

**Analysis of landsat thematic mapper imagery of the Framboise/Mira region,
Cape Breton Island, Nova Scotia: drumlin and till classification and distribution**

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Both drumlin orientation and till distribution are important components in drift prospecting programs. Landsat Thematic Mapper (TM) imagery (bands 3, 4 and 7) was used to delineate the distribution and form of drumlins in the Framboise/Mira Map sheet, Cape Breton Island, Nova Scotia. A 400 km² drumlin field located west of the Mira River contains spindle, parabolic and transverse asymmetrical forms. These features are best resolved on Band 4 TM imagery (range of 0.76 - 0.9 μ m) in which the contrast has been stretched. The imagery was obtained on September 9, 1994 following a summer of significantly reduced rainfall. The high reflectance of the drumlins with respect to the surrounding land surface may be due to the

relatively low soil moisture content and vegetation stress on these positive relief features.

The same TM imagery also shows promise for delineating different till types. Both a thick silty till and a thinner sandy till occur at the study site. The silty till exhibits higher reflectance values than the sandy till that can be enhanced with contrast stretching. These relationships are most likely a result of differences in the vegetation cover, vegetation stress and the moisture content of the two tills. Classifications produced from the TM imagery correlate well with previously published till distribution maps.