

8/29/98 FORT YUKON

Maintenance of Aggregate-Surfaced Airfields

The Alaskan Experience

Presented by:

***Clark Milne, ADOT&PF, NR Maintenance Engineer
and***

Dr. David Barnes, University of Alaska Fairbanks

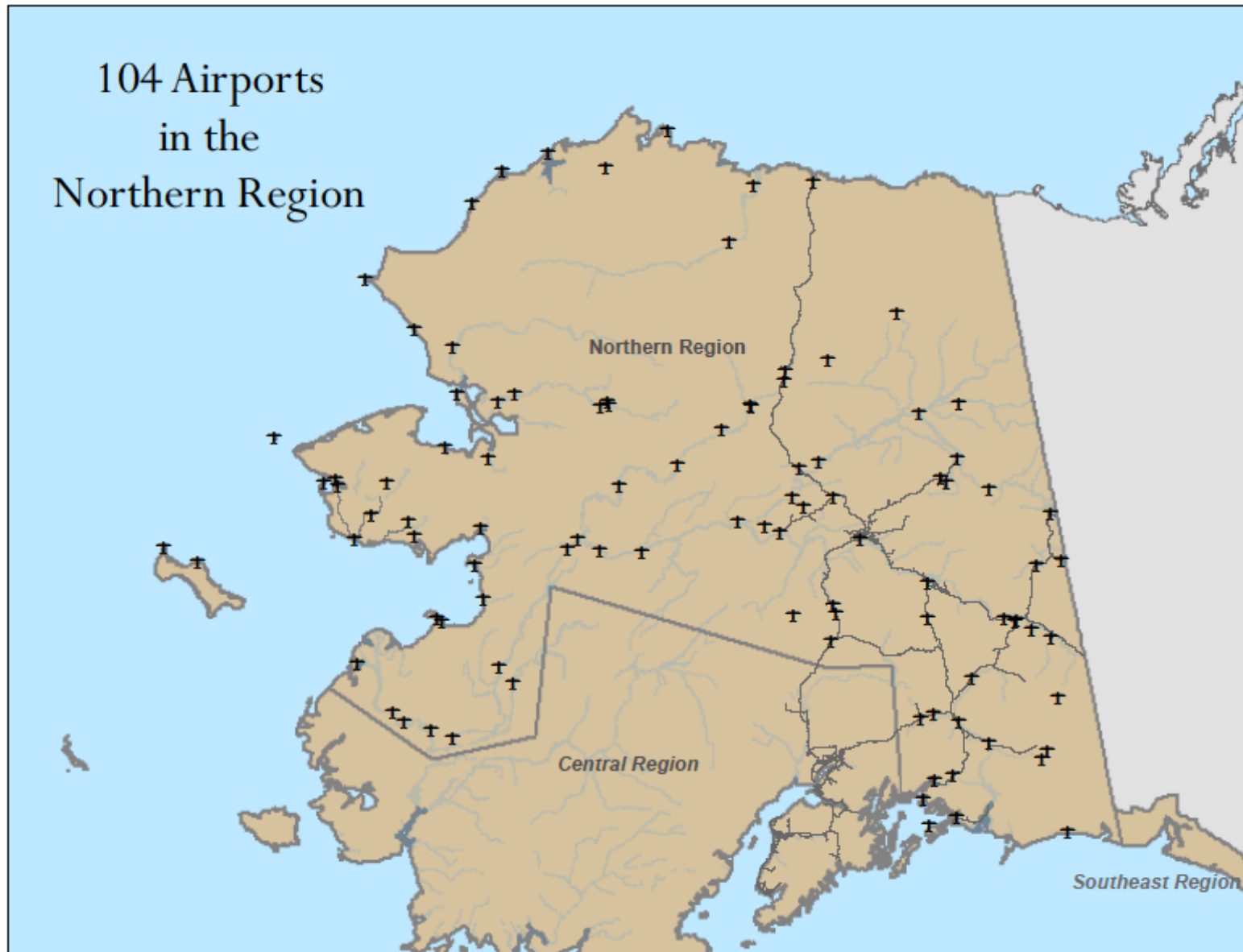
Canada and Alaska



[illegible]

