

# UC Berkeley

## Archaeological X-ray Fluorescence Reports

### Title

An Energy-Dispersive X-Ray Fluorescence Analysis of an Obsidian Artifact from (AZ AA:12:788 ASM), Tucson Basin, Arizona

### Permalink

<https://escholarship.org/uc/item/1hc0g3kc>

### Author

Shackley, M. Steven

### Publication Date

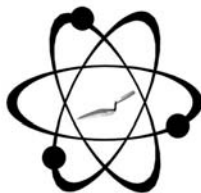
2014-03-07

### Supplemental Material

<https://escholarship.org/uc/item/1hc0g3kc#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 AN OBSIDIAN ARTIFACT FROM (AZ AA:12:788 ASM), TUCSON BASIN, ARIZONA**

7 March 2014

Jennifer Hider  
SWCA Environmental Consultants  
343 W Franklin Street  
Tucson, AZ 85701

Dear Jennifer,

The artifact was produced from obsidian originally procured from the Antelope Creek group at Mule Creek, however the Mule Creek sources have eroded through the San Francisco to Gila Rivers at least as far west as Geronimo, Arizona (Shackley 2005). All analyses for this study were conducted on a 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 Archaeological XRF Laboratory. Analysis of the USGS RGM-1 standard indicates high machine precision for the elements of interest (USGS; Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.  
Director

VOICE: 510-393-3931  
INTERNET: [shackley@berkeley.edu](mailto: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	Zn	Rb	Sr	Y	Zr	Nb	Pb	Th	Source
24	564	306	7008	44	214	17	40	104	26	27	32	Mule Cr/Antelope Cr
RGM1-S5	158 7	257	1311 2	40	146	108	28	221	9	24	17	standard