



Dust Control and Maintenance of Aggregate-Surfaced Airports in Alaska

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Canada and Alaska

400 km

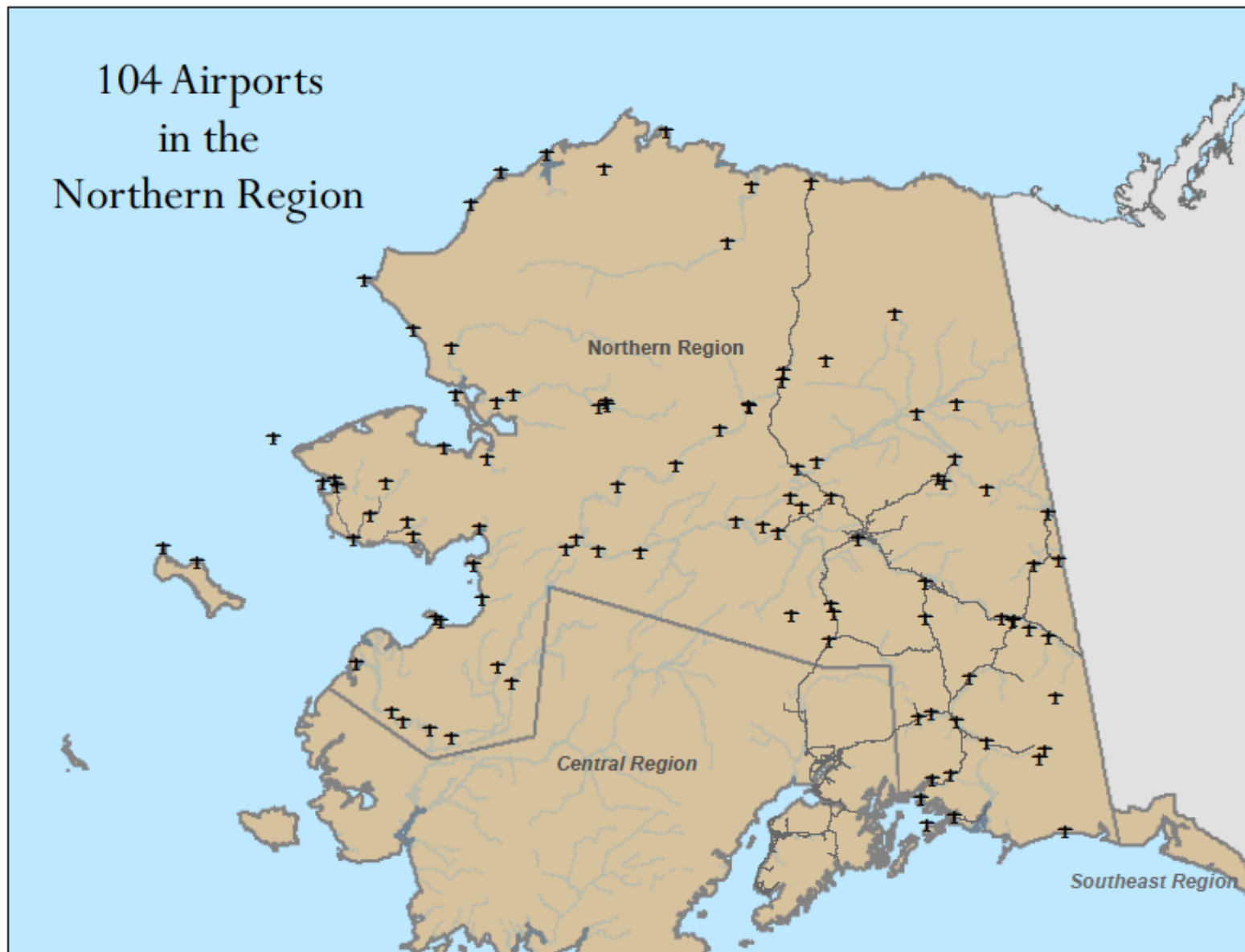


Public Airports in the State of Alaska

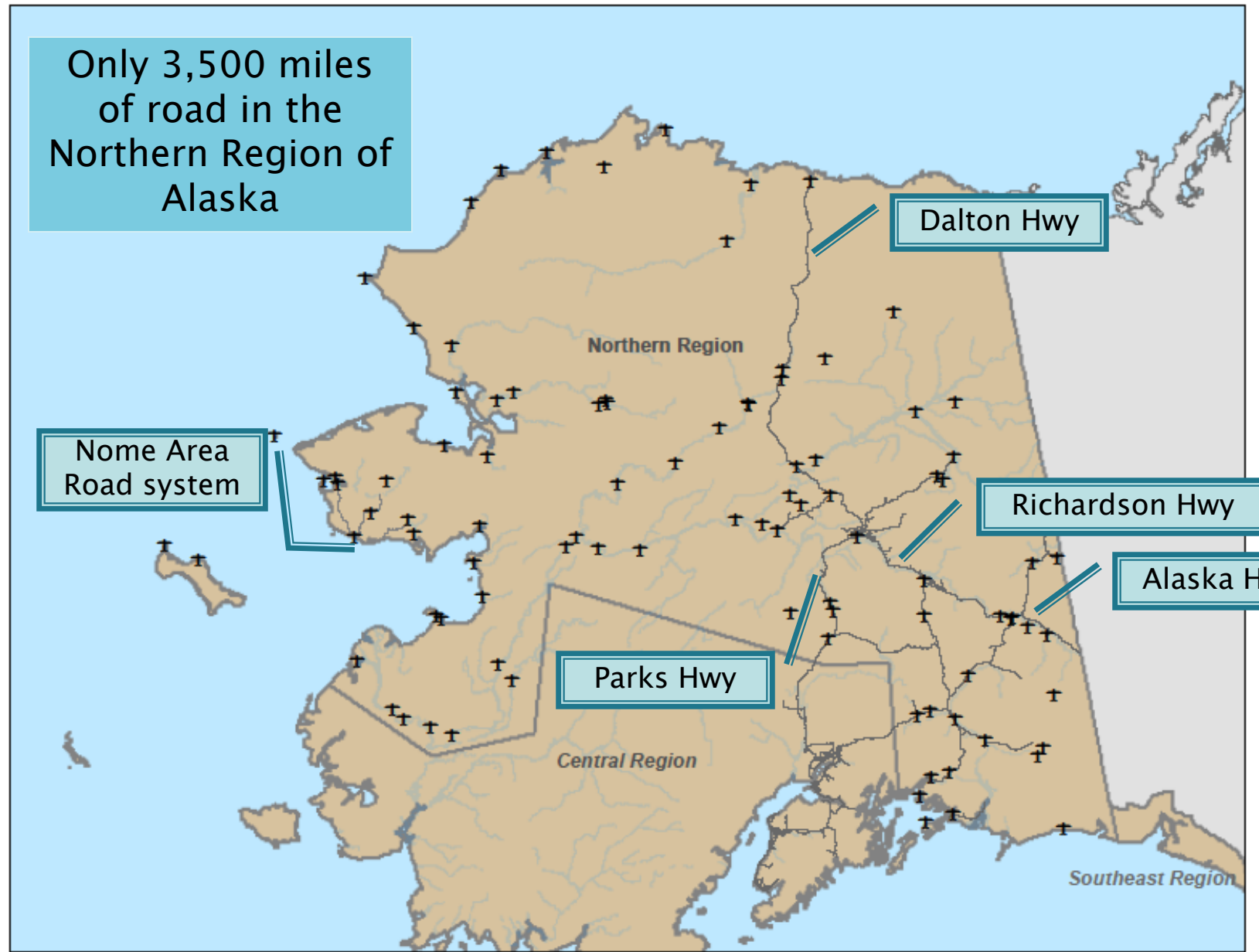
500 km



104 Airports
in the
Northern Region



Only 3,500 miles
of road in the
Northern Region of
Alaska



Dalton Hwy

Nome Area
Road system

Richardson Hwy

Alaska Hwy

Parks Hwy

Southeast Region

Northern Region

Central Region

Chicken Airport: BEFORE dust palliative application in 2005



05.21.2004 10:56

