

Arizona's love affair with minerals, from prehistory to statehood

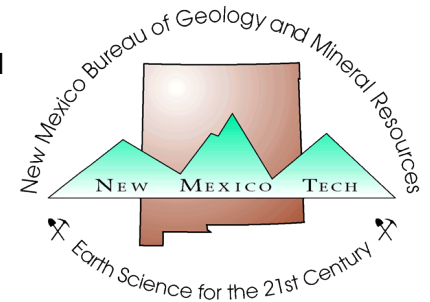
Les Presmyk

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The annual [New Mexico Mineral Symposium](#) provides a forum for both professionals and amateurs interested in mineralogy. The meeting allows all to share their cumulative knowledge of mineral occurrences and provides stimulus for mineralogical studies and new mineral discoveries. In addition, the informal atmosphere encourages intimate discussions among all interested in mineralogy and associated fields.

The symposium is organized each year by the [Mineral Museum](#) at the [New Mexico Bureau of Geology & Mineral Resources](#).



Abstracts from all prior symposiums are also available: <https://geoinfo.nmt.edu/museum/minsymp/abstracts>

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Long before the Spanish conquistadors entered Arizona, the native peoples mined and fabricated turquoise for cultural and trade purposes. Significant artifacts involving hundreds and thousands of worked pieces in necklaces and figurines have been discovered in various archeological digs over the past 150 years. The extent to which turquoise was traded and moved throughout the southwest U.S. and Mexico from the relatively few sources in Arizona and New Mexico was extensive, adding to the significance of this sky blue mineral.

When the Spanish entered Arizona they were hoping to duplicate their success in finding gold as they did with the Inca in Peru. While there were legends including the Seven Gold cities of Cibola, which turned out to be adobe pueblos, the reality was the indigenous peoples worked turquoise and not gold and silver. Turquoise is a mineral and stone that has been worked and treasured throughout history and not just in the southwest United States and northern Mexico, but throughout the world.



Turquoise pendent, 1.8cm wide from 800 to 1,300 years ago. Discovered near Heber, Arizona. Private collection. *Photo by Jeff Scovil.*

The earliest mining by Americans took place in the southwestern part of Arizona as unsuccessful California gold seekers began returning back east in the early 1850s. The placers of this area produced enough gold to entice prospectors into continued exploration, which took them into central Arizona around what would become Prescott. At the same time, others were exploring and beginning to develop silver and lead deposits in the south central part of the territory around Ruby, Mowry and the Santa Rita Mountains. This was spurred by the part-time activities of the military because they were generally the first ones into an area. Fort Buchanan was established south of Tucson to protect the entire southern area.

By the late 1850s collections of rich silver ore samples were being shipped back to St. Louis and other points in the east to attract capital for mine development. Once the Civil War started, all of this development came to an end. When the Army returned in the mid 1870s to subdue the Apache tribes, prospecting and mining resumed. In many cases, it was Army troops who made many of the initial discoveries. The Silver King outcrop was found while building a road from Superior to Globe over the various mountain ranges. The original discovery of Bisbee was actually a lead outcrop. The Stonewall Jackson and Tombstone were actually found by prospectors.

Once these rich silver and gold deposits were discovered, it took significant amounts of capital to develop these mines. The two places where this money could be found was San Francisco and east of the Mississippi. The easiest way to entice people to invest was to show them the prettiest and richest specimens from the mine (hopefully from the mine). There was also what became known as the "Great Diamond Hoax" in which the remoteness of the Colorado Plateau was used to the advantage of the promoters and the supposed discovery of

