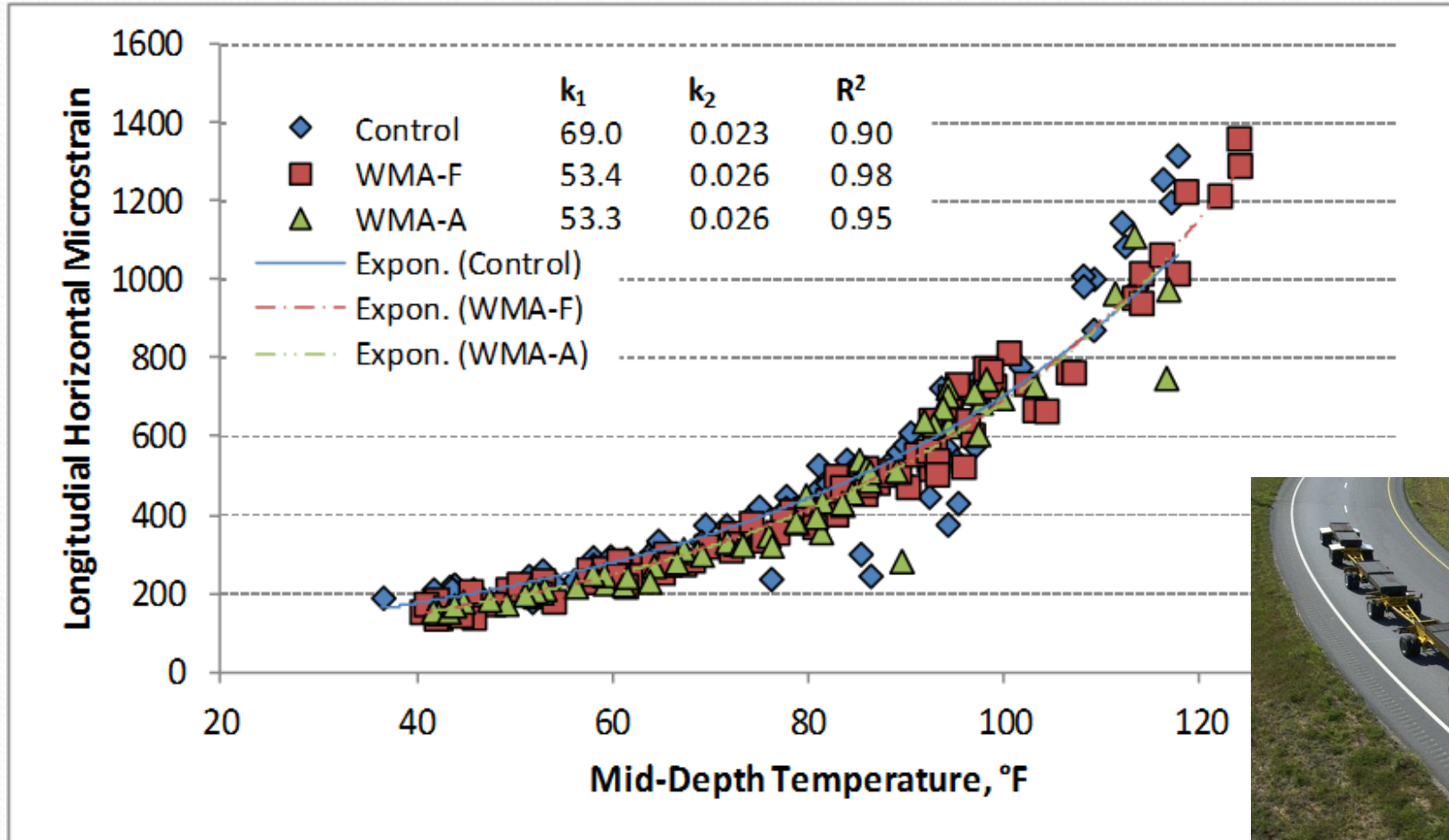
# Back-calculated AC Modulus vs. Temp.



