

Paradox Basin					
Period	Phase		Stratigraphic Unit	Hydrogeologic Unit	
Quaternary	Modern-Glaciation	Alluvium associated with present rivers		Alluvial Aquifers	
Neogene	Extension Transition	No strata			
Paleogene	Laramide	Laramide San Juan Basin formations form multiple aquifers		Multiple	
Cretaceous	Interior Seaway	Sedimentary formations of marine and coastal environments make up a series of shale-dominated Colorado Plateaus regional hydrogeologic units		Multiple	
Jurassic	Mesozoic Sandstones	Sedimentary formation of non-marine continental environments make up a series of sandstone and shale Colorado Plateaus regional hydrogeologic units		Multiple	
Triassic					
Permian					
	Ancestral Rocky Mountains	Cutler Formation		Cutler Aquifer	
		Rico Formation			
Pennsylvanian		Hermosa Formation	Upper Member		Paradox unit
			Paradox Member		
			Lower Member		Molas confining unit
		Molas Formation			
Mississippian	Paleozoic Carbonates	Leadville-Ouray limestones		Mississippian-Devonian carbonate aquifer	
Devonian		Elbert Formation		Elbert confining unit	
		Ignacio Quartzite		Ignacio Aquifer	
Silurian		No strata			
Ordovician					
Cambrian					
Precambrian	Precambrian	Crystalline rocks of igneous and metamorphic origin in mountainous region		Crystalline bedrock	

Table 11b-01-02-01. Paradox Basin stratigraphic chart.

Paradox Basin							
Period	Phase	Stratigraphic Unit		Unit Thickness (ft)	Physical Characteristics	Hydrogeologic Unit	Hydrologic Characteristics
Quaternary	Modern-Glaciation	Alluvium associated with present rivers				Alluvial Aquifers	
Neogene	Extension Transition	No strata					
Paleogene	Laramide	Laramide San Juan Basin formations form multiple aquifers				Multiple	
Cretaceous	Interior Seaway	Sedimentary formations of marine and coastal environments make up a series of shale-dominated Colorado Plateaus regional hydrogeologic units				Multiple	
Jurassic	Mesozoic Sandstones	Sedimentary formation of non-marine continental environments make up a series of sandstone and shale Colorado Plateaus regional hydrogeologic units				Multiple	
Triassic							
Permian	Ancestral Rocky Mountains	Cutler Formation		<2,500 - >10,000	Fine grained sandstone interbedded with minor conglomerate and mudstone	Cutler Aquifer	Most water transmitted is through intervals of sandstone and conglomerate; some water is transmitted through fractures and solution channels
Pennsylvanian		Rico Formation			Hard gray limestone and massive sandstone interbedded with softer red sandstone and mudstone		
		Hermosa Formation	Upper Member		Gray limestone interbedded with shale and lenticular sandstone		
			Paradox Member	<400 - >2,000	Halite interbedded with gypsum, shale, sandstone and dolomite	Paradox unit	Source of saline and brackish water, although the unit itself rarely transmits water; interbeds produce gas and oil; source of Trimble Hot Springs
		Lower Member		<200 - >600	Interbedded limestone, dolomite, shale and anhydrite	Molas confining unit	Yields very little or no water
Molas Formation		Red siltstone sandstone, limestone and shale					
Mississippian	Paleozoic Carbonates	Leadville-Ouray limestones		20-500	Massive to thinly laminated, gray, buff and yellow limestone	Mississippian-Devonian carbonate aquifer	Transmits water through interconnected solution channels and fractures
Devonian		Elbert Formation		0-200	Limestone, dolomite, shale, sandstone, and quartzite	Elbert confining unit	Ability to yield water depends on lithologic types, the presence of solution channels in carbonate rocks, and fracturing
		Ignacio Quartzite		0-200	Sandstone, quartzite, and conglomerate with shale and carbonate interbeds	Ignacio Aquifer	Porosity and permeability depend on cementation and fracturing
Silurian		No strata					
Ordovician							
Cambrian							
Precambrian	Precambrian	Crystalline rocks of igneous and metamorphic origin in mountainous region				Crystalline bedrock	

Table 11b-01-02-01. Paradox Basin stratigraphic chart, detailed. Colorado Geological Survey ON-010 Colorado Groundwater Atlas.

Sources: Whitfield and others (1983); Geldon (2003a); Geldon (2003b); Reynolds and Hagadorn (2017)