LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF OBSIDIAN ARTIFACTS FROM ARCHAEOLOGICAL SITES NEAR SANTA FE, NEW MEXICO

6 May 2005

Alysia Abbott
Abboteck, Inc.
1315 Morelia
Santa Fe, NM 87504

Dear Alysia,

One of the artifacts was produced from obsidian procured from the Valle Grande Rhyolite member (Cerro del Medio) in the Jemez Mountains. The other piece is not obsidian, but appears to be an old green bottle glass fragment.

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). Source determination was made using source standards at Berkeley, and reference to Shackley (1995, 2005).

Sincerely,

M. Steven Shackley, Ph.D.
Director

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http://www.swxrflab.net/
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>
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<td>92594-1</td>
<td>899</td>
<td>528</td>
<td>9166</td>
<td>148</td>
<td>7</td>
<td>43</td>
<td>170</td>
<td>56</td>
<td>Valle Grande Rhy</td>
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<tr>
<td>92111-2</td>
<td>2287</td>
<td>395</td>
<td>15192</td>
<td>24</td>
<td>279</td>
<td>6</td>
<td>238</td>
<td>11</td>
<td>not obsidian</td>
</tr>
<tr>
<td>RGM-1- S1</td>
<td>1666</td>
<td>290</td>
<td>13237</td>
<td>148</td>
<td>107</td>
<td>22</td>
<td>219</td>
<td>10</td>
<td>standard</td>
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