The Globe-Miami District, Gila County, Arizona

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The Globe-Miami District is predominantly a copper mining area and has been for over 130 years. More copper has come from this district copper than all of the mines of Bisbee and is second only to the great Morenci open pit. The district boundaries are the Pinto Valley and Carlota Mines on the west, Pinal Mountain on the south, McMillanville to the east and the Richmond Basin to the north. This area was first prospected in 1874 with the location of silver in the Globe area. The district is also home to one of Arizona's best vanadinite localities. In addition, this district has produced some of Arizona's best silver specimens, along with azurites, cuprites, malachite pseudomorphs after azurite and probably most notably, Arizona's best gem silica and chrysocolla specimens. There are 108 different minerals from this district (Grant, et al, 2022).

In 1874, several ranchers from the Florence area decided to explore for a silver deposit at the base of the Stoneman Grade, a road built by the U.S. Army a few years earlier. They located the Silver Queen claim (renamed the Magma Mine 35 years later) and then followed the road over the escarpment known as Apache Leap, about 20 miles further and located claims on what came to be known as the Old Dominion Mine just north of Globe (Presmyk, 2015).

A year later, they found the silver outcrop that started their prospecting adventures and named it the Silver King. Other prospectors continued to explore the Globe area as well and in 1876 the rich silver deposits of the Stonewall Jackson Mine, establishing the town of McMillanville, to the east and the silver deposits of Richmond Basin to the north. The most unique occurrence was a surface deposit of silver nuggets reminiscent of Planchas de Plata in Sonora, Mexico, was discovered north of Globe. From 1876 to about 1890, silver was the most valuable metal mined in the area. Even though some of these mines reached depths of 800 and 900 feet, the silver mines were mostly depleted by 1890. A very few of nuggets have survived to now but none of the masses of silver encountered in the Richmond Basin mines (Galbraith, 1970) There were reports of large (as much as 100 pounds) silver nuggets and even one large nugget that supposedly looked like a globe, thus giving the town its name. This nugget is in the Smithsonian and the only problem with the naming story is the nugget was found 20 years after Globe was founded (Presmyk, 2015).

The Old Dominion Mine was originally developed for and mined the silver and gold contained in the oxidized veins closest to the surface. As the mining proceeded downward, the silver diminished and high-grade copper mineralization was encountered (Fig. 1). However, because of the remoteness of the area and the high costs of transporting supplies into the area and the copper ingots out of the area, even 20% copper rock was marginally profitable. From 1885 to 1900 the Old Dominion was the largest and most continuous producer of copper in the district. In 1894, the railroad was completed to Globe from New Mexico and the economics changed dramatically. The two major companies with operations in the Copper Hills area of Globe were the United Globe and Phelps-Dodge. In 1903, Phelps-Dodge bought out the United Globe and consolidated all of the operations under the Old Dominion Mining Company (Ransome, 1903). The Old Dominion Mine continued to mine deeper, encountering huge quantities of water, and

Figure 1. Calcite on quartz on chrysocolla. Old Dominion Mine, Globe, Arizona. 4.8" (12.1cm) wide. Les and Paula Presmyk collection. Jeff Scovil photo.

brought in Cornish pumps to handle the water. By 1933, with a combination of low copper prices, lowering ore grades, continued water problems and labor issues, Phelps-Dodge shut down this mine and shuttered it for good.

In the meantime, Miami Copper had developed and was producing copper at a steady rate from the largest block caving mine west of the Mississippi. Inspiration was using more conventional mining methods to produce mainly oxide copper minerals and employing leaching metallurgy to extract the copper (Ransome, 1919).

In the early 1940s a prolonged drought was plaguing this area, to the point where the Miami mill would have to shut down around 7pm every day because they ran out of water (personal communication, Jack Graybeal). Mine management entered into negotiations with Phelps-Dodge, purchasing the Old Dominion and all of the other properties Phelps-Dodge had accumulated in the area, including what would become the Castle Dome and the Copper Cities Mines. What had once been the curse of the underground mine now became the savior of another underground mine and mill. The Old Dominion has a major fault that separates industrial water suitable for using in a copper mill from drinking water on the other side of the fault. The OD continues to supply water to Pinto Valley for the mill and drinking water for the City of Globe.

