

UC Berkeley

Archaeological X-ray Fluorescence Reports

Title

An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from Fort Huachuca, Southern Arizona

Permalink

<https://escholarship.org/uc/item/2s90d4s1>

Author

Shackley, M. Steven

Publication Date

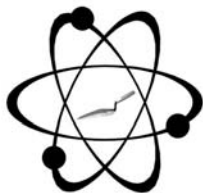
2015-09-30

Supplemental Material

<https://escholarship.org/uc/item/2s90d4s1#supplemental>

Copyright Information

This work is made available under the terms of a Creative Commons Attribution-NonCommercial License, available at <https://creativecommons.org/licenses/by-nc/4.0/>



GEOARCHAEOLOGICAL XRF LAB

GEOARCHAEOLOGICAL X-RAY FLUORESCENCE SPECTROMETRY LABORATORY
8100 Wyoming Blvd., Ste M4-158
USA

Albuquerque, NM 87113

LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF OBSIDIAN ARTIFACTS FROM FORT HUACHUCA, SOUTHERN ARIZONA

30 September 2015

Marin Tagg
Cultural Resources Manager
IMHU-PWB
3040 Butler Road, Bldg 22526
Fort Huachuca AZ 85613-7010

Dear Marty:

The source provenance of these samples generally matches that of the earlier study from Garden Canyon Village at Fort Huachuca (Shackley 2015a). The artifact produced from Los Vidrios, Sonora was not seen in the earlier study, but occurs in late period contexts in southeastern Arizona (Shackley 2015b). Specific instrumental methods can be found at <http://www.swxrflab.net/analysis.htm>, and Shackley (2005). Source assignment was made by comparison to source standards in the laboratory database (see <http://swxrflab.net/swobsrscs.htm>). Analysis of the USGS RGM-1 standard indicates high instrumental precision for the elements of interest (Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.
Director

VOICE: 510-393-3931
INTERNET: shackley@berkeley.edu
<http://www.swxrflab.net/>

REFERENCES CITED

Shackley, M.S.

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

2015a Source Provenance of Obsidian Artifacts from Garden Canyon Village, Fort Huachuca, Southern Arizona. Report prepared for Anna Schneider, Department of Anthropology, University of Colorado, Boulder.

2015b Source Provenance of Obsidian Artifacts from Late Classic Contexts in Southeastern Arizona. Report prepared for Archaeology Southwest, Tucson, Arizona.

Table 1. Elemental concentrations for the archaeological samples, and USGS RGM-1 obsidian standard. All measurements in parts per million (ppm).

Sample	Ti	Mn	Fe	Rb	Sr	Y	Zr	Nb	Source
40	1009	470	8325	118	22	28	100	32	Superior (Picketpost Mtn), AZ
120	1524	269	11651	134	136	22	157	12	Cow Canyon, AZ
128	1346	431	9769	133	134	22	127	17	Cow Canyon, AZ
375	974	395	10602	244	21	44	118	29	Antelope Cr/Mule Cr, NM
376-1	799	157	6161	1	17	5	17	1	not obsidian
402-18	1526	872	22183	356	12	127	1201	103	Antelope Wells, NM/CHIH
402-2	1358	400	9985	139	130	18	128	22	Cow Canyon, AZ
602	864	381	12518	278	13	84	240	59	Los Vidrios, SON
RGM1-S4	1526	297	13268	149	109	27	219	8	standard