

Terms and Definitions

ERA		PERIOD	EPOCH	MA	
Phanerozoic	Cenozoic	Quaternary	Holocene	0	
			Pleistocene	0.1	
		Neogene	Pliocene	1.8	
			Miocene	5	
			Oligocene	24	
		Tertiary	Paleogene		34
					41
				Eocene	49
					55
				61	
			65		
			65		
	Mesozoic		Maastrichtian	72	
			Campanian	83	
			Santonian	86	
			Coniacian	89	
			Turonian	93	
			Cenomanian	98	
			Albian	112	
			Aptian	120	
			Cretaceous	144	
			Jurassic	205	
	Paleozoic		Triassic	248	
Permian			295		
Carboniferous			354		
Devonian			416		
Silurian			442		
Ordovician			495		
Cambrian			544		
Proterozoic	Neoproterozoic		1000		
	Mesoproterozoic		1600		
	Paleoproterozoic		2500		
Archean				4600	

The term **palygorskite** ($\text{Mg}_2\text{Al}_2\text{Si}_8\text{O}_{20}(\text{OH})_2(\text{OH})_4 \cdot 4\text{H}_2\text{O}$) is used throughout this text in place of **attapulgitite**. This magnesium-rich clay is often associated with sedimentary phosphate deposits. Palygorskite-rich sediments often precede phosphate deposition, for instance, in Niger, Nigeria, Senegal and Togo.

Phosphorite is a sedimentary rock with a high enough content of minerals to be of economic interest (Glossary of Geology).

Reserves versus Resources

A mineral *resource* is a concentration or occurrence of material of economic interest in or on the Earth's crust in such form, quantity and quality that there are reasonable prospects for eventual economic extraction. The location, quantity, grade and continuity are known, estimated or interpreted from specific geological evidence and knowledge. Mineral resources are subdivided in order of decreasing geological confidence into *inferred*, *indicated* and *measured* categories.

Mineral *reserves* constitute a realistic inventory of mineralization, which under assumed and justifiable technical and economic conditions, might become economically extractable.