Supplementary Appendix 1: Location of the electron microprobe analyses of scapolite in Supplementary Table 3 (Samples 9927(2), 9928a, 9928b, and 9958a).
Scapolite occurs in three modes of occurrence in the samples analyzed by electron microprobe:

1: Scapolite from a pervasively replaced K-feldspar crystal
2: Feathery scapolite from along fractures or intergranular boundaries close to pervasively replaced K-feldspar
3: Scapolite from vein

Scapolite that formed form the pervasive replacement of K-feldspar crystals typically appears to pseudomorph the original crystal. In some locations, there are still relics of K-feldspar crystals (i.e. Figure 6). Chemical variations in this scapolite occur when there is nearby analcime crystallizing, causing a depletion in Na immediately around the analcime crystal. This causes scapolite to be enriched in Ca (Figure 11).

Feathery scapolite has a habit that is more fibrous. Under optical microscopy and SEM, the feathery scapolite appears altered probably because there is empty space between fibers (Figures 1.4, 1.9). This type of scapolite appears to be later since it is usually filling intergranular boundaries.

Vein scapolite appears to be massive and very fine-grained. This type of scapolite contains less Cl, SiO₂, and more K₂O in sample 9958a. There is also veinlets within the scapolite vein (Figure 1.19) which appears to contain less Na₂O, Cl, and more CaO, when compared to the rest of the vein (see attached diagram).
Figure 1.1: Sample 9927(2) (gabbro) site 1 (SEM). Scapolite from vein.

Figure 1.2: Sample 9927(2) (gabbro) site 2 (SEM). Scapolite from vein.
Figure 1.3: Sample 9927(2) (gabbro) site 3 (SEM). Scapolite from vein.

Figure 1.4: Sample 9928a (syenite) site 4 (SEM). Feathery scapolite along fractures or intergranular boundaries close to pervasively replaced K-feldspar.
Figure 1.5: Sample 9928a (syenite) site 5 (SEM). Scapolite from a pervasively replaced K-feldspar crystal.

Figure 1.6: Sample 9928a (syenite) site 6 (SEM). Feathery scapolite from a pervasively replaced K-feldspar crystal.
Figure 1.7: Sample 9928a (syenite) site 7 (SEM). Scapolite from a pervasively replaced K-feldspar crystal.

Figure 1.8: Sample 9928a (syenite) site 8 (SEM). Scapolite from a pervasively replaced K-feldspar crystal.
Figure 1.9: Sample 9928a (syenite) site 9 (SEM). Scapolite (4-8) pseudomorphing a crystal with probably amphibole crystal outline. Feathery scapolite (1-3) from a pervasively replaced crystal with probably again amphibole crystal outline.

Figure 1.10: Sample 9928b (syenite) site 10 (SEM). Scapolite from a pervasively replaced K-feldspar crystal.
Figure 1.11: Sample 9928b (syenite) site 11 (SEM). Scapolite from a pervasively replaced K-feldspar crystal.

Figure 1.12: Sample 9928b (syenite) site 12 (SEM). Scapolite from a pervasively replaced K-feldspar crystal.
Figure 1.13: Sample 9928b (syenite) site 13 (SEM). Scapolite from a pervasively replaced K-feldspar crystal.

Figure 1.14: Sample 9958a (diorite) site 14 (SEM). Scapolite from vein.
Figure 1.15: Sample 9958a (diorite) site 15 (SEM). Scapolite from vein.

Figure 1.16: Sample 9958a (diorite) site 16 (SEM). Scapolite from vein.
Figure 1.17: Sample 9958a (diorite) site 17 (SEM). Scapolite from vein.

Figure 1.18: Sample 9958a (diorite) (SEM).
Figure 1.19: Sample 9958a (diorite) (SEM) site 18 (Raster). Complex system of scapolite vein and veinlets.

Figure 1.20: Sample 9958a (diorite) site 19 (SEM). Scapolite from a vein.