



Arizona Rocks 52

Text and photos by Ray Grant

One of my favorite places of geological interest in the Verde Valley is Montezuma Well. I used to take my Mesa Community College geology classes on a field trip to the Verde Salt mine, Montezuma Well and then to Oak Creek Canyon.

Montezuma Well is part of the Montezuma Castle National Monument and about 8 miles northwest of the Castle. The rock around the well is the same limestone found at the Castle. Over time the limestone dissolves and forms caves. Montezuma Well is a sinkhole where a cave has collapsed. The well has a permanent lake in the bottom. The lake is fed by a spring with a fairly constant flow rate of about 1.5 million gallons per day. The water from the lake flows through a small cavern out to Beaver Creek. The Sinagua people built irrigation canals to catch this water and used it for farming starting about 1,300 years ago. These irrigation canals are still visible and in some cases still in use.

In this isolated lake are five species only found here, a diatom, a spring snail, a water scorpion, an amphipod, and a leech. The lake is 55 feet deep but has up to 75 feet of fine sediment in the bottom before bed rock. Next time you are in the Verde Valley check this interesting place out.

The following is from signage at Montezuma Well describing its formation:

Long before man, (8-10 mya) this area was a lake bottom. Sediments compacted to form the Verde Limestone.

Perhaps 1 mya, underground water dissolved the limestone, forming a large cavern. Continued erosion allowed Wet Beaver Creek to tap the huge cavern. A cave outlet formed thousands of years ago.

As the water level dropped, the roof collapsed, exposing the limestone sink.



Montezuma Well



Sinagua Ruins along the edge of the well



A portion of an irrigation canal made by the Sinagua People to use the water from the Well