Miami Copper continued this underground operation until 1958. In the meantime, the company had developed the Castle Dome Mine in 1942 to provide copper for the WWII and Korean war efforts and this mine operated until about 1952. Then all of the equipment was moved to the Copper Cities Mine (the source of Sleeping Beauty turquoise) and operations continued there into the 1970s.
In the late 1960s, Cities Service Company bought Miami Copper Company and began a drilling program at the closed Castle Dome Mine, ultimately deciding to open when a new mine named Pinto Valley, an operation still producing copper today. South of the Pinto Valley operation, a small but productive oxide copper mine known as Carlota operated from 2007 to 2013. In 2009, a series of pockets produced azurite, malachite after azurite along with prosopite, powellite and szenicsite (Wilson, 2020).

Also in the 1960s the Stovall family developed a small copper oxide mine on the western edge of Miamil and south of Inspiration. The Bluebird Mine, it was purchased by Ranchers Exploration and the company installed the very first SX-EW (Solvent Extraction-Electrowinning) plant in the world. A very gusty move for a small mining company but one that paid off handsomely over the next 30 years.

Some of the smaller but notable mines in the district include the aforementioned Apache Mine, famous for its vanadinite specimens. It was a small underground mine operated in the 1950s for lead and vanadium. Once it closed it was a locality many Arizona collectors spent time in. South of Miami is the Blue Ball Mine, a small surface operation for azurite nodules, some of which are geodes and display drusy azurite crystals and even the occasional malachite spray.

The district has a rich history of producing notable mineral specimens and gemstones. Ransome, in his USGS Professional Paper 115 notes the

gem chrysocolla (gem silica) and drusy quartz on chrysocolla. Both the Live Oak Mine and the Old Dominion Mine produced these specimens starting in the 1890s. The Like Oak was an underground mine until the late 1940s when mining expanded into an open pit. The 1950s and 1960s were the glory days for specimen production and some of the best and most unique pieces were encountered and saved (Fig. 2).

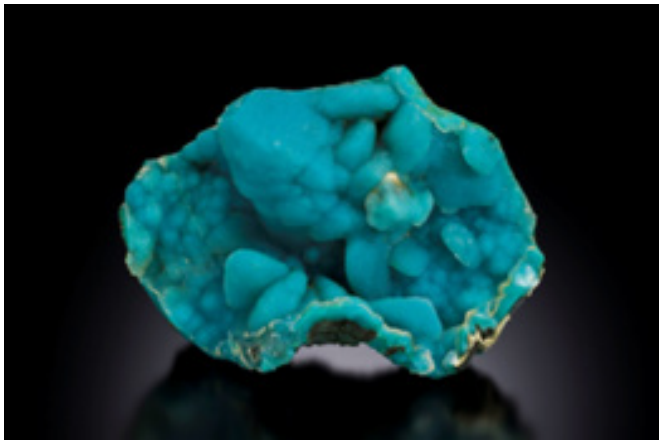

Figure 2. Chrysocolla and Quartz after malachite after azurite. Live Oak Mine, Miami, Arizona. 4" (10cm) wide. Les and Paula Presmyk collection. Jeff Scovil photo

The Castle Dome Mine during its operating life became very well known for turquoise and significant turquoise production took place in the early days of the Pinto Valley Mine. Copper Cities (Sleeping Beauty) turquoise was mined by contractors for the next several decades after that mine closed. Sleeping Beauty is the name of the mountain on the north side of the mine and this was the name adopted for the turquoise. I guess Sleeping Beauty is marketable than Copper Cities.

Azurite and malachite specimens for collectors are known from the Old Dominion, the Live Oak , the Blue Ball (Fig. 3), and the Bluebird Mines (Fig. 4), along with the Castle Dome (Red Hill pit)(Fig. 5) and Carlota Mines. The Carlota Mine is probably the best azurite and malachite after azurite locality in the district (Fig. 6). The mineralogy for all of these mines are not particularly complex. The Live Oak Mine produced seom presentable lindgrenite specimens.

