

## State Planning and Research Program Quarterly Report

**PROJECT TITLE:** *Understanding the Effectiveness of Non-Chloride Liquid Agricultural By-Products and Solid Complex Chloride/Mineral Products Used in Snow and Ice Control Operations*

**OBJECTIVES:** • Determine and document the effectiveness and impacts of non-chloride liquid agricultural by-products and solid complex chloride/mineral products used in snow and ice control operations; and  
• Unravel the mechanisms (if any) by which these products contribute to anti-icing, deicing, corrosion inhibition, etc.

**PERIOD COVERED:**

Oct. 1, 2015 – Dec. 31, 2015

**PARTICIPATING AGENCIES:**

Western Transportation Institute, Montana State University – Prime  
Monte Vista Associates LLC, Arizona - Subcontractor  
MLT Group LLC, Minnesota - Subcontractor

**PROJECT MANAGER:**

Tom Peters, MnDOT

**SP&R PROJECT NO:**

MnDOT Contract No.  
99006 wo6

**PROJECT IS:**

Planning  
 Research & Development

**LEAD AGENCY:** Mn/DOT

Federal Project ID:  
TPF-5(218)

**PRINCIPAL INVESTIGATOR:**

Laura Fay

**ANNUAL BUDGET:**

\$191,238

**PROJECT EXPENDITURES TO DATE:**

\$179,561

**WORK COMPLETED:**

***Project Management***

We worked with the project panel and the subcontractor the MLT group to modify the contract to allow for additional footage to be captured for use in Task 7.

**Task 1. Literature Review** (100% completed)

The draft literature review was submitted and some minor comments were received from the panel. These comments (along with more recent literature) have been addressed and will be incorporated into the Task 5 manual and Task 6 final report.

**Task 2. Identify Products** (100% completed)

The team has identified the 10 products commonly for further investigation.

**Task 3. Survey** (100% completed)

The team surveyed experts at state and local agencies to gather their experience with the use and performance of such alternative deicing products. After approval by the Clear Roads panel, the survey questionnaire was distributed to the Clear Roads member State DOTs and APWA Subcommittee on Winter Maintenance. A total of 31 responses were received from 16 different states. The survey results have been summarized.

**Task 4. Laboratory Testing** (100% completed)

The laboratory testing has been completed for ten selected products, and deicer mechanism testing for the four selected products. The laboratory testing results have been summarized.

**Task 5. Development of a Best Practices Manual** (100% completed)

This task has been revised based on TAC comments, and the revised version of the Task 5 Best Practices Manual has been inserted into the Task 6 Final Report. A document was submitted to the TAC reviewing how the comments were addressed.

**Task 6. Final Report and Presentation** (100% completed)

The final report has been developed and was submitted to the TAC in this quarter for review and comment.

**Task 7. Video** (95% completed)

The MLT Group has used collected footage to develop a 13 minute video that summarizes the findings of this research project. A voice over script was submitted in this last quarter to the project TAC for review and comment. The final step to complete this task is approval of the voice over script by the TAC, after which the voice over work will be completed and the finished video will be submitted for review and comment.

**SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:**

Efforts in the next quarter will include submission of the Task 7 Video to the TAC and addressing any comments from the project panel. Work in the coming quarter will focus on any necessary revisions to the Task 7 Video.

**STATUS AND COMPLETION DATE:**

A no cost time extension has been granted for the Task 7 Video deliverable. The new project end date is March 31, 2016.