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Author

Shackley, M. Steven

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XRF LAB

Department of Anthropology
232 Kroeber Hall
University of California
Berkeley, CA 94720-3710

LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF AN OBSIDIAN INTERIOR FLAKE FROM DEANN'S SITE, WEST MESA, ALBUQUERQUE, NEW MEXICO

2 February 2007

Dr. Bruce Huckell
Maxwell Museum of Anthropology
University of New Mexico
Albuquerque, NM 87131-1201

Dear Bruce,

Although the one piece of obsidian debitage was small, careful analysis by EDXRF indicates that the artifact was produced from El Rechuelos obsidian from the northern Jemez Mountains (Shackley 2005). El Rechuelos obsidian has also been recovered in Quaternary secondary deposits along the Rio Grande as far south as Cochiti Dam by this lab, and as far south as Las Cruces in small proportions by Church (2000).

The samples were analyzed with a Spectrace (Thermo) *QuanX* EDXRF spectrometer in the Archaeological XRF Laboratory, University of California, Berkeley. Specific instrumental methods can be found at <http://www.swxrflab.net/analysis.htm>, and Shackley (2005). Analysis of the USGS RGM-1 standard indicates high machine precision for the elements of interest (Govindaraju 1994; Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.
Director

VOICE: (510) 642-2533
INTERNET: shackley@berkeley.edu
<http://www.swxrflab.net/>

REFERENCES CITED

Church, T

2000 Distribution and Sources of Obsidian in the Rio Grande Gravels of New Mexico.
Geoarchaeology 15:649-678.

Govindaraju, K.

1994 1994 Compilation of Working Values and Sample Description for 383 Geostandards.
Geostandards Newsletter 18 (special issue).

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

Sample	Ti	Mn	Fe	Rb	Sr	Y	Zr	Nb	Source
Deann's35 6	1444	650	8194	150	7	21	62	42	El Rechuelos, NM
RGM1-S3	1748	301	13344	148	111	22	223	17	standard