LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF OBSIDIAN ARTIFACTS FROM THE HODGE SITE (34CU40), CUSTER COUNTY, OKLAHOMA

18 May 2004

Christopher Cojeen
Cojeen Archaeological Services
PO Box 1186
Norman, OK 73070

Dear Christopher,

The artifacts analyzed were produced from obsidian from two sources; Sample 1 from the Malad, Idaho source, and Sample 2 from the Valle Grande source in northern New Mexico. Source determination was made using source standards at Berkeley (http://www.swxrflab.net/; Shackley 2004), and reference to Fred Nelson’s unpublished data.

The samples were analyzed with a Spectrace (ThermoNoran) QuanX EDXRF spectrometer in the Archaeological XRF Laboratory, University of California, Berkeley. Instrumental methods can be found at http://www.swxrflab.net/analysis.htm. Analysis of the USGS RGM-1 standard indicates high machine precision for the elements of interest (Govnidaraju 1994; Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.
Director

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REFERENCES CITED

Govindaraju, K.

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>Source</th>
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<tr>
<td>1</td>
<td>875</td>
<td>277</td>
<td>8128</td>
<td>123</td>
<td>76</td>
<td>32</td>
<td>84</td>
<td>24</td>
<td>Malad, ID</td>
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<tr>
<td>2</td>
<td>935</td>
<td>403</td>
<td>8754</td>
<td>152</td>
<td>5</td>
<td>42</td>
<td>155</td>
<td>60</td>
<td>Valle Grande, NM</td>
</tr>
<tr>
<td>RGM1-H1</td>
<td>160</td>
<td>316</td>
<td>12940</td>
<td>146</td>
<td>112</td>
<td>23</td>
<td>226</td>
<td>10</td>
<td>standard</td>
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