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## Archaeological X-ray Fluorescence Reports

### Title

An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from AZ U:9:281 (ASM), Tempe, Arizona

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# BERKELEY ARCHAEOLOGICAL



## XRF LAB

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### LETTER REPORT

## AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF OBSIDIAN ARTIFACTS FROM AZ U:9:281 (ASM), TEMPE, ARIZONA

20 August 2007

Chris Watkins  
Rio Salado Archaeology  
5028 South Ash Avenue, Suite 102  
Tempe, AZ 85282

Dear Chris,

The analysis of the two samples here indicates that the artifacts were produced from obsidian procured from the Saucedo Mountains source south of Gila Bend (Shackley 2005). This is rather typical of Classic period contexts in the Phoenix Basin, where many of the obsidian assemblages are dominated by Saucedo Mountains obsidian (Bayman and Shackley 1999; Shackley 2005).

The samples were analyzed with a Spectrace (Thermo) *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). Source assignments were made by reference to source standards at Berkeley (see Shackley 1995, 2005).

Sincerely,

M. Steven Shackley  
Professor and Director

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

## REFERENCES CITED

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 1999 Dynamics of Hohokam Obsidian Circulation in the North American Southwest. *Antiquity* 73:836-845.
- Govindaraju, K.  
 1994 1994 Compilation of Working Values and Sample Description for 383 Geostandards. *Geostandards Newsletter* 18 (special issue).
- Shackley, M. Steven  
 1995 Sources of Archaeological Obsidian in the Greater American Southwest: An Update and Quantitative Analysis. *American Antiquity* 60:531-551.  
 2005 *Obsidian: Geology and Archaeology in the North American Southwest..* University of Arizona Press, Tucson.

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

Site/Sample	Ti	Mn	Fe	Rb	Sr	Y	Zr	Nb	Source
U-9-281-141-1	1401	427	9479	160	77	27	207	20	Sauceda Mts
U-9-281-141-2	1472	465	10039	172	80	29	206	23	Sauceda Mts
RGM1-S3	1605	338	13489	148	119	21	221	14	standard