FWD

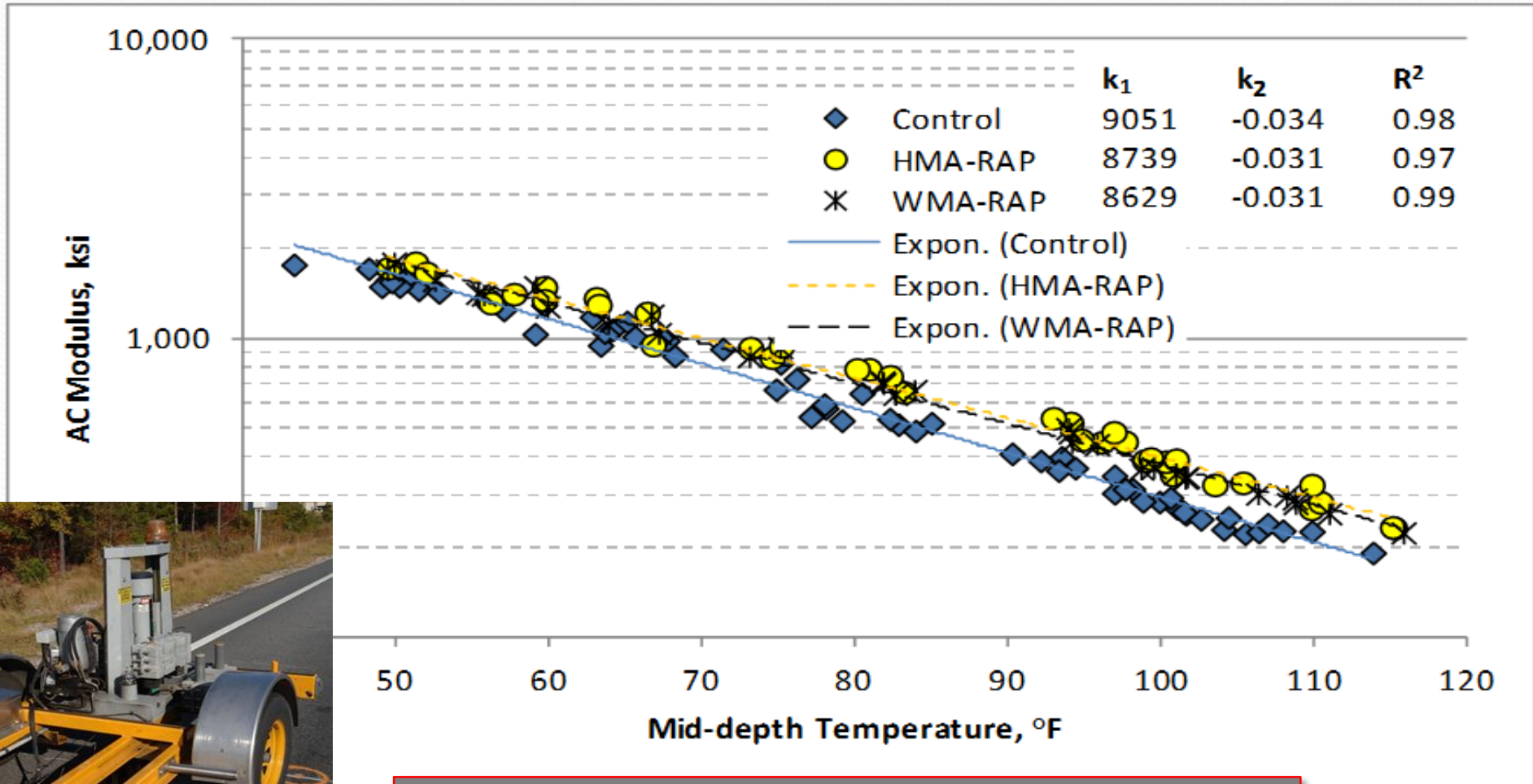
WMA sections had 7-10% lower stiffness than HMA

