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Please specify one or more than one category is appropriate. Indicate your order of preference. Be specific.

Indiquez par ordre de priorité la (ou les) spécialités.

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Type within the blue lines
 Dactylographier à l'intérieur du cadre

Structural control of serpentinite textures in the Cassiar Mining Corporation's open-pit mine at Cassiar, British Columbia.

O'HANLEY, David S. and WICKS, F.J., Department of Mineralogy, Royal Ontario Museum, Toronto, Ontario M5S 2C6

Serpentine textures in the Cassiar Mining Corporation's open-pit mine are controlled by faults that appear to have been fluid conduits. Thus, the evolution of the textures of this serpentinite can be determined by sampling between and across fault zones. Furthermore, as the chrysotile asbestos veins fill tension fractures induced in the serpentinite by motion on the faults, cross-fiber chrysotile veins are relative time markers by which the development of the various textures can be related to episodes of motion on the faults.

The earliest textures observed in the serpentinite are pseudomorphic: an hourglass texture is found in the footwall of the deposit whereas a mesh texture with hourglass mesh centers is found in the hanging wall. The ore zone is centered about a fault in the center of the serpentinite. No pseudomorphic textures have been found in the ore zone. All samples exhibit evidence of recrystallization: a pseudomorphic pattern in plane light but not in cross-polarized light. Moving in from the contacts with the argillites, one observes pseudomorphic textures being replaced by a recrystallized texture and this recrystallized texture is in turn replaced by α serpentinite serrate veins and then by chrysotile serrate veins. Antigorite may or may not develop with recrystallization but its occurrence is restricted to the ore zone.

Interpretation of fault motion and textural development in the serpentinite indicates that pseudomorphic textures formed very early in the history of the serpentinite. As the first fiber-forming event is associated with the emplacement of the allochthon, and asbestos veins cross-cut recrystallized serpentinites, recrystallization began before or early in the emplacement of the allochthon. The development of the antigorite in the ore zone is related to the emplacement of the Cassiar Batholith and appears to predate the second episode of fiber formation.

Thus, the development of serpentinite textures is intimately related to the structural history of the serpentinite. Chrysotile asbestos veins provide a valuable time marker by which serpentinite textures can be deciphered because the veins -- and through the veins the textures -- can be related to fault motion.

How about Permian re-accrual? Hursting? Recrystallization in mid-Jur. Cassiar pluton starts early H.

Speaker DAVID O'HANLEY
 Conférencier

Student
 Etudiant

Oral
 Présentation orale

Poster
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Either
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Address and telephone number where speaker can be contacted
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