Appendix E2 – Snow Sampling Methodology

State of Alaska
Department of Natural Resources
Division of Mining, Land & Water **Northern Regional Office**

SNOW SAMPLING REQUIREMENTS
ICE ROAD CONSTRUCTION AND WINTER OFF-ROAD TRAVEL

The DNR may approve conditional off-road travel prior to opening the tundra to winter off-road travel. Conditional approval is dependent upon the data provided by the permittee. The necessary data may include soil temperature and snow depths. This document describes the minimum criteria for snow depth data collection.

MINIMUM ACCEPTABLE STANDARDS FOR INDUSTRY SNOW DATA COLLECTION

For data to be considered for ice road construction and winter off-road travel, certain standards must be met.

General Guidelines

- It is recommended that transects be 100 meters long.
- Locate transects at least 25 meters from infrastructure.
- Record 20 measurements per transect.
- Snow depths should be recorded to the nearest 0.5 centimeter or 0.25 inch.
- Provide photos of the transect.
- Provide GPS coordinates for the transect.

Transect Frequency

The frequency of transects is dependent upon the length of the route. To determine the number of snow transects that should be sampled, please contact the DNR. Below is a guideline for transect frequency.

Route Length	Transect Spacing
≤ 5 miles	0.75 mile
> 5 miles, ≤ 10 miles	1 mile
> 10 miles	1.5 mile

Equipment Needed

- A metric or standard ruler or probe (tape measures are not acceptable for collecting snow depths).
- GPS
- Notebook and pencil (or other means of data recording)
- Camera

Directions for Data Collection

1. Locate and measure out a 100 meter transect at least 25 meters away from infrastructure. Record the transect location information for the start of the transect (i.e. GPS point coordinates).
2. Photo document the transect to capture the general snow conditions in the area.
3. Collect at least 20 depth measurements. If using a metric ruler, record depths to the nearest 0.5 centimeter. If using a standard ruler, depths should be recorded to the nearest 0.25 inch.

Directions for Data Reporting

1. Report all measurements for each transect.
2. Record the date that the data was collected.
3. Clearly label each transect with a descriptive name so that the data can be easily cross-referenced with its location information and photos.