- Population: 21
- R/W length: 2,500'
- No lighting
- Road accessible – YES



Chicken Airport – “After” dust control

Sheldon Point at Nunam Iqua Airport

- Population: 207
- R/W length: 3,015'
- Medium Intensity lighting
- NOT road accessible





Village of Nunam Iqua


Sheldon Pt. Airport: BEFORE dust palliative application



2005.07.14



**Airport Contractor Paul Manumik,
@ Village of Nunam Iqua**

- 
- Population: 17
 - R/W length: 4,200'
 - Medium Intensity lighting
 - NOT road accessible

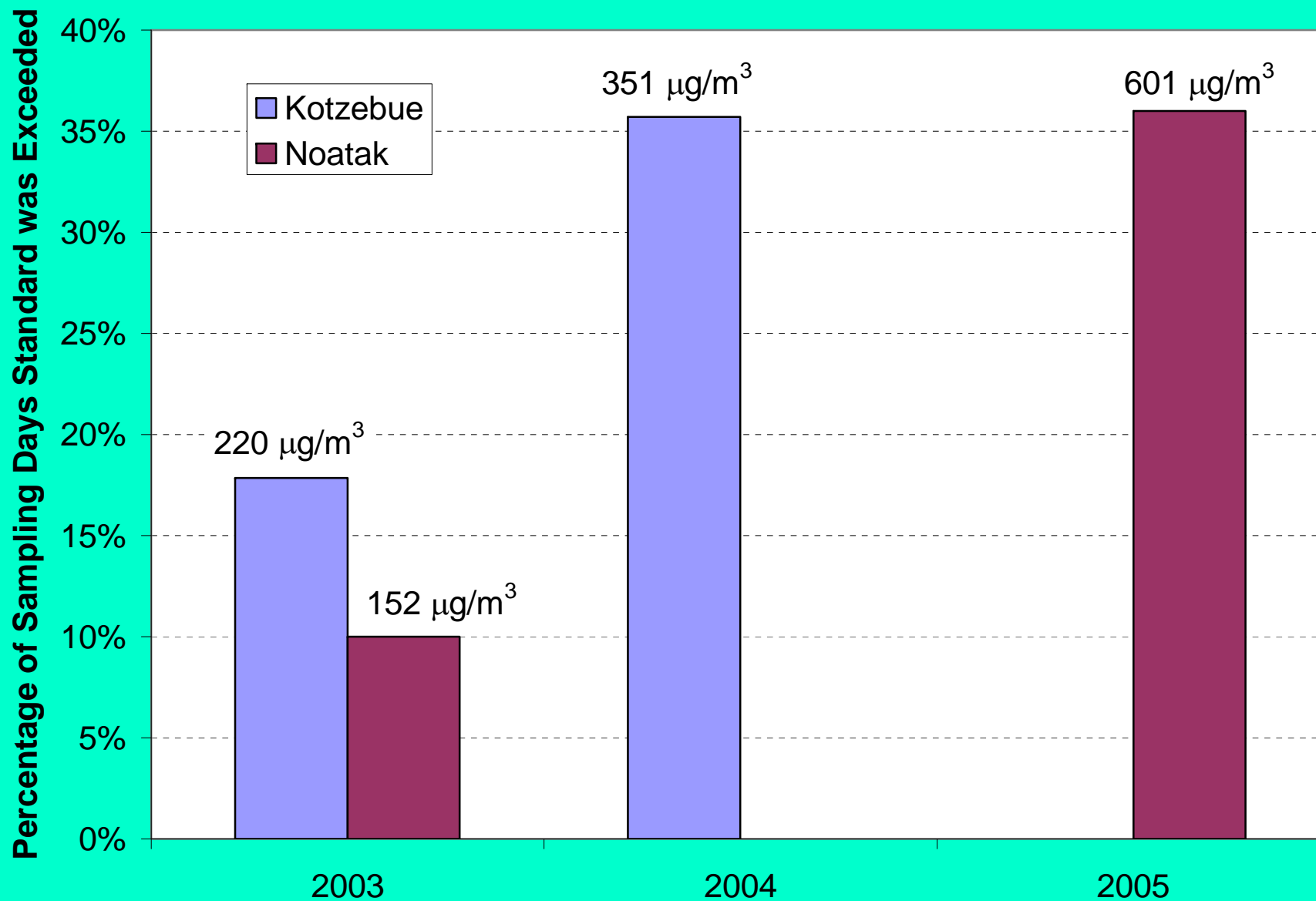
**Lake Minchumina Airport:
after Dust Palliative applied**

