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## THERMOCHRONOLOGY OF A SUBDUCTION COMPLEX IN WESTERN BAJA CALIFORNIA

by

Suzanne Louise Baldwin

## A Dissertation

Submitted to the State University of New York at Albany
in Partial Fulfillment of
the Requirements for the Degree of
Doctor of Philosophy

College of Sciences and Mathematics

Department of Geological Sciences

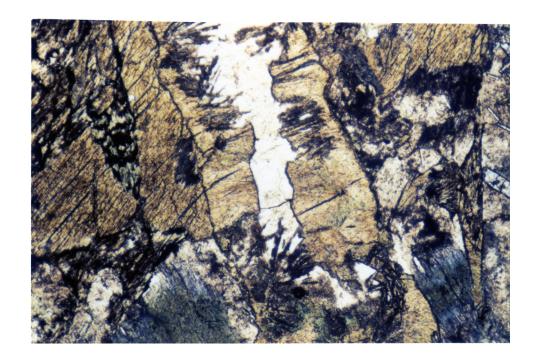
1988

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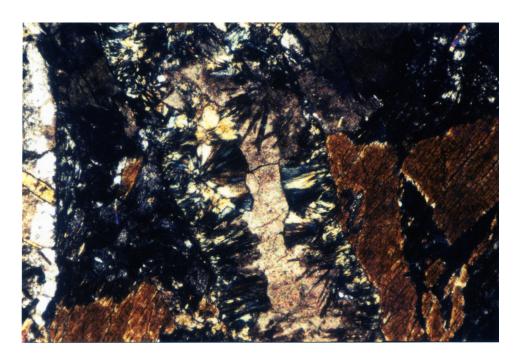


Figure 2.2: Photomicrographs of sample 2871 showing Ca-amphibole rimmed by Na-amphibole, pumpellyite and calcite/aragonite(?) vein a) plane polarized light 2.5x b) cross-polarized light. Width of photo is 4.4 mm.

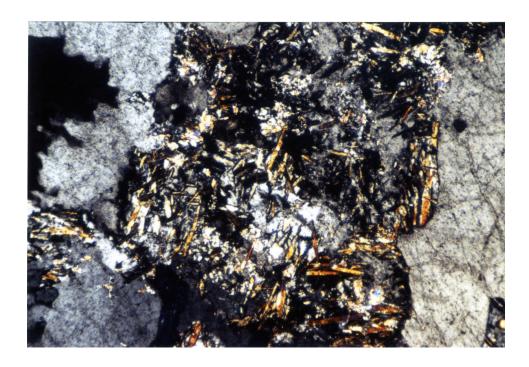
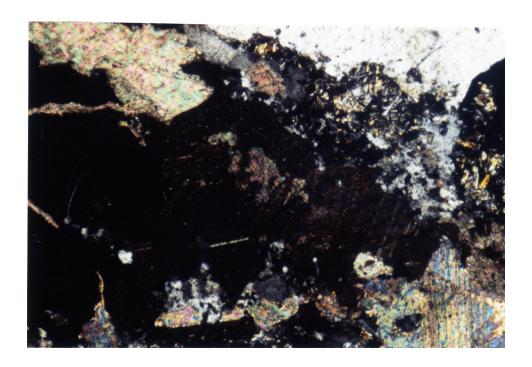


Figure 2.9: Photomicrograph of metasandstone from subterrane 3 (E) showing lawsonite replacing detrital plagioclase; crossed polars; width of photo is 2.2 mm.



Figure 2.11: Backscattered electron image of Benson Mines orthoclase following treatment with 2M alkali solution at 700°C, 2 kbar for 118 hours. Scale bar indicates 10  $\mu m$ .



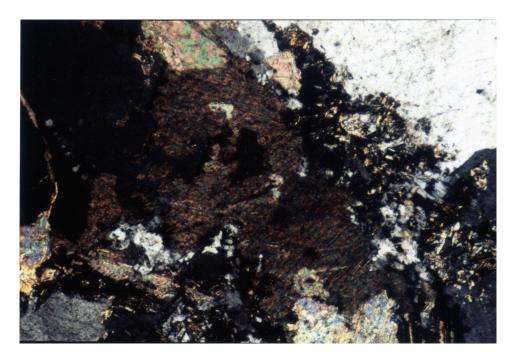


Figure 2.12: a) Photomicrograph of plutonic clast CGLB from a conglomerate of subterrane 2, showing calcite replacing aragonite. Crossed polars, width of photo is 4.4 mm; b) same as in a) except stage rotated 30°.

