Title
An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from Mono County, Eastern California

Permalink
https://escholarship.org/uc/item/3v30n60m

Author
Shackley, M. Steven

Publication Date
2004-12-16

Supplemental Material
https://escholarship.org/uc/item/3v30n60m#supplemental
LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF OBSIDIAN ARTIFACTS FROM MONO COUNTY, EASTERN CALIFORNIA

16 December 2004

Carol Serr
Mooney & Associates
9903 Businesspark Avenue
San Diego, CA 92131-1120

Dear Carol,

The three artifacts from MNO-2562 were produced from one of the domes at the Casa Diablo source a few kilometers northeast of the site. The one projectile point (SCE-22.2.1) was produced from the Mount Hicks dome approximately 45 km northeast of Lee Vining, just inside the Nevada line.

The samples were analyzed with a Spectrace (ThermoNoran) QuanX EDXRF spectrometer in the Archaeological XRF Laboratory, University of California, Berkeley. Specific instrumental methods can be found at http://www.swxrflab.net/analysis.htm. Source assignment was made by reference to Hughes (1994), Jack (1976) and source standards at Berkeley. Analysis of the USGS RGM-1 standard indicates high machine precision for the elements of interest (Govindaraju 1994; Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.
Director

VOICE: (510) 642-2533
INTERNET: shackley@berkeley.edu
http://www.swxrflab.net/
REFERENCES CITED

Govindaraju, K.
*Geostandards Newsletter* 18 (special issue).

Hughes, R.E.
1994  Intrasource Chemical Variability of Artefact-Quality Obsidians from the Casa Diablo Area, 

Jack, R.N.

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>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCE-22.2.1-2004-4</td>
<td>889</td>
<td>374</td>
<td>5802</td>
<td>148</td>
<td>27</td>
<td>4</td>
<td>77</td>
<td>21</td>
<td>Mount Hicks</td>
</tr>
<tr>
<td>MNO-2562-3</td>
<td>1287</td>
<td>318</td>
<td>10516</td>
<td>149</td>
<td>126</td>
<td>18</td>
<td>197</td>
<td>18</td>
<td>Casa Diablo</td>
</tr>
<tr>
<td>2562-4</td>
<td>1529</td>
<td>353</td>
<td>11726</td>
<td>165</td>
<td>130</td>
<td>10</td>
<td>192</td>
<td>12</td>
<td>Casa Diablo</td>
</tr>
<tr>
<td>2562-2004-6</td>
<td>1544</td>
<td>344</td>
<td>11691</td>
<td>154</td>
<td>138</td>
<td>15</td>
<td>198</td>
<td>10</td>
<td>Casa Diablo</td>
</tr>
<tr>
<td>RGM1-S1</td>
<td>1608</td>
<td>321</td>
<td>13096</td>
<td>145</td>
<td>110</td>
<td>17</td>
<td>205</td>
<td>14</td>
<td>standard</td>
</tr>
</tbody>
</table>