Do we have a dust problem in Alaska?



Photo Credit ADEC

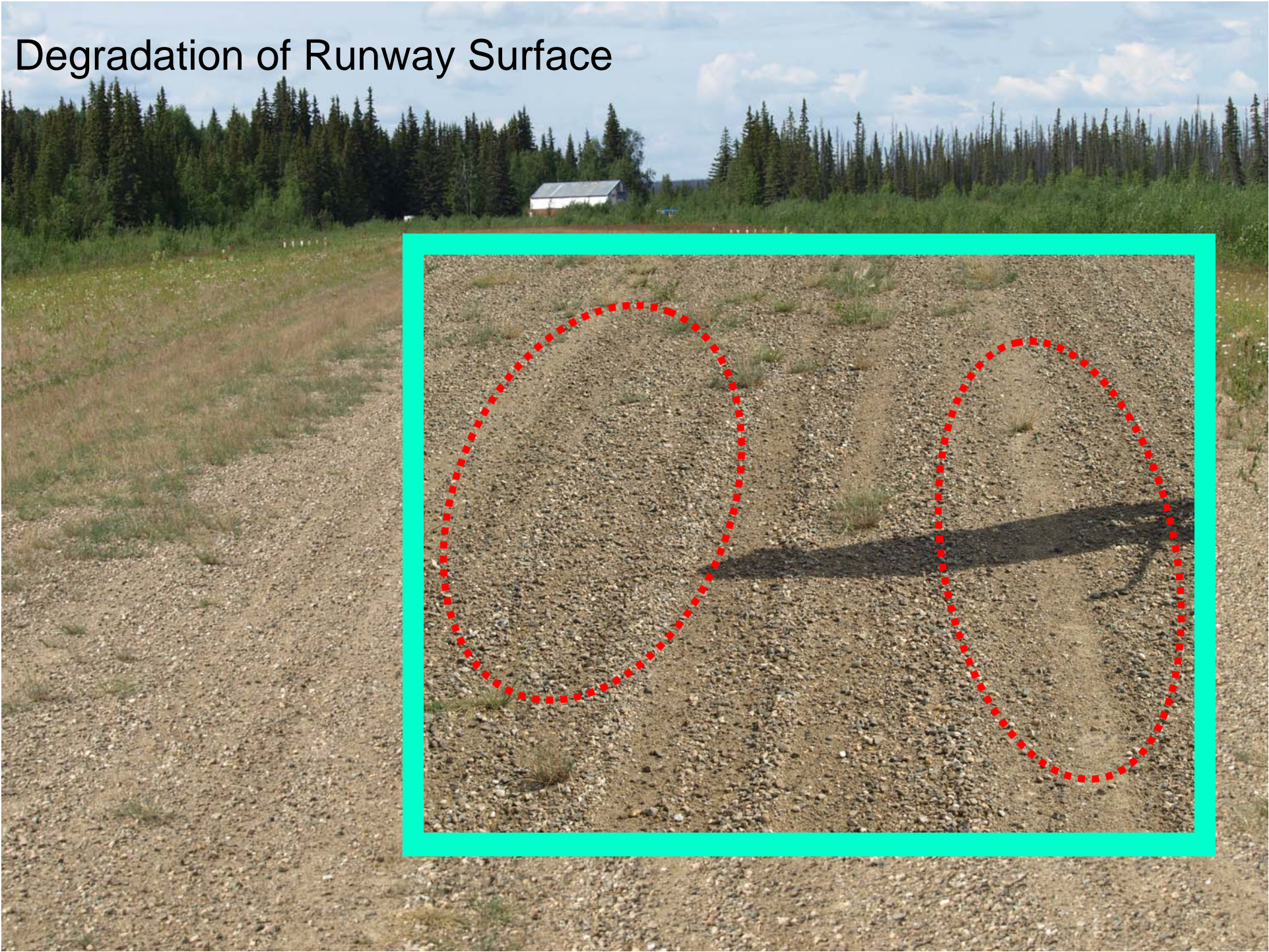
Filter Based Sampling Conducted by Trost (2004)



