

Route 1, Box 210
Kimberly, ID 83341

January 2, 1980

Kim Akerman
Box 488
Broome, W. Australia 6725

Dear Kim:

Congratulations on your most excellent paper on heat treatment of lithic materials in Australia. It is really the first factual work that has been done on observations of aboriginal heat treatment. It is most interesting and exciting to me because of the temperatures having corresponded very much with those that we have used here. However, there is a considerable variation in the amount of heat and the length of time it takes to alter the materials as it is highly variable.

Most of the chalcedonies locally change at approximately 450° F. while novaculite from Arkansas takes about 1100° F. The method of quarrying by applying heat without destroying the rock is a most important observation. It was first noted in the New World by Junius Bird in Costa Rica. He sent me samples of a silicious rock that apparently had been heated slowly and the high points or ridges expanded more rapidly than do the general mass of rock. This allows for a detachment of a long prismatic bladelike piece of stone with no signs of percussion detachment. I think this is most important because it has been generally thought that the mining was done first by heating and then quenching with water in order to produce fractures, but that also destroys the material as it is full of micro cracks and it is crazed.

I congratulate you on your new job and do hope you will be able to continue on your research in the stoneworking industries. Your work is a very important contribution to archaeology and I certainly hope you have the opportunity to continue it.

I hope you had a very good Christmas and are looking forward to a prosperous and exciting new year.

Your friend,

Don Crabtree, D. Sc.
Research Associate in
Prehistoric Technology

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