VIVIANITE FROM RUTH, NEVADA

VINCENT P. GIANELLA, *University of Nevada, Reno, Nevada.*

Vivianite was found during mining operations in the Liberty Pit of the Nevada Consolidated Company's mine at Ruth, Nevada. The mineral was noted by Mr. Emmett Spencer, who called the writer's attention to it during a visit to the property in June, 1937. The vivianite is found only in a small exposure near the bottom of the pit, near the south wall.

The host rock is the Ely limestone, of Pennsylvanian age, as recorded by Spencer.[1] The limestone contains fine veinlets of pyrite and chalcopyrite. Vivianite was deposited in numerous crystals on the surfaces of joint planes and also in seams. Within the rock mass are small grains and occasional spherical aggregates. The globular masses, some of which measure about a half inch in diameter, are composed of slender radiating crystals. Small crystals have found also in vugs where they have grown upon an encrustation of calcite. Some of the crystals on the joint surfaces are over an inch in length. Where the globular masses are cut by fractures, the section shows the stellate arrangement of the vivianite. The color ranges from pale green to dark blue, while some of the smaller crystals are practically colorless. The dark blue crystals are nearly opaque while the nearly colorless ones are clear and transparent. When finely crushed, the lighter colored material produces a white powder which darkens very rapidly. A marked blue tone develops within a few moments and after long exposure it eventually turns to a dark blue. No reference to vivianite is found in the reports on the district and, so far as is known, this is the first occurrence of vivianite to be reported from Nevada.

As no material was available at the time of the writer's visit, Mr. Emmett Spencer[2] kindly collected specimens when the mineral was again exposed by mining. The mineral was identified by Professor Walter S. Palmer.[3]

[1] Spencer, Arthur C., The geology and ore deposits of Ely, Nevada: *U. S. Geol. Survey, Prof. Paper* **96**, pp. 27–28, 1917.

[2] Assistant Engineer, Nevada Consolidated Copper Company.

[3] Director Nevada State Analytical Laboratory.