500 km

104 Airports
in the
Northern Region



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

Nome Area
Road system

Dalton Hwy

Richardson Hwy

Alaska Hwy

Parks Hwy

Northern Region

Central Region

Southeast Region




10 “Typical” Northern Region Airports



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



Chicken Airport

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

Lake Minchumina with Dust Palliative applied

Sheldon Point Airport at Nunam Iqua

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





Village of Nunam Iqua

Kiana Airport

- Population: 383
- R/W length: 3,400'
- Medium Intensity lighting
- NOT road accessible



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St. Michael Airport

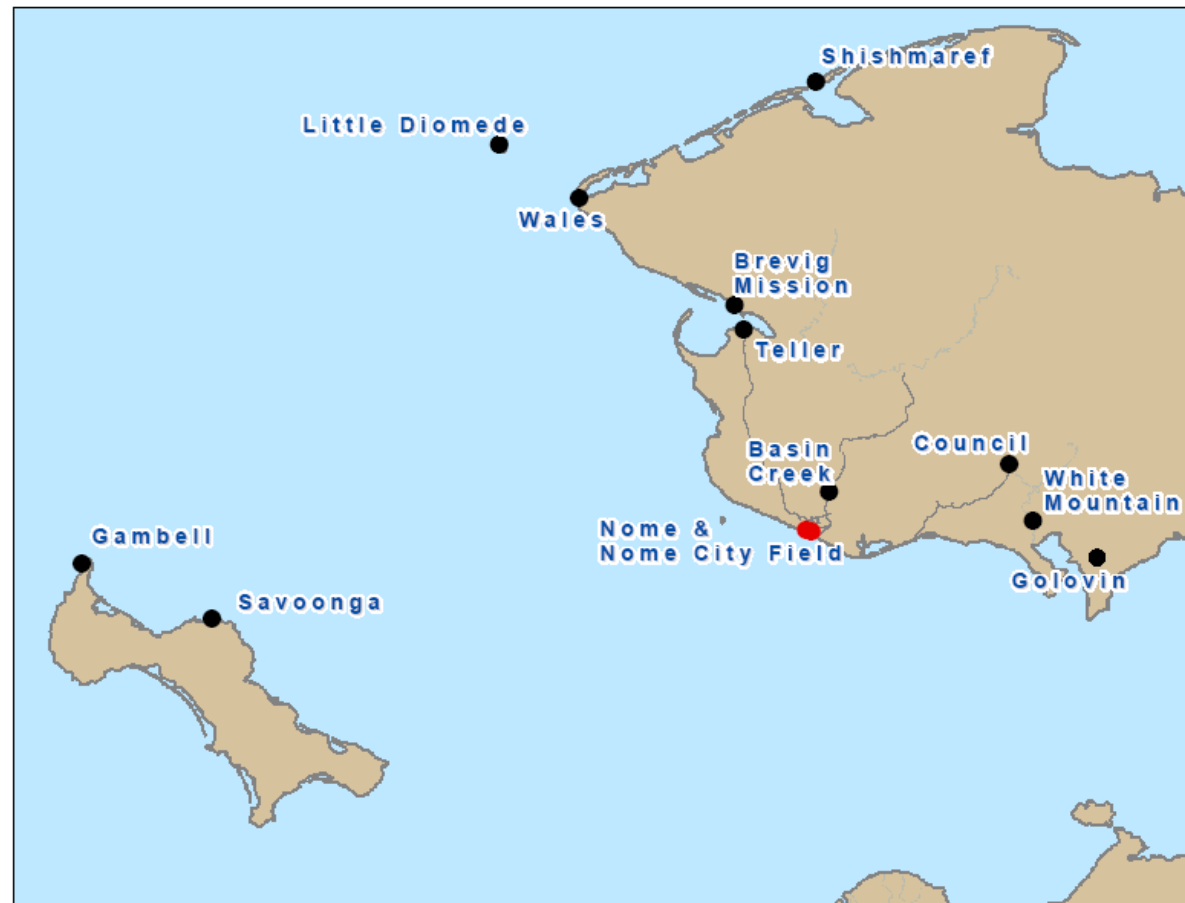
- Population: 434
- R/W length: 4,000'
- Medium Intensity lighting
- NOT road accessible



Nome is the “Hub” Airport with 12 “Spoke” Airports

12 “Spoke” Airports

- ☐ Basin Creek
- ☐ Brevig Mission
- ☐ Council
- ☐ Gambell
- ☐ Golovin
- ☐ Little Diomedede
- ☐ Nome City Field
- ☐ Savoonga
- ☐ Shishmaref
- ☐ Teller
- ☐ Wales
- ☐ White Mountain





SREB @ Wales Airport



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



Tetlin Airport – under construction

Airport Condition Assessment



Purpose

Provide AKDOT&PF critical data both qualitative and quantitative on the condition of the airfield to allow for maintenance planning and to point out critical areas that need near term attention.



