Stones of Time

Oak Creek originates from springs just below the Mogollon Rim–the southern edge of the Colorado Plateau.

Oak Creek Canyon, several miles to the north, formed when a major fault, or fracture, broke the strata in the Mogollon Rim. This fault caused layers on the east side to drop 1,000 feet relative to the west side. Groundwater, originating from snowmelt on the rim, seeped into the ground and traveled along the fault to help carve the canyon during the last 6 million years.

Along the fault, groundwater flowed to the surface, undercutting and gradually collapsing the rocks above. In this way, weathering and erosion ultimately lengthened Oak Creek's channel in the upstream direction, and the canyon became deeper and longer.

To further sculpt the canyon, dense, basalt-lava boulders tumbled from the rim to the bed of Oak Creek, gouging the canyon walls along the way. This basalt rock originated from lava flows nearly 10 miles long that erupted between 6 and 8 million years ago from vents near Flagstaff. The lava boulders, capping the colorful but softer sedimentary rocks in the walls of Oak Creek Canyon, acted as giant excavators of rock in huge floods. Today, the large black boulders seen in the bed of Oak Creek are testament to their durability and cutting power in carving Oak Creek Canyon.

Crescent Moon's Geologic Layers

Commanding the view here is Cathedral Rock, featuring geologic layers of the Schnebly Hill Formation with a white cap of Coconino Sandstone. Iron-oxide deposits coat each grain of sand to create the red rock. The Schnebly Hill Formation, on which you are standing, is 275-280 million years old.

FORMATION NAME	FORMATION AGE	
Rim Basalt *Variable thickness*	8-30 million years ago	ERODED LAYERS
Kaibab Formation *350 feet thick (youngest)*	270 million years ago	ERODED LAYERS
Toroweap Formation *300 feet thick*	273 million years ago	ERODED LAYERS
Coconino Sandstone *600 feet thick*	275 million years ago	LAYERS VISIBLE AT THIS SITE
Schnebly Hill Formation *700 feet thick*	280 million years ago	LAYERS VISIBLE AT THIS SITE
Hermit Formation *300 feet thick*	285 million years ago	LAYERS VISIBLE AT THIS SITE
Supai Group *400 feet thick (oldest)*	300 million years ago	LAYERS UNDERGROUND

This stratigraphic rock column diagram shows the relative age and thickness of rock layers in the Sedona area.

Cathedral Rock