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## Archaeological X-ray Fluorescence Reports

### Title

An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from LA 87372 and LA 87373, Northern New Mexico

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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 LA 87372 and LA 87373, NORTHERN NEW MEXICO

25 August 2004

Chris A. Lowry  
Geo-Marine, Inc.  
3945 Doniphan Park Circle, Ste C  
El Paso, TX 79922

Dear Chris,

The artifacts analyzed were both produced from obsidian from the Cerro Toledo Rhyolite obsidian source in the Jemez Mountains, northern New Mexico. It is possible that the raw material could have been procured in the Middle Rio Grande River alluvium. Source determination was made using source standards at Berkeley (<http://www.swxrflab.net/>; Shackley 2004).

The samples were analyzed with a Spectrace (ThermoNoran) *QuanX* EDXRF spectrometer in the Archaeological XRF Laboratory, University of California, Berkeley. Instrumental methods can be found at <http://www.swxrflab.net/analysis.htm>. 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

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

## REFERENCES CITED

Govindaraju, K.

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

Shackley, M.S.

2004 *Obsidian in the North American Southwest: Geology, Archaeology, and History*. University of Arizona Press, in press.

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

Sample	Ti	Mn	Fe	Rb	Sr	Y	Zr	Nb	Source
LA87372-1	906	502	8114	186	7	58	159	95	Cerro Toledo Rhy
LA87373-2	941	535	8561	184	10	56	171	97	Cerro Toledo Rhy
RGM1-S1	1624	308	13113	145	112	23	217	11	standard