

UC Berkeley

Archaeological X-ray Fluorescence Reports

Title

An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from the Tanque Verde Wash Site (AZ BB:13:68 ASM), Southern Arizona

Permalink

<https://escholarship.org/uc/item/3031892t>

Author

Shackley, M. Steven

Publication Date

2006-11-28

Supplemental Material

<https://escholarship.org/uc/item/3031892t#supplemental>

BERKELEY ARCHAEOLOGICAL



XRF LAB

Department of Anthropology
232 Kroeber Hall
University of California
Berkeley, CA 94720-3710

LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF OBSIDIAN ARTIFACTS FROM THE TANQUE VERDE WASH SITE (AZ BB:13:68 ASM), SOUTHERN ARIZONA

28 November 2006

Stacy Ryan
Desert Archaeology
3975 N Tucson Road
Tucson, AZ 85716

Dear Stacy,

The two obsidian artifacts were produced from obsidian from the Mule Creek and Cow Canyon sources in eastern Arizona and western New Mexico (see Shackley 2005). The obsidian is also available as secondary deposits in the Gila River alluvium in the Safford Valley and the 111 Ranch Formation in the San Simon Valley (Shackley 2005). The third sample was not obsidian and was not analyzed.

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 (Govnidaraju 1994; Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.
Director

VOICE: (510) 642-2533
INTERNET: shackley@berkeley.edu
<http://www.swxrflab.net/>

REFERENCES CITED

Govindaraju, K.

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

Shackley, M.S.

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

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

Sample	Ti	Mn	Fe	Rb	Sr	Y	Zr	Nb	Source
4410	573	389	9374	163	18	39	119	21	Mule Cr-AC/MM
4057	906	591	8207	130	104	25	115	21	Cow Canyon
RGM-1	1342	324	12960	149	103	27	217	11	standard