An Energy-Dispersive X-Ray Fluorescence Analysis of a Resharpened 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/swobsres.htm. 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

REFERENCES CITED


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

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>Ti</th>
<th>Mn</th>
<th>Fe</th>
<th>Zn</th>
<th>Rb</th>
<th>Sr</th>
<th>Y</th>
<th>Zr</th>
<th>Nb</th>
<th>Ba</th>
<th>Pb</th>
<th>Th</th>
<th>SOURCE</th>
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<tr>
<td>HARTLEY MAMMOTH</td>
<td>1101</td>
<td>672</td>
<td>7708</td>
<td>48</td>
<td>163</td>
<td>11</td>
<td>25</td>
<td>74</td>
<td>41</td>
<td>9</td>
<td>27</td>
<td>24</td>
<td>EL RECHUELOS, NM</td>
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<tr>
<td>RGM1-S4</td>
<td>1496</td>
<td>285</td>
<td>12933</td>
<td>42</td>
<td>147</td>
<td>103</td>
<td>24</td>
<td>223</td>
<td>12</td>
<td>784</td>
<td>21</td>
<td>10</td>
<td>standard</td>
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