



## Arizona Rocks 38

Text and photos by Ray Grant

A few years ago, I got a few specimens with fibrous balls of a turquoise colored mineral that I did not recognize. I gave a specimen to Peter Williams from Sydney, Australia, who is one of the world's leading experts on Copper minerals.

He determined the turquoise material to be a new mineral. Well not exactly new, similar material was described by Wayne Leicht (Owner of Kristalle) as unknown number 5, but there was not enough data available to have it approved as a new mineral. Peter and his co-authors worked on the mineral and submitted it to the International Mineralogical Association for approval. It was accepted as a new mineral and given the name grandviewite after the locality. This is one of the 76 type minerals found in Arizona that I discussed in the last column.

Grandviewite has the formula  $\text{Cu}_3\text{Al}_9(\text{SO}_4)_2(\text{OH})_{29}$ . It occurs as radiating greenish blue sprays of acicular laths up to 0.5 mm in length. It is monoclinic, has a hardness of 2, and a density of 2.8. It occurs with chalcocumite, cyanotrichite and carbonate-cyanotrichite in vugs in a goethite rich gossan.

Unfortunately, the Grandview mine is in the Grand Canyon National Park and therefore is off limits to collecting. You can hike the Grandview trail as a day hike or get a permit to camp overnight. I have not been to the Grandview mine in many years. The last time I was there, the mine had an ore cart in one of the tunnels running on track and you could push it around. I marvel at how they got it there over a hundred years ago. Now there is a locked gate on the mine entrance to keep people out and let the bats

go in and out. The mine is located on Horseshoe Mesa and there is also an interesting cave there, the Cave of the Dome. One of the domes has names that people wrote there over the years, including the Kolb brothers. That is history, but if you wrote in there today it would be graffiti.



Horseshoe Mesa (bottom of photograph) from Grandview Point overlook on the South Rim. The Grandview mine is the small light colored area at the beginning of the mesa.



Photograph of early miners in the Grandview Mine from the Park Service information at Grandview Point overlook parking area.