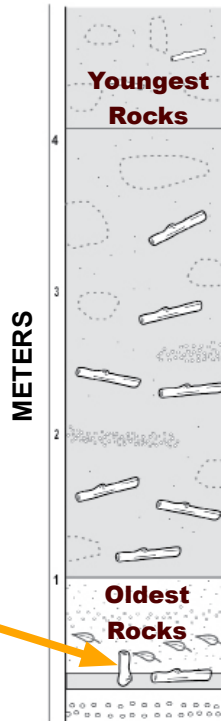


Geologic Time

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Timing of Events

The trees of The Petrified Forest Piedra Chamana lived 39 million years ago. In geology, this time corresponds to the Eocene epoch of the Cenozoic era. The Cenozoic encompasses all time since the Mesozoic (also known as the “Age of the Dinosaurs”), which ended approximately 65 million years ago. The fossils at Sexi date to a time tens of millions of years before the first humans existed on Earth!



ERA	PERIOD	EPOCH	AGE Millions of Years	
Cenozoic	Quaternary	Holocene	Present	
		Pleistocene	0.0117	
	Tertiary	Neogene	Pliocene	2.588
			Miocene	5.332
		Paleogene	Oligocene	23.03
			Eocene *	33.9
			Paleocene	39.4 Age of Fossil Forest
				55.8
				65.5

This stratigraphic column (right) depicts the vertical sequence of rock layers near Sexi, which are part of the Huambos Formation. Because the oldest rocks were deposited first, they are positioned at the bottom of the column. In the adjacent photograph, Dr. William McIntosh examines a tree fossilized in growth (“in situ”) position.

Subdivisions of the Cenozoic era. The rocks at Sexi are 39 million years old, dating them to the Eocene epoch¹.

Stratigraphy

Geologists study prehistoric events by examining features (e.g. rocks and fossils) of the geologic record. The rock layers, or stratigraphy, are illustrated as a stratigraphic column that reveals the sequence of events contributing to the fossilization of the ancient forest.



The Age Puzzle

Analysis of argon isotopes in plagioclase, a mineral that formed in the rocks during a volcanic eruption, produced the middle Eocene age of 39.4 million years.

[Read more about the volcanic rock layers at Sexi.](#)

¹ U.S. Geological Survey Geologic Names Committee, 2010, Divisions of geologic time—major chronostratigraphic and geochronologic units: U.S. Geological Survey Fact Sheet 2010-3059, 2 p.