

# UC Berkeley

## Archaeological X-ray Fluorescence Reports

### Title

An Energy-Dispersive X-Ray Fluorescence Analysis of a Late Paleoindian Projectile Point from Dixie Canyon, Arizona

### Permalink

<https://escholarship.org/uc/item/7wc7t3dt>

### Author

Shackley, M. Steven

### Publication Date

2012-08-14

### Supplemental Material

<https://escholarship.org/uc/item/7wc7t3dt#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

ARCHAEOLOGICAL 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 A LATE PALEOINDIAN PROJECTILE POINT FROM DIXIE CANYON, ARIZONA**

14 August 2012

Jesse Ballenger  
SRI, Inc.  
6099 E. Speedway Blvd.  
Tucson, AZ 85712

Dear Jesse and Bruce,

The obsidian used to produce the projectile point most closely matches what Fred Nelson calls the “Poker Brown Wash Area” source in Pershing County, central Nevada (Nelson and Tingey 1998; Table 1 here). In the Nellis Air Force Base, Nevada study, Skinner called this source “Unknown C” and was recovered from Archaic contexts at O’Malley Shelter (26LN418; in Skinner 2005). Of course, artifacts produced from Nevada obsidian is rare in Arizona, but would not be an impossibility. A Great Basin Stemmed point produced from the central Nevada Black Rock obsidian source was found in a site in southern Colorado (Vierra et al. 2005).

All analyses for this study were conducted on a ThermoScientific Quant’X XRF spectrometer at the Archaeological XRF Laboratory, Albuquerque, New Mexico. Specific instrumental methods can be found at <http://www.swxrflab.net/anlysis.htm>, and Shackley (2005).

Sincerely,

M. Steven Shackley, Ph.D.  
Director



### REFERENCES CITED

Nelson, F.W., and D.G. Tingey

1998 X-Ray Fluorescence Analysis of Obsidians in Western North America, Mexico, and Guatemala: Data Base for Source Identification. Manuscript in possession of the author.

Shackley, M.S.

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

Skinner, C.E.

2005 Appendix D: Results of X-Ray Fluorescence Trace Element Analysis of Project Obsidian Artifacts. In *Fingerprints in the Great Basin: The Nellis Air Force Base Regional Obsidian Study*, edited by L. Haarklau, L. Johnson, and D.L. Wagner. U.S. Army Corps of Engineers, Fort Worth District.

2005 B. Vierra, **M.S. Shackley**, and M. Jodry

Late Paleoindian and Early Archaic Foragers of the Northern Rio Grande. Paper presented in the Symposium, *From Paleoindian to Archaic – Views on a Transition*. The 70<sup>th</sup> Annual Meeting of the Society for American Archaeology, Salt Lake City, Utah.

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	Zn	Rb	Sr	Y	Zr	Nb	Ba	Pb	Th
DIXIE CANYON, AZ	1369	300	1167	55	144	92	15	175	17	1270	31	16
RGM1-S4	1632	278	1331	41	152	110	23	215	6	836	19	12