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# Arkansas Novaculite: Whetstones and More

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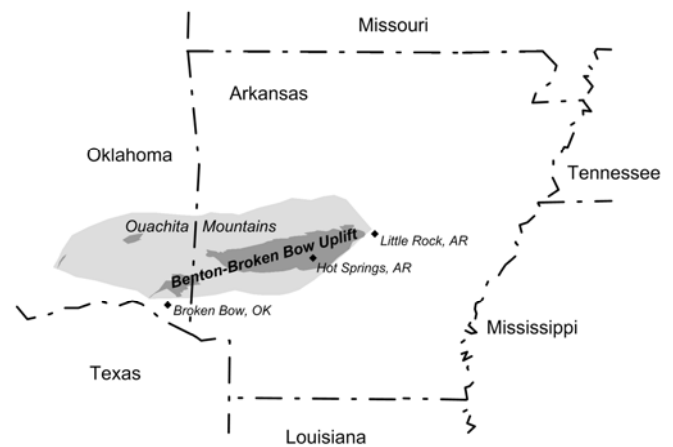
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If you have ever used a whetstone to sharpen a knife blade, chances are it was made from Arkansas novaculite. Mining the hard rock for whetstones and sharpening stones has been an important Arkansas industry since the early 1800s. Novaculite mining for whetstone use began as early as 1818 in the Hot Springs region of the Ouachita Mountains. Initially, quantities of rock were shipped outside the state—and even outside the United States—for cutting and finishing. By the 20th century, there were local companies sawing novaculite into whetstones. Today there are at least half a dozen companies in Arkansas that manufacture and market whetstones and specialty abraders from novaculite.

## What is Novaculite?

Novaculite is a hard, fine-grained siliceous rock, which is made up of very small crystals of the mineral quartz. It is similar to chert or flint. The name comes from the Latin word for razor. While novaculite is often white or light gray in color, it also occurs in pink, red, tan, dark gray, and black. Novaculite is distinctively translucent, and you can see light through thin edges of the rock. Geologists describe beds of massive novaculite, mixed with chert and shale, as the Arkansas Novaculite Formation. It was deposited during the Devonian to Mississippian geological periods between 318 and 416 million years ago. This rock was created when silica separated from seawater and later solidified and changed during mountain building. Folding, faulting, and tilting of rock layers has exposed novaculite on tops of mountain ridges in the Ouachita Mountains. The Arkansas Novaculite Formation outcrops along the Benton-Broken Bow Uplift between Little Rock, Arkansas, and Broken Bow, Oklahoma.



**Novaculite is a unique rock found only in the Ouachita Mountains of Arkansas and Oklahoma, and in southwest Texas.**

## Native American Use of Novaculite

People living in this region have used novaculite for thousands of years. This fine-grained rock was a key raw material used by American Indians for chipping their sharp-edged tools. Novaculite breaks with a “conchoidal fracture,” and flintknappers used that predictable cone-shaped fracture pattern to chip tools to the desired shape and thickness. In the Ouachita Mountains and adjacent areas of the Gulf Coastal Plain in Arkansas, novaculite was preferred as a raw material for making stone tools. Native Americans living in this region from about 10,500 B.C. to 1700 A.D. used novaculite for points to tip darts and arrows, for knife blades, and for scraping tools and drills.



**Indians chipped dart points from novaculite.**

Novaculite was desired as a raw material for chipped-stone tools far beyond Arkansas. Archeologists have found novaculite artifacts on sites in Missouri, Oklahoma, Texas, Louisiana, Mississippi, Tennessee, and Alabama. Some Indians traveled to the Ouachita Mountains to get novaculite, but most probably traded finished or partly finished novaculite tools from community to community. Since stone for making tools was in short supply in the Delta region, Indians there would welcome novaculite tools.



Even before its commercial use for whetstones, American Indians quarried novaculite from outcrops on mountain ridges in the Ouachita Mountains of Arkansas. Battered outcrops, quarry pits and trenches, stone hammers, and refuse from preliminary chipping are key evidence of this ancient activity. Over 120 novaculite quarries have been recorded as archeological sites in Arkansas. Novaculite quarries, which extend for several miles along some mountain ridges, are some of the largest archeological sites in Arkansas, if not the United States. The size of these quarries shows the importance of novaculite as a resource for ancient residents and the intensity of its use in the past.

## Novaculite Quarries as Significant Archeological Sites

In 1890 William Henry Holmes of the Smithsonian Institution became the first archeologist to visit Arkansas novaculite quarries. He later used these as examples in his book on aboriginal North American stone quarries. Archeologists are interested in understanding novaculite tool production and trade routes, so we study quarries as well as the places where people lived and used these tools. Since people moved novaculite tools far beyond the Ouachita Mountains, archeologists can use novaculite artifacts to map out the regional interactions between people in ancient times.

It is important to preserve and protect archeological sites such as novaculite quarries. These sites tell us the unwritten history of quarrying in Arkansas. The quarry pits and tools left behind are tangible signs of the extent of this ancient industry. We have much to learn from these large and significant sites.



**Quarrying tools and chipping waste show the history of quarry sites.**



**Indians battered outcrops, dug pits, and mined trenches to reach useable stone at quarry sites.**

You may come across evidence of novaculite mining while hiking in the Ouachita Mountains. Remember that it is against the law to disturb archeological sites on state and federal property. Please observe and learn, photograph and explore, but do not remove pieces of novaculite. Do not dig up or rearrange artifacts found there. Do not take pieces of novaculite away from these important historic places!

To learn more about novaculite and its use throughout history, visit the Arkansas Archeological Survey's "Arkansas Novaculite: A Virtual Comparative Collection" website at:

<http://arkarcheology.uark.edu/novaculite/index.html>.

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## For Further Reading:

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- Trubitt, Mary Beth, Thomas Green, and Ann Early, 2004. A Research Design for Investigating Novaculite Quarry Sites in the Ouachita Mountains. *The Arkansas Archeologist, Bulletin of the Arkansas Archeological Society* 43:17-62.
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