Have you read a good book lately? Skilled geologists can read the riveting stories preserved in stone. In the Verde Valley, this story is 1.82 Billion Years Old. And you thought *War and Peace* was a long book!

The Black Hills along the south and west (the photo above), exposes our oldest Precambrian rocks. Some of these rocks contained the copper ore that made Jerome a booming mining town from 1880s until the 1950s. This site bulletin will focus on the 80 million year story of how the Verde Valley was formed.

If you were here 80 Million Years ago, you would be underneath a mile of sedimentary rock! The power of water has vastly changed this land. There was a large mountain range at present day Phoenix and Prescott, AZ. North flowing rivers eroded these mountains and rock layers that contained dinosaur fossils.


**Chapter One: Erosion** is the breakdown of rock and soils mostly by water.

As the tens of millions of years pass, the Ancestral Mogollon Highlands disintegrate. Sedimentary rock erodes away and a cliff (Ancestral Mogollon Rim) recedes gradually to the north.

Currently this “Mogollon Rim” is receding north 1 foot every 625 years. At this rate the Mogollon Rim at present-day Sedona, will be at downtown Flagstaff, AZ in 79 million years!
Stone Tells a Story of Past Landscapes & Past Life-Forms

Chapter Three: Deposition includes the settling of sediment & volcanic materials.

15 million years ago widespread volcanic activity in the area created the lava Flows of the “Hicky Formation” that can be seen topping the Black Hills & the eruption of the House Mountain shield volcano southwest of present-day Sedona, AZ.

Evidence of a series of lakes and marshes in the valley are exhibited by 3,000 feet of limestone and siltstones deposited here. Numerous vertebrate fossils have been discovered within these sedimentary layers. The Ancestral Pueblo culture called Sinagua had taken advantage of the wonderful caves, sinkhole-springs, and rocky summits of the Verde Formation for shelter, water and excellent vistas. Your own eyes can behold these pages of time at Montezuma Castle, Montezuma Well and Tuzigoot National Monuments!

How will the story be told in future chapters?

Verde Valley Records a Story Within a Giant Layer-Cake

This is a stratigraphic cross-section of the Verde Valley. The two opposite facing black arrows represent the Verde Fault, which separates the Black Hills and the Verde Valley. Montezuma Castle, Montezuma Well & Tuzigoot National Monuments are on the ancient lake deposits called the Verde Formation (limestone, gravels, silt, clay, salts & travertine).

Chapter Two: Tectonics are the Earth’s surface movement exhibited by earthquakes & mountain building here.

“Basin and Range” Tectonics cause the Verde Valley to sink down and the Black Hills to the southwest to rise.

A Basin is formed and the Ancestral Verde River becomes sluggish, causing a series of marshes and lakes to form.

Though people were not yet present here, there were many other fascinating mammals abounding at this time...

References:

- Sinagua
- Montezuma Castle
- Montezuma Well
- Tuzigoot National Monuments
- Ancestral Verde River
- Mega-Fauna