

OKLAHOMA ROCKS!

Lesson 5: Rose Rocks—Our State Rock

One of the most distinctive features found throughout central and parts of western Oklahoma is red dirt. And fittingly, one of the official symbols of our State is the lovely red-tinged rose rock, or

barite rose, Oklahoma's state rock. These "roses" formed when barite (BaSO_4) crystals precipitated from groundwater through pore spaces between sand grains in the Garber Sandstone. The disk-like shape of these barite crystals forms the "petals."

Rose rocks are found primarily in central Oklahoma with minor occurrences in Kansas, Morocco and Australia.

Oklahoma's red beds formed when sand and mud eroded from the eastern part of the state and were carried by rivers that flowed westward to a sea during the Permian Period, 299 to 251 million years ago. The red color comes from red iron oxide compounds within the sand and mud. For more information, see the OGS website: <http://ogs.ou.edu/pdf/roserockbroch.pdf>.

Questions:

1. Each petal of the rose rock is a single crystal of the mineral barite. What makes these crystals unusual is their round, disc-like shape. Compare this shape to other crystals and also to the selenite crystals found in Oklahoma. Bear in mind that selenite is gypsum and rose rocks are barite, so one would expect different crystal forms. Hourglass selenite is Oklahoma's official state crystal. See <http://www.fws.gov/southwest/refuges/oklahoma/selenite.html> and investigation 4 at: <http://www.agiweb.org/education/ies/mm/>

2. A myth says the roses formed from the tears of the Cherokees removed to Oklahoma from Georgia in 1838–39, although barite roses do not occur on lands granted to the Cherokees. Use the map above and make a map showing tribal lands where the roses might be found and then the Cherokee lands.

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