## UNIVERSITY OF CALIFORNIA, BERKELEY

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ARCHAEOLOGICAL RESEARCH FACILITY DEPARTMENT OF ANTHROPOLOGY

BERKELEY, CALIFORNIA 94720 October 15, 1971

Mr. Don E. Crabtree Route 1, Box 39 Kimberly, Idaho 83341

Dear Mr. Crabtree:

Thanks very much for your letter of October 4. Dr. Heizer and I certainly appreciate your kind comments regarding the obsidian papers. The next issue of the Contributions series will include additional papers dealing with obsidian technology and wear pattern analysis; I will see that copies are sent to you.

We also appreciate the obsidian samples from the Guadalajara area. Dr. Fred Stross is actively working on obsidian sources in Mexico (in association with R. N. Jack, who co-authored the two papers with Dr. Heizer and me), and I have turned these samples over to him. I assume that you did not want them returned to you. I think they will be of value to Dr. Stross' research.

I am continuing to work on the Tierra del Fuego lithic materials which I mentioned to you in my first letter. Desmond Clark is of the opinion that they are largely billet-flaked. However, you raised an interesting question regarding the lack of proper "materials" which could be used as billets. These artifacts are from the east shore of Tierra del Guego; as you note, there are no large antlered or horned mammals. A major game animal was the guanaco, but you feel that bone would not make a very good billet. How about whale bone? These sites have a number of artifacts made from whale bone...especially shalebone wedges. This bone is quite dense and heavy, reminding me a lot of the consistency one finds in a very large deer or elk antler. Maybe they were using billets of this material.

The knives which I am studying from Egypt are somewhat later than the fine, ripple-flaked predynastic examples. I am enclosing some photos taken from a Cairo Museum publication. The wall scenes in the 4th-6th dynasty tombs show these knives being used in oxen butchering. During the course of the work, certain butchers appear to be striking the edge of the knives with a rod (a billet-like implement). Though I have not examined any of these knives in person, the Cairo Museum descriptions talk of beveling attributable to resharpening being present along the cutting edge. Dr. Clark thinks that these "rods" might be cylinder hammers of stone, and that the butchers were simply tapping the edge of the knive, removing short flakes and creating a beveled edge. You can see the bevel on specimen #64.780, especially on the rear part of the cutting edge...towards the handle. I hope to study these in detail in our return trip to Edgypt, scheduled for January.

Best regards,

Thomas Roy Hester

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