

Montana Department of Transportation  
Research Program  
August 2006

**EXPERIMENTAL PROJECT  
FOR THE EVALUATION OF EMULSIFIED ASPHALT TREATED AGGREGATE  
(EATA) BASE PREPARATIONS  
(Work Plan)**

**Location:** Deer Lodge and Silverbow Counties; Butte District  
Highway 43; P-46, C000046 Approx. Milepost 51-58

**Project Number:** Sportmans Campground – East STPP 46-5(2)51

**Type of Project:** EATA Base Preparation Test Sites

**Principal Investigator:** Craig Abernathy: Experimental Projects Manager  
William Fogarty, P.E.: Butte Construction

**Date of Construction:** Estimated August/September 2006

**Objective**

Experimental trail of pug-milling in various depth of Cationic Slow Set Emulsion (CSS1) at varying residual asphalt content (RAC) to determine the effectiveness as a wearing course through the winter months until construction can be completed in the spring. This procedure was originally suggested as a dust palliative but has been determined it may be effective in allowing winter traffic a more stable driving base than our normal use of straight gravel.

In this effort, the Montana Department of Transportation is initiation an experimental trail of various asphalt base preparations in effort to determine effectiveness of these treatments for potential use in future road construction projects.

**Experimental Design**

This project will incorporate four sections:

1. 100mm base depth @ 1.5% residual asphalt content
2. 100mm base depth @ 2.0% residual asphalt content
3. 100mm base depth @ 2.5% residual asphalt content
4. 200mm base depth @ 2.0% residual asphalt content

An optimal scenario would be to incorporate a gravel section into the experimental design as a

control; however the MDT Director has mandated that no gravel sections on this project be allowed for the traveling public during the winter months. Due to accumulated experience with the use of gravel-only projects throughout the state, FHWA has agreed to review this application for formal experimental status.

A project section layout is attached to this document.

### **Evaluation Procedures**

Research and Construction staff will be present onsite during the placement of the sections to document and assess each treatments performance on issues such as ease of consolidation/compaction, rollout, raveling and any other constructability concerns. Information from all participants will be collected to complete the initial report on constructability performance on each section. Once paved these section will be delineated for ongoing pavement analysis that will encompass monthly inspections until spring paving.

### **Estimated Project Cost**

\$408,301.00 (as of 7/28-06)

### **Evaluation Schedule**

A construction report consensus relating to the initial effectiveness of each treatment during installing will be published. Research staff will monitor pavement performance of each section for a period of five years annually, with every year after that reviewed informally, up to ten years. This is in accordance with the Department's "Experimental Project Procedures". Delivery of the construction evaluation, and monthly reports are required as well as a final project report (responsibility of the Research Section).

2006:	Construction	September installation/construction report on initial application(s) performance.
2006-2007:	Monthly Inspections	Once a month visit during the winter (off-construction) season to document performance of test sections prior to spring paving.
2007:	Final Evaluation	Final Report