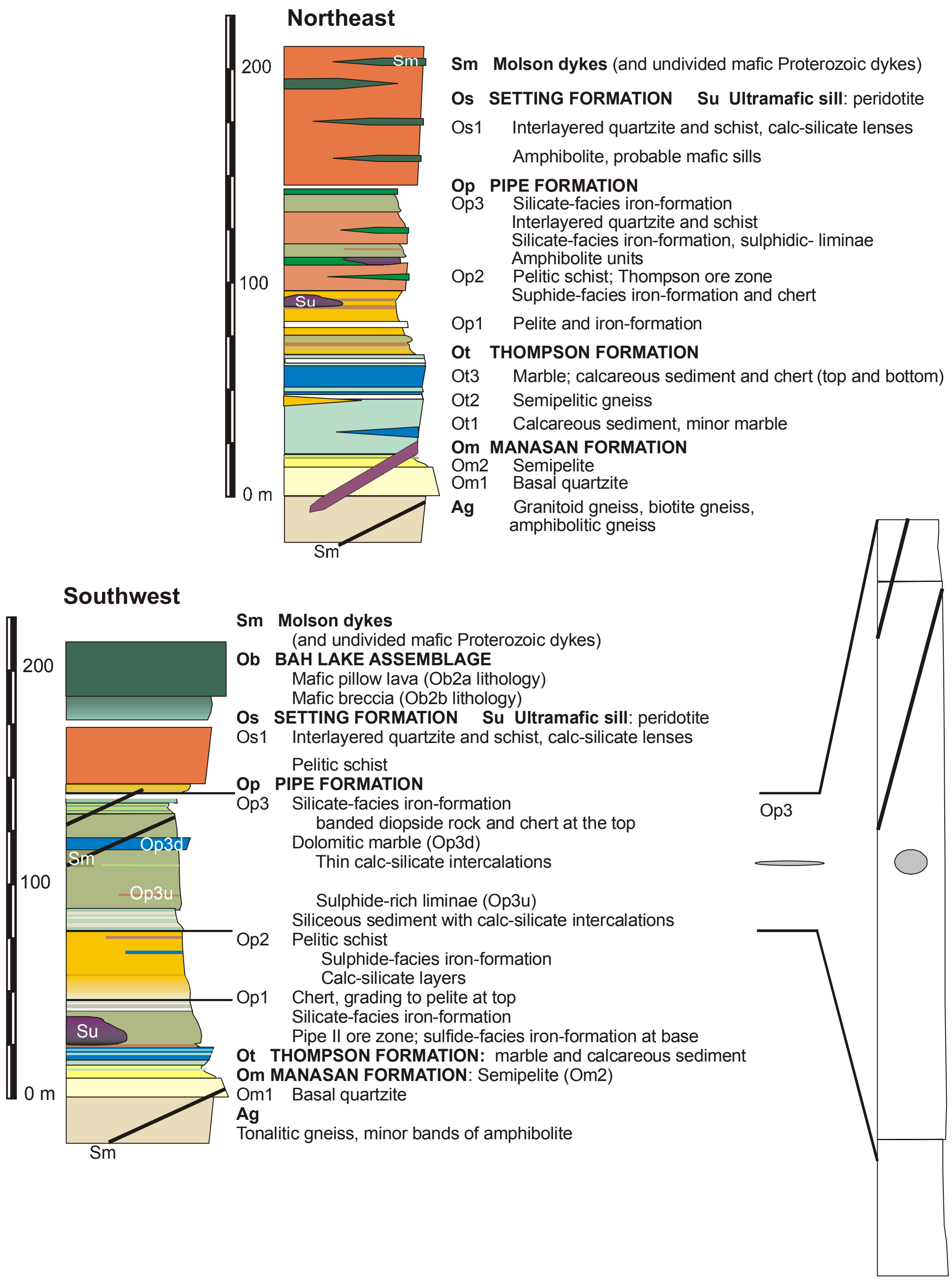

Figure 5.1 Reconstructed Ospwagan Group lithostratigraphy at Thompson pit (northeast) and Pipe II pit (southwest), simplified from Bleeker (1990b). Scale is approximate, from measurements in flattened fold limbs. The column of Op3 on the right is the thickness estimate from sections near the neutral surface of dominant folds (F_3) as used in text and on **Figures 5.2** and **5.3**, assumed closer to depositional thickness, but with probable repetitions. The corresponding increase of 1:5 implies shapes of (ductile) pebble as shown.