# Longitudinal Strain vs. Temp.



No Statistical Difference between WMA and HMA sections

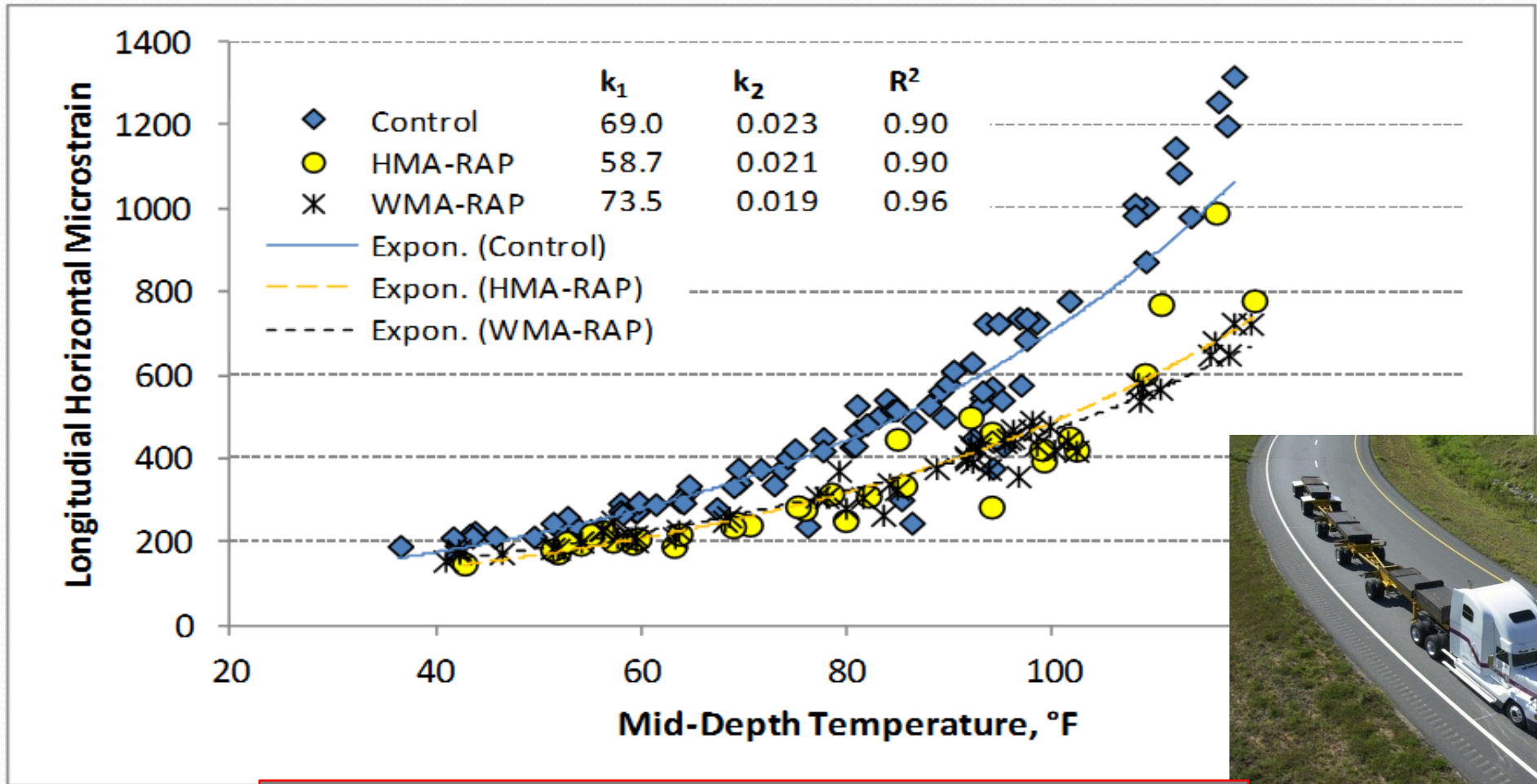
# Back-calculated AC Modulus vs. Temp.



