

# RESEARCH PROGRESS REPORT FOR THE QUARTER ENDING: 3rd

Wisconsin Department of Transportation  
DT1241 2009

<b>Research, Development and Technology Transfer</b>	
<b>Program:</b> (Choose One)	
<input type="checkbox"/> <b>Policy Research</b>	<input checked="" type="checkbox"/> <b>Pooled Fund</b> TPF # 5(092) Clear Roads
<input type="checkbox"/> <b>Wisconsin Highway Research Program</b>	<input type="checkbox"/> <b>Other</b>
<b>Project Title:</b> Development of Standardized Test Procedures for Carbide Insert Snowplow Blade Wear	
<b>Administrative Contact/Phone #:</b> Colleen Bos/ (608) 577-4805	<b>WisDOT Project ID(s):</b> 0092-08-31
<b>WisDOT Technical Contact/Phone #:</b> Michael Sproul/ (608) 266-8680	<b>Other Project ID:</b> Clear Roads 07-01
<b>Project Investigator/Phone # (agency &amp; contact):</b> Cam Kruse Braun Intertec (952) 995-2230	<b>Approved Starting Date:</b> 10/22/2007
<b>WisDOT Comments:</b>	<b>Original End Date:</b> 7/1/2009
	<b>Current End Date:</b> 7/1/2010
<b>Sponsor:</b> Wisconsin Department of Transportation	<b>Number of Extensions:</b> 1

**Schedule Status:**

- On schedule                       Ahead of schedule  
 On revised schedule             Behind schedule (Please explain below)

Total Project Budget	Expenditures Current Quarter	Total Expenditures	% Funds Expended	% Work Completed
\$74,965.00	\$562.50	\$38,659.54	52%	51%

**Project Description:**

Carbide inserts of snowplow blades fail through wear (abrasion) and through durability (fracture). This research project will (Task 1) identify test procedures that have potential to predict the wear and durability performance of the carbide inserts. The most promising test procedures will be developed in the laboratory (Tasks 2 and 3) and compared to the performance of identical sample carbide inserts measured in field tests of actual snowplowing (Task 4). The results of the laboratory and field tests will be analyzed to determine the effectiveness of the tests at predicting performance of the carbide inserts (Task 5). The final deliverables are a report and implementation plan that document the testing and provide recommendations for use of the test procedures and for additional studies, if needed.

**Progress This Quarter:** (Includes project committee meetings, work plan status, contract status, significant progress, etc.)  
 Progress this quarter was delayed due to illness of a key staff member and significant construction-related workload of the laboratory. However, we expect to recover to the schedule this next quarter.

We contacted the Saskatchewan Ministry of Transportation and learned about their studies, which have some similarities to ours. The test method they are evaluating is a modified Vickers Fracture test. This test method appears to have merit. We will include this in our study.

**Anticipated Work Next Quarter:**

We will complete the Task 2 Development of Laboratory Test Procedures and the laboratory testing of Task 3. At the completion of Task 2 we will provide our evaluation and recommendations for the tests to be compared to field testing. We will ask the TAC panel to provide feedback on our analysis and recommendations. We will schedule and complete the field testing of Task 4, to be conducted by the Utah DOT. We expect to complete the Draft Final Report and Implementation Plan by the end of December for distribution to the TAC.

**Circumstances Affecting Progress and/or Budget:**  
 None.

**Gantt Chart:**  
 See following page.

**Timetable for Development of Standardized Test Procedures for Carbide Insert Snowplow Blade Wear**

<b>Tasks</b>	<b>2007</b>					<b>2008</b>												<b>2009</b>						<b>2010</b>										
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Task 1. Comprehensive Literature Search	■	■	■																															
Task 2. Development of Standardized Tests				■	■	■	■	■																										
Task 3. Laboratory Testing								■	■	■	■	■	■	■	■																			
Task 4. Field Testing				■	■	■	■	■																										
Task 5. Analysis and Reporting									■	■	■	■	■	■	■	■	■	■	■	■	■	■												
<b>Deliverables</b>																																		
Quarterly Progress Reports		■			■			■			■			■		■						■		■				■			■			■
Teleconference with TAC			■																															
Draft Final Report																■												■						
Meeting with TAC to discuss report																	■												■					
Final Report																		■	■	■	■									■	■	■	■	
Implementation Plan																		■	■	■	■									■	■	■	■	

Black shading indicates original schedule. Yellow shading indicates current estimated schedule.