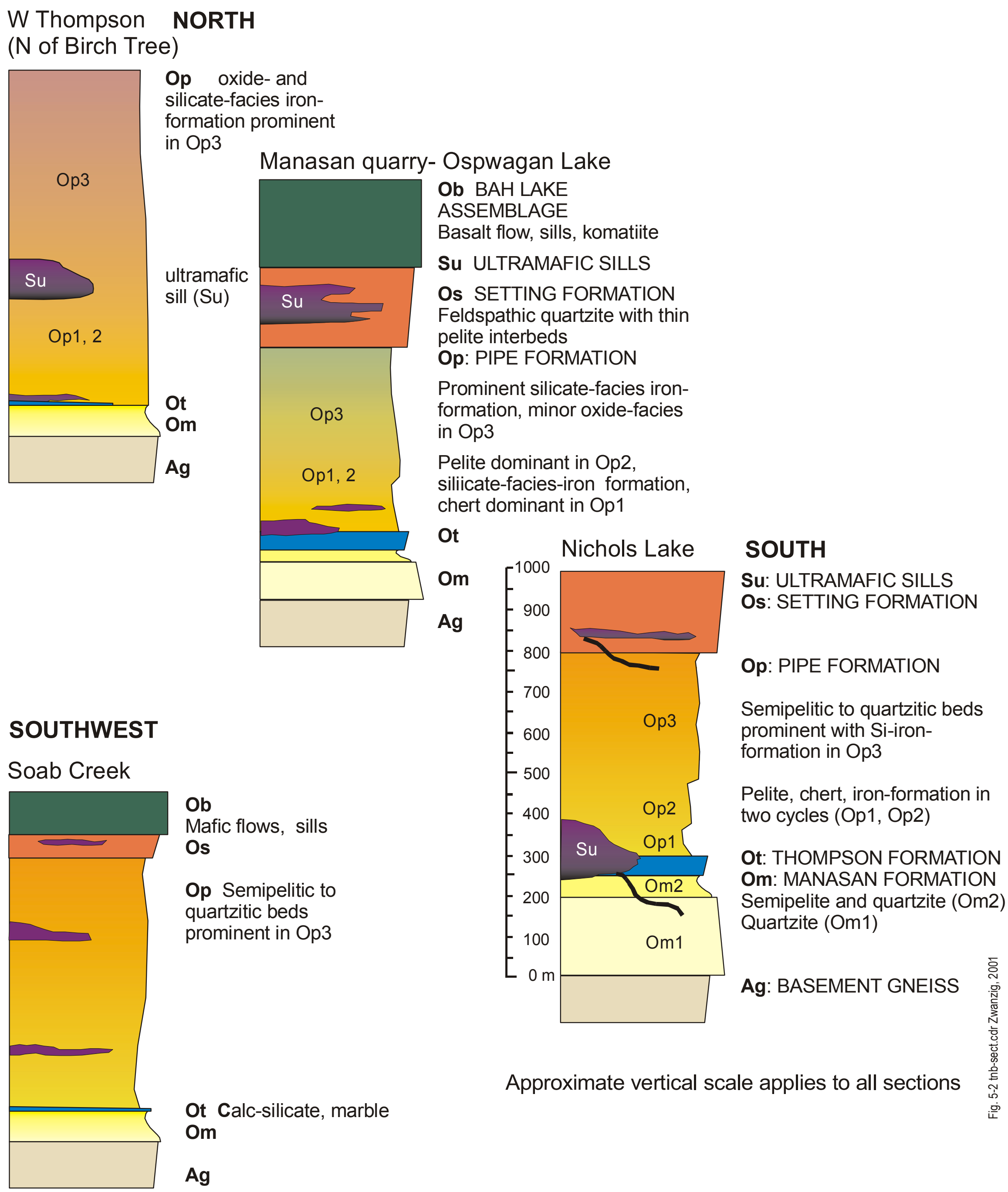

Figure 5.2 Simplified stratigraphic sections of the Ospwagan Group in the central TNB, constructed from TNB Geology Working Group (2001) and after Bleeker (1990b). The sections are diagrammatic; thicknesses depend on the choice of section line. Where possible, this was close to an assumed neutral surface in the dominant folds, thus providing an estimate that did not remove medium-scale repetitions or early flattening strain. Section lines were taken from folds with the most complete sequence; highly appressed structures were avoided. The relative thicknesses of formations were constrained by a visual estimate of their relative volumes compared to adjacent units. The volume of ultramafic intrusions is exaggerated because some are projected into the sections. See text for an interpretation of apparently systematic changes in thickness, and possible facies variations. The basal contact of Om is an unconformity; most other contacts are gradational.

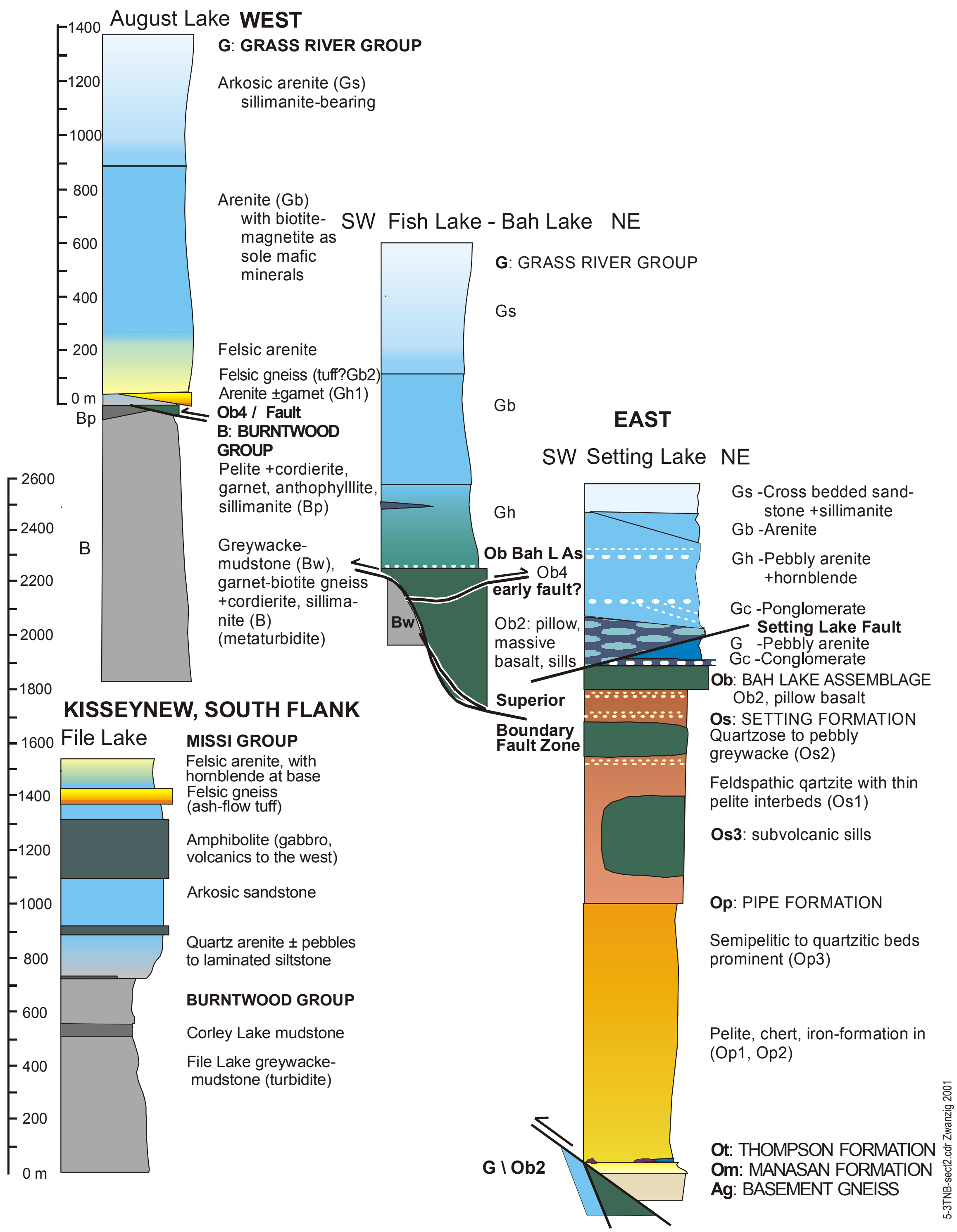

Figure 5.3 Tectonostratigraphic sections of the Setting-August lakes area. A section from File Lake is shown for comparison. The Setting Lake, Fish-Bah lakes sections are composites, assembled over 20 km along strike; the August Lake section is poorly constrained. See **Figure 5.2** regarding formation thickness. Faults involved in the Superior Boundary Zone are shown in relation to upright sections, not necessarily in original orientation.

