

**Field Study of Granular Materials Treated with Dust Suppressants
Behaviour Evolution under Traffic and Climate**

Poster topic: 1 Environmental Impacts of Dust Suppressants
2 Topical Dust Suppression

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The main objective of this research project is to validate adapted and economical solutions for the maintenance of performing, durable and safe unpaved roads in the Canadian northern context. A reference section and several sections of granular materials treated with different dust suppressant products (cementitious, hygroscopic, polymeric and organic synthetic non bituminous dust suppressants) in determined optimized proportions are part of a field study in order to verify that the laboratory conclusions are valid in field conditions. Indeed, the laboratory tests do not take into account the interaction between solicitations sources (traffic and climate) and the behaviour evolution according to time when submitted to these solicitations. All test sections take place on a principal forest road. The following parameters are observed: granular materials quality, mechanical behaviour, climate effects durability, runoff water quality, loose aggregates, corrugation, ruts, cross section, dust, potholes. Conclusions obtained from the laboratory and field will allow the establishment of unpaved roads maintenance guidelines in a northern context.