FWD

50% RAP sections were 16-43% stiffer than Virgin

# Critical Strain vs. Temperature

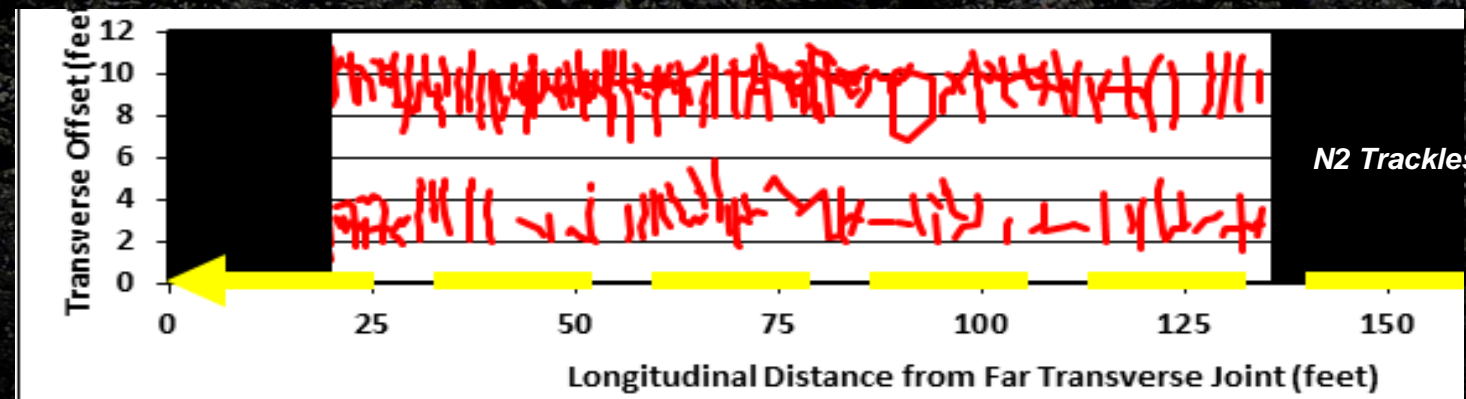
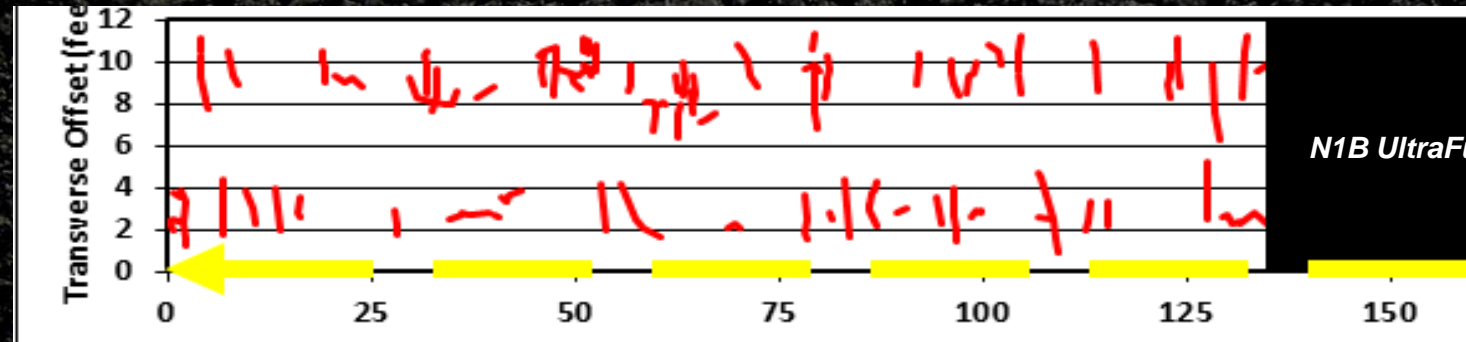
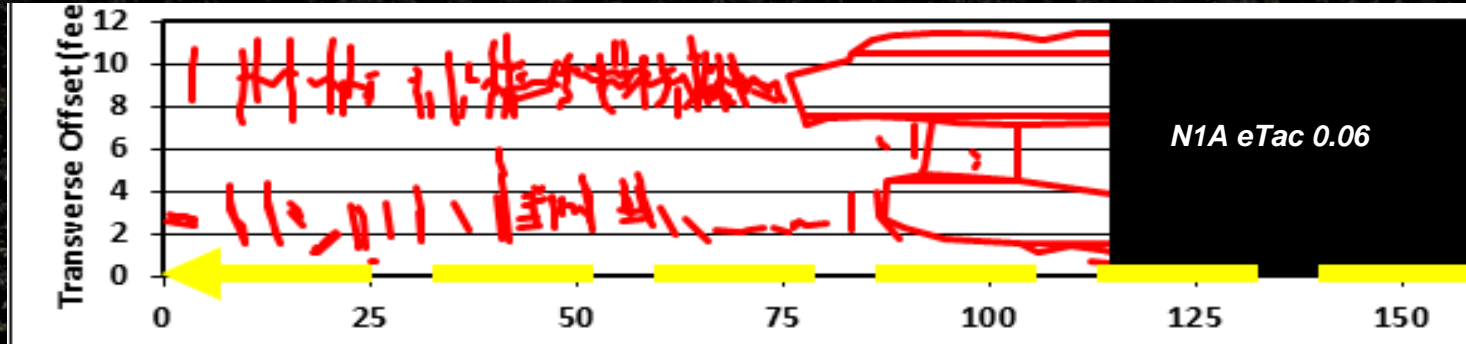