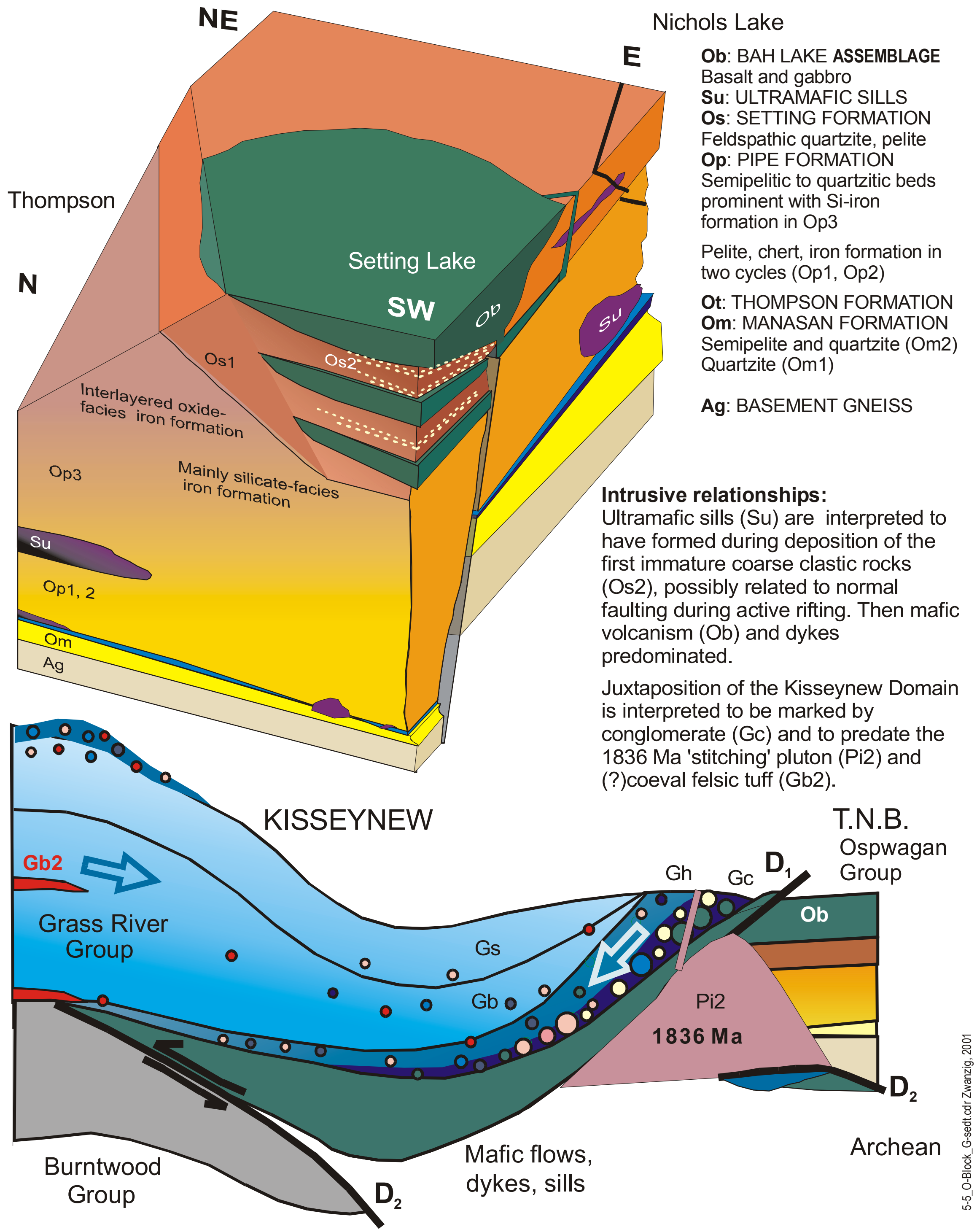

Figure 5.4 Schematic interpretation of tectonostratigraphic and intrusive relationships in the TNB and adjacent part of the Kisseynew Domain. Normal faults are suggested by thickness and facies changes. a) Block diagram showing continuity of basal quartzite (Om) and calcareous sediments (Ot) thinning toward west; the overlying pelite and iron formation (Op) change facies and thicken toward the northwest. b) Cartoon section showing collision with THO, interpreted to have involved the closing of a basin floored by Bah Lake assemblage (Ob) or similar basalt, and the deposition of the Grass River Group.