Dust Generation



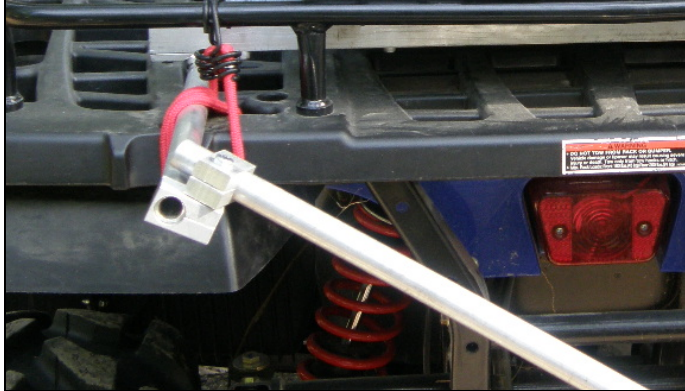
Degradation of Runway Surface



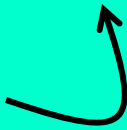
Palliative Performance



UAF - DUSTM



Instrumentation



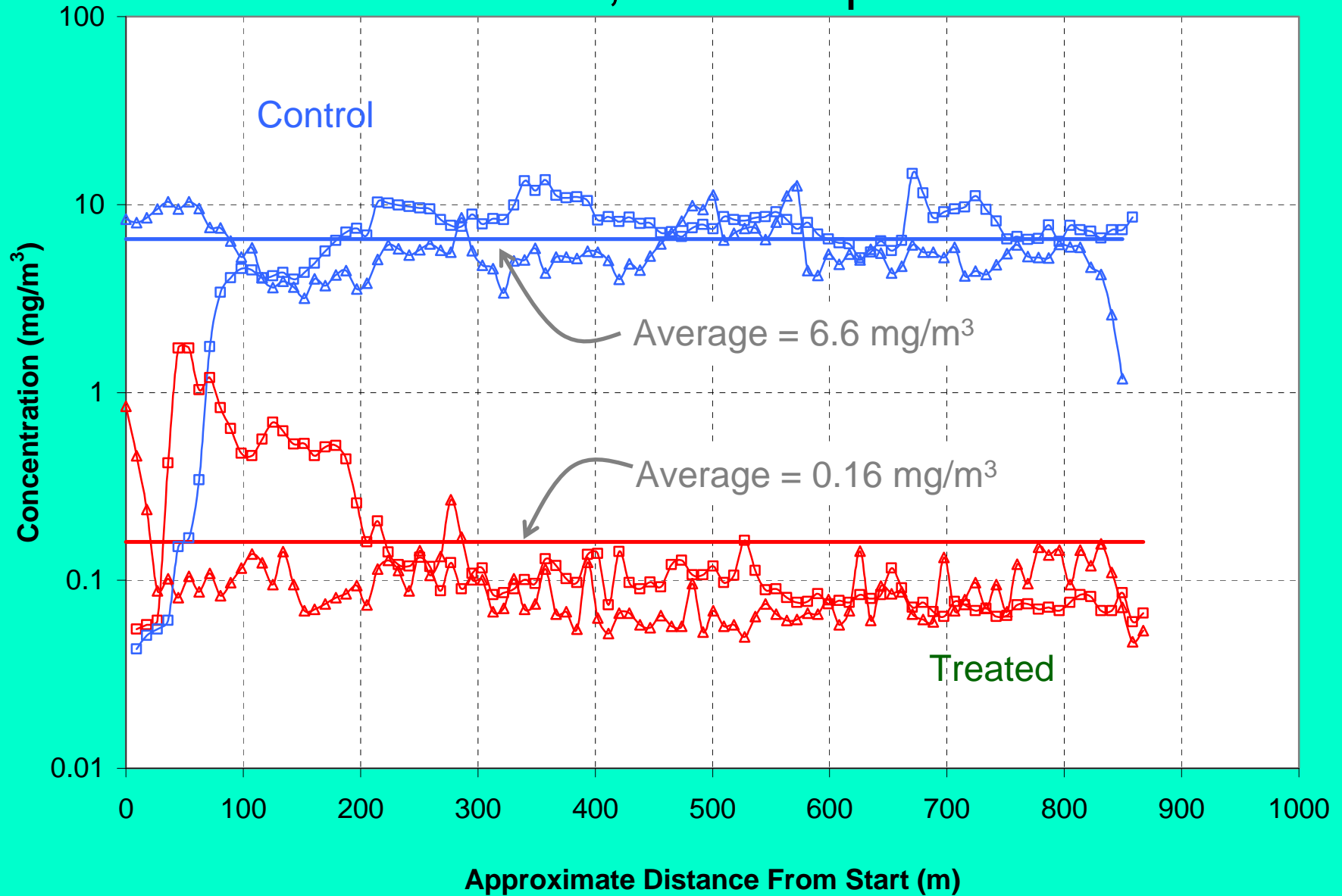