50% RAP sections had 7-31% lower strains than Virgin

# Group Experiment Field Performance

Section	17 Million ESALs	
	Cracking % of Lane Area	Rut Depth (mm)
Control HMA	9%	9 mm
PFC Surface	35%	12 mm
WMA – Foam	20%	12 mm
WMA – Additive	12%	14 mm
50% RAP HMA	1%	4 mm
50% RAP WMA	6%	5 mm
Highly Modified HMA	0%	3 mm

# Tack Coat for PFCs



# PFC Surface Cracks (Tack Method)



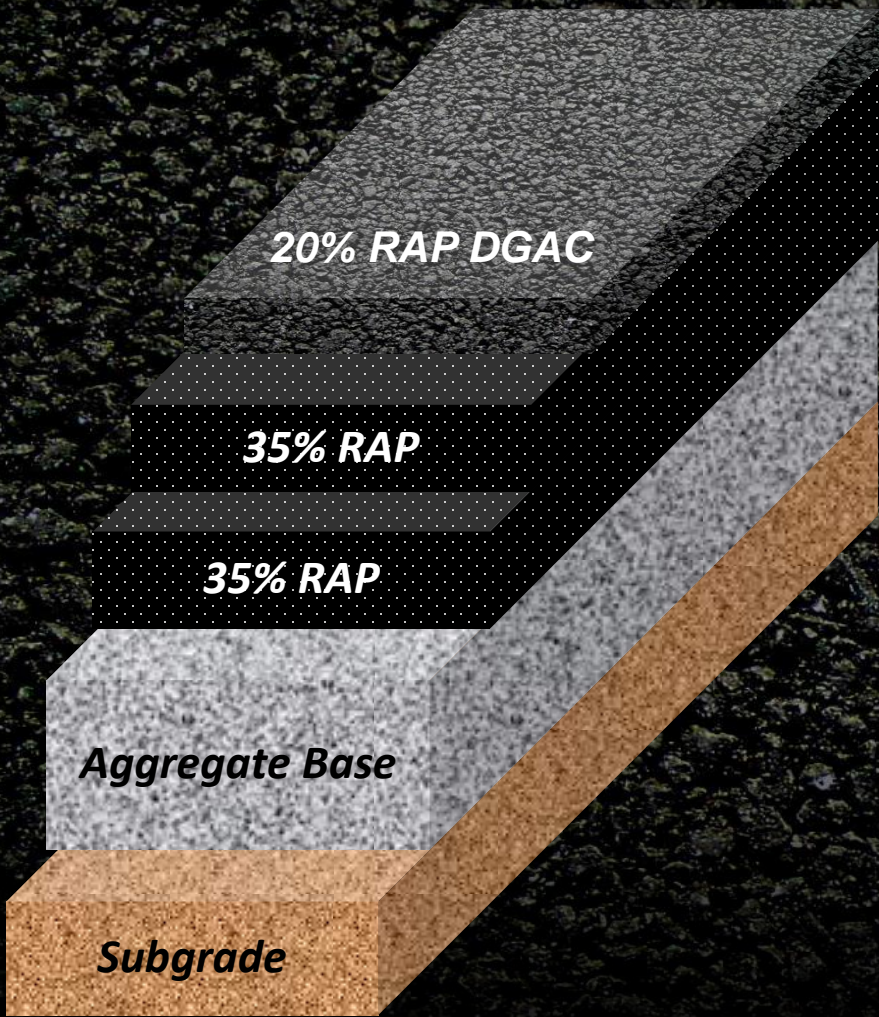


# Cold Central Plant Recycling



Stabilizing 100% RAP for Base





*20% RAP DGAC*

*35% RAP*

*35% RAP*

*Aggregate Base*

*Subgrade*