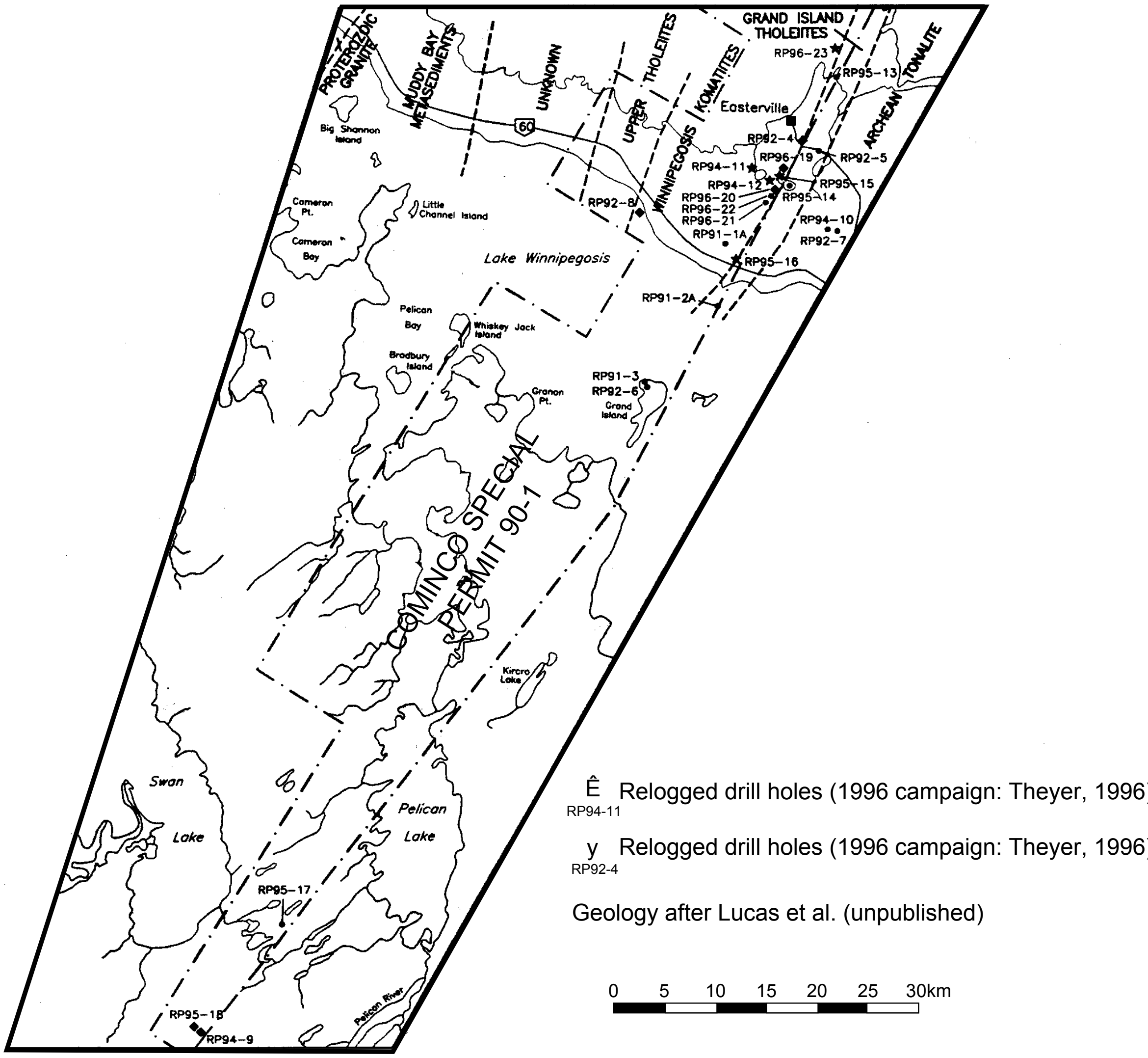

Figure 5.5 Geological interpretation for the Winnipegosis Komatiite Belt deduced from drill core investigations in the Cedar Lake – Lake Winnipegosis region.

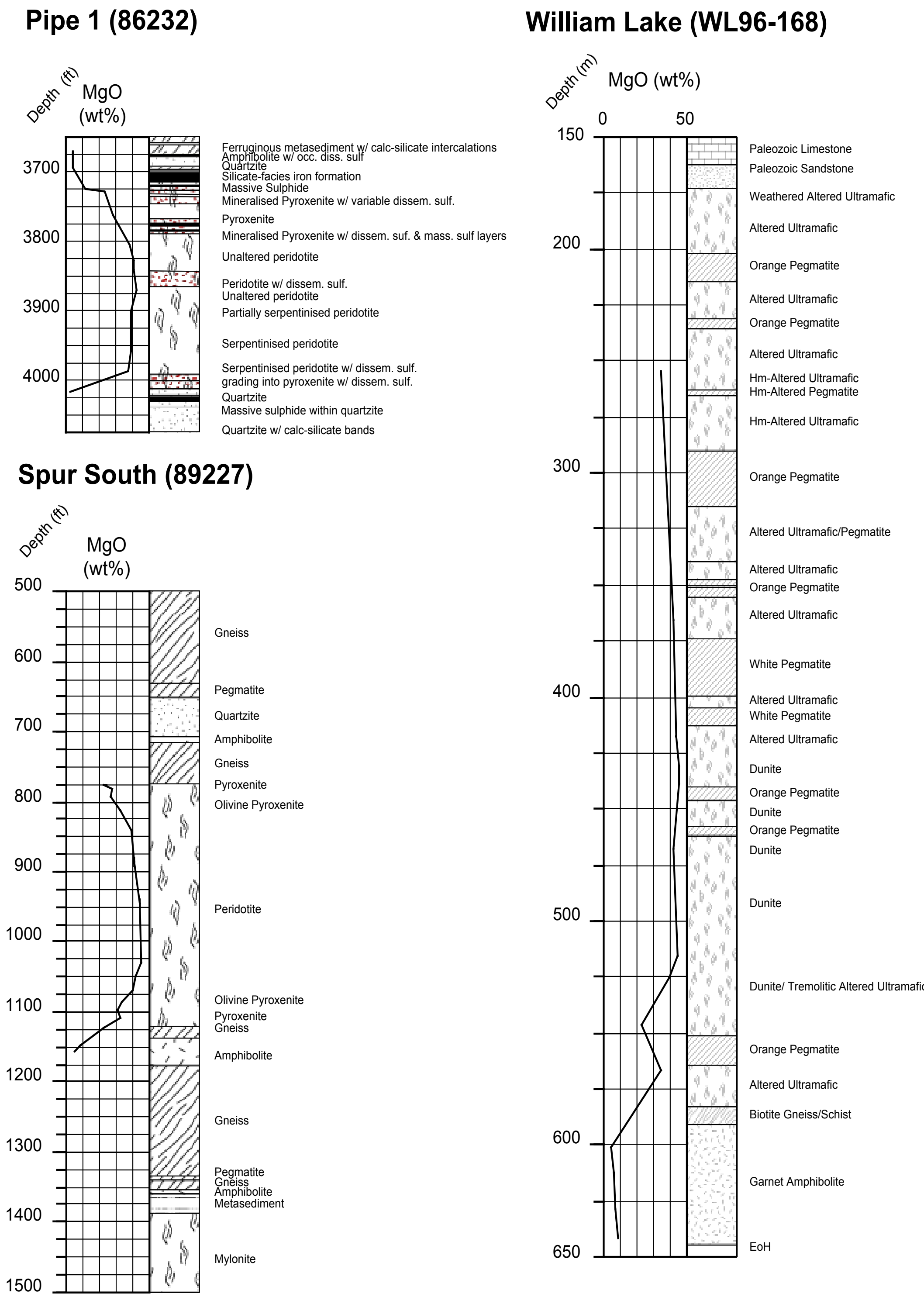

Figure 5.6 Graphical logs summarizing the geology of typical ultramafic bodies from the northern and central region of the TNB. MgO data volatile corrected. Whereas drill holes 86232 passed through the entire ultramafic body, the ultramafic body intersected by drill hole WL96-168 lay directly below the Paleozoic cover (hence only the lower parts of the body were present) and drill hole 89227 may have only intersected the top of the body owing folding of the ultramafic body.

