

COMINCO LTD.
PINCHI LAKE OPERATIONS
GEOLOGY OF PINCHI MINE

Regional Geology - illustrate with Map 907A - Fort St. James

The main feature of the area is the Pinchi Fault. - It is a large crustal break traced from the tertiary lava cover east of Williams Lake to the Stikine River and possibly to the Yukon. Its' dip appears to be steep, and movement on it has extended over a long period.

South of the Pinchi Fault are Cache Creek rocks of Permian age; north of it are Takla rocks of Upper Triassic Age.

The Cache Creek rocks consist of limestone, ribbon cherts, hornblende schists, quartz sericite schists, and interbedded andesite lava.

The Takla series include andesites, tuffs and agglomerates, with interbedded shales and conglomerates.

Intrusives are:

- Ultrabasics which lie close to the Pinchi Fault and appear to be controlled by it.
- Granites, etc... of Permian and later age. The Endako molybdenite mine is in rocks of this age.
- Omineca intrusions - granodiorites, quartz diorites and diorites. Porphyry copper deposits occur in them further northwest.

Structure

In the vicinity of the Pinchi Fault the Cache Creek rocks are intensely folded and faulted, and exhibit intense metamorphism. They consist of quartz sericite schists, greenstone schists, quartz graphite schists, glaucophane schists and limestones which are often dolomitized.

Production at the Pinchi Mine is obtained from two ore bodies - the Main Zone and West Zone ore bodies, both of which lie in Cache Creek rocks about 1000' south of the Pinchi Fault.

Structure (cont)

The Main Zone ore body occurs in grey stylolitic limestone which is often dolomitized with a resultant decrease in grain size. Most of the dolomite carries considerable limonite and is termed a ferrodolomite. The limestone has quartz sericite schist on hanging wall and footwall and dips at 65° to the northeast. Thickness is up to 130'. Certain areas have been moderately to heavily silicified, and almost all the host rock exhibits some silica.

Mineralization consists of cinnabar in erratic stringers and blebs filling fractures and cavities in the limest one and ferrodolomite. Its occurrence varies from crystalline to earthy and occherous; it also occurs as finely disseminated crystals in the ferrodolomite. Faulting and fracturing has been very intense to give what is essentially a large breccia zone, and the greater part of the cinnabar deposition has been along these fractures. A variation is cinnabar filling the stylolites in light grey limestone.

The West Zone ore body lies about 750' northwest of the Main Zone ore body, with several intervening faults which prevent tracing marker horizons from one ore body to the other. Here siliceous rocks which were probably originally cherts and silicified ferrodolomite have been fractured and mineralized by cinnabar deposited on the fractures. On the fringes of the ore body silica stringers in sericite schist have been mineralized.

Stibnite occurs occasionally throughout both ore bodies, but is not recovered. Its occurrence is very erratic. Realgar has been found very sparingly.

Ultrabasic intrusives outcrop on Pinchi Mountain, about two miles to the northwest of the mine and about one half mile southeast of the mine.

The origin of the cinnabar mineralization - attributed to the Pinchi Fault. It may be related to the ultrabasic intrusives.

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