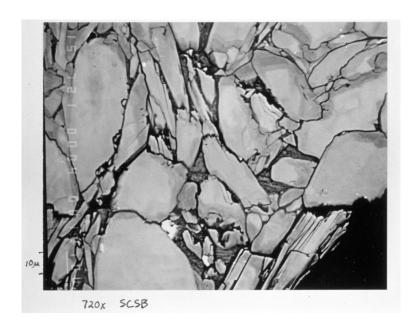
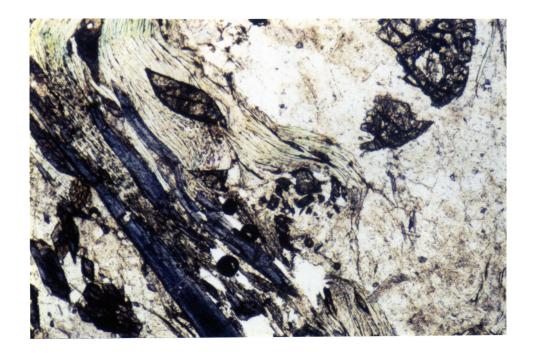


Figure 3.3: Backscattered electron image of a blue amphibole "grain" from the separate used to obtain  $^{40}\text{Ar}/^{39}\text{Ar}$  results. Note small (< 10 µm) intergrowths of white mica and zoning in Na-amphibole.



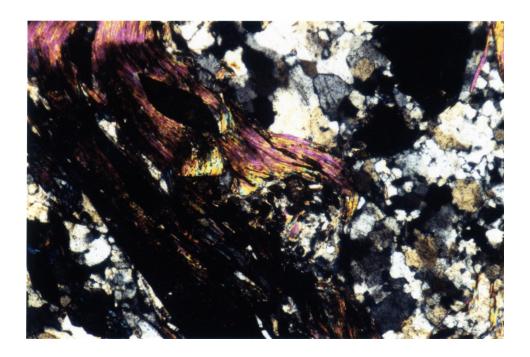
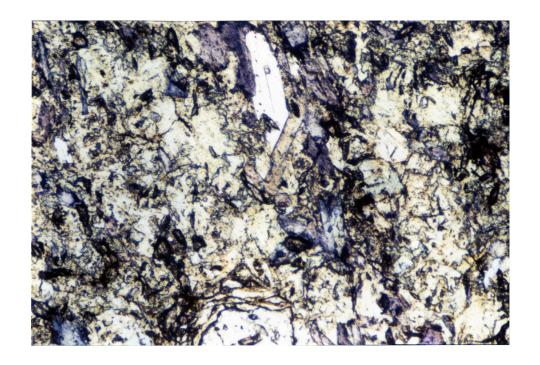


Figure 3.38: Photomicrographs of blueschist RRG showing the assemblage Na-amphibole + white mica + albite + sphene + quartz.
a) plane polarized light; b) cross-polars width of picture is 4.4 mm.



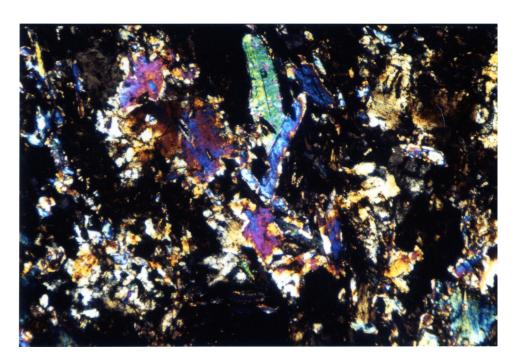


Figure 3.39: Photomicrographs of eclogite 585166. Assemblage includes omphacite + garnet + Na-amphibole + white mica + rutile. a) plane polarized light; b) x-polars. Width of picture is 4.4 mm.

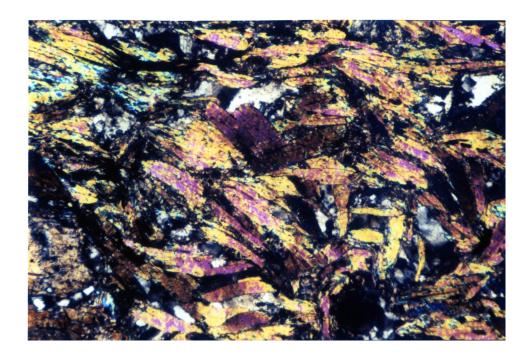


Figure 3.40: Photomicrograph of sample 687183 showing multiple generations of white mica. Cross polars; width of picture is 4.4 mm.