Intake and filter



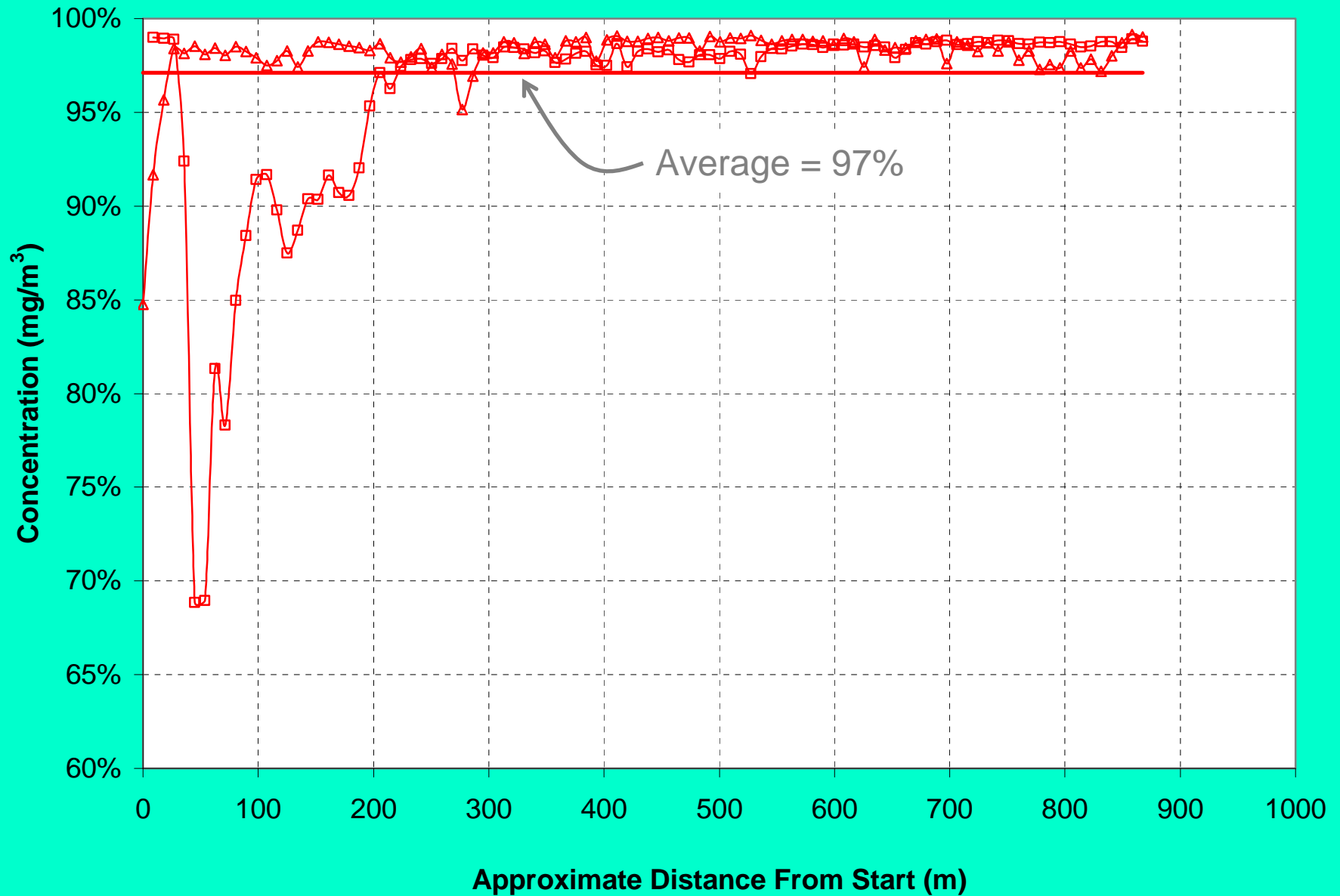
Unpaved Roads



Typical Results Fairbanks, AK - Top Seal

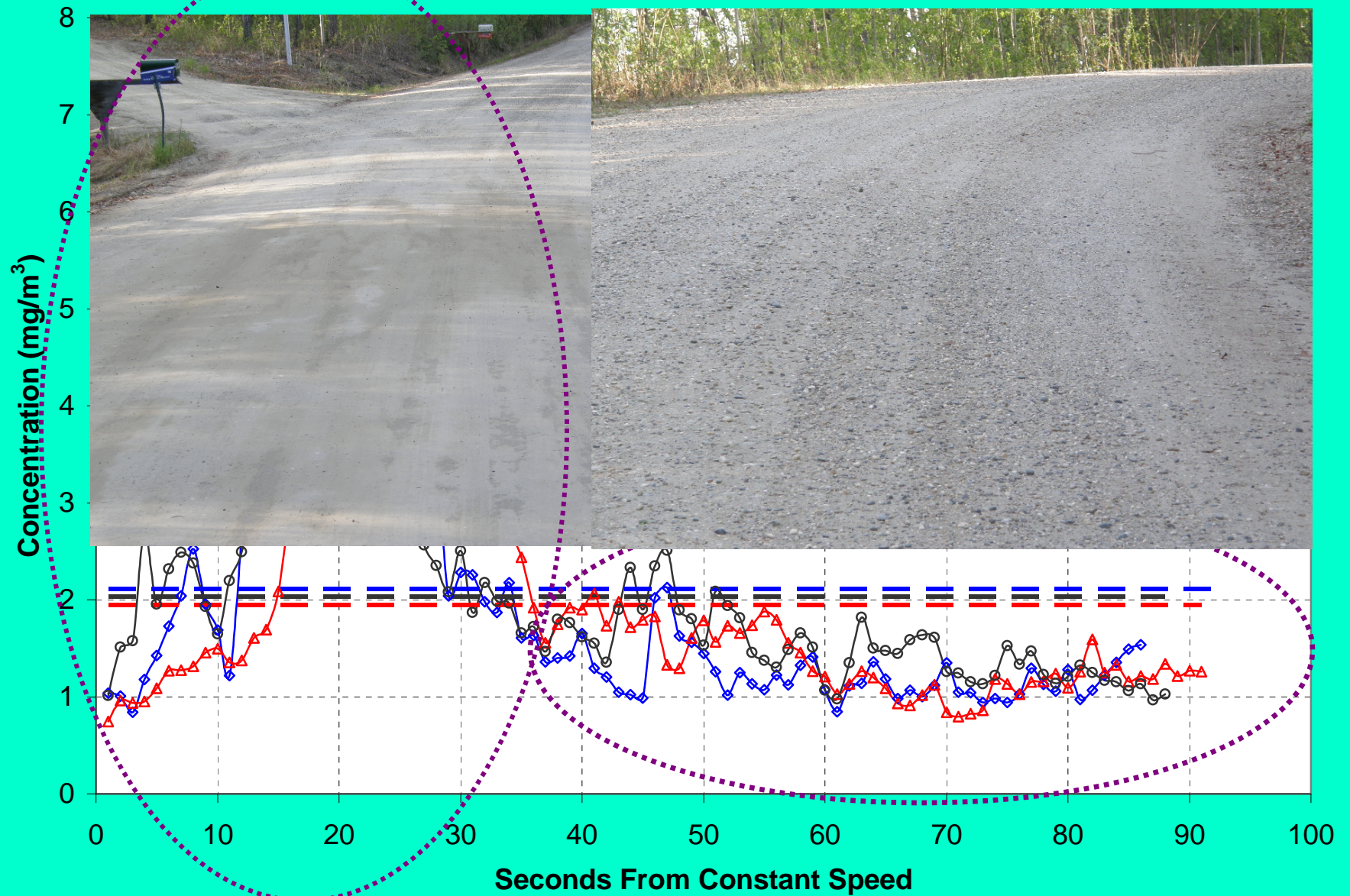


Reduction in Dustiness



Chena Hills Road – May, 2009

