

South Park Laramide					
Geologic Period	Phase	Stratigraphic Unit		Hydrogeologic Unit	
Quaternary	Modern-Glaciation	Alluvium		Alluvial Aquifers	
Neogene	Extension	Wagontongue/ Trump Formations		Wagontongue/ Trump Aquifer	
Paleogene		Transition	Antero Formation		Antero Aquifer
	Thirtynine Mile Volcanics		Volcanics		
	Tallahassee Creek Conglomerate		Tallahassee Creek Aquifer		
	Wall Mountain Tuff and Buffalo Peaks volcanics		Volcanics		
	Echo Park Alluvium		Echo Park Aquifer		
Paleogene	Laramide	South Park Formation	Arkosic Member	Upper South Park Aquifer	
			Link Spring Tuff Member	Link Spring confining unit	
			Conglomerate Member	Lower South Park Aquifer	
			Reinecker Ridge Volcanic Member	Volcanics	
Cretaceous	Interior Seaway	Laramie Formation	Upper	Laramie confining unit	
			Lower	Laramie- Fox Hills Aquifer	
		Fox Hills Sandstone		Colorado Piedmont Regional and Eagle-Central Colorado Trough hydrogeologic units of the South Park Mountainous Valley	
		Pierre Shale			Pierre confining unit
		Regional Cretaceous Seaway shale-dominated formations form multiple hydrogeologic units, most are confining units			
Jurassic	Mesozoic Sandstones	Multiple sedimentary units deposited in the stable continent interior may be present that may form aquifers		Colorado Piedmont Regional and Eagle-Central Colorado Trough hydrogeologic units of the South Park Mountainous Valley	
Triassic					
Permian	Ancestral Rocky Mountains	Ancestral Rocky Mountains event marine and non-marine sedimentary formations form multiple hydrogeologic units in the Central Colorado trough and may be present, depending on location			
Pennsylvanian					
Mississippian	Paleozoic Carbonates	Lower Paleozoic sedimentary formations that are dominantly limestone and dolomite form multiple aquifers preserved in the Central Colorado trough and Paradox Basin may be present depending on location			
Devonian					
Silurian					
Ordovician					
Cambrian					
Precambrian	Precambrian	Crystalline rocks of igneous and metamorphic origin in mountainous region		Crystalline bedrock	

**Table 11b-02-07-01. South Park Laramide Basin stratigraphic chart.**

South Park Laramide								
Geologic Period	Phase	Stratigraphic Unit		Unit Thickness (ft)	Physical Characteristics	Hydrogeologic Unit	Hydrologic Characteristics	
Quaternary	Modern-Glaciation	Alluvium				Alluvial Aquifers		
Neogene	Extension	Wagontongue/ Trump Formations		50-1,400	Conglomerate, sandstone and siltstone	Wagontongue/ Trump Aquifer		
Paleogene	Transition	Antero Formation		up to 2,000	Tuffaceous conglomerate, sandstone, siltstone, ash-flow tuff.	Antero Aquifer		
		Thirtynine Mile Volcanics		up to 2,600	Andesite and basalt flows, flow breccias, conglomerates, and ash-flow tuff	Volcanics		
		Tallahassee Creek Conglomerate		up to 800	Conglomerate with sandstone, siltstone and some limestone	Tallahassee Creek Aquifer		
		Wall Mountain Tuff and Buffalo Peaks volcanics		up to 1,200	Welded ash flow tuff	Volcanics		
	Laramide	Echo Park Alluvium		50 -1,000	Conglomerate, sandstone, siltstone and mudstone	Echo Park Aquifer		
		South Park Formation	Arkosic Member		up to 3,000	Arkosic sandstone, conglomerate and mudstone	Upper South Park Aquifer	
			Link Spring Tuff Member		700	Laminated tuff, sandstone and conglomerate	Link Spring confining unit	
			Conglomerate Member		1,200-5,100	Conglomerate, sandstone, siltstone and mudstone; predominately andesitic	Lower South Park Aquifer	
			Reinecker Ridge Volcanic Member		300-900	Conglomerate, sandstone, andesite flows and volcanic breccia	Volcanics	
	Cretaceous	Interior Seaway	Laramie Formation	Upper	up to 375	Shale, silty shale, siltstone, and interbedded fine sandstone. Bituminous coal seams common	Laramie confining unit	
Lower				Sandstone, shale and coal		Laramie- Fox Hills Aquifer		
Fox Hills Sandstone			up to 350	Sandstone and siltstone interbedded with shale				
Pierre Shale			~6000	Shale, siltstone with interbedded sandstone	Pierre confining unit	Sandstone layers might yield limited water		
Regional Cretaceous Seaway shale-dominated formations form multiple hydrogeologic units, most are confining units								
Jurassic	Mesozoic Sandstones	Multiple sedimentary units deposited in the stable continent interior may be present that may form aquifers				Colorado Piedmont Regional and Eagle Central Colorado Trough hydrogeologic units of the South Park Mountainous Valley		
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Precambrian	Precambrian	Crystalline rocks of igneous and metamorphic origin in mountainous region				Crystalline bedrock		

**Table 11b-02-07-01. South Park Laramide Basin stratigraphic chart, detailed. Colorado Geological Survey ON-010 Colorado Groundwater Atlas.**

**Sources:** Stark (1949); Chronic (1964); Leroy (1964); Barker and Wyant (1976); Klein and others (1978); Jehn Water Consultants (1997); Barkmann and others (2015); Raynolds and Hagadorn (2017)