

Public Abstract

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Title:ASSESSING "LITHIC SOUND" TO PREDICT A ROCK'S EASE OF FLAKING

This research study obtained information concerning the sound that flint makes after it is hit with a hammer stone. This information will prove useful to archaeologist's more fully understanding a flint rock's candidacy to be made into ancient tools such as knives or arrowheads. A machine was built to hold specifically cut flint, and to release a hammer stone in a controlled manner. A computer system normally used by speech pathologists to treat persons with speech disorders recorded and processed sound information. When at a site, archaeologists are interested in knowing whether or not stone artifacts have been heat-treated. Results from this study determined that by comparing sound wave forms of heated versus unheated stone, it is possible to distinguish the two. Heated stone waveforms are much darker indicating that they have more intensity or energy. It was also determined that significant differences exist concerning how the sound duration and pitch resonate between different types of stone, unheated versus heated stone of the same type, and high and low quality stone of the same type.