Title
An Energy-Dispersive X-Ray Fluorescence Analysis of an Obsidian Artifact from LA 170280, New Mexico

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Author
Shackley, M. Steven

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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.


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

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