

Petrified Wood

The petrified wood found in Arizona's Petrified National Park consists of mostly solid quartz (SiO_2). The different colors in the wood are produced by impurities in the quartz, such as iron, carbon, and manganese. Most geologists believe that 200 million years ago, logs were washed into a river system and were buried deep and quickly by massive amounts of sediment and debris. This process cut off oxygen and slowed decay. Hot geothermal water — like what we see today in Yellowstone National Park — dissolved silica (quartz) from volcanic ash. This water was absorbed into the porous wood through a process called permineralization. The geothermal water replaced the organic wood with quartz while also preserved the original cellular structure of the wood.