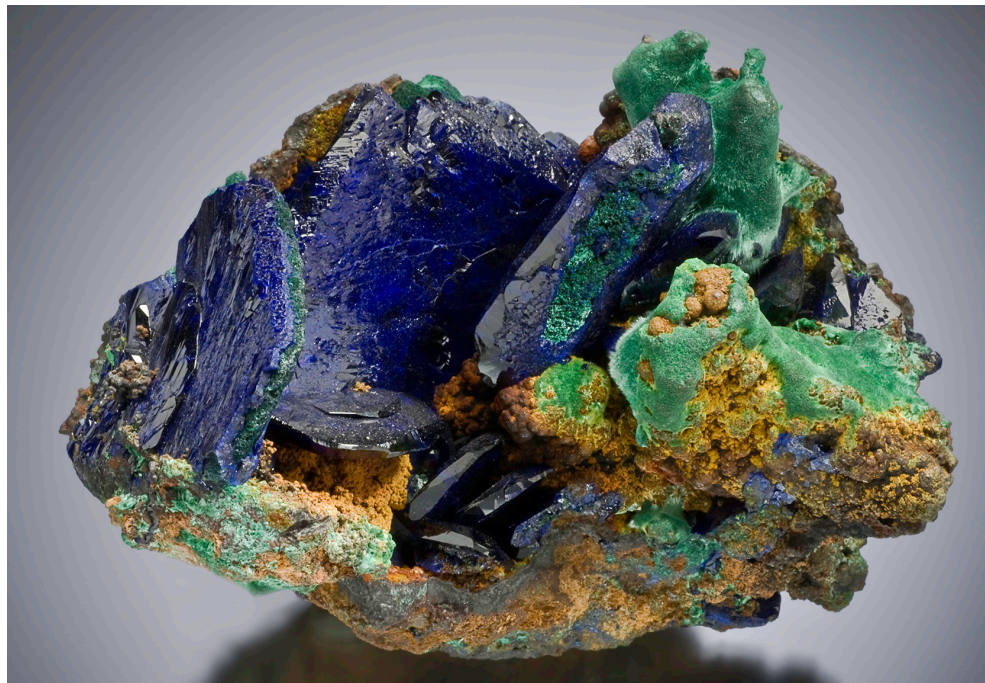
an area rich in diamonds, rubies, sapphires and emeralds, all the more interesting geologically because of the vast amounts of sedimentary rocks comprising this region.

With the advent of geologists and mining engineers bringing an air of legitimacy to the mines in Arizona, they also brought an interest in documenting and preserving specimens. Silvers from the Silver King and the Stonewall Jackson mine started to show up in dealers' inventories in the east. By the mid-1880s, the copper mines of Bisbee and Morenci were encountering large pockets and even caverns lined with azurite and malachite, the likes of which had not been seen since the mines at Chessy, France five decades earlier. Especially at Bisbee, collecting became a part of the culture, from the mine owners and general managers, to the miners and supervisors.

At the same time mineral dealers were starting to travel to the area to look for inventory, numerous collections were being started in Bisbee. These mineral specimens would be collected by mine management for their beauty and economics. After all, a hundred pounds of azurite and malachite specimens were worth less than \$5.00 if refined into copper but worth multiple times that if sold for specimens. In addition, James Douglass and



Pyrite and Quartz, Groom Creek, Arizona. From the territorial governor's collection, probably collected around 1875. Les and Paula Presmyk collection. *Photo by Les Presmyk.*



Azurite and Malachite after azurite, Czar Mine, Bisbee, Arizona. Les and Paula Presmyk collection. *Photo by Jeff Scovil.*

Ben Williams assembled collections and provided specimens to many of the original stockholders in the Copper Queen Consolidated Mining Company. In several cases, the Copper Queen Consolidated Mining Company displayed this beautiful mineral wealth at eastern expositions to promote Arizona's quest for statehood. In addition to the tremendous wealth generated by the copper mines, the culture and heritage of collecting would become part of Bisbee's legacy to the state. And, when some of the caverns were encountered they hosted Masonic Lodge conventions and even high school graduations.

Transportation around the state was mainly by horseback and stagecoach, so in some respects it is amazing anything was collected and survived. Today, the trip to the Red Cloud Mine and the surrounding Silver District takes about an hour from Yuma, assuming the road is fairly decent shape. In 1880, it would have taken more than a week by horseback or by boat up the Colorado River to the millsite and then inland for a few miles. And let us not forget this area is so desolate once one leaves the Colorado River, areas were used in training Apollo astronauts for moon landings. In spite of all this, the beauty of the wulfenite from the Red Cloud (and collector markets in the East) was enough to overcome these obstacles and specimens found their way into dealers' inventories and ultimately collections and museums.

Silver specimens were saved at the Silver King, the Stonewall Jackson and even Tombstone. By 1905, the low-grade copper ores around Miami (5% copper or so) were being examined and by 1910 were being mined. As at the Old Dominion mine in Globe, the Live Oak mine was predominantly copper oxides and besides azurite and malachite, chrysocolla and drusy quartz on chrysocolla were encountered. The mining methods allowed the mine to operate profitably and additional specimens and cutting material began to be recovered.

Through statehood in 1912, virtually all of the mining was accomplished in the rich underground deposits, which allowed for innumerable opportunities for specimens to be encountered and preserved. In addition to their beauty, they were a means by which the miners could supplement their incomes. Eastern dealers either had agents in the more prolific producing mining camps or ventured west occasionally on purchasing trips. As collectors we need to be thankful that market economics were strong enough to cause specimens to be preserved. Otherwise, we would be dependent on the occasional drawing or description to satisfy our appetites about what came from a particular mine. This is a legacy and fascination that continues to today.