Title
An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from Three Sites in Larimer County, Colorado

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LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF
OBSIDIAN ARTIFACTS FROM THREE SITES IN LARIMER COUNTY,
COLORADO

17 April 2006

Dr. Jason Labelle
Department of Anthropology
Colorado State University
Fort Collins, CO 80523-1787

Dear Jason,

As you expected, most of the artifacts from these sites were produced from obsidian from sources in the
Jemez Mountains, northern New Mexico, and two from southwestern Wyoming (Table 1 and Figure 1). As you
know, the Jemez Mountains sources are common in late period contexts throughout the Southwest and east of the
Rocky Mountains (Shackley 2005).

The samples were analyzed with a Spectrace (Thermo) QuanX EDXRF spectrometer in the
Archaeological XRF Laboratory, University of California, Berkeley. Instrumental methods can be found at http://
www.swxrflab.net/anlysis.htm. 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

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INTERNET: shackley@berkeley.edu
http://www.swxrflab.net/
REFERENCES CITED

Govindaraju, K.


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>
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<td>358</td>
<td>8063</td>
<td>111</td>
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<td>72</td>
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<td>228</td>
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Figure 1. Rb, Sr, Zr three-dimensional plot of archaeological specimens.