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## Archaeological X-ray Fluorescence Reports

### Title

An Energy-Dispersive X-Ray Fluorescence Analysis of a Resharpended Obsidian Clovis Projectile Point from the Hartley Mammoth Site, Northern New Mexico

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### ***LETTER REPORT***

## **AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF A RESHARPENED OBSIDIAN CLOVIS PROJECTILE POINT FROM THE HARTLEY MAMMOTH SITE, NORTHERN NEW MEXICO**

16 May 2014

Dr. Bruce Huckell  
Department of Anthropology  
University of New Mexico  
Albuquerque, NM 87131

Dear Bruce:

As we suspected, the resharpened Clovis point was produced from pre-caldera El Rechuelos Rhyolite obsidian of the Polvadera Member in the southern Jemez Mountains, northern New Mexico. This is the nearest obsidian source to the site. Specific instrumental methods can be found at <http://www.swxrflab.net/analysis.htm>, and Shackley (2005). Source assignment was made by comparison to data in Shackley (1995, 2005), also found at <http://swxrflab.net/swobsrscs.htm>. Analysis of the USGS RGM-1 standard indicates high machine precision for the elements of interest (Table 1 here).

INTERNET: shackley@berkeley.edu  
http://www.swxrflab.net/

Sincerely,

M. Steven Shackley, Ph.D.  
Director

#### REFERENCES CITED

- Shackley, M.S., 1995, Sources of Archaeological Obsidian in the Greater American Southwest: An Update and Quantitative Analysis. *American Antiquity* 60(3):531-551.
- 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	Zn	Rb	Sr	Y	Zr	Nb	Ba	Pb	Th	SOURCE
HARTLEY MAMMOTH POINT	1101	672	7708	48	163	11	25	74	41	9	27	24	EL RECHUELOS, NM
RGM1-S4	1496	285	12933	42	147	103	24	223	12	784	21	10	standard