

**Investigation of the Long Term Effects of Magnesium Chloride and  
Other Concentrated Salt Solutions on  
Pavement and Structural Portland Cement Concrete**

Project Number: SD2002-01

Submitted by:

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**Quarterly Report**

Overview

This Quarterly Report is submitted to outline the work accomplished during the reporting period 4-15-05 to 7-15-07, identify problems (current and anticipated), and to describe any deviations from the agreed Work Plan. This Quarterly Report is arranged by the Tasks described in the project Work Plan. Tasks not listed have been completed and the details of each can be found in previous reports. The following is a summary of results for this reporting period.

- The investigators met with the project director to discuss results to date and perform preliminary planning of the final panel meeting to present the final report.
- Chloride profiling of laboratory specimens has been completed.

## Task Report

### **Task 6: Laboratory Experiment**

#### *Chloride Profiling of Laboratory Specimens*

Work this quarter has included completion of chloride profiling of the laboratory specimens identified in the previous quarterly report. For brevity the complete results are not included here and the reader is directed to the previous quarterly report for the full description of the procedure and example results.

#### *Task 6 Problems and/or Deviations from Work Plan*

There were no problems for Task 6 incurred during the reporting period.

#### **Task 6 Completion - 90%**

### **Task 7: Assessing and Minimizing the Impact of Deicing/Anti-Icing Chemicals**

Basic data to address this task has been obtained in the laboratory experiments involving various sealants, described in the previous quarterly report. No additional work has been performed during this reporting period.

#### *Task 7 Problems and/or Deviations from Work Plan*

None

#### *Task 7 Completion -20%*

### **Task 8: Effects of Various Deicing/Anti-Icing Chemicals**

Basic data to address this task has been obtained in the laboratory experiments involving various sealants, described in the previous quarterly report. No additional work has been performed during this reporting period.

#### *Task 8 Completion -35%*

### **Task 9: Life Cycle Cost Analysis**

#### *Task 9 Problems and/or Deviations from Work Plan*

None

#### *Task 9 Completion -0%*

### **Task 10: Development of Guidelines**

*Task 10 Problems and/or Deviations from Work Plan*

None

*Task 10 Completion -0%*

### **Task 13: Final report**

Work has begun on assembling the final report. To this end, the investigators met with the project director to discuss results to date and perform preliminary planning of the final panel meeting to present the final report. A report outline has been developed and both Michigan Tech and the University of Toronto are performing data analysis to address the remaining tasks and they have begun assembling the final report.

*Task 13 Problems and/or Deviations from Work Plan*

None

*Task 13 Completion -10%*

### **Task 14: Present to Panel**

During the recent meeting with the project director, preliminary plans for a final panel meeting in Rapid City South Dakota were discussed. Tentatively, a mid-October, 2007 meeting is planned. The exact date will be confirmed in August as academic schedules for the principal investigators become confirmed.

*Task 14 Problems and/or Deviations from Work Plan*

None

*Task 14 Completion -5%*

### **Task 15: Present to Review Board**

*Task 15 Problems and/or Deviations from Work Plan*

None

*Task 15 Completion -0%*