

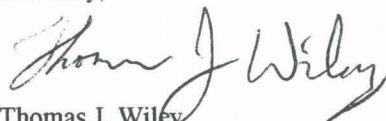
January 15, 1997

Dear John and Ken:

Here is my best estimate of the precious metals content in the sample you left with me. It contains between 1.02 and 1.06 troy ounces of gold and 0.11 to 0.12 troy oz silver (Assuming fineness of 900 with only silver as an impurity). Remember, because there are more than two minerals in this sample this is only an approximation. I have attached copies of the method and the calculations. The calculations are very involved due to the necessity of estimating volumes for each phase and then revising those volumes to match the actual volume, weight, and density of the total sample. The time it takes to do each analysis is tied to how long you spend estimating the volumes of the different phases. I took a fair amount of time and came out within about 7%. The analyses can be greatly speeded up if you can live with quick and dirty eyeball estimates of the volume percents of non-gold phases; then you just use steps 1, 2, 7-9, and 16-20. However, this will increase the potential for error in the gold amounts well into double digit ranges. The attached procedure "Estimating Weight of Gold in Hand Samples" is something I wrote up from scratch, so you should have someone else check it over before relying on it exclusively for estimating gold in your samples.

I had to assign a density to the wall rock (2.89 g/cc) based on textbook values. It would be more accurate to have a few samples (with and without pyrite) to actually measure.

Sincerely,



Thomas J. Wiley
Regional Geologist

