

UC Berkeley

Archaeological X-ray Fluorescence Reports

Title

An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from Sugarloaf Ruin, Cornville, Arizona

Permalink

<https://escholarship.org/uc/item/7wm0z2vt>

Author

Shackley, M. Steven

Publication Date

2013-08-12

Supplemental Material

<https://escholarship.org/uc/item/7wm0z2vt#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 SUGARLOAF RUIN, CORNVILLE, ARIZONA

12 August 2013

Dr. Todd Bostwick
Verde Valley Archaeology Center
385 South Main Street
Camp Verde, AZ 86322

Dear Todd,

Not surprisingly, all four samples were produced from obsidian from the Government Mountain source in the San Francisco Volcanic Field in northern Arizona (see Shackley 2005). All analyses for this study were conducted on the ThermoScientific *Quant'X* XRF spectrometer at the Geoarchaeological XRF Laboratory, Albuquerque, New Mexico. Specific instrumental methods can be found at <http://www.swxrflab.net/analysis.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

VOICE: 510-393-3931

INTERNET: shackley@berkeley.edu

<http://www.swxrflab.net/>

REFERENCE CITED

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 samples. All measurements in parts per million (ppm).

Sample	Ti	Mn	Fe	Rb	Sr	Y	Zr	Nb	Pb	Th	Source
3	827	457	1181	103	77	14	76	44	30	13	Government Mtn
19	358	452	1104	100	73	21	73	50	29	14	Government Mtn
21	701	671	1336	121	82	17	75	48	43	12	Government Mtn
26	483	552	1198	123	85	20	78	48	39	11	Government Mtn
RGM1-S4	1483	272	1372	147	107	22	214	6	21	17	standard