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LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF AN OBSIDIAN ARTIFACT FROM LA 170280, NEW MEXICO

9 May 2014

Lillian Ponce
VersarGMI, Inc.
4725 Ripley Drive, A
El Paso, TX 79922

Dear Lillian:

As in earlier studies in the region, the artifact was produced from the Cerro Toledo Rhyolite source in the Jemez Mountains of northern New Mexico, but the source is available as secondary deposits in Rio Grande Quaternary alluvium (Church 2000; Shackley 2005, 2013). Specific instrumental methods can be found at <http://www.swxrflab.net/analysis.htm>, and Shackley (2005). Source assignment was made by comparison to source standard data in the laboratory. Analysis of the USGS RGM-1 standard indicates high machine precision for the elements of interest (Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.
Director

VOICE: 510-393-3931
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.

Shackley, M.S.

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

2013 The Secondary Distribution of Archaeological Obsidian in Rio Grande Quaternary Sediments, Jemez Mountains to San Antonito, New Mexico: Inferences for Paleoamerican Procurement and the Age of Sediments. Poster presented at the Paleoamerican Odyssey Conference, Santa Fe, New Mexico, October, 2013.

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

Sample	Ti	Mn	Fe	Rb	Sr	Y	Zr	Nb	Pb	Th	Source
LA170280-1	558	529	9659	208	2	66	178	85	33	25	Cerro Toledo Rhy
RGM1-S4	1571	292	1303	149	105	24	223	9	26	19	standard