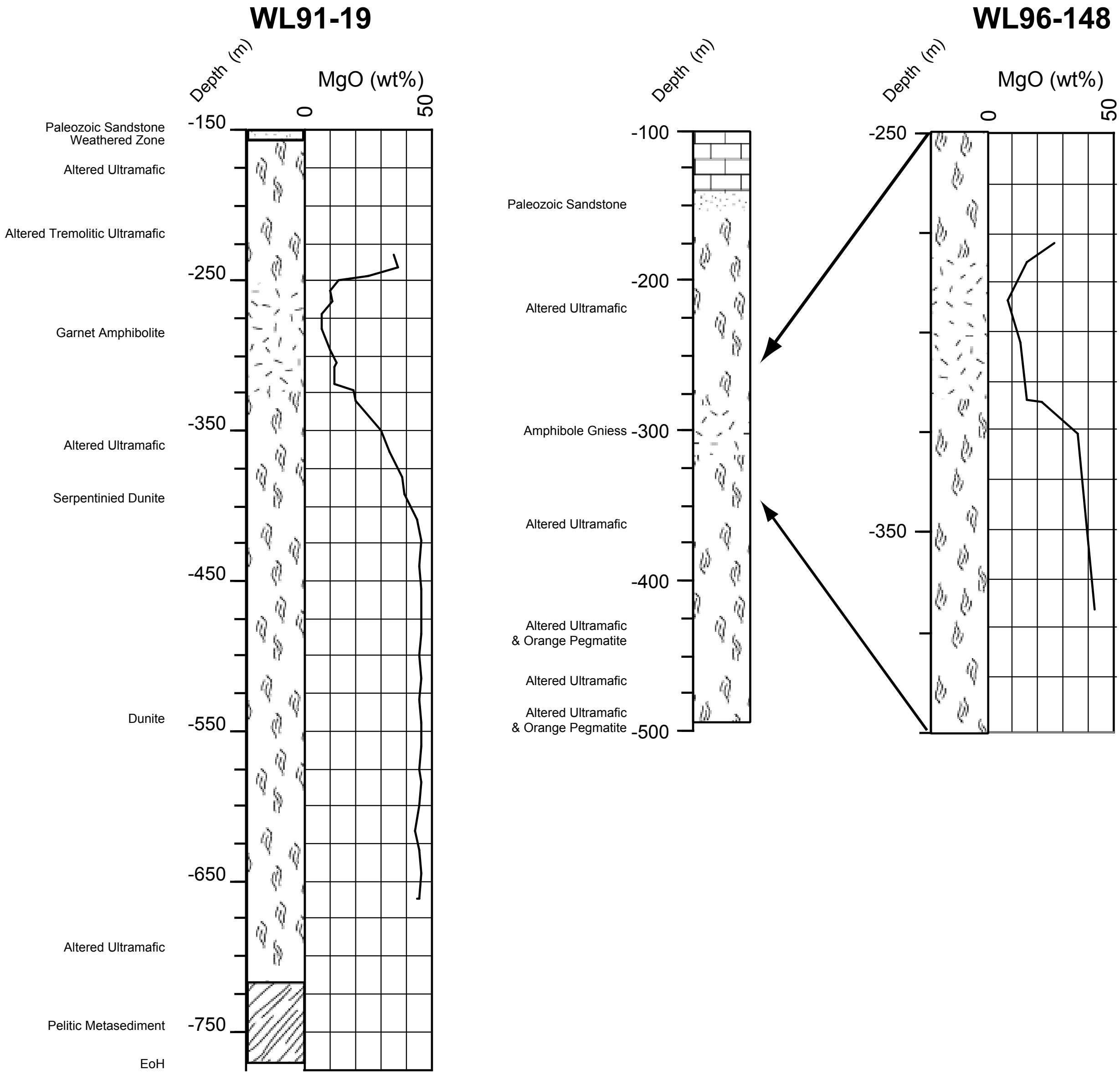

Figure 5.7 Graphical logs summarizing the geology of ultramafic bodies containing amphibolite layers from the central region of the TNB. MgO data volatile corrected. Data from recent sampling and geochemical database compiled by L. Hulbert (WL91-19).