What are we assessing?

- Condition of surface – rutting, loose aggregate, cracking, pot holes.
- Condition of support system – lights, segmented circle, wind sock, buoys
- General condition of airfield – petroleum spills, sight distances, clearances
- Strength of runway surface – Geogauge, DCP
- Performance of dust palliative (if present)
- Soil properties – particle size distribution, compaction, moisture content

What are We Finding?



General Condition



Clearance



Broken Runway Lights



Strength



Chicken, Alaska

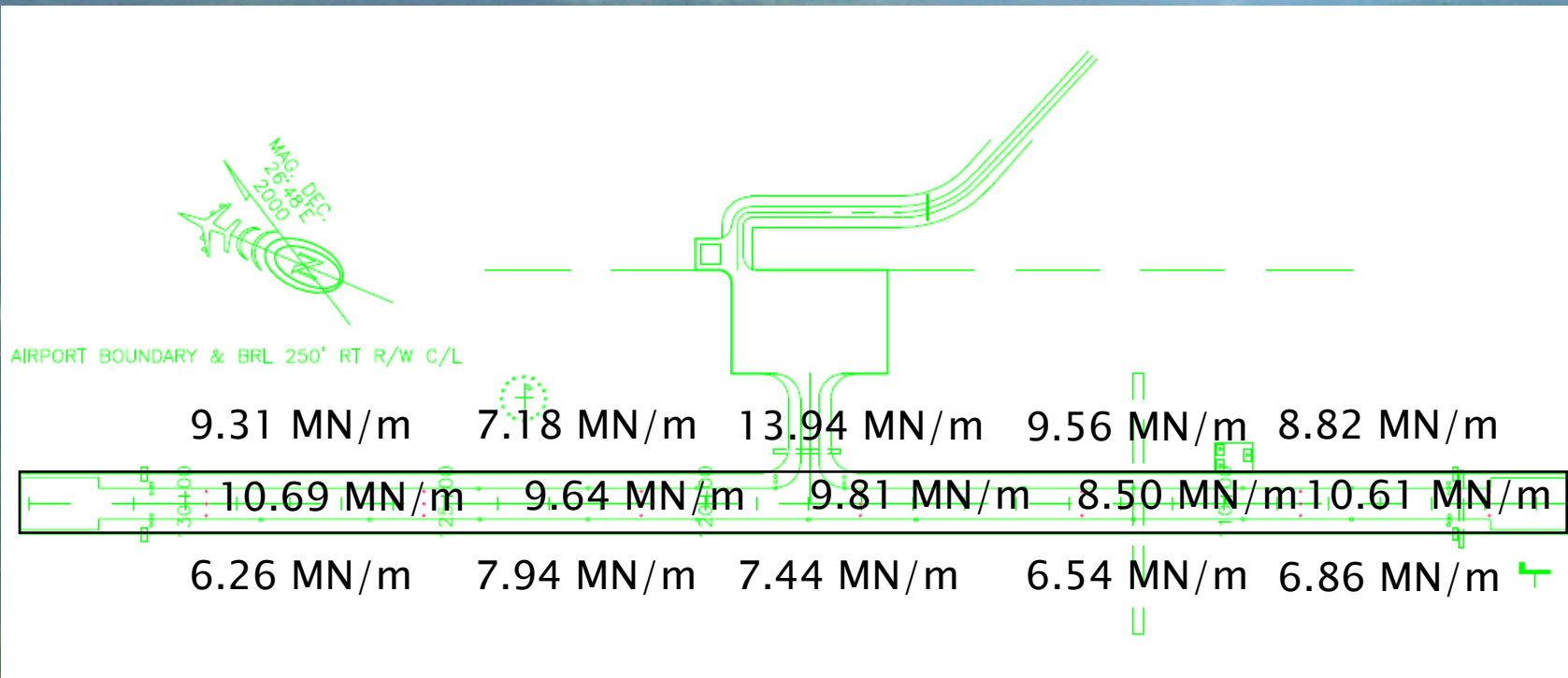
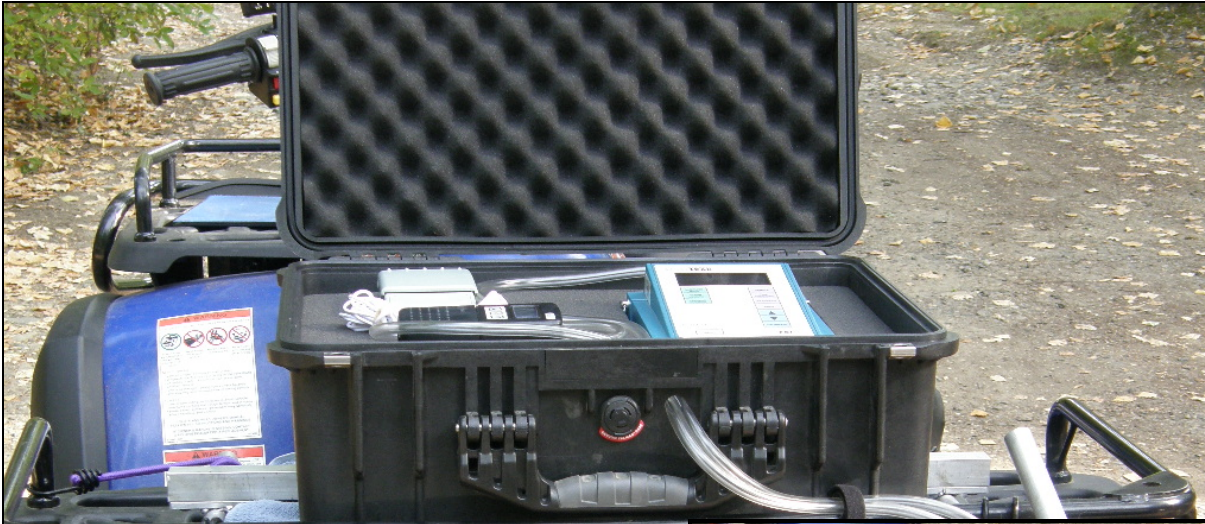