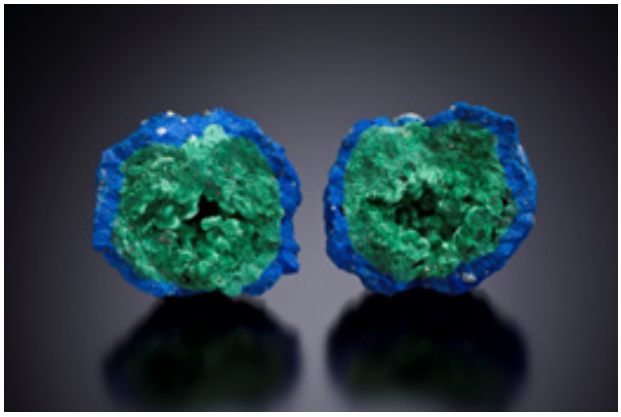

Figure 3. Malachite and azurite. Blue Ball Mine, Miami, Arizona. 1.3" (3.3cm) wide. Les and Paula Presmyk collection, Jeff Scovil photo.

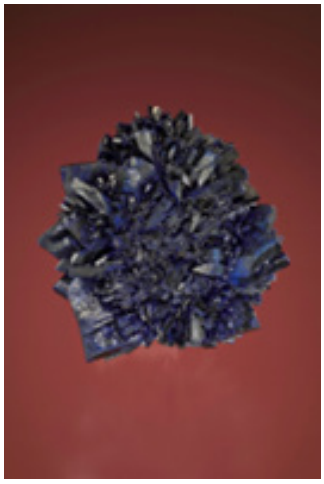

Figure 4. Azurite. Bluebird Mine, Miami, Arizona. 2.75" (6.8cm) wide. Les and Paula Presmyk collection. Jeff Scovil photo.

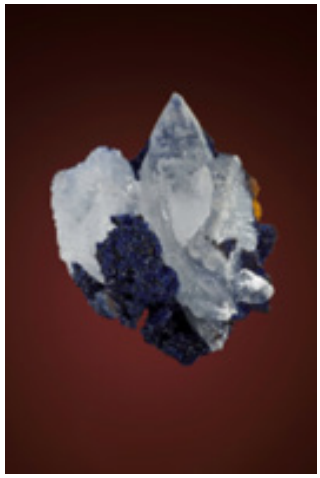

Figure 5. Gypsum on Azurite. Red Hill Pit, Castle Dome Mine, Miami, Arizona. 2.2" (5.5cm) tall. Les and Paula Presmyk collection. Jeff Scovil photo.

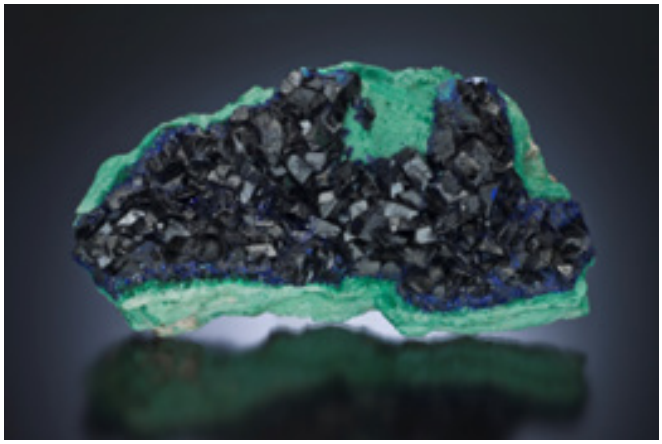

Figure 6. Azurite. Carlota Mine, Miami, Arizona. 5" (12.6cm) wide. Les and Paula Presmyk collection. Jeff Scovil photo.

And the silver nugget legacy continues. In 2018, after spending three years metal detecting in the Richmond Basin area, these dedicated explorers were rewarded with a phenomenal discovery. Covered with about four feet of soil they found what turned out to be a 406 pound silver nugget, along with two smaller ones, both weighing in excess of 100 pounds each. These three specimens are on display at the University of Arizona Alfie Norville Gem and Mineral Museum in Tucson. Several hundred pounds of additional nuggets have been found since 2018. The current owners hope to start drilling very soon.

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