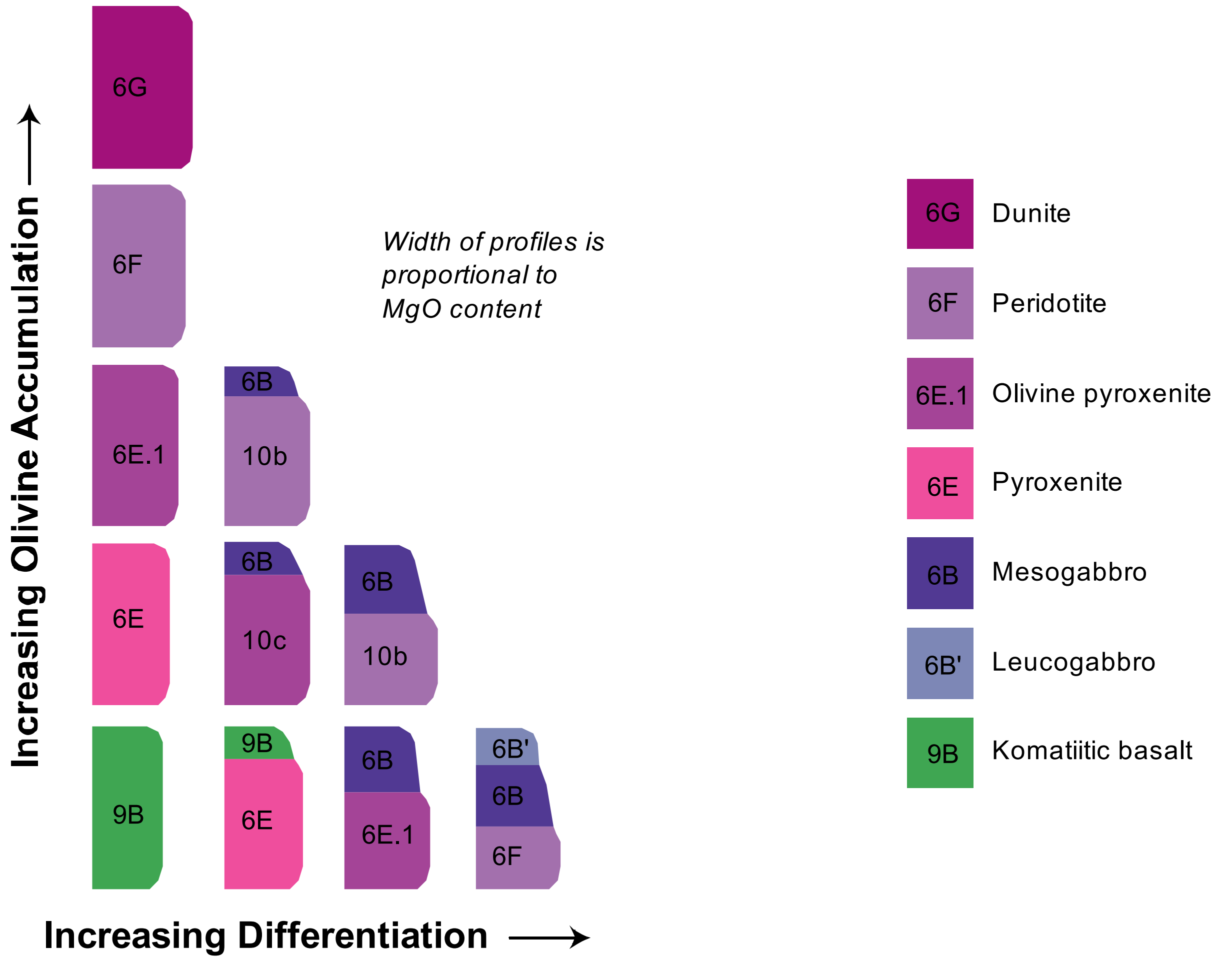

Figure 5.8 Variation in petrology of ultramafic and/or amphibolite sills as a function of differentiation and crystal settling. Width of profiles is proportional to MgO content. Adapted from Lesher et al. (1984).

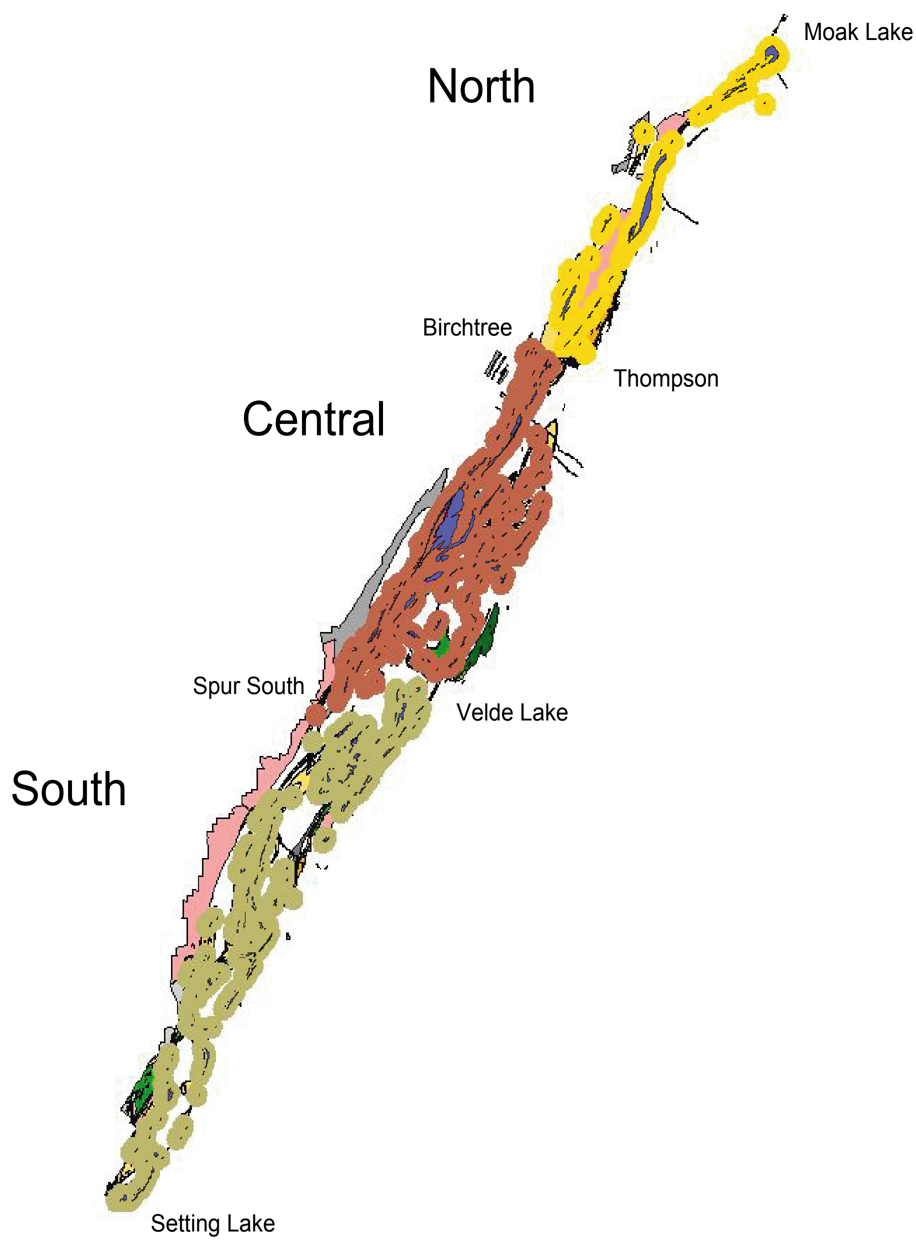

Figure 5.9 Areas used to group the ultramafic bodies of the Northern TNB during spatial analysis. Buffer zones around ultramafic bodies extended to 1km for clarity.