CaCl₂



Unpaved Airstrips



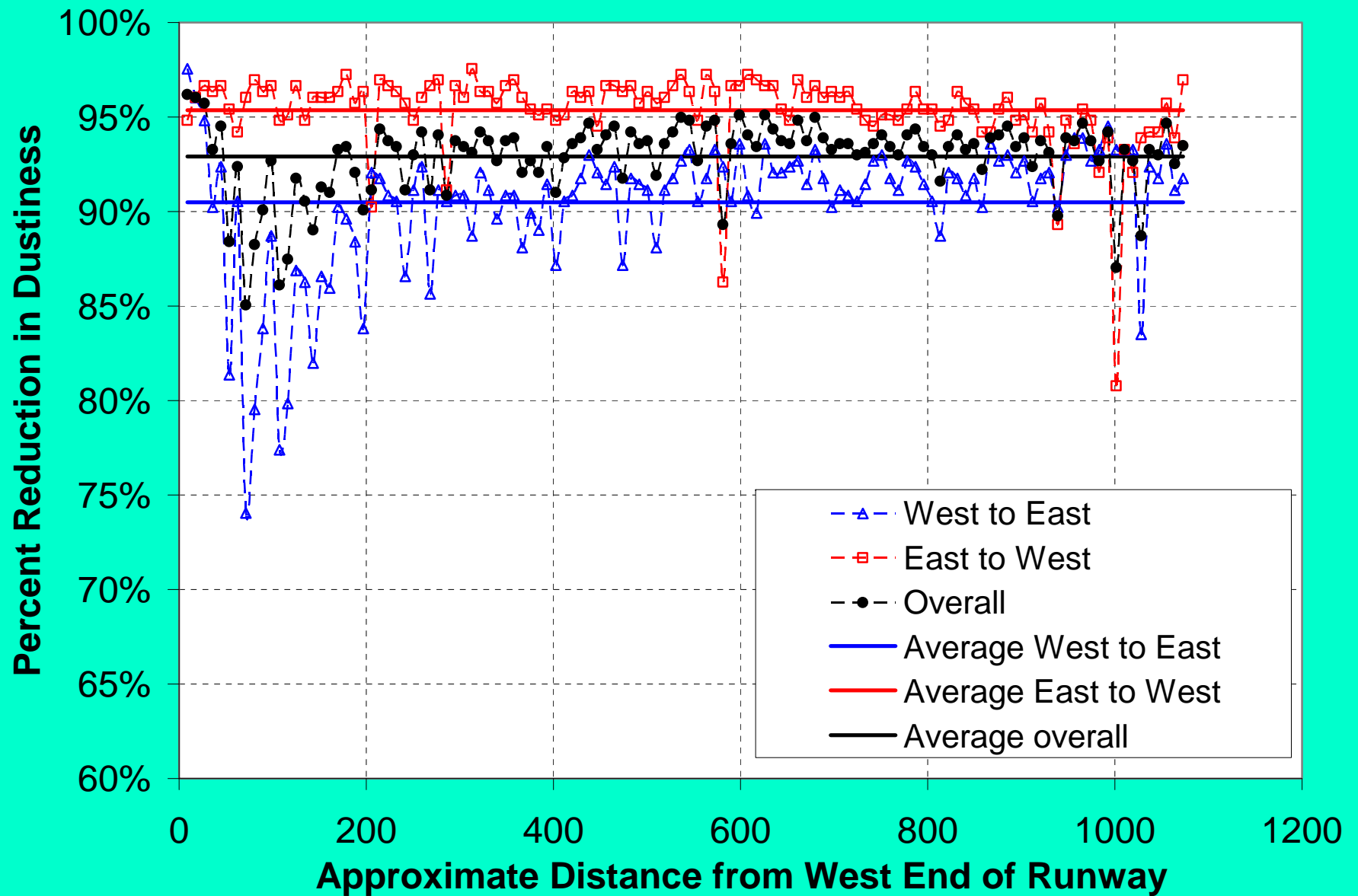
Runways Measured This Season

- Circle Hot Springs
- Tetlin,
- Chicken
- Boundary
- Tanana
- Kaltag
- Chitna
- McCarthy
- Coldfoot
- Central
- St. Mary's



