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BurWest

BURLINGTON NORTHERN INC. —
WYOMING MINERAL CORP.
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August 20, 1976

Dear Ray:

Fred and I had a very delightful and informative time during your guided tour of the Zonolite Mine. Thank you very much for taking the time to show us the geology and allow us to collect specimens.

I was particularly interested in vermiculite, having worked for Johns-Manville exploring for asbestos and knowing more than most geologists about industrial minerals. When I returned to the motel and washed some of the specimens I collected, I could see very clearly what you meant by the low temperature alteration solutions that produced vermiculite.

The thing that clearly indicated the low temperature of formation was the way the very large crystals of pyroxene (enstatite?) were partially altered to tremolite-talc rock or pseudomorphs after enstatite. The enstatite crystals behaved in a way that was highly similar to way enstatite crystals altered when they are in peridotite that alters to serpentine. The alteration is a little different because of the different chemistry of the alteration fluids that are probably residual from different magmas. In any case, I always enjoy seeing the ultra rocks whether basic or alkaline, because of the large crystals that are often associated with them, because of their economic potential, and because of their vast variation in composition.

The bulk of the specimens I collected will go to Billings where BurWest's junior geologists can take their choice. One specimen, showing the large cleavage surfaces of enstatite (less than 90 degrees?) will probably go to my partner Joe Mancuso's collection of large crystals that he keeps in his office to show freshmen, sophomore, junior, and senior geology students how crystals can be megascopically identified. It is not often that pyroxene crystals this large are available.

Again, thank you very much for the fine tour,

Sincerely,

Ronald L. Seavoy

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