



Arizona Rocks 47

Text and photos by Ray Grant

Here is the description of South Mountain Park from the park's website: "At more than 16,000 acres South Mountain Park/Preserve actually consists of three mountain ranges, the Ma Ha Tauk, Gila and Guadalupe; and is one of the largest municipally operated parks in the country. It boasts 51 miles of primary trails for horseback riding, hiking and mountain biking for all ability levels. From the park's main entrance, you can drive up the Summit Road 5.5 miles to Dobbins Lookout and spectacular valley wide views or you can continue to the Gila Lookout for a view of the Gila River Valley."

There are two main rock units and smaller amounts of several other rocks present in the park. The west half is the Estrella Gneiss and the east half is the South Mountain Granodiorite. The Estrella Gneiss is Precambrian in age about 1.7 billion years old. It is a mixture of several types of gneiss with quartz, feldspar, hornblende, muscovite and biotite in varying amounts. The South Mountain Granodiorite is Mid-Tertiary in age about 25 million years old. (Granodiorite would often just be called granite, especially in the field. The difference between granite and granodiorite is that granite contains quartz and microcline with no or a small amount of plagioclase and granodiorite will contain equal amounts or more plagioclase than microcline along with the quartz.) For more information on the geology of South Mountain see Stephen Reynolds, 1985, Geology of South Mountains, Central Arizona, Arizona Geological Survey Bulletin 195.

Gold was discovered at South Mountain in the late 1800s and was mined at different times until 1942. The main mine was the Max Delta Mine located in the center of the mountains. Several million dollars worth of gold along with some silver and copper were recovered. There were 7 shafts, one 550 feet deep and numerous tunnels in the area. The gold occurs in quartz veins and probably was deposited from solutions associated with the South Mountain Granodiorite intrusion.



Simplified geologic map of South Mountain from Reynolds 1985, stippled area is South Mountain Granodiorite, clear area is Estrella Gneiss, black is areas with gold mines and prospects, and hatched lines are dikes that were associated with the deposition of the gold.



Looking south at Telegraph Pass, the low area, it is where the gneiss and granodiorite are in contact. To the right is the gneiss (mostly out of the picture) and to the left the granodiorite (the rocks seen in the picture).



Estrella Gneiss, black is hornblende and white mostly plagioclase & Hidden Valley formed from boulders of the granodiorite.