



## *Absolute geologic time scale*

Anonymous

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*This is one of many related papers that were included in the 1961 NMGS Fall Field Conference Guidebook.*

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## ABSOLUTE GEOLOGIC TIME SCALE

One of the most fascinating questions—to the professional geologist as well as the layman—is: how old is it? Early age determinations were based almost wholly on the uranium / lead and thorium / lead ratios. More recently, other methods have been used, such as the lead / alpha-particle ratio, the potassium / argon ratio, and the rubidium / strontium ratio. For the uppermost end of the time table—the last few thousand years (of more interest to the archeologist)—the carbon-14 or radiocarbon method is suitable.

For several decades the uranium / lead and thorium / lead determinations gave the following approximate dates, widely cited in various textbooks:

Cenozoic Era  
60-70 million years ago  
Mesozoic Era  
200 million years ago  
Paleozoic Era  
500 million years ago  
Precambrian (Cryptozoic) Eon  
3,000 million years ago

Within the last few years a great deal of research has been accomplished and a more reliable time scale seems to be emerging. The beginning of the Paleozoic Era has been pushed back about a hundred million years. The recent work is ably summarized by J. L. Kulp (1961), and the new scale, together with certain stratigraphic units of the Albuquerque country, is given below.

### REFERENCE

Kulp, J. L., 1961, Geologic time scale: Science, v. 133, p. 1105-1114 [April 14, 1961].

Era	Period	Key Formations	Millions of Years Ago
CENOZOIC	Quaternary (Pleistocene)	Several fms.	1
	Tertiary	Several fms. Santa Fe group San Jose formation Nacimiento formation	65
MESOZOIC	Cretaceous	Many stratigraphic units	135
	Jurassic	Morrison Tadilto Entrada	180
	Triassic	Chinle and Dockum	230
PALEOZOIC	Permian	San Andres, etc. Yeso Abo	280
	Pennsylvanian	Madera	310
	Mississippian	Arroyo Penasco and Tererro	345
	Devonian	(missing?)	405
	Silurian	(missing)	425
PRECAMBRIAN (CRYPTOZOIC) EON	Ordovician	(missing)	500
	Cambrian	(missing)	600
		Sandia granite	1,350
		Older sedimentary and igneous rocks	?

