

16 April 1973

Mr. Errett Callahan
Dept. of Anthropology
Virginia Commonwealth University
Academic Center
Richmond, Virginia 23220

Dear Errett:

Thank you so much for the copy of The Newsletter of Experimental Archaeology. You have, indeed, a comprehensive program of learning while doing. It is well planned and every student will be rewarded from his experiences. I wish you every success in your project. Too, I want to thank you for the collection of flakes, I am impressed by the uniform and controlled detachment. Errett, from my experience with lithic materials, the flake marked A is the only one that I would classify as basalt, the others are obsidian. A chemical analysis may show that all of the flakes have much the same mineral constituents. The principal difference in basalt and obsidian is the rate of cooling the liquid magma. Basalt has cooled over a longer period of time allowing micro-crystals to form making it more granular, while obsidian is cooled rapidly before crystals can form. Actually one material will grade into the other. The colors are due to a predominance of or the lack of certain minerals and often at the same source a variety of colors and flow structures are represented. Ignimbrite is made from superheated particles of volcanic glass reconstituted in horizontal beds covering wide areas. The name comes from fire clouds. A thin section of ignimbrite will show minute spicules of the solidified glassy particles. When working this material it has considerable elasticity but crushes easily.

Best regards,

Don Crabtree

DC/kat

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