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Title

An Energy-Dispersive X-Ray Fluorescence Analysis of One Obsidian Artifact from AZ:EE:4:34

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BERKELEY ARCHAEOLOGICAL



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LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF ONE OBSIDIAN ARTIFACT FROM AZ:EE:4:34

17 November 2006

Dr. Jeffery Clark
Center for Desert Archaeology
300 E University, Suite 230
Tucson, AZ 85705

Dear Jeff,

The one obsidian sample was produced from obsidian procured from the Cerro Toledo Rhyolite obsidian source that originates in the Jemez Mountains, northern New Mexico (Table 1). Cerro Toledo does erode into the Rio Grande system as far south as Chihuahua. Details on this secondary depositional effect is in Shackley (2005).

The samples were analyzed with a Spectrace (ThermoNoran) *QuanX* EDXRF spectrometer in the Archaeological XRF Laboratory, University of California, Berkeley. Instrumental methods can be found at <http://www.swxrflab.net/anlysis.htm>. Analysis of the USGS RGM-1 standard indicates high machine precision for the elements of interest (Govindaraju 1994; Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.
Director

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REFERENCES CITED

Govindaraju, K.

1994 1994 Compilation of Working Values and Sample Description for 383
Geostandards. *Geostandards Newsletter* 18 (special issue).

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

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

Sample	Ti	Mn	Fe	Rb	Sr	Y	Zr	Nb	Source
X626	835	532	8330	188	6	57	167	88	Cerro Toledo Rhy