

5.4.3 Warden Gulch

At the headwaters of Warden Gulch is the Allen Emory Mine. This mine is on the steep slopes at the end of the cirque. There does not appear to be a draining adit. However, there is considerable waste rock that is eroding. Dealing with this waste rock at the existing slope angle will be very difficult. North of the main drainage origination, and lower in the basin, west of the main flow there are several waste rock piles. All appear to be dry and all are, to some extent, eroding. One the south side of headwaters area there is another mine, high on the steep slope with considerable waste rock. This mine is in an area of unconsolidated rock on the surface and expected high mineralization. Doing anything to this waste rock would be very difficult and would most likely gain little. Figure 83 shows the Allen Emory Mine. Figure 84 shows a typical example of the waste rock piles on the northwest side of the drainage. Figure 85 shows the mine on the high south slope.

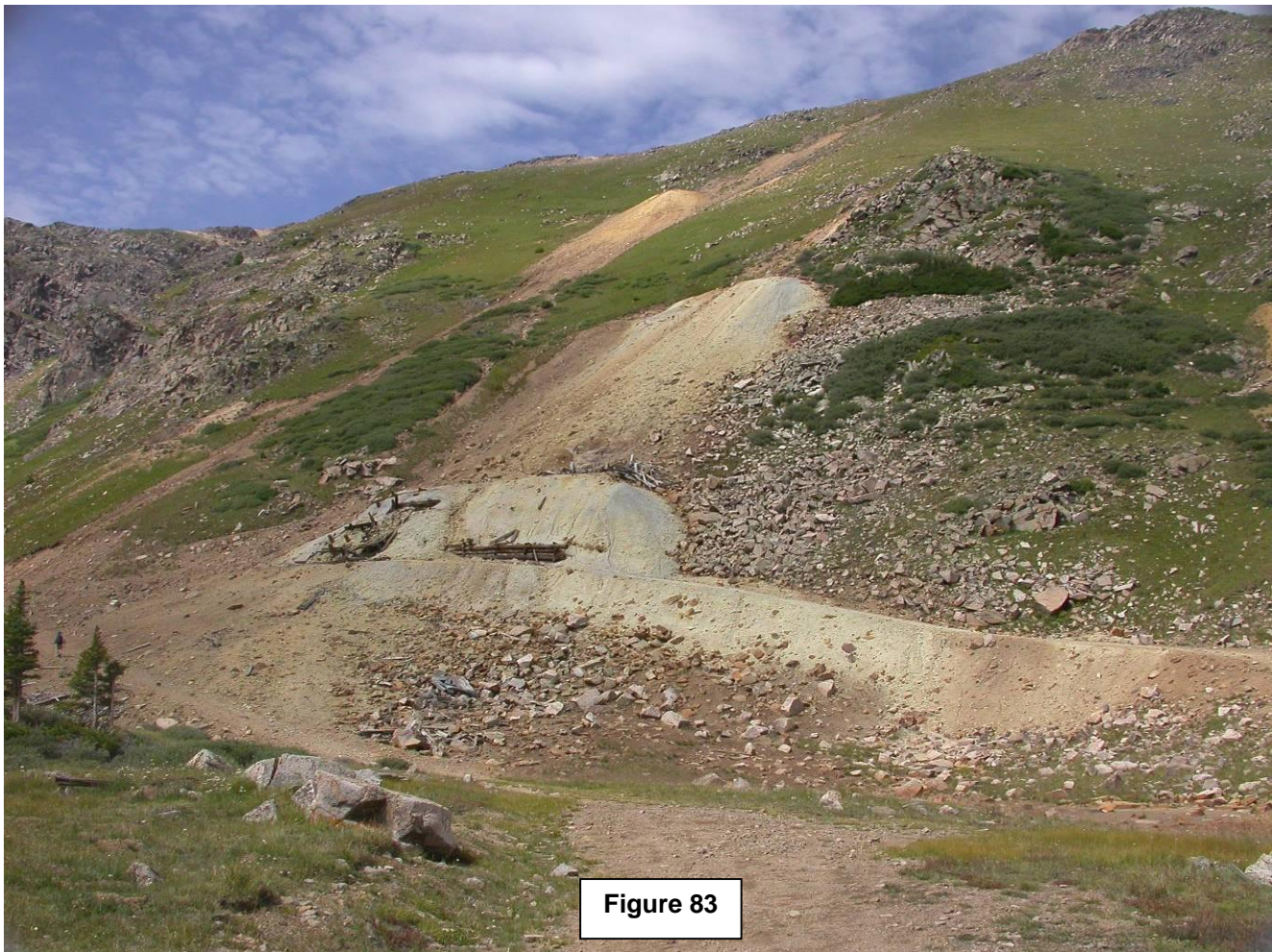




Figure 84



Figure 85

A few hundred yards above the confluence, where the road to the Allen Emory Mine approaches the stream is an old mine. The mine adit is draining and the water from the adit has created ferricrete deposits on the banks of the stream. There is room to the north to treat the adit flow with a passive sulfate reducing bioreactor. The waste rock and ferricrete need to be removed to a repository, although there might be enough room to consolidate them onsite and cover them. Figures 86 and 87 show two views of this mine.



Figure 86

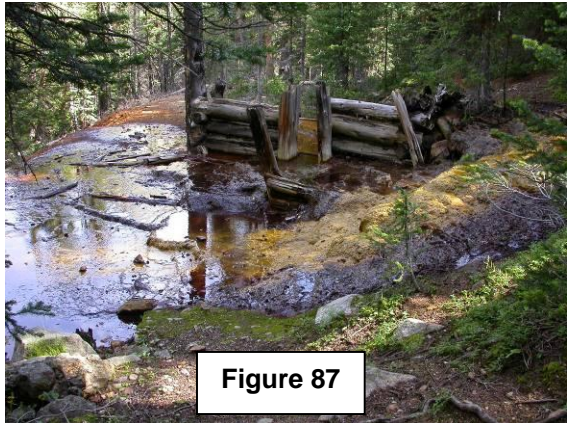


Figure 87