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Title
An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from 41HM51, Hamilton County, Texas

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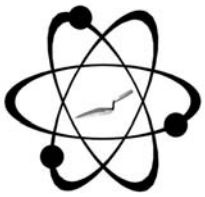
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LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF OBSIDIAN ARTIFACTS FROM 41HM51, HAMILTON COUNTY, TEXAS

23 November 2013

Karl Kibler
Prewitt & Associates
2105 Donley Dr., Suite 400
Austin, TX 78758-4513

Dear Karl,

As in the previous analysis from this site, the two artifacts were produced from Cerro Toledo Rhyolite and Valles Rhyolite, Valles Caldera, Jemez Mountains, northern New Mexico (Shackley 2005, 2009). While Cerro Toledo obsidian is available as secondary deposits in Rio Grande Quaternary alluvium, Valles Rhyolite (Cerro del Medio) obsidian had to be procured in the caldera proper (Shackley 2013). Specific instrumental methods can be found at http://www.swxrflab.net/anlysis.htm, and Shackley (2005). Source assignment was made by comparison to source standard data in the laboratory. Analysis of the USGS RGM-1 standard indicates high machine precision for the elements of interest (Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.
Director

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REFERENCES CITED

Shackley, M.S.
2005 *Obsidian: Geology and Archaeology in the North American Southwest*. University of Arizona Press, Tucson.

2009 An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts From 41HM51, Hamilton County, Texas. Report prepared for Prewitt & Associates, Austin, Texas.

2013 The Secondary Distribution of Archaeological Obsidian in Rio Grande Quaternary Sediments, Jemez Mountains to San Antonito, New Mexico: Inferences for Paleoamerican Procurement and the Age of Sediments. Poster presented at the Paleoamerican Odyssey Conference, Santa Fe, New Mexico, October, 2013.

Table 1. Elemental concentrations for the archaeological samples. All measurements in parts per million (ppm).

Sample	Ti	Mn	Fe	Rb	Sr	Y	Zr	Nb	Pb	Th	Source
516	980	701	13624	247	3	68	175	85	43	38	Cerro Toledo Rhyolite
555-2	679	385	8886	166	8	42	181	47	27	17	Valles Rhyolite
RGM1-S4	1594	268	13374	150	106	25	221	8	25	19	standard