

Colorado Headwaters Laramide				
Geologic Period	Phase	Stratigraphic Unit		Hydrogeologic Unit
Quaternary	Modern-Glaciation	Alluvium associated with present rivers		Alluvial Aquifers
Neogene	Extension	Grouse Mountain Basalt		Volcanics
		Troublesome- North Park Formations		Troublesome- North Park Aquifer
Paleogene	Transition	Rabbit Ears Volcanics		Volcanics
		White River Formation		White River Aquifer
	Laramide	Coalmont Formation		Coalmont Aquifer
Middle Park Formation		Middle Park Formation	Middle Park Aquifer	
		Windy Gap Volcanic Member	Volcanics	
Cretaceous	Interior Seaway		Pierre Shale	Pierre confining unit
		Regional Cretaceous Seaway shale-dominated formations form multiple hydrogeologic units, most are confining units		Colorado Piedmont Region
Jurassic	Mesozoic Sandstones	Multiple sedimentary units deposited in the stable continent interior may be present that may form aquifers		
Triassic				
Permian	Ancestral Rocky Mountains	No strata		
Pennsylvanian				
Mississippian	Paleozoic Carbonates	No strata		
Devonian				
Silurian				
Ordovician				
Cambrian				
Precambrian	Precambrian	Crystalline rocks of igneous and metamorphic origin in mountainous region		Crystalline bedrock

Table 11b-02-08-01. Colorado Headwaters Laramide Basin stratigraphic chart.

Colorado Headwaters Laramide

Geologic 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	Grouse Mountain Basalt			Basalt flow caprock	Volcanics	
		Troublesome- North Park Formations		1,000-1,800	Tuffaceous siltstone, fine grained sandstone, volcanic ash, conglomerate, volcanic fows and tuff breccia	Troublesome-North Park Aquifer	Unconfined aquifer where tuffaceous siltstone is absent, confined where siltstone is present; breccia, sandstone, conglomerate, and ash yield water to springs
Paleogene	Transition	Rabit Ears Volcanics		0 - 1,500	Interbedded tuff, tuff breccia and volcanic breccia interlayered with flows of intermediate composition	Volcanics	
		White River Formation			Continental lakebed deposit	White River Aquifer	Limited aquifer
	Laramide	Coalmont Formation		6,500	Conglomerate, sandstone, siltstone, and shale with some coal; poorly to moderately consolidated. Predominately shale in central part of basin	Coalmont Aquifer	Large yields of potable water can be expected from poorly consolidated coarse-grained sandstone and conglomerate; will have limited well yield where shale predominates; water quality degrades with depth of aquifer
		Middle Park Formation	Middle Park Formation		2,500-5,000	Upper thick member of grit, sandstone, conglomerate and shale; lower member of volcanic material	Middle Park Aquifer
Windy Gap Volcanic Member			0-700	Gray volcanic breccia, conglomerate and andesitic flows	Volcanics		
Cretaceous	Interior Seaway		Pierre Shale	200-4,500	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					Colorado Piedmont Region
Jurassic	Mesozoic Sandstones	Multiple sedimentary units deposited in the stable continent interior may be present that may form aquifers					
Triassic							
Permian	Ancestral Rocky Mountains	No strata					
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Mississippian	Paleozoic Carbonates	No strata					
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Ordovician							
Cambrian							
Precambrian	Precambrian	Crystalline rocks of igneous and metamorphic origin in mountainous region				Crystalline bedrock	

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