Photo by Melvin Main

Performance of Dust Palliatives



UAF – DUSTM



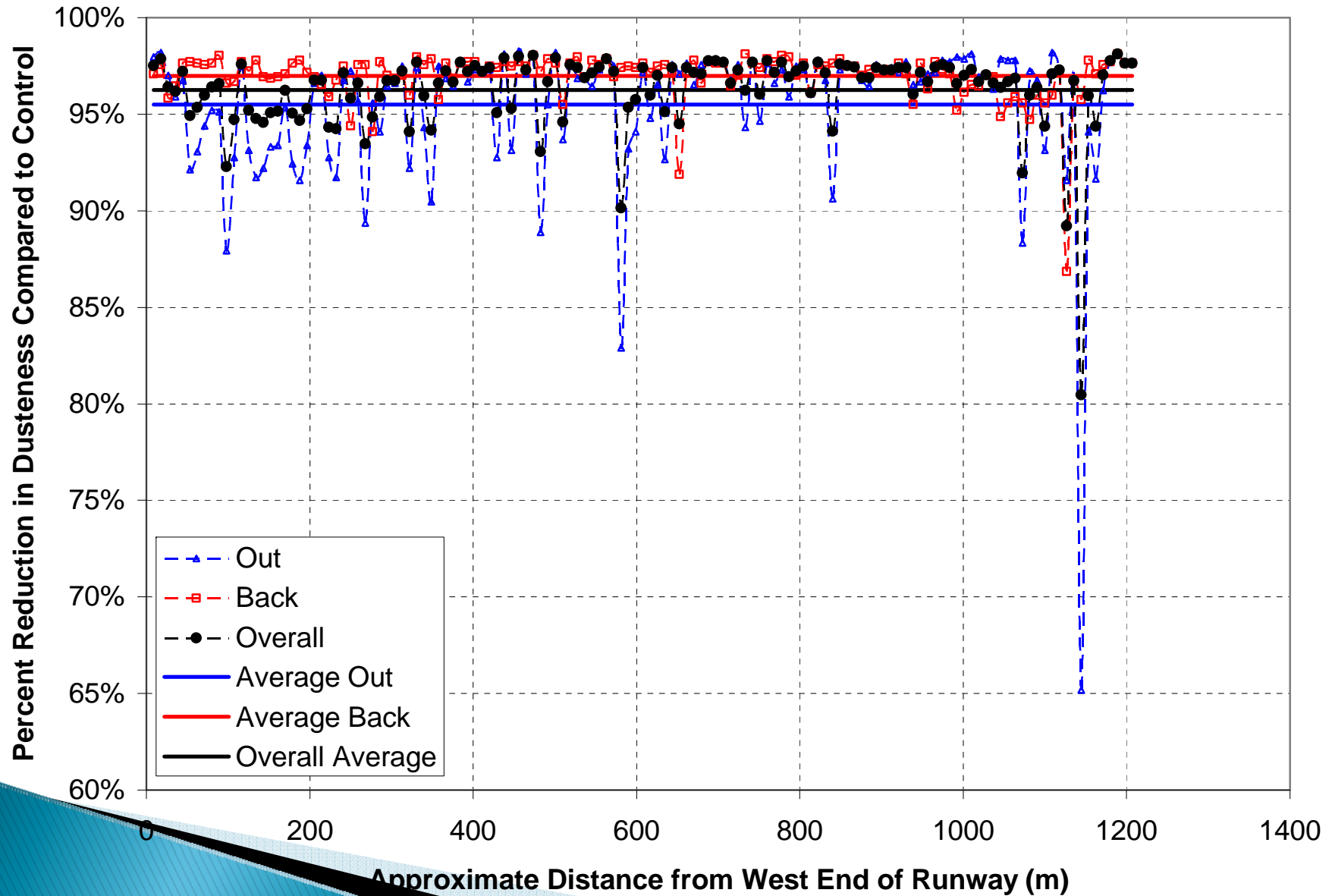
Instrumentation

Intake and filter

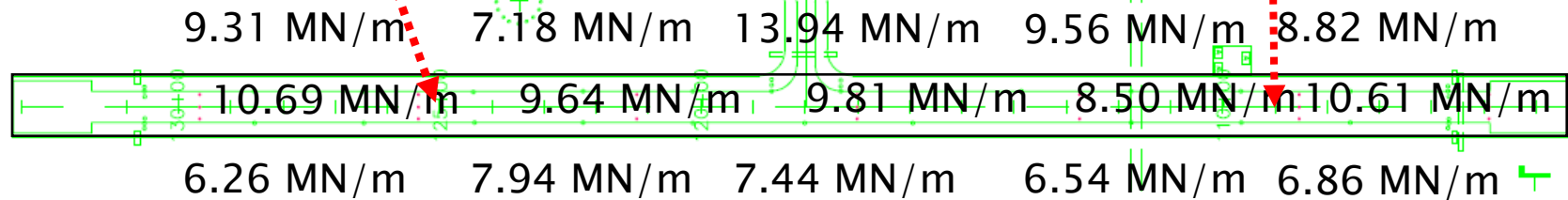
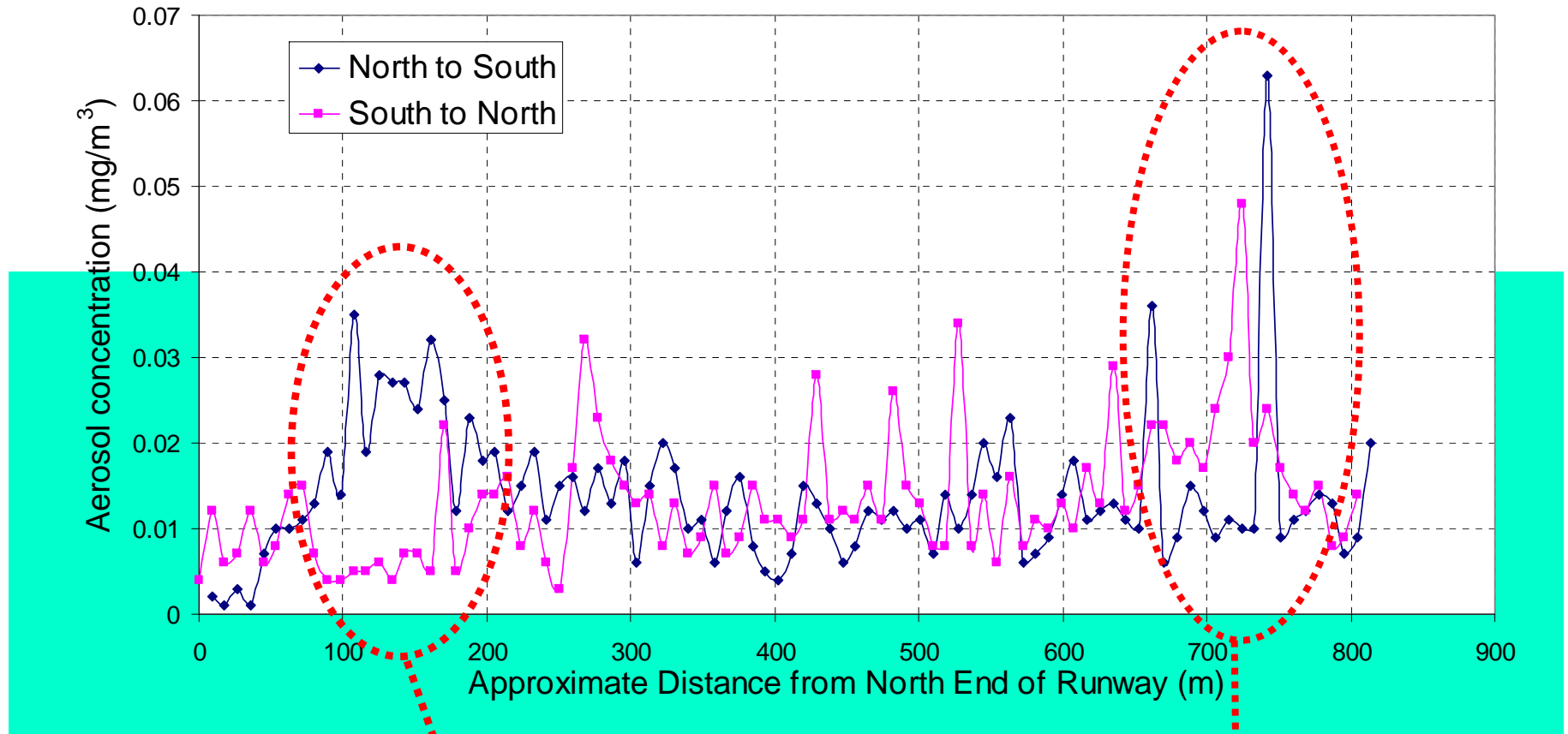


Circle Hot Springs Runway – June 11, 2009

EK 35



Chicken, Alaska



Co-Authors

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- A photograph of a red and white helicopter landing on a gravel field. In the background, there is a dense forest of evergreen trees covering a hillside. A white tanker truck and a dark SUV are parked on the left side of the field. Orange traffic cones are visible on the ground.
- Travis Eckhoff – University of Alaska Fairbanks (now at UN
 - Stephanie Young – University of Alaska Fairbanks
 - Clark Milne – AKDOT&PF
 - Dennis Filler – University of Alaska Fairbanks

A wide, gravel-covered road stretches from the foreground into the distance, flanked by green vegetation and orange traffic cones. In the background, there are forested mountains under a cloudy sky. The word "Questions?" is overlaid in large black text on the left side of the road.

Questions?

Contact Information

Clark Milne

- ▶ clark.milne@alaska.gov
- ▶ (907) 451-5285
- ▶ AK Dept. of Transportation
& Public Facilities
(Northern Region)
2301 Peger Road
Fairbanks, AK 99709-5318

Dr. David Barnes

- ▶ ffdlb@uaf.edu
- ▶ (907) 474-6126
- ▶ Univ. of Alaska – Fairbanks
Dept. Chair, Civil and
Environmental Engineering
263 Duckering Bldg.
P.O. Box 75-5900
Fairbanks, AK 99775

