Supplemental Text 4

Visual sourcing might seem simple from the outset, but in fact involves the detailed identification of a wide variety of textural, chromatic, and mineralogical traits. As a suite, these visual traits can be used to source obsidian with a high degree of accuracy (Braswell et al. 2000). Each geological source of obsidian, which formed as a result of temporally and spatially distinct volcanic eruptions, produced a wide variety of visual types of workable material, not all of which were considered to be viable toolstone by obsidian crafters at different times. Hruby and colleagues (2007) have shown that the range and proportions of visual characteristics may change over time as ancient peoples exploited different parts of an obsidian pyroclastic flow, perhaps due to factors such as the exhaustion of usable clasts, or variable political or economic control over different parts of the source. Given the potential for these socio-economic changes over time, as well as different frequencies of sources in different regions, visual sourcing is best carried out in stages, and anew, when a researcher begins work at an unstudied site or region. Such was the case with the Vista Alegre sample, since neither Hruby nor Shackley had worked at this site or region previously.

Hruby carried out an initial sort based on color and texture traits of the Vista Alegre sample in 2009, but never having worked with a sample that was predominantly Terminal Classic-Early Postclassic in age and also primarily from the Ixtepeque source, the accuracy was quite low when compared to Shackley’s XRF source determinations. After that time and up to the publication of this article, Hruby worked with a type collection from Ixtepeque and analyzed over 4,000 Ixtepeque artifacts from Rio Amarillo and Copán, Honduras, subsequently learning the visual variability in the source. The two visual sorts that followed yielded greater accuracy substantiated by the XRF and INAA analyses. These combined sourcing techniques lead to the identification of four different Mexican obsidian sources and two different Guatemalan sources represented in the Vista Alegre sample.

Supplemental Text 4 References Cited

Braswell, Geoffrey E., John E. Clark, Kazuo Aoyama, Heather I. McKillop, and Michael D. Glascock

2000 Determining the Geological Provenance of Obsidian Artifacts from the Maya Region: A Test of the Efficacy of Visual Sourcing. *Latin American Antiquity* 11:269–282.

Hruby, Zachary, Helios J. Hernandez, and Brian Clark

2007 Análisis Preliminar de los Artefactos Líticos de Holmul, Cival, y La Sufricaya, Péten. In *XX Simposio de Investigaciones Arqueológicas en Guatemala*, edited by Juan Pedro Laporte, Barbara Arroyo, and H. Mejía, pp. 1274-1283. Museo Nacional de Arqueología y Etnología, Guatemala.