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Title
An Energy-Dispersive X-Ray Fluorescence (Edxrf) Analysis Of An Obsidian Artifact From San Gabriel, Los Angeles County, California

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LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE (EDXRF) ANALYSIS OF AN OBSIDIAN ARTIFACT FROM SAN GABRIEL, LOS ANGELES COUNTY, CALIFORNIA

27 June 2013

Kim Owens
SWCA, Inc.
150 S Arroyo Parkway
2nd Floor
Pasadena, CA 91104

Dear Kim,

The artifact was produced from obsidian originally procured from one of the dome complexes in the Coso Volcanic Field, Inyo County, California, possibly the West Cactus Peak source (see Ericson and Glascock 2004; Hughes 1988). All analyses for this study were conducted on a ThermoScientific Quant’X EDXRF spectrometer at the Geoarchaeological XRF Laboratory, Albuquerque, New Mexico. 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 Geoarchaeological XRF Laboratory, and reference to Ericson and Glascock (2004), and Hughes (1988). Analysis of the USGS RGM-1 standard indicates high machine precision for the elements of interest (USGS; Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.
Director

VOICE: 510-393-3931
INTERNET: shackley@berkeley.edu
http://www.swxrflab.net/
REFERENCES CITED


Table 1. Elemental concentrations for the archaeological sample, and USGS RGM-1. All measurements in parts per million (ppm).

<table>
<thead>
<tr>
<th>Sample</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>Pb</th>
<th>Th</th>
<th>Source</th>
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<td>CALAN 1.01</td>
<td>302</td>
<td>1221</td>
<td>95</td>
<td>288</td>
<td>15</td>
<td>55</td>
<td>143</td>
<td>52</td>
<td>35</td>
<td>40</td>
<td>Coso (West Cactus Pk?)</td>
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<tr>
<td>RGM1-S4</td>
<td>290</td>
<td>1373</td>
<td>38</td>
<td>151</td>
<td>109</td>
<td>25</td>
<td>218</td>
<td>10</td>
<td>22</td>
<td>12</td>
<td>standard</td>
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