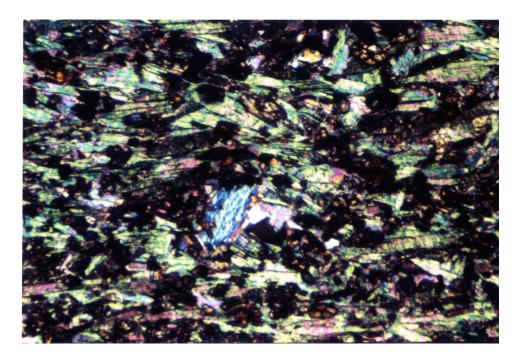
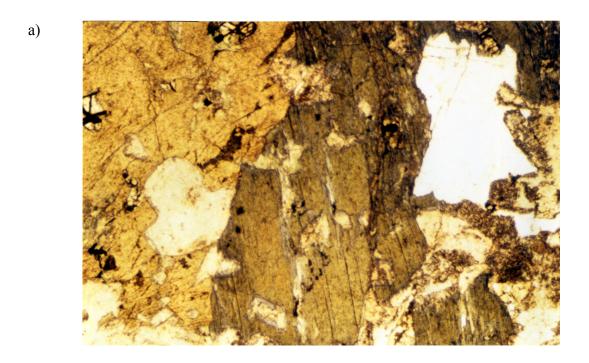


Figure 3.41: Photomicrograph of blueschist block 585178 showing multiple generations of white mica, in addition to rutile and garnet. Cross polars; width of picture is 4.4 mm.



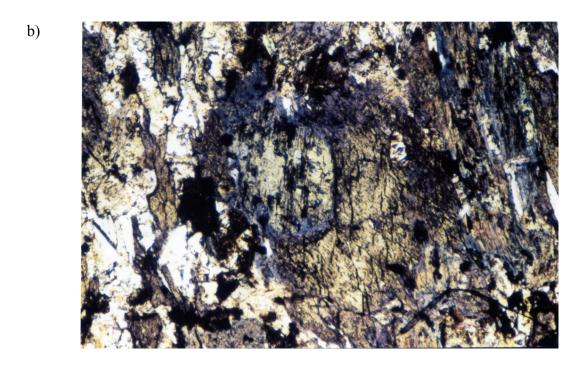


Figure 3.42: Photomicrograph of a) sample 687191, and b) sample 687186 showing Ca-amphibole rimmed by Na-amphibole; plane polarized light; width of picture is 2.2 mm.

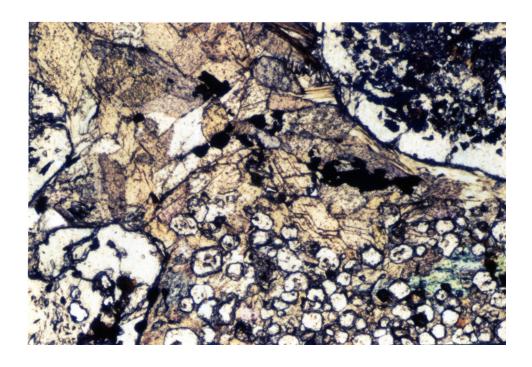


Figure 3.43: Garnet-amphibolite block (118576) showing hornblende + garnet + rutile + Fe-oxide + chlorite + biotite. Plane polarized light; width of photo is 7.6 mm.

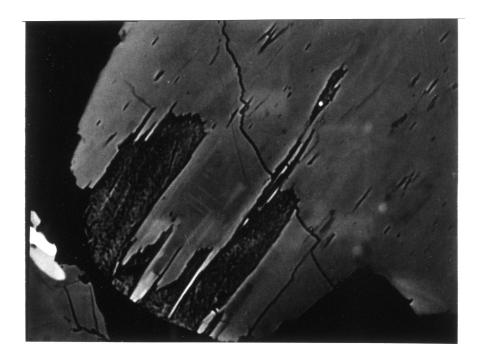


Figure 5.7: Backscattered electron image of RF hornblende showing chlorite intergrowths. Scale bar indicates 10  $\mu m_{\odot}$ 

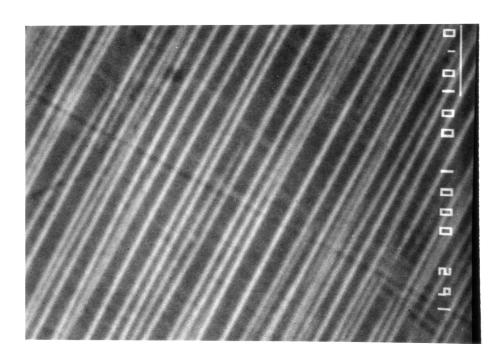


Figure 5.8: Backscattered electron image of 118576 hornblende showing exsolution lamellae. Scale bar indicates 10  $\mu m_{\odot}$