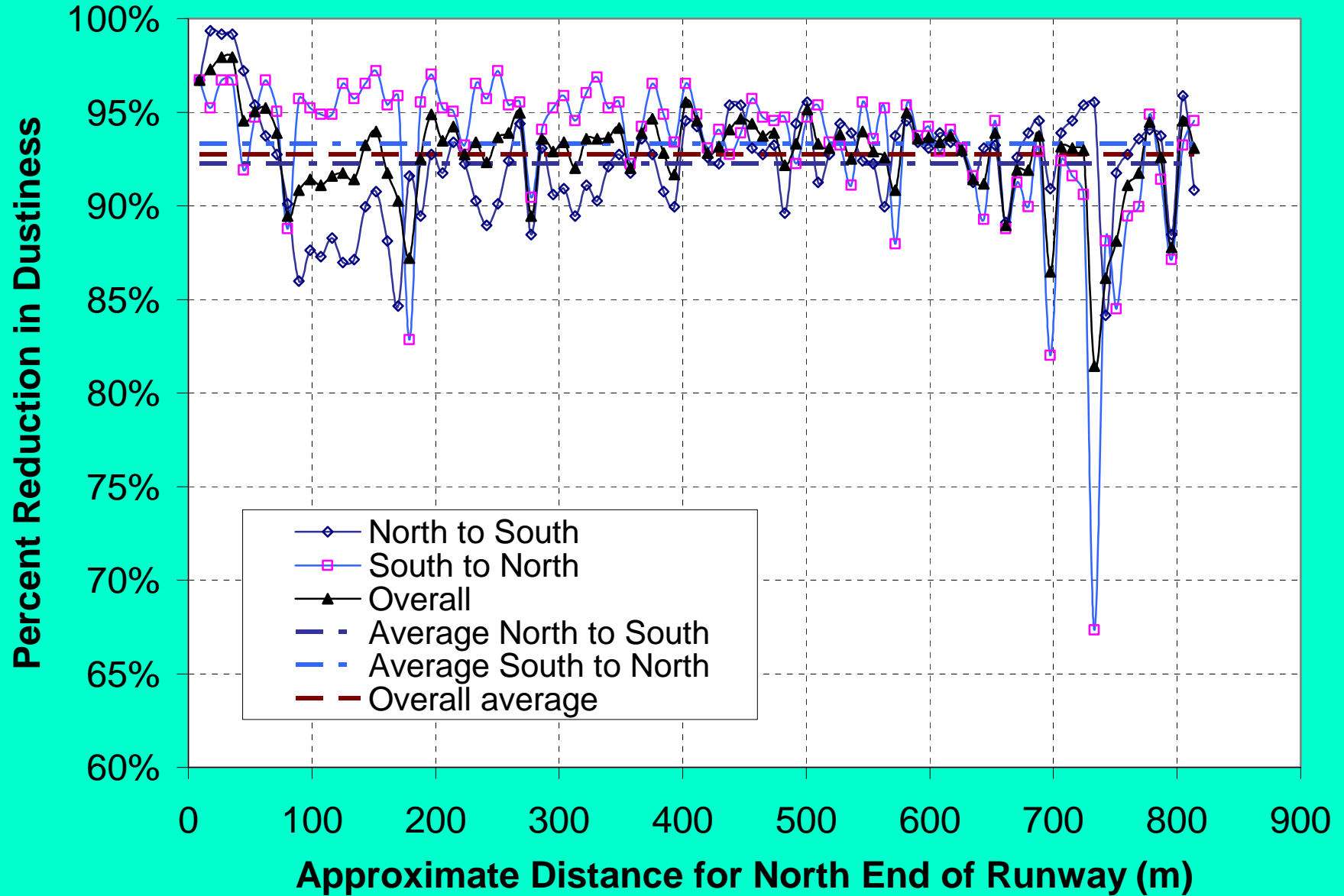
Tetlin Runway – June 22, 2009

Durasoil Applied June 2009



Chicken Runway – June 23, 2009

EK 35 Applied Summer 2005



Surface Strength



Chicken, Alaska

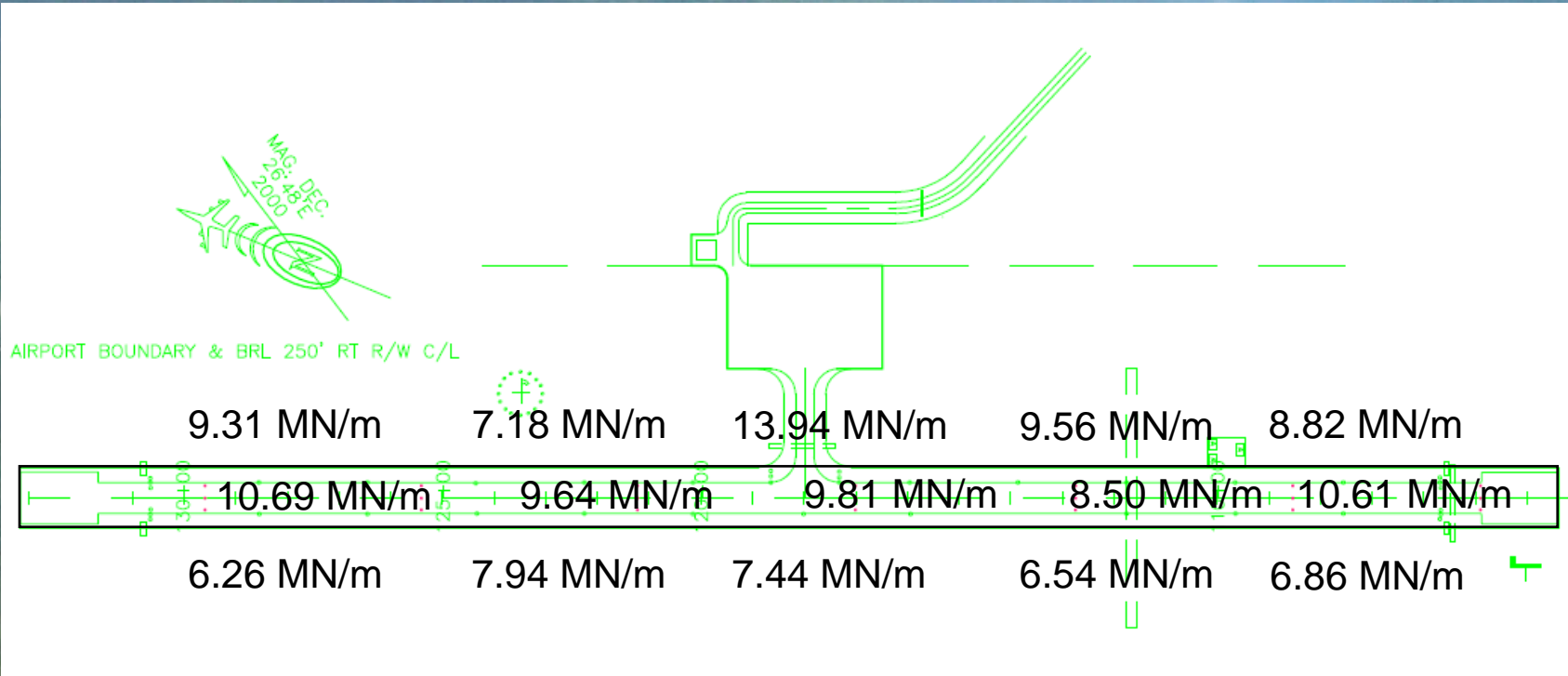
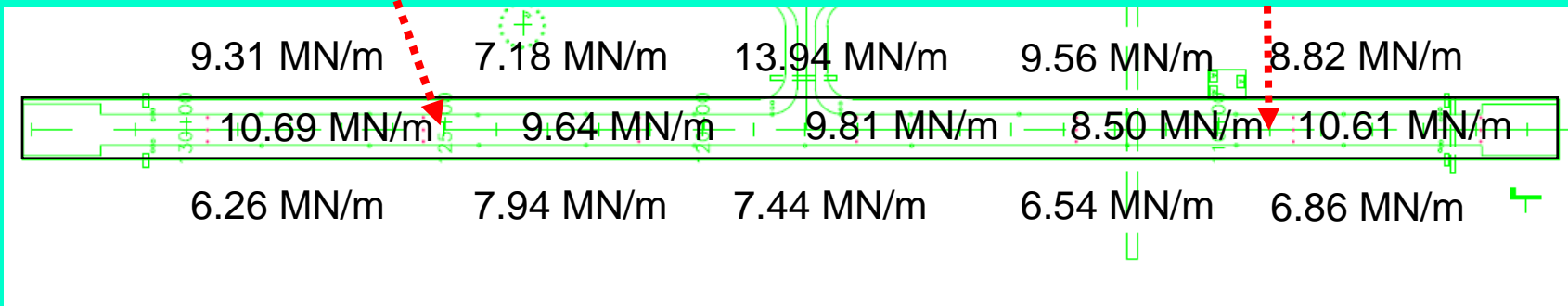
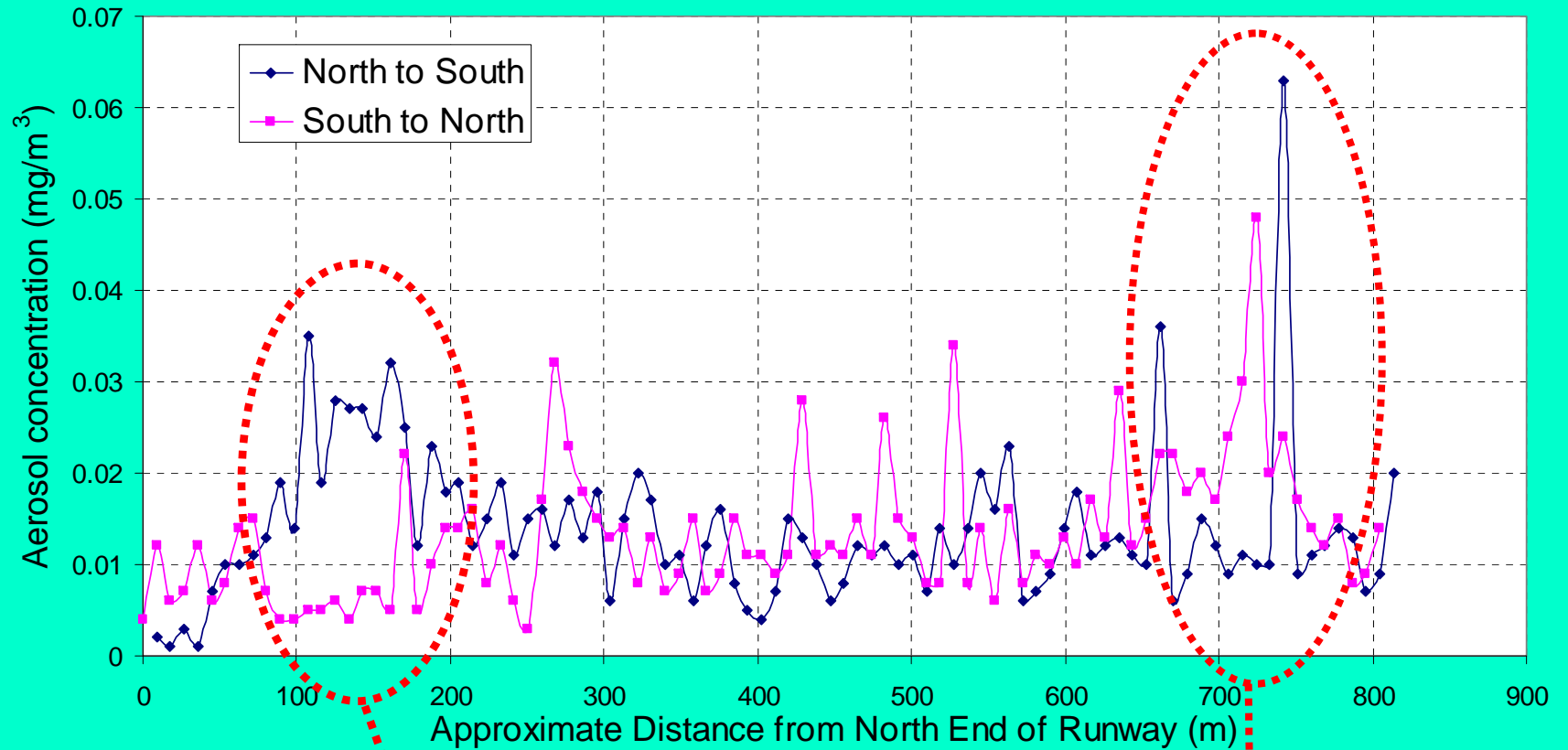


Photo by Melvin Main

Chicken, Alaska



Path Forward

- Continue developing methodology
- Develop standard testing method (AK and ASTM)
- Provide rural Alaska guidance on dust control
- Associate DUSTM results with regulatory standard
- Provide designers guidance
- Develop specification

Funding

- Alaska Department of Transportation & Public Facilities
- Denali Commission
- Alaska University Transportation Center

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- Billy Connor

Questions?



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