EARTHQUAKE
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Arizona Rocks 70

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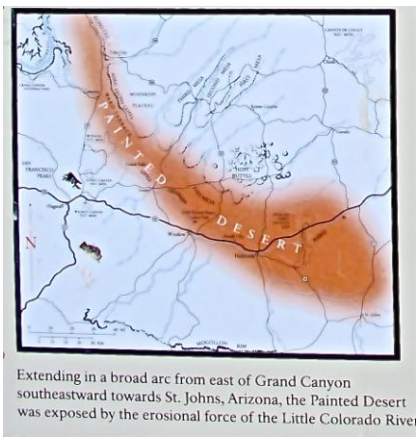
Looking back over the list of Arizona Rocks, I found that I have not covered the Arizona state fossil (petrified wood – species Araucarioxylon arizonicum), the Petrified Forest, and the Chinle Formation. So these will be the next subjects for Arizona Rocks.

I will start with the Chinle formation. This is the formation that makes up the Painted Desert and the formation with the petrified wood. It is Triassic in age and deposited about 225 million years ago. The part of the Chinle in the Painted Desert is clay rich mud deposited in streams, flood plains, and lakes. The clay is referred to as bentonitic which is a mixture of clays but mainly montmorillonite. This clay swells when wet and shrinks on drying and this discourages plant growth. As you look at the clay hills you can see that there is almost no vegetation present in the area. This clay also presents a problem for construction in the area as the swelling and shrinkage tends to break up roads, foundations, and other structures.

There were volcanoes to the south and west and volcanic ash was deposited with the mud. Ground water dissolved the silica rich ash and this solution was carried to the buried logs to form the petrified wood (more next month).



Sign with Painted Desert at Petrified Forest National Park.

Painted Desert, Chinle formation north of Petrified Forest, red color from iron in the mud

Painted Desert, Chinle formation north of Petrified Forest, red color from iron in the mud.

Chinle formation in Petrified Forest National Park, note the lack of vegetation