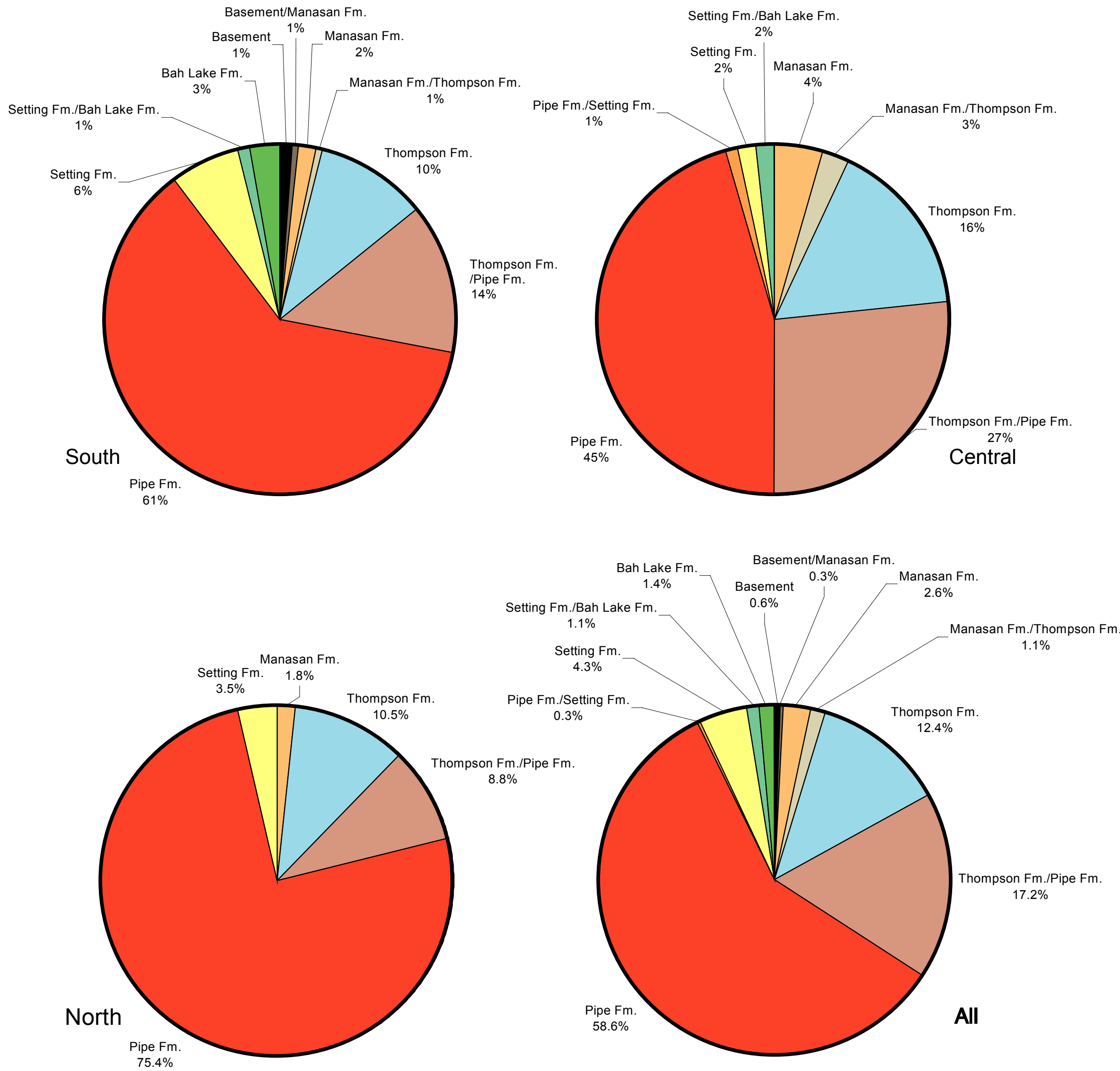

Figure 5.10 Pie charts of the distribution of host lithologies of the TNB ultramafic bodies, calculated using the weighted mean value of the formations with which they are in contact (see text for method of calculation).

