

PGN_Petrology interim report
Mike,

From a look at the polished mounts most of the sulfide is pyrite as you said, and this tends to be concentrated in sericite-rich bands that have been affected by deformation. The veins appear to be pre- to syn-deformational: some are cut by foliation, some parts parallel the foliation, they don't look particularly deformed. These veins have small amounts of pyrite as well as a range of rarer sulfides including chalcopyrite, galena and what appear to be several sulfosalt minerals (containing As and/or Sb). One of these is very probably pyrargyrite (Ag_3SbS_3 - characteristic red translucence), another probably tetrahedrite ($(\text{AgCuFeZn})_{10}(\text{AsSb})_4\text{S}_{13}$), but its hard to tell when they are so fine-grained without a probe. In my experience gold, and particularly silver, is often associated with these sulfosalts, but I have not observed gold yet. A labeled jpeg pic is attached, showing a few features.

The alteration looks like sericite with hematite staining of feldspar (causing the red colouration). More detail awaits thin section preparation, which will be some time because Robert has a lot of sections to make at the moment.

Cheers, Andy