

TREAT Mobile Lab

Teaching and Researching Emulsified Asphalt and Treatments



Date: June 11-13, 2024

Location: Vicksburg, MS

Treatment sections: 2 slurry seal, 2 chip seal

Emulsions manufactured: 2 SS-1

On June 10, 2024, Andrew Braham, Tanner Turben (MS student), William Rowe (undergraduate research assistant), Joey Eiland (Scientific Research Technologist), and Daniel Davidson (Scientific Research Technologist) traveled from Fayetteville, AR, to Vicksburg, MS, to the US Army Engineer Research and Development Center (ERDC) for the first live demonstration of the TREAT mobile lab.



Driving down to Vicksburg

On June 11, the team mobilized at ERDC and placed one slurry test section. The slurry section, a Type II slurry with CQS-1H emulsion, was approximately 2x6 feet. Based on the placement, not enough water was added before the asphalt emulsion, causing slight segregation and poor mixing of the asphalt emulsion and aggregate. In addition, one chip seal section was placed using a CRS-1P and single size, approximately 3/8" aggregate. The target application rate was 0.42 gal/yd², and the final section was approximately 3x7 feet. The emulsion was evenly applied both in the longitudinal and transverse direction. Finally, approximately one-half gallon of SS-1 asphalt emulsion was manufactured using a PG64-22 base.



June 11 slurry section (left), June 11 chip section (right)

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On June 12, approximately 35 ERDC employees came to watch demonstrations of slurry seal placement, chip seal placement, and asphalt emulsion manufacturing. The slurry seal application was successful, with more water added to the aggregate during mixing. In addition, the chip seal placement was again successful. The same materials and test section sizes as the day before were used. Finally, approximately one-half gallon of SS-1 asphalt emulsion was manufactured using a PG64-22 base. On June 13, the team cleaned up the repacked the trailers to return to Fayetteville. On June 14, the team drove from Vicksburg, MS to Fayetteville, AR.



From upper left clockwise: Braham explaining slurry seals and chip seals to ERDC; Eiland, Davidson, Rowe, and Turben placing the slurry seal demo on June 12; the mini-spray applicator placing the chip seal emulsion on June 12; all four test sections (slurry foreground, chip background – June 11 sections on the left, June 12 sections on the right) and the mobilization configuration on June 13; Turben and Rowe making emulsion in the trailer