



Article Reprint from

# *Cooks Current* Newsletter

---

## **Mining for Ocher**

*By: David Oleksa*

Many people are aware of the mining that went on in the Durham Valley during the 18th and 19th centuries. Most people think that iron ore was the only thing mined to be processed at the Durham Furnace. However, there was additional mining done here that was not part of the iron making industry. Not many people are aware of the ocher deposits that were found in this area. What is “ocher” you may ask? Well, “ocher” refers to several forms of iron oxide that combines with clay to form a mineral existing in many parts of the world. Not many places, however, have enough of the mineral to make it worth mining commercially.

Other names for this mineral are hematite, limonite, red ocher and yellow ocher. The word “ocher” can also be spelled as “ochre”. A major use of this mineral was associated with human burials. The site at Paviland Cave in the United Kingdom showed evidence of a burial taking place about 23,500 years ago that made excessive use of red ocher, so much so that the body was named the “Red Lady”. The Mayans, in Mexico, also made use of this substance about the same time as is evidenced by another “Red Lady” which was discovered at the historical site of Copan.



Pieces of ochre  
*Photo by Lois Oleksa*

An earlier use of the mineral was as a primitive pigment that early man used for a “paint” on the walls of his or her cave homes. There are fine examples of this in East Africa and in Zambia where carbon dating has dated the art work back to 300,000 years ago. In addition, ocher was also combined with a starchy plant resin to assist in attaching stone tools (like spear and arrow heads) to wooden shafts. The uses of the ocher found in Durham were not involved in cave art or burials or constructing stone weapons. Instead, our 18th and 19th century residents knew that properly prepared, ocher could be used as a pigment to be added to the paint of the time and could also be used in the production of paper (to give it a proper “finish”).

The process used in making ocher into a saleable commodity is quite involved. The raw ocher was crushed and then ground into a fine powder between a series of wooden log rollers. The powdered ocher was then often combined with water to make a paste which was dried and powdered into an even finer condition. Then the material was placed into barrels and shipped to paint or paper manufacturers. There is no evidence to show that ocher mills were located in our area and because of the specialized equipment involved, Durham ocher was probably mined here and then sent to other locations to be milled. There the mineral was finished and further processing could take place. For example, the powder could be subjected to heat and the resulting pigment was called “burnt umber”. Another process led to the production of a pigment resulting in the color “sienna”.

The Durham area is at the very most eastern tip of the Pennsylvania ocher-producing region which stretches from here to the city of Reading. During the 19th century, Georgia, Pennsylvania, Vermont, and California were the major producers of ocher in the United States with Georgia and Pennsylvania accounting for 90% of the production. In Pennsylvania, the best ocher was found in the Topton-Alburtis area with some of the mines extending nearly 300 feet into the earth. Here in Durham, it appears that the ocher was found near the surface and open pit mines were used to gather the mineral. You can still see evidence of the mines, although they are considerably overgrown with trees and other vegetation. Looking carefully, there are trace deposits of ocher which can still be found.