

DIAMOND POINT

Recreational Quartz Crystal Collection Area

Did You Know?

The Diamond Point crystal collection site is unique to the area and offers a great recreational opportunity. The geology of Diamond Rim consists primarily of two packages of rocks. The lowest and oldest is granite, that is 1.7 billion years old (Precambrian age rocks) and second, a local metamorphic rock that is slightly older. These rocks are overlain by a sequence of Paleozoic sedimentary rocks (Tapeats layer) containing fossils dating back approximately 530 million years (Cambrian age rocks). This layer is interpreted to represent ancient shoreline deposits. The boundary between the ancient shoreline layer and underlying Precambrian rocks is a profound unconformity, an ancient erosion surface representing more than 1 billion years of Earth history. Overlying the Tapeats is the Martin Formation dating back 370 million years (Devonian age rocks). The Martin consists of carbonate rocks, sandstone, and shales. The carbonate rocks are a type of sedimentary rock consisting of 2 main types: limestones and dolomites. Both were heavily dissolved by groundwaters while still at depth, creating cavities in the rock within which grew quartz crystals that precipitated from the groundwater. Since these crystals were able to grow unconstrained within an open space within the rocks, many of the quartz crystals developed beautiful crystal shapes and pointy terminations (ends of the crystals). Such crystals that have pointy shapes at both ends are called doubly terminated and this is the collection of quartz crystals, that were loosened from the rock by weathering, for which the Diamond Rim is named. The crystals are locally called Herkimer diamonds, or Payson diamonds, but are very clear quartz crystals, not diamonds. The Martin Formation is overlain by the Redwall Limestone of Mississippian age (330 million years old), and both formations locally contain abundant fossils of creatures that lived in ancient seas or on the sea bottom. The Redwall Limestone is overlain by a sequence of reddish, tan, and gray late Paleozoic layers that are exposed to the north along the Mogollon Rim.

South of Diamond Rim is a major east-west oriented geologic fault called the Diamond Rim fault. The fault has a complex history, but the latest movement on the fault down-dropped rocks south of the fault relative to those north of the fault. After movement on the fault, the entire area was eroded, removing higher rock layers that are still preserved along the Mogollon Rim to the north. Laying on the surface are more recent deposits, such as stream gravels and angular blocks shed down from the slopes of the Mogollon Rim.

A special thanks to the Arizona State University School of Earth and Space Exploration for their contributions to their interpretive message of the areas geology.



Rules & Regulations

The future of this site is dependent on your impacts to this unique collection area. Please do your part to limit impacts to the area by following the rules and regulations below.

- Open for small scale collection
- Stay within the 35-acre area illustrated in light red on the map
- Site disturbance must not exceed 4 x 4 x 8 inches, or the dimension of a 32-ounce water bottle
- Digging is not allowed within 6 feet from the base of any tree
- Collection for commercial use is not authorized
- All holes must be backfilled with native materials found on site
- Only small hand tools allowed such as gardening spades, hand trowels or short handled gardening picks
- Collections may not exceed 10 pounds per person, per day

Violations Pursuant to 36 CFR 261.9 (a), 36 CFR 261.6 (a)

This QR code allows you to download the map onto your smartphone. The map is geo-referenced which allows you to see where you are in the collection area when used in a map-based application such as Avenza Maps.



Enjoy your visit!

Tonto National Forest