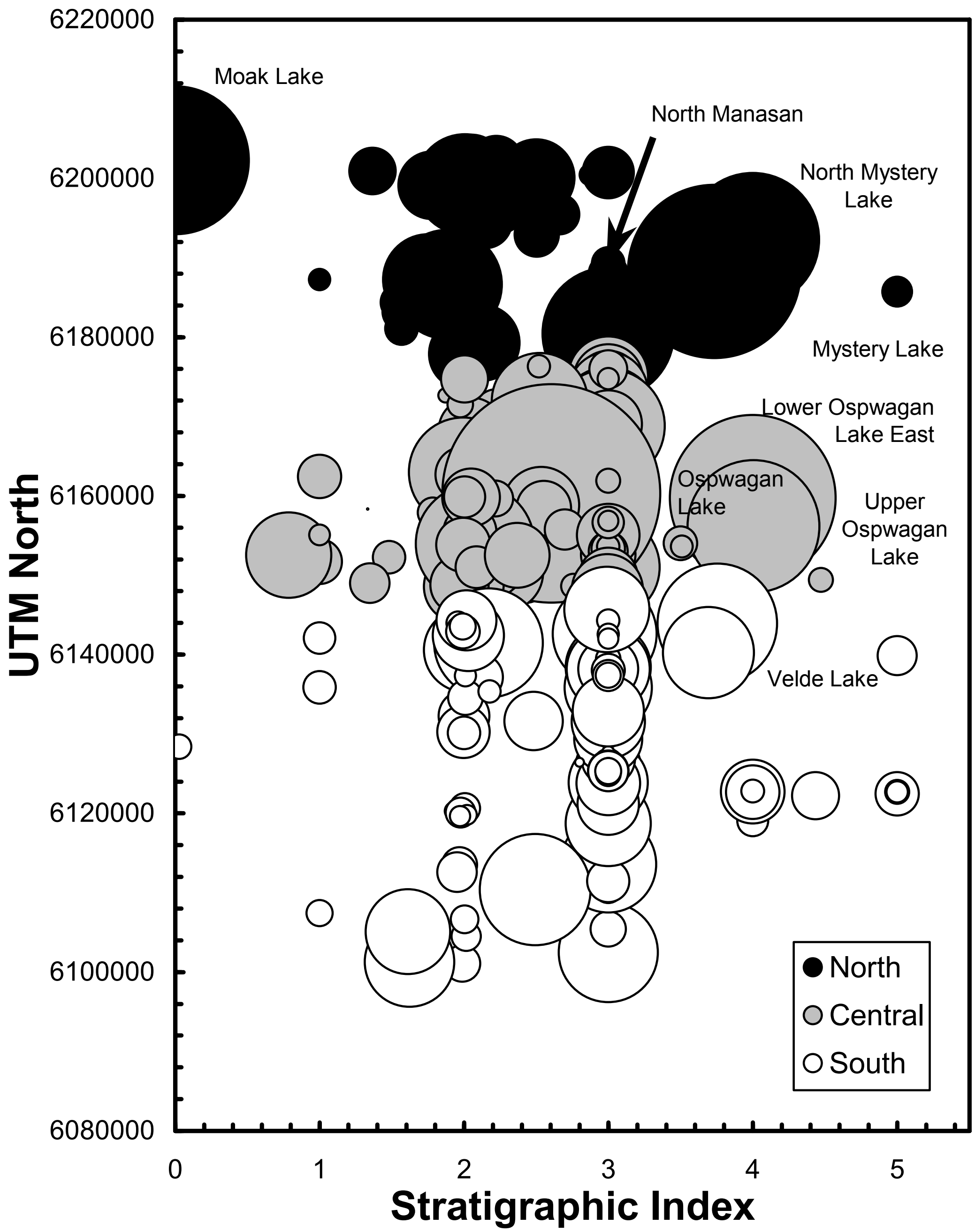

Figure 5.11 Plot of stratigraphic index for TNB ultramafic bodies as a function of location (UTM). Symbol size indicates surface outcrop area.

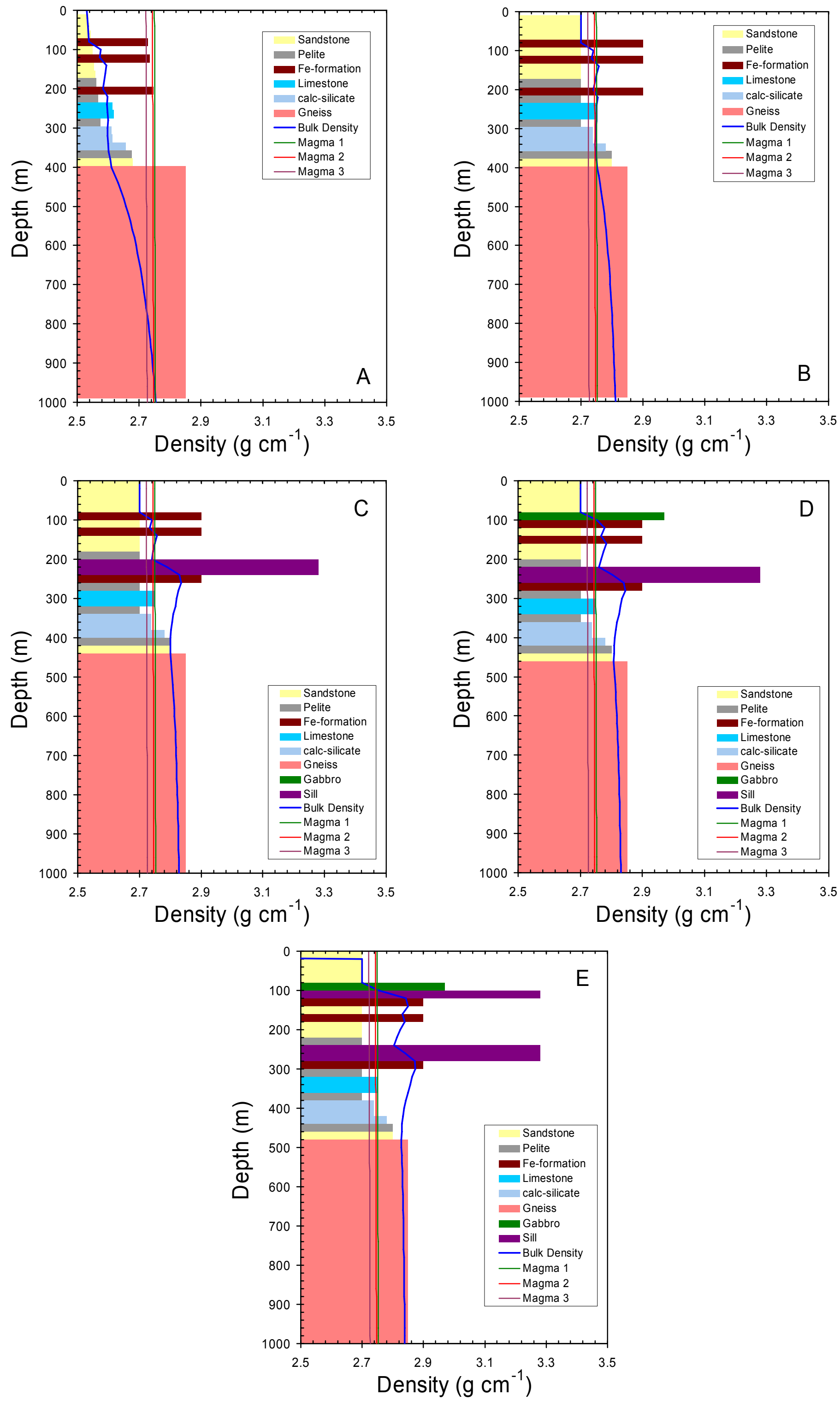

Figure 5.12 Models for the control of sediment density on the depth of sill emplacement. In order for magma to rise within the basement or sedimentary rocks its density (red, green or purple line) must exceed the average density of the overlying crust (blue line). Whereas the sediment contains water or is primarily composed of pelitic or quartzose material, its density is less than that of the magmas. However, beneath thick lithified carbonate units or iron formations, the density of the overlying sediments may exceed that of the magmas, enabling them to ascend. For calculations see text.