

Arkansas Novaculite: A Virtual Comparative Collection

Sample Recording Protocol

Source/Location:

Site number refers to Arkansas archeological site number for the quarry, if known, and *County* is self-explanatory. Currently the novaculite samples in our AAS/HSU collections come from known and recorded quarry sites, but the comparative collection may include road cut samples later as well. Nowadays we take UTM coordinates with GPS when collecting samples within quarries but this detailed locational information will be kept off the web pages. Site names for quarries often show location too, so we'll use numbers rather than names.

We will include discussion of lithic source/formation in the larger version of the project, in consultation with the Arkansas Geological Survey. Here, we will include a checkbox on whether the specific sample was collected from the outcrop itself or was surface collected at the quarry or was a sample picked up from a streambed or other source away from a quarry. Most of these samples will be coded to indicate they were surface collected from the quarry.

Description:

Color will be described using a Munsell Rock Color book to give hue, value, and chroma codes (e.g., 5R8/2, grayish pink). Munsell's Rock Color book includes colors that are not found in their Soil Color book, but there is overlap (e.g., 5YR4/1, brownish gray, is the same in both). White novaculite still does not match well with the color chips because it is not usually pure white (N9), and the closest match is probably 5Y8/1, yellowish-gray, or N8, very light gray. A primary (predominant) color and a secondary (minor) color will be described as needed.

Cortex description will include options for the rough "chalky" white/gray cortex that is often seen on quarry samples, as well as the thin reddish stain or weathering rind that is found on pieces at quarries and at archeological sites away from quarries as well. Since novaculite outcrops in massive beds and seams, the cortex or weathering rind forms after a piece is broken out, or on cobbles as they tumble in riverbeds.

Texture is a 3-category description of the sample as fine, medium, or coarse. Following Rick (1978:15) we judge the amount of drag or scratch when rubbing thumb and fingernail across the surface of the sample. Fine means there is no fingernail drag and a smooth surface on thumb pad, medium means some fingernail drag and a somewhat coarser surface on thumb pad, and coarse has a real noticeable fingernail drag, scratchy sound, and irregular surface to the thumb. While novaculite is often described as coarser textured than many cherts, our samples often code as fine or medium, and coarse pieces may be those with cortex or weathered surfaces.

Luster is related to texture, but specifically refers to the light reflected from the surface of a piece of rock. Again, luster is difficult to quantify in a replicable way (Luedtke 1992:69-70). Here, we use a 2-category description, differentiating between a dull or matte surface and a shiny or lustrous surface. Does it reflect light or not?

Translucency is a distinctive characteristic of novaculite. Here, we use Ahler's (1983; see Luedtke 1992:68-70, 125) method of holding a sample at a standard (8 cm)

distance from a 75 watt bulb (here updated to 20 watt CFL bulb) and measuring in mm the thickness at which the translucency decreases and the sample becomes opaque. Many of the samples are chunks rather than flakes, and the measurement may be more difficult with darker colored novaculite than with lighter.

Heat Treatment:

In the larger comparative collection, quarry samples will be heat treated so we can describe untreated and treated pieces from the same sources. Currently, the quarry samples are (or are assumed to be) raw novaculite.

Other Characteristics:

Density is a characteristic that is not typically measured on toolstone, but is typically described by whetstone producers, and we may measure density as part of the larger study after consultation with Steve Kirschman.

Fluorescence will be measured as part of the larger study as well, after we have the equipment to do so. While most novaculites will probably not fluoresce, there may be nearby cherts that do, and it may be a way to differentiate between these.

Fossils are not typical of novaculite, but are found in some other chert sources, especially in northern Arkansas. This can be a category added when we expand the virtual comparative collection to include non-novaculite toolstone in Arkansas.

Description:

A final section on the coding form will be a section for text noting structure (banding, mottling, veins and cracks, vugs) and any unusual characteristics of the sample.

MBT/TS 10/22/2012